

Borders NHS Board



Meeting Date: 7 May 2020

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| Approved by: | Nicky Berry, Director of Nursing, Midwifery and Acute Services |
| Author: | Lynsey Milven, Infection Control Facilitator Sam Whiting, Infection Control Manager |
| HEALTHCARE ASSOCIATED INFECTION PREVENTION AND CONTROL REPORT April 2020 | |
| Purpose of Report: | |
| The purpose of this paper is to update Board members on the current status of Healthcare Associated Infections (HAI) and infection control measures in NHS Borders. | |
| Recommendations: | |
| The Board is asked to note this report. | |
| Approval Pathways: | |
| The format of this report is in accordance with Scottish Government requirements for reporting HAI to NHS Boards. This report has not been submitted to any prior groups or committees but much of the content will be presented to the Clinical Governance Committee. | |
| Executive Summary: | |
| This report provides an overview for Borders NHS Board of infection prevention and control with particular reference to the incidence of Healthcare Associated Infections (HAI) against Scottish Government targets for infection control. | |
| The report provides updates on:- | |
| <ul style="list-style-type: none"> ➤ NHS Borders infection surveillance against Scottish Government targets ➤ An update on outbreaks of respiratory illnesses, gastrointestinal illnesses and Novel Coronavirus(COVID-19) ➤ Provision of Personal Protective Equipment | |
| Impact of item/issues on: | |
| Strategic Context | This report is in line with the NHS Scotland HAI Action Plan. |
| Patient Safety/Clinical Impact | Infection prevention and control is central to patient safety |
| Staffing/Workforce | This assessment has not identified any staffing implications. |
| Finance/Resources | This assessment has not identified any resource |

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| | implications. |
| Risk Implications | All risks are highlighted within the paper. |
| Equality and Diversity | This is an update paper so a full impact assessment is not required. |
| Consultation | This is a regular bi-monthly update as required by SGHD. As with all Board papers, this update will be shared with the Area Clinical Forum for information. |
| Glossary | See Appendix A. |

Healthcare Associated Infection Reporting Template (HAIRT)

Section 1– Board Wide Issues

Key Healthcare Associated Infection Headlines for March 2020

- NHS Borders had 16 *Staphylococcus aureus* Bacteraemia (SAB) cases between April 2019 and March 2020. To achieve the HEAT target rate of 24.0 cases or less per 100,000 acute occupied bed days (AOBD) by March 2020, NHS Borders should have no more than 19 cases per year. NHS Borders has achieved this target.
- NHS Borders had 18 *Clostridium difficile* infection (CDI) cases between April 2019 and March 2020. To achieve the CDI HEAT target rate of 32.0 cases or less per 100,000 total occupied bed days (TOBD) for patients aged 15 and over, by March 2020, NHS Borders should have no more than 33 cases per year. NHS Borders has achieved this target.
- NHS Borders has implemented on site testing for COVID-19.
- The Scottish Government updated the requirements for HAI surveillance on the 25th of March. In light of the prioritisation of COVID-19 surveillance, all mandatory and voluntary surgical site infection surveillance has been paused from this date. Surveillance of *E.coli* bacteraemia, *Staphylococcus aureus* bacteraemia and *C. difficile* Infections will continue but this will be light surveillance only. See [Appendix B](#) for full detail.

Staphylococcus aureus Bacteraemia (SAB)

See Appendix A for definition.

There were 15 cases of Meticillin-sensitive *Staphylococcus aureus* (MSSA) and 1 case of Meticillin-resistant *Staphylococcus aureus* (MRSA).

Figure 1 shows a Statistical Process Control (SPC) chart showing the number of days between each SAB case. The reason for displaying the data in this type of chart is due to SAB cases being rare events with low numbers each month.

Traditional charts which show the number of cases per month can make it more difficult to spot either improvement or deterioration. These charts highlight any statistically significant events which are not part of the natural variation within our health system.

