



Estates Water Hygiene Report

1st May – 31st Aug 2023

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Estates Water Hygiene Report

1. *Introduction*

This Estates Water Hygiene Report covers the reporting period 1st May to 31th Aug 2023.

The Estates Department are responsible for compliance with the BHSCT Water Safety Management Plan. As part of this compliance, a water quality testing programme is in place along with monitoring and maintenance of water treatment units, (chlorine dioxide (ClO₂) & Monochloramine units) and inspection and testing of cold-water storage tanks. Monitoring of water acquired from site bore wells is also undertaken and therefore included in this report.

2. *Summary of findings*

Water sampling continues and any necessary resultant remedial works addressed, where possible, throughout this period as per agreed trust protocols.

During the period, there have been the following issues:

- Works have commenced to replace the soil stacks in BCH Tower Block South side. In addition, works are continuing to monitor and address any legionella positives as they occur following reinstatement of the programmed flushing regime in the BCH Tower Block north side.
- The Trust needs to be cognizant of the number of unoccupied areas and under-used outlets across the entire Trust estate.
- Estates Operations colleagues on RGH site continue to work on improving the domestic hot and cold-water infrastructure in RBHSC with the next phase of works due to commence soon. Legionella sample results to date have been encouraging.
- A project to replace existing sterispray UV taps and showers with self-flushing outlets is underway. To date UV outlets in 10 North, Mater ICU and Cardiac ICU and annex in RVH have been replaced. The next phase of the works are currently being planned in Level 3 HDU, RVH.
- A survey to review outlets in the Immunology Day Ward in Elliot Dynes has completed and quotations are pending. The aim is to remove redundant wash hand basins and upgrade outlets to self-flushing taps within bays to improve water movement throughout the ward.
- A survey to review outlets in RABIU, at MPH has commenced. The aim is to remove redundant wash hand basins to improve water movement and quality throughout the ward.
- A project to replace existing clinical wash hand basins and IPS panels with agreed new Corian design is ongoing across the Trust. To date, all 237 outlets have been changed.
- A project is ongoing to upgrade the wash hand basins in Withers ward at Musgrave Park Hospital and install Monochloramine as a secondary water treatment. Estates operations team are also installing a mains water by-pass and removing one of the CWST as part of the works.

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- A review of water treatment facilities at Musgrave Park Hospital, Elliot Dynes and the existing RBHSC along with BCH Tower Block is currently underway along with a review of the existing water samples results. Consideration is being given to the installation of Monochloramine as a water treatment solution following the successful results identified at NICC.
 - The Risk Team have recently provided information and training sessions to the staff in NICU covering the topic of water safety and usage of outlets on the ward. Feedback from the training has been positive and we are returning this month to provide similar sessions for Junior Doctors.
 - **For discussion;**
 - **Following recent pseudomonas sampling in CCB levels 4, 5 and 6 it was noted that there has been a change of use within the relative's accommodation on level 4. Clarification is required as to which service group is using these rooms and whether they are to remain on the sample schedule?**
 - **RGH, Level 3 HDU continues to be included within the quarterly sampling for CSICU. This area is now in use by the Renal team to provide Haemodialysis which is a level 2 augmented care location. Can this area be excluded from regular Pseudomonas testing?**

3. Trust Sampling Outcomes

1st May – 31st Aug

During this period, **193** routine water samples for Legionella and **1429** routine water samples for Pseudomonas Aeruginosa and necessary TVC samples were taken and sent for testing to the respective laboratories.

Below is a summary of sample results and information gathered from the samples taken along with the details the necessary remedial actions taken:

4.0 Royal Group of Hospitals

4.0.1 Routine Legionella Monitoring

RGH	May	June	July	Aug
Total Num. Samples	12	12	10	11
Positives	3	2	2	5

May

- 1 <1000 cfu/l SG2-14
- 2 <1000 cfu/l Other Species

June

- 1 <1000 cfu/l Other Species
- 1 < 1000 cfu/l SG1

July

2 >1000 cfu/l SG2-14

Aug

2 < 1000 cfu/ Other Species

1 > 1000 cfu/l SG1

1 <1000 cfu/l SG 2-14

1 >1000 cfu/l SG 2-14

See table below for detailed summary of results:

