SCOTTISH HOSPITALS INQUIRY

Bundle 7
Documentation relating to the Cabinet Secretary's Decisions
Volume 1 (of 3)

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NHS Lothian

Royal Hospital for Children and Young People
&
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Little France Crescent
Edinburgh

Water Safety Assessment

July 2019

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The Royal Hospital for Children and Young People and Department of Clinical Neurosciences (RHCYP & DCN) is a new development in Edinburgh's BioQuarter Campus adjacent to the Royal Infirmary of Edinburgh. Construction, commissioning and formal handover to NHS Lothian is complete, but prior to occupancy and commencement of clinical operations, NHS Lothian were keen to confirm the bacteriological safety of the water supplied from the domestic systems within the building. Westfield Caledonian were commissioned therefore to carry out a series of tests, to both quantify the risk of infection specifically from *Pseudomonas aeruginosa* in augmented care areas, and to assess the bacteriological load within the domestic systems generally. These works were carried out between 1st and 12th July 2019, by Westfield Caledonian's John Bryson and Ross Findlay.

From initial discussions with NHS Lothian Director of Estates, Mr George Curley, and subsequent discussions with the NHS Lothian Commissioning Manager and Infection Prevention and Control Team representatives, the following three scopes were agreed;

1. As a result of revised HPS Guidance issued in August 2018, and the belief held by the NHS Lothian IPC Team that the presence of *Pseudomonas aeruginosa* at outlets in augmented care areas presents a significant risk of HAIs, we undertook to carry out the routine sampling described in the HPS Guidance. Specifically, this involved retrieving a single, Pre-flush sample from each outlet in the augmented care areas identified by the IPCT, for subsequent analysis specifically for the organism *Pseudomonas aeruginosa*.

2. To assess the overall bacteriological load on the water within the distribution systems, a schedule of sample locations was derived for sampling and subsequent analyses. The schedule was to be concentrated on un-tempered hot and cold outlets, although a number of thermostatically mixed outlets were to be sampled from to ascertain the impact these components were having on the bacteriological safety of the discharged water.

3. The final component of the scopes was initially open ended, as it was to carry out further investigative sampling and inspection, the extent of which would be dependent on the results deriving from the initial two components.

<u>Scope Limitations</u>

Although any deficiencies or omissions observed are reported in this document, it should be noted that the agreed scopes did not involve the inspection or assessment of any plant items, the assessment of applied operating practices or control strategies, or a review of the currently applied water safety control measures. All these aspects should be addressed by a suitable and sufficient risk assessment carried out in accordance with BS 8580-1:2019 “Water quality. Risk assessments for Legionella control. Code of practice”.

The Scopes were applicable to the domestic systems serving patient care areas. No cognisance of supplementary systems (Laboratory and Irrigation systems) was made.

3.1 Pseudomonas Aeruginosa

A total of 580 outlets were sampled from within the designated augmented care areas, and subsequently analysed specifically for the organism *Pseudomonas aeruginosa*. A total of 56 samples returned positive results for the organism, around 10% of those sampled. However, the vast majority of the positives were returned from two specific locations, namely the Paediatric Medical Inpatients (3-C1.1) and the DCN Inpatients (2-L2) areas. The schedule overleaf summarises the analyses results by sampled location, together with an overview of the type of outlets which returned the positives.

A review of these results, in conjunction with the water distribution drawings, indicated that these two areas were in fact supplied from the same riser (M2) with very little contamination being evident in the outlets supplied from the other risers in the building (which supply the augmented care areas). Whilst this observation may suggest that the riser is a common factor for the areas of contamination, the subsequent "System Condition" testing carried out throughout the building and discussed elsewhere in this report, do not suggest that this riser displays any less satisfactory hygienic characteristics than other parts of the distribution systems.

Whilst a number of shower outlets, and most of the Zip drinking water dispensers and Arjo baths sampled from returned positive *Pseudomonas aeruginosa* results, it was noted that the majority of positives derived from Markwik 21 thermostatic mixing taps. Interestingly, not a single one of the many Contour thermostatic taps sampled from returned positive results. It is clear therefore that where the *Pseudomonas aeruginosa* contamination was present, the Markwik taps seemed to be particularly prone to colonisation.

It was also noted that all the Arjo baths tested, and most of the Zip Hydrotap outlets, returned unsatisfactory results. Both these types of machines are known to be particularly prone to internal bacteriological colonisation, and as such require the implementation of specific and rigorous internal hygienic maintenance activities. It is our experience that Zip Hydrotaps are particularly prone to colonisation by *Pseudomonas aeruginosa.*

Paediatric Medical Inpatients (3-C1.1)
No. of Outlets sampled – 84
Outlets Ps.ae. Positive – 20 (24%), of which,
Showers; 4
Hot via TMV (push-button); 1
Cold (push-button); 1
Markwick 21 taps; 11
Zip Hydrotaps; 1
Arjo Bath; 2 (both outlets same bath)

Neuroscience Outpatients (3-C1.3)
No. of Outlets sampled – 45
Outlets Ps.ae. Positive – 1 of which,
Arjo Bath; 1

Haematology Oncology (3-C1.4)
No. of Outlets sampled – 100
Outlets Ps.ae. Positive – 1 of which,
Arjo Bath; 1

DCN Inpatients (2-L2)
No. of Outlets sampled – 170
Outlets Ps.ae. Positive – 31 (18%), of which,
Showers; 4
Hot via TMV (push-button); 3
Markwick 21 taps; 21
Untempered Hot; 1
Arjo Bath; 2 (both outlets same bath)

Paediatric Intensive Care Unit HDU (1-B1)
No. of Outlets sampled – 72
Outlets Ps.ae. Positive – 0

DCN Acute Care (1-L1)
No. of Outlets sampled – 90
Outlets Ps.ae. Positive – 2 of which,
Pantry Sink Mixer; 1
Zip Hydrotap; 1

Clinical Research – Isolation room(s) (1-H2 rooms 18,21,22,23 &24)
No. of Outlets sampled – 7
Outlets Ps.ae. Positive – 0

Plastic Dressings Clinic (1-D7)
No. of Outlets sampled – 8
Outlets Ps.ae. Positive – 0

CAMHS – Isolation room (G-A2 rooms 72,73.74)
No. of Outlets sampled – 4
Outlets Ps.ae. Positive – 1 of which,
Markwick21 tap; 1

3.2 System Condition Testing

To form a view on the overall microbiological loading within the domestic systems, an outlet sampling schedule was implemented. The cold water distribution systems within these premises is of the venturi flow-splitter circulating type, whose design intent is to ensure cold water flow to as-close-as-practical to the supplied outlet, regardless of outlet usage. To facilitate flow during periods of low usage, or elevated system temperatures, each subordinate distribution component is terminated at a dump valve, whose operation will artificially induce flow through all system pipework sections. Each of these subordinate distribution systems were identified and samples retrieved from as close as possible to the end-of-line dump point. To establish the microbiological load on the distribution systems, without the results being compromised by the thermostatic mixing process, where possible samples were retrieved from un-tempered hot outlets and cold taps. The predominance of thermostatic mixing taps on the site means that un-tempered hot and cold outlets were typically only found in the Dirty Utility Rooms and DSRs, which were not always located near the end of the distribution line. However, it is considered the implemented sampling schedule provided a good indication in respect of the microbiological safety of the water within the distribution systems. Samples were also retrieved from mixed outlets at the end of lines.

A total of 198 samples were retrieved for this purpose, and subsequently analysed for the 2 Day (37°C) and 3 Day (22°C) TVC, coliforms, *E.coli* and *Pseudomonas aeruginosa*. Samples were also retrieved from 33 outlets and specifically analysed for the presence of Legionella. Typically, these were retrieved from end-of-line showers. The observations arising from a review of these results, are summarised overleaf.

- Neither coliforms or *E.coli* were isolated in any of the samples retrieved.

- At the time of writing, none of the Legionella samples returned positive results. (Full results not available until 22nd July 2019).

- All un-tempered hot outlets returned very low TVC results, particularly where Post-flush samples were taken. Given that the vast majority of hot outlets almost immediately discharged water in excess of 60°C, this is unsurprising, and confirms the effectiveness of the thermal control regime applied to the hot water distribution system. Where this observation was not the case, was where unsatisfactorily low hot water supply temperatures were noted, and this is further discussed in Section 3.4 of this report.

- Generally, un-tempered cold outlets returned satisfactory TVC analysis results on Post-flush samples (typically after one minute of flushing), although a notable number of outlets returned very high TVC results where Pre-flush samples were retrieved. This tends to confirm the general bacteriological safety of the water in the distribution systems (including from Riser M2), but suggests there may be elements of system deterioration between the tertiary return point and the outlets themselves.

- All Pre-flush samples from thermostatically mixed outlets returned elevated TVC results, although it should be noted that Pre-flush samples were only retrieved in the augmented care areas. Post-flush TVC levels were generally found to be satisfactory, although a number did return elevated TVC results. Again, this tends to suggest that there is no systemic contamination in the hot and cold supplies to these outlets, but that local contamination, including between the tertiary return points and the outlets themselves, is present.

- TVC analysis results from all tested Zip Hydrotap machines and Arjo baths were very unsatisfactory.

3.1 Investigative Sampling

Given the high number of positives for *Pseudomonas aeruginosa* recovered from the DCN Inpatients and Paediatric Medical Inpatients areas, and the apparent absence of the contamination in the hot and cold distribution systems, further investigative sampling was carried out to confirm this latter assertion and identify consistent possible sources of the contamination. The strategy applied was to select four of the outlets which returned high concentrations of the organism and sequentially sample from the outlet supply, and subsequent locations to the point of discharge.

All tests were carried out with no flushing of the outlet. Firstly, the tertiary return temperatures were measured on both the hot and cold supplies to each outlet. Secondly, the interconnecting pipework between the hot and cold supply service valves and outlets themselves was removed, and samples retrieved from each of the hot and cold supplies, taking care to sanitise “non-system” components of the sample point which the discharged water may come into contact with. The supplying pipework was then reinstated, and the filter/NRV assemblies were removed from each of the hot and cold sides of the Markwik tap. Again, care was taken to sanitise the non-contact components, and samples were retrieved from the hot and cold inlets to the tap. The detachable spout was then removed, and a fifth sample was taken by operating the tap and retrieving the water discharged directly from the thermostatic mixing valve. Finally, the spout was reinstated and an initial discharge sample was retrieved from the outlet.

In respect of the circulating systems, the range of the hot tertiary returns measured was 56.4°C to 60.7°C, and for the cold circulating system, temperatures ranged from 15.9°C to 19.5°C. Although our preference would be to have hot water circulation closer to 60°C, the hot temperatures may be considered satisfactory, and given all cold temperatures were noted to be below 20°C, again, no operational issues were perceived at the four tested outlets.

The sample analysis results for this exercise are given in full in an attachment to this report, but Figure 1 overleaf summarises the results for ease of interpretation. It can be seen that there was no *Pseudomonas aeruginosa* in either the hot or cold water supply systems to the outlet. It can also be seen that the general bacteriological load on the hot water supply was extremely low, which may be expected given the elevated temperatures being circulated to the test points.

However, high TVC results were returned from the samples retrieved from the cold water supply to the outlet, and whilst the temperatures recorded suggest that water circulation was occurring to the test points, a degree of microbiological contamination was evident in the supply system. At the hot inlet barrel to the TMV, no *Pseudomonas* was detected at three of the four tested taps, although a single colony was isolated in the fourth sample. The TVC of bacteria in three of the four samples was slightly elevated, although very low counts were recorded from the first location, which had the hot water return temperature recorded at greater than 60°C. At the cold inlet to the TMV for each tap, high TVCs were returned, which was consistent with the result of the sample taken from the supplying section. There was however evidence of *Pseudomonas aeruginosa* contamination at three of the tested outlets, albeit in fairly low concentrations.

Pseudomonas was detected in all four samples retrieved from the TMV discharge (with spout removed), generally at very high concentrations. Very high TVCs were also recorded confirming a very poor hygienic condition of the components between the inlet to the tap and the TMV outlet. Similarly, *Pseudomonas* was detected in all four samples taken from the Markwik tap once the spout had been reinstated, albeit at slightly lower concentrations. However, this latter observation may purely be a result of the 250ml which had been flushed out to retrieve the previous sample.

These analysis results suggest the following:

- There is no evidence of *Pseudomonas aeruginosa* contamination within the hot or cold distribution system.

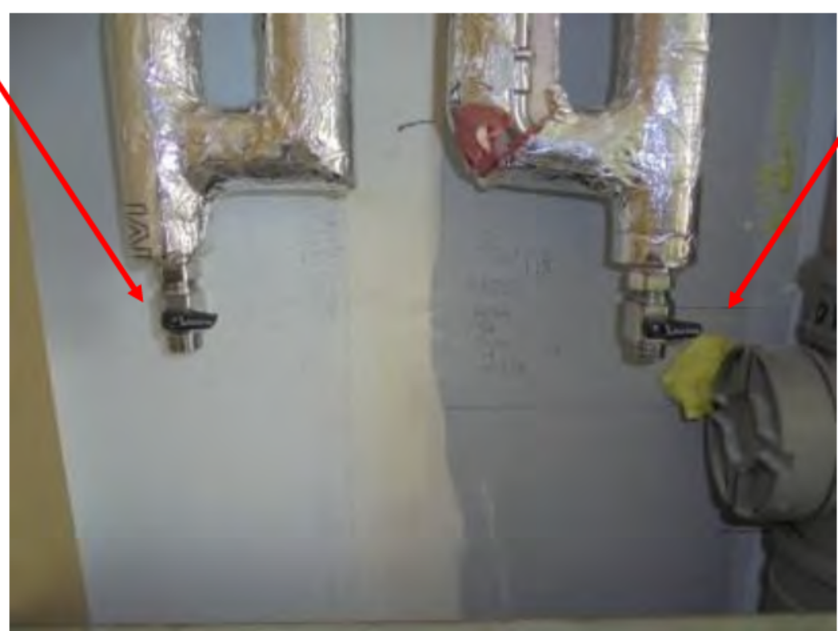
- There is however sufficient evidence to suggest an unsatisfactory high microbiological loading on the cold water supply system (all from the M2 riser).

- The thermostatic mixing components of the tap are clearly the source of the *Pseudomonas aeruginosa* colonisation.

- Contaminant (biofilm) creep is beginning to occur from the thermostatic control components back into the hot and cold water supply lines.

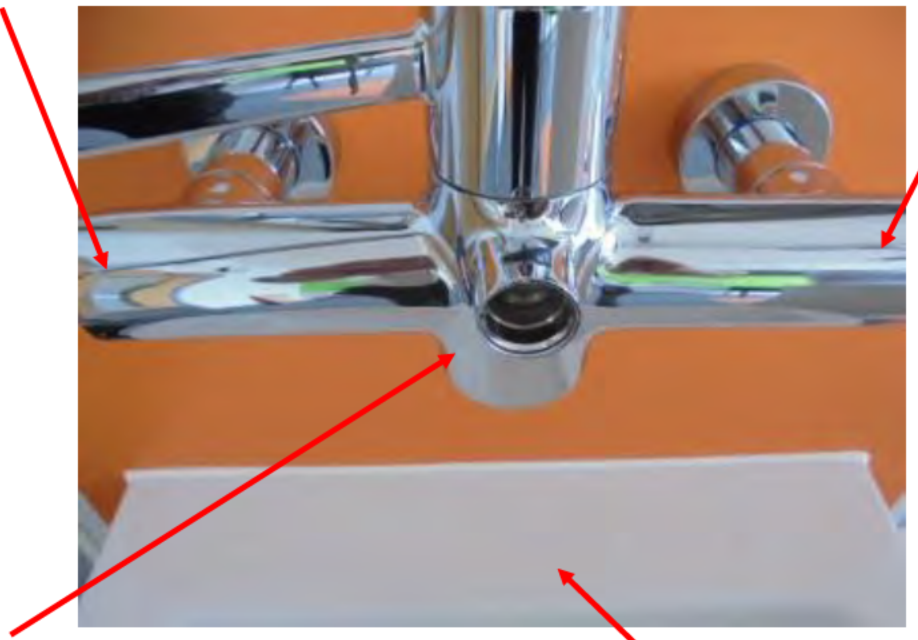
Location	Ps.ae.	2 Day	3 Day	Return °C
1	<1	<1	<1	60.1-60.7
2	<1	1	<1	57.5-57.7
3	<1	<1	<1	57.4-58.1
4	<1	<1	<1	56.4-56.9

Location	Ps.ae.	2 Day	3 Day	Return °C
1	<1	>1000	>1000	18.7-18.8
2	<1	>1000	>1000	15.9-16.5
3	<1	272	>1000	16.7-17.5
4	<1	400	>1000	18.4-19.5



Location	Ps.ae.	2 Day	3 Day
1	<1	<1	1
2	<1	432	240
3	<1	336	448
4	1	640	472

Location	Ps.ae.	2 Day	3 Day
1	<1	576	528
2	50	>1000	>1000
3	1	>1000	>1000
4	4	>1000	>1000



Location	Ps.ae.	2 Day	3 Day
1	24	>1000	>1000
2	>100	>1000	>1000
3	>100	>1000	>1000
4	>100	>1000	>1000

Location	Ps.ae.	2 Day	3 Day
1	3	>1000	>1000
2	>100	560	392
3	80	>1000	>1000
4	>100	>1000	>1000

3.4 Other Observations

As has been noted in the Scope Limitations section of this report, these works did not include any inspection or assessment of components, reviews of operational practices or control strategies, or of currently applied control measures. However, as part of the investigative works carried out subsequent to the main sampling exercise, a number of observations arose which it is considered will have an impact on the bacteriological safety of the water supplied to the outlets on these premises.

In-line Strainers

In August 2018 Westfield Caledonian were asked to comment on the proposed methodology for carrying out a system disinfection during commissioning of these systems. One of the observations made was that the methodology should include the removal and cleaning of all in-line strainers which are invariably provided to protect the components of thermostatic mixing devices.

All thermostatic mixing valves and Markwik 21 thermostatic taps are provided with integral strainers at both the hot and cold inlets, whilst the Contour thermostatic taps are provided with in-line strainers on the hot and cold supply lines to the outlets. Whilst no shower thermostatic valves or TMVs (difficult access) were accessed, the integral strainers fitted to the four Markwik taps which were subjected to the investigative sampling, and the in-line strainers supplying a number of Contour taps, were accessed and inspected. Some illustrations of the conditions found are given overleaf, and it can be seen that all strainers were found to be subject to some degree of contaminant retention, ranging from very little to substantial. It is considered very unlikely that the observed contaminants have arisen since the commissioning process, and it would appear that either the necessary cleaning and removal was not carried out at the appropriate point of the commissioning process, or the works were ineffective.

Whilst the observed contamination cannot be identified as the cause of the *Pseudomonas aeruginosa* contamination which was evident at a significant number of outlets, it is clear the conditions are not conducive to maintaining the bacteriological safety of the discharged water, and this will require remediation.

Circulating Temperatures

Each cold outlet (and thermostatic control device cold inlet) is supplied by a flow and return arrangement on the cold water distribution system. Flow through the pipework is induced by flow-splitter valves which utilise the venturi effect to induce flow through the tertiary loop, when flow occurs in the main supply line. When turnover through the cold distribution system section is low, and/or temperatures exceed a pre-set value (usually 20°C or less), automatic controls should activate an end-of-line dump valve, which will simulate flow through the all components of the system and dump the water until end-of-line temperatures below the set point are achieved. During these works, the majority of end-of-line cold tertiary loop return temperatures were recorded, and generally found to be below 20°C. There were a number of occasions however when unsatisfactorily high temperatures were noted, with one end-of-line cold outlet discharging water in excess of 25°C for several minutes.

Similarly, un-tempered hot outlets generally discharged water in excess of 60°C, within a few seconds of operation, and always within one minute of flushing. Again however there were a number of un-tempered extremity outlets, or thermostatic tap inlets, where temperatures below 55°C were noted.

Current guidance suggests that hot water return temperatures should be measured and recorded as an ongoing control measure (at varying frequencies for principal, subordinate and tertiary loops) and it is assumed that the current FM provider on the site has such a programme in place for both the hot and cold systems. However, our observations suggest that the frequency, or tested locations, require to be reviewed, as there are clearly a number of areas where unsatisfactory circulation is occurring.

Hot and Cold Inlet Barrels to Markwik Thermostatic Taps Provided With Filter and NRV Cartridges

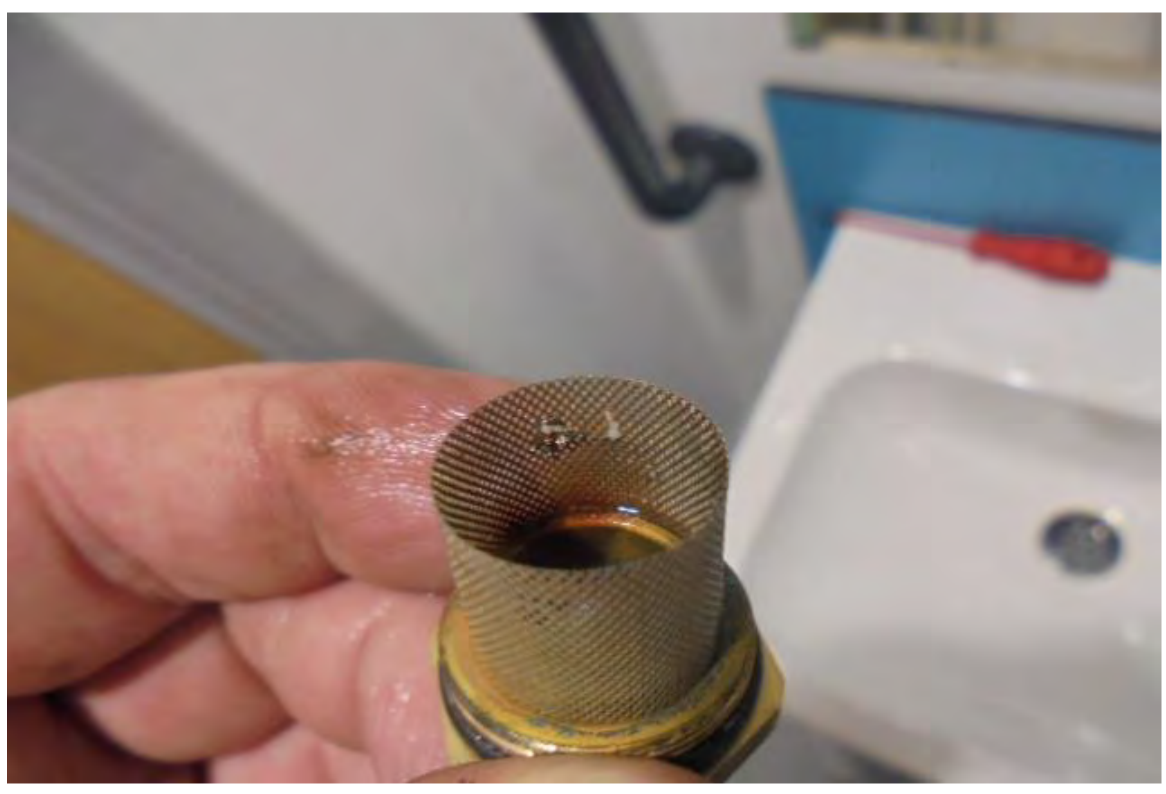
Hot and Cold Supplies to Contour Taps Provided With In-line Strainers

Illustration of Slight Particulate Accumulation on Markwik Inlet Strainer

Further Illustration of Minor Particulate Accumulation on Markwik Inlet Filter

Fairly Extensive Contamination Observed on Markwik Inlet Filter

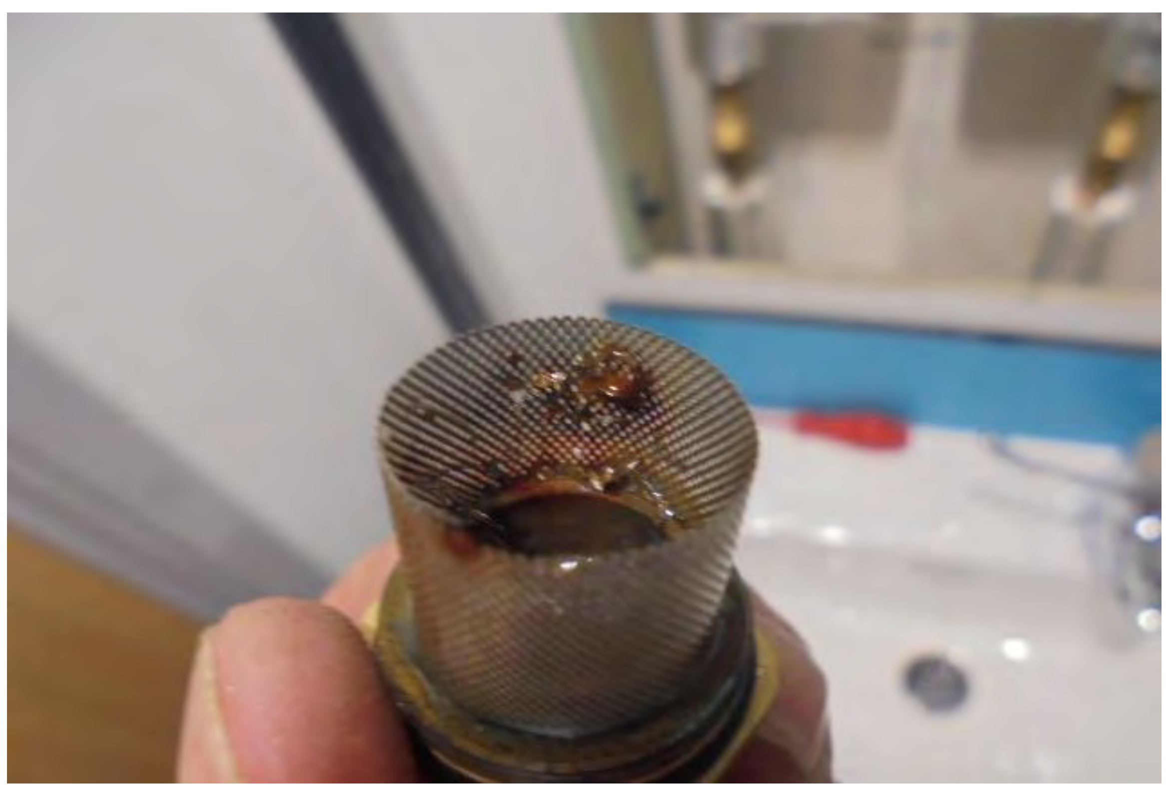
Installation Debris Accumulation on Markwik Inlet Filter



Minor Accumulation on Contour In-line Strainer

Installation Debris Retained in Contour In-line Strainer

Significant Oxidation Contamination on Contour In-line Strainer



Substantial Debris Accumulation on Contour In-line Strainer

Low Hot Water Supply Temperature to Markwik Inlet

Hot Water Supply from Untempered Outlet Too Low

Elevated Cold Water Supply Temperature Recorded at End-of-Line Outlet

From review of the findings from all three scopes, the following conclusions have been drawn:

1. There is nothing to suggest that *Pseudomonas aeruginosa* contamination is systemic, and that both the hot and cold distribution systems are free from the contamination.

2. General bacteriological contamination of the DHWS distribution system was consistently low, and large sections of the CWS distribution systems also returned satisfactory bacteriological analysis results. However, there is sufficient evidence to suggest that localised general microbiological contamination is present in the CWS distribution system, and that system disinfection would be a prudent pre-occupancy control measure to implement.

3. Where *Pseudomonas aeruginosa* outlet contamination was identified, it was further confirmed that the source of the contamination is specifically the thermostatic mixing components, and that specific remediation activities require to be carried out at all these components. This should include all Markwik 21 taps, all shower thermostatic valves, and all remote thermostatic mixing valves.

4. Appropriate post-commissioning strainer decontamination has not been carried out (effectively) resulting in significant retained contaminants in these components. The above remediation maintenance for all thermostatic outlets should include the removal and cleaning, or replacing where corrosion is evident, of all in-line and integral strainers.

5. End-of-line tertiary return temperature measurements suggest that a number of areas are not achieving satisfactory circulation (both hot and cold).

From the previously described Findings and Conclusions, the following recommendations are made;

5.1 Remedial

- All Markwik 21 taps, shower thermostatic valves, and remote thermostatic mixing valves should be fully serviced and decontaminated. This should include the removal and cleaning of all integral strainers, and decontamination of the Markwik taps by utilisation of the thermal disinfection bypass tappings. The Markwiks can also be autoclaved to kill any microbiological contaminants, but the flushing process has the added benefit of being more effective at dislodging biofilm. In-line strainers on the supplies to all Contour taps should also be removed and cleaned or replaced.

- Although large sections of the CWS distribution system was found to supply bacteriologically safe water, a sufficient number of poor TVC results were returned to suggest that some sections may be hygienically compromised. Furthermore, given it had been in excess of six months since the post-commissioning disinfection of these systems, a pre-occupancy disinfection of all system components would be prudent, and consistent with good practice. It is recommended therefore that, on completion of the above described remediation works, a full system disinfection is carried out, ideally utilising a control agent which is known to be effective against biofilms.

- The Zip Hydrotap and Arjo bath service companies should be advised of the unsatisfactory results, and asked to carry out the appropriate remediation works specific to these machines. The should also be asked provide sanitising procedures and frequencies for approval.

5.2 Control Measures

A review of the currently applied Water Safety Plan should be carried out to ensure the following activities are effectively carried out.

- Six-monthly routine sampling specifically for *Pseudomonas aeruginosa* should be carried out on all outlets within augmented care areas. This testing should be in addition to the return-to-service testing decreed by the current HPS Guidance for outlets where positive results have already occurred.

- A review of return temperature monitoring frequencies and locations should be carried out to ensure that ***all*** hot and cold subordinate and tertiary return loops are tested at the appropriate frequency.

- All thermostatic outlets should be maintained in accordance with the manufacturers' guidance as a minimum, but at least be subjected to annual servicing and decontamination activities. This should include the disinfection (by TMV bypass or autoclaving), of the Markwik taps and the removal of all in-line and integral strainers.

From: Campbell, Jacquie
Sent: 02 July 2019 14:33
To: Graham, Iain; Mitchell, Fiona (Director); Doyle, Edward
Cc: Executive, Chief; Gillies, Tracey
Subject: summary from 12 midday meeting

Follow Up Flag: Follow up
Flag Status: Flagged

Dear All

I have summarised the discussions earlier this afternoon. Please add ort amend if i have misunderstood any element

1. Theatre validation
   - Theatres 34 and 35 (paediatric conventional theatres) will have had all tests completed with expectation that will be fully compliant by COP today
   - Theatres 31 and 33 (paediatric ultraclean theatres) are undergoing testing both as conventional theatre measures and with ultraclean testing- specialist engineer is on site . Expectation that a minimum of 1 potentially both will fully tested and complaint by COP today
   - Plan to start testing on DCN ultraclean theatre (theatre 39) and conventional theatre (theatre 37) tomorrow
   - A detailed programme of testing by day for the DCN theatres and remaining children theatres has been requested for meeting at 430 tonight
2. Isolation Rooms (PPV)
   - There are 15 rooms in total of one specification (anteroom/ bedroom and en-suite) of which 6 are not meeting expected standard
   - There are 6 single bedded room of which 2 are not meeting expected standard
   - A detailed programme plan of work by day has been requested for the 430 meeting
3. Critical Care
   - An interim solution has been put forward by multiplex to increase current 4 air exchange rates.

     Option 1
     Use existing air handling units and ducting but reduce volume serviced by not opening one 4-bedded bay and one single room. This would allow us to open with the same number of critical care beds we currently have in RHSC- 19 beds
     Early calculations are that this could potentially increase 4- bedded rooms to 5.2 air exchanges and single rooms to 7.1
     Detailed calculations of this option and potential air exchange rates will be brought to 430 meeting
     Indicative timescale is 3 days of work – mobilise Wed, Work Thurs, Fri and Sat. Testing of newly delivered air exchanges Monday

     Option 2
     As above but purchase a non fan additional motor to further increase air exchange rate . The availability of this motor is being explored with update at 430

   - Permanent solution to achieve 10 Air exchanges

     Proposal to bring in additional external AHU and run concurrently with existing system.
     Lead in time for equipment 8-12 weeks
     Impact on operational service unknown currently – further detail will be brought to the 430 meeting
4. Risk Assessment

Donald Inverarity advised that all air exchange rates are currently better than what we have today , therefore will be in an improved position, but would wish external advise from HFS/HPS . He felt there were best people to advise of risk running with less than 10

Need to understand impact of permanent solution on operational service- timeline and capacity

Jacquie

From: Graham, Iain
Sent: 02 July 2019 14:42
To: 'MACKAY, Judith (NHS LOTHIAN)'; Executive, Chief; Campbell, Jacquie; Gillies, Tracey; Goldsmith, Susan
Cc: Currie, Brian; Walker, Anna
Subject: RHSC / DCN - ventilation remediation works

Follow Up Flag: Follow up
Flag Status: Flagged

For information, I have just taken a call from Alan Morrison, capital finance at SG and our main business case contact. He was reacting to the potential need for a Ministerial briefing post the meeting with Chairman and Chief Executive at SG.

His main focus was the differential between the Settlement Agreement and whether there was need for an immediate briefing or one that should await more information. I stressed that Multiplex were working well with us on delivering solutions.

Regards

Iain

Iain F Graham
Director of Capital Planning and Projects
NHS Lothian
Waverley Gate
2-4 Waterloo Place
Edinburgh
EH1 3EG
☎ (

From: Morrison A (Alan)
Sent: 25 July 2019 13:41
To: Roche R (Rowena); Crowe B (Barbara)
Subject: FW: RHCYP Brief
Attachments: RHCYP Brief.docx

From: MACKAY, Judith (NHS LOTHIAN) [redacted]
Sent: 02 July 2019 15:54
To: Marr J (Jacqueline) [redacted]; DG Health & Social Care [redacted]; Morrison A (Alan) [redacted]>
Cc: Executive Chief (NHS LOTHIAN) [redacted]; [redacted]
Subject: RHCYP Brief

As discussed.

Judith Mackay
Director of Communications, Engagement and Public Affairs | NHS Lothian
[redacted]

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From: Morrison A (Alan)
Sent: 02 July 2019 17:21
To: Cabinet Secretary for Health and Sport
Cc: DG Health & Social Care; Connaghan J (John) (Health); Wright M (Malcolm); McLaughlin C (Christine); McCallum R (Richard); Roche R (Rowena); Hutchison D (David)
Subject: RE: 2019-20 - Health Finance and Infrastructure - Edinburgh Children's Hospital - June 2019
Attachments: RHCYP Brief.docx

Jack

Attached is the briefing supplied by NHS Lothian. The 5.30pm meeting has been cancelled and instead the Chief Executive is phoning Malcolm.

Regards

alan

-----Original Message-----
From: Morrison A (Alan)
Sent: 02 July 2019 16:53
To: Cabinet Secretary for Health and Sport
Cc: DG Health & Social Care ; Connaghan J (John) (Health) ; Wright M (Malcolm) ; McLaughlin C (Christine) ; McCallum R (Richard) ; Roche R (Rowena) ; Hutchison D (David)
Subject: 2019-20 - Health Finance and Infrastructure - Edinburgh Children's Hospital - June 2019

Jack

Please find attached a short briefing regarding an emerging issue with the new Edinburgh Children's Hospital. There is a phone call scheduled with NHS Lothian at 5.30pm and DG Health and Social Care may phone the Cabinet Secretary after that, depending on the outcome of that call.

Regards

Alan

Alan Morrison
Health Finance and Infrastructure
Scottish Government Health and Social Care Directorates

Royal Hospital for Children and Young People / Department of Clinical Neurosciences

Situation

Yesterday evening (1/7/2019) NHS Lothian was informed that the rate of air change per hour in the paediatric critical care rooms of the new hospital does not meet the recommended national guidance of 10 air changes per hour. When testing the ventilation in critical care, our commissioning engineers, IOM, found that air was being replaced in four x four bedded rooms and in five single rooms at a rate of four times per hour.

We are urgently exploring with our contractors what it will take to bring the air change rate in critical care up to standard and to understand what the implications are for migration to the new facility which is due to begin on Friday 5 July.

IOM also found issues with the theatre environments. These are being worked through and are not believed to pose risk to the migration programme.

Background

Some six month ago, in November 2018, there were concerns over ventilation in some areas of the building following inspection by the Independent Assessor. The concerns related to air pressure and did not directly relate to the air change rate.

Air pressure within certain patient rooms must be lower than or equal to the air pressure in the corridor. This is an infection control protocol to prevent the spread of pathogens by ensuring air cannot flow from a patient room out into a corridor and beyond. In some rooms the air pressure was too low. Lowering the rate of air change from 6 times per hour to 4 per hour enabled the correct air pressure to be achieved.

A derogation was therefore agreed to reduce the air change rate from 6 to 4 times per hour in 14 out of 20 four bedded rooms. A Settlement Agreement was signed to that effect in November 2018. Included in that Settlement Agreement was specific reference to the Scottish Health Technical Memorandum (SHTM) Health Facilities Scotland It specifies a standard of 10 air changes per hour for critical care beds. It is not yet clear if the Contractor, Multiplex, has interpreted the derogation as ‘overwriting’ SHTM specifications.

It should be noted that there is a zero rate of air change in critical care at the existing Royal Hospital for Sick Children. There are 19 critical care beds at RHSC. The new RHCYP has 24 critical care beds.

Assessment

As a matter of urgency we are seeking answers to the following question in order to reach an informed decision on continuing with migration as planned on 5 th July.

- What can be done with the existing ventilation plant to improve on an air change rate of 4 times per hour?
- Is there an interim fix which can improve upon 4 air changes per hour with a view to effecting a more permanent solution over time?
- Can a permanent solution be installed in the new building once it it occupied?
- (What would be the level of disruption and what would be the loss of capacity?
- What loss of capacity could be tolerated within the bounds of acceptable clinical risk, given that paediatric critical care operates usually at high capacity and given that NHS Lothian runs a national service.
- How long would it take to acquire new ventilation kit and to complete works to achieve 10 air changes per hour?

Summary of meeting at 12noon today with contractors:

1. **Theatre validation**
   - Theatres 34 and 35 (paediatric conventional theatres) will have had all tests completed with expectation that will be fully compliant by COP today
   - Theatres 31 and 33 (paediatric ultraclean theatres) are undergoing testing both as conventional theatre measures and with ultraclean testing- specialist engineer is on site . Expectation that a minimum of 1 potentially both will fully tested and complaint by COP today
   - Plan to start testing on DCN ultraclean theatre (theatre 39) and conventional theatre (theatre 37) tomorrow
   - A detailed programme of testing by day for the DCN theatres and remaining children theatres has been requested for meeting at 430 tonight

2. **Isolation Rooms (PPV)**
   - There are 15 rooms in total of one specification (anteroom/ bedroom and en-suite) of which 6 are not meeting expected standard
   - There are 6 single bedded room of which 2 are not meeting expected standard
   - A detailed programme plan of work by day has been requested for the 430 meeting
   -

3. **Critical Care**
   - An interim solution has been put forward by multiplex to increase current 4 air exchange rates.

     Option 1
     Use existing air handling units and ducting but reduce volume serviced by not opening one 4-bedded bay and one single room. This would allow us to open with the same number of critical care beds we currently have in RHSC- 19 beds
     Early calculations are that this could potentially increase 4- bedded rooms to 5.2 air exchanges and single rooms to 7.1
     Detailed calculations of this option and potential air exchange rates will be brought to 430 meeting
     Indicative timescale is 3 days of work – mobilise Wed, Work Thurs, Fri and Sat. Testing of newly delivered air exchanges Monday

     Option 2
     As above but purchase a non fan additional motor to further increase air exchange rate. The availability of this motor is being explored with update at 430

   - Permanent solution to achieve 10 Air exchanges

     Proposal to bring in additional external AHU and run concurrently with existing system.
     Lead in time for equipment 8-12 weeks
     Impact on operational service unknown currently – further detail will be brought to the 4.30 meeting

4. **Risk Assessment**

   Our Lead Infection Control doctor, Consultant Microbiologist Donald Inverarity advised that all air exchange rates are currently better than what we have today, therefore will be in an improved position, but would wish external advice from HFS/HPS. He felt they were best people to advise of risk running with less than 10

   Need to understand impact of permanent solution on operational service- timeline and capacity.
   We will pick this up with HFS / HPS.

Summary

We need to decide in the next 24 hours whether a permanent solution to get to 10 air changes per hour can be achieved <u>after</u> we have moved into the new building without undue disruption or loss of capacity. If this can be achieved our preference would be to continue with the move.

However, if we cannot get a satisfactory answer to this question within the next 24 hours our preference would be to delay until such times as we do have a satisfactory answer.

From: Graham, Iain
Sent: 03 July 2019 11:42
To: Executive, Chief; Campbell, Jacquie
Cc: Currie, Brian
Subject: FW: RHSC / DCN edinburgh

Tim, Jacquie,

Notes from HFS and HPS as requested.

(it was developed from my initial contemporaneous notes)

Iain

Iain F Graham
Director of Capital Planning and Projects
NHS Lothian
Waverley Gate
2-4 Waterloo Place
Edinburgh
EH1 3EG

From: MCLAUGHLAN, Edward (NHS NATIONAL SERVICES SCOTLAND)
Sent: 03 July 2019 11:35
To: Graham, Iain
Cc: Morrison Alan (SCOTTISH GOVERNMENT HEALTH & SOCIAL CARE DIRECTORATE); STORRAR, Ian (NHS NATIONAL SERVICES SCOTLAND); RITCHIE, Lisa (NHS NATIONAL SERVICES SCOTLAND)
Subject: RE: RHSC / DCN edinburgh

Colleagues

Modified version of our discussion notes as agreed below.

Eddie McLaughlan
Assistant Director
Engineering, Environment and Decontamination
Health Facilities Scotland
Procurement, Commissioning and Facilities
NHS National Services Scotland
3rd Floor, Meridian Court
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Glasgow
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www.hfs.scot.nhs.uk

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In a meeting convened on 3 July 2019, to consider the risks associated with the move of ICU to new RHCYP the following issues were raised.

- Major concerns raised about the risk of doing the permanent solution with patients in situ.
- Concern about impact on national capacity if beds are taken out during works.
- The level of duct replacement works – based on experiences, sceptical about timeframes and suggestions of simplicity by the contractor.
- Need to be convinced that proposed permanent solution is deliverable.
- Design, buildability, maintenance, cost certainty and timescale of proposed permanent solution.
- Some information from contractor is verbal and firm detail is awaited.
- Other concerns / assurances needed from the contractor:
  Heat levels
  Humidity levels
  Noise at outlets, diffusers
  Pressure regime during works being maintained
  Fire damper implications
  Changing frequency implications for filtration needs to be upped to ensure that the ACH is maintained.
  Working practices whilst the building is occupied to be demonstrated (all documentation including method statements and HAI SCRIBE).

Safer for patients to stay put – contingency required if permanent solution doesn't work.

Unknowns

- The safety implications of running the facility with 4 air changes rather than 10.
- Risks of modifying the building whilst occupied.
- The safety of the environment in which the patients are currently occupied.
- Viability of proposed permanent solution.

Consensus view
Given the information available, the consensus was that, with unknown risks associated with moving patients and then modifying the ventilation of the building, combined with the 'believed safe' environment of the current facility, the safety of patients might be better served by delaying the move and modifying the ventilation in the new building, before moving patients.

Meeting participants
Iain Graham NHSL
Alan Morrison SG
Beata Burkinshaw SG
Eddie McLaughlan HFS

Ian Storrar HFS
Lisa Ritchie HPS
Part by phone Tim Davison NHSL Jacquie Campbell NHSL

From: Morrison A (Alan)
Sent: 25 July 2019 13:42
To: Roche R (Rowena); Crowe B (Barbara)
Subject: FW: RHSC / DCN edinburgh

From: MCLAUGHLAN, Edward (NHS NATIONAL SERVICES SCOTLAND)
Sent: 03 July 2019 11:35
To:
Cc: Morrison A (Alan) ; STORRAR, Ian (NHS NATIONAL SERVICES SCOTLAND) ; RITCHIE, Lisa (NHS NATIONAL SERVICES SCOTLAND)
Subject: RE: RHSC / DCN edinburgh

Colleagues

Modified version of our discussion notes as agreed below.

Eddie McLaughlan
Assistant Director
Engineering, Environment and Decontamination
Health Facilities Scotland
Procurement, Commissioning and Facilities
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From: Graham, Iain
Sent: 03 July 2019 11:01
To: MCLAUGHLAN, Edward (NHS NATIONAL SERVICES SCOTLAND)
Subject: RHSC / DCN edinburgh

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- Major concerns raised about the risk of doing the permanent solution with patients in situ.
- Concern about impact on national capacity if beds are taken out during works.
- The level of duct replacement works – based on experiences, sceptical about timeframes and suggestions of simplicity by the contractor.
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  Noise at outlets, diffusers
  Pressure regime during works being maintained
  Fire damper implications
  Changing frequency implications for filtration needs to be upped to ensure that the ACH is maintained.
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Safer for patients to stay put – contingency required if permanent solution doesn't work.

Unknowns

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- Risks of modifying the building whilst occupied.
- The safety of the environment in which the patients are currently occupied.
- Viability of proposed permanent solution.

Consensus view

Given the information available, the consensus was that, with unknown risks associated with moving patients and then modifying the ventilation of the building, combined with the 'believed safe' environment of the current facility, the safety of patients might be better served by delaying the move and modifying the ventilation in the new building, before moving patients.

Meeting participants
Iain Graham NHSL
Alan Morrison SG
Beata Burkinshaw SG
Eddie McLaughlan HFS
Ian Storrar HFS
Lisa Ritchie HPS
Part by phone Tim Davison NHSL Jacquie Campbell NHSL

Iain F Graham
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From: Elliot E (Beth) on behalf of DG Health & Social Care
Sent: 03 July 2019 12:45
To: Wright M (Malcolm)
Cc: DG Health & Social Care
Subject: FW: 2019-20 - Health Finance and Infrastructure - Edinburgh Children's Hospital - June 2019

From: Morrison A (Alan) [redacted]
Sent: 03 July 2019 12:09
To: DG Health & Social Care [redacted]
Cc: Connaghan J (John) (Health) [redacted]; McLaughlin C (Christine) [redacted]; McCallum R (Richard) [redacted]; Roche R (Rowena) [redacted]
Subject: RE: 2019-20 - Health Finance and Infrastructure - Edinburgh Children's Hospital - June 2019

Malcolm/John

I believe Tim Davison has phoned you to summarise the outputs from this morning's meeting between HFS, HPS, NHS Lothian and myself to consider the risks associated with the move of ICU to new RHCYP the following issues were raised.

The main risks we identified were:

- Major concerns raised about the risk of doing the permanent solution with patients in situ.
- Concern about impact on national capacity if beds are taken out during works.
- The level of duct replacement works – based on experiences, sceptical about timeframes and suggestions of simplicity by the contractor.
- Further evidence is required before we are satisfied that the proposed permanent solution is deliverable.
- Design, buildability, maintenance, cost certainty and timescale of proposed permanent solution is still quite uncertain
- Some information from contractor is verbal and more tangible and testable detail is required.
- Other concerns / assurances needed from the contractor include:
  - Heat levels
  - Humidity levels
  - Noise at outlets, diffusers
  - Pressure regime during works being maintained
  - Fire damper implications
  - Working practices whilst the building is occupied to be demonstrated (all documentation including method statements and HAI SCRIBE).

There is still a lot unknown factors including:

- The safety implications of running the facility with 4 air changes rather than 10.
- Risks of modifying the building whilst occupied.
- The safety of the environment in which the patients are currently occupied ie is the new facility with 4 changes an hour still safer than the current site?
- Viability of proposed permanent solution has not been sufficiently tested or challenged.

Given the information available, the consensus was that, with unknown risks associated with moving patients and then modifying the ventilation of the building, combined with the 'believed safe' environment of the current facility, the safety of patients would be better served by delaying the move and modifying the ventilation in the new building, before moving patients.

>>>
In addition John asked about why this was not identified earlier. As part of the settlement agreement, NHS Lothian agreed that ventilation for general wards could be 4 changes per hour. They should have specified that critical care beds were not part of that derogation, but they didn't so the contractor has used this as evidence that only 4 changes an hour were required. When the first test was undertaken, the critical care beds 'passed' the test because the tester was looking to see whether 4 changes an hour was being achieved. At that point no-one realised that they were testing it against the wrong benchmark.

Clearly NHS Lothian should have been clearer in the settlement agreement and they should have picked up that the original test was not correct, so they will be looking at this to understand what went wrong. For context, the settlement agreement included 80 amendments to the original document, so it will be a lengthy, technical and complex document that will not be easy to review.

Malcolm you also asked the following questions:

Why was testing not carried out earlier – it was (see directly above)
What has been the involvement of HPS and HFS to date? – no official involvement as typically HFS are not involved in projects unless they go wrong. Engagement with the project team at an informal level only eg sharing information on what happened in Glasgow.
What requirement is there for them to be involved - we now have NDAP – national design assessment process which was developed as a means of helping Boards describe a clear path between the business objectives for a project and the necessary qualities of the building development. However the sick kids predates that development and HFS' role has been minimal.
What is the role of HPS and HFS when it comes to new builds. – NDAP is a HFS function and does not include HPS, though there are plans to involve them.

Alan

Alan Morrison
Health Finance and Infrastructure
Scottish Government Health and Social Care Directorates

-----Original Message-----
From: Henderson C (Calum) On Behalf Of DG Health & Social Care
Sent: 03 July 2019 08:20
To: Morrison A (Alan)
Cc: DG Health & Social Care ; Connaghan J (John) (Health) ;
McLaughlin C (Christine) ; McCallum R (Richard) >;
Roche R (Rowena)
Subject: RE: 2019-20 - Health Finance and Infrastructure - Edinburgh Children's Hospital - June 2019

Alan

In advance of meeting the Cab Sec, Malcolm has asked the following:

Why was testing not carried out earlier
What has been the involvement of HPS and HFS to date?
What requirement is there for them to be involved What is the role of HPS and HFS when it comes to new builds.

Thanks

Calum

-----Original Message-----
From: Downie J (Jack) [redacted] On Behalf Of Cabinet Secretary for Health and Sport
Sent: 02 July 2019 18:47
To: Morrison A (Alan) [redacted]; Cabinet Secretary for Health and Sport [redacted]
Cc: DG Health & Social Care [redacted]; Connaghan J (John) (Health) [redacted];
Wright M (Malcolm) [redacted]; McLaughlin C (Christine) [redacted]>;
McCallum R (Richard) [redacted]; Roche R (Rowena) [redacted]; Hutchison D (David) [redacted]
Subject: RE: 2019-20 - Health Finance and Infrastructure - Edinburgh Children's Hospital - June 2019

Alan,

Thanks for this, Ms Freeman can discuss this with Malcolm tomorrow at their 1-1. In the meantime and in advance of that meeting, she has asked what testing has been conducted across all site areas so far and what the findings have been? Their 1-1 is at 1330 therefore I would be grateful if you can provide this information by lunchtime.

Thanks,
Jack

-----Original Message-----
From: Morrison A (Alan) [redacted]
Sent: 02 July 2019 16:53
To: Cabinet Secretary for Health and Sport [redacted]
Cc: DG Health & Social Care [redacted]; Connaghan J (John) (Health) [redacted];
Wright M (Malcolm) [redacted]; McLaughlin C (Christine) [redacted];
McCallum R (Richard) [redacted]; Roche R (Rowena) [redacted]; Hutchison D (David) [redacted]
Subject: 2019-20 - Health Finance and Infrastructure - Edinburgh Children's Hospital - June 2019

Jack

Please find attached a short briefing regarding an emerging issue with the new Edinburgh Children's Hospital. There is a phone call scheduled with NHS Lothian at 5.30pm and DG Health and Social Care may phone the Cabinet Secretary after that, depending on the outcome of that call.

Regards

Alan

Alan Morrison
Health Finance and Infrastructure
Scottish Government Health and Social Care Directorates
[redacted]

DRAFT

RHCYP/ DCN : Commissioning / Ventilation

Note of a meeting held at 1:00pm on Wednesday 3 July 2019 in Meeting Room 6, Waverley Gate, Edinburgh.

Present: Tim Davison (Chair); Janis Butler; Jacquie Campbell; Brian Currie (Teleconference); George Curley (Teleconference); Eddie Doyle; Tracey Gillies (Teleconference); Iain Graham (Teleconference); Linda Guthrie (Teleconference); Duncan Inverarity (Teleconference); Pota Kalima (Teleconference); Judith Mackay and Fiona Mitchell.

In Attendance: Douglas Weir.

Welcome and Introduction

Tim Davison welcomed colleagues to the meeting advising that he was keen to discuss options around the timescale for the move to the new RHCYP given the recent developments around the ventilations system. He commented that a final decision would not be made at this meeting as there would be a need to discuss issues further with the Scottish Government at a meeting scheduled for 2pm later in the day.

1. Agreement of Options

It was agreed that essentially the following were the options available:

- Continue with the planned move and attempt to deliver a permanent fix for the ventilation problem while the Critical Care Unit remained open.
- Continue with the planned move of all services and then decant Critical Care into a modular build unit to allow the optimum solution to be delivered in an empty environment.
- Defer moving into the new building altogether.
- Re-phase the timing of the move into the building to allow a phased occupation over the next few weeks and months.

2. Clinical Team and Clinical Modelling

Fiona Mitchell advised that the clinical team had taken a measured view around the current situation concluding that anything was workable with the caveat that the critical care standard needed to be secure. The lack of robust information had been raised as an issue as most of the detail had been relayed on a verbal basis.

The consequences of moving too early were:-

- Loss of neo-natal capacity. It was noted that there were currently 3 neo-natal beds.
- Availability of 15 ITU HDU beds compared to 16 for the period of the interim position.
- Nurse staffing and ITU bed capacity issues.
- The need to manage/cancel elective beds and discuss with NSD and Greater Glasgow and Clyde Health Board to ensure that they were aware of the need to pick up the slack and potentially cancel elective capacity.
- Interim period.

The issues in respect of waiting until the permanent solution was implemented were:-

- Lack of clarity about how long this would take and how the work would impact on services.
- To date decant issues had not been discussed and these needed to be worked through.
- The least worse option would be to move but this came with an inherent risk of infection allied to the fact that services would be moving into a building with known sub-standard ventilation by current day standards.

Tim Davison provided an update on a teleconference session that he and Jacquie Campbell had held earlier in the day with Health Facilities Scotland (HFS) and Health Protection Scotland (HPS).

It was noted that both organisations had wanted reassurance around the high level of disruption in the short-term and what this delivered and whether this was in fact capable of being delivered. They had felt that there was a lack of detail around the risks and had raised questions around the lack of contingency if core capacity took longer to put in place or did not happen at all. They had questioned the position in respect of decant opportunities. A sense had been obtained that unless there was a clear contingency in place that they would be cautious about any move.

Tim Davison advised that he had discussed the situation with John Connaghan and Malcolm Wright and they were keen to assess issues around possible contingencies. John Connaghan had raised the issue about the provision of a Vanguard style modular unit. George Curley had also suggested using the ward in the main Arc of the main hospital. It was noted that if 19 beds required to be provided then this would need 2 Vanguard units. One proposal to provide intensive care facilities in the adult hospital was to move the renal ward to provide a footprint for the Paediatric Intensive Care Unit. This would provide 16 beds. It was noted that both options resulted in a loss of national capacity. George Curley commented that it was important not to underestimate the complexity of creating capacity.

Tim Davison sought advice on how doable the various options were and how much confidence there would be that the system would be able to deliver on these. George Curley commented that there was no reason why the renal ward proposal could not progress although this would result in less capacity and there needed to be

clarity around renal dialysis issues. He concluded that he was confident that this could be achieved albeit with a need to flex beds downwards.

The need to ring-fence adult capacity for Western General Hospital issues was raised as was the potential impact on adult critical care services. George Curley advised that the Ward 20 DCN work represented a full blown project and would not be concluded until October/ November which did not fit with necessary timelines. An update was provided in respect of the position around moving DCN. Jacquie Campbell commented that moving renal into a different footprint would impact on adult elective work as well as national volumes.

Tim Davison commented that although good ideas had been put forward there was a need to consider the practicality of implementing these to the necessary timescales. Eddie Doyle commented that it was important to consider how paediatric intensive care would interact with the rest of the hospital as well as considering issues around the access to theatres. It was noted that the paediatric emergency team operated on an outreach basis. He suggested that there was a need for careful analysis of the risks around decant.

Tracey Gillies also raised issues around the distance that children would be located in away from the main hospital. George Curley commented that the provision of a mobile unit would make the position even more isolated. The Vanguard unit would require to be located on the car park at the front of the site with the impact on patient car parking spaces being discussed. It was noted that drop-off points would still be available.

George Curley commented that there would be a need to see the specification for the Vanguard unit as another risk would be that services would move from one non-compliant unit to another non-compliant unit. In addition it was noted that there would be a need to create a canopy to join the Vanguard units to the main hospital building. Jacquie Campbell commented that whilst welcoming the good ideas that these were not sufficiently worked up to allow decisions to be made and that there were too many unknowns with issues needing to be risk assessed in respect of patient pathways.

Tim Davison commented that if the move did not occur to the original timescale then it would slip into September because of the availability of Scottish Ambulance Service support. This was due to the fact that the Ambulance Service were keen to avoid additional commitments over the festival period. Tim Davison commented in respect of the permanent solution that he did not feel that there was enough detail yet to be assured that it was workable. He questioned whether another option was available to allow contractors access to the hospital without patients being in wards and what the impact of this would be on the timescale. Brian Currie commented that this would shorten the timescale by around 1 week mainly because there was a lead in time for the procurement of handling units. The timing of the scheduling of works and the impact on the access corridor were discussed. It was noted that the bulk of work would not be in clinical areas. The difficult part would be the work required in the corridor area.

Tim Davison commented that there would be a need to make a decision about whether to move or not and that although good ideas were coming forward that these

required further work and he did not feel comfortable about pressing ahead with the proposed move on the basis of the evidence currently available.

George Curley commented that he felt that there would be a need for further conversations with both HFS and HPS as going against their advice would be difficult to defend if there were downstream issues.

Eddie Doyle commented that remaining in the current facility represented a low risk option and that DCN could move as planned. By delaying the move this would provide a clean sheet on a new site with the ability to risk assess. He commented that if a decision was taken to move before permanent work was undertaken then this would need to be on the basis of a clear understanding of risks based on analysis. He felt that to do otherwise would represent a leap of faith. The need to keep the Intensive Care clinical team on side was stressed with it being noted that further work was needed in this respect. Eddie Doyle commented that it was important to remember that clinical colleagues had not had much time to work through the issues that had been presented to them.

Tim Davison questioned whether anybody was confident about progressing with the move on the currently planned basis. Tracey Gillies advised that if HFS and HPS were concerned then she felt that to move without their air cover would be a big leap and might leave the organisation in a precarious position.

Tim Davison questioned the issues in respect of the proximity of the Neo-Natal Unit being next door to the corridor area and questioned how critical this was in terms of the acuity of the patients and whether noise would be an issue to the wellbeing of the children. The point was raised that there might also be issues in respect of the background noise created by the new ventilation. Eddie Doyle confirmed that this was a potential issue for patients and staff and he felt that further information was needed in respect of the potential for increased noise as a consequence of the velocity of ventilation. Fiona Mitchell reminded colleagues that previously there had been issues at St John’s hospital because of noise issues.

Discussion ensued about the viability of retaining existing duct work and improving the air exchange units with it being noted that the key unknown was what the increased air flow impacts would be. It was noted that the size of the ducting was a key issue. George Curley commented that if the move was deferred then this would allow technical issues to be resolved including the provision of acceptable ducting. It was noted that the installation of larger ducting could only be undertaken if the unit was empty.

Tim Davison questioned what the financial impact of the additional works would equate to. George Curley advised that although this had not been costed he felt that to provide a permanent solution would cost between £100,000 and £130,000 and the provision of an interim solution would cost between £50,000 and £60,000. It was noted that this was an area that required further costing.

In summary the following was concluded:

- The permanent solution for Critical Care would be the best way forward and would allow the installation of a bigger duct size which would make the unit compliant.
- It would not be possible to undertaken a permanent solution with patients in the unit.
- There would be a need to question whether to make the move knowing that a permanent solution would require decant proposals with options requiring to be worked up with there being a need to develop solutions. It was noted that even if solutions were deliverable it would take a number of months to procure a Vanguard unit.

Tracey Gillies advised that she needed to leave the meeting and that her opinion based on the evidence available at the meeting was that a move of the Critical Care Unit to the new hospital facility should be deferred. Eddie Doyle commented that over the previous 24 hours it had become clearer that there was a need to work up options in respect of risks given the increase in the number of unknowns and that he felt that this strengthened the need to retain core clinical services in their current location. He was concerned to do otherwise would mean a loss of enhancements from other services albeit he recognised the reputational issues of not moving. Tim Davison commented that at this point in time it was not known whether the decant proposals were achievable and how quickly they could be undertaken nor the impact on capacity.

The point was made that if a re-phased move was undertaken the services that could move over the next few weeks and months would be Ambulatory Paediatric services including outpatients, therapies, programmed investigations and day surgery. The services that would need to remain behind were medical and surgical inpatients, the Emergency Department and critical care.

Tim Davison commented that the fact that the Emergency Department was no longer moving would be the big banner issue. Discussion ensued about the services that could move that were not constrained by the Ambulance Service availability. It was noted that outpatient invitations had already been sent to patients although it was not thought that this would be a difficulty as the system was used to redirecting patients to the current Sick Children's facility from adult services. It was noted that there might be a need for some staff to commute between the current Sick Children's Hospital and the Little France site.

Iain Graham questioned the availability of the Ambulance Service if equipment could be procured quicker albeit at an increase cost. Again the possibility of this being achievable would need to be checked. Fiona Mitchell reminded colleagues that the constraints around Ambulance Service availability was in respect of the festival period.

Tim Davison provided an update on discussion that he had held with Lawyers about restitution in the contract with the advice being that this would be dependent on the specification within the contract and whether this had been delivered.

The following summary position was noted:-

- The permanent solution required a decant because of ducting and noise issues.
- Ideas around the decant were available but issues needed to be clarified in respect of access, reduction in beds from the current base and how long decant proposals would take to deliver.
- It was not certain until further work had been done whether the decant proposals were deliverable and if the move was made on this basis there was potential for the system to become unstuck.
- In the short-term there was a need to work up a plan to move some elements of the service over the course of July. Plans should be developed to move critical care services after the permanent solution had been implemented.

The preferred option was therefore to rephrase the timing of the move in to the building and allow a phased occupation over the next few weeks and months

There was a need to understand in more detail the HPS and HFS concerns as there was a view that some of these might be unfounded.

Tim Davison thanked colleagues for their contribution advising that it was not possible to make final decision at this juncture as there was a need to hold further discussions with colleagues from the Scottish Government at a meeting to be held immediately following the conclusion of the current meeting. An update of the position would be provided as soon as possible.

DRAFT

RHCYP/ DCN : COMMISSIONING / VENTILATION

Note of a meeting with the Scottish Government held at 2:00pm on Wednesday 3 July 2019 in Meeting Room 6, Waverley Gate, Edinburgh.

Present: Tim Davison (Chair); Jacquie Campbell; John Connaghan; George Curley; Eddie Doyle; Suzanne Hart (Teleconference); Iain Graham (Teleconference); Judith Mackay; Fiona Mitchell and Alan Morrison (Teleconference).

In Attendance: Douglas Weir.

Welcome and Introduction

John Connaghan advised that he would require to brief Malcolm Wright and the Cabinet Secretary following the meeting and that this process would require to be undertaken before any final decision could be acted upon.

1. Position to Date

Tim Davison advised that after significant soul searching the main punch line was that the system did not feel confident in moving the RHCYP in its totality in the forthcoming weekend and felt that it would be sensible to re-phase the process. It was pointed out that DCN could move as planned with Ambulatory Paediatric services including outpatients, therapies, programmed investigations and day surgery being able to move over the course of the next few weeks and months.

Tim Davison commented that details around a permanent solution had been discussed. The position in respect of the use of air handling units for the critical care unit was discussed with there being a collective view that the required position of 10 air changes per hour could be achieved with 2 units. Tim Davison reflected that HPS and HFS were anxious that they had not seen a risk assessed plan that demonstrated that the proposed permanent solution delivered what was needed. The lead time to procure equipment was estimated at between 12-14 weeks. The size of the ducting was an issue as it had been specified to deliver 4 air changes per hour and not the required 10. If the size of the ducting was not addressed there would also be noise pollution issues to be considered.

George Curley advised that not all of the ducting needed to be changed although some would. The remedial work would require significant drilling which would result in excess noise. Reference was made to experience at St John's where a ward had required to be moved because of noise issues.

John Connaghan advised that he had been in discussion with Vanguard who had confirmed that they could make 2 units available to NHS Lothian's specification. It was noted that Vanguard had experience elsewhere in Europe in providing plug in

theatres of the type required. It was noted that in the 6 month timeframe that it would require to build and specify these units that the move to the new hospital would have been concluded. Tim Davison advised that a minor injuries modular unit had been created at the Royal Infirmary of Edinburgh and it had taken time to deliver with there having been a requirement to attach this to the main A&E building. It was noted that the Vanguard proposals would require unwell patients to be transported and from a medical perspective it was felt that this was a suboptimal solution.

John Connaghan questioned therefore whether the modular unit was being discarded. Tim Davison commented that this had been discussed although the feeling was that if the planned move to Little France occurred as planned then the permanent work could not be undertaken safely with patients in situ and there would be a need for decant proposals. The feeling had also been that to move now would be to knowingly move to a non-compliant facility without a definite decant solution. The feeling of the meeting held with colleagues earlier in the day had been that there were too many unknowns and uncertainties around undertaking a whole scale move as previously planned. Tim Davison advised that consideration had also been given to re-jigging the main ward Arc in the Royal Infirmary of Edinburgh to create a 16 bed ward although this would take clinical engagement and months to complete.

Tim Davison commented that it had been agreed that it would be possible to move the services outlined in his introduction. The lowest risk solution was to retain the Emergency Department, inpatient, theatres and the Critical Care Unit in the current Royal Hospital for Sick Children facility.