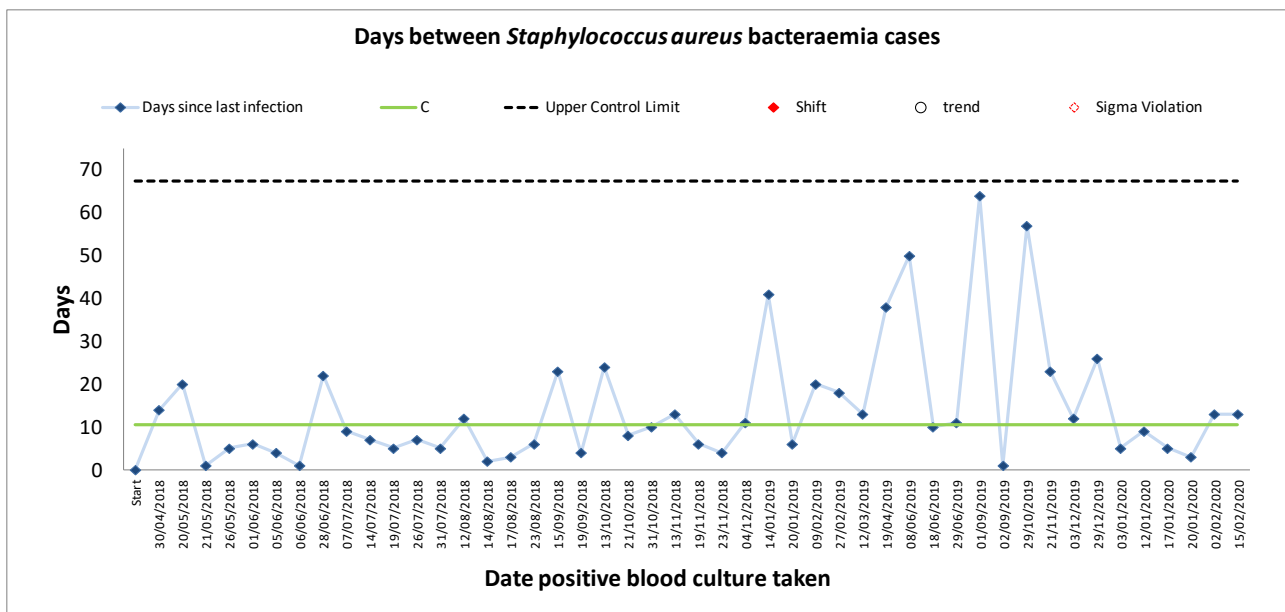


Figure1: NHS Borders days between SAB cases (April 2018 –March 2020)

In interpreting Figure 1, it is important to remember that as this graph plots the number of days between infections, we are trying to achieve performance above the green average line.

The graph shows that there have been no statistically significant events since the last Board update.

Clostridium difficile infections (CDI)

See Appendix A for definition.

Figure 2 below shows a Statistical Process Control (SPC) chart showing the number of days between each CDI case. As with SAB cases, the reason for displaying the data in this type of chart is due to CDI cases being rare events with low numbers each month.

The graph shows that there have been no statistically significant events since the last Board update.

NHS Borders Surgical Site Infection (SSI) Surveillance

The Scottish Government updated the requirements for HAI surveillance on the 25th of March. In light of the prioritisation of COVID-19 surveillance, all mandatory and voluntary surgical site infection surveillance will pause from this date.