RGH Summary of Positive Results

Location	May	June	July	Aug
RBHSC – Haematology Outpatients treatment room Hot Tap	50 OS continued monitoring and sampling in the unit			
RBHSC – Haematology outpatients Consultants room 1 – Hot Tap				Count of 50 OS sample selected for September testing.
RBHSC- Musgrave/Paul ward (R0324) Shower		Count of 200 OS		
RBHSC - Musgrave Ward Sink in Main ward			Count of 100 SG 2- 14	2600 SG1 tap changed to darth valley and post sample lifted September
RBHSC – PICU – main ward WHB 101- B	Count of 650 SG2-14	Sample returned not detected		
RBHSC – Clark Clinic – G317 Main ward Bath –				Count of 50 SG2-14. Sampled September (awaiting results)

RHBSC – Haematology Inpatients – bedroom 4		Count of 600 SG1	Sample returned not detected	
EENT – Ward 29 -			Count of >7500 SG2-14, head and hose changed	Count 2850 SG2-14, investigating further remedial works.
A-Block ward 2F Shower (0019)				Count of 200 OS. Selected for resampling in September.

4.0.2 Actions Taken – Summary

Estates Operations team at RGH have progressed through the remedial works identified within previous risk water assessments for the RBHSC building. Updated drawings have been produced and are currently being verified. An up to date water risk assessment has been produced and the Estates Risk Team are working closely with contractors on site and Estates Operations team to address any remaining remedial works.

5.0 Belfast City Hospital

5.0.1 Routine Legionella Monitoring

BCH	May	June	July	Aug
Total Num. Samples	22	20	17	12
Positives	4	8	4	6

May

1 <1000 cfu/l Other Species

3 >1000 cfu/l Other Species

June

2 >1000 cfu/l Other Species

2 <1000 cfu/l Other Species

July

5 >1000 cfu/l Other Species

1 <1000 cfu/l Other Species

Aug

3 >1000 cfu/l Other Species

1 <1000 cfu/l Other Species

2 < 1000 cfu/l SG-1

See table below for detailed summary of results:

BCH Summary of Positive Results

Location	May	June	July	Aug
Level 10 North - Bedroom D - Shower - Self flushing Oct 2022 (R0105A)		Sample taken from shower valve (filtered shower head fitted) Count of 1000 OS	Sample taken from shower valve (filtered shower head fitted) Count of 3800 OS	Sample taken from shower valve (filtered shower head fitted) Count of 50 SG-1
Level 10 North Bedroom C Shower -Self flushing July 2022 (R0105)		Sample taken from shower valve (filtered shower head fitted) Count of 1650 OS	Sample taken from shower valve (filtered shower head fitted) Count of 2600 OS	Sample taken from shower valve (filtered shower head fitted) Count of 1100 OS
Level 10 North - Ward P - Shower -Self flushing Oct 2022 (R0041)		Sample taken from shower valve (filtered shower head fitted) Count of 150 OS	Sample returned not detected	Count of 800 SG1
Level 5 South Main ward RHS Shower	Count of 2400 OS head and hose change			Sample returned not detected
Level 3 South – Shower opposite room J		Count of 350 OS		Count of 150 OS Will continue to monitor.
Level 1 South – Shower opp Bay D				Count of 1100 OS
Bridgewater Suite – Consulting room (0104) Hot tap		Count of 200 OS	Sample returned not detected	
Bridgewater Suite Assessment unit Bay 5/6 – Hot Tap		Count of 50 OS will monitor		

Bridgewater suite consulting room 508B Hot Tap			Count of 600 OS will continue to monitor	
NICC 2A room 3				400 OS sample to be lifted in September.
NICC 2B Room 8	Count of 2800 OS self-flushing shower installed			Returned not detected
NICC 3A Room 1	Count of >7500 OS – Head and hose changed	Sample returned not detected		
NICC 3B – Room 7		50 OS	Sample returned not detected	
AMHU – Ward 5 Main Bathroom	50 OS	Sample returned not detected		