John Connaghan commented that in terms of a 2 phased move it appeared that the option around the provision of modular units had been discarded for the following reasons:-

- Disruption would be caused even if a modular unit was proposed as drilling etc would still be required and this was a material factor in terms of patient care.
- Space, time and movement relationships were critical.
- The timescale of 6 months was similar to the timescale for delivering a permanent solution without incurring the cost of modular units.
- The relationship with the rest of the hospital and mutual support as well as clinical adjacencies were important.

Eddie Doyle suggested that the noise issue should be regarded as the lowest criteria.

Fiona Mitchell commented that by the end of the week there would be a clearer understanding of the potential phasing of non-critical function moves and the numbers of staff involved.

In terms of providing a permanent solution George Curley advised that this would be in the region of £50,000-£60,000 if beds were occupied and around £100,000-£130,000 if vacant possession was available. Discussion was held around the hidden cost of not moving in terms of double site running costs. Following discussion it was agreed that the £15m unitary charge covered all aspects of the building. George Curley reported that the theatres had failed their validation

although a programme of work was underway to resolve this and would be concluded in the near future. The point was made that the key cost issue was around the double running cost continuing to operate the old building.

John Connaghan referred back to the practicalities of the plans discussed at the meeting and advised that he would welcome a written record of the rationale behind the decision making process in order for clarity to be available in the event that the current predicament came to the attention of the Parliamentary Committee structure. This note would cover the fact that NHS Lothian was driving a plan to rectify the position and would provide details of the sequence of moves and the impact on patients.

John Connaghan questioned whether there were any other derogation issues that could emerge or whether this was the extent of the position. It was pointed out that once the theatre and isolation units had been resolved that there were no other anticipated derogation issues to be addressed.

John Connaghan commented that on the assumption that the move had been scheduled whether there were any issues around the need to rearrange staff rotas. Fiona Mitchell commented that this would not be a significant issue as given previous delays a decision had been taken to allow staff to book annual leave which would minimise this position. Issues were discussed in terms of removal costs and the Ambulance Service capacity which it was hoped would be able to be stood down. Fiona Mitchell would confirm.

John Connaghan commented on the need for a communications handling plan to be developed in order to brief both the population and staff. Tim Davison reminded colleagues that a full public communications exercise had been undertaken including the advertisement of the move on the back of buses etc. Board members and staff as well as the media would have to be covered in any communication strategy that was developed. Judith Mackay advised that she felt it would be useful to brief a couple of key journalists and to sit down with them on a face-to-face basis in order to ensure that an appropriate message was distilled. The point was made that NHS Lothian had been consistent in its view and had a guiding principle in dealing with problems and delays around the new facility that its priority had been to provide a safe and robust facility and only to commission services when it was believed that the building was fit for purpose. The point would be made in the communications that the ventilation issue had only very recently come to NHS Lothian's attention as part of the final snagging checks of the building.

The point was made that every effort should be made to ensure that patients did not arrive at the wrong place on the 9th of July although Eddie Doyle confirmed that this was not a significant issue as this already happened and patients were quickly redirected to the appropriate venue. Tim Davison commented that it was important not to lose sight of the fact that a fabulous new hospital had been built and that the problem related to 1 ward albeit this was a critical part of the hospital.

John Connaghan commented that there would be a need to carefully choreograph communication issues given the complexity of the task. It was agreed that Judith Mackay and Suzanne Hart would discuss how to do this offline in order to ensure that internal and external communication requirements were lined up.

John Connaghan commented that he would be meeting with the Cabinet Secretary later in the day to brief her on the outcome of the meeting. He commented that it would be important therefore that no communications were issued until he reported back the outcome of this session. In the meantime however Suzanne Hart and Judith Mackay should continue to develop the communication strategy/ plan. Judith Mackay advised that she did not think it would be necessary to issue any communication until the following day particularly given the level and complexity of work that required to be undertaken. It was agreed that this was a sensible approach although there was an issue about how long it would take for issues to be reported on social media. It was agreed that the risk of going out too early was greater as it did not allow ground work to be laid. Staff would also not welcome such a communication going out late in the day. John Connaghan reminded colleagues that any communications decisions would be subject to the outcome of his discussion with the Cabinet Secretary.

Tim Davison commented that there would also be a need for a downstream process to look at failings and the processes that had allowed these to occur. He commented that the position was clearly not ideal and that a forensic investigation would be held into the circumstances leading to the commissioning/ ventilation process. It was noted that there had been multiple delays with this project over a 2 year period. The contractual agreement was with IHSL and they had lenders on board meaning that there was multiple stakeholder interest in the project. Through the commissioning process significant concerns had been raised about inadequate specification. The relationship with IHSL had deteriorated to the point that NHS Lothian was about to embark on court action. An out of court agreement had been reached to address specification changes covering over 80 residual risks the most significant of which had been:-

- Ventilation (completely different issue)
- Drainage
- Heating batteries

Tim Davison reported that in the raft of 80 specification issues the problems around the need for 10 air changes per hour in the Critical Care Unit had somehow been less than explicit despite intense input from technical advisers and our own clinical project staff. The input of the independent assessor had also discussed.

John Connaghan commented that he felt that the technical aspects of the derogation and advice from technical advisers should have flagged the problem earlier in the process. Tim Davison reported that once the current issue was resolved that an examination of issues around derogation of the Critical Care Unit would be looked at. It was clear that an error had been made and there would be a need to consider how to address that.

Tim Davison advised that as part of the previous settlement agreement with IHSL and Multiplex there was a need to share any proposed communications with the anticipation being that no unreasonable objections would be made. George Curley questioned whether there would be any benefit in seeking to secure a joint statement in respect of the flaw in derogation as he felt partners would come back suggesting that this was an NHS Lothian issue.

Tim Davison undertook to produce a short note for John Connaghan and Malcolm Wright detailing the logic behind the decision to re-phase the timing of the move into the building to allow a phased occupation over the next few weeks and months this note would also explain the reasons why other options had been dismissed. Details would also be provided around the steps being taken to best address the ventilation issues in collaboration with IHSL and their supply chain.

John Connaghan would personally contact Tim Davison and update him on the outcome of his discussions with the Cabinet Secretary.

From: Executive, Chief
Sent: 03 July 2019 17:33
To: Houston, Brian
Subject: Fw: RHCYP/DCN Commissioning/ventilation

Fyi

Tim Davison
Chief Executive
NHS Lothian
Waverley Gate
2-4 Waterloo Place
Edinburgh EH1 3EG

-------- Original Message --------
Subject: FW: RHCYP/DCN Commissioning/ventilation
From: "Executive, Chief"
To: "'MACKAY, Judith (NHS LOTHIAN)'" ,"Mitchell, Fiona (Director)" ,"'Doyle Edward (NHS LOTHIAN) '" ,"Graham, Iain" ,"Gillies, Tracey" ,"Goldsmith, Susan" ,"Curley, George" ,"Weir, Douglas" ,"Butler, Janis"
CC:

Colleagues – see below for info. I have still to hear back from SG colleagues so this is for your eyes only at this stage.

Tim Davison
Chief Executive
NHS Lothian
Waverley Gate
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Edinburgh EH1 3EG

Tel:
Email:
EA:

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From: Executive, Chief
Sent: 03 July 2019 16:36
To:
Subject: RHCYP/DCN Commissioning/ventilation

Malcolm and John

Further to our previous briefings and our telephone conversations over the last couple of days, I have set out below a brief note of the issues we have considered and our conclusions and propositions for dealing with the ventilation problems in the new RHCYP/DCN building at RIE. We believe the problem is capable of being resolved fully over a period of around 4 months. There are a number of options for how the solution can be arrived at and each carries a degree of risk and uncertainty.

It is worth reiterating that our guiding principle in dealing with this problem and all previous problems and delays associated with this building project has been to prioritise patient safety and only to commission services in the new building when we believed that it was fully fit for purpose..

Following the hand over of the facility, NHS Lothian has continued to monitor the performance of IHS Lothian and their supply chain given NHS Lothian's priority of providing a safe and robust facility. As part of that process, NHS Lothian commissioned an independent advisor to carry out a review of certain critical areas of the facilities. During that review, it has come to light in the last few of days that there is an issue regarding the ventilation in the bedrooms in the critical care unit of the new RHCYP part of the building. NHS Lothian is investigating how this issue has arisen and how best to address it in collaboration with IHS Lothian and their supply chain and is taking a range of professional advice (including legal and technical advice and advice from advisors in infection control, health and safety and facilities engineering)

Over the last 48 hours we have considered four main options for dealing with the ventilation problem and a range of key senior staff have been consulted including clinical staff and clinical leaders, executive and senior managers, project team staff, capital planning staff, the board chair and colleagues in Scottish Government, HFS and HPS.

These options are outlined below with some comments on how likely they are to deliver the most optimum solution.

1. Continue with the planned move of all services and attempt to deliver the permanent fix for the ventilation problem while the critical care unit remains occupied:

   This option was not supported because of the impact of noise and disruption during remedial works on patients, parents and staff; being unable to deliver the complete optimum solution of increasing the size of the ducting in an occupied clinical area; and the loss of capacity in critical care during the remedial works.

2. Continue with the planned move of all services and then decant critical care into a modular build unit to allow the optimum solution to be delivered in an empty environment:

   This option was not supported because of the lack of critical clinical adjacencies if critical care is remote from its ideal location; disruption and further works involved in securing a secure connection to the new building; the significant likely time delay to deliver a modular building – estimated to be around 6 months; the risk associated with moving in to a critical care unit that we know does not comply with the highest ventilation standards required.

3. Defer moving in to the new building altogether:

   This option was not supported because the rephrasing of the move of the critical care unit only really affects those services dealing with the sickest of paediatric patients including inpatient beds, the emergency department and theatres. It does not materially impact on DCN services and ambulatory paediatric services and therefore there is no need to defer these elements of the move;

4. Re-phase the timing of the move in to the building to allow a phased occupation over the next few weeks and months:

   This option was supported as the best option. It would allow the permanent optimum solution for the critical care ventilation issue to be implemented in an empty ward without clinical risk and with limited disruption to the other users of the building; it prevents the need for double moves including a decant; it would allow DCN services to move in as planned; and it would allow ambulatory paediatric services including out patients, therapies, programmed investigations and day surgery to move in over the summer.

Following my meeting with senior colleagues this afternoon (which John attended), we agreed the following immediate actions:

- Develop a communications plan between SG and NHSL for implementation tomorrow morning (Thursday);
- Commission the permanent solution for the ventilation issue in critical care;
- Clinically risk assess and plan the re-phased moves described in option 4;
- Begin an investigation into how the agreed derogations for ventilation in the settlement agreement between NHSL and IHSL came to include critical care beds which was not consistent with the environmental matrix which included the requirement to comply with SHTM 03-01

As with all major estates developments, NHS Lothian will be undertaking a post-project evaluation. Given our high level review of aspects of the settlement agreement, the considerable time, resources and complexity involved in resolving the disputes with IHS Lothian and the late discovery of the ventilation issues, this evaluation will include an element specifically focused on the whole-project contracting, monitoring/timetabling and related “lessons-learned”. It is proposed that the key outcomes would be shared within NHS Lothian and with other NHS bodies in Scotland (as appropriate) to help with cumulative understanding of the issues arising, and to help with both preventative and reactive measures to mitigate the likelihood and impact in future projects.

I hope this is helpful.

Best wishes

Tim

Tim Davison
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Tel:
Email:

EA: [redacted]

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From: Wright M (Malcolm)
Sent: 03 July 2019 17:32
To: DG Health & Social Care
Subject: FW: RHCYP/DCN Commissioning/ventilation

Pls print

Sent with BlackBerry Work
(www.blackberry.com)

From: DG Health & Social Care
Date: Wednesday, 03 Jul 2019, 4:40 pm
To: Wright M (Malcolm)
Cc: DG Health & Social Care
Subject: FW: RHCYP/DCN Commissioning/ventilation

From: "Executive, Chief"
Sent: 3 Jul 2019 16:36
To: DG Health & Social Care ; "Connaghan J (John) (Health)"
Subject: RHCYP/DCN Commissioning/ventilation

Malcolm and John

Further to our previous briefings and our telephone conversations over the last couple of days, I have set out below a brief note of the issues we have considered and our conclusions and propositions for dealing with the ventilation problems in the new RHCYP/DCN building at RIE. We believe the problem is capable of being resolved fully over a period of around 4 months. There are a number of options for how the solution can be arrived at and each carries a degree of risk and uncertainty.

It is worth reiterating that our guiding principle in dealing with this problem and all previous problems and delays associated with this building project has been to prioritise patient safety and only to commission services in the new building when we believed that it was fully fit for purpose..

Following the hand over of the facility, NHS Lothian has continued to monitor the performance of IHS Lothian and their supply chain given NHS Lothian's priority of providing a safe and robust facility. As part of that process, NHS Lothian commissioned an independent advisor to carry out a review of certain critical areas of the facilities. During that review, it has come to light in the last few of days that there is an issue regarding the ventilation in the bedrooms in the critical care unit of the new RHCYP part of the building. NHS Lothian is investigating how this issue has arisen and how best to address it in collaboration with IHS Lothian and their supply chain and is taking a range of professional advice (including legal and technical advice and advice from advisors in infection control, health and safety and facilities engineering)

Over the last 48 hours we have considered four main options for dealing with the ventilation problem and a range of key senior staff have been consulted including clinical staff and clinical leaders, executive and senior managers, project team staff, capital planning staff, the board chair and colleagues in Scottish Government, HFS and HPS.

These options are outlined below with some comments on how likely they are to deliver the most optimum solution.

1. Continue with the planned move of all services and attempt to deliver the permanent fix for the ventilation problem while the critical care unit remains occupied:

   This option was not supported because of the impact of noise and disruption during remedial works on patients, parents and staff; being unable to deliver the complete optimum solution of increasing the size of the ducting in an occupied clinical area; and the loss of capacity in critical care during the remedial works.

2. Continue with the planned move of all services and then decant critical care into a modular build unit to allow the optimum solution to be delivered in an empty environment:

   This option was not supported because of the lack of critical clinical adjacencies if critical care is remote from its ideal location; disruption and further works involved in securing a secure connection to the new building; the significant likely time delay to deliver a modular building – estimated to be around 6 months; the risk associated with moving in to a critical care unit that we know does not comply with the highest ventilation standards required.

3. Defer moving in to the new building altogether:

   This option was not supported because the rephrasing of the move of the critical care unit only really affects those services dealing with the sickest of paediatric patients including inpatient beds, the emergency department and theatres. It does not materially impact on DCN services and ambulatory paediatric services and therefore there is no need to defer these elements of the move;

4. Re-phase the timing of the move in to the building to allow a phased occupation over the next few weeks and months:

   This option was supported as the best option. It would allow the permanent optimum solution for the critical care ventilation issue to be implemented in an empty ward without clinical risk and with limited disruption to the other users of the building; it prevents the need for double moves including a decant; it would allow DCN services to move in as planned; and it would allow ambulatory paediatric services including out patients, therapies, programmed investigations and day surgery to move in over the summer.

Following my meeting with senior colleagues this afternoon (which John attended), we agreed the following immediate actions:

- Develop a communications plan between SG and NHSL for implementation tomorrow morning (Thursday);
- Commission the permanent solution for the ventilation issue in critical care;
- Clinically risk assess and plan the re-phased moves described in option 4;
- Begin an investigation into how the agreed derogations for ventilation in the settlement agreement between NHSL and IHSL came to include critical care beds which was not consistent with the environmental matrix which included the requirement to comply with SHTM 03-01

As with all major estates developments, NHS Lothian will be undertaking a post-project evaluation. Given our high level review of aspects of the settlement agreement, the considerable time, resources and complexity involved in resolving the disputes with IHS Lothian and the late discovery of the ventilation issues, this evaluation will include an element specifically focused on the whole-project contracting, monitoring/timetabling and related "lessons-learned". It is proposed that the key outcomes would be shared within NHS Lothian and with other NHS bodies in Scotland (as appropriate) to help with cumulative understanding of the issues arising, and to help with both preventative and reactive measures to mitigate the likelihood and impact in future projects.

I hope this is helpful.

Best wishes

Tim

Tim Davison
Chief Executive
NHS Lothian
Waverley Gate
2-4 Waterloo Place
Edinburgh EH1 3EG

Tel:
Email:

EA: [redacted]

Our Values Into Action

Quality | Dignity and Respect | Care and Compassion | Openness, Honesty and Responsibility | Teamwork

For more information visit: http://www.nhslothian.scot.nhs.uk/values

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From: MACKAY, Judith (NHS LOTHIAN) [redacted]
Sent: 03 July 2019 20:04
To: Executive, Chief; Mitchell, Fiona (Director); DOYLE, Edward (NHS LOTHIAN); Campbell, Jacquie; Currie, Brian; Graham, Iain
Cc: Butler, Janis; Gillies, Tracey; Goldsmith, Susan
Subject: Handling Plan
Attachments: RHCYP_Comms Handling Plan.docx

Dear all -

Attached is a handling plan for the morning. Grateful if you could alert if you spot any omissions.

Regards

Judith

Judith Mackay
Director of Communications, Engagement and Public Affairs | NHS Lothian
[redacted]

RHCYP / DCN - COMMUNICATIONS HANDLING PLAN 4/7/2019

Affected staff will be briefed first thing in the morning ahead of publication of media release, timed for 1100. Beginning with a face to face senior staff briefing at 0815 and cascaded to teams at RHSC and St John's thereafter by senior team members briefing face to face.

Parents of current inpatients will be informed by staff from around 0930.
Families whose children have appointments next week will be telephoned individually make sure they come to the right pace for their appointments. Depending on what paediatric services do transfer over the summer, we can tailor letters etc as required.

The campaign publicising the move of ED on 9th July will be pulled at 1100 and a repalcemnt campaign up and running as soon as possible.

KEY MESSAGES

- ED, critical care and inpatient services will not now be moving from RHSC to RHCYP on Tuesday 9th July.
- This decision has been taken in the interest of patient safety which is our top priority
- This is due to an issue with ventilation which affects a small but very important part of the building.
- The majority of service will move as planned –including services across outpatients, day surgery, therapies, audiology and medical investigations.
- The move of the Department of Clinical Neurosciences will also go ahead as planned.
- This is a world class facility that is designed to meet the highest standards.

COMMUNICATION HANDLING PLAN

	WHO?	**ACTION**	**RESPONSIBLE**
	SCOTTISH GOVT		
Thurs eve/ Fri am	Dir of Comms	Finalise lines with SG Comms	JM
	PARTNERSHIP		
0945	FM /ED	Brief partnership reps	FM /ED
	DIRECTLY AFFECTED STAFF		
0900	Dir Women's Services Assoc Medical Director RHCYP	Face to face briefing with senior staff group Brief Partnership Rep	FM / ED
0945		Telecon to brief Partnership with senior site staff SJH RHCYP	FM /ED
0945 -1030	Senior Team	Brief their teams	Senior Teams

	RHCYP / SJH		
	WIDER STAFF GROUPS		
0900	Reprovision Project Team	Projerct Director to brief project team.	BC
0900-1100	DCN	ChiefOfficer, Acute to brief WGH site leadership & DCN	JC
0900-1100	RIE	Chief Officer, Acute Services to brief RIE site leadreship	JC
1100	Staff Message	Emailed to team briefers for immediate cascade. (timed to coincide with media release)	Comms - KT
1100	Staff Message	staff message and link to media release published on intranet	Comms KT
1100	public	Media release published on NHSL website news	Comms LC
Throughout day	FM / ED	Two open meeting WO OPEN MEETINGS PLUS Floorwalking	
	BOARD MEMBERS		
1100		Send release and briefing to Board members	Comms KT on behalf of Chief Exec
	MEDIA / MSPs		
1100		Issue Release	Comms LC
1100		Issue media release to MSPs	Comms LC
1130 -	Interview venue Interviews	Arrange venue at RHCYP Chief Exec / JM	Comms LC Comms JM
	SAS		
1100 -		Liaise with service	Reprovision team

From: Executive, Chief
Sent: 03 July 2019 21:32
To: MACKAY, Judith (NHS LOTHIAN); Mitchell, Fiona (Director); DOYLE, Edward (NHS LOTHIAN); Campbell, Jacquie; Currie, Brian; Graham, Iain
Cc: Butler, Janis; Gillies, Tracey; Goldsmith, Susan
Subject: Re: Handling Plan

Folks, I am on call with SG just now. All of these timings are too soon. Cab Sec wants to lead comms from mid morning /lunchtime and wants no briefings to be done on advance of that. I will call Judith in a few mins.

Tim Davison
Chief Executive
NHS Lothian
Waverley Gate
2-4 Waterloo Place
Edinburgh EH1 3EG

-------- Original Message --------
Subject: Handling Plan
From: "MACKAY, Judith (NHS LOTHIAN)"
To: "Executive, Chief" ,"Mitchell, Fiona (Director)" ,"DOYLE, Edward (NHS LOTHIAN)" ,"Campbell, Jacquie" ,"Currie, Brian" ,"Graham, Iain"
CC: "Butler, Janis" ,"Gillies, Tracey" ,"Goldsmith, Susan"

Dear all -

Attached is a handling plan for the morning. Grateful if you could alert if you spot any omissions.

Regards

Judith

Judith Mackay
Director of Communications, Engagement and Public Affairs | NHS Lothian

From: MACKAY, Judith (NHS LOTHIAN)
Sent: 03 July 2019 18:05
To: DOYLE, Edward (NHS LOTHIAN); Mitchell, Fiona (Director)
Cc: Campbell, Jacquie
Subject: RE: Draft media release

Eddie / Fiona

. I am being asked for a handling plan to give to cab sec tonight. She 'll want to know how we propose to brief staff and how we will make sure patients are not confused

Staff - can you let me know what you'd be able to do in the morning re face to face briefing - esp of senior staff to them disseminate to their teams?

1000isam? With a view to

Eg staff face to face 1000

Staff message on intranet 1030

1100 or 1130 media release?

We will also need to tell SAS ?

Let me now what is practical for you.

Thanks

Judith

- is there a case for setting up up an NHS 24 helpline to advise patients who have appointment letters were they should go? I'm not sure how many pts will be affected - or how clear a message we can send out about which services move and which don't. Just a thought. It may be unnecessary but one to consider.

. Thinking about those patients

From: DOYLE, Edward (NHS LOTHIAN)
Sent: 03 July 2019 17:37
To: Campbell Jacquie (NHS LOTHIAN); MACKAY, Judith (NHS LOTHIAN)
Subject: RE: Draft media release

Judith

I suggest we say final safety checks.

With regard to the final paragraph I think it is too early to be so definite about what exactly will move and a

percentage until we model it. I would soften it a bit.

Eddie

Sent from my Android phone using TouchDown (www.symantec.com)

-----Original Message-----
From: MACKAY, Judith (NHS LOTHIAN)
Received: Wednesday, 03 Jul 2019, 17:11
To: Campbell Jacquie (NHS LOTHIAN) ; Mitchell, Fiona (Director) ; DOYLE, Edward (NHS LOTHIAN) ;
Subject: Draft media release

Please let me know as soon as possible of any issues.

Fiona/ Eddie - Do you think the comment in the final para is correct?

Thank you

Judith

Judith Mackay
Director of Communications, Engagement and Public Affairs | NHS Lothian

From: MACKAY, Judith (NHS LOTHIAN) [redacted]
Sent: 03 July 2019 23:28
To: Executive, Chief
Subject: 0830

Hi Tim,
SG has requested I attend the John C meeting at SAH at 0830. So unless I hear differently from you I'll do that given we are sitting tight anyway. Hopefully the Q and A we develop will be useful for you too.

I have asked Kizzy to work on a staff message when she comes in that could be put out in your name when finally we get the green light so she may well give you a draft to look at before I'm back depending how how long the meeting takes.

Judith

From: GALLACHER, Roxanne (NHS NATIONAL SERVICES SCOTLAND)
Sent: 04 July 2019 15:28
To: MCLAUGHLAN, Edward (NHS NATIONAL SERVICES SCOTLAND); STORRAR, Ian (NHS NATIONAL SERVICES SCOTLAND); RITCHIE, Lisa (NHS NATIONAL SERVICES SCOTLAND)
Subject: FW: Edinburgh Children's Hospital - Update

Importance: High

Dear all,

Please note below, I will issue an outlook invitation for a call this afternoon at 4pm.

Kind regards,

Roxanne

Roxanne Gallacher
Executive Assistant,
Procurement, Commissioning & Facilities

From:
Sent: 04 July 2019 15:16
To: MILLER, James (NHS NATIONAL SERVICES SCOTLAND)
Cc:
Subject: Edinburgh Children's Hospital - Update

Jim

I think we are now clear with what the way forward is going to be and the Cabinet Secretary sees the combination of HFS and HPS being an integral part of the assurance process. Would it be helpful if myself, Diane, Lesley and Jo (from CNO) gave you a call later this afternoon and if available, you can include representatives from HPS and HFS on the call? I was thinking 4.00, but we can be flexible.

Let me know.

Regard

Alan

Alan Morrison
Health Finance and Infrastructure
Scottish Government Health and Social Care Directorates

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Tha am post-d seo (agus faidhle neo ceanglan còmhla ris) dhan neach neo luchd-ainmichte a-mhàin. Chan eil e ceadaichte a chleachdadh ann an dòigh sam bith, a' toirt a-steach còraichean, foillseachadh neo sgaoileadh, gun chead. Ma 's e is gun d'fhuair sibh seo gun fhiosd', bu choir cur às dhan phost-d agus lethbhreac sam bith air an t-siostam agaibh agus fios a leigeil chun neach a sgaoil am post-d gun dàil.
Dh'fhaodadh gum bi teachdaireachd sam bith bho Riaghaltas na h-Alba air a chlàradh neo air a sgrùdadh airson dearbhadh gu bheil an siostam ag obair gu h-èifeachdach neo airson adhbhar laghail eile.
Dh'fhaodadh nach eil beachdan anns a' phost-d seo co-ionann ri beachdan Riaghaltas na h-Alba.
****

Director-General Health & Social Care and
Chief Executive NHSScotland
Malcolm Wright

T: [redacted]
E [redacted]

Tim Davison
Chief Executive
NHS Lothian
Waverley Gate
2-4 Waterloo Place
EDINBURGH
EH1 3EG

4 July 2019

Dear Tim

NHS LOTHIAN EDINBURGH CHILDREN'S HOSPITAL AND DEPARTMENT OF CLINICAL NEUROSCIENCES MOVES INTO NEW FACILITIES

You advised me on the ventilation issues in the New Edinburgh Children's Hospital on the RIE site on Tuesday afternoon of this week. I can confirm that following the further information that has emerged over the course of yesterday and last night that the Cabinet Secretary has taken the decision to halt the planned move of the Edinburgh Children's Hospital and the Department of Clinical Neurosciences for the time being. As I have already advised you this is taken in the best interests of patient safety and to ensure that we provide sufficient time for the resolution of the ventilation issues. There are a number of actions that I now require you to undertake:

- **Put in place and maintain a Communications Plan** for public patients and staff. This is an immediate requirement and I know that you will be sending me something shortly and by return but let me clear that this needs to be pre-approved by Scottish Government before it is enacted later today.

- I also require an assurance that there are **no other material specification deficiencies** in the new building. I will write to you again after I consider what Scottish Government will put in place in relation to any external audit of the Governance process that has applied inside NHS Lothian in relation to the commissioning and specification of this new building. However, in the interim I require your assurance that there are no other material deficiencies that are known to you at this stage.

  Please note in respect of the external scrutiny of the adherence to technical standards and the Governance process surrounding these we will wish to ensure that any planned re-sequencing of moves will only occur once we have **received clearance that all facilities meet the required technical standards** (including those applying to infection control and lessons learned from the commissioning of the new Queen Elizabeth building).

- We need as a matter of urgency **a revised migration plan** for Clinical Neurosciences and for the Edinburgh Children's Hospital. However, this needs to be carefully thought through and with patient safety being paramount in the consideration of any re-sequencing of the moves. I require that you involve both HPS and HFS in the scrutiny of that migration plan and their assurance to us that there are no technical or safety issues that remain outstanding. I shall also require a clinical safety assessment of the planned re-sequencing of moves to ensure that at the very least there are no clinical interdependency issues that now occur where patient care could be in any way sub-optimal given the requirement to work (or potentially work) from two sites.

  While I require your personal assurance on this I also need you to be clear that any planned re-sequencing of the moves **must also now be pre-approved by Scottish Government** and our clinical colleagues in Scottish Government will be liaising closely with your Medical and Nursing Director to ensure that they are content with the revised proposals and can recommend such moves to the Cabinet Secretary.

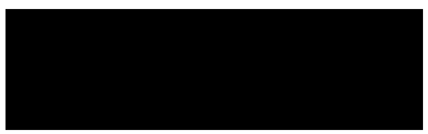
- In the interim we will require you to **provide appropriate support** for patients and carers given the planned changes to the provision of services have now been put on hold. Your revised plan should include support for transport, a telephone helpline and direct communication to each of the patients who are impacted by this change. This is an immediate requirement and I require that you will have such plans available for our scrutiny and approval by tomorrow morning (Friday 5 July).

- You have advised me that the move of critical care, inpatient facilities and a range of supporting services such as Diagnostics may not be able to move until the ventilation issues have been resolved in the new Edinburgh Children's building. At the earliest opportunity I need you to supply me with a description of the work which is going to be undertaken, **an assurance that such work will comply with all technical standards** and the timetable associated with such works (building in an appropriate safety factor for re-testing and re-commissioning etc).

I will be in regular contact over the next few days on an on-going basis either through my office or through my Directors to progress all of this. There are a number of remaining issues that require action and I will write to you again shortly on these points.

I require your immediate confirmation and understanding of the terms of this letter and the points raised.

Yours sincerely



Malcolm Wright
Director General of Health and Social Care and Chief Executive of NHSScotland

Copy to NHS Lothian Chair

EDINBURGH CHILDREN'S HOSPITAL - UPDATE

Purpose
1. To provide an update on the current situation regarding the opening of the new Edinburgh Children's Hospital.

Priority
2. High.

Background
3. The Edinburgh Children's Hospital was originally expected to be completed in July 2017, but due to a number of technical issues the project completion date was delayed. The principle and most serious problem was the positive/negative air pressure of the four bedroom general wards. To address these issues, NHS Lothian, in conjunction with Scottish Government, agreed a £11.6 million Settlement Agreement which would allow the hospital to be completed. The terms of the agreement however were not agreed until February 2019 which enabled a project completion date of 7 February 2019. The Board would accept the facility as being essentially complete once all outstanding issues, which the parties have agreed can be undertaken post–completion, had been resolved. This agreement was intending to allow patients to be moved to the new hospital in July 2019.

Current Issues
4. On Tuesday 2 July, NHS Lothian alerted DG Health and Social Care to an emerging issue with the ventilation systems in the 21 critical care beds which could potentially impact on when services transfer over to the new hospital. In order to keep to the agreed timeline, a decision on whether to continue with the transfer of patients to the new hospital, would need to be taken today at the latest.

5. The relevant ventilation guidance, Scottish Health Technical Memorandum 03: Heating and ventilation systems, requires there to be ten changes of air per hour, but recent testing conducted on Monday 1 July, as part of final validation tests have indicated that air is only being changed four times an hour. At this point, it would appear that the requirement was mis-specified in the Settlement Agreement and therefore it is NHS Lothian's responsibility to resolve.

6. NHS Lothian, supported by Health Facilities Scotland and Health Protection Scotland, have been considering the various options available. They were concerned with the risks associated with undertaking invasive rectification works within a live patient environment and recommended that critical care beds do not move until the problem has been fixed. The main risks are that while a technical solution has been identified it requires further testing and challenge before we can be confident the solution works and can be delivered and there is concern about the impact on national capacity if beds are taken out during works.

7. On that basis, I decided that it was too risky to move as planned and 'retro fix' and I instructed all work on that to stop, and instead for NHS Lothian to concentrate on rephrasing the inpatient and critical care element of the move until later and modifying the ventilation in the new hospital before moving these patients.

8. In the meantime, NHS Lothian are considering a modified transition plan which would see the Department of Clinical Neurosciences (DCN) move as planned with other non-critical children's services potentially to follow before critical care services transfer; this will be clarified later today.

Why was this not noticed earlier?
9. As part of the Settlement Agreement, NHS Lothian agreed that ventilation for general wards could be four changes per hour. They should have specified that critical care beds were not part of that derogation, but they did not so the contractor has used this as evidence that only four changes an hour were required. When the first test was undertaken, the critical care beds 'passed' the test because the tester was looking to see whether four changes an hour was being achieved. At that point no-one realised that they were testing it against the wrong benchmark. Clearly NHS Lothian should have been clearer in

the settlement agreement and they should have picked up that the original test was not correct, so they will be looking at this to understand what went wrong.

Summary

10. In order to ensure that patients are being treated in a safe, clean and clinically appropriate environment, NHS Lothian are intending to delay the transfer of patients to the new Edinburgh Children's Hospital due to a problem with the ventilation system in the critical care beds. We expect that it will take at least six months for the problem to be resolved, but further work is required to test and validate the proposed solution and estimated timeline.

11. I will lead on media communications and I will review and approve NHS Lothian's handling plan covering communications to staff, public and patients, before it is released. I have also been clear with NHS Lothian that assurances on critical patient safety areas must be given to SG before any patient moves in.

12. As a matter of priority, I have asked NHS Lothian to explain why this problem is only being identified a few days before the move was due to start. The communications strategy is being developed, but we expect NHS Lothian to make a public announcement tomorrow.

13. I have also asked that we undertake an external series of checks, led by Health Facilities Scotland and Health Protection Scotland, to ensure that the relevant technical specifications and standards applicable to the new Edinburgh Children's Hospital are being followed and implemented.

Cabinet Secretary for Health and Sport
4 July 2019

From: Hart S (Suzanne)
Sent: 05 July 2019 10:46
To: Rogers S (Shirley); Morrison A (Alan); Connaghan J (John) (Health)
Cc: DG Health & Social Care; Wright M (Malcolm); Ives J (Josephine); Murray D (Diane); Aitken L (Louise); Sheriff C (Carmel); Smith G (Gregor)
Subject: RE: Edinburgh Children's Hospital - for tomorrow
Attachments: 190705 - Jeane Freeman - BBC Radio Scotland- wc1314.docx

Transcript from this morning.

Thanks,

Suzanne

From: Rogers S (Shirley)
Sent: 05 July 2019 09:29
To: Morrison A (Alan) ; Connaghan J (John) (Health)
Cc: DG Health & Social Care ; Wright M (Malcolm) ; Ives J (Josephine) ; Murray D (Diane) ; Hart S (Suzanne) ; Aitken L (Louise) ; Sheriff C (Carmel) ; Smith G (Gregor)
Subject: RE: Edinburgh Children's Hospital - for tomorrow

Thanks Alan, that's helpful for discussion at 10.

Can you also confirm specifically the date that the final test which revealed this problem actually took place? There seem to be a number of slightly varying views and I think it would be helpful if we knew the actual date

Thanks

S

Shirley Rogers
NHS Scotland Chief People Officer &
Director of Health Workforce, Leadership, Reform and EU Exit preparations

Health Workforce, Leadership and Service Reform Directorate
Scottish Government
Room 1E.03
St Andrew's House
Regent Road
Edinburgh
EH1 3DG

From: Morrison A (Alan)
Sent: 05 July 2019 09:09
To: Rogers S (Shirley) ; Connaghan J (John) (Health)
Cc: DG Health & Social Care ; Wright M (Malcolm) ; Ives J (Josephine) ; Murray D (Diane) ; Hart S (Suzanne) ; Aitken L (Louise) ; Sheriff C (Carmel) ; Smith G (Gregor)
Subject: RE: Edinburgh Children's Hospital - for tomorrow

John/Shirley

Removing Ministers and SpAds from the cc list.

My thoughts on the questions which I think sit with me:

2. Confirmation HFS/HPS assurance work has begun and a timescale for completion
I am expecting a proposal later today which I will circulate when it is available. Just so that it does not come as a surprise, myself and Jo spoke to HFS/HPS yesterday about timescales and they were indicating that a comprehensive review of the new site could take as long as four months to complete. They recognise that that is probably longer than we were hoping for, so they may provide options which involve a quicker turnaround, but slightly less assurance.

3. Confirmation that the Boards phased move has plan begun and timescale for its completion
This is for someone else, but if we say that the migration plan needs to be reviewed by HFS/HPS, can they give that assurance before they have completed the review above? Logically I think that they can't sign off the plan until they are satisfied that the site is safe, which might be an issue if we want some services to migrate quickly.

7. Update on work re ventilation upgrade
NHS Lothian have already contacted HFS/HPS to alert them about all aspects of Malcolm's letter, but it will take some time to pull everything together. No timescales at the moment.

8. Update on work re audit/investigation and timescale
In my mind, the audit of the governance arrangements would be best undertaken by one of the accountancy firms with a good internal audit team, but it would be helpful to check that that aligns with you and Malcolm's plans. If this is what you are thinking, this might be one area where it would be better to wait for Christine as she has much better connections with the big firms. If it is an external company, we may need to go through a procurement.

If you were thinking of something different, it would be helpful to understand what.

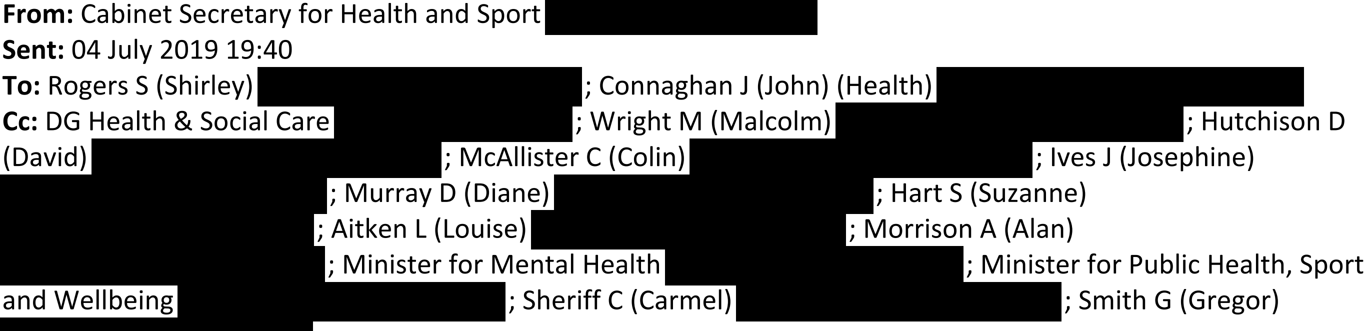
9. Confirmation that all current build elsewhere involves HFS now
On the call yesterday, I mentioned to HFS/HPS that they should assume that we will ask for them to validate all new builds and so they should create a template which can be used for other projects. However I think it would be disingenuous to suggest that all new builds now involve HFS, if for no other reason that HFS don't have that many engineers that they can deploy, so I think it is better to say that they will involve HFS.

On that general point, we have mentioned the letter that HFS sent earlier this year to Sick Kids, Dumfries and Galloway Royal Infirmary and the Balfour in NHS Orkney regarding assurance on ventilation, water, electrics, medical gases, drainage etc and the question is likely to be asked why has the assurance not been received yet. Firstly the ask was extensive and inevitably it will take some time to pull together, but secondly both HFS and HPS were almost entirely focussed on the issues at the QEUH earlier this year and they had to prioritise that project.

I am not in the office today, but will dial in and will be available on my mobile.

Alan

Alan Morrison
Health Finance and Infrastructure
Scottish Government Health and Social Care Directorates



From: Cabinet Secretary for Health and Sport
Sent: 04 July 2019 19:40
To: Rogers S (Shirley) ; Connaghan J (John) (Health)
Cc: DG Health & Social Care ; Wright M (Malcolm) ; Hutchison D (David) ; McAllister C (Colin) ; Ives J (Josephine) ; Murray D (Diane) ; Hart S (Suzanne) ; Aitken L (Louise) ; Morrison A (Alan) ; Minister for Mental Health ; Minister for Public Health, Sport and Wellbeing ; Sheriff C (Carmel) ; Smith G (Gregor)
Subject: Edinburgh Children's Hospital - for tomorrow

Shirley, John (expand if I've missed anyone)

Ahead of the meeting/call tomorrow at 12, Ms Freeman has asked for the following:

1. The Boards outline of Patient Information/Comms plan
2. Confirmation HFS/HPS assurance work has begun and a timescale for completion
3. Confirmation that the Boards phased move has plan begun and timescale for its completion
4. Confirmation the helpline is ready to go with all info its needs to run by 12 noon
5. Confirmation that patients with appointments are being contacted, manner of contact and timescale for completion
6. Confirmation of NHSL plan for presence at new hospital site to handle attendances
7. Update on work re ventilation upgrade
8. Update on work re audit/investigation and timescale
9. Confirmation that all current build elsewhere involves HFS now
10. Intel re clinicians and contact with RCP

Seperate to the IMT but for tomorrow the Cab Sec would also would like an updated note for FM by 4pm covering the above and what ours and NHS L weekend arrangements are. She has also asks for the assurances we were previously given by the board on the ventilation etc.

Thanks,
Jack

Sent with BlackBerry Work (www.blackberry.com)

Programme(s)	**BBC Radio Scotland Good Morning Scotland**
Date & time	**Friday 05 July 2019 07.53**
Subject/Interviewee	**Interview Jeane Freeman**
Duration	**7.30**

Bill Whiteford, presenter: She joins us now in the studio.

Good morning.

Jeane Freeman MSP, Health Minister: Good morning.

BW: *So when was this problem discovered? When did you hear about it?*

JF: So I was informed on Tuesday that the validation check, the final validation check, in terms of the ventilation system in critical care revealed that that system was not meeting national standards.

BW: *And so who made the decision not to go ahead next week?*

JF: I did and I did that entirely for patient safety, because there's two reasons; one, of course, is critical care needs to be safe, it needs to meet national standards; you can't have an emergency department if you don't have critical care, but also because this was picked up so late I want to be assured that all other safety checks in the rest of the hospital are also conducted again independently and that they meet national standards too.

BW: *Sure, but did NHS Lothian want to go ahead with the opening next week? Did you overrule them?*

JF: I made the decision that we should not go ahead at all until I was assured that the hospital was safe in all other respects apart from critical care.

BW: *So NHS Lothian didn't want to stop the opening next week, did they?*

JF: Well, NHS Lothian was looking at what alternatives there might be, in their view, to having a partial opening or some kind of workaround in terms of critical care, as in some ways you would expect a board to look at what the options were to resolve a difficulty, but the decision I took was that that was too great a risk. I need to be sure that every other area of that hospital meets the national standards, is safe, before I will then agree that aspects of it can open. So what we're doing is two things.

BW: *Yeah, so you've overruled NHS Lothian, who wanted to go ahead with an opening next week?*

JF: Well, NHS Lothian were looking at options. They hadn't made a decision about what they wanted to do. They were looking at a range of options. I took the decision that it wasn't safe to open the hospital next week in any respect until I'd been assured for patient safety that every other area of that hospital met national standards.

BW: *You were asked in Parliament, weren't you, last month by Michelle Ballantyne, and this is partly because this hospital shares the same design as the QEU, which has had ventilation problems as you know, whether you had assurances that the same issues wouldn't be experienced there and you said that NHS Lothian wouldn't take ownership of this until it was absolutely assured that those steps had been taken. So were they assured and were you assured by them at that stage?*

JF: Yes and so one of the things that I need to find out is why NHS Lothian so confident that the hospital was meeting all those standards when self-evidently in critical care it certainly wasn't.

BW: *So either the contractors were lying to NHS Lothian or NHS Lothian weren't telling the truth to you. Is that it?*

JF: Well, that is what we need to investigate, so there's a number of bits of work in train. The most important thing is patient safety and the additional assurances that I've commissioned in terms of the other aspects of the hospital, which should then trigger a phased moved in of other services, outpatient services, neurosciences and so on, whilst we fix the problem with ventilation. But at the same time, I have also instructed an audit of every single aspect of safety checking, who signed it off, what was the governance of that so that I can identify where has the mistake been made here and what went wrong so that we can then deal that.

BW: *Well, was the mistake to have the same firm build both hospitals the QEU and the Sick Kids in Edinburgh?*

JF: Well, there is no indication at this point that any fault lies with the contractors themselves.

BW: *Just on the subject of how long this closure will be, it is described as an indefinite closure, but I see in the* Scotsman, *at least a member of staff didn't want to be named said a site director had indicated there would be a delay of four months. Does that seem right, the ballpark?*

JF: So there are two aspects to this, there is how long will it take to upgrade the ventilation system in critical care to meet national standards, and there is how much of the rest of the hospital can be opened up and move people into. On the second part, that comes on the basis of the decisions I will take from the additional safety checks I have asked for and I hope to be able to have the results of those safety checks very soon and be able to make those decisions, so we see a phased introduction of services into the new hospital. On the ventilation system itself, the work is underway to identify what upgrade is needed, where we can source that from, what additional work inside critical care is needed in order to put in the upgraded ventilation system. At the end of all of that, I will know how long that will take. That is likely to take months rather than weeks, but that is just about critical care and the emergency department.

BW: *So possibly a move in the winter.*

JF: Well, we will need to see (1) how long is it going to take, where does that take us to? If that is the winter months then there are important decisions to take around safety and risk in moving in the winter months.

BW: *So it could be postponed again until spring/summer of next year.*

JF: At this point, I can't say when critical care and the emergency department will move into the new site. They will continue to work from Sciennes, the current Sick Kids Hospital until we are assured that the new unit in the new hospital is safe and that we can undertake that move of patients and staff to that new hospital. But in the interim, other services from the current Sick Kids will move in a phased way into the new hospital.

BW: *This announcement was made very suddenly as people were actually preparing, almost literally, on the eve of the move. UNISON Scotland's Health Committee Chair, Thomas Waterson, said "We're shocked at this announcement, it has come at such a late stage and frustrated that the Cabinet Secretary for Health has put out a press release before any staff had been informed."*

JF: No, I don't, I think it was entirely the right decision to make. Patient safety is the priority.

BW: *But you should tell the staff, shouldn't you?*

JF: Staff were told at the same time as the press release was issued. And the press release was important in order to ensure that families and the wider public knew what was happening, because they too were preparing to attend that new hospital next week. Now, there is a helpline available for people to find out what is happening and where they should go, but right at this minute, the advice to everyone is that you should be attending the current Sick Kids site at Sciennes. The health board will be contacting patients directly who have appointments in the next couple of weeks, advising them where they should go and making sure that they're clear about that.

BW: *Jeane Freeman, the Health Secretary, thanks very much for joining us.*

Ends

From: MCLAUGHLAN, Edward (NHS NATIONAL SERVICES SCOTLAND)
Sent: 05 July 2019 09:23
To: MILLER, James (NHS NATIONAL SERVICES SCOTLAND); SINCLAIR, Colin (NHS NATIONAL SERVICES SCOTLAND); REILLY, Jacqui (NHS NATIONAL SERVICES SCOTLAND); RAMSAY, Lorna (NHS NATIONAL SERVICES SCOTLAND)
Cc: STORRAR, Ian (NHS NATIONAL SERVICES SCOTLAND); RITCHIE, Lisa (NHS NATIONAL SERVICES SCOTLAND); HARLEY, Kate (NHS NATIONAL SERVICES SCOTLAND)
Subject: Proposal to carry out checks on RHCYP - implications of SG Telcon 04 07 19

Colleagues

Following the telcon organised by Alan Morrison yesterday, and aware that Colin, Jacqui and Lorna weren't on the call, this message is to set out my understanding of the implications of the call, for agreement or correction, so we are all on the same page.

The telcon was essentially called to inform us that the move to RHCYP had been postponed pending further assurance and discuss what SG is looking for from us to help to move the service forward. The assurance is to come from NSS, making our work the critical path, at least in the early stages. SG is looking for NSS to investigate the compliance of the building with safety standards and specifications before the service is moved. They are also looking for us to take an oversight role in relation to the remedial works to ensure that the solutions are safe. In the first instance this will relate to the ICU ventilation but it will need to cover other issues as they are identified, not least the general ventilation.

Given the broad ask, I asked whether the deliberately restricted approach in our draft paper was likely to be acceptable, remembering the restriction to services where we have some expectation of finding problems was on the basis of being able to deliver on an acceptable timescale, given the resource we can deploy. Alan was clear that Cab Sec is looking for a clean bill of health across the facility before patients move in and, essentially, all safety issues are in scope. At this point we agreed to produce an amended paper for lunchtime today with the full scope and sufficient detail behind the work expectations to pre-empt any questions around the timescales.

In prioritising the work we will need to map our activities onto the work the Board is doing, e.g. commenting on ICU ventilation designs to allow procurement to commence. We will also be involved in discussions about the general ventilation system and what is to be done about that. At the same time we will need to work through the lifetime of the project more or less chronologically to weed out how these systems came to be the way they are.

The steer we are being given here has implications, in my view, for the work we are doing on a Centre of Expertise. It seems clear that we are not being asked different questions by different parts of government; Cab Sec is asking a simple but open question along the lines of 'are our patients safe in our buildings' and this is coming to us from one part of government filtered through an infection lens and from another filtered through a buildings lens. We need to be careful to answer both parts of the question.

The resource we can deploy on this work, including contracted work was put forward as the limiting factor in timescales and it was made clear that, as the critical path to moving the services, we need to move as quickly as possible. This will have serious implications for work we already have at the top of the priority list, some of which relates directly to preventing similar issues occurring in the future on the back of

lessons learned in recent projects. It will also have implications for the development of the CoE as the resource is the same for all these workstreams.

Happy for colleagues to clarify anything I haven't made clear.

Eddie McLaughlan
Assistant Director
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Health Facilities Scotland
Procurement, Commissioning and Facilities
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DRAFT

RHCYP/ DCN : Commissioning / Ventilation

Note of a meeting held at 11:00am on Friday 5 July 2019 in Meeting Room 5, Waverley Gate, Edinburgh.

Present: Tim Davison (Chair); Janis Butler; Jacquie Campbell; Brian Currie; George Curley; Eddie Doyle; Iain Graham; Lindsay Guthrie; Tracey Gillies; Donald Inverarity; Pota Kalima; Judith Mackay; Alex McMahon; Janice Mackenzie; Fiona Mitchell; Janis McKay, Chris Meyers and Michael Pearson.

In Attendance: Douglas Weir.

Welcome and Introduction

Tim Davison thanked colleagues for attending the meeting at short notice. He advised that he intended to use the letter received from Malcolm Wright as the basis of the agenda for the meeting. The focus of the meeting would therefore be around:-

- Transport for patients
- Telephone Helpline
- Communications with patients

1. Transport

George Curley advised that NHS Lothian would have a vehicle based at the new Royal Hospital for Children and Young People / Department of Clinical Neurosciences on a 24/7 basis from Monday 8 July 2019. He advised that there would also be a staff presence at car parks to assist patients and visitors to ensure that they were appropriately directed to clinical/medical services.

It was noted that there would be a minimum of 2 vehicles available to ensure easy access should transport across town be necessary. George Curley advised that it was proposed to have clinical support available to ensure medical assistance would be to hand if required.

It was noted as a further precaution NHS Lothian would have access to disabled capability taxis and this would be used in the event of any difficulties with accessing in-house services. It was noted that it was also proposed to utilise the call centre to maintain and record requirements.

2. Telephone Helpline

It was noted that a telephone helpline operated by NHS24 would be operational from noon (Friday 5 July). It was reported that NHS24 would staff the telephone Helpline and this would not require input from NHS Lothian. The Helpline would be open as follows:

- Friday 5 July Noon – 10:00pm
- Saturday / Sunday 9:00am – 5:00am
- Monday / Friday next week 8:00am – 10:00pm

It was noted the number of contacts would be tracked by NHS24 with details of this being reported a day in arrears.

It was noted that both Jacquie Campbell and Alex McMahon would be on-call over the weekend with Tim Davison also contactable in the event that this was required. Details of the lines to be adopted in the event of any contact from either the media or the Scottish Government would be provided later in the day.

3. Direct Communications for Patients

It was noted that the following patient volumes would be affected:-

- Paediatrics – 1,800 Outpatients and 169 Inpatient/day cases
- DCN – 666 Outpatients and 11 Inpatient/day cases

The position in respect of radiology represented 692 patients split between DCN and the RHSC

It was noted that colleagues were in the process of telephoning patients to advise them of the change of location and if necessary change of time for their procedures. It was noted that the e-Communications letter was generic in detail. It was noted that a copy of this would be attached to the letter that Tim Davison would send to Malcolm Wright immediately following the meeting. It was noted that a position would need to be adopted in respect of patients who could not be contacted by telephone because of holiday commitments or of other reasons.

4. Communications Plan

It was noted that NHS Lothian had been advised that communications would be handled by the Scottish Government. Judith Mackay advised that a new communications plan would be put in place to cover events over the next few weeks and this would include a radio campaign. It was noted that the advertisements on the back of buses would be removed from Monday 8 July 2019.

It was noted that the Scottish Government had requested a detailed plan in respect of the phased move and the need to develop a way forward. Tim Davison suggested that there would be a need to put a communication on to the intranet for staff. Judith

Mackay confirmed that this was in the process of being put in place. It was noted that an all staff email had been issued the previous day. Fiona Mitchell advised that local communications were also in place and there would be a need to consider how to address staff who were on annual leave. This would require the checking of staff rotas.

Consideration was given to the benefits of using social media to address people who were on holiday. It was noted that Scottish Government had been asked to put out a pro-active communication giving patient guidance to be followed in the interim. It was noted that Judith Mackay and colleagues had issued a communication plan to the Scottish Government the previous day.

5. Confirmation That There Were No Other Deficiencies in the Building

Tim Davison noted that Malcolm Wright in his letter had sought an assurance that there were no other material specification deficiencies in the new building that NHS Lothian were aware of at this stage. Tracey Gillies advised that work had been underway in this respect with colleagues having worked through issues relating to the remainder of the building. The outcome of this had been that the system was not aware of any other issues of significant magnitude to prevent the building being occupied. A summary of the current work was provided as follows:

Ventilation: IOM had been commissioned as an independent validator of ventilation systems in the light of the issues regarding ventilation that formed the basis of the supplementary agreement and they have been onsite working through these. It was noted that other than these agreements the building was expected to meet the standards of SHTM – 03-01a. Ordinarily this testing would have been undertaken ahead of the clinical commissioning but the delays in building completion resulted in this having to be done in parallel. The following areas have ongoing work ventilation in 10 theatres and isolation rooms. It was noted that an issue had been identified in 2016 relating to the number of air changes in the CT Scanning Suite in DCN. It was identified that the design was for 10 air changes where 15 were set out in the SHTM and the design was rectified. IOM would be asked to validate that these were being delivered.

In terms of water quality assurance sampling for commissioning purposes had been passed although the system was in the process of implementing the HPS guidance for regular testing in augmented care areas. It was noted that the samples had not yet been all been returned but in line with other areas it was anticipated that control and remedial actions would be required overtime to maintain water quality standards to the guidance for augmented care areas.

Tracey Gillies advised in respect of legacy issues around the flooding incidents that this was on the risk register as a residual risk of fungus and mould growth. It had been discussed in June by the IPCT and agreed that any inspection at this stage would be premature as any visual evidence would not manifest for some months. However an ongoing programme of visual inspections had been agreed.

Tim Davison questioned in respect of pseudomonas whether this would have been a Gamechanger in terms of moving into the new facility if the ventilation problems had

not arisen. It was noted that this would not have been the case as immediate actions would be put in place and that under Scottish Government guidance pseudomonas was not a critical issue.

6. **Revised Migration Plan for Neurosciences**

It was noted that HPS and HFS would be involved in forward work in order to ensure that any solutions met with their approval. It was noted that plans were underway to develop solutions in order to fix the air ventilation issue in the Critical Care Unit in the new hospital. It was noted that engagement had been held with Multiplex with Brian Currie advising that he was confident that an agreed position would be reached with further meetings to be held the following week to get into the detail of propositions. It was anticipated that it would take around 2 weeks to develop a design for a solution that people would be comfortable with and at that point decisions would be made around the most appropriate procurement route. Iain Graham advised that he had also been in touch with partners that provided advice and that work was still ongoing in respect of resources and timescales etc. Tracey Gillies commented that there would also be a need to consider issues around noise pollution in terms of the air ventilation solution. Tim Davison advised that it had been agreed to increase the size of the ducting and there would be a need to quality assure this for noise as part of the commissioning process. He commented in terms of the revised migration plan that there would need for clarity around timescales once the solution was in place and tested.

It was noted that theatres, the Emergency Department and Inpatients could not move until the Critical Care Unit issues had been resolved. There was less clarity around what other services could potentially move whilst work was ongoing. It was noted that discussions had been held earlier in the day about what needed to be done to free up space in the event that services were still being operated from the existing Royal Hospital for Sick Children facility during the run-up to the winter period.

Tim Davison commented that guidance from McRoberts the Solicitors had suggested that there was a need to work through processes to reach a solution that was compliant with requirements before getting into discussions around who would be responsible for paying for this. It was noted that there was a need for Multiplex to be on board in order to fix the problem although it would be important not to give them a free pass in terms of any potential liabilities. Jennifer McKay commented that within the contract there was an ability to get somebody else to do the work although it would be better in terms of existing interface issues etc if this were undertaken by Multiplex. Advice was therefore was to progress and pay for works whilst reserving NHS Lothian’s position to reflect the service urgency. A downstream process would be undertaken in respect of any potential basis for restitution. Brian Currie advised that both Multiplex and IHSL were supportive of working with NHS Lothian in order to ensure that the necessary work was undertaken.

Tim Davison commented that he felt that it was important to work closely with IHSL and Multiplex to deliver a design and undertake relevant testing whilst reserving the position about who would be responsible for paying for the fix solution.

Tim Davison commented that at a previous meeting a cost of between £100,000-£130,000 had been quoted in terms of a permanent solution and questioned whether this included labour costs. George Curley advised that the cost that he had quoted was in respect of the air handling unit and that if there was a requirement to go down the route of providing a plant room then this would increase the cost to around £1m. Brian Currie advised that consideration was being given to the utilisation of the existing unit and that the process over the next few weeks would lead to the design of an optimal solution.

Jennifer McKay advised that in relation to the payment of the monthly fee to IHSL which equated to around £1.3m per month that this would in all likelihood be raised in the public domain. Tim Davison advised that this issue had been discussed with colleagues from the Scottish Government although he felt that the options of withholding all or part of this sum were limited with it only being possible to say that NHS Lothian would not pay for the rooms if it was confident that the contractor was at fault. He reminded colleagues that given that the process was proceeding under reservation that there would be an ability to assess unavailability costs moving forward although this would not be possible on an ongoing basis. Jennifer McKay and George Curley both advised that the contractors were operating in warning notice territory already in terms of self-reporting with financial deductions being made for the failure to achieve standards around the outcome specification. It was noted that a warning notice had been issued given the level of failures to date. It was noted that these issues had not been material although there had been a sufficient amount of them to raise concerns albeit they would not have affected the efficient working of the hospital. Jennifer McKay would provide Tim Davison with the detail of these issues.

7. Revised Migration Plan

Tim Davison commented within the context of ongoing work what steps needed to be taken to begin to pull together the revised migration plan.

In terms of paediatrics it was noted that some services could move that were not impacted on the ventilation issues. Amongst these would be Community Child Health, AHP services and generic outpatient clinics that did not require support service backup.

The position was discussed in the event that the current Royal Hospital for Sick Children wards still occupied during the winter period with it being noted that in the previous year difficulties had been caused resulting in cancelled elective surgery. It was noted that if the move to the new facility happened prior to the winter period that more capacity would be available. Tim Davison commented that as a matter of urgency there was a need to come to a view around services and processes in the next few weeks. Eddie Doyle advised that internal workshops with service leads would be established to look at sensible proposals.

In relation to DCN it was noted that this was a smaller issue than the overall RHCYP with there being a view that there would be a need to move the whole department at the same time. It was noted that the only issue that needed to be clarified in respect of a DCN move was the linkages with anaesthetics. Tracey Gillies advised that she

had asked Brian Cook to look at the impact of Out of Hours support to DCN with it being noted that previously it had required external mediation to get issues around rotas resolved. The position in respect of 3 tiers of resident anaesthetic cover at the Royal Infirmary of Edinburgh was discussed. It was agreed that Tracey Gillies and Brian Cook with Chris Meyers would look at operational issues around the potential move of DCN.

It was noted that a revised migration plan for DCN would be produced by the middle of the following week. It was agreed that this would require input from HFS and HPS in terms of the sign-off of proposals. It was noted that discussions with the Scottish Ambulance Service had indicated that they would try and work with NHS Lothian through this period. Tim Davison commented that he was keen to move DCN and the production of a migration plan the following week would be extremely useful. George Curley advised that issues around a new kitchen provision needed to be resolved as full answers were not yet available. He commented that DCN would be located on the 2nd floor and that there was a need to demonstrate that all services in the building were being used and to avoid the duplication of issues like water quality. He commented therefore that there would be a need to stimulate a fully functioning hospital environment. In addition, fire evacuation plans needed to be thought through.

Iain Graham advised that he had been in touch with the purchasers of the Sciennes site who had advised that their long stop position was the end of January 2020.

Eddie Doyle with reference to the proposed DCN move commented that the neuro-angiography waiting list had built up and now consisted of 6 patients. He commented that in line with other services that clinical teams would be in touch with patients. He commented that if DCN were to move sooner then there would be a need to prioritise one or two patients quickly.

8. Incident Management Team

Tim Davison commented that there was a need to have an ability to meet regularly as a sub-set of the current membership over the next 2/3 weeks. He advised that in the meantime people needed to escalate any issues as soon as they became aware of them as it would be important to avoid any further surprises as this current situation represented a significant credibility issue for the organisation.

It was agreed that Douglas Weir would establish dates for the Incident Management Team which would be held each Monday and Thursday throughout July and would be chaired by Susan Goldsmith. Brian Currie would provide administrative support to the Incident Management Team process.

9. Date and Time of Next Meeting

It was agreed that the inaugural meeting of the Incident Management Team would be held at 4:00pm on Monday 8 July 2019 in Meeting Room 5, Waverley Gate, Edinburgh.

From: Executive, Chief
Sent: 05 July 2019 12:57
To: Executive, Chief; [redacted]
Cc: [redacted]; Houston, Brian
Subject: RE: Letter to T Davison from M Wright

Malcolm

An update on the three areas you asked for by this morning plus an additional update on communications:

1. Transport.

   NHS L will have a vehicle based at the new RHCYP/DCN 24/7 from Monday (Note, patients were not proposed to move until Tuesday),
   We will have a staffed presence at the car parks to assist patients and visitors to ensure they are appropriately directed to clinical/medical services.

   There will be a minimum of two vehicles available to ensure easy access should transport across town be necessary. We are preparing to have clinical support to ensure assistance for patients if required.

   As a further precaution we will have access to a disabled capability taxi and this would be used in the event of any difficulties with access. We also propose to utilise our call centre to maintain and record requirements.

2. Telephone helpline

   NHS 24 have now established the helpline, activated by 12 noon today. It will run to 10pm today, 9-5pm Saturday and Sunday and from 8-10 on Monday to Friday. NHS 24 have confirmed that they are able to staff the helpline. They will provide us with a read out of activity a day in arears. We have provided NHS 24 with the script to use.

3. Direct communication to individual patients

   We have identified all patients booked to attend the new hospital building from now until the end of July. Each service has already initiated a process to contact patients directly by telephone to confirm the revised site, date and time of their appointment. Patients are being contacted in date order with soonest appointment first. The services are maintining a log of patients contacted on a daily basis. Contact will continue over the weekend. Volumes of patients affected are as follows: Paediatrics -1800 out patients, 169 inpatient/day cases; DCN – 666 outpatients, 11 inpatient/day cases; Radiology – 692 cases.

4. Communications

   We provided a comms plan this morning to SG Comms that outlines our activity over the coming days. This includes key messages for patients and a revised paid media plan. We have issued staff communications, we held staff briefings late yesterday afternoon/evening and we are developing an ongoing, regular staff communications plan to keep staff informed as plans develop.

   We have separately been asked by your resilience colleagues for senior NHSL contacts over the weekend. These are:

   Jacquie Campbell, Chief Officer Acute [redacted]
   Alex McMahon, Nurse Director [redacted]

Yours sincerely

Tim

Tim Davison
Chief Executive
NHS Lothian
Waverley Gate
2-4 Waterloo Place
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Tel:
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EA:

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From: Executive, Chief
Sent: 05 July 2019 10:41
To: '
Cc: ; Houston, Brian
Subject: RE: Letter to T Davison from M Wright

Malcolm

A short note to confirm that I have noted and understood the contents of your letter and that I would like to discuss this with you in more detail when we meet on Tuesday.

Your letter asked for our communications plan by the end of the day yesterday. Obviously that was superseded by events.

You asked for three things before lunchtime today on travel support for patients, communications with patients and the establishment of the helpline. Senior colleagues are working on all of these as I write this and I am chairing a meeting at 11am this morning to run through all of our required actions. It may be early afternoon before I confirm our proposed arrangements for all three, recognising our requirement to have the helpline up and running by 12 noon.

Yours sincerely

Tim

Tim Davison
Chief Executive
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From: [redacted] **On Behalf Of** [redacted]
Sent: 04 July 2019 16:10
To: Executive, Chief
Cc: [redacted]; Houston, Brian
Subject: Letter to T Davison from M Wright

Mr Davison

Please see attached from Malcolm Wright

Regards

Calum Henderson
Assistant Private Secretary to Malcolm Wright, DG Health and Social Care and Chief Executive NHSScotland
Room 1E.16, St Andrew's House, Edinburgh, EH1 3DG
E: [redacted]
Telephone: [redacted]

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Dh'fhaodadh gum bi teachdaireachd sam bith bho Riaghaltas na h-Alba air a chlàradh neo air a sgrùdadh airson dearbhadh gu bheil an siostam ag obair gu h-èifeachdach neo airson adhbhar laghail eile.
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****

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From: Executive, Chief
Sent: 05 July 2019 15:21
To: Graham, Iain; McMahon, Alex; Campbell, Jacquie; MACKAY, Judith (NHS LOTHIAN); Gillies, Tracey; McMahon, Alex
Subject: RE: RHCYP + DCN - Little France - Critical Care Ventilation

I think it should be more specific and fuller. When we say senior management, who was that? What did they then do with that? I was aware on Friday evening from Susan that there was an issue that we hoped to resolve. I understand there were then meetings on the Monday so we should say what they were, who was involved, what happened as a result. I was alerted on Monday night by Tracey and met senior colleagues on Tuesday morning and alerted Malcolm that lunchtime.