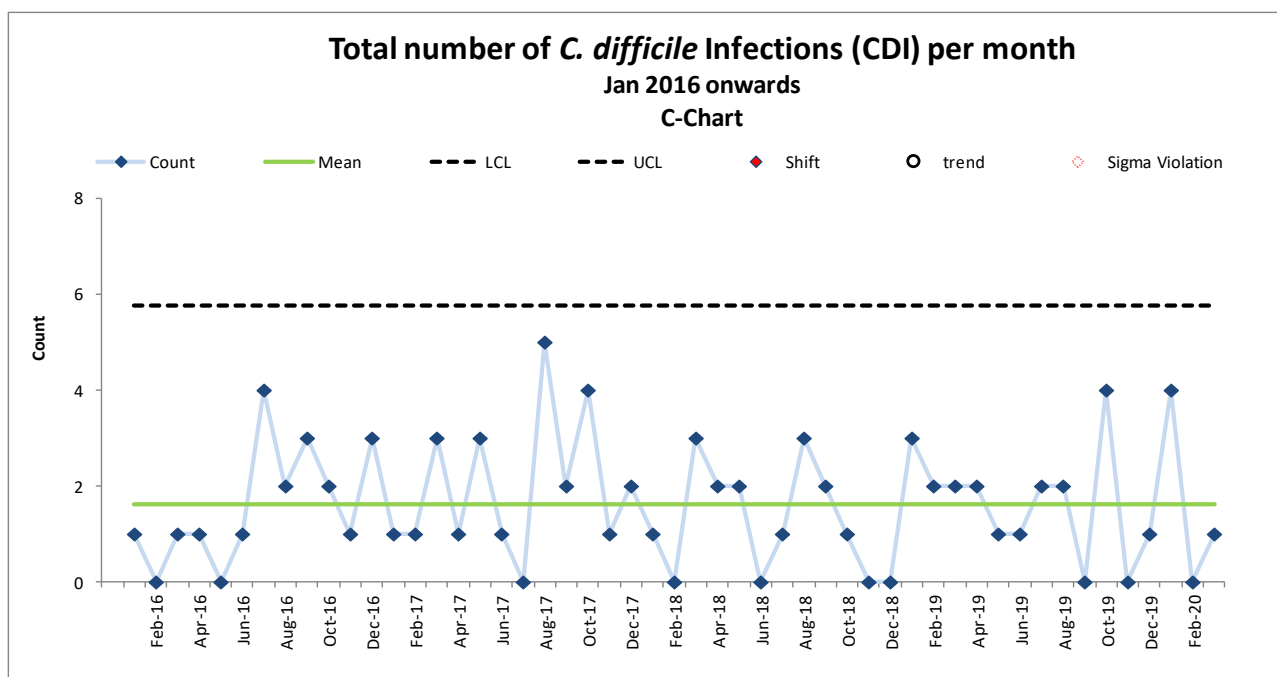


Figure 2: NHS Borders days between CDI cases (March 2016 –March 2020)

Hand Hygiene

For supplementary information see Appendix A

Due to prioritisation of COVID-19 there is no self audit hand hygiene data available for February or March 2020. However, the importance of strict hand hygiene is being promoted as part of the COVID-19 national campaign aimed at the public and staff.

In April 2020, additional hand gel dispensers have been installed across BGH site to improve staff and public access at the entrance to clinical areas.

Different communications methods are currently being explored with the support of Procurement to improve signage to promote good hand hygiene practice amongst patients, staff and visitors.

Infection Prevention and Control Compliance Monitoring Programme

In response to the requirement to prioritise activity associated with COVID-19, the Infection Prevention & Control Nurses are maintaining high visibility in clinical areas with a significant focus on providing advice and support in relation to COVID-19.

The volume of requests from all staff groups across NHS Borders for advice and guidance in relation to COVID-19 has been, and continues to be significant. In that context, NHS Lothian has been approached and are providing additional on-site Infection Control Nurse support to NHS Borders one day per week as well as Infection Control Nurse to Infection Control Nurse telephone support.

A new spot check tool has been implemented from April 2020 with a specific focus on precautions to reduce the risk of COVID-19 including PPE, hand hygiene and cleaning. The outcome from these checks will be used to inform further activity to support staff compliance to reduce the risk of infection to staff and patients.