6.0 Musgrave Park Hospital, South and East Region (Exc EPH)

6.0.1 *Routine Legionella Monitoring*

MPH	May	June	July	Aug
Total Num. Samples	6	9	7	6
Positives	4	4	6	5

May

4 <1000cfu/l other species

June

4<1000cfu/l other species

July

4 <1000cfu/l other species

2 >1000cfu/l other species

Aug

2 <1000cfu/l other species

3 >1000cfu/l other species

See table below for detailed summary of results

MPH Summary of Positive Results

Location	May	June	July	Aug
Meadowlands Ward 2 – Bathroom	Count of 800 OS Post sample taken	Post sample returned not detected		
Mitre Building - Patient F/Male Changing 2 Middle	Count of 200 OS Post sample lifted	Post sample returned count of 450 OS	>7500 OS out of action	
Mitre Building Patient F/Male Changing 3 LHS		Count of 800 OS	Post sample returned count of 50 OS	
Mitre Building Hydro Pool F/Male Patient 2 MIDDLE	Count of 250 OS	Returned not detected		Count of 250 OS
Mitre Building Hydro pool Staff female change		Count of 150 OS	Count of 800OS Head and hose changed	Count of 4800 OS
Withers Building Ward 1 – Bay 1			Count of 300 OS	Post flush to be lifted
Withers Building Ward 6 Female Shower (opposite Kitchen)			Count of 1200 OS Head and hose changed.	Count of 7400 Filtered shower head fitted
RABIU Blue ward W113 – Shower over Bath	Count of 800 OS. Post sample taken	Post sample returned not detected.		
Neurology Shower 2 (Door 68)		Count of 300 OS Post flush taken	Count of 100 OS Post flush taken	50 OS Post flush taken

6.0.2 Actions Taken – Summary

PCSS have been asked to carry out a monitored flushing regime going forward across the MPH site particularly in areas such as RABIU and Neurology

7.0 Mater Hospital

7.0.1 Routine Legionella Monitoring

MIH	May	June	July	Aug
Total Num. Samples	7	7	5	5
Positives	4	0	1	2

May

1 <1000cfu/l other species

3 >1000cfu/l other species

June

No positive results recorded

July

1 < 1000 cfu/l SG2-14

Aug

2 < 1000 cfu/l SG2-14

See table below for detailed summary of results

MIH Summary of Positive Results

Location	May	June	July	Aug
McAuley Building – Level 1 -Ward B- Shower Bay 8	Positive count of 1600 OS. Head and Hose changed	Resample returned not detected		
McAuley Building – Level 1- Ward C – Shower Bay 1	Positive count of 600 OS	Resample returned not detected		
McAuley Building – Level 1- Ward C – Shower Bay 2	Positive count of >7500 OS Filtered Head fitted			
McAuley Building – Level 2 – Ward D – Shower Bay 1	Positive count of >7500 OS Head and Hose changed	Resample returned not detected		
Dempsey Building – Level 4 Maternity Unit –			Count of 200 SG2-14 Post flush sample taken	Count of 100 SG2-14 Post flush sample taken

Aqua 1 – Shower (over bath)				
Dempsey Building – Level 4 Maternity Unit – Aqua 2 – Shower				Count of 100 SG2-14

7.0.2 Actions Taken – Summary

No actions required.

8.0 Residential Facilities (EPH/EMI only) - 6 monthly Legionella Testing

N&W

Aug 2023

Bruce House – 1 positive sample returned, post sample has returned positive. Awaiting further remedial works.

Chestnut Grove – All outlets returned not detected.

S&E

Aug 2023

Orchardville EPH – 3 positive samples August, all awaiting post resamples.

Killynure – All outlets returned not detected.

Brae Valley – Recently reopened following refurbishment, samples lifted 19/09/2023

8.0.1 Actions Taken - Summary

No actions required.

9.0 Routine Pseudomonas Monitoring & Actions - RGH

9.0.1 Level 1 Augmented Care

In total, during this reporting period, **1161** routine Pseudomonas samples were taken in Level 1 Augmented Care areas on the RGH site. This includes any required resamples where positive result were recorded. Below is a summary of all positive results along with the associated remedial actions.

A Block – Burns 2E – Sampled Quarterly

18th July – Positive on clinical WHB in medicine room. This outlet has been replaced with a dart valley tap and has returned not detected. There was a low count (1cfu/l) on a patient bathroom WHB. This returned not detected following a pre and post sample

Next, lift week beginning 6th November 2023.

CSICU – Sampled Quarterly

14th August – Pseudomonas aeruginosa not detected in all sampled outlets.