Tim Davison
Chief Executive
NHS Lothian
Waverley Gate
2-4 Waterloo Place
Edinburgh EH1 3EG

Tel:
Email:
EA:

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From: Graham, Iain
Sent: 05 July 2019 15:14
To: Executive, Chief; McMahon, Alex; Campbell, Jacquie; MACKAY, Judith (NHS LOTHIAN)
Subject: FW: RHCYP + DCN - Little France - Critical Care Ventilation

Would you be content with me sending this information on to Alan Morrison at Scottish Government, or would you wish this included in a formal briefing.

Regards

Iain

Iain F Graham
Director of Capital Planning and Projects
NHS Lothian
Waverley Gate
2-4 Waterloo Place
Edinburgh
EH1 3EG

From: Currie, Brian
Sent: 05 July 2019 15:08

To: Graham, Iain
Subject: RHCYP + DCN - Little France - Critical Care Ventilation

Iain

Further to your question earlier today, I first became aware of a potential measurement issue with the ventilation in Critical Care on Monday 24th June, actual time escapes me.

It is my recollection that senior management were made aware at a 10.00am meeting at on Friday 28th June.

Regards

Brian

Brian Currie
Project Director - NHS Lothian
RHCYP + DCN
4th Floor Management Suite
Little France Crescent
Edinburgh
EH16 4TJ

T:
M:
E:

Message

From: Currie, Brian [redacted]
on behalf of Currie, Brian [redacted]
Sent: 08/07/2019 18:47:47
To: Matthew Templeton [redacted]; 'Wallace Weir' [redacted]; 'Darren Pike' [redacted]
CC: Goldsmith, Susan [redacted]; Graham, Iain [redacted]
Subject: Re: RHCYP + DCN - Little France - Critical Care Ventilation

Matt
I have a meeting at 12 following the vent mtg. Could we are large another time in the afternoon?
Regards
Brian

Sent from my BlackBerry 10 smartphone on the EE network.
From: Matthew Templeton
Sent: Monday, 8 July 2019 18:41
To: Currie, Brian; 'Wallace Weir'; 'Darren Pike'
Subject: RE: RHCYP + DCN - Little France - Critical Care Ventilation

Brian,

I understand arrangements are in place for the design workshop tomorrow with both IHSL and Multiplex attending, which is good.

Can we please allocate some time tomorrow following the design meeting to discuss and agree the basis upon which we are progressing? In the circumstances we agree it is important we commence the design process immediately and without delay, however, it is equally important that we understand what is being requested of IHSL and their sub-contractors.

I can come to site at 12:00pm if that suits?

Regards
Matt
From: Currie, Brian [redacted]
Sent: 05 July 2019 14:57
To: 'Wallace Weir' [redacted]; 'Darren Pike' [redacted]
Cc: Matthew Templeton [redacted]
Subject: RHCYP + DCN - Little France - Critical Care Ventilation
Importance: High

Gents

Further to recent, mostly telephone, conversations I would like to propose we set up an intensive design process kicking off asap.

With your agreement I propose two workshops a week over the next 2 - 3 weeks with fairly wide attendance (similar to the workshops this week on the same issue).

Would Tuesday and Friday mornings work for you?

Regards

Brian

Brian Currie
Project Director - NHS Lothian
RHCYP + DCN
4th Floor Management Suite
Little France Crescent
Edinburgh
EH16 4TJ

T: [redacted]
M: [redacted]
E: [redacted]

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From: Campbell, Jacquie
Sent: 05 July 2019 17:08
To:
Cc: Executive, Chief
Subject: RE: Sick Kids - txt messaging service

Carmel

1. On June 28 Tracey Gillies, Board Medical Director, Alex McMahon, Board Nurse Director, Susan Goldsmith, Board Finance Director attended a meeting at the new hospital to discuss progress and process around theatre ventilation as part of the pre-hospital opening sign off. On Monday afternoon (4.30) 1 July, a further teleconference took place regarding the theatre progress and at this point the issue relating to paediatric critical care ventilation was raised. Tracey Gillies was in attendance, who escalated this to Tim Davison , by email , for him to pick up on his return from leave on Tues 2 July
2. Tim picked up this escalation on Tues 2 July, he informed the Board Chairman on 2 July as well as Malcolm Wright Director General.

Jacquie

From:
Sent: 05 July 2019 16:04
To: Campbell, Jacquie
Subject: RE: Sick Kids - txt messaging service

Jacqui

A question I need a reply on immediately. My colleague Dan House had a conversation with Tim earlier and asked the question about the length of time taken between the key test/s and the Board being notified? Tim's reply is set out below

NHS Lothian Chief Executive has advised: the actual test took place last week (checking date/s); concerns first fed to NHS Lothian staff last Friday, 28 June; meetings then set up for and held on Monday 1 July; escalated to Chief Executive on Monday evening for his return to work from leave on Tuesday.

The Cabinet Secretary has asked;

1. Who in the Board was told on 28 June? and 2. When was the Chair informed?

Carmel

From: Campbell, Jacquie
Sent: 05 July 2019 15:55
To: Bateman C (Catriona)
Cc: Sheriff C (Carmel)
Subject: RE: Sick Kids - txt messaging service

Thank you , yes I spoke with Carmel earlier , we will certainly look at this service

Jacquie

From
Sent: 05 July 2019 15:21
To: Campbell, Jacquie
Cc:
Subject: Sick Kids - txt messaging service
Importance: High

Hello

I understand that you would use the txt messaging service to keep patients/parents/families up to date with information relating to the Sick Kids hospital but that you needed more information/advice on how to set this up.

I am advised that the contacts below would be able to help in this regard and Alistiar Gaw who is from Edinburgh City Council might be the best place to start. You'll be aware the education department used this system to keep pupils/parents updated when there were building issues with schools.

Mr Alistair Gaw
Director of Communities and Families
The City of Edinburgh Council
Council Headquarters
Waverley Court
4 East Market Street
Edinburgh EH8 8BG

Alternatively, the President of ADES (https://www.ades.scot/) is Maureen McKenna but she is Glasgow based. Maureen's email address is:

Regards

Catriona

Catriona Bateman

Directorate for Health Performance & Delivery | Resilience, Support and Intelligence: Acute Service Delivery & Ministerial Support| Room 2EN | St Andrew's House | Regent Road |Edinburgh EH1 3DG
Telephone:

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Dh'fhaodadh gum bi teachdaireachd sam bith bho Riaghaltas na h-Alba air a chlàradh neo air a sgrùdadh airson dearbhadh gu bheil an siostam ag obair gu h-èifeachdach neo airson adhbhar laghail eile.
Dh'fhaodadh nach eil beachdan anns a' phost-d seo co-ionann ri beachdan Riaghaltas na h-Alba.
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From: McMahon, Alex
Sent: 05 July 2019 21:37
To: MACKAY, Judith (NHS LOTHIAN); Executive, Chief; Campbell, Jacquie; Gillies, Tracey
Subject: Re: Royal Hospital for Children and Young People

Trying to answer John' s question.

Just reading the note that Tracey circulated on Monday 1July at 18.52 re critical care ventilation. The note was circulated to Tim, Susan, Iain Graham, Jacquie, Brian Currie, George Curley and Judith and I.

Within it Tracey states:

This emerged today following testing by the independent validation engineer for ventilation on the site (IOM). DO WE KNOW IF THE TEST WAS ACTUALLY DONE ON MONDAY AND WAS BEING ESCALATED THEN? There would of course be a look back to the derigation and when this changed was apparently signed off and we need to have that information to.

The main points are summarised below.

IOM have tested critical care ventilation in RHCYP in 4 bedded and single rooms.

It delivers air changes at balanced or slight negative pressure in the multiple occupancy 4 bedded room and single rooms critical care. The 19 rooms outside critical care are not affected.

Details for the dial in are:

Host is Jacquie and her number is

Alex

Sent from my BlackBerry 10 smartphone on the EE network.

From: McMahon, Alex
Sent: Friday, 5 July 2019 9:11 PM
To: MACKAY, Judith (NHS LOTHIAN); Executive, Chief; Campbell, Jacquie; Gillies, Tracey
Subject: Re: Royal Hospital for Children and Young People

Thanks Judith.

This is what John Connaghan is also looking for after our 11am call tomorrow. Through a separate email he asked:

"Alex one thing I really need tomorrow immediately after your 11 am meeting is exact date when test was done to determine it was 4 and not 10 changes and the sequence of who was advised afterwards.
We are told it was last week. But we need more specificity. John".

Do we need to try and get Iain Graham or Brian Currie on the call as I am not sure I know the answer other than on Monday this was flagged and in turn Tracey escalated. Doesn't actually answer the question though.

Do you have the dial in details Judith. Tracey if you get this and can dual in let me know and I will send the details.

Alex
Sent from my BlackBerry 10 smartphone on the EE network.

From: MACKAY, Judith (NHS LOTHIAN)
Sent: Friday, 5 July 2019 8:56 PM
To: Executive, Chief; Campbell, Jacquie; Gillies, Tracey; McMahon, Alex
Subject: Fwd: Royal Hospital for Children and Young People

Being asked by cab sec for detail of who knew what when in respect of the air change issue. It looks to me like they have not understood the distinction between the theatres issue and the air change issue in respect of critical care?

Shall we discuss at 11am conf call tomorrow? (the trigger for this was a media enquiry by the Sunday post of all things).

Judith

Begin forwarded message:

From:
Date: 5 July 2019 at 20:43:17 BST
To:
Cc:
Subject: RE: Royal Hospital for Children and Young People

Hi Judith,

I've copied below the information we have from NHS Lothian.

The Cabinet Secretary understands there was a meeting last Friday and we need absolute clarity on what information was passed to whom at that meeting. The meeting occurred after the ventilation was tested and found wanting. Ms Freeman would be grateful for clarity on this point.

I've copied Gillian who is on duty tomorrow in case you can't get this information this evening.

Thanks,
Linsey

- NHS Lothian Chief Executive has advised: the actual test took place last week (actual date TBC); On June 28 the Board Medical Director, Nurse Director and Finance Director attended a meeting at the new hospital to discuss progress and process around theatre ventilation as part of the pre-hospital opening sign-off. On Monday afternoon (4.30) 1 July, a further teleconference took place regarding the theatre progress and at this point the issue relating to paediatric critical care ventilation was raised. The Medical Director who was in attendance escalated this to the CE, by email for his return from leave on 2 July. The CE picked the escalation up on Tuesday 2 July and on the same day informed the Board Chairman and the Director General for Health & Social Care.

From: MACKAY, Judith (NHS LOTHIAN)
Sent: 05 July 2019 19:33
To: Stewart L (Linsey) ; Hart S (Suzanne)

Cc: Provan G (Gillian) ; Brown L (Lesley) (Comms)

Subject: RE: Royal Hospital for Children and Young People

It is correct. There was a prior (different) issue with ventilation and an agreement was made In Feb / March that the work to rectify it would happen after the keys were handed over. This current issue (of the air change rate not being sufficient in critical care) was not known to us before now.
Can you resubmit to Cab Sec ?

From:
Sent: 05 July 2019 19:22
To: MACKAY, Judith (NHS LOTHIAN);
Cc:
Subject: RE: Royal Hospital for Children and Young People

Hi Judith,

We've just had feedback from the Cabinet Secretary. The Cabinet Secretary would like to clear lines for the next few days and then we will review. Duty colleagues (copied) will do our best to get as quick a turnaround as possible.

The Cabinet Secretary has considered the first three queries and is content with the lines and answers except the last one regarding when NHS Lothian knew. Ms Freeman's understanding is that if it was last week, you can't put out an answer unless it is absolutely accurate.

I'm awaiting a response on the fourth query from the Nine.

Kind regards,
Linsey

Linsey Stewart
Duty Comms

From: MACKAY, Judith (NHS LOTHIAN)
Sent: 05 July 2019 19:16
To: Hart S (Suzanne) ; Stewart L (Linsey)
Subject: RE: Royal Hospital for Children and Young People

My understanding is still that we are required to clear all statements with Scottish Government. Is that your understanding?
If that is the case can you assure that we will be able to receive timely sign off over the weekend? I recognise this may be an unusual situation.

Re email below - originally sent from my phone which autocorrected The Nine to The Next - but you probably worked that out!

Thanks and regards
Judith

Judith Mackay
Director of Communications, Engagement and Public Affairs | NHS Lothian

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From:
Sent: 05 July 2019 19:03
To: MACKAY, Judith (NHS LOTHIAN);
Subject: RE: Royal Hospital for Children and Young People

Copying Linsey who is on call tonight. Linsey can you put this up on the back of my last email to Cab Sec?

Sent with BlackBerry Work (www.blackberry.com)

From: "MACKAY, Judith (NHS LOTHIAN)"
Sent: 5 Jul 2019 19:00
To: "Hart S (Suzanne)"
Subject: Fwd: Royal Hospital for Children and Young People

Hi Suzanne,
The Next asked for a live which we hdeclined (Dir Gen has expressly advised our Chief Exec to do no interviews).
They have now asked for a response to a statement they have got from multiplex.
(see email below and proposed response).
Can we issue?
Regards
Judith

We are working closely with the Scottish Government to work through a plan to rectify the situation as soon as possible and to investigate why this issue has only arisen during final checks. The Scottish Government have given NHS Lothian clear direction and we have nothing to add at this time.

Judith Mackay
Director of Communications, Engagement and Public Affairs | NHS Lothian

Begin forwarded message:

From: "BURNETT, Alexis (NHS LOTHIAN)"
Date: 5 July 2019 at 17:33:11 BST
To: "MACKAY, Judith (NHS LOTHIAN)"
Subject: FW: Royal Hospital for Children and Young People

Hi Judith
Please see question from The Nine.

Alexis

From: Mike Farrell - News [redacted]
Sent: 05 July 2019 17:32
To: BURNETT, Alexis (NHS LOTHIAN) [redacted]
Subject: RE: Royal Hospital for Children and Young People

Hello Alexis,

Thanks for coming back to me on this.

I have just received a statement from Multiplex and I was seeking a response and some clarity from NHS Lothian on this.

It is copied below.

In relation to the independent assessment and handover of the site to the health board in February, was there any mention of or concern raised by the certifier relating to the critical care unit ventilation, or was that not discovered until the last minute checks this week?

Thanks for your time and I look forward to hearing from you soon.

Mike

A spokesperson for Multiplex said:

"Multiplex was not made aware of the decision to reschedule the move to the Royal Hospital for Children and Young People until yesterday. Our works on the hospital were signed off as complete by the Independent Certifier on 22nd February 2019, when we handed over the building into the possession and operation of NHS Lothian.

To the extent that any modifications to building that are now deemed necessary, we will provide such assistance to NHS Lothian as may be required."

From: BURNETT, Alexis (NHS LOTHIAN) [redacted]
Sent: 05 July 2019 17:29
To: Mike Farrell - News
Subject: Royal Hospital for Children and Young People

Hi Mike
Just getting back to you to say that we are unable to give the interview as requested.

Kind regards
Alexis

Alexis Burnett, CIPR Accredited PR Practitioner
Communications Manager (Internal)
NHS Lothian
Waverley Gate
2-4 Waterloo Road
Edinburgh

EH1 3EG

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Dh'fhaodadh gum bi teachdaireachd sam bith bho Riaghaltas na h-Alba air a chlàradh neo air a sgrùdadh airson dearbhadh gu bheil an siostam ag obair gu h-èifeachdach neo airson adhbhar laghail eile. Dh'fhaodadh nach eil beachdan anns a' phost-d seo co-ionann ri beachdan Riaghaltas na h-Alba.
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From: Hancock C (Craig) on behalf of Minister for Mental Health
Sent: 05 July 2019 22:10
To: DG Health & Social Care; Minister for Mental Health; Hutchison D (David); Sheriff C (Carmel); Cabinet Secretary for Health and Sport
Cc: Wright M (Malcolm); Rogers S (Shirley); Connaghan J (John) (Health); Murray D (Diane); Hart S (Suzanne); Low S (Stuart); Chief Medical Officer; House D (Dan); Bateman C (Catriona); Smith G (Gregor)
Subject: RE: Update to First Minister
Attachments: Edinburgh Children's Hospital - Note from Cab Sec to FM.docx

Callum,

Many thanks for picking this up and redrafting the note, it's much appreciated. Please find attached the final version I issued to the First Minister's office.

Thanks,
Craig

From: Henderson C (Calum) **On Behalf Of** DG Health & Social Care
Sent: 05 July 2019 20:07
To: Minister for Mental Health ; Hutchison D (David) ; Sheriff C (Carmel) ; Cabinet Secretary for Health and Sport
Cc: DG Health & Social Care ; Wright M (Malcolm) ; Rogers S (Shirley) ; Connaghan J (John) (Health) ; Murray D (Diane) ; Hart S (Suzanne) ; Low S (Stuart) ; Chief Medical Officer ; House D (Dan) ; Bateman C (Catriona) Smith G (Gregor)
Subject: RE: Update to First Minister

Craig

We have been unable to get a hold of Carmel.

Please find attached suggested note to FM. This has been cleared by both John Connaghan and Malcolm Wright

Thanks

Calum

From: Hancock C (Craig) **On Behalf Of** Minister for Mental Health
Sent: 05 July 2019 18:33
To: Hutchison D (David) ; Sheriff C (Carmel) Cabinet Secretary for Health and Sport
Cc: DG Health & Social Care ; Wright M (Malcolm) Rogers S (Shirley) ; Connaghan J (John) (Health) ; Murray D (Diane) ; Hart S (Suzanne) ; Low S (Stuart) ; Chief Medical Officer ; House D (Dan) ; Bateman C (Catriona) ; Smith G (Gregor)

Subject: RE: Update to First Minister
Importance: High

Carmel,

Just to check, are you updating this note so it is in the same format as Alan's yesterday?

Thanks,
Craig

From: Hutchison D (David)
Sent: 05 July 2019 18:05
To: Sheriff C (Carmel) ; Cabinet Secretary for Health and Sport
Cc: DG Health & Social Care ; Wright M (Malcolm) ; Rogers S (Shirley) ; Connaghan J (John) (Health) ; Murray D (Diane) ; Hart S (Suzanne) ; Low S (Stuart) ; Chief Medical Officer ; House D (Dan) ; Bateman C (Catriona) ; Smith G (Gregor)
Subject: RE: Update to First Minister

I think the Cab Sec asked earlier for this to be reformatted so the briefing was **not** in a Q&A style.

From: Sheriff C (Carmel)
Sent: 05 July 2019 17:50
To: Cabinet Secretary for Health and Sport
Cc: DG Health & Social Care ; Wright M (Malcolm) ; Rogers S (Shirley) ; Connaghan J (John) (Health) ; Murray D (Diane) ; Hart S (Suzanne) ; Low S (Stuart) ; Chief Medical Officer ; House D (Dan) ; Bateman C (Catriona) ; Smith G (Gregor) ; Hutchison D (David)
Subject: RE: Update to First Minister

Jack

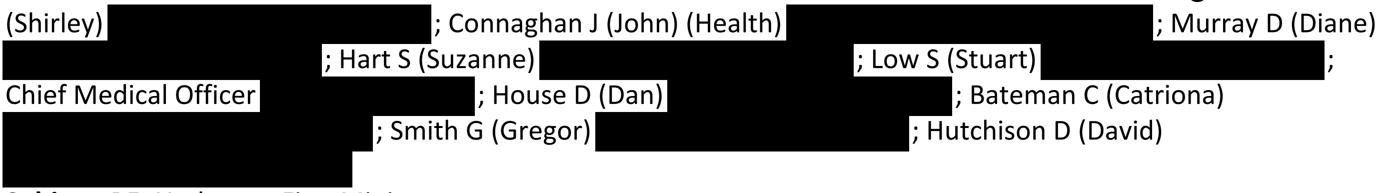
Attached is the letter from Paul Gray and the HFS summary setting out Boards' responses.

I have now received a reply from the Board to the 2 questions you raised – on 28 June who in the Board was told and when was the Chair told. I have **updated Q 11 in the Annex** to reflect that the Board Medical Director, Nurse director and Finance Director attended a meeting on 28 June but it was not until 1 July that the issue relating to paediatric critical care ventilation was raised; this was then escalated via email by the Medical Director to the CE for his return from leave on 2 July; CE then informed the Chair and the DGHSC on the same day (2 July). A revised Q&A is attached.

To keep everything in one email I attach the cover note again.

Carmel

From: Sheriff C (Carmel)
Sent: 05 July 2019 16:52
To: Cabinet Secretary for Health and Sport
Cc: DG Health & Social Care ; Wright M (Malcolm) ; Rogers S



(Shirley) ; Connaghan J (John) (Health) ; Murray D (Diane) ; Hart S (Suzanne) ; Low S (Stuart) ; Chief Medical Officer ; House D (Dan) ; Bateman C (Catriona) ; Smith G (Gregor) ; Hutchison D (David)

Subject: RE: Update to First Minister

Jack

I just noticed an error in the cover note so I attach an amended so please substitute for the one sent at 16.41

C

From: Sheriff C (Carmel)
Sent: 05 July 2019 16:41
To: Cabinet Secretary for Health and Sport
Cc: DG Health & Social Care ; Wright M (Malcolm) ; Rogers S (Shirley) ; Connaghan J (John) (Health) ; Murray D (Diane) ; Hart S (Suzanne) ; Low S (Stuart) ; Chief Medical Officer ; House D (Dan) ; Bateman C (Catriona) ; Smith G (Gregor) ; Hutchison D (David)
Subject: RE: Update to First Minister

Jack

I attach a short cover note and the Q&A should be attached as an Annex. I have a call out to Lothian on the 2 questions you raise and will chase again.

Carmel

From: Downie J (Jack) **On Behalf Of** Cabinet Secretary for Health and Sport
Sent: 05 July 2019 15:54
To: Sheriff C (Carmel) ; Cabinet Secretary for Health and Sport
Cc: DG Health & Social Care Wright M (Malcolm) ; Rogers S (Shirley) ; Connaghan J (John) (Health) ; Murray D (Diane) ; Hart S (Suzanne) ; Low S (Stuart) ; Chief Medical Officer ; House D (Dan) ; Bateman C (Catriona) ; Smith G (Gregor) ; Hutchison D (David)
Subject: RE: Update to First Minister

Carmel,

As discussed, I think it would be helpful if the note was set out as an update to the FM in the same format as Alan's note yesterday. Also re paragraph 11, the Cabinet Secretary will ask 1. Who in the Board was told on 28 June? and 2. When was the Chair informed? I would be grateful if this information could be sought and included in a revised note.

Many thanks,
Jack

From: Sheriff C (Carmel)
Sent: 05 July 2019 15:36
To: Cabinet Secretary for Health and Sport
Cc: DG Health & Social Care ; Wright M (Malcolm) ; Rogers S (Shirley) ; Connaghan J (John) (Health) ; Murray D (Diane) ; Hart S (Suzanne) ; Low S (Stuart) ; Chief Medical Officer ; Hutchison David ; House D (Dan) ; Bateman C (Catriona) ; Smith G (Gregor)
Subject: Update to First Minister

Jack

I attach a Q&A style briefing for the Cabinet Secretary to consider and if she is content to forward to the First Minister.

DGH&SC is content with it.

Carmel

EDINBURGH CHILDREN’S HOSPITAL - UPDATE

Purpose

1. Please accept my apologies for the lateness of this note which has arisen as we sought to clarify some important details. Following our discussion on 3 July and my note of 4 July, this provides a further update on the current situation regarding the opening of the new Edinburgh Children’s Hospital.

Priority

2. High.

Background

3. My note to you of 4 July set out the background and in that note I set out a number of actions to be taken forward and these are set out below for ease of reference:

- In order to ensure that patients are being treated in a safe, clean and clinically appropriate environment, I have instructed NHS Lothian to delay the transfer of patients to the new Edinburgh Children’s Hospital. We expect that it will take at least six months for the problem to be resolved, but further work is required to test and validate the proposed solution and estimated timeline.

- I have also asked that we undertake an external series of checks, led by Health Facilities Scotland and Health Protection Scotland, to ensure that all the relevant technical specifications and standards applicable to the new Edinburgh Children’s Hospital are being followed and implemented.

- Given that it is unclear today what services can be safely moved to the new site, I have instructed that a halt is place on the move in full, pending the outcome of the action set out above which will then trigger a phased move of services.

- I will lead on media communications and I will review and approve NHS Lothian’s handling plan covering communications to staff, public and patients, before it is released. I have also been clear with NHS Lothian that assurances on critical patient safety areas must be given to SG before any patient moves in.

- Follow up work has been commissioned by me to audit the full decision and build process to identify how and where this ventilation problem initiated and why it has not been identified until this week. I will continue to keep you updated as this situation develops.

- I have held a teleconference with officials this morning to understand the updated position from the Board.

Boards Timeline for Escalation to Scottish Government

- NHS Lothian Chief Executive has advised: the actual test took place last week and we are chasing Lothian for actual date; On June 28 the Board Medical Director, Nurse Director and Finance Director attended a meeting at the new hospital to discuss progress and process around theatre ventilation as part of the pre-hospital opening sign-off. On Monday afternoon (4.30) 1 July, a further teleconference took place regarding the theatre progress and at this point the issue relating to paediatric critical care ventilation was raised. The Medical Director who was in attendance escalated this to the CE, by email for his return from leave on 2 July. The CE picked the escalation up on Tuesday 2 July and on the same day informed the Board Chairman and the Director General for Health & Social Care.

Boards Communication Plans and Support provided to Patients

- The Board has a detailed Comms plan for this weekend: key messages are: (i) A&E will not move and patients should attend to the existing building; (ii) the Health Board are in the process of contacting affected patients/families directly by telephone to confirm the revised site, date and time of their appointment. Contact is being made in date order, with soonest appointments first. No outpatient appointments were scheduled for the next 2 weeks so gives them a buffer to be able to reschedule.

- These are the 2 key messages from today until 8 July. These are also the key messages used with callers to the NHS 24 helpline. Comms approach following this weekend will reviewed and updated in the w/c 8 July.

- In terms of staff comms, the Health Board issued electronic communications and held staff briefings late yesterday afternoon/evening; they are also developing an ongoing, regular staff communications plan to keep staff informed as plans develop.

- NHS 24 has set up a dedicated helpline for this issue on (0800) 028 2816. This was operational from noon today and will run until 10pm. Thereafter, the line will be operational from 8am until 10pm during the week and from 9am to 5pm on Saturdays and Sundays.

- NHS 24 will provide us with regular updates on activity levels for the helpline.

.

- NHS Lothian has assured us that they have identified all the patients booked to attend the new hospital from now until the end of July. The Health Board are in the process of contacting these patients/families directly by telephone to confirm the revised site, date and time of their appointment.

- Contact is being made in date order, with soonest appointments first. The service are maintaining a log of patients contacted on a daily basis. Contact will continue over the weekend.

- Volumes of patients affected are as follows: Paediatrics: 1800 outpatients, 169 inpatient/day cases; DCN: 666 outpatients, 11 inpatient/day cases; Radiology – 692 cases.

- The Board will have a vehicle based at the new site 24/7 from Monday (note: patients were not proposed to move until next Tuesday). NHS Lothian will have a staffed presence at the car parks to assist patients and visitors to ensure they are appropriately directed to clinical/medical services.

- There will be a minimum of two vehicles available to ensure easy access should transfer across town be necessary. The Board are preparing to have clinical support to ensure assistance for patients if required. As a further precaution, NHS Lothian will have access to a disabled capability taxi and this would be used in the event of any difficulties with access. Should any patient attend the new site for an appointment they will still be seen at the existing site even if later than the scheduled time.

Update on the work required

- My officials received a proposal from NSS which is being reviewed by officials. There is an initial estimate that a comprehensive review of the new site could take as long as four months to complete. Malcolm Wright has spoken to the Chief executive of NSS on Friday afternoon with a view to setting a speedier timeframe. If this involves additional resources we will ensure this is made available.

- The revised migration plan needs to be reviewed by HFS/HPS to ensure it can be actioned safely. RCPH also keen to avoid any two-site working in new migration plans as they feel that this may lead to confusion for staff and public.

- However, there is probably a good clinical case to prioritise migration of the Department of Clinical Neurosciences (DCN) in advance of other services. Delay to the migration of DCN services is not felt to be risk free; the fabric of the unit is poor and there have been increased pseudomonas infections; angiography equipment is aged too. The reduced occupancy associated with transfer of DCN would have allowed remedial work in the ITU normally used by DCN where a recent pseudomonas HAI was diagnosed, but this can no longer take place. There would be some short term need for augmentation of anaesthetic rotas should DCN move in advance of Children's Hospital services but this would not be insurmountable.

- I am keen that we along with NHS Lothian carry out a prioritisation exercise on which services should move as part of a phased approach and over what timeframe. HFS/HPS as part of their review would focus on these services in the first instance. We would also look to Scottish Government clinical experts including CMO and CNO to provide me with professional advice when it comes to signing off any decisions. Malcolm Wright has spoken with the Chief Executive of NHS Lothian on Friday afternoon where they discussed the beginning of a migration plan for the hospital which continues to prioritise on Patient safety

- Work is underway with regards to the ventilation issues I have asked that an update on the detail and timescale for early next week.

- The audit of the governance arrangements would be best undertaken by one of the accountancy firms with a good internal audit team, with HFS/HPS alongside. We will ensure where possible that the external company is not one used by NHSL as internal or external auditors.

- All Health Board Chief Executives were sent a letter by then DG Health & Social Care (Paul Gray) on 25 January (copied to and Directors of Estates) as a result of the initial QEUH investigations. The letter sought assurance that a number of specific controls were in place and working effectively, including: "All critical ventilation systems inspected and maintained in line with *Scottish Health Technical Memorandum 03-01: Ventilation for healthcare premises*."

- HFS co-ordinated the Board responses and a summary paper from 1 February indicates NHS Lothian responded that they were compliant (This response is attached for information).

Media

I have undertaken a number of media bids today with BBC and STV and overall today's media appears to be taking our lines and key messages. However the critical next steps are to ensure consistency of message and we will be mindful of that.

Role of HFS in all future builds for NHS Facilities

- My officials have today received a proposal from NSS which is currently being reviewed. There will be resource/capacity implications to consider for this and the other Sick Kids' reviews, given existing commitments to QEUH review, etc.

Response from Clinical professionals

- NHS Lothian MD Tracey Gillies briefed her AMDs this morning. Staff reported to be disappointed to hear news from sources other than NHS Lothian but want what's best for patients. It's felt to be unlikely that there will be any significant reaction to the news of delay.On RCPH, Gregor Smith spoke to College last night; appreciative of the heads up and able to let office bearers know in advance of news release. Good follow-up conversation with their CEO this morning; their position is that safety must always come first. As noted above, keen to avoid any two-site working in new migration plans as they feel that this will lead to confusion for staff and public alike.

- Diane Murray will closely engage with the RCN to understand their position.

Next Steps

- The Scottish Government has John Connaghan, Chief Performance Officer as on call Director who will chair a resilience call of relevant officials on Saturday the 6th July. NHS Lothian have ensured senior Director cover is provided for the weekend Jacquie Campbell, Chief Officer Acute and Alex McMahon, Nurse Director will be on call to support my officials.

- The Director General and I will discuss the position on Sunday the 7th of July.

- Malcolm Wright will meet with Tim Davison on Monday 8 July to receive an update on the boards submission of proposals to implement the move to the new hospital.

- Tim Davison has confirmed to Malcolm Wright on the afternoon of the 5th of July in a phone call that Lothian will introduce an Incident Management Team chaired by Susan Goldsmith, that will act in conduit with the Incident Management Team held within The Scottish Government chaired by Christine McLaughlin, Chief Finance Officer of NHS Scotland.

In the coming week I am considering visiting the existing site to speak with staff directly. However I am mindful of the need to provide them with more information than they currently have and so will consider timing when I have a clearer picture on the HFS/HPS work in relation to safety and standard compliance across the new hospital site and the link with a migration plan.

I hope this is helpful and will continue to provide you with updates as we make progress.

Cabinet Secretary for Health and Sport
5 July 2019

From: Rae, Janette
Sent: 05 July 2019 14:03
To: Cameron, Fiona; Guthrie, Lindsay
Subject: Ventilation infomation.
Attachments: 2019 07 04 Ventialtion SBAR for information re new build.docx

Dear Both,
Just a wee note re my recollections of everything. I can not ever say that I was asked to or gave any advise re the Critical care area if this is the issue that this all relates to as this in what is in the public domain. The SHTM and HTM 03-01 have tables re airchanges as you know but I wonder if in raltion to Critical Care some review of the SCBU needs done too?
If however it relates to gases in pendants at the bed sides for induction etc there are comments about this in the CT scanner issue.
I have saved this in the shared drive folder mentioned in SBAR Q:\IPCT Geographical\jrfoi

Regards
Janette

Janette Rae
Bank IPCN
NHS Lothian Infection Prevention & Control Services

For more information visit the IPCT Intranet Homepage

Situation
05/07/19 Contacted by Fiona Cameron Head of Service IPCT, with request for SBAR re communication and input re ventilation services at new Royal Hospital for Children and Young People and Department of Clinical Neurosciences.

Background
This hospital was to be opened 09/07/19, with a Lothian wide schedule of moves presented to the public, however this is no longer the case. A statement by the Health Secretary Jeane Freeman 04/07/19, has stated that the new hospital will not open. This appears to be in light of final safety checks revealing that the ventilation system within the critical care department in the new hospital requires further work to meet national standards.

Assessment

Embedded in this document is information that has previously been presented in view of ventilation concerns in areas of the new hospital where the HAISCRIBE IPCN had involvement. This includes isolation rooms and CT scanner induction and process areas.

2016 09 16 Ventilation RHSC DCN

2016 Ct ventilation 2.docx

2016 Ct ventilation 2 EO comments.docx

VENTILATION MEETING 0916.pdf

VENTILATION MEETING 1116.pdf

Further information in regards to various emails and other issues that were to be highlighted and part of a freedom of information issue are available at

Q:\IPCT Geographical\jrfoi emails etc

Other than the information above Donald Inverarity, Ewan Olson and Pota Kalima all Microbiologists Consultants with IPC responsibilities have advised at various times. There has been communication with Jackie Sansbury, Commissioning Manager, re having independent review of ventilation systems with reports to be given to Donald Inverarity and or Pota Kalima prior to the accepting of the new build by NHS Lothian.

Communication has been carried out with HFS, Ian Storrar, Geraldine O'Brien and Susan Grant as required. Ronnie Henderson NHSL Estates has also been involved along with comments from John Reiner NHS (AE Ventilation) and Colin Macrae (Motts MacDonald)

Recommendation

This information is to remain confidential.

Janette Richards HAISCRIBE Bank Nurse (IPCN)

Primary Distribution Group:

- Fiona Cameron Head of Service IPCT
- Lindsay Guthrie Lead IPCN

From: Inverarity, Donald
Sent: 05 July 2019 14:28
To: Gillies, Tracey; Guthrie, Lindsay; Curley, George
Subject: RE:

Thanks. Looks measured and addresses the points we covered. One typo spotted and highlighted below in green.
All the best
Donald

From: Gillies, Tracey
Sent: 05 July 2019 14:16
To: Inverarity, Donald; Guthrie, Lindsay; Curley, George
Subject:

You are aware of the material concern we raised to you on Tuesday 2nd July regarding the shortfall in the standard of air changes provided in paediatric critical care areas and that this was the reason why we did not believe we could provide safe patient care in this environment, even with an interim solution.
We have been working through issues relating to the remainder of the building with work as set out below and are not aware of any other issue of sufficient magnitude to prevent the building being occupied. In summary of the current work:

- Ventilation: we commissioned IOM, an independent validator of ventilation systems in the light of the issues regarding ventilation that formed the basis of the supplementary agreement and they have been on site working through these. Other than these agreements, the building is expected to meet the standards of SHTM-03-01a. Ordinarily this testing would have been undertaken ahead of the clinical commissioning but the delays in building completion resulted in us agreeing to do this in parallel. The following areas have ongoing work:
    - Ventilation in 10 theatres, a detailed technical assurance matrix of measurements of the ventilation has been requested for each theatre. In the light of the issues identified by IOM, engineers have been working to rectify these issues and provide the level of assurance required that each theatre is delivering against the design parameters.
    - Isolation rooms- again, a detailed technical assurance document is expected for each of these, rather than the more normal verbal assurance of the independent validator
    - An issue was identified in 2016 relating to the number of air changes in the CT scanning suite in DCN – it was identified that the design was for 10 air changes where 15 are set out in the SHTM, and the design was rectified, IOM will be asked to validate that these are being delivered.
- Water quality: the assurance sampling for commissioning purposes has passed but we are in the process of implementing the HPS guidance for regular testing in augmented care areas. The samples are not yet all returned, but in line with other areas, we anticipate that control and remedial measures will be required over time to maintain water quality standards to the guidance for augmented care areas
- Legacy issue relating to flooding: this is on the risk register as a residual risk of fungus and mould growth, it was discussed in June by the IPCT and agreed that nay inspection at this stage was premature as any visual evidence would not be manifest for some months. However an ongoing programme of visual inspection has been agreed

---

From: Guthrie, Lindsay
Sent: 05 July 2019 15:01
To: Inverarity, Donald; Gillies, Tracey; Curley, George
Subject: RE:

I am a bit uncomfortable to say that the water sampling passed or imply that commissioning was fully in line with the SHTM?

Sampling was completed but not under our direct supervision.

(SHTM04-01 section 17.9 *After disinfection, microbiological tests for bacteria colony counts at 37°C and coliform bacteria, including Escherichia coli, should be carried out under the supervision of the infection prevention control team to establish that the work has been satisfactorily completed. Water samples should be taken from selected areas within the distribution system. The system should not be brought into service until the infection control team certifies that the water is of potable quality.*)

From: Inverarity, Donald
Sent: 05 July 2019 14:28
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Subject: RE:

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  - Ventilation in 10 theatres, a detailed technical assurance matrix of measurements of the ventilation has been requested for each theatre. In the light of the issues identified by IOM, engineers have been working to rectify these issues and provide the level of assurance required that each theatre is delivering against the design parameters.
  - Isolation rooms- again, a detailed technical assurance document is expected for each of these, rather than the more normal verbal assurance of the independent validator
  - An issue was identified in 2016 relating to the number of air changes in the CT scanning suite in DCN – it was identified that the design was for 10 air changes where 15 are set out in the SHTM, and the design was rectified, IOM will be asked to validate that these are being delivered.

- Water quality: water sampling was completed as part of commissioning as per SHTm03-01, and ~~the assurance sampling for commissioning purposes has passed but~~ we are in the process of implementing the HPS interim guidance for regular testing in augmented care areas. The samples are not yet all returned, but in line with other areas, we anticipate that control and remedial measures will be required over time to maintain water quality standards to the guidance for augmented care areas
- Legacy issue relating to flooding: this is on the risk register as a residual risk of fungus and mould growth, it was discussed in June by the IPCT and agreed that nay inspection at this stage was premature as any visual evidence would not be manifest for some months. However an ongoing programme of visual inspection has been agreed

Services Report P2739
Date of Survey 1st July 2019

Ventilation Validation

Neonatal Unit & Isolation Suite-
Main area rooms
(1-B1-065)
(1-B1-075)
(Isolation)

Royal Hospital for Children and Young People and Department of Clinical Neurosciences

REPORT TO CLIENT

VENTILATION VALIDATION

NEONATAL UNIT & ISOLATION ROOM
MAIN AREA ROOMS (1-B1-065) (1-B1-075)

ON BEHALF OF

NHS LOTHIAN
ROYAL HOSPITAL FOR CHILDREN AND YOUNG PEOPLE AND DEPARTMENT OF CLINICAL NEUROSCIENCES.
LITTLE FRANCE CRESCENT
EDINBURGH
EH16 4TJ

REPORT NUMBER: P2739

REPORT ISSUED: 8TH NOVEMBER 2019

VERSION: FINAL REPORT

RE-VERIFICATION FREQUENCY – ANNUALLY

Report prepared for: Ronnie Henderson

Validation carried out by: Paul Jameson
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Authorised by:

....
Jeremy Slann BSc (Hons) CEng CMIOSH MIMMM FIHEEM
Director of Occupational Hygiene Services and Healthcare Ventilation
IOM Consulting Ltd.

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EXECUTIVE SUMMARY

SHTM 03-01 requires that critical ventilation systems are validated against design/SHTM standards and that any inability to achieve the recommended standards is classed as a failure. It is not in the remit of a verification company to state whether an isolation suite is fit for use. Rather, this is a judgement for the client and/or clinical department to make, given their knowledge of the particular clinical procedures to be carried out.

This summary highlights where standards have or have not been achieved and is expanded upon in the relevant "Results" sections.

Air Change Rates

NNU:	***did not meet recommendations***
Isolation Room Supply:	***did not meet recommendations***
Isolation Room Extract:	***did not meet recommendations***

Pressure Differentials

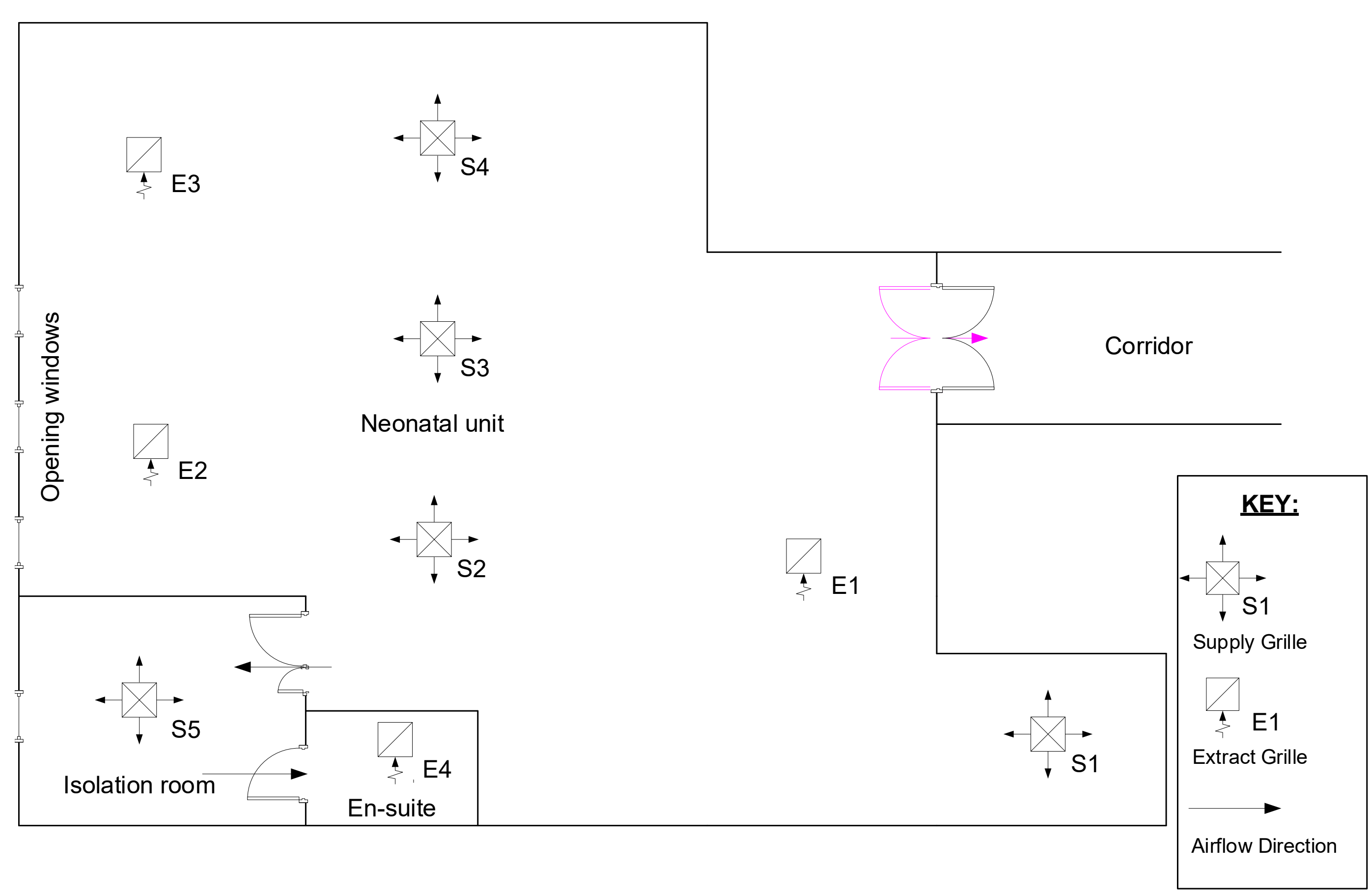
NNU:	***did not meet recommendations***
Isolation Room:	***did not meet recommendations***

Noise Levels

NNU:	***did not meet recommendations***
Isolation Room:	***acceptable***

SCHEMATIC DIAGRAM

(not to scale)



INTRODUCTION

IOM Consulting Ltd. was requested to undertake the validation of this Neonatal Suite as required by Healthcare Facilities Scotland; Scottish Health Technical Memorandum 03-01 (SHTM 03-01) - Ventilation for Healthcare Premises.

1 PROCEDURES - Summary

The parameters for the rooms taken from table 1, page 8 and Appendix II of HBN 4 supplement 1, are as follows:-

- Nominal 10 Pascal pressure differential between lobby and corridor (8 accepted minimum – Appendix II)
- 10 AC/hr minimum extracted airflow from isolation room.
- Noise levels at or below 35 dBA (This is a requirement of SHTM 03-01) for ward areas

The following tests are carried out:

- Airflow measurements at supply and extract grilles throughout the suite
- Calculation of hourly air change rates
- Pressure differential measurements throughout the suite
- Noise level measurements as appropriate

A full description of procedures can be found in Appendix 2.

Equipment used:-

Instrument	Manufacturer	Serial number
Balometer	TSI	PH 7311922002
Micromanometer	DPM	8176
Integrated noise meter	CEL	00680931
Noise Calibrator		117453

2 RESULTS

Test criteria: SHTM 03-01 gives recommended minimum quantities of fresh air to be supplied to or extracted from locations in the Critical care areas.

2.1 AIRFLOW VOLUMES

Supply Grilles

NNU

Grille Number/ Location	Measured airflow l/s
S1 / NNU	36
S2 / NNU	29
S3 / NNU	36
S4 / NNU	42
NNU Total	**143**

ISOLATION ROOM

Grille Number/ Location	Measured airflow l/s
S5 / Isolation Room	36

.

Extract Grilles

NNU

Grille Number/ Location	Measured airflow l/s
E1 / NNU	11
E2 / NNU	19
E3 / NNU	19
ITU Total	**49**

ISOLATION ROOM

Grille Number/ Location	Measured airflow l/s
E4 / En suite	27

2.2 AIR CHANGE RATES

Test criteria: SHTM 03-01 recommends air change rates per hour (AC/hr) for the Critical Care Area and Isolation Rooms. The AC/hr is determined by dividing the supply or extract airflow rate per hour by the room volume.

Room	Room Volume m^3	Measured AC/hr	SHTM 03-01 recommended AC/hr
Neonatal unit (NNU)	121.3	4.2 (S)	10
Isolation Room	41.0	3.2 (S)	10

(S) = supply, (E) = extract

2.2.1 Conclusions

NNU supply air change rate **did not meet** the recommendations.

Isolation Room supply air change rate **did not meet** the recommendations.

2.2.2 Recommendations

Increase supply airflow to meet recommendations.

2.3 PRESSURE DIFFERENTIALS

Test criteria: For design calculations, SHTM 03-01 gives nominal room pressure values, the purpose of which is to maintain a hierarchy of cleanliness within the theatre suite by creating an airflow cascade from clean to less clean rooms. From these values, nominal differential pressures between the rooms can be derived.

Measurement Location	Measured Pressure Differential (Pa)	SHTM 03-01 Pressure Differential (Pa)
NNU WRT external corridor	4.3	+10
Isolation Room WRT NNU	-2.3	Negative*
En-suite WRT isolation room	-1.6	Negative

*The isolation room should ideally be at 10 Pa negative to the main NNU

2.3.1 Conclusions

The pressure differentials are not sufficient to maintain the hierarchy of cleanliness.

2.3.2 Recommendations

Airflows should be improved to provide the required pressure differentials for the cascade of air within the department.

2.4 NOISE LEVELS

Location	Measured Noise Levels dB(A)	SHTM 03-01 Noise Limits dB(A)
NNU	40.0	35
Isolation room	36.6	35

2.4.1 Conclusions

NNU noise level was **above** the recommended limit.

Isolation room noise level was **practically within** the recommended limit.

2.4.2 Recommendations

For excess noise up to + 2 dB(A): SHTM 08-01 (Acoustic Guidance), chapter 7, states: "An acoustic specialist representing interested parties may decide to allow small individual failures, and this will depend on individual circumstances. Generally, 1 dB or 2 dB is considered negligible in acoustic terms, as this difference is undetectable to normal human hearing. However, this does not justify planned under-design of the building."

The noise levels may be deemed detrimental to the running of the theatre suite if they interfere with the communication and concentration of the theatre staff. It may be necessary to reduce the noise levels where there is reported to be a problem.
The noise levels do not present a risk of noise induced hearing damage.

APPENDIX 1 – PROCEDURES - Detailed

Grille Airflow Volume Measurements
Airflow measurements at supply and extract grilles are determined using an electronic balometer. The balometer incorporates a measuring grid connected to a micromanometer and has an air capture hood which fits over the grille. The hood captures all of the air supplied or extracted by the grille and displays the volume of air flowing. Automatic compensation is provided to allow for the balometer's resistance to airflow (back-pressure compensation).

Each grille is measured in turn and the airflow volume recorded in l/s.

Air Change Rates
The room supply/extract volumes are converted from l/s to m^3/hour and divided by the relevant room volume. This gives the number of air changes per hour (AC/hr) for each room.
HBN4, supp1 states that the air change rate within the isolation room is calculated from the sum total of the extract airflow from both isolation room and bathroom. The room volume is that of the isolation room only.

Pressure Differential Measurements
Pressure differentials in Pascals (Pa) are determined using a micromanometer. In order to measure the pressure across the doors a pitot tube is passed through the gap between or under the doors. This ensures the flexible tube is not trapped which can cause an incorrect reading.

Each pressure differential is measured in turn and the pressure recorded.

An assessment is made of the accuracy of the magnehelic gauge displaying the pressure differential between the lobby and corridor.

Noise Measurements
SHTM 03-01 requires noise levels to be tested using a Type 2 noise meter. For the avoidance of disputes, IOM uses Type 1 noise meters as they have a higher level of accuracy.

Although it is the noise level produced by the ventilation system that is being measured, equipment in the rooms or activity outside the rooms may increase sound levels thus rendering noise readings meaningless in relation to the ventilation system.

On occasion there is too much background noise from equipment within the room to accurately measure the ventilation noise level alone. This is recorded as ‘Excessive Background Noise’.

APPENDIX 2 – CALIBRATION CERTIFICATES

From: Gillies, Tracey
Sent: 06 July 2019 00:37
To: Campbell, Jacquie; McMahon, Alex
Cc: Executive, Chief
Subject: Re: RHCYP + DCN - Little France - Bed Configuration

Who is on an 11 am call tomorrow?
It looks very much as if this is a witch hunt. I am very clear about what we knew when and I agree, there.
Seems to be a failure to understand the differences between theatre and Critical care
If the 11 am call is with SG I suggest a planning 5 min call beforehand may be useful

Sent from my BlackBerry 10 smartphone on the EE network.

From: Campbell, Jacquie
Sent: Friday, 5 July 2019 22:31
To: McMahon, Alex; Gillies, Tracey
Cc: Executive, Chief
Subject: RE: RHCYP + DCN - Little France - Bed Configuration

I don't sorry
Jacquie

Sent with BlackBerry Work (www.blackberry.com)

From: "McMahon, Alex" [redacted]
Sent: 5 Jul 2019 22:28
To: "Campbell, Jacquie" [redacted]; "Gillies, Tracey" [redacted]
Cc: "Executive, Chief" [redacted]>
Subject: Re: RHCYP + DCN - Little France - Bed Configuration

Thanks Jacquie. Quite a lot to try and digest but with regards to the very last para below from Brian when was this discussed and agreed, do we know?

Sent from my BlackBerry 10 smartphone on the EE network.

From: Campbell, Jacquie
Sent: Friday, 5 July 2019 10:14 PM
To: McMahon, Alex; Gillies, Tracey
Cc: Executive, Chief
Subject: FW: RHCYP + DCN - Little France - Bed Configuration

Tracey and Alex I had asked Brian to share what info he had to help me understand how the critical care beds were derogated - this is what was sent . apologies realise I have not shared with you

Tim you have this already

Jacquie

From: Currie, Brian
Sent: 03 July 2019 10:36
To: Campbell, Jacquie
Subject: RHCYP + DCN - Little France - Bed Configuration
Importance: High

Jacquie

Please find attached a summary of bed configuration and risk assessment undertaken in relation to the four bedded rooms derogation.

The reasons for the derogation as follows:

The 20 x 4 bedded rooms were originally designed to 4 ac/hr positive pressure. The Board noted this was non-compliant with SHTM 03-01 as it did not allow for the cohort of patients with the same air-borne infections.

As the design and construction had progressed to a level that was challenging to alter, a risk assessment was undertaken for the 4 bedded rooms to clarify those room that were essential to change to negative / balanced pressure regime.

The Board have previously accepted that there is no need for cohorting of patients within DCN as they can operationally manage this due to the number of single rooms and types of patients and the need for cohorting of infectious patients would be extremely rare (2 of the 20).

The Board reviewed the number of 4 bedded rooms in the Children's service where the ventilation could remain at positive pressure (4 of the 20).

A further review was undertaken with the Children's CMT in January 2018 of the initial risk assessment completed in July 2017 to ascertain what 4 bedded rooms would be essential. Individual risk assessments have identified that the need for cohorting of patients was only an issue for the Children's Service and therefore balanced / negative pressure was required (14 of the 20).

The risk assessments were discussed with the Children's CMT and Infection Control & Prevention who confirmed that not having the ability to cohort patients was not acceptable from a patient safety perspective.

Regards

Brian

Brian Currie
Project Director - NHS Lothian
RHCYP + DCN
4th Floor Management Suite
Little France Crescent
Edinburgh
EH16 4TJ

PROUD HISTORIES
NEW CHAPTERS

From: Graham, Iain
Sent: 06 July 2019 10:23
To: McMahon, Alex; Gillies, Tracey; Currie, Brian
Cc: Campbell, Jacquie; Goldsmith, Susan
Subject: RE: Critical Care Ventilation

Apologies.

I was not in the country on 28th! so was trying to piece together for internal review.

Clearly it is important for everyone's input to get the facts.

Iain

Iain F Graham
Director of Capital Planning and Projects, NHS Lothian
mobile

From: "McMahon, Alex"
Sent: 6 Jul 2019 09:54
To: "Gillies, Tracey" ; "Graham, Iain" ; "Currie, Brian"
Cc: "Campbell, Jacquie" ; "Goldsmith, Susan"
Subject: Re: Critical Care Ventilation

Tracey and Iain

I would have to concur with Tracey's description below. From my memory we certainly touched on water but the main focus of the brief discussion that we had and what was being discussed was DCN and paediatric theatre ventilation. I wasn't at the Monday afternoon mtg but it does appear that that is when the key information re critical care theatres emerged. And escalated from there.

Sent from my BlackBerry 10 smartphone on the EE network.

From: Gillies, Tracey
Sent: Saturday, 6 July 2019 9:49 AM
To: Graham, Iain; McMahon, Alex; Currie, Brian
Cc: Campbell, Jacquie; Goldsmith, Susan
Subject: Re: Critical Care Ventilation

Iain,
There is an important difference in my understanding - at the meeting on Friday 28 we discussed water quality and then ventilation. At that meeting an email and details of each theatre was tabled. Although testing work was described as ongoing, I do not recall any mention of 4 not 10. Given that this was clearly identified on Monday as a showstopper and that this is at the very heart of the matter, I need to be clear that I do not believe that 4 not 10 was said on the Friday.
It would helpful to know what Susan and Alex remember

From: Graham, Iain

Sent: Saturday, 6 July 2019 09:39
To: McMahon, Alex; Currie, Brian
Cc: Campbell, Jacquie; Gillies, Tracey; Goldsmith, Susan
Subject: RE: Critical Care Ventilation

Further to the calls this morning, I have spoken with Brian about the timeline and details known to us. As you know a number of us have been or are currently on leave so further inputs will be obtained next week.

1. This was a dynamic situation because, as all will be aware, the Settlement Agreement set a completion criteria which required ongoing construction work by Multiplex and their supply chain at the same time as NHS Lothian was commissioning. This was to drive the earliest possible operational date given the unacceptable delay that had arisen.
2. This therefore required that areas of construction were spread across departments as individual elements of rectification works were completed. The contractor, project team / commissioning teams, our equipment suppliers, and "testers" required to work to a flexible timings for space being handed over as "finally complete".
3. The "Independent Tester" under the Project Agreement signed off the building as compliant against the contract (as amended by the Settlement Agreement) in February. This allowed for the Settlement Agreement works to progress. As part of those works, the IT will sign off those stages identified in the Settlement Agreement.
4. The "normal" order of this type of project commissioning, envisaged by the contract originally is along the lines of:
    a. Construction completed in line with contract terms (design, construction, timeline and cost). This includes commissioning of the systems (e.g. ventilation, electrics, door systems
    b. Construction clean
    c. Independent Tester signs off for the benefit of IHSL,(with Multiplex, BYES and Funders) and NHSL.
    d. NHSL take possession and commence payment of Unitary Charge; Helpdesk operational for reporting
    e. NHSL equipping and commissioning commences – includes IT, equipment in clinical and support areas etc.
    f. NHSL staff familiarisation
    g. NHSL clinical clean
    h. NHSL testing of air quality etc (Infection Control / Microbiology), fire systems and training, etc.
    i. NHSL detailed department training on site
    j. NHSL stocking of wards, etc.
    k. NHSL migration of services and service operations commence.
5. A number of these activities overlap under the Settlement Agreement in order to achieve the earliest operational date.

In relation to critical care, theatres (and other areas), there were overlaps and different timelines as Multiplex works were completed – i.e. not all done to the timeline as exactly envisaged which meant activities were re-sequenced and / or NHSL delayed.

NHSL appointed IOM to provide additional assurance by testing the completed system commissioning undertaken by Multiplex. They are familiar with Healthcare design and technical standards. This is done room by room, area by area, and involves multiple technical tests. If something is adjusted in the "underlying system" elsewhere (e.g. by Multiplex) then the tests MAY need to be redone, revalidated, etc. The output will be a report across all tests and spaces tested. However, because of the dynamic position, verbal reports have been provided by the lead IOM engineer, Paul Jameson including participation in all the twice daily progress meetings (NHSL, IHSL, MPX, IOM).

On 24th June a verbal update in a progress type meeting involving the project team from NHSL was provided by IOM that some bad results in some critical care were being obtained, namely not getting to 10 Air Changes per hour (ACH). This was the initial red flag but testing and works were ongoing.

Over the course of the week further testing was undertaken and on Friday 28 June at a regular Steering Group meeting with Brian, Susan, IHSL and Multiplex this was flagged as an issue of compliance. This resulted in establishment of Executive Directors managed twice daily meetings from Monday 1st July.

From Monday 1st July the focus switched to potential temporary and permanent solutions that would allow for the operational timeline to be achieved. At the same time, Multiplex were still completing works to Theatres and seeking to ensure that the environmental issues in those areas met requirements. Over the course of the week, these results were being achieved. And over the latter part of the week, those areas were available for the NHSL clinical clean and subsequent activities.

On this date the Executive Director escalation and briefings commenced.

The critical care areas should be at 10 ACH per SHTM guidance, and this is what IOM identified. The working assumption from all on the project team was that the SHTM 03 requirements for Critical Care were being delivered by Multiplex as variation to that had not been flagged.

IOM have brought in more resources to support the preparation of reports in parallel with the testing regime. At present we have letters of comfort confirming compliance of the spaces handed over to NHSL (theatres in particular) but not yet the detailed "numbers" for further analysis. It is these reports which are being worked on.

[contractually IHSL / Multiplex, however, have delivered to a lower specification due to a derogation in the Settlement Agreement aimed at other general in patient spaces, but did cover some in Critical Care. Investigations on this are still ongoing]

I hope this clarifies and assists.

Iain

Iain F Graham
Director of Capital Planning and Projects
NHS Lothian
Waverley Gate
2-4 Waterloo Place
Edinburgh
EH1 3EG

From: McMahon, Alex
Sent: 06 July 2019 07:36
To: Currie, Brian; Graham, Iain
Cc: Campbell, Jacquie; Gillies, Tracey
Subject: Critical Care Ventilation

Hood morning both

Tim and I have just had a quick call. We have a teleconference at 11 am this morning. One of the questions that John Connaghan needs answered today is:

Re critical care ventilation when was the actual test done? Who was it reported to and when? When was that escalated and to whom at 'Board ' level?

If one or other of you can provide this by email that would be helpful or phone me ( ). It may also be that we will need one of you on the teleconference at 11. If so the numbers to call are:

Details for the dial in are:

Sent from my BlackBerry 10 smartphone on the EE network.

From: Gillies, Tracey
Sent: 07 July 2019 21:11
To: McMahon, Alex
Subject: Re: RHC&Y/DCN Weekend Teleconferences

Yes agree

Sent from my BlackBerry 10 smartphone on the EE network.

From: McMahon, Alex
Sent: Sunday, 7 July 2019 20:30
To: Gillies, Tracey
Subject: Re: RHC&Y/DCN Weekend Teleconferences

I genuinely don't remember it being discussed in the brief meeting we were in in the morning. The focus was very much theatres and that was certainly what information was tabled by Ronnie. We need to draw a line with this tomorrow at the IMT.

We have CMT so we won't be able to dial into the 12 noon teleconference. I think the should go ahead and bring a report to the IMT at 4?

Alex

Sent from my BlackBerry 10 smartphone on the EE network.

From: Gillies, Tracey
Sent: Sunday, 7 July 2019 8:23 PM
To: McMahon, Alex
Subject: Re: RHC&Y/DCN Weekend Teleconferences

I see Brian is still maintaining it was discussed on 28th

Sent from my BlackBerry 10 smartphone on the EE network.

From: McMahon, Alex
Sent: Sunday, 7 July 2019 16:41
To: Goldsmith, Susan; Executive, Chief; Graham, Iain; Currie, Brian; Gillies, Tracey; Campbell, Jacquie;
Subject: FW: RHC&Y/DCN Weekend Teleconferences

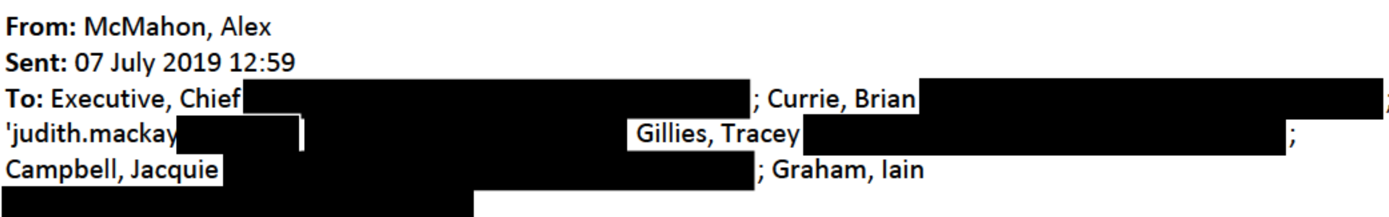
Hopefully with Susan successfully copied in this time!

Alex

From: McMahon, Alex
Sent: 07 July 2019 16:39
To: Executive, Chief ; Currie, Brian ; ; Gillies, Tracey ; Campbell, Jacquie ; Graham, Iain
Cc:
Subject: RE: RHC&Y/DCN Weekend Teleconferences

Relevant information that I couldn't attach to this note earlier but would be good to have with this note as part of our records.

Alex



From: McMahon, Alex
Sent: 07 July 2019 12:59
To: Executive, Chief ; Currie, Brian ; 'judith.mackay Gillies, Tracey ; Campbell, Jacquie ; Graham, Iain
Subject: RHC&Y/DCN Weekend Teleconferences

I can't append all attachments as I am having IT issues but please accept this note in the meantime. Can someone also send to Susan and copy me in as I can't seem to send to her either!

Teleconference 6th July at 11am

SG colleagues included John Connaghan, Shirley Rodgers, Carmel Sheriff, Gillian Provan
NHS Lothian colleagues Tracey Gillies, Jacquie Campbell and Alex McMahon

Discussion covered:
Patient contact re booking for pts for paediatrics, DCN and radiology. Numbers given where based on contacts made on the 5th July. (attached)

NHS 24 Helpline contacts. Numbers given where based on the previous days activity.

Any issues re transport from the new hospital if patients arrived there. JC provided a description of the transport arrangements in place from Monday 8th July.

Ventilation, discussion re the timeline and when the concern re critical care ventilation was escalated to NHS L executives. AMcM talked through the timeline form the 24th June to the 2nd July. JV asked about testing that was done previous to the 24th June and where and when this was reported. After the teleconference BC was able to provide a timeline of work done from 20-21st June and what te output of those tests where. This time line plus the report provided on the 25th June where provided to SG colleagues by BC in the afternoon after the teleconference.

Any staffing issues were discussed and non reported by JC.

A case of a child was raised by SR from press coverage. TG followed this case up. Nil to report afterwards.

SG colleagues asked for feedback re what was going well. JC described the resilience of staff and work being undertake with Staff Side partnership and a joint meeting with Staff Side on Monday 8th July.

AMcM confirmed that an NHS Lothian IMT was scheduled for Monday at 4pm and we would be reviewing all of the above. JC asked about a migration plan again it was stressed that this was being discussed and would be discussed more fully and that HPS and HFS would be involved.

Teleconference Sunday 7th July at 11am
SG colleagues included John Connaghan, Shirley Rodgers, Diane Murray, Gregor Smith and a colleague from Comms (Lesley?)
NHS Lothian colleagues included Tim Davison, Tracey Gillies, Judith Mackay, Jacquie Campbell, Brian Currie, Iain Graham and Alex McMahon

Discussion covered:

Update on the patient contacts for paediatrics, DCN and radiology. JC stated that there was no change from the update on the teleconference the previous day but there would be a further update on Monday 8th July.

NHS 24, there had only be one further update to the contacts made. Nothing of concern raised,

Migration plans were discussed again and it was reinforced that these were being picked up and that JC and AMcM would work with the teams to review what plans could come forward and also how best to include HFS and HPS in that process. This would be picked up at the NHS Lothian IMT on Monday 8th July at 4pm.