Cleaning and the Healthcare Environment

For supplementary information see Appendix A.

Activity to validate audits for Cleanliness and Estates has been suspended due to prioritisation of COVID-19 work.

2019/20 Infection Control Workplan

It was agreed at the Infection Control Committee that outstanding actions from the 2019/20 Infection Control work plan could be extended to September 2020 in light of the current pressures around COVID-19. A new work plan will be drafted for 2020/21 at that time.

Outbreaks

Since the last board paper there have been 2 outbreaks of COVID-19 in DME 14 and Hawick Community Hospital. There have also been a small numbers clusters in staff groups working in close proximity.

The following graph shows the cumulative number of COVID-19 positive cases per day in the Borders since 9th February 2020. As at 27th April 2020 there have been a total of 259 cases.

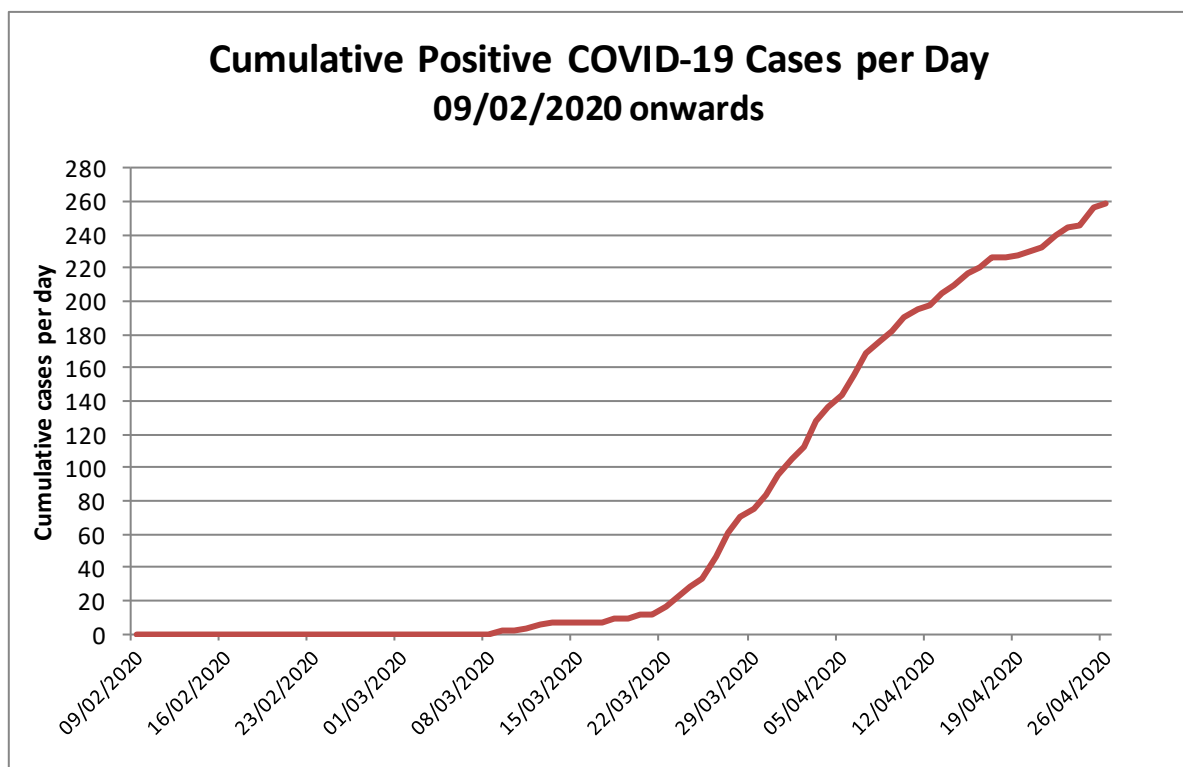


Figure 3: Cumulative Positive COVID-19 cases per day 09/02/2020 – 26/04/2020

Figure 4 shows the number of confirmed COVID-19 positive inpatient deaths per day in the Borders. As at 27th April 2020 a total of 29 people have sadly died.