Next lift week beginning 8th January 2024

NICU – Sampled Monthly

22nd May – Pseudomonas aeruginosa not detected in all sampled outlets.

19th June - Pseudomonas aeruginosa not detected in all sampled outlets.

20th July – Pseudomonas aeruginosa not detected in all sampled outlets.

9th August - Pseudomonas aeruginosa not detected in all sampled outlets.

During this reporting period, IPC requested the clinical WHBs in the main ICU to be tested on a bi-weekly basis. All results have returned not detected during this testing period.

Next, lift week beginning 18th September 2023.

PICU – Sampled Quarterly

25th July – Pseudomonas aeruginosa not detected in all sampled outlets.

Next lift scheduled for 18th September 2023.

Ward 4E&F – Sampled Quarterly

25th July – Positive on shower in main ward shower room (4F), count of 100 cfu/l. Showerhead & hose changed and resampled. All 3 day sampling returned positive for pseudomonas.

Next lift scheduled for 20th November 2023.

RICU (CCB) – Sampled Monthly

3rd May- Positive on shower in accommodation room 3 – head and hose changed and sample returned positive – investigating further remedial actions.

29th August - Positive on shower in accommodation room 1. Post sample taken which returned not detected.

Next lift week beginning 8th January 2024

RBHSC Haematology Inpatients Ward

5th July - Positive on patient bathroom WHB in Isolation room 2. Pre and post sample taken which returned not detected.

Next lift week beginning 23rd October 2023

RBHSC Haematology Outpatients Ward

1st May – Pseudomonas aeruginosa not detected in all sampled outlets.

5th July - Pseudomonas aeruginosa not detected in all sampled outlets.

Next lift week beginning 15th January 2024

9.0.2 Level 2 Augmented Care

RBHSC Renal Unit

Sampling only in response to clinical indicators.

Ward 4B - Renal Unit

Sampling only in response to clinical indicators.

10.0 Routine Pseudomonas monitoring - BCH

10.0.1 Level 1 Augmented Care

In total within the BCH site, **248** routine Pseudomonas Samples were taken in Level 1 Augmented Care Areas. During this reporting period, any required resamples were taken where positive result were recorded. Below is a summary of all positive results

BCH ICU – Sampled Quarterly

7th June – Positive on WHB in female staff changing room. Tap changed however returned positive during weekly testing. A further positive sample was confirmed during weekly testing following a second set of remedial works and we are now awaiting a quote to get this outlet changed to a dart valley spout with a new Corrian IPS.

Next, lift week beginning 9th October 2023.

BCH Tower Ward 6 North – Sampled Quarterly

15th August - Positive on cleaners store sink. Tap was changed and returned positive during weekly testing. We are currently awaiting this tap and pipework back to the valves at high level to be changed.

There was also a positive on the WHB in the patient shower room. Tap was changed and is currently returning not detected during weekly testing.

Next lift week beginning 11th December 2023.

BCH Tower Ward 10 North– Sampled Quarterly

22nd May – Positive count of 100cfu/l on shower head disabled shower room, head and hose changed, 3 day sampling returned not detected.

Next lift scheduled for 25th September 2023

10.0.2 Level 2 - Augmented Care

Ward 11 North & South:

Sampling only in response to clinical indicators

Cancer Centre Inpatients Wards 2A, 2B, 3A & 3B

Sampling only in response to clinical indicators

Renal Dialysis Unit

Sampling only in response to clinical indicators.

Bridgewater Suite

Sampling only in response to clinical indicators.

11.0 Routine Pseudomonas monitoring – S&E

Level 2-Augmented Care

Knockbreda Centre – Sampling only in response to clinical indicators

12.0 Routine Pseudomonas Monitoring - Mater

Level 1 Augmented Care

Mater ICU – sampled quarterly

20th Jan – Pseudomonas aeruginosa not detected in all sampled outlets.

Mater ICU has been removed from the schedule as of May 2023.

13.0 TVC Sampling

Quarterly potable water TVC sampling is undertaken Trust wide as per schedule. All results returned acceptable levels.

14.0 Cold Water Storage Tanks

There is an annual programme (September – June) for inspection of Cold-water storage tanks. Tanks are surveyed, cleaned and disinfected and when required remedial actions are taken e.g. cleaning and disinfection.