Timelines around the critical care ventilation results and further assurance for the Cabinet Secretary re the assurance she had given were required. TD was to discuss with Malcolm Wright at his 1:1 on Monday 8th July and this would also be picked up.

In reference to the report that BC had provided to SG colleagues yesterday afternoon re the list of issues that still required to have work done JC asked if there were any other issues of materiality that needed to be addressed i.e. ventilation in general wards and wiring. BC provided an update but it was agreed that TD would provide Malcolm Wright with a written report after the NHS Lothian IMT at 4pm on Monday 8th July.

AMcM
7th July 19

From: McMahon, Alex
Sent: 06 July 2019 13:34
To: J ; Executive, Chief; Gillies, Tracey; Campbell, Jacquie; Currie, Brian; Graham, Iain; Goldsmith, Susan
Subject: Re: NHS Lothian RHC&YP/ DCN - patient contact information and critical care ventilation timelines

Follow Up Flag: Follow up
Due By: 07 July 2019 12:00
Flag Status: Flagged

John, Brian Currie and colleagues are looking to source the information requested this afternoon.

Alex

Sent from my BlackBerry 10 smartphone on the EE network.

From: McMahon, Alex
Sent: Saturday, 6 July 2019 1:22 PM
To: Executive, Chief; Gillies, Tracey; Campbell, Jacquie; Currie, Brian; Graham, Iain; ; Goldsmith, Susan
Subject: Re: NHS Lothian RHC&YP/ DCN - patient contact information and critical care ventilation timelines

I have just sent the report or rather the list by another email. John Brian is copied in and I am about to phone him and seek to get the information requested, if we can.

Alex

Sent from my BlackBerry 10 smartphone on the EE network.

From:
Sent: Saturday, 6 July 2019 1:19 PM
To: McMahon, Alex; Executive, Chief; Gillies, Tracey; Campbell, Jacquie; ; Currie, Brian; Graham, Iain; ; ; Goldsmith, Susan
Subject: RE: NHS Lothian RHC&YP/ DCN - patient contact information and critical care ventilation timelines

Alex
If you have not already had the request from Carmel we need sight of the 25th June report today by 4.00pm.
We really do need the date of the test(s) prior to the 24th June contact with Brian and confirmation that 24th was the first time anyone in NHSL was advised that there was an issue with critical care air changes.
We need this today. Can you ring me in about an hour to tell me what progress you are making.

If you need to contact external providers for that info can you do it now rather than wait till Monday.
Thanks
John

Sent with BlackBerry Work (www.blackberry.com)

From: "McMahon, Alex"
Sent: 6 Jul 2019 13:03
To: "Executive, Chief" ; "Gillies, Tracey"

; "Campbell, Jacquie" ; ; "Currie, Brian" ; "Graham, Iain" ; "Sheriff C (Carmel)" ; "Connaghan J (John) (Health)" ; "Provan G (Gillian)" ; "Goldsmith, Susan"

Subject: Fwd: NHS Lothian RHC&YP/ DCN - patient contact information and critical care ventilation timelines

John and colleagues as discussed this morning attached is patient contact numbers re re-booking patients. We will review this tomorrow morning but unlikely to be any significant change until Monday. Also attached is data from NHS 24 from contacts made yesterday.

In terms of the critical care ventilation issue and the timeline, what I can advise and as discussed using:

24th June Brian Currie, Project Director received notification from IOM

25th June Brian Currie received a report highlighting critical care vent issues amongst a longer list of working requiring to be done. This list was circulated to steering group members for information.

Between 25th and 28th June the project team undertook work to check the information against what had been contractually agreed. No escalation to Executive's took place during this time.

On the 28th June Susan Goldsmith, Tracey Gillies and I attended a meeting with the project team and others but the focus of that meeting was water quality and theatre ventilation. Critical care ventilation wasn't raised as an issue at that meeting.

1st July Brian Currie raised the issue re critical care ventilation with Tracey on the late after noon post a 4.30 teleconference.

Evening of 1st July Tracey emailed Tim Davison and others to flag there was an issue.

Morning and afternoon of 2 July further review and escalation to amongst others Malcolm Wright and John Connaghan at SG.

The issue of the timeline for critical care ventilation testing prior to 24th June I will ask Brian Currie to confirm and let you know if this can be made available today or tomorrow, if not Monday. We can pick this and any other issues up at the 11 am teleconference tomorrow.

Alex

****
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Tha am post-d seo (agus faidhle neo ceanglan còmhla ris) dhan neach neo luchd-ainmichte a-mhàin. Chan eil e ceadaichte a chleachdadh ann an dòigh sam bith, a' toirt a-steach còraichean, foillseachadh neo sgaoileadh, gun chead. Ma 's e is gun d'fhuair sibh seo gun fhiosd', bu choir cur às dhan phost-d agus lethbhreac sam bith air an t-siostam agaibh agus fios a leigeil chun neach a sgaoil am post-d gun dàil.
Dh'fhaodadh gum bi teachdaireachd sam bith bho Riaghaltas na h-Alba air a chlàradh neo air a sgrùdadh airson dearbhadh gu bheil an siostam ag obair gu h-èifeachdach neo airson adhbhar laghail eile. Dh'fhaodadh nach eil beachdan anns a' phost-d seo co-ionann ri beachdan Riaghaltas na h-Alba.
****

From: Currie, Brian
Sent: 07 July 2019 14:29
To: McMahon, Alex; Executive, Chief
Cc: Gillies, Tracey; Campbell, Jacquie; Graham, Iain; 'MACKAY, Judith (NHS LOTHIAN)'
Subject: RE: RHCYP + DCN - Little France - CC Vent periof from 25th to 28th June
Attachments: Record of General Risk Assessment ventilation _combinedrev300118.doc

Alex

The term "Board" is the contractual term for NHSL.

Attached are the clinical risk assessments.

I would need to check with Janice tomorrow for any associated emails she may have.

Brian

From: McMahon, Alex
Sent: 07 July 2019 13:58
To: Currie, Brian; Executive, Chief
Cc: Gillies, Tracey; Campbell, Jacquie; Graham, Iain; 'MACKAY, Judith (NHS LOTHIAN)'
Subject: Re: RHCYP + DCN - Little France - CC Vent periof from 25th to 28th June

Thank you Brian

When you say Board you mean the programme?

Re the last para below when and with whom was this discussed and what was the next set of actions?

Sent from my BlackBerry 10 smartphone on the EE network.

From: Currie, Brian
Sent: Sunday, 7 July 2019 1:04 PM
To: Executive, Chief; McMahon, Alex
Cc: Gillies, Tracey; Campbell, Jacquie; Graham, Iain; 'MACKAY, Judith (NHS LOTHIAN)'
Subject: RE: RHCYP + DCN - Little France - CC Vent periof from 25th to 28th June

The period in question was taken up with the activities I listed below involving, as best as I can recall, myself, Ronnie Henderson (Hard FM Commissioning Manager), Graeme Greer (Mott MacDonald, out technical adviser) and Paul Jameson from IOM.

The issues log was received from IOM at 09.56am on the 25th and I issued it to the members of the Steering Group at 10.38am for discussion at their forthcoming meeting or before.

It took until Monday 1st July for a view to form, having exhausted our enquiries that the measurements were sound, an immediate quick fix was not there and that there was indeed ambiguity regarding the contractual position that it was a show stopper. My recollection is that infection control's input was also influential as we neared the end of that period. Tracey will confirm but I recall it was discussed late on Friday 28th where we agreed to review it on Monday 1st.

The reasons for the derogation as follows:

The 20 x 4 bedded rooms were originally designed to 4 ac/hr positive pressure. The Board noted this was non-compliant with SHTM 03-01 as it did not allow for the cohort of patients with the same air-borne infections.

As the design and construction had progressed to a level that was challenging to alter (MPX refused to redesign and reinstall), a risk assessment was undertaken for the 4 bedded rooms to clarify those rooms that were essential to change to negative / balanced pressure regime.

The Board have previously accepted that there is no need for cohorting of patients within DCN as they can operationally manage this due to the number of single rooms and types of patients and the need for cohorting of infectious patients would be extremely rare (2 of the 20).

The Board reviewed the number of 4 bedded rooms in the Children's service where the ventilation could remain at positive pressure (4 of the 20).

A further review was undertaken with the Children's CMT in January 2018 of the initial risk assessment completed in July 2017 to ascertain what 4 bedded rooms would be essential for cohorting. Individual risk assessments have identified that the need for cohorting of patients was only an issue for the Children's Service and therefore balanced / negative pressure was required (14 of the 20).

The risk assessments were discussed with the Children's CMT and Infection Control & Prevention who confirmed that not having the ability to cohort patients was not acceptable from a patient safety perspective.

From: Executive, Chief
Sent: 07 July 2019 11:57
To: McMahon, Alex; Currie, Brian
Cc: Gillies, Tracey; Campbell, Jacquie; Graham, Iain
Subject: Re: RHCYP + DCN - Little France - CC Vent periof from 25th to 28th June

Brian and Alex

I think the key issue is how and when a 'potential problem on 24 June became a game changer problem by 1 July.

I think it would be really helpful if Brian could set out what specifically led to your view on Monday 1 July that the crit care air change problem was a game changer and when you came to that view, i. e. It was raised on Monday 24 as a potential problem, and that was further investigated in the days following but at what point and how did a potential concern become a game changer problem.

Also Brian, could you give me a few lines on the technical and clinical input to the derogation included in the settlement agreement?

Many thanks

Tim

Tim Davison
Chief Executive
NHS Lothian
Waverley Gate
2-4 Waterloo Place

Edinburgh EH1 3EG

-------- Original Message --------
Subject: Re: RHCYP + DCN - Little France - CC Vent periof from 25th to 28th June
From: "McMahon, Alex"
To: "Currie, Brian" ,"Executive, Chief"
CC: "Gillies, Tracey" ,"Campbell, Jacquie" ,"Graham, Iain"

Helpful Brain but can you give some details from 25-28 re which individuals or groups the information went to during this period. If you can work on that I will pull a table together.

Sent from my BlackBerry 10 smartphone on the EE network.

From: Currie, Brian
Sent: Sunday, 7 July 2019 11:33 AM
To: Executive, Chief
Cc: McMahon, Alex; Gillies, Tracey; Campbell, Jacquie; Graham, Iain
Subject: RHCYP + DCN - Little France - CC Vent periof from 25th to 28th June

Tim

As we have discussed the period from 25th to 28th June (on receipt of IOM's initial issues log) was taken up by:

reviewing for technical clarity what IOM were measuring and confirming those results

assessing contractual and legal position

investigating possible immediate technical solutions, if any

Brian

ID:

Record of General Risk Assessment

Name of Assessor(s): Posts Held:	Janice Mackenzie, Clinical Director Dorothy Hanley, RHSC Commissioning Lead Fiona Halcrow, Project Manager	Date of Original Assessment:	05/07/17. Reviewed 29/1/18
Manager Responsible:	Janice MacKenzie		
Department:	RHSC & DCN Reprovision Project		

Subject of Assessment: Consider Task or Environment.

Bedroom Ventilation design in 4 bedded rooms does not meet the recommendations of SHTM 03-01, as the current design has the 4 bedded rooms as being positive pressure.

To allow cohorting of patients with the same air-borne infections these rooms require to be balanced or negative pressure.

The Board have previously accepted that there is no need for cohorting of patients within DCN as they can operationally manage this due to the number of single rooms and types of patients and the need for cohorting of infectious patients would be extremely rare.

Whilst the Board can rationalise the number of 4 bedded rooms where the ventilation needs to change within RHCYP it should be noted that this does reduce overall flexibility and future-proofing. A further review was undertaken with the Children's CMT in January 2018 of the initial risk assessment completed in July 2017 to ascertain what 4 bedded rooms would be essential. Given the different patient groups related to specific wards, separate risk assessments have been undertaken (see attached). Individual risk assessments have identified that the need for cohorting of patients is only an issue for the Children's Service. Risk assessment highlights that it is **essential** to change the ventilation in 7 of the 4 bedded rooms within RHCYP. It would be **desirable** to change the ventilation in 6 of the 4 bedded rooms within RHCYP. No change to 7 of the 4 bedded rooms in RHCYP and DCN

The risk assessments have been discussed with the Children's CMT and Infection Control & Prevention who have confirmed that not having the ability to cohort patients is not acceptable from a patient safety perspective. A summary of risk for each area is provided after Section 3.

Step 1: What are the Hazards?

Overall Risks:-

- The inability to cohort patients with air-borne infections in a clinically safe environment
- Clinical risk to isolating babies and children under two years of age with airway compromise i.e RSV
- Need for increased staffing requirements due to the observation and interventions required in this patient group if nursed in singe rooms
- Reduction in overall flexibility and future proofing would be limited if change of use of a ward/s was required
- Reputational risk as one of the key drivers, as outlined in the FBC, is to provide improved modern facilities that overcome the challenges currently faced within the existing facilities that cannot be adapted to provide the best services possible.

See separate risk assessments for inpatient ward/s as the risk rating for each ward/s is different dependent upon the patient group and clinical risk

Step 2: Who might be harmed and how?

See separate risk assessments for specific ward/s

Step 3: What are you already doing? (Existing Precautions)

Generic Precautions

- Isolation rooms have positive pressure lobby which acts as an air curtain and also have a hepa-filter to prevent the transfer of air-borne infection from the corridor into the room or the room into the corridor.
- All single rooms have balanced or slightly negative pressure.
- Increase in the number of single and isolation rooms (See separate risk assessment for the number of isolation and single rooms by ward) from 30% to 62%.
- Ability to flex beds between adjacent wards giving greater flexibility
- Within RHCYP wards there will be technology to remotely monitor patient oxygen saturation levels and heart rate

Summary of Risk by Ward/s (Essential to have ventilation changed)

Ward/s	Proposed Action	Risk Rating If No Change	Risk Rating if Change Implemented
RHCYP - PARU	All three 4bedded rooms (A2- 028, 046 & 054)	15	4
RHCYP – Medical Inpts	All two 4bedded rooms(C1.1-018 & 046)	10	3
RHCYP – Critical Care	One 4 bedded room low acuity HDU (B1-	9	3

	063) & 3 bedded room surgical neonates (B1-065)		

Summary of Risk by Ward/s (Desirable to have ventilation changed)

RHCYP – Critical Care	4 bedded room intensive care (1-B1-009)	8	2
RHCYP – Surgical Long Stay Ward	All two 4 bedded rooms (C1.2-023 & 026)	6	2
RHCYP - Neurosciences	All two 4 bedded rooms (C1.3-011 & 013)	6	2
RHCYP – Medical Day Case Unit	One 3 bedded room (D9-022)	6	2

Summary of Risk by Ward/s (No change to ventilation)

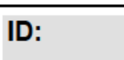
RHCYP – Surgical Short Stay Ward	No change to ventilation in the two 4 bedded rooms	1	
RHCYP – Critical Care	No change to high acuity 4 bedded room (B1-031)	1	
RHCYP – Haematology Oncology Day Care	No change to ventilation in the two multi-bed day care areas	1	
DCN – Acute Care Ward	No change to ventilation in the two 4 bedded rooms	1	

Step 4: Action Plan

What further action is necessary?	Action By Whom	Action by when (dd/mm/yy)	Action completed. (dd/mm/yy)
Clear Guidance in the Building Users Guide as to what 4 bedded rooms can be used to cohort patients with air-borne infections See separate risk assessments for specific actions by ward/s	Jane Campbell	March 2018	

Step 5: Review Table

Date (dd/mm/yy)	Reviewer	Reasons for review	Approved/Not Approved by (dd/mm/yy)
08/02/19	Janice Mackenzie	Consideration of IT feedback and ongoing discussions with IHSL	Approved by CMT 29/1/18



ID:

Record of General Risk Assessment

Name of Assessor(s): Posts Held:	Janice Mackenzie Dorothy Hanley Peter Campbell	Date of Original Assessment:	05/07/17
Manager Responsible:	Peter Campbell, Deputy Associate Nurse Director – Children's Services		
Department:	RHSC & DCN Reprovision Project - **RHCYP PARU (A2)**		

Subject of Assessment: Consider Task or Environment.

Ability to cohort patients within PARU

Step 1: What are the Hazards?

Significant clinical risk to isolating babies and children under two years of age with airway compromise, some of whom may have co-morbidities where isolation in single room carries additional clinical risk.

If PARU has no cohort areas the hazards are:-

- There is a risk that the 6 shelled beds would require to be opened and additional staffing resource would be required
- Additional staffing would be required to safely care for these patients in single rooms due to the level of observation and intervention required. This has not been accounted for in the agreed workforce plan.
- Reduction in the overall capacity within RHCYP as more single rooms would be required to be used to board patients potentially resulting on the cancellation of elective patients.
- Reliance on remote patient monitoring for oxygen saturation and heart rate to ensure patient safety is increased

The Children's CMT have confirmed that all three of the 4 bedded rooms to have negative/balanced pressure

Step 2: Who might be harmed and how?

Patients: -

- Boarding of patients into other specialities is a recognised clinical risk.
- Patients from whom cohorting may be safest clinical option despite the availability of a single room e.g a child under two years of age with respiratory infection plus co-morbidity (cardiac or neurological) who because of their complex underlying condition need constant observation.

Step 3: What are you already doing? (Existing Precautions)

PARU has 34 beds:-

- 3 x 4 bedded rooms
- I x isolation room
- 21 x single rooms

Increased number of beds in single rooms and 4 bedded rooms as opposed to 6 bedded rooms (in existing hospital).

Procuring a remote monitoring system for oxygen saturation and heart rate to alert staff to a potential deterioration in patient's condition

Level of Risk with no cohort area	15
Level of Risk with cohort area	4

Step 4: Action Plan

What further action is necessary?	Action By Whom	Action by when (dd/mm/yy)	Action completed. (dd/mm/yy)
Careful selection of patients for boarding	Nursing & Medical Teams	Ongoing	
Use of remote technology to assist with monitoring of patients in single rooms	Nurse in Charge & Consultant	Ongoing	
Clear guidance in the Building Users Guide regarding cohorting of patients with air-borne infections	Jane Campbell	March 2018	

Step 5: Review Table

Date (dd/mm/yy)	Reviewer	Reasons for review	Approved/Not Approved by (dd/mm/yy)
08/02/19	Janice Mackenzie	Consideration of IT feedback and ongoing discussions with IHSL	Approved by CMT 29/1/18
A46259010			

ID:

Record of General Risk Assessment

Name of Assessor(s): Posts Held:	Janice Mackenzie Dorothy Hanley Peter Campbell	Date of Original Assessment:	05/07/17
Manager Responsible:	Peter Campbell, Deputy Associate Nurse Director		
Department:	RHSC & DCN Reprovision Project – **RHCYP Medical Inpatients (C1.1)**		

Subject of Assessment: Consider Task or Environment.

Ability to cohort patients within Medical Inpatients

Step 1: What are the Hazards?

Despite the fact it is planned that PARU will take all of the acute general admissions, reliance on a cohort area within this ward is only marginally reduced, particularly in times of peak activity when PARU would be unable to accommodate all of the RSV patients.

The Children's CMT have confirmed that all three of the 4 bedded rooms to have negative/balanced pressure

Step 2: Who might be harmed and how?

Patients from whom cohorting may be safest clinical option despite the availability of a single room e.g a child under two years of age with respiratory infection plus co-morbidity (cardiac or neurological).

Step 3: What are you already doing? (Existing Precautions)

Increased number of single and isolation rooms within medical inpatients:-

- 2 x 4 bedded bays
- 4 x Isolation Rooms
- 11 x single rooms

Procuring a remote monitoring system for oxygen saturation and heart rate to alert staff to a potential deterioration in patient's condition

Level of Risk if no change made 10

Level of Risk with Cohort Areas 3

Step 4: Action Plan

What further action is necessary?	Action By Whom	Action by when (dd/mm/yy)	Action completed. (dd/mm/yy)
Careful selection of patients for boarding	Nursing & Medical Teams	Ongoing	
Use of remote technology to assist with monitoring of patients in single rooms	Nurse in Charge & Consultant	Ongoing	
Clear guidance in the Building Users Guide regarding cohorting of patients with air-borne infections	Jane Campbell	March 2018	

Step 5: Review Table

Date (dd/mm/yy)	Reviewer	Reasons for review	Approved/Not Approved by (dd/mm/yy)
08/02/19	Janice Mackenzie	Consideration of IT feedback and ongoing discussions with IHSL	Approved by CMT 29/1/18

ID:

Record of General Risk Assessment

Name of Assessor(s): Posts Held:	Janice Mackenzie Dorothy Hanley Fiona Halcrow	**Date of Original Assessment:**	05/07/17
Manager Responsible:	Peter Campbell, Deputy Associate Nurse Director – Children's Services		
Department:	RHSC & DCN Reprovision Project – **RHCYP Critical Care (B1)**		

Subject of Assessment: Consider Task or Environment.

Ability to cohort patients within Critical Care Unit

Step 1: What are the Hazards?

Clinical risk is still relatively high if no cohort area available and therefore operationally to retain the ability to cohort within B1-063 (low acuity HDU) and B1-065 (surgical neonates) is essential and it would be clinically and operationally desirable for B1-009 (intensive care).

The Children's CMT have confirmed that all three of the 4 bedded rooms to have negative/balanced pressure

Step 2: Who might be harmed and how?

Patients through spread of infection.

Step 3: What are you already doing? (Existing Precautions)

Critical Care (B1) – 24 beds

- 1 x 4 bedded rooms (low acuity)
- 2 x 4 bedded bays (intensive care & high acuity)
- 1 x 3 bedded room (surgical neonates)
- 4 x isolation rooms
- 5 x single rooms

The increased number of single rooms and a higher nurse to patient ratio within the Critical Care Unit will help mitigate the risk of nursing patients in single rooms

Level of Risk if no cohort area	9
Level of Risk if cohort retained	3

Step 4: Action Plan

What further action is necessary?	**Action By Whom**	**Action by when (dd/mm/yy)**	**Action completed. (dd/mm/yy)**
In the Building Users Guide need to state that two 4 bedded rooms (ITU & high acuity high dependency) and one three bedded room (surgical neonates) cannot be used to cohort patients with air-borne infections Careful placement of patients within the designated areas	Jane Campbell Senior Nurse in Charge & Consultant	March 2018 Ongoing	

Step 5: Review Table

Date (dd/mm/yy)	**Reviewer**	**Reasons for review**	**Approved/Not Approved by (dd/mm/yy)**
08/02/19	Janice Mackenzie	Consideration of IT feedback and ongoing discussions with IHSL	Approved by CMT 29/1/18

Name of Assessor(s): Posts Held:	Janice Mackenzie Dorothy Hanley Fiona Halcrow	Date of Original Assessment:	05/07/17
Manager Responsible:	Peter Campbell, Deputy Associate Nurse Director – Children's Services		
Department:	RHSC & DCN Reprovision Project – **RHCYP – Surgical Wards (C1.2 & C1.8)**		

Subject of Assessment: Consider Task or Environment.

Ability to cohort patients with air-borne infections within the Surgical Wards

Step 1: What are the Hazards?

- It would be clinically and operationally desirable for the 2x 4 bedded rooms in Surgical Long Stay (C1.2-023 & 026) to provide future proofing and flexibility
- Clinical risk is low as increased number of single rooms within Medical wards reduces the need to board patients into the surgical wards from the medical wards
- Compromise possible in not altering ventilation in the 4 bedded rooms in Surgical Short Stay but reduces flexibility and future proofing

Step 2: Who might be harmed and how?

Patients through spread of infection.
Potential cancellation of elective surgical cases as staff group will be required to deliver 1:1 care who potentially could be cared for within a cohort area

Step 3: What are you already doing? (Existing Precautions)

There are two surgical wards:-

Surgical Short Stay has 14 beds:-
- 2 x 4 bedded rooms
- 6 x single rooms

Surgical Long Stay has 15 beds:-
- 2 x 4 bedded rooms
- 7 x single rooms

Increased number of beds within PARU and medical inpatients to reduce the need to board patients

Level of Risk if no cohort area in either ward 6

Level of Risk if cohort retained in Surgical Long Stay 2

Step 4: Action Plan

What further action is necessary?	Action By Whom	Action by when (dd/mm/yy)	Action completed. (dd/mm/yy)
In the Building Users Guide need to state that these 4 bedded rooms cannot be used to cohort patients with air-borne infections	Jane Campbell	March 2018	

Step 5: Review Table

Date (dd/mm/yy)	Reviewer	Reasons for review	Approved/Not Approved by (dd/mm/yy)
08/02/19	Janice Mackenzie	Consideration of IT feedback and ongoing discussions with IHSL	Approved by CMT 29/1/18

ID:

Record of General Risk Assessment

Name of Assessor(s): **Posts Held:**	Janice Mackenzie Dorothy Hanley Peter Campbell	**Date of Original Assessment:**	05/07/17
Manager Responsible:	Peter Campbell, Deputy Associate Nurse Director – Children's Services		
Department:	RHSC & DCN Reprovision Project – **RHCYP – Neurosciences (C1.3)**		

Subject of Assessment: Consider Task or Environment.

Ability to cohort patients within Neurosciences Ward

Step 1: What are the Hazards?

- It would be clinically and operationally desirable for the 2x 4 bedded rooms to provide future proofing and flexibility
- Clinical risk is low as increased number of single rooms within Medical wards reduces the need to board patients into the neuroscience ward from the medical wards

Step 2: Who might be harmed and how?

Patients through spread of infection.
Potential cancellation of elective cases as staff group will be required to deliver 1:1 care who potentially could be cared for within a cohort area

Step 3: What are you already doing? (Existing Precautions)

The Neurosciences Ward has 12 beds

- 2 x 4 bedded rooms
- 1 x isolation room
- 3 x single rooms

Increased number of single rooms including one isolation room within this ward to allow the ward to care for neurosciences patients with an infection within the ward and not board in other wards which is the case in the existing hospital.

Level of Risk if no cohort area	6
Level of Risk if cohort retained	2

Step 4: Action Plan

What further action is necessary?	Action By Whom	Action by when (dd/mm/yy)	Action completed. (dd/mm/yy)
In the Building Users Guide need to state that these 4 bedded rooms cannot be used to cohort patients with air-borne infections	Jane Campbell	Mach 2018	

Step 5: Review Table

Date (dd/mm/yy)	Reviewer	Reasons for review	Approved/Not Approved by (dd/mm/yy)
08/02/19	Janice Mackenzie	Consideration of IT feedback and ongoing discussions with IHSL	Approved by CMT 29/1/18

Name of Assessor(s): Posts Held:	Janice Mackenzie Dorothy Hanley Peter Campbell	Date of Original Assessment:	05/07/17
Manager Responsible:	Peter Campbell, Deputy Associate Nurse Director – Children's Services		
Department:	RHSC & DCN Reprovision Project – **RHCYP – Medical Day Case Unit (D9)**		

Subject of Assessment: Consider Task or Environment.

Ability to cohort patients within Medical Day Case Unit

Step 1: What are the Hazards?

- It would be clinically and operationally desirable for the 3 multi-bedded room to provide future proofing and flexibility
- Clinical risk is low as increased capacity and number of single rooms within Medical wards reduces the need to have to open the MDCU for medical inpatients

Step 2: Who might be harmed and how?

Patients through spread of infection.
Potential cancellation of elective surgical cases as staff group will be required to deliver 1:1 care who potentially could be cared for within a cohort area

Step 3: What are you already doing? (Existing Precautions)

The Medcial Day Case Unit has:-

- 1x3 bedded room (less sqm per space than an inpatient ward)
- 2 x single rooms

Increased capacity within the medical wards andsingle rooms and isolation rooms within these wards

Level of Risk if no cohort area 6

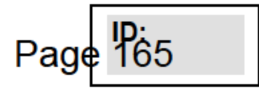
Level of Risk if cohort retained 2

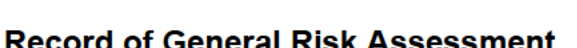
Step 4: Action Plan

What further action is necessary?	Action By Whom	Action by when (dd/mm/yy)	Action completed. (dd/mm/yy)
In the Building Users Guide need to state that these 4 bedded rooms cannot be used to cohort patients with air-borne infections	Jane Campbell	Mach 2018	

Step 5: Review Table

Date (dd/mm/yy)	Reviewer	Reasons for review	Approved/Not Approved by (dd/mm/yy)
08/02/19	Janice Mackenzie	Consideration of IT feedback and ongoing discussions with IHSL	Approved by CMT 29/1/18





Record of General Risk Assessment

Name of Assessor(s): Posts Held:	Janice Mackenzie Dorothy Hanley Peter Campbell	Date of Original Assessment:	05/07/17
Manager Responsible:	Peter Campbell, Deputy Associate Nurse Director – Children's Services		
Department:	RHSC & DCN Reprovision Project – **RHCYP Haematology/Oncology Ward (C1.4)**		

Subject of Assessment: Consider Task or Environment.

Patient pathway for day care patients with a known infection

Step 1: What are the Hazards?

This is a combined inpatient and day care facility, however the design separates these two areas. Operationally the clinical team have already agreed a compromise where patients with infections coming to day care would be dealt with in the consulting room within day care or the inpatient facility. The Board have previously accepted that they can operationally manage these areas without a change in ventilation to the 2 day care rooms.

Step 2: Who might be harmed and how?

N/A

Step 3: What are you already doing? (Existing Precautions)

Haematology/Oncology Ward has 17 inpatient beds and 9 day care beds/trolleys:-

- 5 x isolation rooms
- 12 x single rooms
- 1 x 6 bedded day care room
- 1 x 3 bedded day care room

Operational policy has been agreed for the management of day care patients with an infection

Level of Risk 1

Step 4: Action Plan

What further action is necessary?	Action By Whom	Action by when (dd/mm/yy)	Action completed. (dd/mm/yy)
In the Building Users Guide need to state the type of pressure in the Day Care areas	Jane Campbell	March 2018	
Written patient pathway and operational policy for the management of day care patients with an infection	Charge Nurse & Lead Consultant	March 2018	

Step 5: Review Table

Date (dd/mm/yy)	Reviewer	Reasons for review	Approved/Not Approved by (dd/mm/yy)

ID:

Record of General Risk Assessment

Name of Assessor(s): **Posts Held:**	Janice Mackenzie Dorothy Hanley Fiona Halcrow	**Date of Original Assessment:**	05/07/17
Manager Responsible:	Hester Niven, Clinical Nurse Manager DCN		
Department:	RHSC & DCN Reprovision Project – **DCN Wards**		

Subject of Assessment: Consider Task or Environment.

Ability to cohort patients with air-borne infections within DCN wards

Step 1: What are the Hazards?

The Board have previously accepted that they can operationally manage these wards due to the number of single rooms and types of patients and the need for cohorting of infectious patients would be extremely rare

Step 2: Who might be harmed and how?

N/A

Step 3: What are you already doing? (Existing Precautions)

DCN has three wards:-

DCN Acute Care (L1) – 24 beds

- 2 x 4 bedded rooms
- 1 x isolation room
- 15 x single rooms

DCN Inpatients Wards (L2) – 43 beds

- 2 x isolation room
- 41 x single rooms

Significant increase in the number of single rooms as compared to existing facility

Level of Risk 1

Step 4: Action Plan

What further action is necessary?	Action By Whom	Action by when (dd/mm/yy)	Action completed. (dd/mm/yy)
In the Building Users Guide need to state that these 4 bedded rooms cannot be used to cohort patients with air-borne infections	Jane Campbell	March 2018	

Step 5: Review Table

Date (dd/mm/yy)	Reviewer	Reasons for review	Approved/Not Approved by (dd/mm/yy)

From: Currie, Brian
Sent: 10 July 2019 07:53
To: Goldsmith, Susan
Subject: Fw: RHCYP + DCN - Little France - CC Vent periof from 25th to 28th June

Susan
My email on Sunday below following many discussions with colleagues over last weekend.
Regards
Brian

Sent from my BlackBerry 10 smartphone on the EE network.

From: Currie, Brian [redacted]
Sent: Sunday, 7 July 2019 13:04
To: Executive, Chief; McMahon, Alex
Cc: Gillies, Tracey; Campbell, Jacquie; Graham, Iain; 'MACKAY, Judith (NHS LOTHIAN)'
Subject: RE: RHCYP + DCN - Little France - CC Vent periof from 25th to 28th June

The period in question was taken up with the activities I listed below involving, as best as I can recall, myself, Ronnie Henderson (Hard FM Commissioning Manager), Graeme Greer (Mott MacDonald, out technical adviser) and Paul Jameson from IOM.

The issues log was received from IOM at 09.56am on the 25th and I issued it to the members of the Steering Group at 10.38am for discussion at their forthcoming meeting or before.

It took until Monday 1st July for a view to form, having exhausted our enquiries that the measurements were sound, an immediate quick fix was not there and that there was indeed ambiguity regarding the contractual position that it was a show stopper. My recollection is that infection control's input was also influential as we neared the end of that period. Tracey will confirm but I recall it was discussed late on Friday 28th where we agreed to review it on Monday 1st.

The reasons for the derogation as follows:

The 20 x 4 bedded rooms were originally designed to 4 ac/hr positive pressure. The Board noted this was non-compliant with SHTM 03-01 as it did not allow for the cohort of patients with the same air-borne infections.

As the design and construction had progressed to a level that was challenging to alter (MPX refused to redesign and reinstall), a risk assessment was undertaken for the 4 bedded rooms to clarify those rooms that were essential to change to negative / balanced pressure regime.

The Board have previously accepted that there is no need for cohorting of patients within DCN as they can operationally manage this due to the number of single rooms and types of patients and the need for cohorting of infectious patients would be extremely rare (2 of the 20).

The Board reviewed the number of 4 bedded rooms in the Children's service where the ventilation could remain at positive pressure (4 of the 20).

A further review was undertaken with the Children's CMT in January 2018 of the initial risk assessment completed in July 2017 to ascertain what 4 bedded rooms would be essential for cohorting. Individual risk assessments have

identified that the need for cohorting of patients was only an issue for the Children's Service and therefore balanced / negative pressure was required (14 of the 20).

The risk assessments were discussed with the Children's CMT and Infection Control & Prevention who confirmed that not having the ability to cohort patients was not acceptable from a patient safety perspective.

From: Executive, Chief
Sent: 07 July 2019 11:57
To: McMahon, Alex; Currie, Brian
Cc: Gillies, Tracey; Campbell, Jacquie; Graham, Iain
Subject: Re: RHCYP + DCN - Little France - CC Vent periof from 25th to 28th June

Brian and Alex

I think the key issue is how and when a 'potential problem on 24 June became a game changer problem by 1 July.

I think it would be really helpful if Brian could set out what specifically led to your view on Monday 1 July that the crit care air change problem was a game changer and when you came to that view, i. e. It was raised on Monday 24 as a potential problem, and that was further investigated in the days following but at what point and how did a potential concern become a game changer problem.

Also Brian, could you give me a few lines on the technical and clinical input to the derogation included in the settlement agreement?

Many thanks

Tim

Tim Davison
Chief Executive
NHS Lothian
Waverley Gate
2-4 Waterloo Place
Edinburgh EH1 3EG
TEL: [redacted]

-------- Original Message --------
Subject: Re: RHCYP + DCN - Little France - CC Vent periof from 25th to 28th June
From: "McMahon, Alex"
To: "Currie, Brian" ,"Executive, Chief"
CC: "Gillies, Tracey" ,"Campbell, Jacquie" ,"Graham, Iain"

Helpful Brain but can you give some details from 25-28 re which individuals or groups the information went to during this period. If you can work on that I will pull a table together.

Sent from my BlackBerry 10 smartphone on the EE network.

From: Currie, Brian
Sent: Sunday, 7 July 2019 11:33 AM
To: Executive, Chief
Cc: McMahon, Alex; Gillies, Tracey; Campbell, Jacquie; Graham, Iain
Subject: RHCYP + DCN - Little France - CC Vent periof from 25th to 28th June

Tim

As we have discussed the period from 25th to 28th June (on receipt of IOM's initial issues log) was taken up by:

reviewing for technical clarity what IOM were measuring and confirming those results

assessing contractual and legal position

investigating possible immediate technical solutions, if any

Brian

DRAFT

RHCYP/ DCN : Commissioning / Ventilation

Note of a meeting held at 4:00pm on Monday 8 July 2019 in Meeting Room 5, Waverley Gate, Edinburgh.

Present: Alex McMahon (Chair); Janis Butler; Jacquie Campbell; Brian Currie; George Curley; Tim Davison; Tracey Gillies; Susan Goldsmith; Iain Graham; Donald Inverarity and Judith Mackay.

In Attendance: Douglas Weir.

1. Weekend Update

An update was provided on 2 teleconferences held with the Scottish Government on Saturday 6 July and Sunday 7 July 2019. These telephone conversations had included input from the Scottish Government, Medical, Nursing, HR and Communications Departments. Information had been provided about the timelines for the ventilation issues coming to light and steps taken between 20 June and 2 July 2019. At the Sunday teleconference an update had been provided in respect of patient contacts with NHS24. There had also been a focus on migration plans and services that could be moved in the interim. John Connaghan had undertaken to update Malcolm Wright and no further questions had been generated over the course of the weekend.

2. Tim Davison Meeting with Malcolm Wright – 8 July 2019

Tim Davison reported that he had met with Malcolm Wright earlier in the day when the following 8 questions had been raised with a response required by 5:00pm on 8 July 2019.

- An assessment of whether the original signed contract met the extant technical standards?
- Did the contract contain the flexibility to adapt to new standards as it emerged?
- Derogation agreed to change the air circulation from 6-4 to meet the contract – were these changes approved as acceptable by HFS and HPS?
- Will DCN meet extant technical standards including minimum requirement of 15 cycles in theatres in addition to the requirement within wards?
- Within the next fortnight, will you be able to provide a new design plan for air ventilation that will meet the standards and clear by HPS and HFS?
- Following the agreement of a new air design plan – a migration plan for DCN that incorporates both clinical concerns and interdependencies again being cleared by HPS and HFS

- Malcolm Wright had asked to see the complete report that was conducted including the date, author as well as assurances on the remedies being put in place on the snagging list that was identified
- Malcolm Wright had welcomed confirmation of all issues in the new hospital that had been identified.

A paper covering draft responses to these questions was tabled by Iain Graham. The paper was discussed in detail with it being agreed that immediately following the meeting a collated response based on the discussion at the meeting would be forwarded to Malcolm Wright. A copy of the response submitted to Malcolm Wright is attached as an Appendix. In addition through the general discussion at the meeting the following issues were touched upon:-

- Design changes and validation of these
- Water quality tests and validation
- IOM schedule of snags and other snagging lists
- Positive and negative and balanced air pressures
- Flexibility to flex the contract at NHS Lothian's risk and cost to address new legislation and guidance
- Confirmation that there had been no understanding of the need for HFS and HPF to have signed-off the contract or derogation. This position would be checked with the Chief Executive of NSS. (**SG)**
- Informal advice had been received from HPS and HFS re the Glasgow position
- There had been contact with the Scottish Government Finance and Capital Divisions as well as the Scottish Futures Trust. Advice had also been sought from the technical adviser, clinical teams, infection control and Estates
- Issues around derogation. Multiplex viewed SHTM as being for guidance and not mandatory. There was a need for the proposed workshop session to look at derogation issues in detail and identify what had not been done and what needed to happen differently in future.
- Any proposed viable solution needed to be signed-off by HFS and HPS. Once a solution had been identified the equipment would take 10-12 weeks to procure
- The migration plan could not be signed-off until critical care reached a position of air being turned over 10 times per hour
- The DCN migration plan needed to describe inter-dependencies to include the need for lateral fire evacuation, security and catering
- Theatre issues in the main had been resolved although written assurance had not yet been received IOM final report expected 15 July
- Partnership engagement and the need for this to be played in via the Employee Director
- Final decisions around water quality needed to come back to the IMT for sign-off
- IOM input to sweep all ventilation areas should in the first instance cover clinical areas and a sample of non-clinical areas.

Tim Davison commented that it would be important to specifically state what the original contract had reflected and who had signed it. A similar approach was needed in respect of derogation and how critical care got tied up in the process.

There would also be a need to be clear about what the independent tester had been testing against and whether this process had included compliance with guidance.

Tim Davison reported that Malcolm Wright had been clear that the Scottish Government would undertake the external audit but that NHS Lothian should continue with its own review process as the outcomes of this could provide a basis for discussion / assurance to the appointed external auditors. It was noted that the external auditors did not have technical expertise and advice would be provided by HFS and HPS.

3. Workshop Event

The Project Team would organise a Workshop event to be organised in short order and to include the following participants:

- Core of the Project Team
- Technical Adviser
- Mott McDonald
- McRoberts
- Infection Control
- Tracey Gillies
- Alex McMahon
- Tim Davison – but event not to be designed around his availability

4. Future Scottish Government Contact

It was noted that the Scottish Government were meeting on a daily basis with the process being led by Christine McLaughlin. Susan Goldsmith would discuss the identification of single point of contact with Christine McLaughlin. (**SG)**

5. IMT Support

Iain Graham advised that support at above administrative level had been identified. The Support Team should discuss with Bhav Joshi processes around the need for a central log and document control. (**IG)**

6. Date and Time of Next Meeting

4:00pm on Thursday 11 July 2019 in Meeting Room 5, Waverley Gate, Edinburgh.

From: Gillies, Tracey
Sent: 08 July 2019 18:20
To: [redacted]
Cc: Executive, Chief; McMahon, Alex; Goldsmith, Susan
Subject: : Meeting Malcolm Wright - 8 July 2019
Attachments: IOM 1st Issues Log 250619 updated by NHSL 080719.xlsx

Importance: High

Dear Malcolm,

I am writing to respond to your email following the IMT at 4pm on the 8th July.
Please find answers to questions below:

1. An assessment of whether the original signed contract met the extant technical standards?

   - Yes, the original contract met the extant technical standards. The contract between NHS Lothian and IHS Lothian Limited was signed on 13 February 2015 (Financial Close).

   Within the Project Agreement, clause 2.3 in the Board's Construction Requirements (BCR) made SHTM 03-10 mandatory for IHSL and their construction contractor, Multiplex, to comply with.

2. Did the contract contain the flexibility to adapt to new standards as it emerged?

   - Yes, the Project Agreement contract has the flexibility to adapt to new standards and the Board could formalise and instruct such changes. However post Financial Close this would be at the Board's risk and cost.

   We are currently in the process of setting out the changes we will require to make to the contract to meet the recent guidance received from HFS / HPS regarding pest control, augmented care areas, and plant rooms.

3. Derogation agreed to change the air circulation from 6-4 to meet the contract – where these changes approved as acceptable by HFS and HPS?

   - No, it has never been our understanding that the derogations agreed required formal approval from HPS and HFS. Our engagement on the derogations agreed as part of the settlement agreement were discussed with Scottish Government and Scottish Futures Trust colleagues. Our technical advice on the derogations

came from our technical advisors to the project, infection control , clinical colleagues and facilities. We also engaged with HFS informally in relation to emerging intelligence on the Glasgow project.

4. Will DCN meet extant technical standards including minimum requirement of 15 cycles in in theatres in addition to the requirement within wards

    - Yes, DCN will meet extant technical standards. The 15 cycles that Tim referred to in his meeting this morning was in relation to the CT scanning suite in DCN. The theatres at DCN require to have 25 ACH and we are assured that they are compliant with this requirement.

5. Within the next fortnight, will you be able to provide a new design plan for air ventilation that will meet standards and cleared by HPS and HFS

    - No. We do not believe it will believe it will be completed within that timescale. We are meeting with Multiplex and IHSL on 9/7/19 and our expectation is that a design viability study could be completed within or close to two weeks. However, this will not be the full design plan and at this stage we do not have a timescale for that. Furthermore, under NPD projects, changes of this nature require technical sign off from the lenders (European Investment Bank and M and G). The time scale for this is difficult to predict at this stage.

6. Following the agreement of a new air design plan – a migration plan for DCN that incorporates both clinical concerns and interdependencies again cleared by HPS and HFS

    - We have already begun work on a migration plan for DCN that includes clinical input taking account of various interdependencies we discussed such as fire evacuation, out of hours anaesthetic rotas, catering and the potential impact of the remedial works to the critical care ventilation described in question 5 above. Malcolm has asked to see the complete report that was conducted including the date, author as well as assurances on the remedies being put in place on the snagging list that was identified

7. Malcolm has asked to see the complete report that was conducted including the date, author as well as assurances on the remedies being put in place on the snagging list that was identified

    - The log of issues was not part of a fuller report. It was a written up log of findings sent by the IOM engineer Paul Jameson on 25 June 2019 who was undertaking testing of the ventilation systems. It was a follow up to the verbal report that had been provided to our Project Director the day before. We have attached to this email an updated commentary on progress of each of these issues as of today's date. We do not believe any are material to the occupation of the building and the last 16 or so items grouped together are all currently being worked on by IHSL and Multiplex and we are confident of resolution.

8. Finally, Malcolm would welcome the confirmation of all issues in the new hospital that have been identified.

We have been working through issues relating to the remainder of the building with work as set out below and are not aware of any other issue of sufficient magnitude to prevent the building being occupied. In summary of the current work:

- **Ventilation**: we commissioned IOM, an independent validator of ventilation systems in the light of the issues regarding ventilation that formed the basis of the supplementary agreement and they have been on site working through these. Other than these agreements, the building is expected to meet the standards of SHTM-03-01a. Ordinarily this testing would have been undertaken ahead of the clinical commissioning but the delays in building completion resulted in us agreeing to do this in parallel. The following areas have ongoing work:
    - Ventilation in 10 theatres, a detailed technical assurance matrix of measurements of the ventilation has been requested for each theatre. In the light of the issues identified by IOM, engineers have been working to rectify these issues and provide the level of assurance required that each theatre is delivering against the design parameters.
    - Isolation rooms- again, a detailed technical assurance document is expected for each of these.
    - An issue was identified in 2016 relating to the number of air changes in the CT scanning suite in DCN – it was identified that the design was for 10 air changes

where 15 are set out in the SHTM, and the design was rectified, IOM will be asked to validate that these are being delivered.

- **Water quality**: the assurance sampling for commissioning purposes has passed but we are in the process of implementing the HPS guidance for regular testing in augmented care areas. The written reports of all samples are not yet all returned, but in line with other areas, we anticipate that control and remedial measures will be required over time to maintain water quality standards to the guidance for augmented care areas.

We are also aware of a legacy issue relating to flooding: this is on the risk register as a residual risk of fungus and mould growth, it was discussed in June by the IPCT and agreed that any inspection at this stage was premature as any visual evidence would not be manifest for some months. However an ongoing programme of visual inspection has been agreed.

On behalf of the IMT
Tracey Gillies

Executive Medical Director
NHS Lothian
Waverley Gate

From: Watters, Elaine
Sent: 08 July 2019 14:28
To: Goldsmith, Susan; Campbell, Jacquie; Gillies, Tracey; McMahon, Alex; ; Graham, Iain; Currie, Brian; Curley, George; Inverarity, Donald; Weir, Douglas
Cc: Walker, Anna; Ormerod, Gary; Trotter, Audrey; Little, Kerryann; Murray, Fiona; Calder, Marion
Subject: FW: Meeting Malcolm Wright - 8 July 2019
Importance: High

Please see attached from Tim for discussion at today's Incident Management Team meeting at 4:00pm.

Regards

Elaine

Elaine Watters
Executive Assistant to the Chairman & Chief Executive
NHS Lothian
Waverley Gate
2-4 Waterloo Place
Edinburgh EH1 3EG

Tel:
Email:

From: Calum.Henderson **On Behalf Of** DGHSC
Sent: 08 July 2019 12:13
To: Executive, Chief
Cc: Shirley.Rogers DGHSC
Subject: Meeting Malcolm Wright - 8 July 2019

Mr Davison

Following your meeting with Malcolm and Shirley this morning.

Malcolm has asked for the following by 17:00 today.

1. An assessment of whether the original signed contract met the extant technical standards?
2. Did the contract contain the flexibility to adapt to new standards as it emerged?
3. Derogation agreed to change the air circulation from 6-4 to meet the contract – where these changes approved as acceptable by HFS and HPS?
4. Will DCN meet extant technical standards including minimum requirement of 15 cycles in in theatres in addition to the requirement within wards
5. Within the next fortnight, will you be able to provide a new design plan for air ventilation that will meet standards and cleared by HPS and HFS
6. Following the agreement of a new air design plan – a migration plan for DCN that incorporates both clinical concerns and interdependencies again cleared by HPS and HSF
7. Malcolm has asked to see the complete report that was conducted including the date, author as well as assurances on the remedies being put in place on the snagging list that was identified
8. Finally, Malcolm would welcome the confirmation of all issues in the new hospital that have been identified.

Kind Regards

Calum Henderson
Assistant Private Secretary to Malcolm Wright, DG Health and Social Care and Chief Executive NHSScotland
Room 1E.16, St Andrew's House, Edinburgh, EH1 3DG
E:
Telephone:

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Communications with the Scottish Government may be monitored or recorded in order to secure the effective operation of the system and for other lawful purposes. The views or opinions contained within this e-mail may not necessarily reflect those of the Scottish Government.

Tha am post-d seo (agus faidhle neo ceanglan còmhla ris) dhan neach neo luchd-ainmichte a-mhàin. Chan

eil e ceadaichte a chleachdadh ann an dòigh sam bith, a' toirt a-steach còraichean, foillseachadh neo sgaoileadh, gun chead. Ma 's e is gun d'fhuair sibh seo gun fhiosd', bu choir cur às dhan phost-d agus lethbhreac sam bith air an t-siostam agaibh agus fios a leigeil chun neach a sgaoil am post-d gun dàil.
Dh'fhaodadh gum bi teachdaireachd sam bith bho Riaghaltas na h-Alba air a chlàradh neo air a sgrùdadh airson dearbhadh gu bheil an siostam ag obair gu h-èifeachdach neo airson adhbhar laghail eile.
Dh'fhaodadh nach eil beachdan anns a' phost-d seo co-ionann ri beachdan Riaghaltas na h-Alba.
****

Area	item	Issue	Update Comment 08/07/19 - Ronnie Henderson, NHSL project team, 08/07/19
General	Systems do not appear to have been commissioned well	Various issues identified below	
General	Swirl diffusers have been widely used in the development.	Not normally used in critical areas like theatres as they can be difficult to measure accurately with balometers and they can impact on wound site velocity	These diffusers are compliant with SHTM 03-01
Preparation	Some areas are not completed and ready for handover. Eg ceiling tiles still missing		CT & Fluoroscopy only areas still affected due to Turnkey works
Theatres	Very limited extract in theatre corridors. Corridors are not at 0 absolute pressure and do not meet required 7 ach/hr (SHTM03-01 part A appndix 2 Table A2)	No escape for surplus air. Could impact on open door protection. Pressure in corridors is pushing fire doors open	To be reviewed by IPCT, All pressure Cascades are compliant
Theatres	Issues with doors, door actuators, closers and interlocking to DU's		Repairs now completed, confirmed verbally by Chris Wilson of Multiplex
Theatres	Some prep rooms do not meet reaquired air supply volumes. (theatres 35, 31, 32, 33 and 38)	Should be 100l/s for SPS room.	Resolved during validation process, verbally confirmed by Paul Jameson of IOM
Theatres	Most theatres do not properly control temperature	There are a number of faulty control valves on plant/heater batteries	Faulty valves and actuators replaced, confirmed by David Wilson of Multiplex
Theatres	Concers about open door protection (eg theatre 34)	Theatre supply 1171, LLE365, scrub 73. Leaves 733 for open door vs required 750.	Resolved during validation process, verbally confirmed by Paul Jameson of IOM
Theatres	UCV clean zone not marked in flooring - not tape but alternative coloured zone or lines in flooring.	Para 7.108 of SHTM 03-01 part A and Para 6.26of HBN 26 which states 'In theatres with ultra-clean ventilation the floor area enclosed by the hood should be marked with lines or a contrasting coloured area of flooring'.	Completed, confirmed by Multiplex and witnessed by NHS Lothian
Theatres	Some fabric issues in theatres (eg holes to fill and under benching gaps to fill)		Completed, confirmed by Multiplex
Theatres	Theatre 33 - 4 cells fail 0.2 test at 0.17m/s. Filter screen may have been adapted	Re-commission UCV - may need HEPA filters as pressure drop is 170pa vs typical 100/110 for clean filters	Resolved during validation process, verbally confirmed by Paul Jameson of IOM, MAT confirm that filter change threshold is 240pa
Theatres	It is understood that extract grilles in DU are supplied one from each theatre.	Systems will need to be interlocked so both theatres are running when any one is in use.	Theatre Staff understand that theatres work as a pair
Theatres	Dirty utility extract rates do not meet requirements in some theatres. Should be 410l/s.	Theatres 30, 36, 37, 33, 38.	Resolved during validation process, verbally confirmed by Paul Jameson of IOM
Theatres	issues on some theatre light stems, covers missing, not well fitted and cabling exposed		Ongoing AV works under control of NHSL
Theatres	Individual grilles in conventional theatres not balanced which can impact on air flows at patient wound site.	BSRIA Guide AG 3/89.3 Table 1 page 10 requires them to be within 10% of lowest grille reading.	Resolved during validation process, verbally confirmed by Paul Jameson of IOM
Theatres	Noise slightly high in UCV theatres	measurements 3.5 dbA above requirements. We would expect new facilities to meet the SHTM stsndard.	Resolved during validation process, verbally confirmed by Paul Jameson of IOM. One location slightly high +2dba
Theatres	UCV hepa filter pressure drops relatively high (140-170 pa) compared with expected 100/110 pa for new filters		Resolved during validation process, verbally confirmed by Paul Jameson of IOM, MAT confirm that filter change threshold is 240pa
Theatres	Hepa filter screens on UCV are distorted in places		Resolved during validation process, verbally confirmed by Paul Jameson of IOM
Isolation rooms	Several isolation rooms on one AHU. HBN 04-01 supplement 1 (2013) Para 2.37 states that ideally each isolation suite should have its own supply and extract system.	Para 2.37 of HBN 04-01 states that ideally each isolation suite should have its own dedicated supply and extract system	Construction of footprint did not provide sufficient space for individual AHU's for each isolation room (19 total). All aprties aware of this solution at an early stage. Solution is compliant with design for a high building
Isolation rooms	Some isolation rooms not achieving the required 10 ach/hr	Min running at 5 ach and some just under 10	Resolved during validation process, verbally confirmed by Paul Jameson of IOM
Isolation rooms	Back up arrangements appear to be very complex and as such likely to be challenging in future		SOP in place to operate changeover required during periods of maintenance to enable continued ventilation supply to isolation rooms
HDU's	Only achieving 3-4 ach/hr vs required 10	NHS have apparently agreed this??	Relates to current critical care ventilation issue, work ongoing to provide design solution
AUHs	cabling inside AHU also cable connectors inside AHU, potentail for electrical faults to cause as ource of fire within the airstraem. Potentail for smoke/fume to enter clinical areas. Cables and connectors will be difficult to clean and soapy water used to clean AHU internals may impact on connections	Similar situation was found at an NHS hopspital in the NorthEast 2016 all wiring had to be removed from AHUs before handover to Trust	Confirmed verbally with Paul Jameson of IOM this does not affect safe operation. IHSL to submit a plan for rectification without interruption to theatre activities other than during planned downtime
AHU's	Filter pleat orientation incorrect on top row of final filters	Should be vertical	These are observations and were passed to IHSL for action (by Hard FM) immediately upon receipt
AHU's	Pre filters showing signs of bypass		
AHU's	Magnahelic gauges not marked for clean and dirty limits		
AHU's	Insufficient access for cleaning (eg inlets) and access hatches are too small for cleaning/maintenance		
AHU's	Some duct traverse test points are not plugged		
AHU's	Surplus drip tray in AHU (?humidifier removed?). Tray drain is not blanked off		
AHU's	Cooling coil drip tray area not easy to clean. Cooling coil baffles cannot be easily removed due to cable installation		
AHU's	Trap arrangements incorrect. No suitable air gaps and traps dirty and incorrectly installed		
AHU's	Magnahelic gauge scale too wide	1-500pa wheras 1-250 reflects likely filter pressure drops	
AHU's	Motorised dampers take a long time to open and close which impacts on the speed of auto-changeover	No spring return fitted so may not close in the event of power failure.	
AHU's	Plant labelling incorrect and shows incorrect areas served.	Temporary labelling installed. Needs to be permanent.	
AHU's	Branch ducts not generally marked up to show areas served		

AHU's	Auto change over arrangements need to be fully tested. Some MD's do not close on plant isolation and some units will not re-start after both motors have been isolated.		
AHU's	Some motors running at over 95% speed so there is limites scope for system to overcome dirty filter pressure drop and maintain system performance		
BMS	Communication problems beteen BMS and AHU (eg theatre 33)		These are observations and were passed to IHSL (for Hard FM) on receipt for action
BMS	It is not clear if critical plant will operate in stand alone mode in the event of issues with BMS or comms		

From: Cabinet Secretary for Health and Sport
Sent: 08 July 2019 19:34
To: Healy M (Michael)
Cc: Minister for Public Health, Sport and Wellbeing; Minister for Mental Health; DG Health & Social Care; Wright M (Malcolm); Connaghan J (John) (Health); Rogers S (Shirley); McLaughlin C (Christine); Smith G (Gregor); Calderwood C (Catherine); Hart S (Suzanne); Communications Healthier; Aitken L (Louise); Hutchison D (David); Scottish Government Health Resilience Unit; Low S (Stuart); Roche R (Rowena); Sheriff C (Carmel)
Subject: RE: Edinburgh Children's Hospital Delay - Update on work undertaken

Michael,

I've shared this with the Cab Sec this evening ahead of tomorrow. I'll send a diary invite shortly for a discussion at 2.30pm in SAH.

Thanks,
Jack

Sent with BlackBerry Work (www.blackberry.com)

From: "Healy M (Michael)"
Sent: 8 Jul 2019 18:25
To: Cabinet Secretary for Health and Sport
Cc: "Minister for Public Health, Sport and Wellbeing" ; Minister for Mental Health ; DG Health & Social Care ; "Wright M (Malcolm)" ; "Connaghan J (John) (Health)" ; "Rogers S (Shirley)" ; "McLaughlin C (Christine)" ; "Smith G (Gregor)" ; "Calderwood C (Catherine)" ; "Hart S (Suzanne)" ; Communications Healthier ; "Aitken L (Louise)" ; "Hutchison D (David)" ; Scottish Government Health Resilience Unit ; "Low S (Stuart)" ; "Roche R (Rowena)" ; "Sheriff C (Carmel)"
Subject: Edinburgh Children's Hospital Delay - Update on work undertaken

==

PS/Cabinet Secretary,

Purpose -

1. **In advance of your meeting with officials tomorrow this is a short note to update the Cabinet Secretary on activity following the announced delay to the new Edinburgh Children's Hospital. This update covers actions that you set out to the First Minister last Friday and the progress that has been made.**

2. As you are aware over the weekend SG officials held calls with NHS Lothian as part of the agreed planned action. NHS 24 reported that they received 27 calls via the helpline since it was set up on Friday. Most calls received on Friday and single figure calls Saturday and Sunday (1 on Saturday and 4 on Sunday). The reason for the calls were appointment related. The helpline remains in place and patient communications continue to be managed by NHS Lothian.

External Checks by Health Facilities Scotland & Health Protection Scotland

3. Health Facilities Scotland (HFS) and Health Protection Scotland (HPS) are engaging with NHS Lothian today to start the work covering compliance with technical specifications and standards. The timescale for completion of work will be expected to be earlier than the initial timeframe put forward and we will advise you of this once confirmed by HFS/HPS. Christine McLaughlin continues to have regular discussions with NSS Chief Executive (further meeting at 9am on Tuesday 9th July) to ensure that resources are deployed as quickly as possible to undertake and report on the checks completed.

Audit of Governance

4. Engagement discussions have taken place with KPMG today regarding the governance audit. KPMG have confirmed in principle they can undertake this work. Resources have been identified and work can commence this week barring any identified conflicts of interest (this is being checked now). KPMG are meeting the Chief Financial Officer tomorrow to discuss scope of work and agree terms of reference.

NHS Lothian

5. DG Health & Social Care met with NHS Lothian Chief Executive this morning. DG Health raised a number of issues with NHS Lothian where urgent clarification has been requested. These cover:

    - Assessment of the technical standard specification included in signed contracts
    - The derogations applied to air circulation and whether changes agreed by HFS/HPS
    - Will Department of Clinical Neurosciences (DCN) meet technical standards in theatres in addition to wards
    - Submission of a new design plan for air ventilation cleared by HPS and HFS
    - A migration plan for DCN that addresses all relevant concerns including clinical and again cleared by HPS and HFS
    - All issues relating to the new hospital have been identified.

6. NHS Lothian has been requested to provide this information today. An update on this will be provided when you meet officials tomorrow.

Media

7. SG Health Communications have been dealing requests today following the story breaking. This has been around the current position, public communications and costs. Comms colleagues will be seeking your clearance on lines today.

Internal Arrangements

8. Your officials will now operate under a health resilience response and planning has been put in place to ensure that directorates across the portfolio continue to coordinate activity and engage with NHS Lothian and other Boards involved. Daily calls are scheduled with DG Health & Social Care, senior officials with a nominated lead director in place. For this week Christine McLaughlin is lead director.

9. NHS Lothian have now put in place similar resilience arrangements and established an Incident Management Team. This is chaired by an Executive Director of the Board (Susan Goldsmith – Director of Finance).

The Cabinet Secretary **is asked to note the above** and that a meeting has been scheduled with your officials tomorrow (9th July)

Regards

Mike

Michael Healy
Head of Health Resilience
Performance and Delivery Directorate

Scottish Government
St Andrews House
Regent Road
Edinburgh EH1 3DG

To report incidents, urgent situations and emergencies **out-of-hours (17.00 to 08.30)**, contact Health Resilience Duty Officer via pager: Unit email:

Preparedness, Resilience and Response

Executive Summary

Can the Department of Clinical Neurosciences and associated services safely move in as a 'Stand Alone Service' in the new building?

This was discussed on Monday 8 July 2019 with a wide clinical and non-clinical group, and then followed up in correspondence. No significant issues were identified that would prevent the Department of Clinical Neurosciences and associated services from safely moving into the new building. A number of significant issues and risks were identified of DCN remaining at WGH site by the multi-disciplinary teams that are detailed in the note of the meeting

What time period is required to achieve this?

It was agreed by the multi-disciplinary group that once the building has been independently signed off by Scottish Government, HFS and HPS; there is a required 8 week notice period to migrate. Six weeks are required for staff rostering and patient appointment bookings plus another two weeks for planning and liaison with key agencies such as the Scottish Ambulance Service, other Health Boards and departments within NHS Lothian.