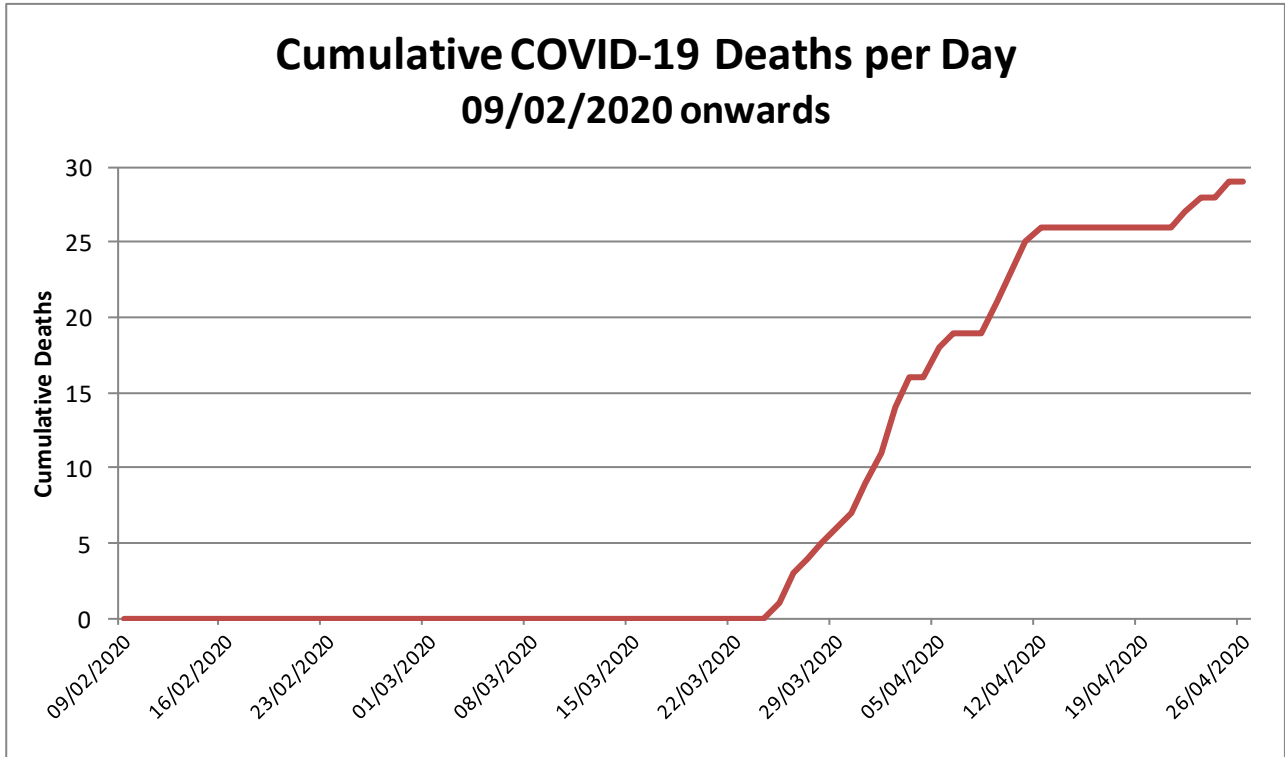


Figure 4: Cumulative COVID-19 deaths per day 09/02/2020 – 26/04/2020

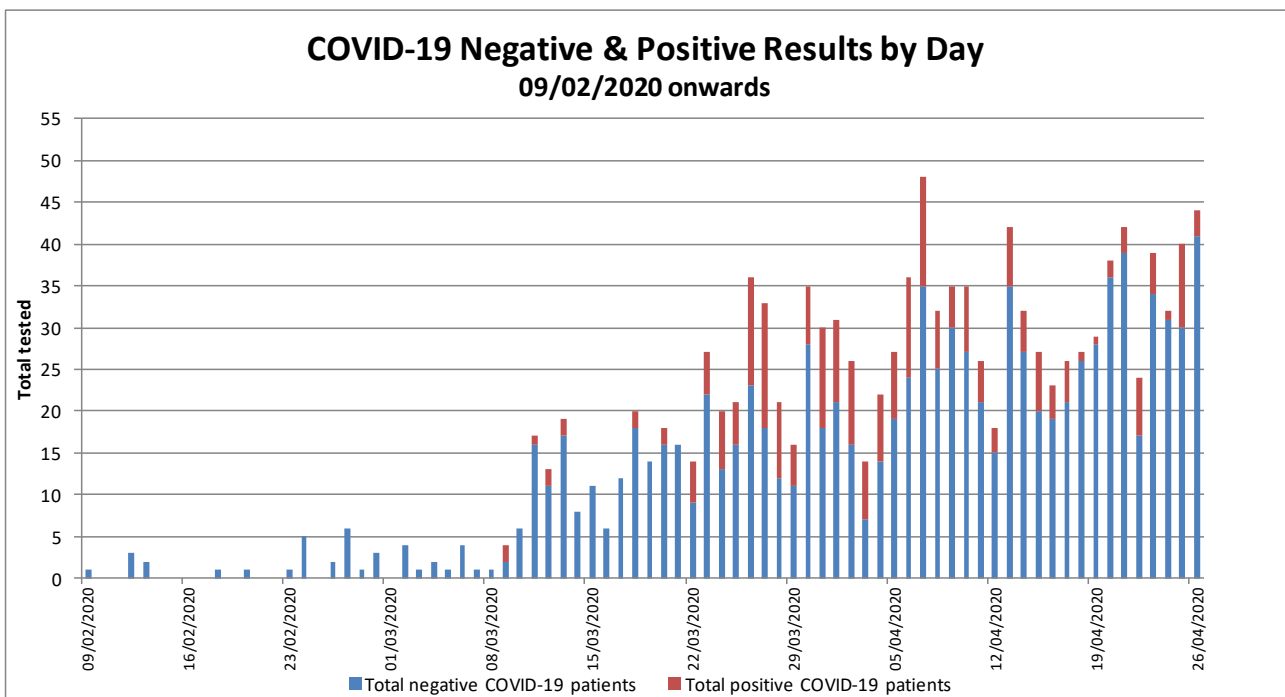


Figure 5: COVID-19 negative and positive results per day 09/02/2020 – 26/04/2020

Figure 5 shows the total number of people tested per day in the Borders for COVID-19 by result (positive or negative). As at 27th April 2020 a total of 1334 people have been tested.

Figure 6 shows the number of staff tested per week for COVID-19 by test outcome (positive or negative). In the most recent week, around 20% of tested staff were positive.