Surveys for this year's programme are now complete except where access is prohibited due to asbestos. Estates Risk team will liaise with Clearwater to ensure that all clean and disinfections are completed prior to the new programme starting in September.

15.0 Bore well Performance

15.0.1 MPH

Bore well 1- Supplying approximately 90% of the site. Currently offline and awaiting some remediation works.

15.0.2 BCH

Bore wells 1, 2 & 3 – Supplying approximately 85% of the site. Currently online and working satisfactorily

16.0 Water Treatment Units (CLO2/Monochloramine)

A regional MTC contract is in place for the monitoring and maintenance of the Chlorine Dioxide Dosing units and CLO2 levels across the Trust. In addition, there are three Monochloramine units across the Trust.

A review of water treatment facilities at Musgrave Park Hospital and the existing Children's hospital along with review of the existing water samples results is currently being undertaken. Consideration is being given to the installation of Monochloramine as a water treatment solution following the successful results identified at NICC.

Below is a summary of each unit currently installed;

16.0.1 Unit Locations:

RGH 4 out of 5 units running satisfactorily. Elliot Dynes plant room unit has been offline due to ongoing asbestos remedial works. These should be completed by early November 2023.

MPH Borewell – unit running satisfactorily.

MPH Meadowlands – unit running satisfactorily

MAH – unit running satisfactorily

BCH Bore well 1 – unit running satisfactorily

BCH Bore well 2 – unit running satisfactorily

BCH Bore well 3 – unit running satisfactorily

BCH Roof Plant room (HW) – Unit running satisfactorily

MIH – Unit running satisfactorily.

Beechcroft Residential Unit – Unit running satisfactorily

Iveagh Residential Unit - Unit running satisfactorily

Elderly Person's Homes- Units running satisfactorily.

KHCP – unit running satisfactorily.

Old See House – unit running satisfactory.

Adult Mental Health Unit – Monochloramine unit running satisfactorily.

MPH Duke of Connaught building – Monochloramine unit running satisfactorily.

BCH Cancer Centre –Monochloramine unit running satisfactorily.

17.0 Water Risk Assessments

There is a programme of review for water risk assessments, which is ongoing with robust arrangements in place to address necessary resultant remedial works.

17.0.1 Summary in the last quarter – Water risk assessment remedial works

BCH had approx. 10 items completed in this quarter, primarily in the Tower Block. These works are managed and completed through good communication between contractors and the Estates Risk Team to ensure all works are completed.

RGH had 20 remedial items identified. Remedial works will be programmed in with the Trust's MTC. Our contractor has undertaken a new water risk assessment for RBHSC. Estates Risk Team will meet with the MTC to programme these works.

MPH/S&E Community had 25 remedial items identified with 15 items addressed to date. Remedial works are ongoing.

Mater/N&W Community had 40 remedial items identified with 15 items addressed to date. Remedial works are ongoing.

18.0 TMV/Showers

There is a programme in place for the survey and maintenance of thermostatic mixing valves on baths and showers. Surveys are carried out on a quarterly basis with resulting remedial works addressed by the measured term contractor.

19.0 Hydrotherapy Pools

An Aquatic/Hydrotherapy Pool Water Safety Group has been established to review and manage the safe use and maintenance of the hydrotherapy pools within the Trust. Future service/maintenance of pool plant will be included within the new regional contract.

20.0 Renal Dialysis

Trust Renal Technicians now monitor the RO plants.

21.0 Incident Reporting

Nothing to report during this period.

22.0 Proposed Ratifications

22.0.1 A project to replace existing clinical wash hand basins and IPS panels with agreed new Corian design is ongoing across the Trust. Works within the BCH Tower Block are largely completed. Survey works within Withers Ward, MPH have now commenced.

22.0.2 Works are ongoing to replace existing Sterispray UV outlets throughout the Trust. To date we have completed replacement of showers in Level 10 North, BCH; Mater ICU and Level 3 ICU and annex, RVH have been replaced. The next phase of the works will be undertaken in HDU, RVH Level 3 and PICU.

23.0 Governance

23.0.1 A review of the following procedural arrangements are currently being undertaken:

- Tap specification
- IPS Specification
- Legionella and Pseudomonas Sampling Procedure
- Risk Team communication process with other Service Groups

On completion of the review, these procedures will be forwarded for comment by the Trust's independent advisor.