Services consulted

The **clinical** services involved include:

DCN: • In-Patient Wards – 53 Beds (6 currently closed). Neurosurgery/Neurology • Programmed Investigation Unit • Neurophysiology Service • OPD • Pre-Assessment Clinic	Department of Anaesthetics, Theatres and Critical Care: • DCN Theatres • Anaesthetics • DCN Radiology • Critical Care (WGH ward 20 and RIE wards 118/116) • Recovery Area • Theatre Reception (Day of Surgery) • Capacity and Site • Laboratories	DCN Therapy Services: • Physiotherapy • Occupational Therapy • Dietetics Speech and Language Therapy
Pharmacy (RIE)	Scottish Ambulance Service	RIE (through Clinical Management Team)

The **Non-Clinical** Services:

DCN Admin	Facilities Management: • Catering • Domestic services • Portering Service • Security • Fire • Materials Management • HSDU • Estates (BYES provide HF)	eHealth • Health Records – inpatients and outpatients • Telecoms • Infrastructure
Health and Safety		

DCN Standalone – RHCYP and DCN Inter-Dependency Findings

Department	Resource Needed (People and Facility)	Any Inter-Dependency with RHCYP that would stop DCN standing alone in new Building	Actions needing to be progressed to facilitate move and having service operational on new site	Lead	Status
1. Facilities Management – Soft FM					
1.1. Catering	To provide patient/staff/public catering?	None Identified	Confirm catering outlets to be open (Cafe Grd Floor/Restaurant & Cafe 4th Floor) for staff/public visitors. Vending Bay 2nd floor for overnight meals	Robert Aitken	In progress
1.2. Domestic Service	Is resource available to provide day/night service?	None identified	Confirmation required if RIE Domestic Night rota would cover DCN	Jane Hopton/ Sasha Hill	Complete
1.3. Portering	Is there adequate resource to provide: • Patient Movement Staff • Non-Patient Activities • Pharmacy Runs	None identified	24/7 Rota to be provided to ensure all Portering activities covered.	Robert Aitken	In progress
1.4. Security	24/7	None identified	Facilities Management to confirm process in place of securing not inhabited locked down	Robert Aitken	Complete
1.5. Fire	DCN Stand Alone Fire Co-ordinator	None identified	Small Workshop to be set up to include the RIE Site Capacity Team to determine roles for period of time in building without RHCYP. Fire Training will be provided for the identified Fire Response Team. Other groups of staff in building include:	Jim Gardener	In progress

			Project Team/NHSL Facilities Management Staff/BYES Service		
1.6. Materials Management		None Identified	Confirming supply and delivery as standalone unit	Grace Prior	In progress
1.7. Sterile Supplies Service (HSDU)	Additional Delivery Schedule required for DCN Standalone unit that will necessitate additional resource – 5 deliveries per day (Mon-Fri)	None Identified	Check delivery and collection process One additional delivery point for sterile equipment	Robert Aitken/ Sharon Chapman	In progress
2. Department of Anaesthetics, Theatres and Critical Care (inc. diagnostics)					
2.1. Theatre Suite Area including: • Recovery Room • 4 Theatre Suites • Admission Areas • Angiogram Suite • Theatre Reception (Day of Surgical Admissions)		None Identified	Theatre Staff recruitment ongoing The Angiogram Biplane has a six week lead time to train/test applications	Jane McDonald Clinton Heseltine	Complete Complete
2.2. Anaesthetics		None Identified	Anaesthetic middle grade cover has been confirmed, however significant concerns about reliance on fluctuating trainee numbers which only just currently meet rota requirements. This will require careful management by the anaesthetics department with wider organisational support.	Alistair Thomson	Complete

2.3. DCN Radiology including • CT • MRI • Doppler Room • Mobile X-Ray Radiology staff		None Identified	Pending time of move (early autumn) potential issues re double running but work now progressing with regard to RIE Radiology Department providing assistance Need to confirm number of mobile X-Ray Machines in the new building (subsequently confirmed as 5 new mobile X-Ray Machines procured – 2 in new building/2 at RHSC /1 at DCN)	Clinton Heseltine	Complete
2.4. Laboratories		None Identified	Neuro Histopathology (subsequently confirmed communication pathway in place)	Fiona Halcrow	Complete
3. DCN In-Patient Areas (Ward 31,32 and 33 Programme Investigation Unit)					
In-Patient Areas and PIU		None Identified	Nursing Staff recruitment on-going	Hester Niven	Complete
4. DCN Therapy Department (Occupational Therapy/Physiotherapy/Dietetics/Speech and Language					
DCN Therapies		None Identified		Laura Daniel	Complete
5. DCN Neurophysiology					
DCN Neurophysiology	Optima is the supplier and installer of neurophysiology equipment	None identified	Optima to be contacted regarding availability to complete installation and integration of system.	Fiona Halcrow	In progress
6. DCN OPD					
DCN OPD		None identified		Hester Niven	Complete
7. DCN Admin Support					
DCN Admin Support		None identified		Paul Collins	Complete
8. e-Health					

e-Health		None identified	e-Health have confirmed the Telephones and Bleep System is operational Theatre sessions in ORSOS Theatre booking system will need to be updated	Alastair McLeod Jane McDonald	Complete
9. Pharmacy					
Pharmacy		None identified	Managing workload depends on the pharmacy resource all being on the RIE site and therefore If the gap between the DCN move in date and RHCYP is significant, this may result in workforce pressures within the distribution and dispensing areas.	Laura Shaw	Complete
10. Laboratories					
Laboratories		None identified		Mike Gray	Complete
11. Scottish Ambulance Service					
Scottish Ambulance Service	Could they move DCN through the week?	None identified	The Scottish Ambulance Service has been contacted and has advised a mid week move would be achievable if adequate notice provided (6-8 wks) to allow resources to be rostered.	Ian Archibald	Complete

Appendix 1: Staff in attendance at meeting and consulted with after

Meeting Title: DCN standalone in new hospital feasibility / migration plan workshop

Date/ Time: July 8th 2019 – 14.00-16.00 hrs

Location: CROC Rm, WGH

Attendees

Name	Role / Service
Robert Aitken	Facilities Management
Jackie Bradie	Clinical Service Manager, RIE Theatres, Anaesthetics and Critical Care
Ruth Brotherstone	Professional Head of Service, Neurophysiology
Paul Collins	Assistant Service Manager, DCN
Laura Daniell	DCN Therapies
Chris Derry	Neurology Lead
Eric Drennan	Health and Safety Advisor
Mike Fitzpatrick	Clinical Director, DCN
Jim Gardener	Fire Safety Advisor, NHS Lothian
Fiona Halcrow	Project Manager, DCN Reprovision
Ashley Hull	Theatres Commissioning Manager
Brian Halkett	Fire Safety Advisor, NHS Lothian
Clinton Heseltine	General Manager, Radiology
Jayne Lesley	Health Records
Lesley McKinlay	Principle Radiographer, RHCYP/DCN
Jane McDonald	General Manager, Theatres, Anaesthetics and Critical Care
Frank McDermott	DCN Theatres Clinical Lead
Alastair McLeod	eHealth
Chris Myers	Clinical Service Manager, DCN and Orthopaedics
Hester Niven	Clinical Nurse Manager, DCN
Michael Pearson	General Manager, RIE Surgery (inc. DCN)
Debbie Reilly	Partnership Lead, WGH
Alastair Thomson	Clinical Director, Anaesthetics
Michael Simon	Health Records Supervisor

Consulted following meeting:

Name	Role / Service
Ian Archibald	SAS
Sharon Chapman	Interim Service Manager
David Denholm	eHealth Commissioning Manager
Mike Gray	Laboratory Service Manager
Dr Jane Hopton	Programme Director Facilities
Laura Shaw	RIE Lead Pharmacist
Grace Priory	Materials Procurement Manager
Kallirroi Kefala	Clinical Director Critical Care

MINUTE

Meeting Title: Department of Clinical Neurosciences Migration/Feasibility Study

Date/ Time: July 8th 2019 – 14.00-16.00 hrs

Location: CROC Rm, WGH

Attendees:

Name	Role / Service
Robert Aitken	Facilities Management
Jackie Bradie	Clinical Service Manager, RIE Theatres, Anaesthetics and Critical Care
Ruth Brotherstone	Professional Head of Service, Neurophysiology
Paul Collins	Assistant Service Manager, DCN
Laura Daniell	DCN Therapies
Chris Derry	Neurology Lead
Eric Drennan	Health and Safety Advisor
Mike Fitzpatrick	Clinical Director, DCN
Jim Gardener	Fire Safety Advisor, NHS Lothian
Fiona Halcrow	Project Manager, DCN Reprovision
Ashley Hull	Theatres Commissioning Manager
Brian Halkett	Fire Safety Advisor, NHS Lothian
Clinton Heseltine	General Manager, Radiology
Jayne Lesley	Health Records
Lesley McKinlay	Principle Radiographer, RHCYP/DCN
Jane McDonald	General Manager, Theatres, Anaesthetics and Critical Care
Frank McDermott	DCN Theatres Clinical Lead
Alastair McLeod	eHealth
Chris Myers	Clinical Service Manager, DCN and Orthopaedics
Hester Niven	Clinical Nurse Manager, DCN
Michael Pearson	General Manager, RIE Surgery (inc. DCN)
Debbie Reilly	Partnership Lead, WGH
Alastair Thomson	Clinical Director, Anaesthetics
Michael Simon	Health Records Supervisor

Chair – Chris Myers
Facilitator – Fiona Halcrow

1. Welcome & Apologies

CM welcomed staff to this extraordinary workshop to discuss the Department of Clinical Neuroscience and associated departments relocating as a standalone service into the new RHCYP and DCN Building and if there were any critical interdependencies with RHSC that would stop this from happening.

2. Background and Scottish government Requirements

CM advised the group that the Department of Clinical Neurosciences (DCN) was due to re-locate to the new building during the week beginning Monday 8th July with the moves due to have been completed on Saturday 13th July.

On Thursday 4th July a decision was made to postpone all of the moves to the new building due to concern about the ventilation system in the Paediatric Critical Care Department.

CM explained that he and Michael Pearson had attended a meeting on Friday chaired by the CEO Tim Davidson.

CM informed the group that the The Scottish Government had written to Mr Tim Davidson requesting the following work be undertaken by NHSL:

> "as a matter of urgency a revised migration plan for Clinical Neurosciences and for the Edinburgh Children's Hospital. However, this needs to be carefully thought through and with patient safety being paramount in the consideration of any re-sequencing of the moves. I require that you involve both HPS and HFS in the scrutiny of that migration plan and their assurance to us that there are no technical or safety issues that remain outstanding. I shall also require a clinical safety assessment of the planned re-sequencing of moves to ensure that at the very least there are no clinical interdependency issues that now occur where patient care could be in any way sub-optimal given the requirement to work (or potentially work) from two sites"

CM explained the purpose of this workshop was to undertake this assessment for the department of clinical neuroscience and associated departments.

CM also explained that the relocation of DCN was subject to Government approval. Technical advisors within HFS and & HPS are currently assessing the building to ensure all building regulation standards are met and is fit for purpose for Neurosciences to occupy.

AT asked why at such a late stage this ventilation issue within the Paediatric Critical Care department came to light. FH explained the air sampling studies had just been able to be conducted in the building and that following air sampling on the morning of the 1st July the issue became apparent and was escalated to the Board and then Government.

3. Feasibility Study of Interdependencies

FH led each service through the feasibility questions – see Executive Summary attached of findings and subsequent updates from meeting. This asked explicitly for the services to identify any unsurmountable risks and issues that may prevent DCN occupying the new building as a standalone service.

ED asked about security for the non-operational areas in the building. FH reassured him that the building has 24/7 security present, CCTV outside and inside the building and all departments were on a secure lock down. RA noted there would be a security strategy for the standalone period of time which would involve

cordoning off areas.

4. Local Migration Plan

All Staff in attendance at the workshop were supportive of the move happening as soon as the building was signed off as being acceptable for occupancy. The existing migration plan was discussed which covered a period of 9 days. Staff in attendance were in agreement that a reduced migration period would be acceptable. 7 days was discussed with the potential of decreasing this timeline.

Post meeting note: a draft migration plan has been developed that has condensed the move to 4 days. We have liaised with SAS and they have confirmed a midweek move would be manageable if 6-8 week's notice was provided and therefore the migration plan has been developed on this basis.

See attached draft migration plan condensing move to 4 days

5. Risks associated to delay within existing premises

CM noted that this item was on the agenda due to considerable concerns about the issues and risks for services resulting from the delay to the re-provision of DCN from WGH to the RIE site. These would clearly need to be managed by all services, but would also be helpful in providing a full appraisal for the Scottish Government when considering timescales and the feasibility of moving. He asked each service to outline any risks or issues that presented from remaining on WGH site.

Staff from the services identified the following risks associated with DCN remaining on the WGH:

Item	Department	Issue	Risk Level
1	Ward 20 WGH	Fire Access/Egress Infection Control – Ventilation and Water contamination Programme of works is delayed due to DCN remaining on the WGH site	High
2	Ward 118	Potential Capacity issues over the winter period if beds not open on the RIE site	High
3	DCN In-Patient Wards	Water Contamination – closure of 6 beds Fire Safety (Fire Safety notice in place) Patient Absconsion – Wander Guard not robust Poor Fabric of the Building (Hard FM and Soft FM) Staffing levels and retention due to uncertainty of move date PIU capacity and waiting times as working out of limited space. VTEM and SPECT Scan Service currently suspended and waiting for move due to pseudomonas – waiting lists continue to rise	Very High
4	Radiology	Angiogram Bi-Plane unreliable. NHSL is currently providing the national service for neuro interventional radiology.	High

		MRI Body Coil was causing artefacts in some studies (£57 K plus VAT to replace). At this present time this is being reviewed weekly. Since meeting the Board are awaiting confirmation on delivery of 2nd MRI Mobile Van to facilitate management of the waiting lists. The MRI Mobile Van would return to WGH DCN ground over the night of the 21st July 2019. The 2nd mobile van would be on the Midlothian Hospital site. This incurs additional cost of £50k per month.	
5	DCN Theatres	Staffing levels and retention Fabric of theatre Equipment out of contract Reduced capacity in current hospital due to 2 theatres rather than 3 - leading to increased OOH activity and increases in surgical waiting lists	High
6	eHealth	Timely Communication to Patients already booked at RIE site.	Medium
7	DCN OPD	Waiting Lists increase due to reduced footprint in current department compared to new department	Medium

6. Next Steps

Write up findings of workshop and follow up with staff/services not present to ascertain if services have any interdependencies with RHSC that would prevent their services functioning solely.

From: Currie, Brian
Sent: 09 July 2019 17:19
To: Executive, Chief; Henderson, Ronnie; McMahon, Alex; Goldsmith, Susan; Gillies, Tracey; Curley, George; Campbell, Jacquie; Inverarity, Donald; Guthrie, Lindsay; Graham, Iain; Mackenzie, Janice; Hanley, Dorothy; Hull, Ashley
Subject: RE: Critical Care Ventilation

Tim

We intend to ask the critical care team to reaffirm, or otherwise, their requirements in relation to the pressure regime in four bedded wards tomorrow then seek guidance from HFS and HPS who are visiting us on Friday for a familiarisation visit.

Following that, a proposal for more formal sign off by all stakeholders with input from Infection Control and Donald will be drafted.

In the mean time, initial surveys and preliminary design work on the revised critical care ventilation can proceed as planned.

Regards

Brian

Brian Currie
Project Director - NHS Lothian
RHCYP + DCN
4th Floor Management Suite
Little France Crescent
Edinburgh
EH16 4TJ

From: Executive, Chief
Sent: 09 July 2019 16:44
To: Henderson, Ronnie; McMahon, Alex; Goldsmith, Susan; Gillies, Tracey; Curley, George; Campbell, Jacquie; Inverarity, Donald; Guthrie, Lindsay; Graham, Iain; Currie, Brian; Mackenzie, Janice; Hanley, Dorothy; Hull, Ashley
Subject: Re: Critical Care Ventilation

Folks this is exactly the sort of question we need formal HFS and HPS input to and sign off from. Don't be rushed into making the wrong decision. We must see a formal proposition, have it signed off formally by HPS and HFS and then submitted to SG for approval before proceeding. Let's set out on the right foot here!

Tim Davison
Chief Executive
NHS Lothian
Waverley Gate
2-4 Waterloo Place
Edinburgh EH1 3EG

-------- Original Message --------
Subject: Critical Care Ventilation
From: "Henderson, Ronnie"
To: "McMahon, Alex" ,"Goldsmith, Susan" ,"Gillies, Tracey" ,"Curley, George" ,"Campbell, Jacquie" ,"Inverarity, Donald" ,"Guthrie, Lindsay" ,"Graham, Iain" ,"Currie, Brian" ,"Mackenzie, Janice" ,"Hanley, Dorothy" ,"Hull, Ashley"
CC: "Executive, Chief"

All,

The design process has begun to provide the solution to the Critical Care Ventilation issue. The first decision we need to make to properly brief the designers is what pressure regime do we want?

The output of a previous exercise involving infection control and the critical care team was that the patient areas should be balanced or slightly negative to the surrounding corridors/areas i.e air flows from corridor to room to extract. The reason for this is that it is necessary to be able to cohort patients with the same infection. The SHTM however calls for a 10pa positive difference from room to corridor.

To be clear if we choose the option of balanced/negative we will require a derogation from SHTM 03-01. The preferred option needs to be confirmed at or immediately after the critical care team visit tomorrow to allow us to brief the designers as early as possible in the process.

Regards

Ronnie

Ronnie Henderson
Commissioning Manager Hard FM
RHSC & DCN - Little France
NHS Lothian

RHSC & DCN Site Office
Little France Crescent
Edinburgh
EH16 4TJ

<u>Meeting 9 July Waverley Gate Room 12, approx 3.20-4.20</u>

Christine McLaughlin, Mike Healey, Susan Goldsmith, Alex McMahon, Tracey Gillies

- Three topics for discussion
  - SGHD/NHSL engagement around=d operational issues- patients, staff, comms, logistics: to agree who should do what and be conduit between 2 organisations to ensure clear communications with less disruption
  - To outline the plans for external assurance- the role of NSS (HFS and HPS) and KPMG, and how these two parts would work together
  - Escalation last week

Technical

- Susan outlined the technical element-
  - IOM will complete the review of isolation, theatres and CT scanning areas and provide a report. It is expected that all issue raised can be addressed, although a few tweaks may be required. A full report is expected on 15 July
  - It had been agreed at Lothian IMT on 8 July that IOT would be asked to do a full walkthrough of the building fir all clinical areas in the whole hospital and a sample of non clinical areas. This could be used by HFS as evidence
- CMcL outlined that SGHD would be moving back and leaving technical issues to NSS to address
  - NSS project team have made a proposal to SGHD- this will require some management of project team capacity by Susan G in Lothian to ensure they stay focused on the most pressing issues
  - HFS Eddie McLauchlin had indicated they wanted to understand why the whole building as not delivering 6 air changes
  - Discussion between Diane Murray and Christine, Jacqui Reilly and Colin: to explore why there are technical standards that say one thing (6 air changes) but that has not been what is built- NSS to give view about whether that is reasonable,
  - what do risk assessments say, was there infection control input
  - GGC moving to 6 in certain higher risk areas
  - Essential to determine if the rectification is for paeds critical care or the whole hospital sooner rather than later
- Susan outlined that the design work has started in critical care with the first workshop held today involving MPX and IHSL, second is on Thurs 11th
- We will be reliant on MPX and IHSL – although we are now paying unitary charge, we are not the owners of the building.
- We will need to instruct a board change process and reserve our rights there is a risk they may take a contractual position,
- The timescale of the technical fix will be in part governed by the process. Once there is a design feasibility study, and it has been agreed by HFS and HPS, it will need to go through the credit committees of European Central Bank and M and G. It is important to remember that the building does not belong to Lothian
- The banks' technical advisors also have to agree the change to the building

- Christine emphasised the importance of maintain the flow of information- SGHD keen to know when can Lothian tell them what they expect the solution to be
- Information flow- between SGHD (CMcL) and Lothian (SG) IMT chair one regular basis, best done face to face
- Between Lothian and SGHD resilience (Alex and Mike) on a daily basis for operational details- agreed items required

Assurance

- NSS ToR CMcL to send to SG
  - Jacqui Reilly SRO, Gordon Jamieson day to day contact
  - Although NSS had initially indicated it may take them 6 months to work through, it was recognised the first thing to clarify is whether any work pertains to paeds critical care only or the whole hospital
  - Then any phasing of moves could be discussed,
  - Possible change to DCN fire evacuation plan issue explained (had been mistranslated into fire risk)
  - IOM 's report to be used to crystallise with NSS the issue over the risk assessment made over 6 air changes
- KPMG- CMcL will send ToR
  - Concentrating on how did we get here, what decisions were made by whom and when, not technical or legal, forensic overview of governance
  - CMcL hopeful they might be done in 4 weeks, ready to start on 10 July
  - SGHD looking for weekly update
  - Opportunity to make sure context and complexity is transparent in any discussion
  - Helpful for them to have pack and maybe meet Scott Moncrieff
  - Who will coordinate support- ?NB
- SGHD aiming to step back and hand over to NSS and KPMG and so should reduce ask on Lothian and make for better coordination
- Operation issues through resilience hub- Alex to lead
  - Are people appointments being cancelled

Emerging position between 25 June and 1st July

- Further info sought, especially on basis of statement made on 27th
- TG explained, to expand on timeline and send to CMcL

Other points

TD had asked Susan to raise tone and behaviours over weekend, with constant demands and that this had been v unpleasant for all.

Agreed face to face and regular communication through agreed routes would be best (post IMT)

From: McMahon, Alex
Sent: 09 July 2019 22:11
To: Gillies, Tracey; Goldsmith, Susan
Subject: Re: Timeline for critical care ventilation 20th June - 2nd

I think, sorry, Susan it's perhaps an conversation with you and Brian but I know that Tracey and I are clear about what was discussed on the morning of the 28th June at the management offices. The only documentation tables was theatres ventilation by Ronnie and then that was the focus for the afternoon and the weekend as I believe it.

Sent from my BlackBerry 10 smartphone on the EE network.

From: Gillies, Tracey
Sent: Tuesday, 9 July 2019 10:06 PM
To: McMahon, Alex; Goldsmith, Susan
Subject: RE: Timeline for critical care ventilation 20th June - 2nd

Thanks, June/July corrected
I think someone needs to make sure there is solidity to Brian's times and knowledge

---

From: McMahon, Alex
Sent: 09 July 2019 21:55
To: Gillies, Tracey; Goldsmith, Susan
Subject: Re: Timeline for critical care ventilation 20th June - 2nd

Thanks Tracey.

I personally wouldn't have a problem about the notes sent to Tim on the Monday but I think we should just check he is ok with it being provided. I would have lifted the timeline sent to John et AL on Sat and added your narrative into it. OK

I can't track changes on a bb but the meeting was the 28th June not July as stated below. corrected

In terms of any discussion with Brian as far as I am concerned it has been by teleconference on the Saturday and by emails. Not in person. Susan have you discussed? needs to happen before we send back

The timeline to John and others was sent on Saturday 6th July and not the 7th. If this is what you are referring to? yes

The independent validator provided the issue log on the 25th June not July. corrected

Hope I got those bits right.

Alex

Sent from my BlackBerry 10 smartphone on the EE network.

From: Gillies, Tracey
Sent: Tuesday, 9 July 2019 9:30 PM
To: Goldsmith, Susan; McMahon, Alex
Subject: FW: Timeline for critical care ventilation 20th June - 2nd

After our discussion with Christine today, the request was for me to expand on the detail provided about what happened between 25 June and 1st July. Can I check my proposed wording and and a few things:

- was the detail below in email of 7 July provided or have we just given them the issues log of 25th June and the escalation on 1st?
- Has anyone asked BC or Ronnie face to face rather than by email what they knew and what they thought might be happening?
- I presume we were not asked for any clarification prior to statement in Parliament by Cab Sec
- Would it be helpful to provide my emails to Tim (attached) which were sent approximately 10 hours apart and illustrate the change in magnitude?

Dear Christine,
Following our meeting on the 9th July, you asked for some more detail about the period of time between 25 June and 1st July, as there remains concern that an opportunity for earlier escalation was missed. I can confirm that the extent of the issue with paediatric critical care ventilation (4 air changes per hour not 10), and the fact that this could not be rectified was not understood until the end of the day on the 1st of July. As we have previously indicated, and you can see from the log of issues related to ventilation submitted by IOM the independent validation engineer on 25 June which we supplied to you on the 6 July , there were emerging issues related to ventilation in theatres, isolation rooms and critical care.
I provide more detail below:

- Between 25 and 28 June, the onsite teams worked to understand what IOM had measured and what corrections could be made to all ventilation systems. My understanding is that the testing had taken place amid last minute engineering corrections
- Additionally the methodology of a [PFI project: what is the correct term] means that the design is provided to meet the specification of the contract rather than being held and owned by the users of the building. This meant that our project team (representing the users) were constantly having to ask MPX and IHSL (the builders and owners) for details of the design rather than directly being able to reference this
- At the meeting on the 28 June at 10am, the priority issue as far as ventilation was concerned appeared to be theatres. The document tabled at that meeting was detail about the measurements in all 10 theatres indicating issues such that, at that time, none was ready for use. We concentrated our efforts on mobilising engineers to work together to test controls and rectify these issues. Our aim was to have 4 theatres (2 for DCN 2 for paeds) for for purpose for commissioning by 5 July at the latest.
- Our time line around this was also influenced by not knowing the extent to the work to be done (if any had been intrusive- i.e. removing panels or grilles, it may have required repeat air sampling- this had already been done and passed as clear at the existing level of ventilation but good practice would require it to be repeated after any intrusive work on a ventilation system. Repeat air sampling involves growth of bacterial plates, usually for a minimum of 48 hours to give a count of colonies).
- In summary, the morning meeting on 28th June involved discussion of water quality and ventilation in general but concentrated on the specifics in theatres. The afternoon call was to confirm theatre engineers could attend on Monday. It was acknowledged at this that no progress could be made over the weekend
- On the morning of July 1st, Alex and I provided a briefing to Tim (attached)
- By the afternoon of the 1st, the situation had changed, as you will see from the later email (attached)
- A conference call with legal advisors MacRoberts was arranged for the morning of 2nd July in the evening of the 1st, providing additional evidence that this issue had just been confirmed on the 1st July

I hope this provides some additional background which is useful
Tracey

From: McMahon, Alex
Sent: 07 July 2019 17:23
To: Executive, Chief; Currie, Brian; Graham, Iain; Gillies, Tracey; [redacted]; Goldsmith, Susan; Campbell, Jacquie
Subject: Timeline for critical care ventilation 20th June - 2nd

Timeline 20th June through to 2nd July in relation to the critical care ventilation issue:

20th – 21st June work was carried out on the critical care ventilation by IOM

Critical Care Areas	Room No	Date tested	Supply air changes	Extract Air changes	Comment
NNU – Main Room	1.B1.065	21/6/19	4.2	2.4	Critical Care
NNU - side room	1.B1.035	21/6/19	3.2	2.4	Single room with en-suite
Low Acuity HDU	1.B1.063	20/06/19	3.2	1.9	Critical Care
HDU	1.B1.031	20/06/19	3.1	1.3	Critical Care
ITU	1.B1.009	21/6/19	3.4	1.3	Critical Care

24th June Brian Currie, Project Director received verbal notification from IOM.

25th June Brian Currie received an issues log from IOM at 9.56am re critical care vent issues amongst a longer list of working requiring to be done. This list was circulated to steering group members for information at 10.38 am the same day.

Between 25th and 28th June the project team which included Brian Currie, Ronnie Henderson, Graeme Greer and others, under took to review the information provided with input from others including infection control. No escalation to Executive's took place during this time.

On the 28th June Susan Goldsmith, Tracey Gillies and I attended a meeting with the project team and others but the focus of that meeting was water quality and theatre ventilation. Critical care ventilation wasn't raised as an issue at that meeting.

1st July Brian Currie raised the issue re critical care ventilation with Tracey on the late after noon post a 4.30 teleconference.

Evening of 1st July Tracey emailed Tim Davison and others to flag there was an issue.

Morning and afternoon of 2 July further review and escalation to amongst others Malcolm Wright and John Connaghan at SG.

Alex

From: Gillies, Tracey
Sent: 14 August 2019 12:23
To: Trotter, Audrey
Subject: FW: HPS and HFS involvement in earlier stages of RHCYP
Attachments: RE: Urgent ----Flood at NEW BUILD rhcya/DCN; FW: RHC&Y SBAR Flood: ; RE: Independent verification of theatres and isolation room ventilation; RE: THEATRES NEW BUILD; RE: For comments ; FW: For comments

Sensitivity: Confidential

Can you print all tehse too please

From: Inverarity, Donald
Sent: 09 July 2019 09:36
To: Gillies, Tracey; McMahon, Alex
Cc: Guthrie, Lindsay; Cameron, Fiona
Subject: HPS and HFS involvement in earlier stages of RHCYP
Sensitivity: Confidential

Dear Alex and Tracey,

Last night I reviewed all the e-mails I have received from Janette Rae (nee Richards) who was our HAI Scribe IPCN since I started in infection control in Lothian in 2015.
I am attaching some of these as they are relevant to discussions about whether HPS and HFS had been involved earlier in the project.

Also of note, IPCT have been advising the commissioning team of the need for theatre validation since Dec 2016 with a detailed response to a question about why and how to arrange it in Aug 2018.

With regards to the 2018 flood Janette notes discussions with Ian Storrar of HFS and comments that Fiona (Cameron)had also raised it with Annette Rankin at HPS.

With regards to the CT scanning rooms needing 15 air changes per hour there are e-mails again where Ian Storrar (HFS) has supported the opinion of IPCT which was at odds with that of the builders.

With regards to the number of air handling units serving isolation rooms there is detailed SBAR where a John Rayner of Turner Facilities Management Ltd is mentioned as advising NHS Lothian as an authorising engineer for ventilation. This issue clearly shows that Janette had highlighted the deviation from current building guidance but that IPCT had been advised that the preferred 1:1 ratio of air handling unit to isolation room was not physically possible because of lack of space for so many air handling units. We continued to raise objections to the proposed solution of 1 air handling unit to all isolation rooms and asked for clinical involvement of the paeds oncology team to be involved in a risk assessment. There were no further e-mails about this issue so its unclear who made the final decisions about signing off the design.

There are no e-mails about discussions relating to ventilation in general areas or critical care being reduced below those outlined in SHTM 03-01. Janette was always very clear she was a nurse and not an engineer and not trained in ventilation so is unlikely to have not involved me if approached about such matters. Additionally she spoke with Lindsay last Friday and confirmed she had not been involved in any decision to reduce air changes per hour to below that outlined in SHTM 03-01.

Hopefully that helps with some of the background of IPCT involvement at earlier stages of the project and advice received and given.

All the best

Donald

From: Rae, Janette
Sent: 06 July 2018 09:19
To: Kalima, Pota; Cameron, Fiona; Inverarity, Donald
Subject: RE: Urgent ----Flood at NEW BUILD rhcya/DCN

He feels that perhaps that would be better steered form HPS
Janette

Janette Rae
Lead HAISCRIBE IPCN
NHS Lothian Infection Prevention & Control Services
Mobile: [redacted]

For more information visit the IPCT Intranet Homepage

From: Kalima, Pota
Sent: 06 July 2018 09:04
To: Rae, Janette; Cameron, Fiona; Inverarity, Donald
Subject: RE: Urgent ----Flood at NEW BUILD rhcya/DCN

Would be good to get some info from Ian on when this should be done.
I think that there will be increased fungal spores during the building work – that is well recognised. One would hope this should then fall after completion of the building.
Most of the risk of HAI around fungi/aspergillus and building works relates to when patients actually are in or near the building site.

I guess our issue might be how we assess that there aren't increased levels of spores after completion of building/cleaning.

Is there much reference to this in the documentation we have, Janette?

Pota

From: Rae, Janette
Sent: 06 July 2018 08:48
To: Cameron, Fiona; Kalima, Pota; Inverarity, Donald
Subject: RE: Urgent ----Flood at NEW BUILD rhcya/DCN

We then need to make sure that the contractor arranges and gets the testing done
Janette

Janette Rae

Lead HAISCRIBE IPCN
NHS Lothian Infection Prevention & Control Services
Mobile:

For more information visit the IPCT Intranet Homepage

From: Cameron, Fiona
Sent: 06 July 2018 08:39
To: Rae, Janette; Kalima, Pota; Inverarity, Donald
Subject: Re: Urgent ----Flood at NEW BUILD rhcya/DCN

I would take his advice and add recommended by HFS engineering

Sent from F Cameron Head of Services NHS Lothian BlackBerry

From: Rae, Janette
Sent: Friday, 6 July 2018 08:30
To: Kalima, Pota; Inverarity, Donald
Cc: Cameron, Fiona
Subject: Urgent ----Flood at NEW BUILD rhcya/DCN

Dear Both
Ian Storrar the Engineer at HFS has reviewed my draft SBAR and suggested that the Project team get assurance that examination of areas and testing for mould is carried out. This is not something that we have recommended what do you suggest?
Regards
Janette

Janette Rae
Lead HAISCRIBE IPCN
NHS Lothian Infection Prevention & Control Services
Mobile:

For more information visit the IPCT Intranet Homepage

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For more information visit: http://www.nhslothian.scot.nhs.uk/values

From: Rae, Janette
Sent: 26 July 2018 08:54
To: Inverarity, Donald
Subject: FW: RHC&Y SBAR Flood:
Attachments: 2018 07 06 SBAR RHCYA DCN V2.docx

Dear Donald,
The SBAR was sent to Pota as the ICD for the RHSC. You remember at our meeting re building works I showed you the map of the new build that was affected. Pota has commented re the testing for mould etc and had said the same as you. However Fiona has had communication form Annette Rankin at HPS. I will contact Annette and find out what she was thinking.

Regards
Janette

Regards
Janette

Janette Rae
Lead HAISCRIBE IPCN
NHS Lothian Infection Prevention & Control Services
Mobile: [redacted]

For more information visit the IPCT Intranet Homepage

From: Inverarity, Donald
Sent: 25 July 2018 13:47
To: Cameron, Fiona; Mackenzie, Janice
Cc: Kalima, Pota; Rae, Janette; Halcrow, Fiona; Guthrie, Lindsay; Horsburgh, Carol
Subject: RE: RHC&Y SBAR Flood:

Dear All,

For clarity, my concerns as a microbiologist and as lead infection control doctor relate to a hypothetical, future clinical risk of environmental mould associated with residual damp building material (e.g. plasterboard, chip board etc) which could then infect susceptible patients.

That future clinical risk does not currently exist for two reasons:

1. The building is not currently occupied by patients
2. Mould may not yet be growing in high quantities as it can take months to manifest after initial water damage.

Additionally moulds are ubiquitous on surfaces and in the air that we breathe every day so there is currently no microbiological purpose in testing air or settle plates or using any other microbiological laboratory "test" to determine if there is mould present because it is always present in a building unless there is a sealed room with a HEPA filtered air supply (e.g. a "clean" room).

The assurance I think that NHS Lothian should be seeking is that all water damaged construction material has been replaced as much as is reasonably feasible and there is no unnecessary residual damp material, particularly not in proposed clinical areas. Damp building materials that are left in place to dry out over time are predisposed to growing moulds and fungus over future months. The clinical risk that can result in depends on where the damp material is situated. For instance residual damp in a stair well, lift shaft or reception area will present much less risk to patients than if it is in a theatre or isolation room designed to protect patients from infection.

The testing that I think NHS Lothian needs assurance regarding is not whether there has been any microbiological assessment of the building after repairs have been carried out but whether there has been a comprehensive assessment for residual damp.

It is not my area of expertise and I think that you need the advice of a building surveyor but my understanding of this is that surveyors perform a building survey using a moisture metre to assess the dryness of walls and can determine if they are unacceptably damp or not. If there is a high detection of moisture we need assurance that where this can be corrected, all feasible steps are taken to do so to bring about resolution if in a clinical area.

The only role I can see for microbiological assessment of the building for mould would be once there are patients occupying the building and only if they were developing unexplained mould infections. We would then be assessing the environment to look for the same mould as was causing the infections the patients were experiencing (usually Aspergillus). That may never happen but it is a recognised phenomenon in healthcare facilities that have been hit by water damage. By that stage, however it would be far too late, if it related to the recent episode of flooding, to be able to take definitive corrective and preventative action.

As Pota is on annual leave until 4th August, could I be sent a copy of the SBAR that this e-mail trail relates to please?

Hopefully that is of help but I think you need the advice and expertise of a Chartered Building Surveyor more than you do a microbiologist or infection control specialist for this situation.

Best wishes,
Donald

From: Cameron, Fiona
Sent: 25 July 2018 12:11
To: Mackenzie, Janice
Cc: Inverarity, Donald; Kalima, Pota; Rae, Janette; Halcrow, Fiona; Guthrie, Lindsay; Horsburgh, Carol
Subject: RE: RHC&Y SBAR Flood:

Janice I will leave that to the others copied in to advise

Fiona

Ms Fiona Cameron
Head of Service
NHS Lothian Infection Prevention & Control Services

For more information visit the IPCT IPCT Intranet Homepage

From: Mackenzie, Janice
Sent: 25 July 2018 12:07
To: Cameron, Fiona
Cc: Inverarity, Donald; Kalima, Pota; Rae, Janette; Halcrow, Fiona; Guthrie, Lindsay; Horsburgh, Carol
Subject: RE: RHC&Y SBAR Flood:

Hi Fiona

I have discussed this with Brian and we will write formally to IHSL regarding this, however it would be helpful to know what tests would we be expecting to be carried out and by whom as the construction company would not know what tests to carry out or be able to interpret the results,

When we went round with Pota and Janette with MPX we did ask if there was any specific testing that would be useful to do at this time and my recollection was that there was not.

Look forward to hearing from you.

Janice

From: Mackenzie, Janice
Sent: 25 July 2018 08:02
To: Cameron, Fiona
Cc: Inverarity, Donald; Kalima, Pota; Rae, Janette; Halcrow, Fiona; Guthrie, Lindsay; Horsburgh, Carol
Subject: RE: RHC&Y SBAR Flood:

Thanks Fiona. I will discuss with the team here as to how we take this forward.

Janice

From: Cameron, Fiona
Sent: 25 July 2018 07:55
To: Mackenzie, Janice; Kalima, Pota; Rae, Janette; Halcrow, Fiona; Guthrie, Lindsay; Horsburgh, Carol
Cc: Inverarity, Donald
Subject: RE: RHC&Y SBAR Flood:

Dear All

Response received yesterday from Annette Rankin at HPS. HPS appreciated the sharing of the SBAR and noted support had been received from HFS.

Annette has advised the main component here is that the contractor can offer the board assurance that all remedial works have been completed and any risks relating to the presence of mould and fungi have been removed. She has suggested it might be helpful for the contractor to supply the board with written details of the tests proposed and how they will interpret results to allow the board to satisfy their commissioning and handover requirement .

HPS are happy to support the board on any specific issue relating to this incident/commissioning/handover.

Fiona

Ms Fiona Cameron
Head of Service
NHS Lothian Infection Prevention & Control Services

For more information visit the IPCT [IPCT Intranet Homepage]

Infection Prevention and Control
"It's everyone's business"

From: Mackenzie, Janice
Sent: 09 July 2018 11:28
To: Cameron, Fiona; Kalima, Pota; Rae, Janette; Halcrow, Fiona; Guthrie, Lindsay;
Cc: 'Chris Wilson'
Subject: RE: RHC&Y SBAR Flood:

Thanks Fiona, can you send me a copy of the final version submitted to HPS and let us know if they have any feedback.

Kind regards

Janice

From: Cameron, Fiona
Sent: 06 July 2018 15:29
To: Kalima, Pota; Mackenzie, Janice; Rae, Janette; Halcrow, Fiona; Guthrie, Lindsay;
Cc: 'Chris Wilson'
Subject: RE: RHC&Y SBAR Flood:

Amended to read

Planned visits will continue with project team . Dr Kalima will revisit new build when repair works are complete

Fiona

Ms Fiona Cameron
Head of Service
NHS Lothian Infection Prevention & Control Services

For more information visit the IPCT [IPCT Intranet Homepage]

Infection Prevention and Control
"It's everyone's business"

From: Kalima, Pota
Sent: 06 July 2018 15:24
To: Cameron, Fiona; Mackenzie, Janice; Rae, Janette; Halcrow, Fiona; Guthrie, Lindsay;
Cc: 'Chris Wilson'
Subject: RE: RHC&Y SBAR Flood:

On point #4
.... further visit to new build after repair works are carried out

I understand that there will continue to be planned visits anyway which will include Janice/Fiona and Janette.

Kr
Pota

From: Cameron, Fiona
Sent: 06 July 2018 15:21
To: Mackenzie, Janice; Rae, Janette; Halcrow, Fiona; Kalima, Pota; Guthrie, Lindsay;
Cc: 'Chris Wilson'
Subject: RHC&Y SBAR Flood:

Changes accepted with one minor I have moved that tester to recommendations rather than situation

Are you happy revised version can go on to HPS

Fiona

Ms Fiona Cameron
Head of Service
NHS Lothian Infection Prevention & Control Services

For more information visit the IPCT IPCT Intranet Homepage

From: Mackenzie, Janice
Sent: 06 July 2018 15:11
To: Rae, Janette; Halcrow, Fiona; Kalima, Pota; Cameron, Fiona; Guthrie, Lindsay;
Cc: 'Chris Wilson'
Subject: RE:

Thanks Janette for this. I have made a few changes

Janice

From: Rae, Janette
Sent: 06 July 2018 13:20
To: Mackenzie, Janice; Halcrow, Fiona; Kalima, Pota; Cameron, Fiona; Guthrie, Lindsay;
Cc: 'Chris Wilson'
Subject:

Dear Janice and Fiona,
Further to our visit yesterday and my call to HFS please see attached SBAR. With regards to any testing in any areas further discussion should be had with the construction/project team, HFS and HPS for information and guidance. This SBAR may be shared with HPS .
Regards
Janette

Regards
Janette

Janette Rae
Lead HAISCRIBE IPCN
NHS Lothian Infection Prevention & Control Services

For more information visit the IPCT Intranet Homepage

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Situation

05/07/2018 Visit to view the flood damaged areas in the new RHCYA/DCN with Clinical Director Of Project, Janice Mackenzie, Fiona Halcrow Project Manager, Chris Wilson Multiplex Construction Manager, Pota Kalima Consultant Microbiologist, Christian Derbysire, Arcadis - Independent . inspector of commissioning and assurance.

Background

Over night on Wed 6th June into Thur 7th June 2018 there was extensive flooding to parts of the new build due to a break at a damaged pipe joint in the hot water carrying system. As a result there has been damage to the fabric of the building in areas of the basement, ground, first floor. This has seen damage through out the building but especially to the Radiology Department (Ground Floor) including CT Scanning rooms and MRI rooms as well as RHCYP Surgical Admissions Unit and Theatres on first floor with MRI.

Assessment

On the morning of 7th June Multiplex had their assurance photography unit in the new build. This was fortunate as they were able to go into each area taking photographs of where the water had reached, damage caused and rooms where the water had steered away from. Today there were visible signs of mould on some of the walls that had yet to be attended to by the contractors however an explanation of what was being done throughout was given. The contractors are working through the affected areas removing vinyl, plasterboard, fixed furniture, ceiling tiles etc

This report is based on what we saw at the time of visit and addresses general comments from the basement through to the first floor

1. Floor – where this has been damaged it has been uplifted and removed from the area. The floor will be dried fully, screeded and flooring re-applied
2. Coving/skirting – this has been removed and level of damp ingress marked on walls
3. Wall- where damaged the plaster board has been marked, removed up to hand rail level, with all insulation removed and replaced
4. Cabinetry- has been removed from the walls at base level where the floor is flood damaged. Signs of mould have been noted and this too has lead to the plaster board and insulation being removed and replaced as necessary
5. Electric sockets have been tested and highlighted to be addressed
6. Ceiling tiles – where there has been water ingress between floors and through the ceilings all ceiling tiles have been removed and will be replaced. Any tile that shows the slightest sign of damp will be removed even where housing a light fitting
7. Reception desks – where damaged they have been taken down and made ready for repair this will include the appropriate art works

8. Radiography – MRI and Inter-operative MRI Scanner are part of a National turnkey project. The walls in these rooms are have been lead lined, where damaged this too is being removed and replaced. 4 of the MRI scanning rooms throughout the building have been laid with concrete in support of the weight of the scanners. It has been noted that water got into this in more than one area and so to ensure the efficiency of the MRI scanners throughout the build the concrete is being drilled and removed. This will be replaced to the requirements of the turnkey project. The other rooms in the department will be addressed as above.
9. It was agreed that Janette Rae contact Geraldine O'Brien and or Susan Grant in HFS to discuss. Due to leave commitments Ian Storrar HFS was contacted and asked if there was anything else NHSL could consider or advise. However he was pleased to be assured that our NHSL Project Team and Commissioning Manager FM Project lead was fully involved in the review and works needing to be addressed. The replacement works will be reviewed as the building , the areas affected had all had first reviews undertaken by NHSL and in some instances second room reviews had been undertaken. Discussion with Janice MacKenzie and Fiona Cameron agreed that HPS be made aware of our visit to the new build and to be offered this SBAR sent.

Pota Kalima and Janette Rae asked that any equipment still in place e.g Theatre lights be covered over during works and that contractor staff continue to wear Personal Protective Equipment including masks when dealing with mould damaged plaster board.

Recommendation

1. Janette Rae to contact HFS and discuss what is being done by contractors to make building safe for use and let project team know of concerns or advice given
   Completed 05/07/18 Discussed with Ian Storrar
2. Janette Rae to discuss SBAR with Fiona Cameron re placement with HPS
   Completed 05/07/18
3. Janette Rae to ensure IPCT Nursing staff who will have this build as their remit will become part of the review team as rooms will have to be revisited with project team
4. Planned visits will continue with project team . Dr Kalima will revisit new build when repair works are complete
5. Recommendation from HFS
   Project team to seek written assurance from Contractor that:-
   a. All operatives working in impacted areas shall be given and use appropriate PPE as defined in the Contractor's risk assessment and method statement. Contractor has already provided Toolbox talks for all operatives regarding PPE to be worn and will continue to monitor this
   b. The contractor that all areas have been inspected and tested for moulds & fungi and all traces of these have been eradicated.
   c. All services (electrical, ventilation, medical gas, water, etc) have been visually checked for water damage and re-tested by qualified operatives. This should include

light fittings, containment, pipe work etc 6. Independent Tester will sign off the building prior to handover to NHSL.
Janette Richards HAISCRIBE Infection Prevention and Control Nurse
Primary Distribution Group: **Fiona Cameron Head of Service IPCT** **Lindsay Guthrie Lead IPCN** **Janice MacKenzie Project Clinical Director** **Fiona Halcrow Project Manager** **Chris Wilson Multiplex construction manager** **Pota Kalima Consultant Microbiologist ICD RHSC** **Ian Storrar HFS Principal Engineer**

From: Rae, Janette
Sent: 24 August 2018 09:32
To: Inverarity, Donald
Subject: RE: Independent verification of theatres and isolation room ventilation

Thank you for this Donald,
I am sure Ronnie Henderson , Estates Commissioning Manger, should be saying the same.
Janette

From: Inverarity, Donald
Sent: 24 August 2018 09:28
To: Sansbury, Jackie; Rae, Janette; Henderson, Ronnie; Kalima, Pota; Henderson, Naomi
Subject: RE: Independent verification of theatres and isolation room ventilation

Dear Jackie,

Thanks for your e-mails. This is absolutely an issue we need to get right given the recent experiences of my microbiology colleagues in Glasgow with their new children's hospital.

It would be useful for us to use St Johns Theatres 11,12 as a Lothian example of the process we have used as a board before.
You will know that last year theatres 11 (Ultraclean theatre for hand surgery) and 12 (Conventional theatre for eye surgery) were built and put through a validation and verification. Initially there was some confusion regarding what the "validation" and "verification" requirement would be require, particularly for Theatre 11.

The approach we took was as follows.

We insisted that the requirements of SHTM 03-01 were met in that Infection Control required a formal validation summary report (and not a collection of documents with uninterpreted particle count and pressure results which we were initially delivered).
The non-negotiable expectation from SHTM 03-01 is we need evidence of compliance with parts 8.170-8.174 on pages 136-138 of the attached.
So we should be being provided with a validation report as indicated below.

UCV validation report

8.173 Following validation a full report detailing the findings should be produced. The report shall conclude with a clear statement as to whether the UCV theatre suite achieved or did not achieve the standard set out above.
8.174 A copy of the report should be lodged with the following groups:

- operating department;
- infection control;
- estates and facilities.

The validation process, particularly for an ultraclean theatre depends on assessment on a battery of physical and engineering parameters and “microbiological” testing i.e. culturing is not part of that process –air quality being assessed by particle counts using standardised methodology.
Taking this on board, the project manager, involved in the theatre 11, 12 commissioning arranged for a company (which was not involved in the theatre construction) to do the assessment and produce the validation report. I’ve attached a copy of that report in the e-mail trail attached.

As you can see, it is a concise and easy to read document that clearly states the theatres are fit for use. However you will also see from the e-mails that a number of snagging issues were identified that needed correction first – hence why having the report produced by another company is very useful. So I would very much propose we look for independent verification based on 1. We have done it before at SJH and 2. Glasgow have identified many issues since accepting their building that they are in the process of retrospectively addressing and we should avoid finding ourselves in that position.

I find it a bit perturbing that we are being asked such questions by the builders which are very clearly answered by SHMT 03-01 which they should be very familiar with and working to.

With regards to the isolation rooms, it would seem intuitive to take the same approach of independent verification. Although this does not appear from SHTM 03-01 to be mandatory (as it is in theatres). Crucially important given the discussions we have been having about their design are the air flows, pressures and air changes achieved per hour and I would propose that smoke testing is going to be crucial in assessing that air flows are going in the correct direction (particularly if a door is open). From a verbal discussion with a colleague in Glasgow smoke testing of the isolation rooms in their new building identified that air flows were not as intended. It is a crucial bit of the design that we need evidence is correct.

Multiplex as the builder should be performing a “validation” but that is unlikely to be unbiased and may miss issues that need addressed. More crucially I think we should be asking for independent verification and a clear validation summary report indicating that all aspects of these areas are functioning as intended which is supported by SHTM 03-01.

Please note I am on annual leave next week. Drs Kalima and Henderson are included for information in case their input is required while I am away. I’m back on Sept 3rd.

Best wishes
Donald

From: Sansbury, Jackie
Sent: 23 August 2018 17:10
To: Rae, Janette; Inverarity, Donald; Henderson, Ronnie
Subject: Independent verification of theatres and isolation room ventilation

Dear all, at the commissioning meeting with Multiplex yesterday they asked me what verification we wanted to carry out for theatres and isolation rooms.
They were at great pains to separate out validation from verification.
It appears in Glasgow the same person did both. It also appears that in Dumfries and Galloway they insisted on an independent verification.
Can you advise me what we wish to do?

Also what do we wish to do for the UV canopies? They thought we would wish to do microbiological checks.

I would be grateful for your advice.
Many thanks
Jackie

Jackie Sansbury
Head of Commissioning
RHSC & DCN - Little France
NHS Lothian

RHSC & DCN Site Office
Little France Crescent
Edinburgh EH16 4TJ

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From: Rae, Janette
Sent: 29 December 2016 12:01
To: Hull, Ashley
Cc: Olson, Ewan; Inverarity, Donald
Subject: RE: THEATRES NEW BUILD
Attachments: SHTM 03 01 ventilation part b operational management.pdf

Dear Ashley,
Here are the documents that provide the info required re the commissioning etc of Theatres.

Ewan and Donald do you have any other information to add?
Regards
Janette

https://www.his.org.uk/files/5213/7338/2929/Microbiological_Commissioning_and_Monitoring.pdf

Janette Richards
Lead HAISCRIBE Infection Prevention and Control Nurse
NHS Lothian
14 Rillbank Terrace
Edinburgh
EH9 1LL

Link to Infection Control Manual

http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/A-Z/InfectionControl/Pages/default.aspx

---

From: Hull, Ashley
Sent: 29 December 2016 11:46
To: Richards, Janette
Subject: RE: THEATRES NEW BUILD

Hi Janette

Thank you for getting back to me so quickly.

Much appreciated

Ashley

Ashley Hull
Commissioning Manager
RHSC /DCN Site Office
Little France Crescent
Edinburgh
EH16 4JT

From: Richards, Janette
Sent: 29 December 2016 11:37
To: Hull, Ashley
Subject: RE: THEATRES NEW BUILD

Dear Ashley
I had a lovely Christmas thank you hope you did too.

Air sampling will have to be done at commissioning before you let staff go in and out putting in equipment etc. As this will be part of the assurance protocol that the air handling units are working. As for frequency after that prior to the theatres actually becoming functional I will have to look up and get back to you,
Regards
Janette

Janette Richards
Lead HAISCRIBE Infection Prevention and Control Nurse
NHS Lothian
14 Rillbank Terrace
Edinburgh
EH9 1LL

Link to Infection Control Manual

http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/A-Z/InfectionControl/Pages/default.aspx

From: Hull, Ashley
Sent: 29 December 2016 10:21
To: Richards, Janette
Subject: THEATRES NEW BUILD

Good Morning Janette

Hope you had a rest over Christmas. I take it you have been busy.

Just a quick question in relation to air sampling new theatres.

My thoughts are :

The plan is to move RHSC first and then DCN .

When would the appropriate time to air sample these theatres . I am proposing that all staff start to wear scrubs as from January 1st 2018.

I do not want to find issues a few days before the move and find that the move would be delayed. So when do you advise us to start remembering that we want no delays and would DCN be completed at the same time. All the

equipment should be in before Christmas 2017 .Only the transfer equipment to follow. Which is not as much as you think except for instrument trays, microscopes , stacks etc.

My other plan is that there is one delivery point DCN recovery this will allow us to control traffic as DCN will be the last in to theatres.

The plan for critical care is once the building clean is completed. Our domestics will start to clean them on a regular basis i.e. daily.

Kind Regards

Ashley

Ashley Hull
Commissioning Manager
RHSC /DCN Site Office
Little France Crescent
Edinburgh
EH16 4JT

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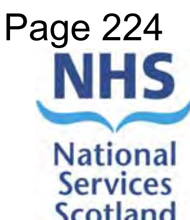
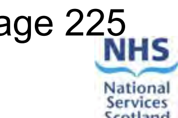


Scottish Health Technical Memorandum 03-01:

Ventilation for healthcare premises
Part B: Operational management and performance verification

October 2011



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Acknowledgements

Health Facilities Scotland would like to thank the principal contributors and the Steering Group led by the Department of Health for their efforts in producing the HTM 03-01 Part B document.

HTM 03-01 Part B has been updated and amended by Health Facilities Scotland for use in NHSScotland as SHTM 03-01 Part B. The contribution made by the National Heating & Ventilation Advisory Group is gratefully acknowledged.

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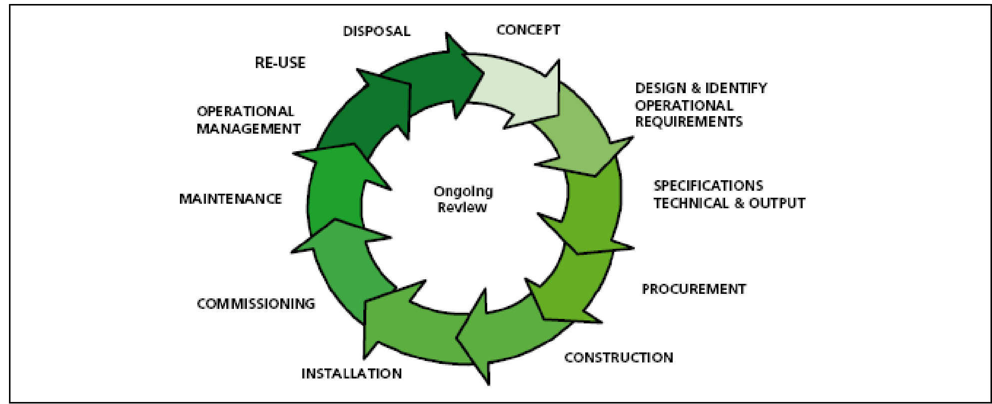
Preface

About Scottish Health Technical Memoranda

Scottish Engineering Health Technical Memoranda (SHTMs) give comprehensive advice and guidance on the design, installation and operation of specialised building and engineering technology used in the delivery of healthcare.

The focus of Scottish Health Technical Memorandum guidance remains on healthcare-specific elements of standards, policies and up-to-date established best practice. They are applicable to new and existing sites, and are for use at various stages during the whole building lifecycle.



Healthcare building life-cycle

Healthcare providers have a duty of care to ensure that appropriate engineering governance arrangements are in place and are managed effectively. The Scottish Engineering Health Technical Memorandum series provides best practice engineering standards and policy to enable management of this duty of care.

It is not the intention within this suite of documents to repeat unnecessarily international or European standards, industry standards or UK Government legislation. Where appropriate, these will be referenced.

Healthcare-specific technical engineering guidance is a vital tool in the safe and efficient operation of healthcare facilities. Scottish Health Technical Memorandum guidance is the main source of specific healthcare-related guidance for estates and facilities professionals.

The core suite of eight subject areas provides access to guidance which:

- is more streamlined and accessible;

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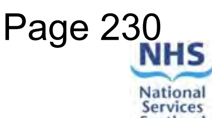

- encapsulates the latest standards and best practice in healthcare engineering;
- provides a structured reference for healthcare engineering.

Structure of the Scottish Health Technical Memorandum suite

The series of engineering-specific guidance will ultimately contain a suite of eight core subjects pending a re-assessment of Firecode SHTMs 81-86.

Scottish Health Technical Memorandum 00: Policies and principles (applicable to all Health Technical Memoranda in this series)

Scottish Health Technical Memorandum 01: Decontamination

Scottish Health Technical Memorandum 02: Medical gases

Scottish Health Technical Memorandum 03: Heating and ventilation systems

Scottish Health Technical Memorandum 04: Water systems

Scottish Health Technical Memorandum 05: Reserved for future use.

Scottish Health Technical Memorandum 06: Electrical services

Scottish Health Technical Memorandum 07: Environment and sustainability

Scottish Health Technical Memorandum 08: Specialist services

Some subject areas may be further developed into topics shown as -01, -02 etc and further referenced into Parts A, B etc.

Example: Scottish Health Technical Memorandum 06-02 Part A will represent Electrical Services – Electrical safety guidance for low voltage systems.

In a similar way Scottish Health Technical Memorandum 07-02 will simply represent Environment and Sustainability - EnCO_2de.

All Scottish Health Technical Memoranda are supported by the initial document Scottish Health Technical Memorandum 00 which embraces the management and operational policies from previous documents and explores risk management issues.

Some variation in style and structure is reflected by the topic and approach of the different review working groups.

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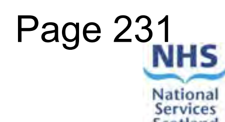

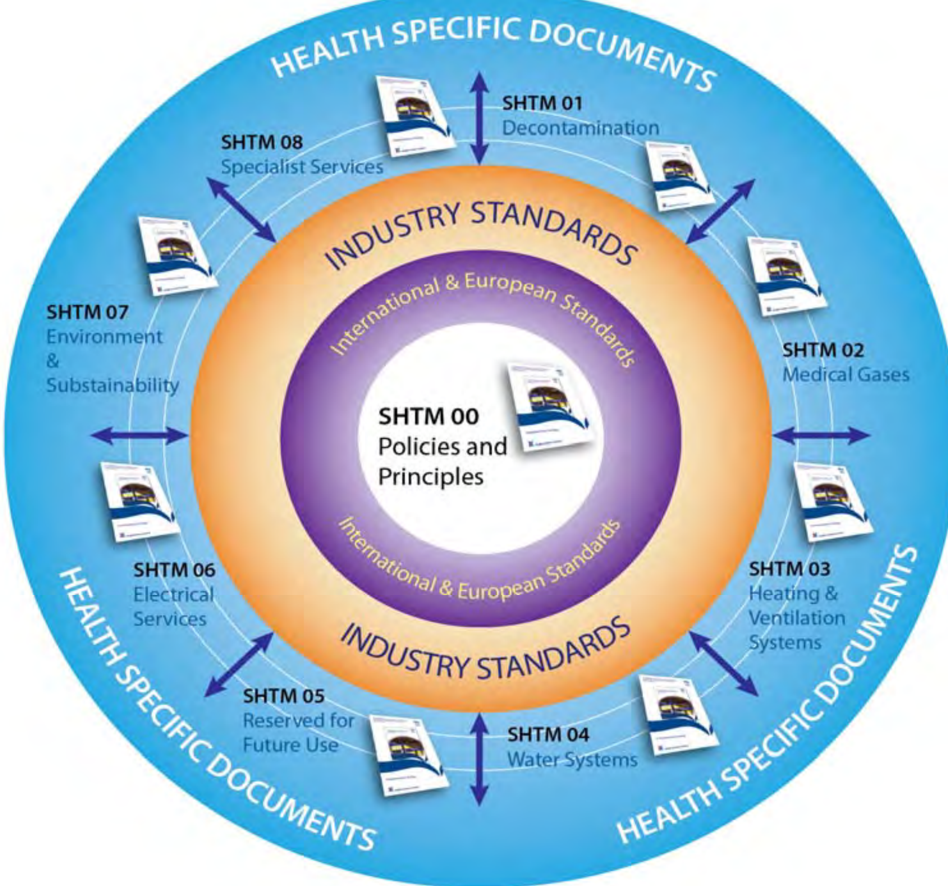

Engineering guidance

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Executive summary

Scottish Health Technical Memorandum 03-01: 'Ventilation in healthcare premises' is published in two parts. Part A deals with the design and installation of ventilation systems; Part B covers operational management.

The document gives comprehensive advice and guidance on the legal requirements, design implications, maintenance and operation of specialised ventilation in all types of healthcare premises.

The guidance contained in this Scottish Health Technical Memorandum applies to new installations and major refurbishments of existing installations.

Scottish Health Technical Memorandum 03-01 supersedes all previous versions of Scottish Health Technical Memorandum 2025: 'Ventilation in healthcare premises'.

Who should use this guidance?

This document is aimed at healthcare management, estates managers and operations managers.

Main recommendations

- all ventilation plant should meet a minimum requirement in terms of the control of *Legionella* and safe access for inspection and maintenance;
- all ventilation plant should be inspected annually;
- the performance of all critical ventilation systems (such as those servicing operating suites) should be verified annually.

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1. Introduction

1.1 Scottish Health Technical Memorandum 03-01: 'Ventilation in healthcare premises' is published in two parts. Part A deals with design and validation of general and specialised ventilation; Part B covers operational management.

1.2 The document gives comprehensive advice and guidance to healthcare management, design engineers, estates managers and operations managers on the legal requirements, design implications, maintenance and operation of specialised ventilation in all types of healthcare premises.

1.3 The guidance contained in this Scottish Health Technical Memorandum applies to new installations and major refurbishments of existing installations.

1.4 Scottish Health Technical Memorandum 03-01 supersedes all previous versions of Scottish Health Technical Memorandum 2025: 'Ventilation in healthcare premises'.

Ventilation in healthcare premises

1.5 Ventilation is used extensively in all types of healthcare premises to provide a safe and comfortable environment for patients and staff. More specialised ventilation is provided in areas such as operating departments, critical care areas and isolation facilities for primary patient treatment.

1.6 It is also installed:

- to ensure compliance with the quality assurance requirements of items processed in pharmacies and sterile services departments;
- to protect staff from harmful organisms and toxic substances (for example in laboratories).

Statutory requirements

1.7 Increased health risks to patients will occur if ventilation systems do not achieve and maintain the required standards. The link between surgical site infection and theatre air quality has been well established.

If the ventilation plant has been installed to dilute or contain harmful substances, its failure may expose people to unacceptable levels of contamination. Proven breaches of the statutory requirements can result in prosecution and may also give rise to a civil suit against the operators.

Health and Safety at Work etc Act 1974

1.8 The Health and Safety at Work etc Act 1974 is the core legislation that applies to ventilation installations. As these installations are intended to prevent

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contamination, control closely the environment, dilute contaminants or contain hazards, their very presence indicates that potential risks to health have been identified.

COSHH

1.9 The Control of Substances Hazardous to Health (COSHH) Regulations 2002 place upon management an obligation to ensure that suitable measures are in place to protect their staff and others affected by the work activity. These methods may include both safe systems of work and the provision of a specialised ventilation system. In laboratories the requirements are often met by the provision of fume cupboards and microbiological safety cabinets.

1.10 Where specialised ventilation plant is provided as part of the protection measures, there is a statutory requirement that it be correctly designed, installed, commissioned, operated and maintained. The local exhaust ventilation (LEV) section of COSHH requires that the system be examined and tested at least every 14 months by a competent person and that management maintain comprehensive records of its performance, repair and maintenance.

1.11 Certain substances have workplace exposure limits (WELs) set out in the Health and Safety Executive's Guidance Note EH40 – 'Workplace exposure limits: containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations 2002 (as amended)'. If specialised ventilation systems are provided in order to achieve these standards, they will be subject to the COSHH Regulations as above.

Fire regulations

1.12 The Fire Regulations require that if ventilation ductwork penetrates the fabric of a building, it should be designed and installed so as to contain the spread of fire (see Firecode: SHTM 81: 'Fire Precautions in New Hospitals, Version 3' and the requirements of the Scottish Technical Handbooks, Non-Domestic, Section 2: Fire, published by the Scottish Building Standards Agency).

1.13 It is management's responsibility to ensure that the standards applied during the design and installation are not reduced during the subsequent operation and maintenance of the equipment.

Plants installed in units manufacturing medicinal products

1.14 Plants installed in units manufacturing medicinal products to the standards set out in the current European guide to good manufacturing practice (http://ec.europa.eu/enterprise/pharmaceuticals/ eudralex/homev4.htm) may also be subject to particular legislation with regard to their operation and maintenance.

1.15 There are specific requirements under the Medicines Act 1968 to maintain accurate records of plant performance, room conditions and maintenance

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events. Such records would need to be preserved for up to 35 years as part of a quality assurance audit trail.

Plants installed in laboratories

1.16 Specialised ventilation plants installed in laboratories dealing with research, development or testing, whether involving drugs, animals or genetically modified organisms, may be subject to particular legislation with regard to their operation in addition to that mentioned above.

Codes of practice and guidance

1.17 All ventilation systems should conform to the principles set out in the Health and Safety Commission's Approved Code of Practice and guidance document 'Legionnaires' disease: the control of *Legionella* bacteria in water systems' (commonly known as L8), and Scottish Health Technical Memorandum 04-01: 'The control of *Legionella*, hygiene, 'safe' hot water, cold water and drinking water systems'.

1.18 Scottish Health Facilities Note 30: 'Infection Control in the Built Environment, Design and planning' guides and stimulates thinking on the planning of and execution of new construction and refurbishment works in all types of healthcare facilities. Ventilation systems (covered in this guidance) play an important role in reducing the risk of Healthcare Associated Infection.

Management responsibilities – general

1.19 It is a management responsibility to ensure that inspection, service and maintenance activities are carried out safely without hazard to staff, patients or members of the public.

1.20 Those required to monitor and/or maintain ventilation equipment will need to show that they are competent to do so (see Section 2).

1.21 Maintenance procedures should be reviewed periodically to ensure that they remain appropriate.

System information

1.22 When new ventilation systems are accepted for use, full information as to their designed mode of operation together with recommended maintenance procedures should be provided as part of the handover procedure.

1.23 In many existing systems, original design and commissioning information will not be available. It will therefore be necessary to determine a suitable level of system performance based on the function, purpose and age of the installation.

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1.24 Part A of this Scottish Health Technical Memorandum gives design parameters for new installations.

1.25 Section 3 of this document sets out the minimum standards for all air-handling units (AHUs) and their air distribution systems.

1.26 Ventilation system records and logbooks should be kept of the commissioning information, operational management routine, monitoring and maintenance. The Health and Safety Executive and other interested bodies have a statutory right to inspect them at any time. All records should be kept for at least five years.

> **Note 1**: In the event of a reportable incident connected with ventilation equipment or the area that it serves; all records and plant logbooks will need to be collected as evidence.

1.27 A set of specimen maintenance checklists is given in Appendix 1.

Frequency of inspections and verifications

1.28 All ventilation systems should be subject to, at least, a simple visual inspection annually.

1.29 Ventilation systems serving critical care areas should be inspected quarterly and their performance measured and verified annually. The quarterly inspection should be a simple visual check; the annual verification will be a more detailed inspection of the system together with the measurement of its actual performance.

1.30 The LEV section of the COSHH Regulations contains a statutory requirement that systems installed to contain or control hazardous substances be examined and tested at least every 14 months by a competent person.

1.31 Regular tests, at intervals agreed with the local fire prevention officer, will need to be carried out in order to demonstrate the continuing efficiency of the fire detection and containment systems. These may be in addition to the inspections detailed above. Records of these tests should be kept.

Implications of PPP/PFI Procurement

1.32 While the ultimate responsibilities as set out in this SHTM in terms of overall management remain with NHS Boards, when a new or recent hospital has been procured via the Public-Private Partnership (PPP) or Private Finance Initiative (PFI) routes, there are changes in the chain of responsibilities.

1.33 More often than not, the operator of the facility will subcontract or enter into partnership with a Facilities Management (FM) Provider who will maintain and operate mechanical and electrical installations, including ventilation systems. It is not unknown for the FM provider to be the NHS Board’s own estates staff. Whichever organisation carries out the functions set out in this SHTM, it will be

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necessary for the same practice and procedures to be carried out, records maintained and reports prepared to maintain an audit trail. These have to be submitted to the NHS Board for which the hospital has been established. The NHS Board will retain in-house estates staff and/or technical advisers to monitor these records and reports, having the right to comment where performance standards are not being achieved, inspect installations, and seek to ensure that remedial measures are put in hand and monitored as to their effect.

In the event that a civil suit is served on a NHS Board, they would seek redress from the operator of the Hospital, where appropriate.