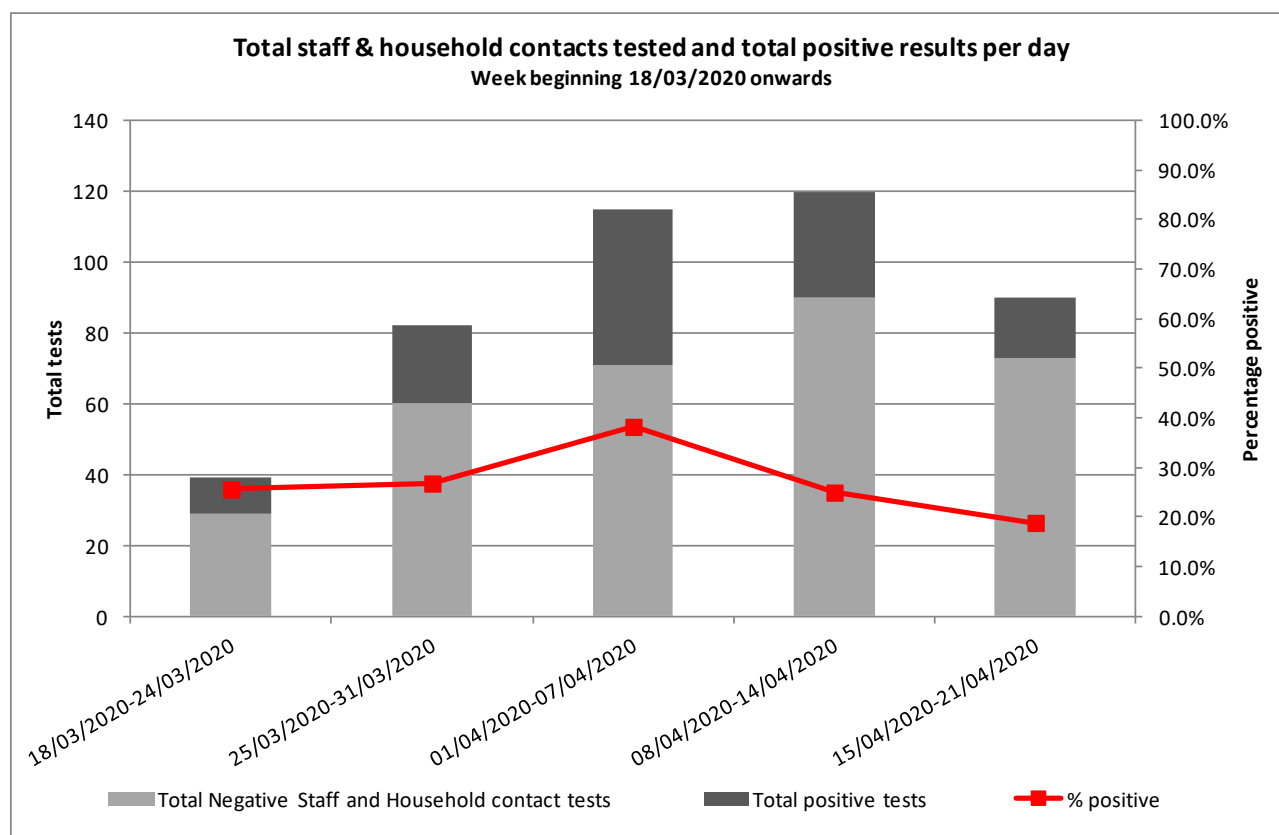


Figure 6: Total staff & household contacts tested and positive results per day 18/03/2020 - 21/04/2020

NHS Borders has established a COVID-19 pandemic committee which meets 3 times per week and includes representation from each clinical board and the Health and Social Care partnership.

The Infection Prevention & Control Team and Occupational Health Team have been working together with the support of PMAV to provide training for frontline staff to undertake full PPE training to ensure they are prepared to care for potential and confirmed cases of COVID-19.

Personal Protective Equipment (PPE)

The careful control and management of necessary PPE has proved to be one of the key challenges of the COVID pandemic. NHS Borders have put in place mechanisms that ensure that the supply and distribution of key items is controlled, and that predictive modelling is used to highlight potential issues before they arise.

This information is now collated into a dashboard showing the current and predicted future position in relation to key PPE items utilising knowledge of usage, stocks and future deliveries (see Appendix C).

NHS Borders moved very early in placing the following items on a list of controlled stock, and introduced a specific supply distribution team to work with individual clinical areas to ensure sufficient stock was held locally based on an assessment of immediate needs:-

- FFP3 Masks
- Disposable Fluid Resistant Gowns
- Purple Long Sleeve Gloves
- Visors
- Type IIR Surgical Masks
- Eye Protection/Goggles

Working between Procurement, Occupational Health, Health and Safety and Infection Control this system has ensured that available stocks have been used to maximum effect and avoided any critical shortages associated with distribution or local stock piling. A process has also been approved through Gold Command to assess and approve alternative supply of some PPE including donated items.