1.34 Issues related to control of infection where mechanical ventilation systems are implicated will be the remit of the NHS Board’s control of infection teams set up for the purpose and representation should be arranged for estates staff or the FM Provider so that any remedial action agreed can be can be set in motion without delay.

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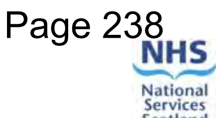

2. Functional responsibilities

Management responsibilities

2.1 Clear lines of managerial responsibility should be in place so that no doubt exists as to who is responsible for the safe operation and maintenance of the equipment.

2.2 A periodic review of management systems should take place in order to ensure that the agreed standards are being maintained.

2.3 Those required to inspect, verify or maintain ventilation equipment will need to show that they are competent to do so. As a minimum they should have sufficient knowledge of its correct operation to be able to recognise faults.

2.4 It is anticipated that training in the validation and verification of specialised healthcare ventilation systems for Authorised Persons and Competent Persons will become available during the life of this Scottish Health Technical Memorandum.

Designated staff functions

2.5 A person intending to fulfil any of the staff functions specified below should be able to prove that they possess sufficient skills, knowledge and experience to be able to perform safely the designated tasks.

Management

2.6 Management is defined as the owner, occupier, employer, general manager, chief executive or other person who is ultimately accountable for the safe operation of premises.

Designated Person

2.7 This person provides the essential senior management link between the organisation and professional support. The Designated Person should also provide an informed position at board level.

Authorising Engineer (Ventilation) (AE(V))

2.8 The AE(V) is defined as a person designated by Management to provide independent auditing and advice on ventilation systems and to review and witness documentation on validation.

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Authorised Person (Ventilation) (AP(V))

2.9 The AP(V) will be an individual possessing adequate technical knowledge and having received appropriate training, appointed in writing by the Designated Person (in conjunction with the advice provided by the AE(V)), who is responsible for the practical implementation and operation of Management's safety policy and procedures relating to the engineering aspects of ventilation systems.

Competent Person (Ventilation) (CP(V))

2.10 The CP(V) is defined as a person designated by Management to carry out maintenance, validation and periodic testing of ventilation systems.

Infection Control Officer

2.11 The Infection Control Officer (or consultant microbiologist if not the same person) is the person nominated by management to advise on monitoring the infection control policy and microbiological performance of the systems.

2.12 Major policy decisions should be made through an infection control committee. The infection control committee should include representatives of the user department and estates and facilities or their nominated representative (that is, the Authorised Person).

Plant Operator

2.13 The Plant Operator is any person who operates a ventilation installation.

User

2.14 The User is the person responsible for the management of the unit in which the ventilation system is installed (for example head of department, operating theatre manager, head of laboratory, production pharmacist, head of research or other responsible person).

Contractor

2.15 The Contractor is the person or organisation responsible for the supply of the ventilation equipment, its installation, commissioning or validation. This person may be a representative of a specialist ventilation organisation or a member of the general manager/chief executive's staff.

Records

2.16 A record should be kept of those appointed to carry out the functions listed above. The record should clearly state the extent of the postholder's duties and responsibilities, and to whom they are to report.

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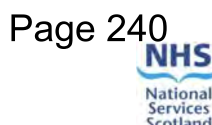

2.17 Substitute or replacement staff should be designated in order to cover for sickness, holidays and staff transfers.

Training

2.18 Routine inspection and maintenance procedures can cause risks to the health of staff carrying out the work and those receiving air from the plant. All those involved should be made aware of the risks, and safe systems of work should be agreed. Suitable safety equipment should be provided as necessary, and training in its use should be given.

2.19 Any training given should be recorded, together with the date of delivery and topics covered.

2.20 Training in the use of safety equipment and a safe system of work will need to be repeated periodically in order to cater for changes in staff.

Specific health and safety aspects

2.21 Staff engaged in the service and maintenance of extract ventilation systems from pathology departments, mortuaries, laboratories, source-protective isolation facilities and other areas containing a chemical, biological or radiation hazard may be particularly at risk. In these cases, the risk should be identified and assessed.

2.22 The means by which the system can be rendered safe to work on should be determined, and a permit-to-work on the system implemented.

2.23 Training in the exact procedures should be given to all staff involved.

2.24 Some healthcare facilities may contain specialised units that are subject to access restrictions (for example pharmacy aseptic suites). Estates or contract staff requiring access may need additional training or to be accompanied when entering the unit.

Note 2: See also the following guidance published by the Health and Safety Commission's Health Services Advisory Committee:

- 'Safe working and the prevention of infection in clinical laboratories and similar facilities';
- 'The management, design and operation of microbiological containment laboratories';
- 'Safe working and prevention of infection in the mortuary and post-mortem room'.

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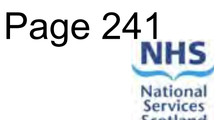

3. Ventilation systems – minimum requirements

General requirements

3.1 All ventilation systems should be inspected annually to ensure conformity with minimum requirements, which are designed to:

- ensure safe access when carrying out routine service and maintenance activities;
- prevent or control risks associated with *Legionella* and other potential hazardous organisms;
- check that the system remains fit for purpose;
- maintain records of outcomes.

3.2 Every effort should be made to ensure that all AHUs achieve the minimum requirement set out below.

Location and access

3.3 AHUs should be secured from unauthorised access.

3.4 Units located on roofs must have a safe and permanent means of access. Suitable precautions must be in place to prevent personnel or equipment from falling during maintenance activities.

3.5 Units located outside at ground level should be secured within a compound to prevent unauthorised access. Vehicles should be excluded from the vicinity to ensure that exhaust fumes will not be drawn into intakes.

3.6 All parts of the AHU should be easily and safely accessible for routine inspection and service.

3.7 The area around an AHU within a building should be tanked to prevent water penetration to adjacent areas, and should be adequately drained.

3.8 Fire precautions should be in accordance with Firecode.

3.9 Combustion equipment must not be located in a fire compartment that houses air-handling equipment.

3.10 Plantrooms that house AHUs must not be used for general storage. Care should be taken to ensure that combustible material is not kept in the plantroom.

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Basic requirements

3.11 The plant must not contain any material or substance that could support the growth of microorganisms.

3.12 The plant must not contain any material or substance that could cause or support combustion.

3.13 Access to items that require routine service, such as filters, coils and chiller batteries, should be via hinged doors.

3.14 Items requiring infrequent access such as attenuators may be via clipped or bolted-on lift-off panels.

3.15 All doors and panels should be close-fitting and without leaks.

3.16 Every effort should be made to ensure that access is via fixed ladders and platforms or pulpit-style movable steps.

3.17 Electrical and mechanical services should not restrict or impede access to those parts of the AHU that require inspection.

3.18 Viewing ports and internal illumination should be fitted in order to inspect filters and drainage trays.

3.19 Internal illumination should be provided by fittings to at least IP55 rating. Fittings should be positioned so that they provide both illumination for inspection and task lighting.

3.20 A single switch should operate all of the lights in a unit.

AHU intakes and discharges

3.21 Intake and discharge points should not be situated where they will cause vitiated air to be drawn into a system (see paragraphs 3.61-3.71) in Part A, which give detailed information). In existing systems, it may be necessary to extend the intake or discharge point to a suitable position.

3.22 Each intake and discharge point should be fitted with corrosion-resistant weatherproof louvres or cowls to protect the system from driving rain. The inside of the louvres should be fitted with a mesh of not less than 6mm and not more than 12mm to prevent infestation by vermin and prevent leaves being drawn in.

3.23 The duct behind a louvre should be self-draining. If this is not practicable, it should be tanked and provided with a drainage system. Cleaning access must be provided either from the outside via hinged louvres or by access doors in the plenum behind the louvre. Where a common plenum is provided, cleaning access should be via a walk-in door.

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AHU drainage system

3.24 All items of plant that could produce moisture must be provided with a drainage system. The system will comprise a drip-tray, glass trap, air break and associated drainage pipework.

3.25 Some existing units may not have been mounted far enough above the floor to permit the correct installation of a drainage system. If the AHU cannot be raised to an adequate height, an alternative arrangement (such as a pump-out system) must be provided.

3.26 The drip-tray should be constructed of a corrosion-resistant material (stainless steel is preferred) and be so arranged that it will completely drain. To prevent 'pooling', it is essential that the drain connection should not have an upstand and that a slope of approximately 1 in 20 in all directions should be incorporated to the drain outlet position. The tray must be completely accessible or, for smaller units, easily removable for inspection and cleaning.

3.27 Each drip-tray should be provided with its own drain trap. The drain trap should be of the clear (borosilicate) glass type. This permits the colour of the water seal to be observed, thus giving an early indication of corrosion, biological activity or contamination within the duct (Part A, Section 4, paragraphs 4.20-4.25 refer and paragraph 3.29 of this Part B).

3.28 The trap should have a means for filling and should incorporate couplings to facilitate removal for cleaning. It should be located in an easily visible position where it will not be subject to casual knocks. The pipework connecting it to the drainage tray should have a continuous fall of not less than 1 in 20.

3.29 Traps fitted to plant located outside or in unheated plantrooms may need to be trace-heated in winter. The trace heating should be checked for operation and must not raise the temperature of water in the trap above 5°C.

3.30 Water from each trap must discharge via a clear air gap of at least 15mm above the unrestricted spill-over level of either an open tundish connected to a drainage stack via a second trap, or a floor gully (or channel). A support should be provided to ensure that the air gap cannot be reduced. More than one drain trap may discharge into the tundish, providing each has its own air break.

3.31 Drainage pipework may be thermoplastic, copper or stainless steel. Glass should not be used. The pipework should be a minimum diameter of 22mm and have a fall of at least 1 in 60 in the direction of flow. It should be well supported, and located so as not to inhibit access to the AHU.

Dampers

3.32 AHUs serving critical areas and those areas that are shut down out of hours should be fitted with motorised low-leak shut-off dampers located immediately behind the intake and discharge of each supply and extract system.

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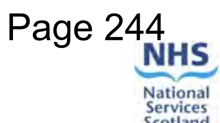

Fan drives

3.33 Fan-drive trains, whether supply or extract, should be easily visible without the need to remove access covers. Protecting the drive train with a mesh guard is the preferred option. For weatherproof units designed to be located outside, the fan drive should be enclosed. It should be easily visible through a viewing port with internal illumination and be accessed via a lockable, hinged door.

3.34 The motor windings of induction-drive ‘plug’ motor arrangements and in-line axial fans having a pod motor within the air stream must be protected from over-temperature by a thermistor and lockout relay.

3.35 It is necessary to ensure that – should the computer control system or its software develop a fault – the fan can be switched to a direct start with fixed speed and manual operation. This is particularly important for critical care systems serving operating suites, high dependency care units of any type, isolation facilities, laboratories and pharmaceutical production suites.

Heater & Frost batteries

3.36 Access for cleaning must be provided to both sides of frost batteries and heater-batteries.

3.37 Where auxiliary wet heater-batteries are located in false ceilings, they should be fitted with a catch tray and leak alarm. The catch tray should be installed under both the battery and the control valve assembly to protect the ceiling from leaks. A moisture sensor and alarm should be fitted in the tray. Placing wet heater batteries in ceiling voids should be avoided if at all possible.

Cooling coils

3.38 Each cooling coil – whether within the AHU or within a branch duct – must be fitted with its own independent drainage system as specified above. A baffle or similar device must be provided in the drip-tray to prevent air bypassing the coil, and the tray should be large enough to capture the moisture from the eliminator, bends and headers.

3.39 The cooling-coil control valve should close upon selection of low speed, system shutdown, low air-flow or fan failure.

3.40 Where auxiliary wet-cooling coils are located in false ceilings, they should be fitted with a catch tray and leak alarm. The catch tray should be installed under both the battery and the control valve assembly to protect the ceiling from leaks. A moisture sensor and alarm should be fitted in the tray.

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Humidifiers

3.41 Humidifiers are not generally required. Where they are fitted, but have been out of use for a significant period of time, they should be removed. All associated pipework should also be removed back to its junction with the running main.

3.42 Where humidifiers are fitted and their use is still required, they should fully conform to the installation standard set out in Section 4 of Part A.

3.43 The section of ductwork containing the humidifier may need to be periodically decontaminated. Hinged access doors with viewing ports and internal illumination should be provided.

3.44 All humidifiers must be fitted with their own independent drainage system as detailed above.

3.45 Only steam-injection humidifiers, whether mains fed or locally generated, are suitable for use in air-conditioning systems within healthcare facilities. Water humidifiers, if fitted, should be removed.

3.46 Self- and locally-generated steam humidifiers must be supplied with potable water. The installation should be capable of being isolated, drained and cleaned. Section 4 in Part A of this Scottish Health Technical Memorandum gives further details.

3.47 Some steam generators are of a type that requires regular cleaning and descaling. The installation should enable them to be physically isolated from the air duct in order to prevent contamination of the air supply by cleaning agents.

3.48 The humidifier control system should fully conform to the standard set out in Sections 4 and 6 of Part A.

Filtration

3.49 Filters must be securely housed and sealed in well-fitting frames that minimise air bypass. Air bypass significantly reduces filter efficiency: the higher the filter grade, the greater the effect. Mounting frames should be designed so that the air flow pushes the filter into its housing to help minimise air bypass.

3.50 All filters should be of the dry type. Panel filters are generally used as pre-filters and should be positioned on the inlet side of the supply fan, downstream of the frost battery. Where required, secondary filters (these will be bags or pleated paper) should be on the positive-pressure side of the fan.

3.51 The filter installation should provide easy access to filter media for cleaning, removal or replacement; therefore, a hinged access door should be provided. The upstream side of the filter should be visible for inspection through a viewing port with internal illumination.

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3.52 All filters should be provided with a means of checking the differential pressure across them. Direct-reading dial-type gauges marked with clean and dirty sectors are preferred.

High-efficiency filters – HEPA and ULPA

3.53 Where fitted, HEPA filters should be of the replaceable-panel type with leak-proof seals. Their installation should permit the validation of the filter and its housing.

3.54 HEPA filters are sometimes used in extract systems for the containment of hazardous substances or organisms. They may be fitted with pre-filters to extend their service life.

3.55 When used for the containment of hazardous substances, the installation should incorporate design provision for the subsequent safe removal and handling of contaminated filters by maintenance staff.

Energy recovery

3.56 Energy recovery, where fitted, will require cleaning access to both sides of the device.

3.57 Whichever type of energy recovery device is fitted, the extract side should be protected by a G3 filter and provided with a drainage system to remove condensate.

3.58 The heat-recovery device should be controlled in sequence with the main heater-battery, and may need to incorporate a control to prevent the transfer of unwanted heat when the air-on condition rises above the plant's required set point.

Attenuation

3.59 Cleaning access should be provided at both ends of any attenuator unit.

Identification and labelling

3.60 All supply and extract ventilation systems should be clearly labelled. The label should identify both the AHU and the area that it serves. The lettering should be at least 50mm high and be mounted in an easily visible place near the fan of the unit. Any sub-systems and the principal branch ducts should be similarly labelled.

3.61 The direction of air-flow should be clearly marked on all main and branch ducts.

3.62 All air-flow test-points should be clearly identified and the size of the duct given.

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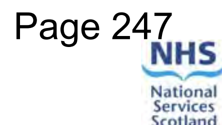

Pressure stabilisers

3.63 Pressure stabilisers should be unobstructed and silent in operation.

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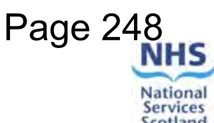

4. Annual inspection and verification requirements

Ventilation systems inspection

4.1 All ventilation systems should be subject to at least a simple visual inspection annually.

4.2 The purpose of the inspection is to establish that:

- the system is still required;
- the AHU conforms to the minimum standard (see Section 3);
- the fire containment has not been breached;
- the general condition of the system is adequate for purpose;
- the system overall is operating in a satisfactory manner.

4.3 It is recommended that a simple check sheet be used to record the result of the inspection. Examples are given in Appendices 1 and 2.

Critical ventilation systems

4.4 All critical ventilation systems should be inspected quarterly and verified at least annually. In some circumstances the verification may need to be carried out more frequently.

4.5 The quarterly inspection should be as detailed in paragraphs 4.1 – 4.3.

4.6 The purpose of the annual verification will be to ensure additionally that the system:

- achieves minimum standards specific to the application;
- is operating to an acceptable performance level;
- remains fit for purpose.

Definition of a critical system

4.7 Ventilation systems serving the following are considered critical:

- operating theatres of any type, including rooms used for investigations (for example catheter laboratories);
- patient isolation facility of any type;
- critical care, intensive treatment or high-dependency unit;
- neonatal unit;

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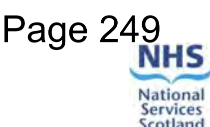

- Category 3 or 4 laboratory or room;
- pharmacy aseptic suite;
- inspection and packing room in a sterile services department;
- MRI, CAT and other types of emerging imaging technologies that require particularly stable environmental conditions to remain within calibration;
- any system classified as an LEV system under the COSHH Regulations;
- any other system that clearly meets the definition.

4.8 The loss of service from such a system would seriously degrade the ability of the premises to deliver optimal healthcare.

Annual verification

4.9 The annual verification is intended to establish that:

- the system is still required;
- the AHU conforms to the minimum standard (see Section 3);
- the fire containment has not been breached;
- the general condition of the ventilation system is adequate;
- the fabric of the area served is satisfactory;
- the system performance is adequate with respect to the functional requirement – this will require:
  - a full measure of the supply and extract air-flow rates;
  - the calculation of room air-change rates if applicable;
  - the measurement of room differential pressures if applicable;
  - the measurement of room noise levels;
  - air-quality checks if appropriate;
  - a check on the control functions.

4.10 An assessment should then be made as to whether the system overall is fit for purpose and operating in a satisfactory manner.

Fabric of the area served

4.11 The building elements in the room or rooms served by a critical ventilation system should also be suitable for the function. As an example, in a suite of rooms comprising an operating theatre complex, the following elements should be checked:

- the ceiling should be complete and, if tiled, all tiles should be clipped down and sealed;

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- the walls and floors should be free from significant construction and finish defects;
- windows and their trickle vents should be sealed and locked shut;
- the doors should close completely and the door closers should be correctly adjusted to hold them against the room pressure;
- all service penetrations and access panels should be sealed to prevent uncontrolled air flow between rooms and service voids;
- steps should have been taken (if necessary) to prevent portable equipment and stock items from obstructing low-level supply, transfer or extract airflow paths.

4.12 Failure to achieve a suitable standard will render even the most sophisticated ventilation system ineffective.

4.13 All fire dampers should be tested as part of the annual verification.

4.14 LEV systems will be subject to an examination and test by a competent person at least every 14 months.

4.15 Table 1 overleaf provides a model for the verification of critical ventilation systems.

Critical ventilation systems – verification standards

4.16 Unless otherwise specified below, the ventilation system should achieve not less than 75% of the design air-change rate given in Appendix 1 of Part A, or its original design parameters.

4.17 The pressure regime should achieve not less than 75% of the design value given in Appendix 1 of Part A, or its original design parameters; and the pressure gradient relationships with regards to surrounding areas must be maintained.

4.18 The sound levels given in Table 2 overleaf are maximum permissible levels and should not be exceeded. Measurements should be made using at least a Type 2 sound meter fitted with a muff. Its accuracy should be checked using a calibration sound source before use.

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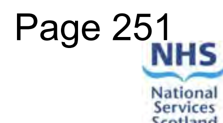

Step	Question	Information/standard required	Comment
1	Is the system still required?	Why was it installed?	Is that function still required?
2	Does the AHU achieve the minimum standard?	Health and safety aspects Intake/discharge positions Inspection access *Legionella* control and drainage Fire and electrical safety Leaks, cleanliness and insulation Filtration	Inspect to ascertain compliance with minimum standards set out in Section 3 Part B of this SHTM
3	Is the air distribution system satisfactory?	Access Fire dampers Cleanliness Insulation Identification Room terminals Pressure stabilisers	Inspect to ascertain continued fitness for purpose
4	Does the measured system performance still accord with the design intent and achieve a minimum acceptable standard?	Design air velocities Design air-flow rates Room air-change rates Pressure differentials Noise levels Air quality	Establish the design values Measure the system output to verify its performance
5	Does the control system function correctly?	Desired environmental conditions Control sequence logic Run; set back, off philosophy	Establish the design requirement Inspect/test to verify performance
6	Having regard to the foregoing, is the system 'fit for purpose' and will it only require routine maintenance in order to remain so until the next scheduled verification?		Yes or No
7	What routine service and maintenance will be required for the system to remain fit for purpose and function correctly until the next scheduled verification?	Filter changes System cleaning Performance indication Performance monitoring Performance measurement	Decide inspection frequency and maintenance schedule

Table 1: Operational management and routine verification process model

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Location	Design sound level (NR)	Measured sound level (dB (A))
Ultra-clean operating room	50	55
Conventional operating room	40	45
All other non-specified rooms	40	45
Corridors	40	45
Recovery room	35	40
Ward areas, sleeping areas	30	35

Table 2: Maximum sound levels (service noise only)

Vertical ultra-clean operating theatres

4.19 The following additional measurements should be taken:

- the average air velocity at the 2m level under the canopy: it should achieve a minimum average of 0.38 m/s for a partial wall system and 0.3 m/s for a full wall system;
- the air velocity within the inner zone at the 1m level: every reading should achieve a minimum velocity of 0.2 m/s.

4.20 The air velocity measurements are to be taken using the equipment, test grid and method set out in Section 8 of Part A.

Note 3: There is no requirement to carry out filter scanning or entrainment tests at the annual verification unless the HEPA filters or recirculating air fans are changed, or the system is in some other significant way disturbed or altered. Changing the filters in the AHU or recirculating air filters does not constitute a significant disturbance to the ultra-clean ventilation (UCV) unit.

4.21 Should the UCV terminal fail to achieve a suitable standard, resulting in the need to disturb or replace the HEPA filters or recirculating air fans, the unit should be revalidated using the procedure given in Section 8 of Part A.

Note 4: Scottish Health Technical Memorandum 08-01 (2011) gives detailed guidance on acoustics and the measurement of sound.

Horizontal ultra-clean operating theatres

4.22 The following additional measurements should be taken:

- the discharge velocity test at 1m, 1.5m and 2m in front of the terminal: the average velocity should be not less than 0.4 m/s.

4.23 The measurements are to be taken using the equipment, test grid and method set out in Section 8 of Part A.

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4.24 Should the UCV terminal fail to achieve a suitable standard, resulting in the need to disturb or replace the HEPA filters or recirculating air fans, the unit should be revalidated using the procedure given in Section 8 of Part A.

Category 3 and 4 laboratories and rooms

4.25 These areas should conform to the requirements of current information published by the Advisory Committee on Dangerous Pathogens and the Health and Safety Executive:

- 'The management, design and operation of microbiological containment laboratories';
- 'Biological agents: managing the risks in laboratories and healthcare premises'; and
- 'Biological agents: the principles, design and operation of Containment Level 4 facilities'.

Pharmacy aseptic suites

4.26 Pharmacy aseptic suites should conform to the requirements of the European guide to good manufacturing practice (http://ec.europa.eu/enterprise/pharmaceuticals/eudralex/homev4.htm) and the requirements of the Medicine Inspectorate if a licensed manufacturing unit.

Sterile services department – inspection and packing rooms

4.27 Inspection and packing rooms should conform to the requirements of BS EN ISO 14644 and any additional requirements for the processing of medical devices, if applicable (see also Scottish Health Planning Note 13: 'Sterile services department').

LEV systems

4.28 LEV systems should conform to the Health and Safety Executive's 'The maintenance, examination and testing of local exhaust ventilation'.

Critical system verification failure

4.29 Should a critical system be unable to achieve the standard set out above, it should be taken out of service. If healthcare provision needs prevent the system being taken out of service, the senior manager of the user department should be informed in writing that the system performance is suboptimal. A copy of the notice should be sent to the infection control committee.

4.30 If a critical system is refurbished in order to bring it to a suitable standard, it should be subject to the full validation procedure set out in Section 8 of Part A or other application-specific guidance as appropriate.

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5. Inspection and maintenance

General

5.1 Inspection and maintenance activities should be assessed to ensure that they do not create a hazard for those who undertake the work or for those who could be affected by it.

5.2 The degree and frequency of maintenance should relate to the function of the system, its location, its general condition and the consequence of failure.

5.3 Specimen inspection and maintenance checklists are given in Appendices 1 and 2.

Inspection and maintenance of critical systems

5.4 The loss of service of these systems would seriously degrade the ability of the premises to deliver optimal healthcare. In order to ensure reliable service provision, it is essential to inspect, verify and maintain these systems at appropriate intervals.

5.5 For many of these systems a permit-to-work will need to be completed to ensure that taking the ventilation system out of service does not compromise the activities of the user department. In any event, it will be necessary to liaise with the user department when switching the system off to carry out routine inspection and maintenance.

AHU drainage

5.6 AHU drainage systems comprise a drainage tray, glass trap, connecting pipework and an air break. The system should be inspected to ensure that it is clean and operating correctly. The cleanliness of the drainage tray and colour of the water in the trap will give an indication of a fault condition (see Table 3 overleaf).

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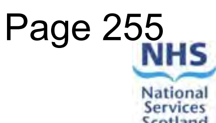

Colour of water	Probable cause and comment
Normal	Satisfactory.
Green	Copper corrosion of pipework Possible leak in battery tubing.
White	Aluminium corrosion of battery fins.
Black	General dirt Filter faulty allowing air bypass System is overdue for a thorough clean Urgent action required.
Brown/red	Iron corrosion (rust) within the duct May indicate a specific *Legionella* hazard Immediate action required.
Bubbly/slimy	Microbiological activity within the duct May indicate a specific *Legionella* hazard Immediate action required.

Table 3: Colour of water in glass trap

Filter changing

5.7 Dirty supply air filters may pose a general dust hazard when being changed.

5.8 Dirty extract- and return-air filters may pose an increased level of hazard. This will relate to the particular contamination within the air that they have filtered. Filters handling extract air from general areas are unlikely to present a significantly greater hazard than that posed by dirty supply air filters.

5.9 Care should be taken to protect staff from inhaling the dust. If there is a need to enter the duct when changing filters, a dust mask should be worn.

5.10 Dirty filters should be carefully removed and placed in the box that contained the replacement filters or in a plastic bag. On completion of the work, the dirty filters should be removed from the plantroom and disposed of appropriately.

5.11 The duct in the area of the filter housing should be carefully vacuumed before fitting the replacement filters. This will prevent particles (that is, those that are shed when the dirty filters are disturbed) being blown into the system downstream.

5.12 It is important to ensure that replacement filters are fitted the right way round. Most panel filters are manufactured with a membrane or wire support mesh on their downstream side. Alternatively they may be colour-coded. The manufacturer's instructions regarding fitting should be followed.

5.13 Bag filters should be fitted with the pockets vertical. Care should be taken to remove any transit tapes and to ensure that the individual pockets are separate and free to inflate.

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Changing extract filters containing hazardous substances

5.14 Filters handling extract air from an LEV system will obviously present a hazard and should be subject to a safe system of work.

5.15 Filters used in an extract system for the containment of hazardous substances or organisms should incorporate design provision for their safe removal when so contaminated. This may be achieved by:

- sealing the hazardous substance into the filter before it is removed;
- a system to fumigate the filter to kill any organisms;
- housing it in a 'safe change' unit that permits the filter to be ejected into a bag and sealed without staff having to come into direct contact with it.

5.16 The method chosen should reflect the nature of the hazard.

5.17 Filters fitted to remove hazardous substances from extract air are classed as hazardous waste and should be handled and disposed of accordingly.

Ventilation system cleaning

5.18 The intake section of a ventilation system should be vacuumed-out as necessary to remove visible particles.

5.19 AHUs should be vacuumed-out and/or washed down internally as necessary to remove obvious dust and dirt.

5.20 Chiller batteries, humidifier units, energy-recovery batteries or plates and their drainage systems should be washed down with hot water annually to remove visible contamination.

5.21 Supply air distribution ductwork conveys air that has been filtered. It will require internal cleaning only when it becomes contaminated with visible dirt. The frequency of cleaning will depend on the age of the system and grade of the AHU final filter but will typically be in excess of ten years. There is no requirement to clean ductwork annually. A rapid build-up of visible dirt within a supply duct is an indication of a failure of the filtration or its housing.

5.22 Extract air systems handle unfiltered air. They should be cleaned as frequently as necessary in order to maintain their operating efficiency. Room extract terminals, particularly those sited at low level in critical care areas, will need regular cleaning.

5.23 On completion of cleaning, the ductwork should not be 'fogged' with chemicals. This treatment has no lasting biocidal effect and is responsible for initiating the breakdown of the galvanised coating of ductwork. This will result in accelerated corrosion of the inside of the duct, with the products of corrosion being shed into the air stream. It will also significantly shorten service life.

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5.24 Following duct cleaning, all service hatches should be checked to ensure that they have been correctly replaced and do not leak.

5.25 Duct-cleaning equipment that uses rotating brushes or a vacuum unit can easily damage flexible sections of ductwork. On completion of cleaning, all flexible duct sections should be checked for rips and tears. The straps that secure them to rigid duct sections and air terminals should also be checked to ensure that there is no air leakage.

Chilled beams

5.26 The efficiency of these units will rapidly decline if they become blocked with fluff/lint. They should be inspected every six months and cleaned as appropriate.

Split and cassette cooling units

5.27 These units incorporate internal recirculation air filters and a drainage system to remove condensate from the cooling coil. The systems should be inspected and cleaned every three months.

Portable room cooling units

5.28 Portable units are sometimes kept in store or hired-in to cope with temporary local situations giving rise to excessive temperatures. They typically incorporate internal recirculation air filters and a drainage system to remove condensate from the cooling coil. Units employing an internal water reservoir and wick to promote evaporative cooling must not be used in healthcare premises.

5.29 The infection control team must be consulted before these types of unit are deployed.

5.30 The units should be inspected and thoroughly cleaned before being taken into use. Units that are to be used in areas containing immunocompromised patients will, unless new, need to be fumigated before use.

5.31 All portable units should be inspected and cleaned every week that they remain in use.

Self-contained mobile filter and/or ultraviolet (UV) light units

5.32 The efficacy of these units is directly related to their cleanliness. In this respect, the manufacturer’s instructions regarding service/maintenance and lamp and filter replacement should be closely followed.

5.33 Units that have been used in isolation rooms or areas containing infective patients will need to be fumigated before being used in other locations, or returned to store or to the hirer.

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5.34 Filters fitted to remove hazardous substances from the recirculated room air are classed as hazardous waste and should be handled and disposed of accordingly (see also Scottish Health Technical Note 3: NHS Scotland Waste Management Guidance Parts A-D).

Inspection and maintenance records

5.35 Records of inspection and maintenance activities should be kept for at least five years.

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Appendix 1: Annual inspection of critical ventilation systems – AHU and plantroom equipment

Definition of terms used on survey form

General condition

End of useful life
This should be clear from the condition of the AHU and its associated services and plant. The main indicators will be: • extensive internal and/or external corrosion of the AHU casing; • failure of filter housings to prevent air bypass; • general corrosion of heater and cooling battery fins, attenuator surfaces etc; • significant failure to meet minimum standards; • associated plant services and control elements in a poor condition or not able to fulfil their purpose; • AHU aged 20 years or more.
Action: **Urgent replacement indicated.**

Poor
Should be fairly apparent but should include an assessment of the degree of corrosion; • cleanliness of coils and batteries; • quality of filter mountings and their ability to prevent air bypass; • fan and drive train condition; • the control system elements' ability to fulfil their function; • condition of the access doors and inspection covers. The age of the AHU is generally less important.
Action: **Extensive refurbishment or prolonged replacement indicated**.

Average
Some faults but generally free of significant corrosion, clean internally and conforming to minimum standards.
Action: Faults capable of correction at next maintenance period.

Good
Conforming to the minimum standards, obviously cared for and subject to routine maintenance.
Action: Routine maintenance will preserve standard of equipment.

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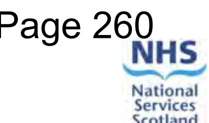

Compliance with minimum standards (questions 2 to 23, 32 and 33)

Poor
More than three answers are negative.
Action: Management action require by estates/facilities department.

Average
No more than 3 answers are negative.
Action: **Maintenance action required**.

Good
No answers are negative, full compliance.
Action: None.

Maintenance quality (questions 5, 12, 26 to 31 and 34 to 40)

Poor
More than three answers are negative.
Action: Management action required by estates/facilities department.

Average
No more than three answers are negative.
Action: Maintenance action required.

Good
No answers are negative.
Action: None.

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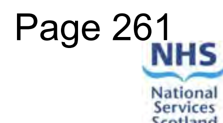

Annual inspection of critical ventilation systems – AHU and plantroom equipment

Hospital ☐

Plantroom ☐

Air-handling unit ☐ **Age of unit** ☐

Area served by unit ☐

Date of survey ☐ **Name** ☐

General condition: End useful life ☐ **Poor** ☐ **Average** ☐ **Good** ☐

Compliance with minimum standards Poor ☐ **Average** ☐ **Good** ☐

(Questions 2 to 23; 32 and 33)

Maintenance quality Poor ☐ **Average** ☐ **Good** ☐

(Questions 5, 12, 26 to 31, 34 to 40)

No	Survey question	Yes	No	Comments
1	Plant running?			
2	Are the unit and its associate plant secure from unauthorised access?			
3	Is the unit safely accessible for inspection and maintenance?			
4	Is the air intake positioned to avoid short-circuiting with extract or foul air from other sources such as gas scavenging outlets?			
5	Are all inspection lights operating?			
6	Are motorised dampers fitted to the intake and discharge?			
7	Are the fan motor(s) outside of the air stream?			

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No	Survey question	Yes	No	Comments
8	Is the fan drive train visible without removing covers?			
9	Is the cooling coil located on the discharge side of the fan?			
10	Is an energy-recovery system fitted (state type)?			
11	Are condensate drainage systems fitted to all energy recovery systems, cooling coils and humidifiers in accordance of Section 3 of Scottish Health Technical Memorandum 03-01, Part B?			
12	Are drainage traps clean and filled with water? (see Table 3 in SHTM 03-01, Part B)			
13	Is the drain trap air break at least 15mm?			
14	If a humidifier is fitted, state the type			
15	Is the humidifier capable of operation?			
16	Is there space to safely change the filters safely?			
17	Are there test holes in the principal ducts?			
18	Are the test holes capped?			
19	What is the general condition of the exterior of the AHU?			
20	Are the principal ducts lagged?			
21	What is the general condition of the associated control valves and pipework?			
22	Is the pipework adequately lagged?			
23	Is the system clearly labelled?			
24	Record prefilter differential pressure.			
25	Record main filter differential pressure.			

Switch plant off. Fit padlock to isolator.

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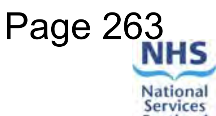

No	Survey question	Yes	No	Comments
26	Did the motorised dampers close on plant shutdown?			
27	Is the vermin/insect screen clean?			
28	Is the intake section including the fog coil clean?			
29	Are the pre-filters correctly fitted with no air by-pass?			
30	Are all drive belts correctly aligned and tensioned?			
31	Is the cooling-coil matrix cleaned?			
32	Are all drip trays fully accessible or capable of being removed for cleaning and have a fall to drain?			
33	Are the drainage trays stainless?			
34	Are the drainage trays clean?			
35	Are the drainage traps free of water?			
36	Is the matrix clean for each heater-battery?			
37	Have the main filters been correctly fitted with no air by-pass?			
38	Are AHU and its associated main ductwork clean internally?			
Remove padlock and Re-start plant.				
39	Did unit restart satisfactorily?			
Test automatic fan-motor change-over, if fitted				
40	Did automatic changeover operate satisfactorily?			

Additional comments
(For example: air leaks from access doors; control valves leaking or passing; general cleanliness of the area around the unit; or any other items of concern.)

Competent person/Authorised person……………………………………………

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Appendix 2: Operating suite annual verification

Definition of terms used on survey form

Assessment of compliance with Scottish Health Technical Memorandum 03-01 (all questions relevant to the type of theatre)

Poor
• air volumes and hence air-change rates is less than 75% of the design; • room pressure differentials do not ensure a flow from clean to less clean areas; • supply or extract air diffusers are not clean; • pressure stabilisers not clean and/or not operating correctly; • significant faults or failures of indicators on surgeon's panel; • visible faults in the fabric of the suite; • doors unable to close completely; • general air of neglect.
Action: Urgent management action required

Average
• air pressure and room pressure differentials approximate to the original design values; • supply air diffusers clean but extracts visibly fouled; • most pressure stabilisers clean and operating correctly; • some of the indicators on the surgeon's panel not working; • minor faults in the fabric and décor of the suite.
Action: Maintenance action required

Good
Better than average
Action: None

Maintenance quality (all questions relevant to the type of theatre)

Poor
More than three answers are negative
Action: Management action required by estates/facilities department

Average
No more than three answers are negative
Action: Maintenance action required

Good
No answers are negative
Action: None

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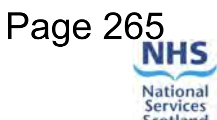

Annual verification of theatre ventilation systems - Theatre suite information

Hospital ☐

Theatre name/no. ☐ **Type of Theatre** ☐

Date of survey ☐ **AHU location & ID** ☐

Name ☐

Compliance with SHPN & SHTM Poor ☐ Average ☐ Good ☐

Maintenance quality Poor ☐ Average ☐ Good ☐

No	Survey question	Yes	No	Comments
1	Has the annual verification of the AHU been carried out?			
2	Are windows hermetically sealed?			
3	Is the theatre /are the theatre and prep room complete and sealed?			
4	Are there any significant faults in the fabric of the rooms in the suite?			
5	Are room light fittings correctly sealed?			
6	Do all doors close completely and hold against the room pressure?			
7	Are the pressure stabilisers operating correctly and silently?			
8	Are the supply and extract air terminals and pressure stabilisers visibly clean?			
9	Measure and record the operating room temperature			
10	Does this accord with that displayed on the surgeon's panel?			

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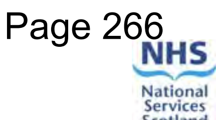

No	Survey question	Yes	No	Comments
11	Measure and record the operating room relative humidity.			
12	Does this accord with that displayed on the surgeon's panel?			
13	Measure and record the supply and extract airflow in the principal ducts.			
14	Measure and record the airflow at all supply and extract terminals.			
15	Does the derived air-change rate achieve at least 75% of the design?			
16	For UCV units, also measure and record the air velocities within the canopy using the method set out in Section 8 of Scottish Health Technical Memorandum 03-01 (Part A)			
17	Do the air velocities achieve the standard appropriate for the type of canopy?			
18	Measure and record the room differential pressures			
19	Do the room differential pressures ensure a flow of air from the clean to the less clean areas?			
20	Measure and record the noise levels in the principal rooms of the suite.			
21	Do the noise levels fall below the limits set out in Table 2 of SHTM 03-01 Part B			
22	Check the operation of all ventilation control functions represented on the surgeon's panel.			
23	Do the indicators accurately represent the operational state of the ventilation system(s)?			

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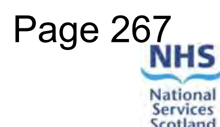

No	Survey question	Yes	No	Comments
24	For UCV systems: are the UCV and AHU interlocked to ensure that the AHU runs at full speed when the UCV is at operating speed or at set-back? (see Table 7 in Scottish Health Technical Memorandum 03-01, Part A)			
25	With the UCV running at setback, does the system maintain the standard of a conventional operating room?			
26	For all theatres: with the system running at set-back, does it maintain a flow of air from the clean to the less clean areas?			

Additional comments
(For example: the general décor; are the suite and its ventilation systems suitable for their designated functions?)

Competent person/Authorised person……………………………………………

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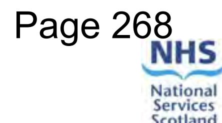

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Health & Safety Commission's Health Services Advisory Committee (2003). Safe working and the prevention of infection in the mortuary and post-mortem room. HSE Books, 2003.

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From: Rae, Janette
Sent: 23 August 2016 16:22
To: Inverarity, Donald; Guthrie, Lindsay; Cameron, Fiona; Kalima, Pota
Subject: RE: For comments

Hi Donald the new RHSC will have 17 of these rooms with isoltion lobbies through out the hospital and there will be some in the new DCN. However to do planned miantenance or if there were a malfunction would mean moving haem/onc patietns to other areas that is why I also think that there should be more than one air handling unit in that area,
Thanks
Janette

Janette Richards
Lead HAISCRIBE Infection Prevention and Control Nurse
NHS Lothian
10 Chalmers Crescent
Edinburgh
EH9 1TS

Link to Infection Control Manual
http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/A-Z/InfectionControl/Pages/default.aspx

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From: Inverarity, Donald
Sent: 23 August 2016 13:26
To: Richards, Janette; Guthrie, Lindsay; Cameron, Fiona; Kalima, Pota
Subject: FW: For comments

I'm comfortable with air handling units serving more than one room but one unit serving the entire 5 rooms of the paediatric cancer unit seems to be a problem waiting to happen.
I think there needs to be guidance from the paediatric cancer clinical team as to what sort of patients would be managed in these rooms in order to gauge the risk. The risk to a bone marrow transplant patient from not having access to a positive pressure single room would be greater than for a solid organ post chemo patient. If the rooms were occupied and there was a malfunction, where on the site is there capacity for them to be managed (ward 215 springs to mind from a room design perspective but then there would be children on an adult ward). They could not remain in those 5 rooms while corrective work is being undertaken from a patient safety perspective. There needs to be an explicit agreed contingency plan as to where those 5 children would be managed in event of ventilation failure before embarking on a one air handling unit serves all rooms with no redundancy approach.
Pota is included in the reply as this relates to RHSC.
Donald

From: Richards, Janette
Sent: 22 August 2016 13:05
To: Guthrie, Lindsay; Inverarity, Donald
Cc: Cameron, Fiona
Subject: For comments

Dear Both,
Please see for information and comment re ventilation requirements in isolation rooms in the new RHSC/DCN. Could I have your comments back by 29th Aug. please?

Regards
Janette

Janette Richards
Lead HAISCRIBE Infection Prevention and Control Nurse
NHS Lothian
10 Chalmers Crescent
Edinburgh
EH9 1TS

Mobile

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From: Inverarity, Donald
Sent: 23 August 2016 13:26
To: Rae, Janette; Guthrie, Lindsay; Cameron, Fiona; Kalima, Pota
Subject: FW: For comments
Attachments: 2016 08 22 Ventilation.doc

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EH9 1TS

Mobile [redacted]

[redacted]

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NHS Lothian
Infection Prevention & Control

Situation
Meeting at the IHSL Lothian offices with Brookfield Multiplex to discuss specialist ventilation in the isolation rooms of the RHSC/DCN new build.
Background
There will be isolation rooms throughout the new build that have gowning lobbies and en-suite with shower facilities. Present at the meeting were members of the construction team along with Ronnie Henderson NHS Lothian Estates, Graeme Greer QA Consultant, John Rayner , NHS Lothian Authorised Person for Ventilation
Assessment
The plan for all these isolation rooms is a s follows Gowning Lobby 10 air changes per hour with positive pressure supply through a hepa filter Patient area windows do not open, sealed lighting En-suite extract negative pressure 10 air changes per hour These levels meet the SHTM 03-01 and Health Building Note 04-01, Supplement 1, Isolation facilities for infectious patients in acute settings, but ideally there would be one air handling unit per room, but financially and due to lack of space this has not been the case. The construction team are concerned however that the IPCT will change their requirements and are looking for agreement that these arrangements are appropriate. I do have a concern in that the Paediatric cancer service has only one air handling u it for the five isolation rooms there. This will have a support fan however if this air handling unit breaks or during maintenance all 5 rooms will be affected and I feel that from our point of view this is not acceptable and I raised that point at the meeting which should be documented on the minutes of the meeting.
Recommendation
1. SBAR to Donald Inverarity and Lindsay Guthrie for their agreement/comments to Janette Richards 29/08/16 2. Janette Richards to forward comments received to ventilation group
Janette Richards HAISCRIBE Infection Prevention and Control Nurse
Primary Distribution Group: Donald Inverarity ICD Lindsay Guthrie Lead IPCN Fiona Cameron Head of Service IPCT

From: McLaughlin C (Christine)
Sent: 10 July 2019 13:26
To: DG Health & Social Care; Connaghan J (John) (Health)
Cc: Healy M (Michael); Roche R (Rowena)
Subject: FW: critical care ventilation timelines
Attachments: RHCYP critical care ventilation issues ; RHCYP/DCN

Malcolm, John

Given your earlier concerns, does this provide you with the information that you needed. There were clearly a number of issues being managed including water and ventilation in several parts of the hospital.

In think this demonstrates more that the tight timeframe between inspection and occupation meant that there was no room for error at all and is probably one of the areas that will come through the audit work – at what point does this not seem realistic?

Can you let me know whether this provides what you need for the time being and I will go back to Tracey.

Christine

From: Gillies, Tracey
Sent: 10 July 2019 12:25
To: McLaughlin C (Christine)
Subject: FW: critical care ventilation timelines

From: Gillies, Tracey
Sent: 10 July 2019 12:13
To:
Cc: Goldsmith, Susan; Executive, Chief; McMahon, Alex
Subject: critical care ventilation timelines

Dear Christine,
Following our meeting on the 9th July, you asked for some more detail about the period of time between 25 June and 1st July, as there remains concern that an opportunity for earlier escalation was missed. I am happy to provide more information as I am able in addition to the email provided on Saturday 6th July below.
I can confirm that the extent of the issue with paediatric critical care ventilation (4 air changes per hour not 10), and the fact that this could not be rectified was not understood until the end of the day on the 1st of July. As we have previously indicated, and you can see from the log of issues related to ventilation submitted by IOM the independent validation engineer on 25 June, which we supplied to you on the 6 July , there were emerging issues related to ventilation in theatres, isolation rooms and critical care.
I provide more detail below:

- Between 25 and 28 June, the onsite teams worked to understand what IOM had measured and what corrections could be made to all ventilation systems. My understanding is that the testing had taken place amid last minute engineering corrections and required meetings and checks to be clear about exactly what had been measured where.
- Additionally the methodology of a NPD project means that the design is provided to meet the specification of the contract rather than being held and owned by the users of the building. This meant that our project

team (representing the users) were constantly having to ask MPX and IHSL (the builders and owners) for details of the design rather than directly being able to reference this

- At the meeting on the 28 June at 10am, the priority issue as far as ventilation was concerned appeared to be theatres. The document tabled at that meeting was detail about the measurements in all 10 theatres indicating issues such that, at that time, none was ready for use. We concentrated our efforts on mobilising engineers to work together to test controls and rectify these issues. Our aim was to have 4 theatres (2 for DCN 2 for paeds) fit for purpose for commissioning by 5 July at the latest.
- Our time line around this was also influenced by not knowing the extent to the work to be done (if any of the work had been intrusive- i.e. removing panels or grilles to access ducting, it may have required repeat air sampling- this had already been done and passed as clear at the existing level of ventilation but good practice would require it to be repeated after any intrusive work on a ventilation system. Repeat air sampling involves growth of bacterial plates, usually for a minimum of 48 hours to give a count of colonies).
- In summary, the morning meeting on 28th June involved discussion of water quality and ventilation in general but concentrated on the specifics in theatres. The afternoon call was to confirm theatre engineers could attend on Monday. It was acknowledged at this that no progress could be made over the weekend.
- On the morning of July 1st, Alex and I provided a briefing to Tim (who was on leave that day), attached
- By the afternoon of the 1st, the situation had changed, as you will see from the later email (attached)
- A conference call with legal advisors MacRoberts was arranged for the morning of 2nd July in the evening of the 1st, providing additional evidence that this issue had just been confirmed as material late on the 1st July.
- Tim returned to work on Tuesday 2nd July and he and other executive directors met ahead of the conference call with MacRoberts and escalated to the Director General immediately afterwards

I hope this provides some additional background which is useful
Tracey

Executive Medical Director
NHS Lothian
Waverley Gate

From: McMahon, Alex
Sent: 06 July 2019 13:04
To: Executive, Chief; Gillies, Tracey; Campbell, Jacquie; ; Currie, Brian; Graham, Iain; ; Goldsmith, Susan
Subject: Fwd: NHS Lothian RHC&YP/ DCN - patient contact information and critical care ventilation timelines

John and colleagues as discussed this morning attached is patient contact numbers re re-booking patients. We will review this tomorrow morning but unlikely to be any significant change until Monday. Also attached is data from NHS 24 from contacts made yesterday.

In terms of the critical care ventilation issue and the timeline, what I can advise and as discussed using:

24th June Brian Currie, Project Director received notification from IOM

25th June Brian Currie received a report highlighting critical care vent issues amongst a longer list of working requiring to be done. This list was circulated to steering group members for information.

Between 25th and 28th June the project team undertook work to check the information against what had been contractually agreed. No escalation to Executive's took place during this time.

On the 28th June Susan Goldsmith, Tracey Gillies and I attended a meeting with the project team and others but the focus of that meeting was water quality and theatre ventilation. Critical care ventilation wasn't raised as an issue at that meeting.

1st July Brian Currie raised the issue re critical care ventilation with Tracey on the late after noon post a 4.30 teleconference.

Evening of 1st July Tracey emailed Tim Davison and others to flag there was an issue.

Morning and afternoon of 2 July further review and escalation to amongst others Malcolm Wright and John Connaghan at SG.

The issue of the timeline for critical care ventilation testing prior to 24th June I will ask Brian Currie to confirm and let you know if this can be made available today or tomorrow, if not Monday. We can pick this and any other issues up at the 11 am teleconference tomorrow.

Alex

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From: Gillies, Tracey [redacted]
Sent: 01 July 2019 18:52
To: Executive, Chief
Cc: McMahon, Alex; [redacted]; Goldsmith, Susan; Graham, Iain; Campbell, Jacquie; Currie, Brian; Curley, George; MACKAY, Judith (NHS FIFE)
Subject: RHCYP critical care ventilation issues

Sensitivity: Confidential

Dear Tim,
This emerged today following testing by the independent validation engineer for ventilation on the site (IOM) . The main points are summarised below
I have discussed briefly with Susan and she advises obtaining urgent legal advice and I have asked Iain G to arrange a call for early tomorrow morning.
The points below have been commented on by those at the discussion this afternoon, and there are points to clarify and get further information on.

• IOM have tested critical care ventilation in RHCYP in 4 bedded and single rooms
•It delivers 4 air changes at balanced or slight negative pressure in the multiple occupancy 4 bedded room and single rooms in critical care. The 19 isolation rooms outside critical care are not affected
•The required standard as per SHTM 03-01 Appendix 1 (version 2 February 2014) for Critical Care areas is 10 air changes and less than 10 air changes per hour may facilitate airborne spread of viruses more than if 10 was achieved. Further advice on the likely impact of air change reduction is required.
•the only known way to improve air changes with the current plant is to accept positive pressure ventilation (i.e. increasing further the opportunity for spread primarily of pathogens with airborne transmission e.g. respiratory viruses between individuals :staff, visitors and patients in 4 bedded rooms) A request has been asked of MPX to verify the maximum capability of the existing plant while maintaining current pressure regimes.
• it is expected that a bigger plant would be required to deliver the correct air changes – the team are identifying what potential for existing system capacity enhancements might be (i.e. ramping up the existing air handling plant) and / or within the constraint of the existing ducting (so it would only be the external plant affected). The question has also been asked of MPX to assess what would be required to increase to 10 air changes/hr
•this leads us to question whether the space is fit for purpose
•If occupied now, there is risk to patients, visitors and staff of airborne virus transmission (?how much) and difficulties in correcting (would probably require a decant) Team to contact external experts for advice
• if not occupied now, move needs postponed

Tracey

From: Gillies, Tracey [redacted]
Sent: 01 July 2019 08:51
To: Executive, Chief
Cc: Campbell, Jacquie; McMahon, Alex; Watters, Elaine; Graham, Iain
Subject: RHCYP/DCN
Attachments: Water and ventilation issues in RHCYP and DCN.docx

Dear Tim
Alex and I went with Susan to follow up on the water quality and ventilation issues on Friday- attached is a briefing and we can give you more detail as required. There is still a lot of work to do is the summary position. There will be regular calls and one of us will dial into these.
Tracey

Water and ventilation issues in RHCYP and DCN

The testing and quality assurance work prior to the move into RHCYP/DCN is not yet sufficiently complete and demonstrating adequate assurance to support the finalised move date. This will be subject to daily work and checks this week. A final decision about the move of patients will need to be made by Wed 3 July.

Water quality

- Testing of outlets taking place with necessary corrective actions.
- The building commissioning standards for handover and occupation differ from the HPS guidance about testing regimes in particular areas where more vulnerable patients are (augmented care areas).
- This has resulted in some lack of clarity between estates and IC.

Ventilation for theatres, critical care and isolation rooms

- Air sampling carried out to date has been negative.
- The independent tester was on site at the end of last week and submitted a report on Friday morning outling issues and faults with all 10 theatres.
- No written report on isolation or critical care areas has been received.
- A minimum of four theatres with fit for purpose ventilation are required for safe occupation.
- Any intrusive corrective engineering work will require replating of air samples (48 hour form sample to result)

A meeting was held on Friday 28 June internally between estates, execs (SG AMcM and TG) and RHCYP team (BC, ED, FM) to discuss the two issues and agree a plan to address them. Additional tests and results are expected this week for water quality in augmented areas with any appropriate corrective action undertaken

A second meeting was held between NHS L, IHSL and Multiplex and Bouyges, with a follow up call at 4pm after further discussion with engineering colleagues and the independent tester. It was agreed that from 1st July, all relevant engineers and sub contractors will work through on theatre at a time (starting at RHCYP end

Water quality: A brief paper summarising the testing regime, corrections and any consequences for safe patient care will be prepared when testing is complete and presented at HCG on 9 July

Ventilation: Twice daily conference calls will be held from 1st July will be held to maintain an overview of progress

TG/AMcM 01.07.19

Watters, Elaine

From: Gillies, Tracey
Sent: 10 July 2019 11:48
To: Executive, Chief
Subject: critical care ventilation timelines
Attachments: RHCYP critical care ventilation issues ; RHCYP/DCN

Dear Christine,
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Sent: 06 July 2019 13:04
To: Executive, Chief; Gillies, Tracey; Campbell, Jacquie; [redacted] John.connaghan[redacted] Currie, Brian; Graham, Iain;

A46259019

Department of Clinical Neurosciences and Associated Departments Migration Plan

Key Principles

- optimise patient safety
- minimise the number of in-patients to transfer
- minimise service impact / loss of capacity
- move mid-week (Wednesday/Thursday).
- Minimise costs

Once the building has been independently signed off by Scottish Government, HFS and HPS there is a required 8 week notice period to migrate. Six weeks are required for staff rostering and patient appointment bookings plus another two weeks for planning and liaison with key agencies such as the Scottish Ambulance Service, other Health Boards and departments within NHS Lothian

This allows the service to:

- plan the temporary transfer of emergency workload to other Neuroscience Centres in Scotland
- reduce elective cases in a considered manner, which should reduce the number of inpatient moves.
- reduce out-patient activity
- repatriate inpatients to their parent NHS boards and facilitate transfers to downstream facilities in NHS Lothian

Emergency Referrals

- DCN emergency Interventional Radiology (INR) will stop the weekend prior to the move
- DCN Neurosurgical Emergency take will transfer to Tayside (South Fife) for the period of in-patient moves. Lothian and Borders emergency referrals will continue to be admitted to the Department of Clinical Neurosciences

Elective activity will stop on the Friday preceding the move for the following:

- Elective Surgery/ Day of Surgical Admission/Pre-Assessment
- Neurophysiology
- Elective INR
- DCN Therapies Out patients
- DCN Programmed Investigation Unit
- DCN Out Patient Departments
- DCN radiology

In addition

- Complex elective procedures will stop 7 working days prior to first in-patient move
- All departments to be set up, with the exception of equipment to be transferred
- Emergency neurosurgery service remains active until last potential patient moves from WGH

Day	Current Site – WGH DCN	New Site – RIE DCN	Comments
Friday prior to move week	Last day of elective operating (Neurosurgery and INR) • Last day receiving mail	• Neurophysiology Server moves to RIE (takes 5 days to relocate and set up)	
Monday Day 1	• Last day of DCN OPD clinics • Last day of PIU	• Pharmacy to stock clean utilities • Two DCN theatres to be set up in new building • Radiology to be set up in new building • All mail diverted to new building	• RIE Command Centre /Local DCN Command Centre established – to meet at 08.30/12.30/17.00 daily • 6 Critical Care beds in Ward 20 WGH to close through the week • Emergency neurosurgery service remains active for Lothian and Borders only in WGH
Tuesday Day 2	• Administration teams and non-ward based staff move • Out patients and pre-admission services move • Close 16-20 beds	• Admin teams, CNS and Consultants commence moves to RIE CMS • **Commence critical care patient transfer from ward 20 to RIE 118/116 according to patient dependency and need** Transfer of: • OPD equipment • DCN Therapies equipment • DCN Theatre equipment • PIU equipment • Radiology equipment • DOSA and Pre-assessment	• Some admin staff retained in DCN until completion of clinical moves • Emergency neurosurgery service remains active for Lothian and Borders only in WGH • Radiology available in DCN for emergency diagnostics
Wednesday Day 3	• DCN In-patient moves commence (Neurosurgical patients first) • HAN cover to be provided on both sites • Therapies in-patient service continues	• **RIE neurosurgical emergency admissions/referrals from 08:00** – double running theatres/anaesthetics/surgical/radiology/AHP/nursing teams • **Inpatients transferred to ward 130.** Patients will then transfer to wards 230 and 231 as appropriate. • HAN cover to be provided on both sites • Continued transfer of equipment from day 2	• WGH neurosurgical theatre operational for current in-patient emergency surgery
Thursday Day 4	• Complete relocation of remaining in-patients to new site • Stand down second Theatre team and Radiology team on the WGH DCN site • Therapies (physiotherapy)/ radiology on call for inpatients. • Remaining admin staff to complete move to RIE by 5pm	• **Continue and conclude inpatient transfers to wards 130 and 118/116.** Patients from ward 130 will then transfer to wards 230 and 231 as appropriate. • Neurophysiology equipment from DCN to be transferred • Complete transfer of remaining equipment from DCN Theatres, Radiology, Neurophysiology and DCN wards • Conclude Migration	Command Centres stood down at 17.00
Friday		Skeleton Outpatients and pre-assessment clinics open	
<5 days after move move	Decommission DCN departments		Staff involved in decommissioning at the WGH DCN areas: • DCN Clinical Management Team triumvirate • Facilities • eHealth • Radiology, Theatres service leads • Project Team

From: Henderson C (Calum) on behalf of DG Health & Social Care
Sent: 09 July 2019 18:10
To: DG Health & Social Care; Wright M (Malcolm); Director of Population Health; Chief Medical Officer; McLaughlin C (Christine); Bell D (Donna); Smith G (Gregor); Colvin I (Iona); Taylor A (Alison) (H&SC Integration); Elliot E (Beth); Hartley D (Dot); Cowell D (Delina); Froggatt J (John); Gallagher S (Stephen); Director for Children and Families; C&F and ELC Directors' Office; Connaghan J (John) (Health); Marr J (Jacqueline); MacDougall J (Jamie); Pollock LA (Linda); Hamilton JG (Jane); Holmes A (Ann); Summers Y (Yvonne); Sheriff C (Carmel); Campbell AM (Angela); Grieve DA (Derek)
Cc: OCENHS Mailbox; Leitch J (Jason); Foggo R (Richard); McQueen F (Fiona); Rogers S (Shirley); Mitchell E (Elinor)
Subject: FOR ACTION: Health and Social Care Directorates Management Board (HSCMB) Workshop - Wednesday 10 July 2019: Lothian Paper
Attachments: HSCMB 85 2019 - 10 July 2019 - Board Performance Escalation Framework NHS Lothian - OFFICIAL SENSITIVE.doc; AR FOLLOW UP FROM LOTHIAN as at 25.06.19.pdf

All,

Please find attached paper for discussion on NHS Lothian.

Thanks

Calum Henderson
Assistant Private Secretary to Malcolm Wright, DG Health and Social Care and Chief Executive NHSScotland
Room 1E.16, St Andrew's House, Edinburgh, EH1 3DG
E: [redacted]
Telephone: [redacted]

OFFICIAL:SENSITIVE
Yes

Paper no: HSCMB/85/2019
Meeting date: 10 July 2019
Agenda item: 5

Standing items and Updates

Title:	NHS Board Performance Escalation Framework - NHS Lothian

Background and Key Issues:	Recent identification of issues around the new Royal Hospital for Children and Young People are considered in the context of wider performance and other issues related to NHS Lothian. This paper provides an overview of external support that the health board has received / is receiving around unscheduled and scheduled care. It also provides an update on recent issues relating to mental health and the Royal Edinburgh Hospital.

Action(s) Required:	HSCMB is asked to take account of the issues identified in the paper in deciding whether: a) NHS Lothian should be formally escalated to Stage 3 or above within the NHS Board Performance Escalation Framework; b) what, if any, additional action or support is required as a consequence of that decision.

Author: Yvonne Summers/Tracy Slater **Date: 9 July 2019**	**Director: John Connaghan** **Date: 9 July 2019**

What is the current position?

Unscheduled Care

Following allegations of bullying, intimidation and altering of waiting times in NHS Lothian in October 2017 it was recognised that NHS Lothian was not following national guidance. Based on analysis of the data over a two year period it was assumed that the percentage impact on performance was around 3-6%. In reality performance, since the reinstatement of national guidance in October 2017, dipped on average of almost 19 percentage points on a weekly basis.

NHS Lothian undertook an internal review of the allegations at St John's, the RIE and the Western General, followed by an independent review commissioned by the Cabinet Secretary for Health and Sport; the review was led by Derek Bell, Chair of the Academy of Medical Royal Colleges. This completed in the spring and was published in June – the Academy upheld the allegations.

In summary, the independent review concluded that there was a lack of a clear and robust governance structure, limited focus on unscheduled care by the Health Board, that patient safety and quality of care was not always prioritised as it should be and that the Boards Internal Audit process need to be strengthened. The Academy provided a number of recommendations.

In order to ensure that the recommendations from the independent review were fully implemented we brought together an external group of experts from the North of England Commissioning Support Unit (NECS) and other key stakeholders to work with the senior executive management and local teams to oversee and support the implementation process. This included the Royal College of Emergency Medicine (RCEM), who fully endorse the four hour target. The external governance group was chaired by Sir James Mackey, Chief Executive of Northumbria Healthcare, NHS Foundation Trust.

The external team were on site, primarily at the Royal Infirmary in Edinburgh, from September 2018 until spring 2019. The team have recently withdrawn with the final oversight meeting taken place last month. While performance has shown improvements it remains variable and National advisors remain on site supporting flow across the hospital.

The hospital has a newly appointed Acute Nurse Director who has introduced a significant service transformation to flow across the ED and MIU. This has caused some disruption that has had a direct impact on performance and staffing relationships - HR and staff side reps are currently supporting a resolution.

Scheduled Care

While NHS Lothian's Annual Operational Plan (AOP) has now been signed off there are concerns around the Boards ability to deliver against the agreed quarterly trajectories and the final March 2020. The agreed March 2020 position is 16,500 for

outpatients and 2,300 for inpatients / daycases.

As a result we commissioned external expert support from North of England Commissioning Support Unit (NECS) to work with the local team and identify quick wins and recommendations that will enhance capacity and provide reassurance that the elective element of the health boards AOP is robust and deliverable.

The NECS team have been on site since the end of June 2019 carrying out a deep dive diagnostic exercise specifically in three key speciality areas: orthopaedics, general surgery and urology. The team are focusing on a number of areas to identify potential efficiencies in the system including:

- Theatre slot utilisation (inc Vanguard theatres)
- Inpatient and Day Case bed usage and capacity
- Outpatient demand/capacity/scheduling
- Understanding of ‘core’ capacity (including workforce) without the independent sector
- Full waiting list diagnostics
- Current pathway analysis on the specific clinical pathways
- Internal governance and accountability - management reporting and grip

The NECS team aim to conclude this work by early August and submit a final report with recommendations based on the findings. This report will ultimately provide appropriate reassurance that the health board has the governance and assurance mechanisms to deliver safe, effective and accessible treatment and care. Once the final report has been received there will need to be further consideration on how we support the board to fully implement the recommendations.

Longest waiting Patients

Over and above this external support, officials are working closely with the local team to support performance across all specialities, including those patients that have been waiting more than 18 months. NHS Lothian has seen a significant reduction in the longest waiting patients (dermatology, endoscopy and gastroenterology).

There has been a 46% reduction in urgent patients waiting more than 12 weeks for a Gastroenterology / Endoscopy appointment and a 74% reduction in urgent patients waiting more than 12 weeks for a Dermatology appointment. There is an Improvement plan in place for endoscopy patients and a range of actions are now complete or in progress.

There are no patients waiting more than 78 weeks for TG patients.

Mental Health

The Initial AOP for NHS Lothian was not signed off by SG due to the reliance on additional SG money being provided.

NHS Lothian returned a further set of draft Trajectories which are being considered by Mental Health. Broadly, NHS Lothian is committing to meeting the CAMHS and PT Standards by end 2020.

There are however a couple of further points of clarification required on the source of funding and the feasibility of the large step changes being described. [CAMHS goes from 63.6 % in June 2020 to 78 % in Sep 2020 and then 90 % in Dec 2020; PT goes from 48 % in June 2020 to 90 % in Dec 2020].

NHS Lothian was one of the two Boards (Fife was the other) who received a letter from the Director for Mental Health regarding their long waits. A response has been provided which will be reviewed by Mental Health, but the initial view is that the response is not particularly strong.

Mental Health colleagues have regular monthly meetings set up with NHS Lothian colleagues to discuss the monthly performance data and associated issues regarding the AOP and long waits. Senior Mental Health colleagues are intending to meet with senior NHS Lothian colleagues in the near future to discuss the AOP and priorities.

CAMHS and PT Standards (published figures)

NHS Lothian **did not** meet the LDP waiting times standard for CAMHS, or for Psychological Therapies in the last quarter.

- For Psychological Therapies (PT) **75.1%** of patients were seen within 18 weeks in quarter ending March 2019. This **increased** from 72.1% in quarter ending December 2018.

- For CAMHS, **69.1%** of patients were seen within 18 weeks in quarter ending March 2019. This **increased** from 58.7 % in the quarter ending December 2018.

Monthly Management Information (not in the public domain)

- April 2019 figure shows 64.2 % of C&YP seen within 18 weeks. This is a very slight increase on March 2019 (63.9 %) but a fall on Feb (72.9 %) and Jan (70.0 %)
- By end of April 2019 there were 2,423 C&YP waiting to be seen. Of these 332 (13.7 %) have already waited more than a year.

- April 2019 figure shows that 72.1 % of clients for Psychological Therapies were seen within 18 weeks. This is down on March (78.0 %) and Feb (79.2 %).
- By end April 2019, 5,482 people were waiting to be seen. Of these 617 (11.3 %) have already waited more than a year.

Finance

NHS Lothian's financial projections, provided as part of the Board's Financial Plans to 2021/22, include a forecast adverse variance of £26 million in 2019/20.

Discussions as part of the AOP process covered the Board's plans to address this challenge and to deliver breakeven in 2019/20.

In view of this forecast, the Health Finance team has requested an update, following the first quarter of the financial year, on the Board's financial position including progress in the identification and delivery of savings. This is to be submitted to Scottish Government by 16 August.

The Board's latest monthly Financial Performance Return (FPR) to 31 May notes that, as part of the financial plan a total of £25.2m of savings plans were identified to be delivered in year by the operational units. It goes on to report that a further £2.3m of plans has been developed following the Q4 review meetings so that the total anticipated efficiency delivery is now £27.5m.

The FPR identifies the key risks relating to the delivery of a breakeven position as including:

- Funding received from the Scottish Government does not fully cover the additional employers pension costs. Since submission of this FPR, clarity on pension funding has been provided through a letter from Cabinet Secretary setting out pension funding. Following this letter, allocations to Boards were processed in 1 July allocation letters;
- Delivery of Financial Recovery Plans by individual Business Units to the level identified in the Financial Plan and the lack of progress on the development and delivery of longer term recurring plans;
- Major movements in current expenditure trends, in particular in relation to prescribing and supplementary staffing in response to service demands.

The NHS Lothian position is also based on a breakeven position across all Lothian H&SCPs.

What are the current challenges?

Edinburgh Children's Hospital

On June 28 the Board Medical Director, Nurse Director and Finance Director attended a meeting at the new hospital to discuss progress and process around theatre ventilation as part of the pre-hospital opening sign-off. On Monday afternoon (4.30) 1 July, a further teleconference took place regarding the theatre progress and at this point an issue relating to paediatric critical care ventilation was raised. The Medical Director who was in attendance escalated this to the Chief Executive, by email, for his return from leave on 2 July.

The Chief Executive picked the escalation up on Tuesday 2 July and on the same day informed the Board Chairman and the Director General for Health & Social Care. As a result, the Cabinet Secretary took the decision to halt the planned move of the Edinburgh Children's Hospital and the Department of Clinical Neurosciences for the time being. It is expected that it will take at least six months for the problem to be

resolved, but further work is required to test and validate the proposed solution and estimated timeline.

In the meantime, the Cabinet Secretary has asked that an external series of checks is undertaken, led by Health Facilities Scotland and Health Protection Scotland, to ensure that all the relevant technical specifications and standards applicable to the new Edinburgh Children's Hospital are being followed and implemented.

The Cabinet Secretary has also commissioned follow up work to audit the full decision and build process to identify how and where this ventilation problem initiated and why it has not been identified until this week.

Royal Edinburgh Hospital

Health officials received correspondence from NHS Lothian on Tuesday 11 June to alert them to pressure on beds at the Royal Edinburgh Hospital (REH). This facility provides acute psychiatric and mental health support, including in-patient treatment and secure facilities.

The correspondence refers to difficulty in securing beds for admissions and confirms that patients are routinely being accommodated overnight on reclining chairs. NHS Lothian confirm that this is happening routinely and they are developing standard operating procedures to support this practice.

Officials have been in discussion with NHS Lothian senior management and visited the REH on 24/6. This has ensured a continued focus on prioritising contingency arrangements to ensure that there are sufficient beds for those who require to be admitted. This has resulted in additional capacity being sourced in the short term:

- Increased capacity of 4 inpatient beds w/c 1/7
- A new 4 bed frailty ward identified as a temporary contingency ward to be in use by 9 July.

These two measures will compensate for the temporary loss of beds at St John's Hospital until the completion of the contracted ligature work in August. The plans to undertake anti ligature work at the 24 bed ward at St John's Hospital were developed to ensure the ward would not require to be fully closed for 5 months. Instead a 6 phase plan was agreed taking up to 6 beds out of use at any one time. The works are currently in phase 3 with completion expected on 24th August.

An action plan has been developed with short and medium term options, including consideration of accelerating the work at St. John's.

However, a further update from NHS Lothian was received on 8 July advising that a patient had to be accommodated on a mattress on the floor over the weekend. This is the first occasion since the 12th June that no beds were available in Lothian or any other NHS Board.

The fold away beds that were sourced as an alternative to mattresses on the floor were due to be delivered on 9 July.

The measures to improve the discharge of patients to the community with appropriate support will continue between NHS Lothian and the IJBs in Edinburgh and the Lothians.

What is the ask of Management Board? (box will expand as you type)

Management Board is asked to take account of the issues identified above and to:

a) Take a view on whether NHS Lothian should be formally escalated to Stage 3 or above within the NHS Board Performance Escalation Framework (see Annex 1);

b) Identify what, if any, additional action or support is required as a consequence of that decision.

ANNEX 1

NHS Board Performance Escalation Framework

Stage	Description	Response
Stage 1	Steady state "on-plan" and normal reporting	Surveillance through published statistics and scheduled engagement of ARs/MYRs
Stage 2	Some variation from plan; possible delivery risk if no action	Local Recovery Plan – advice and support tailored if necessary. Increased surveillance and monitoring Scottish Government. SG Directors aware.
Stage 3	Significant variation from plan; risks materialising; tailored support required	Formal Recovery Plan agreed with Scottish Government. Milestones and responsibilities clear. External expert support. Relevant SG Directors engaged with CEO and top team. DG aware.
Stage 4	Significant risks to delivery, quality, financial performance or safety; senior level external support required	Transformation team reporting to Director General and CEO NHS Scotland.
Stage 5	Organisational structure / configuration unable to deliver effective care.	Ministerial powers of Intervention.

ANNEX 2

NHS LOTHIAN ANNUAL REVIEW 2017/18

MAIN ACTION POINTS

The Board must:

- Continue to deliver on its key responsibilities in terms of clinical governance, risk management, quality of care and patient safety
- Keep the Health & Social Care Directorates informed on progress towards achieving all access targets in line with agreed improvement trajectories, including the outpatient target, cancer targets and mental health access targets
- Continue to implement the actions agreed as a result of the Academy of Medical Royal Colleges report; improving and maintaining performance in relation to unscheduled care performance
- Continue to work with planning partners on the critical health and social integration agenda, including effectively addressing the delayed discharge challenge
- Continue to review, update and maintain robust arrangements for controlling Healthcare Associated Infection
- Continue to achieve financial management targets
- Agree a new remit for the Area Clinical Forum and ensure that there is provision for appropriate attendance at, and regular meetings of, the Forum.
- Keep the Health & Social Care Directorates informed of progress with its significant local health improvement activity, including against the smoking cessation target
- Keep the Health & Social Care Directorates informed of progress with local service redesign plans, in line with the national policy
- Provide a written update to the Scottish Government on progress against the above actions by 30 June 2019

ANNEX 3

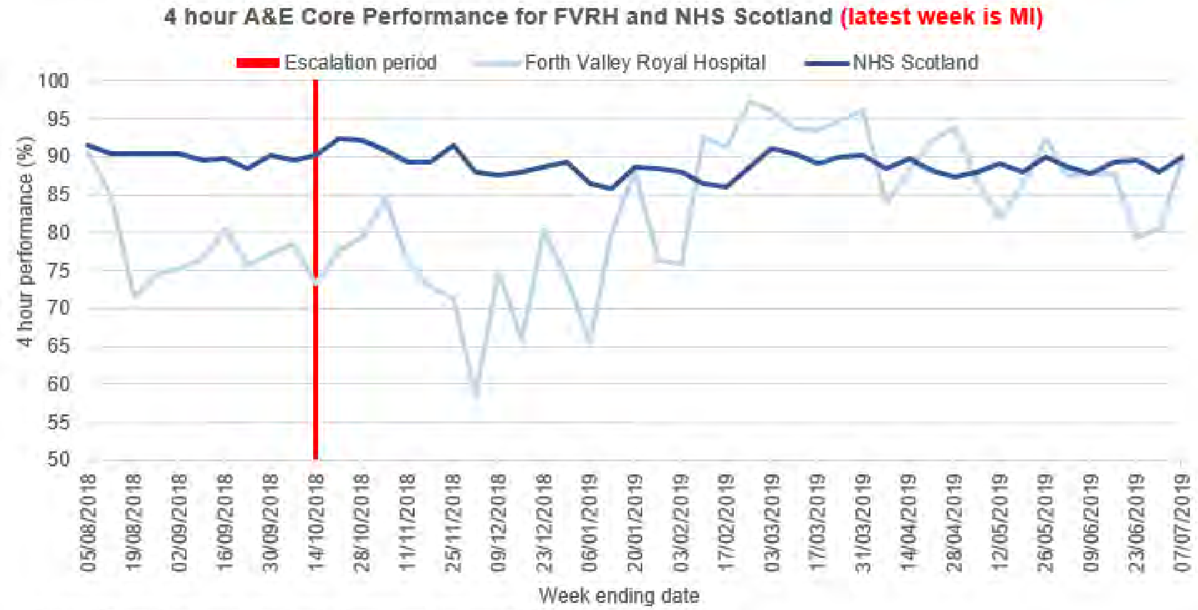
Escalated Boards

Board	Current Stage	Date Escalated/De-Escalated	Primary Factors
NHS Tayside	4	Stage 5 April 2018 Stage 4 February 2019	Financial position and financial management; governance and leadership
NHS Highland	4	Stage 3 July 2018 Stage 4 November 2018	Financial position and financial management; governance, leadership and culture
NHS Borders	4	Stage 3 July 2018 Stage 4 November 2018	Financial position and management; leadership
NHS A&A	3	Stage 3 July	Financial position and management
NHS FV	3	Stage 3 October 2018	Unscheduled Care

Forth Valley

NHS Forth Valley was placed on level 3 escalation in October 2018 specifically due to performance related issue against the 95% A&E target. The chart below shows performance before the board were place on escalation and performance since. While variable week on week, there is significant improvement in relation to the level of dips, with the most recent week showing performance at 89.5%.

The national team continues to work closely with the local team to support sustained improvements and there is ongoing to improve relationships between managerial and clinical teams to minimise impacts on patient care and flow. The Chief Medical Officer is also scheduled to revisit the health board, following up on her visit last October and ensure implementation of recommendations made at that time.



ANNEX 4

Comparisons over last 12 months and last quarter, and latest Monthly Management Information – NHS Lothian

	Mar 2018	Dec 2018	Mar 2019	Latest Management Information	Scotland Management Information
Cancer Waits (62 day) % within 62 day in quarter	87.2%	81.3%	79.4%	May 2019 71.0%	May 2019 81.1%
Cancer Waits (31 day) % within 31 day in quarter	91.1%	95.6%	94.9%	May 2019 91.2%	May 2019 93.7%
Treatment time guarantee (numbers over 12 weeks) Completed waits in quarter (formal measure)	2,110	2,247	2,980	NA	NA
Treatment time guarantee (numbers over 12 weeks) Ongoing waits at month end (WTIP measure)	2,247	2,371	2,340	As at 26 June 2019 2,661 (24.6%)	As at 26 June 2019 24,954 (32.0%)
New Outpatient appointments (number over 12 weeks) Ongoing waits at month end (WTIP measure)	21,008	25,221	22,992	As at 1 July 2019 23,696 (35.1%)	As at 1 July 2019 84,228 (26.6%)
18 weeks referral to treatment Completed waits in month	74.6%	72.1%	70.9%	May 2018 74.9%	May 2018 79.2%
Diagnostic tests (6 weeks) Ongoing waits at month end	69.5%	66.2%	70.2%	May 2019 75.0%	May 2019 81.1%
Psychological Therapies in quarter % within 18 weeks	75.7%	72.1%	75.1%	May 2019 82.5%	May 2019 76.7%
Time spent in A&E (4 hours) in month	75.4%	85.8%	87.7%	May 2019 (published) 88.5%	May 2019 (published) 90.7%
Sickness absence, annual	5.15%	NA	5.07%	April 2019 4.46%	April 2019 5.04%
CAMHS in quarter % within 18 weeks	65.1%	58.7%	69.1%	April 2019 64.2%	April 2019 69.1%
SAB infections rate (0.24), year ending	0.29	0.31	NA	NA	NA
C Diff infections rate (0.32) year ending	0.23	0.25	NA	NA	NA
Drug & Alcohol Treatment times % within 3 weeks Completed waits in quarter	79.6%	80.5%	79.4%	May 2019 82.7%	May 2019 93.4%
IVF Waiting times % within 12 months Completed waits in quarter	100%	100%	100%	May 2019 100%	May 2019 100%

	Lothian		Scotland	
	May 2018	May 2019	May 2018	May 2019
Delayed Discharge, bed days in month	11,547	8,503	43,244	45,061

December not included due to seasonal effects.

Lothian NHS Board

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Ms Jeane Freeman MSP
Cabinet Secretary for Health and Sport
The Scottish Government
St Andrew's House
Regent Road
Edinburgh
EH1 3DG

Date 25 June 2019
Your Ref
Our Ref BGH/CS/GS

Enquiries to Brian Houston
Extension
Direct Line
Email
EA

Dear Cabinet Secretary

2017-18 NHS LOTHIAN ANNUAL REVIEW – UPDATE MAIN ACTION POINTS

Further to you letter of 14 February 2019 outlining a number of actions points following NHS Lothian's 2017-19 Annual Review on 4 February 2019 requesting an update on progress by 30 June 2019. Details of progress associated with the action point are outlined below.

Continue to deliver on its key responsibilities in terms of clinical governance, risk management, quality of care and patient safety;

NHS Lothian Healthcare Governance Committee provides a forum to keep all aspects of clinical governance and patient safety under scrutiny. The Medical Director and the Nurse Director work closely with the Chair of the Committee to ensure that there are clear levels of assurance in place and where these are found not acceptable remedial actions are taken.

The Executive Management Team have a regular monthly patient safety and experience meeting where issues of concern in relation to patient safety are reviewed. This forum provides an umbrella 'oversight' across the whole system. In addition the acute hospitals and the Royal Edinburgh Hospital now have their own Patient Safety and Experience Groups and the Executive Team take the opportunity to review the minutes and actions from these meetings.

As part of our overall assurance we are currently reviewing NHS Lothian's serious adverse events reporting and learning processes, supporting the whole system to undertake reviews quickly and appropriately, ensuring that learning remains a key element.

We are in the process of rolling out the Care Assurance Standards across community hospitals in addition to the three acute hospitals to ensure the level of care provided meets the appropriate standard.

We are in the process of enhancing our Patient Experience Team capacity. This additional resource will allow the team to be more closely aligned with sites and services areas to allow the team to understand and support those reviewing and replying to issues relating to patient

experience and ensure responses are provided in a timely manner. We continue to develop the use of Care Opinion which has resulted in increase in the use of the website to allow patients and relatives to provide feedback.

Keep the Health & Social Care Directorates informed on progress towards achieving all access targets in line with agreed improvement trajectories, including the outpatient target, cancer targets and mental health access targets;

NHS Lothian continues to work closely with the Scottish Government Access and Performance Team and have monthly meetings to discuss scheduled care and cancer performance and improvement actions.

2019-20 performance trajectories associated with unscheduled care, scheduled care and cancer waits and child and adolescent mental health services have been agreed with the Scottish Government Health and Social Care Directorate and Mental Health Division and are reflected in NHS Lothian's 2019-20 Annual Operational Plan.

NHS Lothian and Health and Social Care Chief Officers are in dialogue with the Mental Health Division to agree the trajectories associated with psychological therapies.

Continue to implement the actions agreed as a result of the Academy of Medical Royal Colleges report; improving and maintaining performance in relation to unscheduled care performance;

A formal Programme Delivery Group (PDG) chaired by the Deputy Chief Executive was established to provide leadership, strategic advice and guidance for the delivery of the 4 Hour Emergency Access Standard (4EAS) Programme which includes, improvements against quality and Unscheduled Care performance standards, the development of sustainable leadership capacity and capability as well as the implementation of the recommendations made by the Academy of Medical Royal Colleges and Faculties In Scotland Report. The progress has been enhanced by input and support from a Scottish Government appointed External Support Team.

Reporting of progress against the actions derived from the 4 hour Emergency Access Standard (4EAS) Programme has been comprehensive during 2019. Reports are presented to the Audit and Risk Committee to provide assurance on the processes in place and to detail progress. The Committee is satisfied the measures and actions taken to address recommendations derived from the External Review are robust.

To date significant works have been undertaken across Governance and Leadership/Culture and Patient Safety and Quality of Care. A collaborative approach has been deployed across the Acute teams to develop a structure that would demonstrate service level oversight of safe, effective person-centred care linked to standards with clarity of roles, responsibilities, transparency and accuracy of information. Pulse Surveys have been undertaken to understand a snap shot from

staff perspective of the works underway and this will coalesce with the annual iMatter undertaking. Progress has been swift to establish two front door redesign projects with works already underway at St John's Hospital and the development of an Initial Agreement in train for summer 2019 at the Royal Infirmary of Edinburgh. In preparation for this, a number of Tests of Change are underway relating to Ambulatory Care, Short Stay Observation Units and Emergency Department Clinical Models.

Continue to work with planning partners on the critical health and social integration agenda, including effectively addressing the delayed discharge challenge;

To implement the proposals outlined in within the Ministerial Steering Group for Health and Community Care Report: Review of Progress with Integration of Health and Social Care, a Lothian Integration Care Forum has been established.

During 2019-20, the Forum will focus on services that fall under the 'set aside' agenda such as unscheduled care, emergency departments, delayed discharge, community hospitals and inpatient mental health services as well as other key issues identified by forum members of over the course of the year.

The delayed discharge position continues to be managed by the four Lothian partnerships in line with the Ministerial Steering Group objectives and reported annually through the partnerships annual performance reports.

Continue to review, update and maintain robust arrangements for controlling Healthcare Associated Infection;

NHS Lothian continues to perform well in meeting the standard for Clostridium –difficile (C-diff). We continue to promote and monitor the use of antibiotics. We are also working hard to ensure that we meet the Staphylococcus Aureus Bacteraemia (SAB) standard and are currently within the Scottish average in relation to this. Promotion and support for effective hand hygiene for all staff continues and there is also a significant programme of work in relation to the management of devices to ensure that reduction in the possibility of infection occurring through these routes.

A Community Infection Prevent and Control Committee has been established, covering the four Lothian Health and Social Care Partnerships and the Royal Edinburgh Hospital. Community Chief Nurses have also set up a process of peer review which, amongst many factors includes monitoring for compliance with meeting the C-Diff and SAB standards.

Continue to achieve financial management targets;

The 2019-20 Financial Outlook was presented to NHS Lothian Board on 3 April 2019 and approved for submission to the Scottish Government.

The Financial Plan indicates a potential financial gap of £26m in 2019/20. Financial plans in the last three years have shown a broadly similar level of financial gap at the start of the year; however a breakeven position was subsequently achieved in each of these years.

There are a number of issues which impact on the achievement of a balanced financial outturn and require to be considered including:

- NHS Scotland Resource Allocation Committee (NRAC) parity – NHS Lothian remains behind NRAC parity relative to Scotland by up to an estimated £15m. Lothian will continue to highlight the ongoing inequity within overall allocations.
- Brokerage – Based on the information contained within the Plan and recent success delivering year-end breakeven from an imbalanced financial plan, there is no requirement to consider brokerage and Lothian will not be requesting this from the Scottish Government.
- Access – Plans continue to be developed to reduce waiting times across specialties. The Plan assumes that the costs associated with this additional activity will be matched by additional funding from the Scottish Government.
- Unscheduled Care – the Plan recognises investment into proposals agreed and under implementation around Unscheduled Care. There are ambitions for further developments beyond those within the Plan which have not been included. However the longer term plans to address performance are currently being developed and these will bring additional resource requirements.
- The failure to deliver significant savings in core budgets across Business Units requires to be followed up to ensure there is an enhanced organisational appetite to deliver efficiency.

A three year financial outlook showing the longer term position is outlined in the NHS Lothian 2019-20 Annual Operational Plan, indicating an increasing financial gap. This information is based on a realistic assessment using the latest information available at this stage in the financial planning process.

Agree a new remit for the Area Clinical Forum and ensure that there is provision for appropriate attendance at, and regular meetings of, the Forum;

NHS Lothian's Chairman, Deputy Director Corporate Nursing and Business Support, the Medical Director and Nurse Director, have agreed a new way of working for the Area Clinical Forum (ACF). This new way of working for the ACF is to be trialled, at alternating meetings in the first instance.

This new way of working will take the form of a single topic session, facilitated by relevant staff from service. Forum members will be provided with materials to provide background and context to the subject matter to ensure there is opportunity for good engagement and discussion of key issues (Modernising Outpatients will be the subject matter for discussion). The ACF is scheduled to hold their first meeting in July 2019 under these revised arrangements.

Keep the Health & Social Care Directorates informed of progress with its significant local health improvement activity, including against the smoking cessation target;

To increase compliance with the Local Delivery Plan (LDP) smoking cessation target NHS Lothian implemented an improvement plan during 2017-18 which included a review of how our patients access stop smoking services, our local and national partnership networks, workforce targets and communication pathways.

A number of actions have been implemented and as a result early performance measures have demonstrated a slight improvement in Pharmacy quit rates. Actions within the plan included a more effective and efficient way for patients to access pharmacotherapy products including choices and easy access to all members of the community.

Engagement with national pharmacy organisations and local primary care management staff has improved our compliance with data recording and delivery of local quit your way services. A workforce development plan identified key staffing issues which have now been addressed, this included improvement of specialist advisor skills and local performance management systems for line managers.

Following the launch of the new Quit Your Way brand, investment into our communication plan supported the purchase of publicity materials and development of a smoking cessation Facebook page. Improvements have also been made in communications with healthcare professionals resulting in more robust referral pathways. Improvements are expected in delivery of the standard is expected to be evidence in March 2020, however continued investment in new ways of working and sourcing addition investment is required to ensure success.

Keep the Health & Social Care Directorates informed of progress with local service redesign plans, in line with the national policy;

NHS Lothian continues to engage with the Scottish Government Health and Social Care Directorate local redesign plans, for example the capital investment projects such as the Short-Stay Elective Centre, St. John's Hospital and re-provision of the Edinburgh Cancer Centre.

I trust this feedback on the main action points raised following NHS Lothian's 2017-18 Annual Review meets your requirements.

Yours sincerely

BRIAN HOUSTON
Chairman

A46259010

From: Healy M (Michael) on behalf of Scottish Government Health Resilience Unit
Sent: 10 July 2019 20:17
To: Cabinet Secretary for Health and Sport
Cc: Minister for Public Health, Sport and Wellbeing; Minister for Mental Health; DG Health & Social Care; Wright M (Malcolm); Connaghan J (John) (Health); Rogers S (Shirley); McLaughlin C (Christine); Smith G (Gregor); Calderwood C (Catherine); Hart S (Suzanne); Communications Healthier; Aitken L (Louise); Hutchison D (David); Scottish Government Health Resilience Unit; Low S (Stuart); Roche R (Rowena); Sheriff C (Carmel); Murray D (Diane)
Subject: Edinburgh Children's Hospital Delay - Update on work undertaken

PS/Cabinet Secretary,

Purpose - In advance of your meeting with officials (Thursday 11th July 2019) this is a short note to update the Cabinet Secretary on activity.

Operational Update:

NHS 24 Helpline

1. **NHS 24 received 7 patient calls on Tuesday 9th July. The reason for calls were appointment related. This brings the total number of calls to 43 received through the helpline**. The helpline remains in place and patient communications continue to be managed by NHS Lothian.

NHS Lothian Patient Contact

2. As you are aware NHS Lothian have been contacting patients by telephone for those who have appointments in July and issuing letters to patients who have scheduled appointments from August. We met NHS Lothian today and requested regular information on the patient contact position and these reports will now be provided from Thursday 11th July. The total number of outpatient appointments for the month of July across affected areas are:

Outpatients	Number
Paediatrics	1586
DCN	669
Total	2255

3. NHS Lothian have made contact with over 800 paediatric patients and 101 of the DCN patients. As part of the information request we are seeking clarification on the process being used to contact and follow up with patients and will meet with them again tomorrow.

   We have requested further detail to cover:

   - Number of patients successfully contacted
   - Number of patients not contacted and follow up action taken
   - Number of patients who have kept same appointment
   - Number of patients who have not kept same appointment (and differentiate whether this is a NHS Lothian or patient change)

NHS Lothian have reported that no formal patient complaints have been received in relation to the delay in opening as at 9th July.

External Checks by Health Facilities Scotland & Health Protection Scotland

4. Health Facilities Scotland (HFS) and Health Protection Scotland (HPS) have started the work covering compliance with technical specifications and standards. The scoping meetings have been held with NHS Lothian and key personnel to undertake the work have been identified. HFS/HPS are now engaging with 3rd party experts who will assist in delivering this package of work. Christine McLaughlin has requested that HFS/HPS prioritise ventilation, drainage issues and DCN. The plan for delivery of this work is expected by Monday, following daily discussions with NHS Lothian until Friday. This work schedule will also require dialogue with the consortium who will need to agree to this approach and provide access to resources for the team.

Audit of Governance – KPMG work

5. The appointment of KPMG is being finalised. KPMG due diligence work is being completed now and a letter of engagement is expected to be in place by Friday. KPMG staff will be on site from Monday. NHS Lothian have put in place a full time resource to support this and are pulling together all of the likely material that will be required for the audit. Discussions have been held between Christine McLaughlin and the Partner at KPMG with the emphasis that work is completed as quickly as is possible. Timescales to completion will be provided on Monday at the latest.

Escalation to Scottish Government of Issues from NHS Lothian

6. You are aware that we have been seeking clarification on the escalation process to SG in the period between 25th – 28th June. A detailed response has now been received from NHS Lothian of the events, leading to the meeting with the Chief Executive. Christine will provide specific details on the call with you tomorrow.

MSP/MP Letter, GIQ, Press Release & FM Briefing

7. Officials have started to draft the MSP/MP letter, the GIQ and these will be covered on the call with you tomorrow. An FM briefing will also be prepared and sent to you for submission to FM on Friday

Media

8. Communications are being cleared via SG and this continues. SG Health Communications are producing a forward communications plan today that will be sent to you for clearance.

Escalation of NHS Lothian Performance

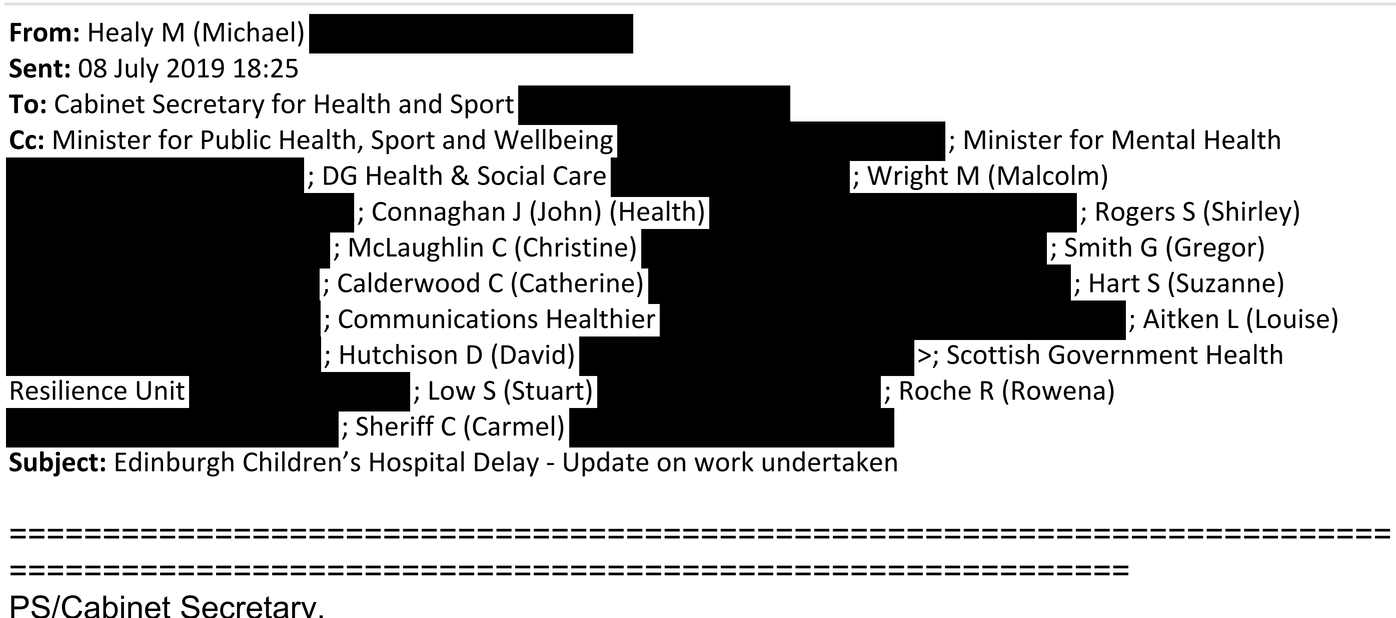
9. This was discussed at HSCMB today and an update will be provided to you by DG Health.

The Cabinet Secretary **is asked to note the above** and that a meeting has been scheduled with your officials tomorrow (11th July)

Regards

Mike

Michael Healy
Head of Health Resilience
Performance and Delivery Directorate
Scottish Government



From: Healy M (Michael)
Sent: 08 July 2019 18:25
To: Cabinet Secretary for Health and Sport
Cc: Minister for Public Health, Sport and Wellbeing ; Minister for Mental Health ; DG Health & Social Care ; Wright M (Malcolm) ; Connaghan J (John) (Health) ; Rogers S (Shirley) ; McLaughlin C (Christine) ; Smith G (Gregor) ; Calderwood C (Catherine) ; Hart S (Suzanne) ; Communications Healthier ; Aitken L (Louise) ; Hutchison D (David) >; Scottish Government Health Resilience Unit ; Low S (Stuart) ; Roche R (Rowena) ; Sheriff C (Carmel)
Subject: Edinburgh Children's Hospital Delay - Update on work undertaken

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PS/Cabinet Secretary,

Purpose -

1. **In advance of your meeting with officials tomorrow this is a short note to update the Cabinet Secretary on activity following the announced delay to the new Edinburgh Children's Hospital. This update covers actions that you set out to the First Minister last Friday and the progress that has been made.**

2. As you are aware over the weekend SG officials held calls with NHS Lothian as part of the agreed planned action. NHS 24 reported that they received 27 calls via the helpline since it was set up on Friday. Most calls received on Friday and single figure calls Saturday and Sunday (1 on Saturday and 4 on Sunday). The reason for the calls were appointment related. The helpline remains in place and patient communications continue to be managed by NHS Lothian.

External Checks by Health Facilities Scotland & Health Protection Scotland

3. Health Facilities Scotland (HFS) and Health Protection Scotland (HPS) are engaging with NHS Lothian today to start the work covering compliance with technical specifications and standards. The timescale for completion of work will be expected to be earlier than the initial timeframe put forward and we will advise you of this once confirmed by HFS/HPS. Christine McLaughlin continues to have regular discussions with NSS Chief Executive (further meeting at 9am on Tuesday 9th July) to ensure that resources are deployed as quickly as possible to undertake and report on the checks completed.

Audit of Governance

4. Engagement discussions have taken place with KPMG today regarding the governance audit. KPMG have confirmed in principle they can undertake this work. Resources have been identified and work can commence this week barring any identified conflicts of interest (this is being checked now). KPMG are meeting the Chief Financial Officer tomorrow to discuss scope of work and agree terms of reference.

NHS Lothian

5. DG Health & Social Care met with NHS Lothian Chief Executive this morning. DG Health raised a number of issues with NHS Lothian where urgent clarification has been requested. These cover:

   - Assessment of the technical standard specification included in signed contracts
   - The derogations applied to air circulation and whether changes agreed by HFS/HPS
   - Will Department of Clinical Neurosciences (DCN) meet technical standards in theatres in addition to wards
   - Submission of a new design plan for air ventilation cleared by HPS and HFS
   - A migration plan for DCN that addresses all relevant concerns including clinical and again cleared by HPS and HFS
   - All issues relating to the new hospital have been identified.

6. NHS Lothian has been requested to provide this information today. An update on this will be provided when you meet officials tomorrow.

Media

7. SG Health Communications have been dealing requests today following the story breaking. This has been around the current position, public communications and costs. Comms colleagues will be seeking your clearance on lines today.

Internal Arrangements

8. Your officials will now operate under a health resilience response and planning has been put in place to ensure that directorates across the portfolio continue to coordinate activity and engage with NHS Lothian and other Boards involved. Daily calls are scheduled with DG Health & Social Care, senior officials with a nominated lead director in place. For this week Christine McLaughlin is lead director.

9. NHS Lothian have now put in place similar resilience arrangements and established an Incident Management Team. This is chaired by an Executive Director of the Board (Susan Goldsmith – Director of Finance).

The Cabinet Secretary **is asked to note the above** and that a meeting has been scheduled with your officials tomorrow (9th July)

Regards

Mike

Michael Healy
Head of Health Resilience
Performance and Delivery Directorate

Scottish Government
St Andrews House
Regent Road
Edinburgh EH1 3DG

To report incidents, urgent situations and emergencies **out-of-hours (17.00 to 08.30)**, contact Health Resilience Duty Officer via pager: Unit email:

Preparedness, Resilience and Response

From: McKechnie, Stewart
Sent: 11 July 2019 14:08
To: STORRAR, Ian (NHS NATIONAL SERVICES SCOTLAND)
Cc: Glasgow Filing
Subject: FW: G1547 RHSC-DCN Edinburgh

FYI

From: McKechnie, Stewart
Sent: 11 July 2019 14:07
To: 'John Ballantyne'
Cc: 'Colin Grindlay' ; David Wilson ; Darren Pike ; Lorraine Robertson ; Glasgow Filing
Subject: FW: G1547 RHSC-DCN Edinburgh

Dear Sirs

We write with regard to the ongoing issue of the ventilation standards to the PICU/ HDU area of the above hospital with particular reference to ventilation standards for the 4 bed bay and single room works.

Our understanding of the background here, is that both of these areas were briefed to be the same standards, certainly in ventilation terms, as similar areas throughout the hospital.

Post tender and during construction stage, Infection Control indicated that they wished particular conditions for both these Room types, which after extensive consultation and review, were subject to change orders by NHSL to MPX.

This then remained the agreed solution that was put in place. Through due process, agreement with NHSL's overseeing consultant and "signed off" by the Independent Tester, and I believe, verified in the Settlement Agreement. Following NHSL appointment of a further evaluation team, they then suggested a discrepancy between what was installed, and their interpretation of the guidance. I believe SHTM 03-01 has been mentioned.

A statement was then apparently made that the air changes in the 4 bed bay and single rooms in this department required to be 10AC/HR.

We were subsequently advised that NHSL wanted to close part of the accommodation in order to increase the ventilation temporally to remaining wards in the department with 5AC/HR being quoted for the 4 bed bay area.

This was then rejected, by I believe, the Scottish Government, and we were then given a brief prepared by NHSL to go forward with a scheme to provide 10AC/HR with suggested minimal alterations to existing ductwork, and an over rider that any noise issues generated by excessive ductwork velocity would be dealt with on an individual basis.

We reviewed this proposal and alerted MPX of our concerns, not only as we could see potentially very high velocities in the ductwork as a result, but were unclear as to what reference this instruction had to SHTM 03-01.

We subsequently received advice on Monday 8th July that 10AC/HR was required, with the rooms to be balanced or slightly negative. We had queried this against SHTM 03-01 where the quoted reference to critical care states 10AC/HR and the +10PA pressure.

We were told that NHSL hadn't been aware of this and took it away from the meeting to review.

Subsequent communication from MPX on 10th July indicated that NHSL wanted 10AC/HR and +10PA pressure in the rooms.

We have carried out a full review of relevant guidance documents which included ;

SHTM 03-01 – Ventilation for healthcare premises

HBN 04-02 – Critical care units

HBN 23 – Hospital accommodation for children and young people.

and can find no relevant guidance which corelates with what is now being asked for here.

The only areas detailed with this level of ventilation and pressure are Isolation Rooms which we already have in the area and which are serviced accordingly. However, the +10PA for insolation rooms is maintained within the Lobby area, not the room itself which is balanced.

The areas in question do not have lobbies and if the +10PA is as is being suggested critical, we cannot see a way of maintaining this pressure as it will be lost when an access door is opened. An airlock style arrangement with interlocking doors would may be required.

We would also note in the passing that if the intention is to have rooms pressurised, this will not only involve ventilation changes, but may result in wholesale alterations to ceilings,light fittings, windows and doors etc.

Our dilemma therefore, is that statements are being made stating the rooms are not in accordance with SHTM 03-01 without substantiation which in our opinion we cannot accept this as a basis for design.

We wish to do our upmost here to get this Hospital open, and will assist in any way we can. We will attend the meeting with MPX and NHSL tomorrow as requested, and will also carry out site inspection afterwards to assist in moving this matter forward.

However, we need clear and concise briefing, as to what operating standards are required, and would categorically state that referencing SHTM 03-01 does not in our opinion provide that.

Regards

Stewart McKechnie

Director
IEng ACIBSE MIHEEM
TÜV SÜD - Real Estate Division

www.tuv-sud.co.uk/real-estate

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DRAFT

RHCYP/ DCN : Commissioning / Ventilation

Note of a meeting held at 4:00pm on Thursday 11 July 2019 in Meeting Room 5, Waverley Gate, Edinburgh.

Present: Susan Goldsmith (Chair); Jacquie Campbell; George Curley (Teleconference); Brian Currie; Tim Davison (from 4:30pm); Tracey Gillies; Alex Joyce; Donald Inverarity; Judith Mackay and Alex McMahon.

In Attendance: Douglas Weir.

1. Previous Minute held on 8 July 2019

1.1 The Previous Minute was approved.

2. Technical Update

2.1 IOM Review of Ventilation – Brian Currie advised that the final report would be received on Monday 15 July 2019 and would contain all required data. As agreed at the previous meeting IOM had been commissioned to undertake a further review of clinical areas as well as a sample of non-clinical areas. It was anticipated that this process would take between 2-3 weeks. Reports had not yet been received in respect of Theatre 32. The point was made that the IMT would require a summary paper confirming that theatres were fit for purpose from both an infection and ventilation view point with this position having been confirmed by IOM. Brian Currie advised that the report to be received on Monday 15 July would do this.

George Curley reported that there were 1 or 2 readings that were below specification and that this had been picked up from the validation sheets although these would not represent a show stopper. A particular issue was raised in respect of a dirty utilities area which shared air with a theatre facility. Tracey Gillies advised that there was a need to sequence issues like this and suggested that once the Paul Jamieson report had been received it should be passed to George Curley for written comments and thereafter to Donald Inverarity and Lindsey Guthrie to look at from an infection control perspective. Finally a report with comments should be submitted to Alex McMahon who would bring back a view on whether facilities were fit for purpose to a future IMT. It was noted that a similar process should be followed for water issues.

2.2 Update on Water – Following detailed discussion the following was agreed:-

1. The water quality has passed the necessary checks for occupation and use of the building.

2. The current discussions about water quality relate to the testing regime recommended but not mandated by HPS in their draft guidance of Oct 18 for augmented care areas. We have defined augmented care areas and commissioned testing in those, the results of which are back.

3. The results need collation and agreement about necessary remedial and control actions.

4. That agreement will be brought back to the IMT after hoping through estates and then IPCT for comment and agreed actions.

5. We also need to decide what the maintenance regime should be for an unoccupied building as a whole given the results we have. That should reflect the leading from GGC

2.3 Critical Care Design – Brian Currie advised that he had met on Tuesday with Multiplex managers and done a tour of the area where the following options had emerged:-

- Increase capacity of air handling unit to deliver 10 changes per hour
- Find a room to install an additional unit
- Identify external space to put in a larger air handling unit

It had been agreed that the provision of an external facility would be quicker, easier to deliver and less disruptive. A potential location was on the roof of CAMHs and that this was the ideal solution as Critical Care was on the same level and that services access would be available through the ceiling void in order to allow Critical Care to reach the required 10 air changes requirement. Brian Currie advised that it was anticipated that this option would be confirmed the following day with it being anticipated that Multiplex would be amenable. In terms of timescale it was suggested that it would probably take another week to validate the design then a further 2 weeks to agree the approval process and thereafter a 10-12 week procurement timeline. The point was made however that upfront work could be done in advance albeit it looked like November 2019 before work would be concluded. Alex McMahon concluded that this would still allow CAMHs to move into the new facility earlier as the air unit would be on the roof and not located within the internals of the building. Tracey Gillies reminded colleagues that progression with any option depended on a view from HFS/HPS around the 6 versus 4 issue and that any issues around migration plans would depend on the outcome of that advice.

Brian Currie reminded colleagues that all of the above was predicated on Multiplex and IHSL continuing to offer up support. He advised that IHSL had sought further advice on how this work would be instructed with it having been reported back to them that this would be via a Board change and that NHS Lothian would reserve its rights in terms of restitution and this position would be formally advised to them. George Curley advised that the progression of any works could be undertaken through the existing frameworks that were already in place.

Susan Goldsmith advised that she felt that what was being proposed was a good solution albeit with a relatively long time line. It was noted that Donald Inverarity and colleagues had undertaken a walk around of the facility the previous day and had looked at every room. SHTM deviations in respect of positive and negative air pressures had been discussed. It had subsequently been confirmed that the facilities met the requirements around SHTM 03 compliant design of around 10 pascals of positive pressure in clinical areas. Brian Currie reiterated that any changes would be as part of the technical specification and done through a Board change process. He commented that a minor concern had been that the proposal would result in the loss of light by losing a window although it was not felt that this would be a significant issue. It was noted that the equipment would not be seen from the CAMHs window area and that assurances had been sought around appropriate levels of sound installation being provided. Tracey Gillies commented that consideration also needed to be taken of vibration if the air handling unit was located on the roof of CAMHs. Brian Currie commented that the engineering solution would take account of this with the air handling unit being located on a concrete base with it being noted that other air handling units were located on the roof of the hospital. It was noted that the technical solution would ensure that new ducting was put in place and that work was signed off properly.

Brian Currie commented that an issue that was preying on his mind was the subtleties around clinical need and patient care that influenced air pressure requirements particularly in respect of 4 bedded general rooms. Donald Inverarity advised that this was less of an issue in general wards with only Critical Care requiring a 10 pascal standard. It was noted that advice had been sought around these types of issues from colleagues south of the Border and following this the view was that NHS Lothian should not deviate from the standard guidance in order to avoid any further conflation of the position. It was noted that the current position met all the necessary mandatory requirements and that anything over and above that was anticipatory.

2.4 Snagging / Board Changes – Brian Currie advised that he would pass the June report from IHSL to Susan Goldsmith advising that this tracked help desk activity. He advised that in the current month the expectation was that a further Warning Notice would be issued to the Facilities management contractor. It was noted that part of the frustration was that they were dependent on Multiplex addressing issues that had been reported and this was not happening in all cases. Susan Goldsmith advised that she would need to escalate this position to Christine McLaughlin at the Scottish Government. The input of Scottish Futures Trust (SFT) was reported. Susan Goldsmith commented that there was a need to take away this issue and consider it further in the light of advice from McRoberts and Christine McLaughlin as it would be important to consider the relationship with contractors moving forward given the need for remedial action to be put in place and delivered as quickly as possible.

Susan Goldsmith updated on a meeting that she and colleagues had held with HFS/ HPS earlier in the day which had been largely positive. It was noted that they were unclear about the process that they would adopt to sign-off the fact that the hospital was safe and fit for purpose. It had been agreed however that it was for the NHS Board to assume ultimate responsibility for any sign-off arrangements. It was noted that HFS/HPS had been taken through the settlement agreement and had requested

to see details of the whole contract agreement. Discussion had been held about how they would assist NHS Lothian in agreeing any sign-off process and that they were interested in considering further Option 3 relating to a phased move and how this could be presented to the Cabinet Secretary. HFS/HPS had commented that if assurance could be sought around processes etc then this might lead to a quicker agreement. Tim Davison commented that NHS Lothian had commissioned IOM and would receive assurances through them as well as validated results and that this would inform any decision. Susan Goldsmith commented that both HFS/HPS were keen to be on the same page as NHS Lothian. It was noted that they had not been invited to the Workshop scheduled for 15 July 2019 and Susan Goldsmith felt that this would be more relevant to KPMG in respect of the audit function whilst HPS/HPF concerns were around the safety of the building. It was reported that Jim Miller from HFS would be meeting with Christine McLaughlin the following week to discuss how they could provide assurance in respect of the phased move. Susan Goldsmith advised that she had now received the KPMG Terms of Reference.

2.5 Patient / Staff Issues – Jacquie Campbell advised that patients with July appointments continued to be contacted by telephone both from an outpatient and inpatient perspective. It was noted that the vast majority of patients had now been contacted. She advised that she had met with the Resilience Team twice and that they had asked for details of when patients had been contacted and whether appointment dates were the same or had changed and if they had changed whether this had been driven by NHS Lothian or the patient. She advised that she had asked Lee Maxwell to look at anonomised data. The point had been made however that if a position could be reached of all patients having been contacted then this would negate the need to do the retrospective exercise. In terms of patient bookings for August this was being progressed on a business as usual basis with patients being advised by letter rather than telephone. In terms of patients being transferred from the new facility to the existing one it was noted that only 2 instances had occurred and that these had been on 2 separate dates.

The IMT noted that a staff FAQ had gone live earlier in the day. Jacquie Campbell had met with staff at the existing Royal Hospital for Sick Children the previous day with the meeting having been extremely well attended with the main issue being how assurance would be provided to all services. Following the meeting a specific email communication had been received in respect of the Cystic Fibrosis service and issues around whether 4 air changes per hour were acceptable.

Tim Davison commented that if as previously reported there was no scientific basis for the determination of the number of air changes per hour then this needed to be an important part of the response back to the email. Donald Inverarity advised that he had also received 3 emails and reported that issues around Cystic Fibrosis had been discussed by the HPS Taskforce looking at standards with no determination having been received.

The Scottish Government Resilience Team had advised that they did not anticipate any need for weekend reporting unless by significant exception. Janis Butler was the Executive on-call over the weekend period.

It was noted that events with the public and staff were planned over the next few weeks and that details of these as well as events already held would be advised to

the Scottish Government. Tim Davison commented on the need to include Board briefings as well as the forthcoming Workshop on 15 July 2019.

The IMT agreed that DCN remained the top priority for migration although this had caused some residual concern among some members of staff at the existing Royal Hospital for Sick Children. This had related mainly to moving outpatients away from the main hospital facility. It was noted that Eddie Doyle and Fiona Mitchell were meeting and that Jacquie Campbell had stressed that no decisions could be made until a full risk assessment had been undertaken and that any proposals had been appropriately signed off through the IMT. The point was made that DCN staff were keen that the facility moved in its entirety and again before this could happen a completed risk assessment needed to be undertaken. The position in respect of the need to cancel procedures in the previous winter were discussed with it being noted that if some services could move to the new facility then this would free up space, if required, to cope with winter pressure at the existing Royal Hospital for Sick Children facility and again this required to be part of a risk assessment process.

3. Workforce session on Monday 15 July

Susan Goldsmith advised that advance reading on the NPD would be circulated in advance of the meeting and that this would provide a basis for the forward discussion. The Workshop would be chaired by Susan Goldsmith. Brian Currie advised that the proposal was to display key documents electronically rather than issue paper copies. Tim Davison commented that a key outcome from the Workshop session would be to determine how the Critical Care Unit had got included in the 6 to 4 discussion and if a reconcilable position could not be reached then there would need to be a clear distillation of views. It was noted that Brian Houston would be attending the Workshop session as an observer rather than a contributor.

4. Date and Time of Next Meeting

It was noted that the next meeting was scheduled for 5:00pm on Monday 15 July 2019 in the RHCYP Management Suite Meeting Room, 4th Floor at Little France. It was noted however that if the Workshop session finished early that the IMT meeting would be brought forward.

From: Mackenzie, Janice
Sent: 11 July 2019 16:32
To: Currie, Brian; Executive, Chief; McMahon, Alex; Goldsmith, Susan; Gillies, Tracey; Curley, George; Campbell, Jacquie; Graham, Iain
Cc: Guthrie, Lindsay; Inverarity, Donald; Hull, Ashley; Hanley, Dorothy; Henderson, Ronnie
Subject: RE: Critical Care Ventilation

Follow Up Flag: Follow up
Flag Status: Flagged

Dear All

Just to update you all we have had two useful meetings, yesterday and today with the Critical Care Clinical Team with Donald and other colleagues from the IPCT.

Following much discussion and looking at a range of different scenarios related to the patient groups they will be caring for and the requirement for the ability to cohort patients with the same infection the consensus is that the requirements of SHTM 03-01 in relation to ventilation within a Critical Care Unit will provide a safe ventilation design in conjunction with the design of the paediatric intensive care unit and good staff practice to achieve best outcomes for patients.

Kind regards

Janice

PLEASE NOTE MY TELEPHONE NUMBER HAS CHANGED to

Janice MacKenzie
Clinical Director
RHSC + DCN - Little France Project Team

Royal Hospital for Children & Young People and Department of Clinical Neurosciences
4th Floor Clinical Management Office
Little France Crescent
Edinburgh
EH16 4TJ

www.nhslothian.scot.nhs.uk/proudhistoriesnewchapters

From: Currie, Brian
Sent: 09 July 2019 17:19
To: Executive, Chief; Henderson, Ronnie; McMahon, Alex; Goldsmith, Susan; Gillies, Tracey; Curley, George; Campbell, Jacquie; Inverarity, Donald; Guthrie, Lindsay; Graham, Iain; Mackenzie, Janice; Hanley, Dorothy; Hull, Ashley
Subject: RE: Critical Care Ventilation

Tim

We intend to ask the critical care team to reaffirm, or otherwise, their requirements in relation to the pressure regime in four bedded wards tomorrow then seek guidance from HFS and HPS who are visiting us on Friday for a familiarisation visit.

Following that, a proposal for more formal sign off by all stakeholders with input from Infection Control and Donald will be drafted.

In the mean time, initial surveys and preliminary design work on the revised critical care ventilation can proceed as planned.

Regards

Brian

Brian Currie
Project Director - NHS Lothian
RHCYP + DCN
4th Floor Management Suite
Little France Crescent
Edinburgh
EH16 4TJ

From: Executive, Chief
Sent: 09 July 2019 16:44
To: Henderson, Ronnie; McMahon, Alex; Goldsmith, Susan; Gillies, Tracey; Curley, George; Campbell, Jacquie; Inverarity, Donald; Guthrie, Lindsay; Graham, Iain; Currie, Brian; Mackenzie, Janice; Hanley, Dorothy; Hull, Ashley
Subject: Re: Critical Care Ventilation

Folks this is exactly the sort of question we need formal HFS and HPS input to and sign off from. Don't be rushed into making the wrong decision. We must see a formal proposition, have it signed off formally by HPS and HFS and then submitted to SG for approval before proceeding. Let's set out on the right foot here!

Tim Davison
Chief Executive
NHS Lothian
Waverley Gate
2-4 Waterloo Place
Edinburgh EH1 3EG

-------- Original Message --------
Subject: Critical Care Ventilation
From: "Henderson, Ronnie"
To: "McMahon, Alex" ,"Goldsmith, Susan" ,"Gillies, Tracey" ,"Curley, George" ,"Campbell, Jacquie" ,"Inverarity, Donald" ,"Guthrie, Lindsay" ,"Graham, Iain" ,"Currie, Brian" ,"Mackenzie, Janice" ,"Hanley, Dorothy" ,"Hull, Ashley"
CC: "Executive, Chief"

All,

The design process has begun to provide the solution to the Critical Care Ventilation issue. The first decision we need to make to properly brief the designers is what pressure regime do we want?

The output of a previous exercise involving infection control and the critical care team was that the patient areas should be balanced or slightly negative to the surrounding corridors/areas i.e air flows from corridor to room to extract. The reason for this is that it is necessary to be able to cohort patients with the same infection. The SHTM however calls for a 10pa positive difference from room to corridor.

To be clear if we choose the option of balanced/negative we will require a derogation from SHTM 03-01. The preferred option needs to be confirmed at or immediately after the critical care team visit tomorrow to allow us to brief the designers as early as possible in the process.

Regards

Ronnie

Ronnie Henderson
Commissioning Manager Hard FM
RHSC & DCN - Little France
NHS Lothian

RHSC & DCN Site Office
Little France Crescent
Edinburgh
EH16 4TJ

Stuart,

I will send on the attached to the FM's office now. (one minor addition at point 3 from the note you sent at 1543)

Thanks for your work on this,
Jack

From: Low S (Stuart)
Sent: 12 July 2019 15:43
To: Cabinet Secretary for Health and Sport
Cc: Hartley D (Dot) ; Minister for Public Health, Sport and Wellbeing ; Minister for Mental Health ; DG Health & Social Care ; Connaghan J (John) (Health) ; Rogers S (Shirley) ; Smith G (Gregor) ; Hart S (Suzanne) ; Aitken L (Louise) ; Hutchison D (David) ; Roche R (Rowena) ; Murray D (Diane) ; Calderwood C (Catherine) ; Wright M (Malcolm) ; Communications Healthier ; Neill S (Sean) ; Healy M (Michael) ; McLaughlin C (Christine)
Subject: RE: Edinburgh Children's Hospital - Draft Update Note to FM

Jack
Revised version of FM update attached for Cabinet Secretary's consideration.

I have amended the DCN patient contact figure to reflect the position as at 11 July and added in a line to say that patient contact activity is continuing. NHS Lothian advised that they have **attempted** to contact all 680 DCN patients by phone, but only 310 of these call resulted in a successful contact (i.e. – where they actually spoke to the patient). The Boards policy is not to leave a voice message but to try and re-contact the patient. All 680 DCN patients have also been sent a letter advising them that the location of their appointment has changed.

Kind regards
Stuart

From: Downie J (Jack) **On Behalf Of** Cabinet Secretary for Health and Sport
Sent: 12 July 2019 14:07
To: Low S (Stuart) ; Cabinet Secretary for Health and Sport
Cc: Hartley D (Dot) >; Minister for Public Health, Sport and Wellbeing Minister for Mental Health ; DG Health & Social Care ; Connaghan J (John) (Health) ; Rogers S (Shirley) ; Smith G (Gregor) ; Hart S (Suzanne) ; Aitken L (Louise) ; Hutchison D (David) ; Roche R (Rowena) ; Murray D (Diane) ; Calderwood C (Catherine) ; Wright M (Malcolm) ; Communications Healthier ; Neill S (Sean) ; Healy M (Michael)

; McLaughlin C (Christine)
Subject: RE: Edinburgh Children's Hospital - Draft Update Note to FM

Stuart,

Thank you for this, some further information required for the Cabinet Secretary before this is sent to FM. She has asked for an explanation for the low number of DCN patients contacted and asks that the note says that work continues to contact the remaining patients. Like last night I have made some changes Ms Freeman has asked for within the document (tracked for ease)

I would be grateful for a revised note by 1530.

Thanks,
Jack

From: Low S (Stuart)
Sent: 12 July 2019 12:57
To: Cabinet Secretary for Health and Sport
Cc: Hartley D (Dot) Minister for Public Health, Sport and Wellbeing ; Minister for Mental Health ; DG Health & Social Care ; Connaghan J (John) (Health) ; Rogers S (Shirley) ; Smith G (Gregor) ; Hart S (Suzanne) ; Aitken L (Louise) ; Hutchison D (David) ; Roche R (Rowena) ; Murray D (Diane) Calderwood C (Catherine) ; Wright M (Malcolm) ; Communications Healthier ; Neill S (Sean) ; Healy M (Michael) ; McLaughlin C (Christine)
Subject: RE: Edinburgh Children's Hospital - Draft Update Note to FM

Jack
Redrafted version of the update note on the Edinburgh Children's Hospital to FM attached.

Grateful if you can confirm:
1. That the note is in the correct format.
2. If submission to FM will be done through Cab Secs office.

Kind regards
Stuart

Stuart Low, Scottish Government, Directorate for Health Performance & Delivery, Health Resilience Unit, Floor 2E, St Andrews House, Regent Road, Edinburgh, EH1 3DG

From: Downie J (Jack) **On Behalf Of** Cabinet Secretary for Health and Sport
Sent: 11 July 2019 23:19

To: Low S (Stuart) ; Cabinet Secretary for Health and Sport ; McLaughlin C (Christine) ; Healy M (Michael)
Cc: Hartley D (Dot) ; Minister for Public Health, Sport and Wellbeing ; Minister for Mental Health ; DG Health & Social Care ; Connaghan J (John) (Health) ; Rogers S (Shirley) ; Smith G (Gregor) ; Hart S (Suzanne) ; Aitken L (Louise) ; Hutchison D (David) ; Roche R (Rowena) ; Murray D (Diane) ; Calderwood C (Catherine) ; Wright M (Malcolm) ; Communications Healthier ; Neill S (Sean)
Subject: RE: Edinburgh Children's Hospital - Draft Update Note to FM

Stuart,

Thank you for you note and apologises for the latest of this however I wanted to ensure you had ample time to take forward the additional pieces of work. I have covered off some of the Cabinet Secretary's comments within the document (which you can see in track for ease) however I would be grateful if the following comments could be included:

A new bullet point under the section "Operational Impact and Support provided to Patients" which covers the steps being taken to locate personnel at the new site for any patient who presents and given that only 1 has appeared to date, the Cab Sec has asked that we keep the situation under review in the coming week, with a view that if that status remains we end this and allow staff to return to work in the existing site. Also under this section, can we also clarity the baseline number, as well as the other figures for the total number of paediatric and DCN patients contacted.

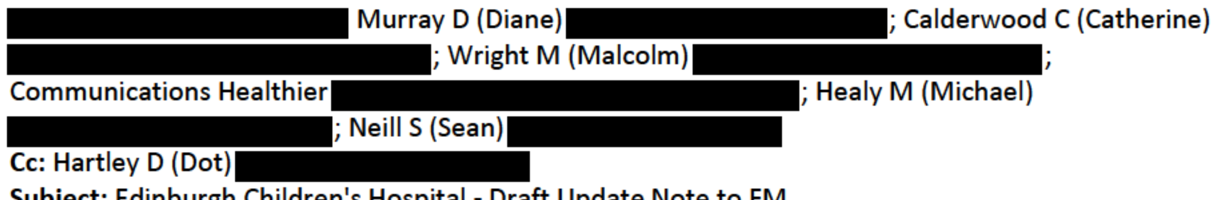
Under the media and comms section, Ms Freeman has asked that we anticipate Sunday press this coming weekend and that we are preparing holding lines.

Under the Parliamentary Issues section, the first bullet point needs to clarify that the GIQ and letters will issue when we have further detail on the inspection and governance timelines, it will cover escalation level and that Ms Freeman will also write to the H&S Committee on this issue.

I hope all of the above makes sense. The Cabinet Secretary would be grateful for a revised note by lunchtime tomorrow.

Many thanks,
Jack

From: Low S (Stuart)
Sent: 11 July 2019 16:07
To: Cabinet Secretary for Health and Sport ; DG Health & Social Care ; Connaghan J (John) (Health) ; Rogers S (Shirley) ; McLaughlin C (Christine) ; Smith G (Gregor) ; Hart S (Suzanne) ; Aitken L (Louise) ; Hutchison D (David) ; Roche R (Rowena)



Murray D (Diane); Calderwood C (Catherine); Wright M (Malcolm); Communications Healthier; Healy M (Michael); Neill S (Sean)
Cc: Hartley D (Dot)
Subject: Edinburgh Children's Hospital - Draft Update Note to FM

Jack
Please find attached a draft of the update note to FM on Edinburgh Children's Hospital for the Cabinet Secretary's consideration.

We are checking the latest figures for the total number of paediatric and DCN patients contacted and will add them as soon as possible.

On Escalated Boards we have only included those at level 3 and 4. Boards at level 2 are subject to a number of short term interactions across a range of service delivery, which changes week on week.

Kind regards
Stuart

Stuart Low, Scottish Government, Directorate for Health Performance & Delivery, Health Resilience Unit, Floor 2E, St Andrews House, Regent Road, Edinburgh, EH1 3DG

Tel:

EDINBURGH CHILDREN'S HOSPITAL - UPDATE

Purpose

1. Following my note of 5 July, please find below updates on the current situation with respect to the new Edinburgh Children's Hospital.

Priority

2. High.

Background

3. My note to you of 5 July reiterated a number of actions that would be taken to ensure that the migration of the Edinburgh Children's Hospital could proceed as soon as we have determined that it is safe to do so. Progress on these actions is detailed below:

Operational Impact and Support provided to Patients

- The dedicated helpline set up by NHS 24 has received 55 patient calls as at 11th July. All of these calls were appointment related. The helpline will remain in place and NHS 24 are providing daily updates on activity levels.

- NHS Lothian have been contacting patients by telephone for those who have appointments in July and issuing letters to patients who have scheduled appointments from August onwards. NHS Lothian are also providing daily update reports on the patient contact position. The tables below show total numbers of patient appointments (for the month of July) and those who have been contacted across affected areas:

Department	Total Patient Appts - July	Total Number of Patients Contacted
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DCN	680	310 (as at 11 July)

Department	Total Radiology Appts - July	Total Number of Patients Contacted (as at 10 July)

Paediatric	301	206
DCN	392	348

- All DCN patients have received a letter advising them that their appointment location has changed and work is continuing to ensure that all patients are also successfully contacted by phone.

- Dedicated redirection staff are on the new site to redirect any self-presenters who might attend. Two patients have self-presented to date and I have asked that this situation is kept under review over the coming week with a view that redirecting staff can be returned to work on the existing site as soon as possible.

- A Q&A for NHS Lothian staff has been cleared by the Scottish Government and published by NHS Lothian on their staff intranet site.

External Checks by Health Facilities Scotland (HFS) & Health Protection Scotland (HPS)

- HFS and HPS have started work on site compliance with technical specifications and standards. Scoping meetings have been held with NHS Lothian and a core team has been identified to take this work forward. HFS/HPS are also currently engaging with third party experts to assist in delivering this work. Ventilation, drainage issues and issues that directly impact on the DCN have been prioritised. The plan for delivery of this work is expected by Monday. My officials are also in discussion with the consortium who will need to agree the proposed work schedule.

KPMG Audit of Governance

- The appointment of KPMG is being finalised and my officials expect to issue a formal letter of engagement on Friday 12th July. KPMG should be on site from Monday 15th July. Timescales for the completion of this work should also be known on Monday and emphasis has been placed on having this work completed as quickly as possible.

- NHS Lothian have appointed resource to support this work including the provision of relevant information to the audit team.

Parliamentary Issues:

- Letters to Lothian MPs/MSPs, appraising them of the situation, and a GIQ have been drafted by officials for my review and these will be issued once we have further detail on the inspection and governance timelines and will also cover escalation issues. I will also write to the Health and Sport Committee on this issue. The GIQ will provide as much detail as possible on the situation and set out the actions that have been taken to progress activity. We will do this in tandem with a media release which will also cover the independent audit and the HFS/HPS technical assurance.

- I will make a statement to Parliament on its return and this has been scheduled for 4 September pending bureau approval.

Engagement with Clinical professionals

- Regular communications are being maintained with the RCPCH and the RCN to keep them updated on progress. No expressions of concern have been made to RCPCH by its members and the organisation remains supportive of actions taken to ensure patient safety.

Performance Escalation

- Performance and escalation was discussed at the Health & Social Care Management Board on 10th July. A number of concerns were raised around NHS Lothian's overall performance and it was agreed that the Board should be placed at level 3 on the ladder of escalation (Annex 1). A meeting has since taken place with NHS Lothian and the Chief Executive has been informed.

- Work is underway by my officials to assess what mitigation steps should be taken to ensure NHS Lothian remains on track to improve performance in relation to waiting times, mental health and cancer. The CEO has been advised that I expect him to supply his assessment and mitigation actions in the coming week.

- A table which illustrates the current level of escalation across NHS Boards which have been escalated to Level 3 or 4 is included at Annex 2.

Media & Communications

- Communications from NHS Lothian continue to be cleared by the Scottish Government prior to issue and we have reviewed NHS Lothian's communication plan.

- We anticipate that there will be media enquiries from the Sunday press this coming weekend and we are preparing holding lines. We also anticipate media activity once we receive the

audit and inspection reports. The SG Health Communications team have produced a forward communications plan to ensure consistency of messaging and coordination of activity.

Next Steps

- The DG for Health & Social Care has held a number of meetings and discussions with the CEO since this situation came to light. However, I intend to meet with the CEO and the Board Chair next week. It is of concern that the first contact from the Board Chair was received today (12/7), some considerable time since the issue was raised with SG.

- Towards the end of next week I intend to visit staff at Edinburgh Children's Hospital with the Chief Medical Officer. A letter from me to all staff will issue on the day I visit to ensure that all staff hear from me directly to update them on the situation and thank them for their ongoing patience and continued focus on patient care.

I remain focussed on ensuring we make as much progress as possible this month and will continue to provide you with further updates as we do so. I am of course happy to discuss any matters with you and to address any issues or aspects of this work you wish to raise.

Cabinet Secretary for Health and Sport
12 July 2019

Annex 1: Ladder of Performance Escalation

Stage	Description	Response
Stage 1	Steady state "on-plan" and normal reporting	Surveillance through published statistics and scheduled engagement of ARs/MYRs
Stage 2	Some variation from plan; possible delivery risk if no action	Local Recovery Plan – advice and support tailored if necessary. Increased surveillance and monitoring Scottish Government. SG Directors aware.
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Stage 4	Significant risks to delivery, quality, financial performance or safety; senior level external support required	Transformation team reporting to Director General and CEO NHS Scotland.
Stage 5	Organisational structure / configuration unable to deliver effective care.	Ministerial powers of Intervention.

From: Downie J (Jack) on behalf of Cabinet Secretary for Health and Sport
Sent: 12 July 2019 16:47
To: Low S (Stuart); Cabinet Secretary for Health and Sport
Cc: Hartley D (Dot); Minister for Public Health, Sport and Wellbeing; Minister for Mental Health; DG Health & Social Care; Connaghan J (John) (Health); Rogers S (Shirley); Smith G (Gregor); Hart S (Suzanne); Aitken L (Louise); Hutchison D (David); Roche R (Rowena); Murray D (Diane); Calderwood C (Catherine); Wright M (Malcolm); Communications Healthier; Neill S (Sean); Healy M (Michael); McLaughlin C (Christine)
Subject: RE: Edinburgh Children's Hospital - Draft Update Note to FM
Attachments: Edinburgh Children's Hospital - Note from Cab Sec to FM 120719.docx

Stuart,

I will send on the attached to the FM's office now. (one minor addition at point 3 from the note you sent at 1543)

Thanks for your work on this,
Jack

From: Low S (Stuart)
Sent: 12 July 2019 15:43
To: Cabinet Secretary for Health and Sport
Cc: Hartley D (Dot) ; Minister for Public Health, Sport and Wellbeing ; Minister for Mental Health ; DG Health & Social Care >; Connaghan J (John) (Health) ; Rogers S (Shirley) ; Smith G (Gregor) ; Hart S (Suzanne) ; Aitken L (Louise) ; Hutchison D (David) ; Roche R (Rowena) ; Murray D (Diane) ; Calderwood C (Catherine) ; Wright M (Malcolm) ; Communications Healthier ; Neill S (Sean) ; Healy M (Michael) ; McLaughlin C (Christine)
Subject: RE: Edinburgh Children's Hospital - Draft Update Note to FM

Jack
Revised version of FM update attached for Cabinet Secretary's consideration.

I have amended the DCN patient contact figure to reflect the position as at 11 July and added in a line to say that patient contact activity is continuing. NHS Lothian advised that they have **attempted** to contact all 680 DCN patients by phone, but only 310 of these call resulted in a successful contact (i.e. – where they actually spoke to the patient). The Boards policy is not to leave a voice message but to try and re-contact the patient. All 680 DCN patients have also been sent a letter advising them that the location of their appointment has changed.

Kind regards
Stuart

From: Downie J (Jack) **On Behalf Of** Cabinet Secretary for Health and Sport
Sent: 12 July 2019 14:07
To: Low S (Stuart) ; Cabinet Secretary for Health and Sport
Cc: Hartley D (Dot) Minister for Public Health, Sport and Wellbeing

; Minister for Mental Health ; DG Health & Social Care
; Connaghan J (John) (Health) ; Rogers S (Shirley)
; Smith G (Gregor) ; Hart S (Suzanne)
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Subject: RE: Edinburgh Children's Hospital - Draft Update Note to FM

Stuart,

Thank you for this, some further information required for the Cabinet Secretary before this is sent to FM. She has asked for an explanation for the low number of DCN patients contacted and asks that the note says that work continues to contact the remaining patients. Like last night I have made some changes Ms Freeman has asked for within the document (tracked for ease)

I would be grateful for a revised note by 1530.

Thanks,
Jack

From: Low S (Stuart)
Sent: 12 July 2019 12:57
To: Cabinet Secretary for Health and Sport
Cc: Hartley D (Dot) ; Minister for Public Health, Sport and Wellbeing
; Minister for Mental Health DG Health & Social Care
; Connaghan J (John) (Health) ; Rogers S (Shirley)
>; Smith G (Gregor) ; Hart S (Suzanne)
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; Communications Healthier ; Neill S (Sean)
; Healy M (Michael) ; McLaughlin C (Christine)

Subject: RE: Edinburgh Children's Hospital - Draft Update Note to FM

Jack
Redrafted version of the update note on the Edinburgh Children's Hospital to FM attached.

<u>Grateful if you can confirm:</u>
1. That the note is in the correct format.
2. If submission to FM will be done through Cab Secs office.

Kind regards
Stuart

Stuart Low, Scottish Government, Directorate for Health Performance & Delivery, Health Resilience Unit, Floor 2E, St Andrews House, Regent Road, Edinburgh, EH1 3DG

From: Downie J (Jack) **On Behalf Of** Cabinet Secretary for Health and Sport
Sent: 11 July 2019 23:19
To: Low S (Stuart) ; Cabinet Secretary for Health and Sport
McLaughlin C (Christine) ; Healy M (Michael)
Cc: Hartley D (Dot) ; Minister for Public Health, Sport and Wellbeing
; Minister for Mental Health ; DG Health & Social Care
; Connaghan J (John) (Health) ; Rogers S (Shirley)
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; Calderwood C (Catherine) ; Wright M (Malcolm)
; Communications Healthier ; Neill S (Sean)
Subject: RE: Edinburgh Children's Hospital - Draft Update Note to FM

Stuart,

Thank you for you note and apologises for the latest of this however I wanted to ensure you had ample time to take forward the additional pieces of work. I have covered off some of the Cabinet Secretary's comments within the document (which you can see in track for ease) however I would be grateful if the following comments could be included:

A new bullet point under the section "Operational Impact and Support provided to Patients" which covers the steps being taken to locate personnel at the new site for any patient who presents and given that only 1 has appeared to date, the Cab Sec has asked that we keep the situation under review in the coming week, with a view that if that status remains we end this and allow staff to return to work in the existing site. Also under this section, can we also clarity the baseline number, as well as the other figures for the total number of paediatric and DCN patients contacted.

Under the media and comms section, Ms Freeman has asked that we anticipate Sunday press this coming weekend and that we are preparing holding lines.

Under the Parliamentary Issues section, the first bullet point needs to clarify that the GIQ and letters will issue when we have further detail on the inspection and governance timelines, it will cover escalation level and that Ms Freeman will also write to the H&S Committee on this issue.

I hope all of the above makes sense. The Cabinet Secretary would be grateful for a revised note by lunchtime tomorrow.

Many thanks,
Jack

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McLaughlin C (Christine) ; Smith G (Gregor) ; Hart S
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Cc: Hartley D (Dot)
Subject: Edinburgh Children's Hospital - Draft Update Note to FM

Jack
Please find attached a draft of the update note to FM on Edinburgh Children's Hospital for the Cabinet Secretary's consideration.

We are checking the latest figures for the total number of paediatric and DCN patients contacted and will add them as soon as possible.

On Escalated Boards we have only included those at level 3 and 4. Boards at level 2 are subject to a number of short term interactions across a range of service delivery, which changes week on week.

Kind regards
Stuart

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- HFS and HPS have started work on site compliance with technical specifications and standards. Scoping meetings have been held with NHS Lothian and a core team has been identified to take this work forward. HFS/HPS are also currently engaging with third party experts to assist in delivering this work. Ventilation, drainage issues and issues that directly impact on the DCN have been prioritised. The plan for delivery of this work is expected by Monday. My officials are also in discussion with the consortium who will need to agree the proposed work schedule.

- The hospital was procured via the Non Profit Distribution (NPD) model whereby NHS Lothian entered into a Project Agreement with IHSL (a special purpose vehicle). Under the NPD standard form contract, all aspects of design, construction, ongoing facilities management (including hard maintenance services and lifecycle replacement of equipment component), and finance throughout the course of the project term is the responsibility of IHSL. As IHSL has ongoing responsibility for the design and construction of the hospital the consortium's agreement is required for any proposed technical solution for the ventilation issues and the timeframe for implementation.

KPMG Audit of Governance

- The appointment of KPMG is being finalised and my officials expect to issue a formal letter of engagement on Friday 12th July. KPMG should be on site from Monday 15th July. Timescales for the completion of this work should also be known on Monday and emphasis has been placed on having this work completed as quickly as possible.

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I remain focussed on ensuring we make as much progress as possible this month and will continue to provide you with further updates as we do so. I am of course happy to discuss any matters with you and to address any issues or aspects of this work you wish to raise.

Cabinet Secretary for Health and Sport
12 July 2019

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Stage	Description	Response
Stage 1	Steady state "on-plan" and normal reporting	Surveillance through published statistics and scheduled engagement of ARs/MYRs
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Annex 2: Board Performance: Escalation Boards

Escalated Boards

Board	Current Stage	Date Escalated/De-Escalated	Primary Factors
NHS Tayside	4	Stage 5 April 2018 Stage 4 February 2019	Financial position and financial management; governance and leadership
NHS Highland	4	Stage 3 July 2018 Stage 4 November 2018	Financial position and financial management; governance, leadership and culture
NHS Borders	4	Stage 3 July 2018 Stage 4 November 2018	Financial position and management; leadership
NHS A&A	3	Stage 3 July	Financial position and management
NHS Lothian	3	Meeting with Chief Executive on 11 July	Performance and management

Director-General Health & Social Care and
Chief Executive NHSScotland
Malcolm Wright

Tim Davison
Chief Executive
NHS Lothian
Waverley Gate
2-4 Waterloo Place
Edinburgh
EH1 3EG

12 July 2019

Dear Tim

(cc Brian Houston)

Whilst there have been improvements in performance in several areas of NHS Lothian's performance, at our meeting yesterday we discussed a number of challenging areas where further improvement is required and in the context of a challenging financial environment:

- mental health, specifically at the Royal Edinburgh Hospital, but also the design and delivery of services across Lothian;
- cancer waiting times;
- scheduled care;
- unscheduled care;
- delayed discharges; and
- paediatric services at St John's Hospital

I recognise that there are programmes of work already underway in all of these areas and recovery plans in place for scheduled and unscheduled care. A number of improvements are already being demonstrated. I am concerned, however that the cumulative impact of these issues, together with the significant work required to complete the move to the new Royal Hospital for Children and Young People, will place significant pressure on the leadership capacity of the Board and that in order to fully deliver on this challenging agenda for the people of Lothian and beyond, a tailored package of support is required. I have therefore concluded, on the advice of the Health and Social Care Management Board, that NHS Lothian should now be placed at Level 3 of the NHS Board Performance Escalation Framework (see Annex A).

Level 3 is defined as 'Significant variation from plan; risks materialising; tailored support required'. Escalating a Board to Level 3 allows Scottish Government to request a formal Recovery Plan with clear milestones and to provide expert input to support the implementation of that plan as required.

As such a package of tailored support will be available to the Board, in order to develop and implement a single recovery plan which addresses each of the areas I have highlighted

above. The development and delivery of the recovery plan will remain your responsibility as Accountable Officer of NHS Lothian and I will appoint a lead Director within Scottish Government to provide oversight on my behalf.

Before we meet next week, I would ask you and your senior team to give consideration to the nature of improvement support that you would require to take this forward, taking into account the current and projected future capacity of your team.

Yours sincerely

Malcolm Wright
Director General for Health & Social Care and Chief Executive of NHSScotland

Annex A

Ladder of Escalation – Summary Table

Stage	Description	Response
Stage 1	Steady state "on-plan" and normal reporting	Surveillance through published statistics and scheduled engagement of ARs/MYRs
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At any level of escalation, where the Board Chief Executive is either not in post or is no longer designated as Accountable Officer by the Director General, the Director General on behalf of Ministers will appoint another Accountable Officer on an interim basis until such time as a substantive appointment is made.

DRAFT

RHCYP/ DCN : Commissioning / Ventilation

Note of a meeting held at 3:00pm on Monday 15 July 2019 in the Project Office, 4th Floor Management Site, RHCYP/ DCN, Little France.

Present: Susan Goldsmith (Chair); Jacquie Campbell (Teleconference); Brian Currie; George Curley (Teleconference); Tim Davison; Iain Graham; Lyndsay Guthrie; Donald Inverarity; Judith Mackay and Alex McMahon.

In Attendance: Douglas Weir.

1. Previous Minute held on 11 July 2019

1.1 The previous Minute was approved subject to Minute 2.1 referring to Theatre 32 rather than Ward 32 and first paragraph on page 3 reading Donald Inverarity rather than David.

2. Report Back on Workshop

2.1 Susan Goldsmith undertook to brief Jacquie Campbell and Janis Butler on the Workshop offline. It was noted that one of the outputs of the Workshop had been to develop a submission for Christine McLaughlin at the Scottish Government and this would be shared. **SG**

3. Technical Update

3.1 IOM Report on Ventilation – Brian Currie advised that the draft report had been submitted to George Curley for comment with the agreed protocol being that it would then be sent to Infection Control. Tim Davison commented that he had understood that the building had passed all tests albeit verification was required. Brian Currie advised that the process to date had not found any issues around compliance. Susan Goldsmith commented that she was keen for the IOM report to quickly be considered by George Curley and then passed to the Infection Control Team for a quick turnaround in order that a view could be taken for discussion at the Thursday RHCYP/DCN meeting. George Curley and Brian Currie would liaise. **GC/BC**

Tim Davison questioned whether other than ventilation and water any other issues need to be tested. Susan Goldsmith commented that she was unsure how other issues would be tested given that the building had passed the Independent Assessors Review process. It was noted that HFS had been provided with a long list of systems but were as yet unclear how they would undertake the testing process. George Curley advised that normally IHSL would undertake the testing and that it

was normal for installers to do this. Part of the process meant that NHS Lothian sat beside this process and witnessed key elements with this then being passed to the Independent Tester who would themselves require to witness at least 50% of processes. It was noted that the list of testing required would be included in the scope documentation. Tim Davison commented that a key issue was that the Independent Tester had been asked to test against the wrong specification and he questioned whether there were other similar issues that might emerge. George Curley advised that the Critical Care Unit, Theatres, ITU and isolation rooms were the main areas in respect of validation. He commented that to revalidate all systems would take around 6 months and this would require discussion with HFS in terms of the specification of the validation process. Donald Inverarity advised that in Glasgow at QEUH, building related issues (other than ventilation and water problems) which had translated into infections had not been identified until the building was fully occupied. The same could be true in respect of the RHCYP/DCN.

3.2 Water Quality – Timeline – Susan Goldsmith advised that a good process was in place and questioned what the timeline was for sign-off. George Curley advised the report had been received though it would be the Thursday IMT meeting before a meaningful way forward could be discussed. Donald Inverarity agreed advising that he felt that there was a need to fit in another round of meetings to look at any specification variations and results. Susan Goldsmith agreed that a report should be discussed amongst colleagues prior to being considered at the 18 July 2019 IMT meeting.

4. Critical Care Design

4.1 Workshop 12 July 2019 – Brian Currie advised that on 12 July a meeting of key partners including IHSL and their supply change and Multiplex as well as engineering designers and lead technical advisers and HFS had been held. The meeting had considered issues around positive pressure in Critical Care with the technical advisers having challenged whether this was really necessary as it represented a difficult technical challenge. They had been advised that the work was absolutely necessary and that NHS Lothian was confident with the rationalisation of why this was happening and had agreed to share information post the meeting with HFS who were expecting NHS Lothian to take a view.

Brian Currie advised in respect of the provision of the air handling unit solution that a site visit had been undertaken to look at options. It was noted that all options would require the provision of external ducting. The IHSL team were taking away issues for further consideration with a further meeting being held the following day to make a decision. Brian Currie commented however that the only feasible solution was to provide an additional air handling unit outside the Critical Care Unit.

It was noted that HFS would take a view in respect of positive pressure versus a balanced approach once they had received further advice. Brian Currie undertook to provide a summary of the internal meeting to colleagues from HFS. It was noted that IHSL were preparing upfront work in anticipation of the forthcoming Board change to the contract. It was noted that if there was a move to a positive pressure regime then this would impact on both the timescale and would result in increased costs. Susan Goldsmith commented that it would be important to be mindful of the lenders

technical adviser's position. Brian Currie advised a process was underway in this regard. Brian Currie would pursue the Independent Tester for his opinion advising that he had only recently returned from annual leave and was in the process of digesting the detail that had emerged.

Brian Currie commented that the first issue was around the technical specification which needed to be plugged in to the scope of work which would then drive the process and further costs down the line. It was noted that IHSL were required to adjudicate on the positive pressure issue and that the technical specification could not be written up until that advice had been received. Susan Goldsmith commented that there was a need to undertake a Board request to IHSL requiring them to come back with cost for future works. Brian Currie advised that IHSL were aware of the need to progress this quickly through their governance routes.

Donald Inverarity advised that discussions had been held in respect of interrupted medical gases and other services and that until the outputs of this had been received it would not be possible to commit or agree any phased entry into the facility. Brian Currie advised that a number of boxes still required to be ticked.

Tim Davison commented that he had been advised that largely as a result of rota issues that DCN would require 8 weeks notice for any move. That meant essentially that there would be a further 8 week timeline after all testing decisions had been agreed. HFS were still considering their position and how they could make a pronouncement in respect of whether the facility was safe for occupation or not. Lyndsay Guthrie provided an update on discussions with UK experts in ventilation. This discussion had focused on the science around the determination of the number of air changes required per hour with it being noted that as previously discussed these decisions were not scientifically based. A discussion was held in respect of pressure cascades and air flows in terms of providing a comfortable environment as well as the control of infection. In conclusion it was agreed that the specification of 4-6 air changes per hour was an arbitery number. Other aspects had to be considered like requirements in respect of protecting staff where the statutory position was 3 air changes per hour. It was noted that the Roodlands Endoscopy Unit operated on a 15 air changes per hour basis. Iain Graham advised that work was underway to check the regime that was in place and there would be a need to come back on this.

Brian Currie advised that there would be a need for a Plan B if Multiplex walked away from the process. It was noted that informal discussions had been held with Michael Cambridge in respect of procurement options with it being felt that a protocol for quick action had been set in respect of works previously undertaken at the Western General Hospital. The position in respect of the framework contract also required to be considered.

5. HFS/HPS

5.1 Susan Goldsmith advised that the outcome of a meeting that she and Brian Currie had held had been reported back to the previous meeting. Brian Currie advised that a walk around of the building had been undertaken on the previous Friday where HFS had requested details of all of the testing results which would take time to

provide. Susan Goldsmith commented that it would be useful to obtain details of derogations outwith the settlement agreement for the information of the IMT. It would also be helpful to obtain details of anything that was provided to HFS. **BC**

George Curley commented that in discussion with HFS concerns had been raised in respect of isolation rooms in the context of providing ventilation to multiple rooms and the consequences of any catastrophic systems failure. Brian Currie advised that this was a derogation issue that had been picked up by the Independent Tester and that the issue had been about shared isolation units in high buildings (above 18metres). It was noted that the RHCYP/DCN building fell below that threshold. Susan Goldsmith advised that if a schedule of derogations were available then these would detail the reasons for the derogation and that if concerns still existed then there was a need to understand the reason for these. Lyndsay Guthrie advised that there had been email correspondence which had included HFS about air handling and that she would share this with members of the Group. Donald Inverarity advised in respect of the oncology ward that five isolation rooms were served by a single air handling unit and this had been discussed at the time with HFS and HPS with it having been noted that some redundancy had been built into the system in order to avoid the need to immediately move patients out of rooms in the event of problems. Although, the haematology/oncology ward has 5 isolation rooms, the other wards have fewer isolation rooms per ward. It was noted that the types of patients being considered and the need to protect them was an issue. George Curley alluded to discussions around mechanical resilience and the resultant reduction in air changes. He commented that attempts had been made to undertaken this test although difficulties had been experienced. IOM were validating the test. Susan Goldsmith advised that there would be a need to see the report and if this picked up on any issues there would be a need to consider this in more detail. Brian Currie suggested that this would form part of the contract with HFS. It was noted that the HFS brief was in the process of being finalised by Christine McLaughlin at the Scottish Government. **LG**

Tim Davison commented in respect of the phased migration of DCN that Chris Meyers had advised that he was looking at inter-dependencies and that there would be a need for all other issues like IOM testing to have been concluded and resolved prior to any move being undertaken. It was noted that there was a need to identify a design timescale for the Critical Care work which should also take account of issues like noise and dust. Thereafter there would be a requirement for a further 8 weeks notice before DCN could move. Brian Currie suggested that an indicative timescale would be 3-4 weeks for IOM and HFS work to be concluded and thereafter another 8 weeks before any move could be undertaken. Iain Graham undertook to draw together a programme and timelines to include dependencies for consideration at the next meeting. **IG**

6. Patient Staff Issues

6.1 Jacquie Campbell commented that from a staff perspective there were no issues of significant concern. She advised that 24hour patient transport had been arranged via the Flow Centre. A total of 2 children had required to be transferred with Joan Donnelly proposing to move to a phased transport model from 8:00pm to 8:00am starting the following day albeit she had been advised that this would require

approval before it could be implemented. Jacquie Campbell advised that she was keen to obtain Mike Healy's view from a Scottish Government resilience perspective as there would be a need to make a recommendation to the Scottish Government before any changes could be implemented. It was noted that the proposal would mean that during the day patients would be re-directed by staff on-site who would also be able to arrange transport albeit this would not be via a dedicated van driver and escort. Jacquie Campbell advised that she would let the IMT know by email the outcome of any future decisions made by Mike Healy or other colleagues at the Scottish Government. **JCAM**

Tim Davison advised that a letter had been submitted directly to the Cabinet Secretary from one of the Consultants raising a number of issues that would require to be responded to. Jacquie Campbell advised that she was happy to engage with the Consultant on a 1:1 basis if this was felt to be desirable. It was noted that no feedback had been received from the Cabinet Secretary to the letter which had also been copied to the Medical Staff Committee. There had also been no response to date from any of the Consultant's colleagues. Tim Davison commented that the key issue was to provide a response to the Cabinet Secretary on a point by point basis. Jacquie Campbell will discuss a draft response with appropriate colleagues with input from Iain Graham in terms of technical aspects.

Judith Mackay commented that there had already been Press enquiries around issues like fire alarm and the sump design. A proposed statement had been agreed with the Scottish Government that Susan Goldsmith had seen. The Scottish Government had agreed that they would not be putting people up for interview on the basis that they could not comment on a design and build project. It was noted that discussions had been held with IHSL and McQuarries who were the Scottish Government's adviser in terms of the need to consider how to respond to future media enquiries. It was anticipated that there would be further media enquiries over the foreseeable future. It was noted that a meeting would be held later in the day to discuss the forward media strategy.

Susan Goldsmith commented that so far as possible media enquiries should be handled by IHSL as it was not yet NHS Lothian's building. It was noted however that the media response from NHS Lothian to date had been measured. Judith Mackay provided Tim Davison with a copy of the draft response to the Cabinet Secretary and suggested that they needed to put people forward for media contact to address issues around design. Tim Davison commented that it would be important to reflect the fact that where derogations had been agreed that these had been done on the basis of an acceptable compromise around the specification and he suggested that this might form the basis of any comment. It was agreed that the standard phrasing produced by McRobert's would continue to be used in any media responses.

Susan Goldsmith commented that there had been a lot patient and staff engagement. Judith Mackay advised that she had produced a summary of meetings and briefings. Alex McMahon advised that the Resilience Unit had requested a copy of this. Judith Mackay advised that the list was up to date in terms of known future events.

Jacquie Campbell advised in respect of the NHS24 Helpline that 59 calls had been handled since the 5th July with this number having diminished with the passage of

time. It was noted that the Helpline would remain in place until the following Monday. It was agreed that Judith Mackay should submit the list of events to Mike Healy. **JMack**

Alex McMahon advised that there were issues around Partnership's view in terms of their engagement in the process and this needed to be picked up with Janis Butler in terms of future engagement.

Susan Goldsmith advised that she would be meeting with Christine McLaughlin later in the afternoon and questioned whether there was anything specific that any members of the IMT would like her to raise. Tim Davison commented that it would be useful for her to go through patient timeline as well as the position statement reached in respect of how the 6-4 position had been reached.

7. Any Other Competent Business

7.1 IHSL Warning Notice – Brian Currie advised that the June operational report was signalling the issuing of a second Warning Notice to IHSL. It was noted that a meeting had been arranged to discuss this and that Multiplex had not participated possibly due to annual leave commitments. The point had been laboured at this meeting that there was a need for an impetus to get areas of outstanding work cleared off before DCN moved into the new building. It was noted that there were a rising number of defects that Multiplex were not addressing. Brian Currie felt that there was a need to arrange a Board to Board meeting to address this as issues were mounting. He felt that there was an ideal opportunity to address these issues while the facility was empty. Brian Currie would provide Tim Davison with details of the outstanding issues. Susan Goldsmith advised that she would make arrangements for the Board to Board meeting to be established with it being noted that IHSL Directors had already been canvassed for dates. **BC/SG**

7.2 Paediatric Moves – Jacquie Campbell advised that Fiona Mitchell had started a process in respect of outpatients although outputs were now yet known. The initial view of the Senior Management Team had been that outpatients could and should move although the clinical team had raised concern about moving outpatients in advance of inpatients.

7.3 Child and Adolescent Mental Health Services – Alex McMahon advised that this was an area that also required to be looked at with there being a requirement to clarify the process in terms of the procurement of amended specification doors. It was noted given the cost of these that it was unlikely that this would have been progressed until the Board change process had been concluded. Brian Currie would check the position in terms of whether the replacement doors had been ordered. Susan Goldsmith advised that there was a need to see the programme indications for this process. **BC**

8. Date and Time of Next Meeting

The next meeting of the IMT would be held at 4:00pm on Thursday 18 July 2019 in Meeting Room 5, Waverley Gate, Edinburgh.

From: Currie, Brian
Sent: 16 July 2019 12:31
To: 'Wallace Weir'
Cc: 'David Wilson'; Henderson, Ronnie; Graham, Iain; Inverarity, Donald; Guthrie, Lindsay; Curley, George; Mackenzie, Janice; 'GORDON, David'; [redacted]'; Macrae, Colin
Subject: RHCYP + DCN - Little France - Critical Care Ventilation IHSL Instruction

Importance: High

Wallace

Following our meeting this morning, we can confirm that we wish IHSL to proceed in developing a Critical Care ventilation feasibility study / concept design on the basis of compliance with SHTM 03-01 (Table A1, Appendix 1) with 10 air changes and 10 Pa positive pressure in the single rooms and 4 bedded bays.

As discussed, you hope to complete this study by Tuesday next week.

A draft Board Change is in preparation and will issued to you in the near future.

Regards

Brian

Brian Currie
Project Director - NHS Lothian
RHCYP + DCN
4th Floor Management Suite
Little France Crescent
Edinburgh
EH16 4TJ

IPCT response to IOM Ventilation validation summary report: 16th July 2019

Lindsay Guthrie (Lead Nurse IPCN) Dr Donald Inverarity (Consultant Microbiologist & Lead ICD)

General comment:

The ventilation performance in clinical areas outwith theatres, isolation rooms and critical care remains unknown. This would include 4 bed patient rooms, treatment rooms etc.

Table 1: Critical Care Issues highlighted in report

Page	Issue identified in report	Infection risk	Other clinical risk	Other organisational risk	NHS Lothian AE
6	Even with derogation 5 of 6 isolation rooms listed fail to meet the 4 air changes specified. These 4 bed rooms in HDU meet the ventilation specification for a single room WC only 5 of 6 rooms are positive to corridor 1 room is negative to corridor (NNU)	Insufficient dilution of airborne contaminant- risk to other patients, staff, and visitors. Room pressures do not meet negative pressure requested in design brief (and would not address cohorting issues) And do not meet positive pressure required by SHTM03-01with potential infection consequences			If the final result air change rates are as shown (I would suggest that major works (essentially, increasing the size of the supply and extract ductwork to accommodate the volume of air required from a larger plant to keep air velocities acceptable) will be required to achieve the desired performance and this could not realistically be done without the areas being vacant.
6	PPVL isolation rooms – only 1 of 4 listed is performing to the required standard as per 03-01	3 isolation rooms pose greater than acceptable risk to staff, visitors and public of infection via exposure to airborne pathogens	Protection of neutropaenic patients compromised by low pressure differential		Has the air permeability test been conducted? and was the test conducted IAW HBN 04/01 2013 para A2.7? And witnessed?

Page	Issue identified in report	Infection risk	Other clinical risk	Other organisational risk	NHS Lothian AE
		Hypothetical risk of post invasive procedure infection risk due to decreased dilution of airborne contaminants			There is a different standard detailed in SHPN04/01 2008, has this been achieved?
8	Ventilation backup system not fully operational and ventilation not tested in back up mode	Loss of enhanced ventilation during any system failure or maintenance requiring shut down. Mitigated by continued extract ventilation creating some negative pressure, physical barrier provided by closed door. Risk would be to staff or visitor entering room – loss of dilution effect.	Increased risk to neutropaenic patients of infection in a room providing negative rather than positive or neutral ventilation	Patient comfort associated with loss of temperature control provide by ventilation	

Table 2: Theatre issues highlighted in report

Page	Issue identified in report	Infection risk	Other clinical risk	Other organisational risk	NHS Lothian AE
7	Recovery rooms only 3 of 6 in total (1 Neuro and 2 Paed) have sufficient air changes per hour to comply with STHM03-01. Extract weak in all areas			COSHH issue - Insufficient air supply and extract poses a risk to staff – exposure to anaesthetic gases (ventilated patients, post extubation)	

Page	Issue identified in report	Infection risk	Other clinical risk	Other organisational risk	NHS Lothian AE
	and none are compliant with 15 air changes required Only 1 of 6 recovery areas is neutral to adjacent areas	 Air flow out (and risk of spread of airborne organisms to adjacent clinical areas in 4 of 6 areas Negative air pressure in 1 Paed recovery would support air flow and potential contamination into main paediatric recovery area			
8	Theatre 32 has not yet passed independent verification	**This theatre cannot be used until ventilation performance is confirmed as compliant and safe.**			Agree
13	Theatre 35 – although testing now passes, fluctuation in performance suggests AHU may not be reliable and may impact on theatre availability (due to maintenance or repair) – noting that due to design, 2 theatres require to be out of use for maintenance at any given time				
	Provision of UCV capacity in all Neurosurgical theatres –	Theoretical increased risk (with sound underpinning			

Page	Issue identified in report	Infection risk	Other clinical risk	Other organisational risk	NHS Lothian AE
	is considered unconventional, with potential for negative unintended consequences. It will not be used for the majority of surgeries.	scientific principles) of Neuro SSI associated with increased drying of tissue and wound margin affecting wound healing. Risk of dust/other contamination on UCV canopy accumulating if not cleaned effectively as part of routine cleaning. Increased risk of wound infection.			
19	Limited extract ventilation in theatre corridors, non compliant with SHTM03-01 Pressure preventing full closure of fire doors.			Fire safety risk – to patients, staff and others Acceptability/working conditions for staff- temperature control, odour control comfort.	
19	Cabling and electrical components within the AHU	Theoretical risk of system malfunction associated with design – loss of enhanced ventilation		Unconventional design/build which does not meet HTM requirements Fire risk associated with cabling and air supply	
	Sub optimal non compliant ventilation duct work installed in theatres – not fire rated quality	Theoretical risk of system failure as above		Fire risk associated with non compliant materials	
	Design error (miscalculation) resulting in			Life span of AHU likely to be adversely impacted – cost	Agree.

Page	Issue identified in report	Infection risk	Other clinical risk	Other organisational risk	NHS Lothian AE
	increased demand on AHU to meet air supply requirements			and disruption associated with repair/replacement	
	Sub optimal design of UCV ventilation and increased risk of UCV performing out of balance	Benefit associated with UCV use (to reduce risk of SSI) lost if UCV not functioning correctly		Increased costs associated with annual maintenance, validation and repair	
	Access to AHU challenging – which may impact on repair and maintenance	Theoretical risk of system failure			
20	Position of extract grills in scrub areas	Increased risk of SSI associated with clean air paths between theatre and scrub areas being compromised (aerosol contamination)			Has a smoke test been carried out to identify any potential still air in the scrub at low level and not extracted?
	Design issue, theatre availability			Loss of theatre availability during routine and reactive maintenance – 2 theatres at a time	
	Surgeons panel design in theatres and angio room does not include alarm to indicate AHU not running	Theoretical risk of SSI if surgery performed whilst AHU not operational/ has failed			
	Location of supply grilles in anaesthetic rooms in relation to extract grills			Risk to staff if removal of anaesthetic gases is compromised – clean air path compromised	Smoke test to determine the extent of short-circuiting? Has the AE for medical gases been consulted?
	Excess noise			Staff and patient acceptability – H&S	

Page	Issue identified in report	Infection risk	Other clinical risk	Other organisational risk	NHS Lothian AE
				considerations if noise excessive	
	Provision of thermal wheels in theatre ventilation is unconventional – risk of mixing 'dirty' and 'clean' air supplied to theatre	Increased risk of infection associated with airborne contaminant			Getting accurate information from suppliers regarding leakage rates from thermal wheels will be challenging at best (from experience). There are too many variables to get a reliable answer such as pressure differences/velocities/mass flow rate /temperature/efficiency etc. There will be leakage (not considered significant by SHTM 03/01 Pt A). That being said, they would not be my first choice for theatres. In UCV mode, the air over the patient will be re-filtered via HEPA. In conventional mode there is a risk of recirculated or "used" air being contaminated. I would certainly agree with IOM's recommendation to have the systems witnessed by the manufacturers for set up/controls.
21	Surplus drip trays in AHU	**This poses a risk from**		Risk of litigation from non	I believe IOM mean a plug

Page	Issue identified in report	Infection risk	Other clinical risk	Other organisational risk	NHS Lothian AE
		stagnant water within the ventilation system remaining undetected at room temperature, and risk of Legionella		compliance with Legionella regulation if a hospital associated case identified	fitted to the drain where the trap arrangement is not required? Regular planned maintenance is and will be required to mitigate any legionella hazard.
	Design issues potentially affects efficacy of air filtration (air bypassing pre filters)	Theoretical risk of increased risk of infection associated with poor air quality/cleanliness			Pre-filters are fitted to protect the AHU, prevent large debris fouling coils etc and extend the life of the main or secondary filters. Of more concern is the pleat orientation of main filters that can dramatically reduce air changes when dirty as the mass of debris collapses the filter under gravity.
	Cooling coil drip tray – impaired access and maintenance	May increase risk of Legionella as above		Risk of litigation associated with Legionella as above	The safe method of maintenance and cleaning should be demonstrated to the FM service provider.
	General issues with design and functionality of dampers/motorised dampers	Theoretical risk of system malfunction associated with design –			The motorised damper should be "normally closed" and "electrically opened" this ensures in a power failure event there are no reverse air flows through the duct potentially contaminating supply ducts and filters on

Page	Issue identified in report	Infection risk	Other clinical risk	Other organisational risk	NHS Lothian AE
					the downstream side.
	Plant labels incorrect – potential for error when accessing or maintaining system			Risk of error for access and repair – potential for significant consequences/patient safety	Accurate labelling of AHU's and associated services is paramount to ensure the safe isolation of AHU's under a PTW system. Labelling should correspond exactly with the schedule of ventilation assets and detail the areas it serves.
	AHU running at speed – suggesting design specification could not meet demand			Life span of AHU likely to be adversely impacted – cost and disruption associated with repair/replacement	More likely that the fan will not achieve the desired air change rates when filters are fouled leading to more frequent filter replacements. The AHU should be validated with a simulated load on the filters to determine if fit for purpose or at what pressure differential filters should be changed to ensure optimal performance and set points for dirty filter alarms adjusted accordingly. The large graduation scale on the pressure differentials will not help this either.
22	Automated monitoring system unable to detect	Theoretical risk of system malfunction associated with design which could remain undetected			

Page	Issue identified in report	Infection risk	Other clinical risk	Other organisational risk	NHS Lothian AE
	AHU failures or defects				
	Lack of clarity about continued functioning of ventilation system if other building management system fails (can the ventilation work in isolation)	Theoretical risk of system malfunction associated with design			Is there the ability to put the systems in "manual" at the local control panel and set the VSD's to a fixed speed?

Table 3: Isolation rooms highlighted in report

Page	Issue identified in report	Infection risk	Other clinical risk	Other organisational risk	NHS Lothian AE
5	One PPVL isolation room (3-C1.1-040) air change rate is not compliant with SHTM03-01	Insufficient dilution of airborne contaminant- risk to other patients, staff, and visitors.			
20	Several isolation rooms provided from a single AHU – non compliance with HBN04-01 Supp	No redundancy in system – if a single AHU fails, this will result in loss of enhanced ventilation to several isolation rooms	Need to move patients from isolation rooms in event of AHU failure	Loss of isolation capacity Delay in communicating AHU failure on automatic monitoring by Hard Fm managers to clinical staff may create clinical risk	Loss of ventilation to a negative pressure isolation room should be notified to the users nurse station by alarm (HBN04/01 2.19). Has this been witnessed? Best practice would suggest this is also done for PPVL's. HBN 04/01 states that "ideally each room should have a dedicated AHU". Staff need to be trained to

Page	Issue identified in report	Infection risk	Other clinical risk	Other organisational risk	NHS Lothian AE
					react to loss of pressure and have BCP's in place if appropriate or a dedicated standby/auto changeover should be provided for resilience.

From: Henderson, Ronnie
Sent: 17 July 2019 16:03
To: Inverarity, Donald; Guthrie, Lindsay; Curley, George; [redacted];
[redacted]
Cc: Currie, Brian
Subject: FW: G1547 - RHSC DCN
Attachments: 20190715 Review of Ventilation provisions for (B1) PICU and HDU.pdf; Critical Care

All,

CRITICAL CARE VENTILATION

As you know at the meeting of 12th July we were tasked with submitting our rationale for requiring 10 a/ch and +10 pa for critical care to HFS and have now done so in the form of the notes of our meetings with the clinical team last Thursday and Friday which are attached above. At the same meeting IHSL were asked to do the same in respect of their current design and as installed a/ch rates and their report is also attached above.

We await guidance from HFS and will update once received, however meantime please review and if you have any comments please let us know.

Regards

Ronnie

Ronnie Henderson
Commissioning Manager Hard FM
RHSC & DCN - Little France
NHS Lothian

RHSC & DCN Site Office
Little France Crescent
Edinburgh
EH16 4TJ

[redacted]

From: Wallace Weir [redacted]
Sent: 17 July 2019 14:29
To: Currie, Brian
Cc: Henderson, Ronnie; [redacted]; Claire L McArthur; Craig Simpson; David Wilson
Subject: FW: G1547 - RHSC DCN

Brian,

Please find attached Review of Ventilation Provisions for (B1) Critical Care / HDU / Neonatal Surgery, produced by TUV-SUD as discussed at the recent workshops. Please excuse the delay in issuing, the message was caught in our junk mail filter.

I have copied Eddie McLaughlan at HFS.

Kind regards

Wallace Weir
Project Director
IHSL

IHS Lothian Limited
RHSC & DCN Site Office | Little France Crescent | Edinburgh | EH16 4TJ
| www.hcp.co.uk

From: David Wilson
Sent: 16 July 2019 13:27
To: Wallace Weir
Cc: Craig Simpson ; Ken Hall ; Colin Grindlay ; Darren Pike
Subject: FW: G1547 - RHSC DCN

Wallace,

See attached information from TUV-Sud relating to the critical care 10ac/h and 10Pa positive pressure for sending on to NHSL / HFS.

David

David Wilson
Commissioning Manager

MULTIPLEX

Multiplex Construction Europe Ltd

W www.multiplex.global

From:
Sent: 16 July 2019 13:22
To: David Wilson
Cc: McKechnie, Stewart; ; Glasgow Filing
Subject: G1547 - RHSC DCN

David,

Please find attached our Review of Ventilation Provisions Report.

Regards,

TÜV SÜD - Real Estate Division

www.tuv-sud.co.uk/real-estate

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RHSC DCN

Review of Ventilation Provisions for (B1) PICU and HDU Departments

July 2019

Mechanical, Electrical and Public Health Consulting Engineers
Venlaw Building,
www.tuv-sud.co.uk/wallacewhittle

TÜV ®

Issue / Revision Record

Issue	Date	By	Checked	Comment
1	15.07.19	SMcK	BR	Issue 1

WW24i

We aim to be the pre-eminent provider of quality building services solutions and the best to work with, in the view of our clients, partners and colleagues. We believe in a sustainability led approach to design for the benefit of our clients and the world we live in.

It is our ultimate goal to work closely with our fellow professionals and clients to minimise carbon emissions and to deliver a better environment for us all to live in.

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3.0	Implications of Suggested Criteria	6
4.0	Conclusions	7
5.0	Appendix	8

1.0 Introduction

Following a review of the installed ventilation systems of the Hospital NHSL have stated that the design standards for rooms: -

1 – B1 - 009 4 bed
1 – B1 - 019 1 bed
1 – B1 – 020 1 bed
1 – B1 – 021 1 bed
1 – B1 – 031 4 bed
1 – B1 – 037 1 bed
1 – B1 – 063 4 bed
1 – B1 – 065 4 bed
1 – B1 – 076 1 cot

Are not in compliance with SHTM-03-01 specifically Appendix 1 row of table as below.

Application	Ventilation	a/c hour	Pressure	Filter	Noise	Temperature	Comments
Critical care areas	S	10	+10	F7	30	18-25	Isolation Rooms may be -ve press

We have therefore carried out a full review of the standards quoted along with other requirements as briefed.

Section 2 of this report records our findings.

2.0 Review of Relevant Standards

2.1 The Clinical Output Based Specification for B1 Critical Care refers to a number of design guidance documents the ones relating to engineering services being:

HBN 23 – Hospital Accommodation for children and young people

HBN 57 – Now superseded by HBN 04 – 02 Critical Care Units

SHTM 2025 – now superseded by SHTM 03 – 01 – Ventilation for Healthcare premises

SHFN 30 Version 3 – Infection control in the built environment Design & Planning

2.2 Clinical Output Based Specification for B1 Critical Care.

In addition to the referenced document there are notes on Page 14 for "lobbied single bed isolation cubicles". This is exactly what we have provided.

Single cubicles are also mentioned but with no detailed ventilation requirements, in terms of air changes nor pressure

2.3 HBN – 04 – 02 Critical Care Units

Section 6 of this document explains the requirement for Isolation Rooms however with no particular detail of actual performance criteria, hence our RFI query and accepted guidance (25/09/15 Acconex correspondence MM-RTRFI-000088, see Appendix).

2.4 SHTM – 03 – 01 – Ventilation for Healthcare premises.

Our interpretation of the line being quoted here is that it pertains to Isolation Rooms conditions within the Critical Care Area as referenced by the Isolation Room reference in the Comments Column of Appendix 1 of SHTM 03-01.

Ward Isolation Rooms are referenced in the table as being referenced in SHPN 4 Supplement 1. This document specifically refers to design standards for Isolation Rooms with En-Suite Facilities (see Appendix).

The Isolation Rooms in the PICU and HDU areas do not have En-Suite facilities as such, there is no system performance guidance other than the line referenced in SHTM 03 – 01 which we have utilised for design.

Application	Ventilation	a/c hour	Pressure	Filter	Noise	Temperature	Comments
Critical care areas	S	10	+10	F7	30	18-25	Isolation Rooms may be -ve press

We had also, during the design period, specifically raised this with NHSL, refer to Acconex of 25/09/2015 (see Appendix) who agreed with our approach here.

2.5 SHFN 30 Version 3 – Infection Control in the Built Environment

Whilst this document gives **general guidance on design principles** on general design principles and practices, it doesn't specifically provide technical guidance e.g. air change rates etc. which are referenced to SHTM 2025 (superseded by SHTM 03 – 01).

2.6 Information Exchange during design process

In addition to the specific RFI re isolation rooms as previously noted we would also record that both the single and the 4 room areas have been subject of detailed review involving NHSL

Further the services levels to the rooms in question are all as per the original Client provided Environmental Matrix in terms of supply air changes with no positive pressurisation figure ever being noted.

We carried out various exercises including all parties during the Construction period when Air change rates post FBC were discussed and reviewed. The current design reflects the agreements and directions agreed from these reviews. For example refer to Acconex NHSL-GC-002953 12 April 2018 (see Appendix) where NHSL confirmed which of the 4 bed areas were to be installed to achieve 4 Air Changes, this includes rooms currently under review.

3.0 Implications of Suggested Criteria

At the meeting held on 12th July NHSL confirmed that they wished these areas to be designed to 10A/C and 10 Pa positive pressure in these rooms.

We advised at that time that if this is a definitive instruction then in our opinion extensive alterations not only to the ventilation installation but the building fabric, fittings and layouts would be necessary, including:

1) Ventilation distribution and fittings as installed is not suitable for this volume increase – Additional AHU, new ductwork, grillage, pressure currently stabilisers etc. would need to be considered. This would also impact on electrical, heating and cooling distribution systems.

2) Ceiling is unsuitable for 10 Pa and would require to be replaced

3) Windows – currently openable – are not suitable and would require replacement

4) Light fittings also unsuitable for 10 Pa, replacements required

5) Existing ceiling track and pendants would require review but possibly as unlikely to be suitable for 10 Pa

6) If 10 Pa is to be maintained in the rooms as suggested, to maintain the integrity of pressure this would require pressure loss protection at opening doors. This would normally involve some form of airlock potentially with Interlocking doors.

4.0 Conclusions

From our detailed study of available design guidance we can find no information to support the statement that compliance with SHTM 03-01 requires these room to have 10 Air Change and 10Pa positive pressurisation.

However, if it is NHSL's preference to now modify the design standards. We can of course do this, however if 10 air change is required it will require extensive alterations, replacement and additions to the ventilation systems currently installed.

Should the requirement for the additional pressure also be required then this could result in extensive remodelling of the department as per Section 3 of this report.

5.0 Appendix

The following extracts from relevant guidance documents are included these being:

1. Clinical Output Based Specification for B1 Critical Care – Page 14 & 15
2. Appendix 1 from SHTM 03 – 01
3. SHPN4 Supplement 1 – Page 5 Paragraph 2.5
4. Acconex of 25/09/2015 refers to RFI confirming services required to Isolations Rooms are in accordance with our design.
5. Acconex of 12/04/18 confirms rooms which are required to have 4 Air Changes which is in line with current provisions.

1. **Clinical Output Based Specification for B1 Critical Care – Page 14 & 15**

the use of art embedded within the department to ensure the department is child friendly and meets the wide age range of those attending

- All clinical areas need lighting that can be varied in intensity
- Nurse flows should be such that they can access the equipment store, the bulk supply store, a dirty utility and a clean utility within a reasonable short distance from the critical care area they are working within. A central location within critical care of these stores and utility areas is desirable
- Parent flows should be such that the parents can reach the area where their child is nursed without traversing another critical care area. If possible the parents should not need to encounter a critical care area with children who are of a higher acuity than their own child. The lowest acuity area is Neonatal Surgical HDU, then low acuity HDU, then High acuity HDU then PICU is the highest acuity area
- Flexibility in the use of the Critical Care beds for both High Dependency and Intensive Care is key to maintaining efficient use of high specification beds. All three critical care areas must be co-located
- Single cubicles will be used for privacy or isolating ordinary infectious conditions
- Maximum visibility of all Critical Care beds is essential. The bed spaces and cubicles should be arranged such that the bedside monitoring and ventilator screen is visible to staff traversing the main thoroughfare of each critical care area
- Lobbied single bed isolation cubicles are required for both source and protective isolation of patients and they all require to have identical design of pressure control with positive pressure lobbies with filtered air, and negative extraction cubicles. It is required that Contaminated air must not flow back into any of the open Critical Care areas. It is required that the lobby must be joined to the room at the foot end of the bed.
- All PICU and HDU bed spaces are required to be of the same specification to allow greatest flexibility of use
- All cubicles require glazing above 1000mm to ensure visibility of patients and patient monitoring from the thoroughfare of the unit and from adjacent cubicles
- Privacy control needs to be provided from each cubicle area. Blinds should be easy to operate and should not hinder visibility. Venetian blinds are not favoured as they impair full visibility
- All glazing units require to be able to be 'blacked' out to facilitate ultrasound procedures
- Bedhead/Pendant services are required to provide two independent gas/vacuum sources and two independent electric sources, all of which must be clearly marked.
- All Critical Care bed head/pendant services should have UPS, as should emergency lighting. There needs to be a UPS

solution to maintain electrical supply to the bed head/pendant services and emergency lighting for the period until the generator kicks in. Essential electrical socket should be attached to the emergency electrical network such as drug fridges
- It is intended to use free standing ventilators. The monitors will be mounted with tilt and swivel mounts on pendants
- There should be an oxygen, air and electric supply in the large Clean Utility (1) placed conveniently to allow the nurse to check ventilator equipment is in working order prior to returning to bed space
- Drinking water will be available throughout the area
- Wash hand basins will be required at the entrances of the unit

1.9 Design Guidance

Attention is drawn to the design guidance contained in the following documents:

- HBN 23: Hospital Accommodation for Children & Young People
- HBN 57: Facilities for Critical Care
- SHTM 2025: Ventilation
- SHFN 30: Version 3: Infection Control
- SHTM 61: Flooring
- HBN 14: Pharmacy
- Paediatric Intensive Care Society Standards Document published in 2001
- CEL 28 (2013) Medicines Storage on Hospital In-Patient Wards
- Departmental Operational Design Notes

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1.10 Other Specifications

Lead clinical staff from Critical Care Unit must be involved with the tendering and specification of the pendant and bed head services.

2. Appendix 1 from SHTM 03 – 01

Appendix 1: Recommended air-change rates

Application	Ventilation	ac/Hour	Pressure (Pascals)	Supply Filter	Noise (NR)	Temp (°C)	Comments For further information see Section 6
General ward	S / N	6	-	G4	30	18-28	
Communal ward toilet	E	10	-ve	-	40	-	
Single room	S / E / N	6	0 or –ve	G4	30	18-28	
Single room WC	E	3	-ve	-	40	-	
Clean utility	S	6	+ve	G4	40	18-28	
Dirty utility	E	6	-ve	-	40	-	
Ward Isolation room	-	-	-	-	-	-	See SHPN 4; Supplement 1
Infectious disease Iso room	E	10	-5	G4	30	18-28	Extract filtration may be required
Neutropenic patient ward	S	10	+10	H12	30	18-28	
Critical Care Areas	S	10	+10	F7	30	*18-25*	Isolation room may be –ve press
Birthing Room	S & E	15	-ve	G4	40	*18-25*	Provide clean air-flow path
SCBU	S	6	+ve	F7	30	*18-25*	Isolation room may be –ve press
Preparation room (Lay-up)	S	>25	35	F7*	40	*18-25*	*H12 if a lay-up for a UCV Theatre
Preparation room / bay sterile pack store	S	10	25	F7	40	*18-25*	*50NR if a bay in a UCV Theatre
Operating theatre	S	25	25	F7	40	*18-25*	
UCV Operating theatre	S	25*	25	H12	40	*18-25*	Fresh air rate; excludes re-circulation
Anaesthetic room	S & E	15	>10	F7	40	*18-25*	Provide clean air-flow path
Theatre Sluice/dirty utility	E	>20	-5	-	40	-	
Recovery room	S & E	15	0	F7	35	*18-25*	Provide clean air-flow path

Table A1

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Application	Ventilation	ac/Hour	Pressure (Pascals)	Supply Filter	Noise (NR)	Temp (°C)	Comments For further information see Section 6
Recovery room	S & E	15	0	F7	35	*18-25*	Provide clean air-flow path
Cardiac catheterisation lab	S	15	+ve	F7	40	*18-22*	
Endoscopy room	S	15	+ve	F7	40	*18-25*	
Endoscopy cleaning	E	>10	-ve	-	40	-	
Day case theatre	S	15	+ve	F7	40	*18-25*	
Treatment room	S	10	+ve	F7	35	*18-25*	
Pharmacy aseptic suite	S	20	#	H14	-	*18-22*	# See EGGMP (Orange guide) a
Cat 3 or 4 containment room	#	>20	#	H14*	-	*18-22*	# See ACDP guide; *Filter in extract
Post mortem room	S & E	S = 10 E = 12	-ve	G4	35	*18–22*	Provide clean air-flow path
Specimen store	E	-	-ve	-	-	-	Fan accessible from outside of store

Table A1 continued

Notes: 18°C-22°C indicates the range over which the temperature may float

18°C-22°C indicates the range over which the temperature should be capable of being controlled

S = supply N = natural ventilation

E = extract [a] – European guidelines on good manufacturing practice published by the Medicines and Healthcare products Regulatory Authority (MHRA)

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3. SHPN4 Supplement 1 – Page 5 Paragraph 2.5

2. Operational policies and planning principles

The need to isolate patients

2.1 Historically, isolation in general wards has been provided in single rooms, sometimes without en-suite facilities. Rooms without en-suite facilities often cannot be used to isolate patients effectively.

2.2 Ventilated isolation suites with en-suite facilities have also been provided. They may have a ventilation system that provides a positive pressure in the room to protect the patient from infection, or a negative pressure to prevent a patient from infecting others, or the ventilation may be switchable from positive to negative. These rooms rely on staff being able to assess the type of ventilation required when a patient arrives on the ward and, for switchable systems, knowing how to select the correct ventilation mode. Patients can be put at risk by user error if the ventilation mode is not set correctly.

2.3 The provision of isolation rooms which are switchable from positive to negative air pressure is no longer recommended because of the risk of cross contamination in the event of the setting being incorrect.

2.4 There are four main reasons for caring for patients in single rooms:

- patient susceptibility to infection from other sources;
- where a patient presents an infection risk to others;
- non-medical, for example patient preference;
- clinical but not infection-related.

In terms of infection control, only patients in the first two categories require isolation. Patients in the latter two categories can be cared for in standard single en-suite rooms.

Isolation facilities

2.5 In order to simplify the use of isolation facilities, this Supplement proposes two room designs for isolating patients in acute general settings:

- enhanced single room with en-suite facilities;
- enhanced single room with en-suite facilities and ventilated bed access lobby (isolation suite).

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4. Acconex of 25/09/2015 refers to RFI confirming services required to Isolations Rooms are in accordance with our design.

Ken

From: M Brown
Sent: 25/09/2015 11:30:31 AM BST (GMT +01:00)
To: Ken Hall
Cc: Colin Grindlay, Robert Nethery, Kelly Gordon, Kamil Kolodziejczyk, Colin MacRae, David Stillie, Fiona Halcrow, Janice Mackenzie
Mail Number: MM-RTRFI-000088
Subject: Re: Confirmation of Isolation Cubicles

Hi Ken,
The Board have reviewed your RFI and refer IHSL to the departments Clinical Output Specification that contains the relevant information with regard to the operational functionality / use of rooms and ventilation requirement. Extract from B1 PICU Clinical Output Spec noted below:

- Single cubicles will be used for privacy or isolating ordinary infectious conditions

- Lobbied single bed isolation cubicles are required for both source and protective isolation of patients and they all require to have identical design of pressure control with positive pressure lobbies with filtered air, and negative extraction cubicles. It is required that Contaminated air must not flow back into any of the open Critical Care areas. It is required that the lobby must be joined to the room at the foot end of the bed.

Furthermore the Boards response is noted in red below:

We have noted that there are rooms on the layout drawings that are labelled as Isolation Cubicles room references:-

1-B1-036, 1-B1-026, 1-B1-017 and 1-B1-016.

These rooms do not follow the standard isolation room layout as depicted within the SHPN 04 Supplement 1 and therefore we would like some guidance as to their intended use and ventilation requirements. Currently we have provided supply air into the Gowning Lobby with a pressure stabiliser in the party wall to the bedroom and a dedicated extract within the bedroom to provide a duty of 10ac/hr which will give a pressure balance.

Almost all children and infants admitted to PICU/HDU need their breathing to be supported by a ventilator. Hence en-suite facilities are not required. The proposed solution is correct and should maintain a positive pressure in the gowning lobby with respect to the corridor. The door directly into the bedroom is for patient entry/exit, with all other access and egress via the gowning lobby.

In addition to the rooms listed above, room 1-H2-021 (Single Bed 1) is not labelled as an isolation bedroom, again ventilation services confirmation required.

It should be treated as such as it is in the Clinical Research Facility.

Kind regards,

Mo

From: K Hall
Sent: 22/09/2015 2:17:20 PM BST (GMT +01:00)
To: Kamil Kolodziejczyk, Colin MacRae
Cc: Colin Grindlay, Robert Nethery, Maureen Brown
Mail Number: BMCE-RFI-000346
Subject: Fwd: Confirmation of Isolation Cubicles

Hi Colin / Kamil

Can you confirm feedback on the noted point from Wallace Whittle on ventilation within isolation cubicles.

Thanks

Ken

From: B Rutherford
Sent: 22/09/2015 12:27:18 PM BST (GMT +01:00)
To: Colin Grindlay
Cc: Ken Hall
Mail Number: WWHIT-RFI-000022
Subject: Confirmation of Isolation Cubicles

Colin,

We have noted that there are rooms on the layout drawings that are labelled as Isolation Cubicles room references:-
1-B1-036, 1-B1-026, 1-B1-017 and 1-B1-016.

These rooms do not follow the standard isolation room layout as depicted within the SHPN 04 Supplement 1 and therefore we would like some guidance as to their intended use and ventilation requirements. Currently we have provided supply air into the Gowning Lobby with a pressure stabiliser in the party wall to the bedroom and a dedicated extract within the bedroom to provide a duty of 10ac/hr which will give a pressure balance.

In addition to the rooms listed above, room 1-H2-021 (Single Bed 1) is not labelled as an isolation bedroom, again ventilation services confirmation required.

5. Acconex of 12/04/18 confirms rooms which are required to have 4 Air Changes which is in line with current provisions.

RHSC and DCN
Little France
Edinburgh
Scotland United Kingdom

NHS Lothian
56 Canaan Lane
Edinburgh
EH10 4SG United Kingdom

MAIL TYPE
General Correspondence
REFERENCE NUMBER
MPX-GC-026334

MAIL NUMBER
NHSL-GC-002953

Re: 12.04.18 4 Bed Workshop Summary

From	Mr Ronnie Henderson - NHS Lothian
To (4)	Mr Kamil Kolodziejczyk - Mott MacDonald Ltd (Head Office UK) (+3 more...)
Cc (2)	Mr Colin Grindlay - Multiplex Construction Europe (+1 more...)
Sent	Wednesday, 18 April 2018 9:10:44 AM BST (GMT +01:00)
Status	N/A

ATTRIBUTES

Attribute 1	Stage 3 - RHSC & DCN Construction Phase
Attribute 2	33. M&E Building Services

MESSAGE

Hi Ken,

I note the attched schedule rev 05 still refers to Air Change rates between 2.7 & 3.5, we are seeking design for 4 Air Changes to all 14 rooms. Can you confirm that this is the brief to WW

Regards

Ronnie

From: K Hall
Sent: 17/04/2018 2:52:00 PM BST (GMT +01:00)
To: Douglas Anderson, Kamil Kolodziejczyk, Ronnie Henderson, Stewart McKechnie
Cc: Colin Grindlay, Andrew McColl
Mail Number: MPX-MM-000503
Subject: 12.04.18 4 Bed Workshop Summary

Confirmation of Key Points discussed.

Add value.
Inspire trust.

Aberdeen Office
166 Great Western Road
Aberdeen, AB10 6QE

Belfast Office
Arthur House, 41 Arthur Street
Belfast, BT1 4GB

Ireland Office
Riverside Office Park
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Glasgow, G2 4AA

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22 Chapter Street
London, SW1P 4NP

Warrington Office
Suite D, Chadwick House
Birchwood Park
Warrington, WA3 6AE

UAE Office
Office 407, IBN Battuta Gate
PO Box 2834

From: Henderson, Ronnie
Sent: 15 July 2019 16:01
To:
Cc: Currie, Brian; Mackenzie, Janice
Subject: Critical Care
Attachments: Critical Care Ventialtion Summary of Discussions July 19 DRAFT (4).docx

Importance: High

Tracking:

Recipient	Read
Currie, Brian	Read: 15/07/2019 16:06
Mackenzie, Janice	

Hi Eddie,

Ahead of tomorrow's meeting please see summary attached of our current position which is based on the requirement to comply with SHTM 03-01, Appendix 1, Table 1A. Please note this is still draft awaiting final approval of minor change highlighted in red.

Regards

Ronnie

Ronnie Henderson
Commissioning Manager Hard FM
RHSC & DCN - Little France
NHS Lothian

RHSC & DCN Site Office
Little France Crescent
Edinburgh
EH16 4TJ

RHCYP Critical Care Ventilation

Summary of Discussion on 10th & 11th July 2019

10th July Attendees

Julie Freeman	Consultant Critical Care
Laura Reilly	Critical Care Clinical Nurse Manager
Pat Smith	Critical Care Charge Nurse
Janice MacKenzie	Project Clinical Director
Ronnie Henderson	Project Hard FM Commissioning Manager
Donald Inverarity	Consultant Microbiologist
Carol Calder	IPCN

11th July Attendees

Julie Freeman	Consultant Critical Care
Laura Reilly	Critical Care Clinical Nurse Manager
Pat Smith	Critical Care Charge Nurse
Janice MacKenzie	Project Clinical Director
Ronnie Henderson	Project Hard FM Commissioning Manager
Donald Inverarity	Consultant Microbiologist
Carol Calder	IPCN
William Evans	IPCN
Pota Kalima	Consultant Microbiologist
Catherine McDougall	Medical Consultant

We discussed the current proposals for improving the critical care ventilation to ensure that it is compliant with SHTM 03-01 with 10 air changes and 10 Pa positive pressure in the single rooms and 4 bedded bays. We also reviewed the ventilation requirements in the 4 bedded bays to allow you to cohort patients with the same infections.

<u>Current Proposal for Critical Care Ventilation Improvements</u>
We visited the Unit, specifically 1-B1-031 which will be impacted on with one of the proposals to review the bed space.
Ronnie updated as follows
Of the 5 initial proposals considered, only two now being considered:-

1. Utilise existing plant or replace in existing location, upsize fans and upsize ducting in critical care – Design team assessing but unlikely to be possible
2. Install new plant external and duct in via window in 4 bed bay, connect ducting to serve approx 50% of critical care
   Note – in both options isolation rooms are unaffected

See attached marked up drawing for the space affected:-

- One window would be blocked to allow the duct work to come in and it would be boxed out no further than the start of the vision panel at the side to the adjoining room.
- We placed the pendants in the positions they would be in and considered the equipment that would be at the top of the bed and confirmed that there would be sufficient circulating space. Ronnie took some photos of the pendant positions and he will pass these onto MPX
- We noted that no further windows in the bay could be affected as this would then affect the natural light coming into the area

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- The additional plant would be on the grass roof area outside the window. Once size of the unit and orientation is known need to ensure that it does not adversely affect the light coming into the area.
- The Critical Care team asked that both the boxed out area within the bay and the plant would have some form of enhancement to make it more aesthetically pleasing e.g. graphics

Compliance with SHTM 03- 01

- Currently the 4 bedded rooms and single rooms have 4 air changes and this needs to increase to 10 air changes to ensure compliance with SHTM. It was acknowledged that the SHTM was more focused on adult critical care where the patient profile is different and the need to cohort patients was extremely rare
- It was noted that previously a decision had been made to derogate from the SHTM for the 4 bedded areas to allow patients to be cohorted with the same air-borne infection and following consultation with the clinical team and IPCT at the time the decision was made that these areas should be balanced or slightly negative. The SHTM states that both the 4 bedded areas and single rooms should have 10 air changes and 10Pa (positive pressure)
- It was confirmed that the Isolation Rooms were compliant with SHTM 03-01
- IPCT view was that you could cohort patients with the same air-borne infection in the 4 bedded areas that were 10 air changes and 10Pa and that there is no reason that this would result in an increased risk of spread of infection. A design of balanced or slightly negative pressure approaches the issue of spread of infection from a cohort from a different direction but it was agreed that neither approach increases the risk of infection spread but that the SHTM 03-01 compliant design has additional benefit for neutropenic patients who could be in single rooms at 10Pa positive pressure.
- It was acknowledged that the design of the Unit also provided additional control measures to prevent spread of infection and the barriers to transmission included:-
    - Bed space size
    - Distance between single room doors, isolation room doors and 4 bedded bay doors as range of droplet spread is generally considered to be between 1-3 metres
    - Patients on ventilators less of a risk of generating aerosols from coughing
    - Direction of air flow in corridor space directs any air borne contaminants towards an air extract vent and away from other patient rooms. Extract ventilation may need to be improved in corridor area to take account of increased pressure
    - Turn over of air dilutes any airborne organisms in patient rooms and corridors.
- It was noted that if a patient with an infection was in a 4 bedded bay or single room or a neutropenic patient in a single room the windows should not be opened and increased room cleaning would likely be required
- Confirmed that Isolation Rooms should be used for patients with infections transmitted by aerosols e.g. measles, chicken pox, TB
- Single rooms and cohort areas would be suitable for droplet infections e.g. RSV, Influenza
- Confirmed that the single cubicle in neonatal Unit will have 10Pa and 10 air changes and as it has an en-suite it will need a transfer grille on the en-suite door
- Confirmed the entire neonatal area was at 10Pa and 10 air changes with respect to the corridor.
- Because the single cubicle is within the neonatal unit it was confirmed that the single cubicle is at a balanced pressure or slightly negative with respect to the open neonatal bed bay.
- Confirmed that any 'dirty' rooms e.g. Dirty Utility, toilets have extract and any 'clean' rooms e.g. clean utility have supply and extract
- We discussed the Positive Pressure Ventilation Lobby (PPVL) isolation rooms in relation to ventilation in QEUH, specifically in relation to Multi-Drug Resistant TB, however Donald was very cautious about making any comparisons as the context was different (paediatric critical

DRAFT

care versus adult infectious diseases isolation ward) . It was suggested that this was something that could be discussed further with HFS

- We discussed a number of different patient groups and scenarios in relation to the use of the Isolation rooms, Single Rooms and 4 bedded bays and in light of these discussions and the points above all agreed that the SHTM 03-01 was a safe design for ventilation within the Paediatric Critical Care Unit in conjunction with the design of the unit and good practice in relation to infection control measures which all worked together as a package to achieve best outcome for patients

We also briefly discussed:-

- Cystic Fibrosis patients and the areas that they would be treated in and whether CF patients with different infections would be treated in the same ward as currently they would be treated in different wards as the existing hospital does not have Isolation Rooms. It was confirmed that Dalhousie ward(Medical Inpatients) have 4 PPVL Isolation room. It was felt by IPCT that provided appropriate measures were in place about the placement of patients within the ward then this could happen. Also Castle Mey (Acute Receiving Unit) has 1 PPVL isolation room. It was noted that currently Dalhouisie Ward is classed as an Augmented Care Area but Castle Mey not. This lead to a discussion about other areas in the hospital where CF patients could be treated, this includes OPD, Cardio Respiratory OPD and Dirleton (Medical Day Care) and therefore whether these areas should also be classed as Augmented Care as far as water sampling is concerned. It was felt that the risk was greater in Inpatient areas. Further discussion to be had with IPCT acknowledging that the water testing regime may need a bit of tweaking when hospital occupied

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Bundle 7
Documentation relating to the Cabinet Secretary's Decisions - Volume 1 (of 3)