The distribution team have also worked to ensure that clinical teams are using PPE items appropriately and guidance is being applied consistently to ensure we are using available stocks to maximum effect.

Key issues as at 27th April 2020:-

- Supply of disposable fluid resistant gowns continue to be problematic. High volume users are working with reusable alternatives and as stocks of reusable items increase during the next 5-10 days this will represent a more sustainable solution.

Work is progressing to model the impact of a return to normal elective operating on PPE usage.

- The immediate supply of visors remains a concern for NHS Borders however the distribution teams continues to work hard to ensure that visors are used only where necessary and that other forms of eye protection where stocks are less of an immediate issue, are used where possible. Additionally Infection Control is working with teams to provide advice on the cleaning of visors where it is appropriate and safe to do so. This is expected to be a short term supply issue, indications nationally are that delivery volumes will increase over the coming weeks
- Stocks of individual Filtering Face Piece 3 (FFP3) masks are being carefully monitored and Face Fit Testings continuing to ensure we have the maximum number of staff fitted to masks where volumes are highest. These masks are required for use during aerosol generating procedures where there is a higher risk to staff. This work will continue as alternative masks are supplied from the National Distribution Centre.

Appendix A

Definitions and Supplementary Information

Staphylococcus aureus Bacteraemia (SAB)

Staphylococcus aureus is an organism which is responsible for a large number of healthcare associated infections, although it can also cause infections in people who have not had any recent contact with the healthcare system. The most common form of this is Meticillin Sensitive *Staphylococcus Aureus* (MSSA), but the more well known is MRSA (Meticillin Resistant *Staphylococcus Aureus*), which is a specific type of the organism which is resistant to certain antibiotics and is therefore more difficult to treat. More information on these organisms can be found at:

Staphylococcus aureus : http://www.nhs24.com/content/default.asp?page=s5_4&articleID=346

MRSA: http://www.nhs24.com/content/default.asp?page=s5_4&articleID=252

NHS Boards carry out surveillance of *Staphylococcus aureus* blood stream infections, known as bacteraemia. These are a serious form of infection and there is a national target to reduce them. The number of patients with MSSA and MRSA bacteraemia for the Board can be found at the end of section 1 and for each hospital in section 2. Information on the national surveillance programme for *Staphylococcus aureus* bacteraemia can be found at:

<http://www.hps.scot.nhs.uk/haiic/sshaip/publicationsdetail.aspx?id=30248>

Clostridium difficile infection (CDI)

Clostridium difficile is an organism which is responsible for a large number of healthcare associated infections, although it can also cause infections in people who have not had any recent contact with the healthcare system. More information can be found at:

<http://www.nhs.uk/conditions/Clostridium-difficile/Pages/Introduction.aspx>

NHS Boards carry out surveillance of *Clostridium difficile* infections (CDI), and there is a national target to reduce these. The number of patients with CDI for the Board can be found at the end of section 1 and for each hospital in section 2. Information on the national surveillance programme for *Clostridium difficile* infections can be found at:

<http://www.hps.scot.nhs.uk/haiic/sshaip/ssdetail.aspx?id=277>

Escherichia coli bacteraemia (ECB)

Escherichia coli (*E. coli*) is a bacterium that forms part of the normal gut flora that helps human digestion. Although most types of *E. coli* live harmlessly in your gut, some types can make you unwell. When it gets into your blood stream, *E. coli* can cause a bacteraemia. Further information is available here:

<https://www.gov.uk/government/collections/escherichia-coli-e-coli-guidance-data-and-analysis>

NHS Borders participate in the HPS mandatory surveillance programme for ECB. This surveillance supports local and national improvement strategies to reduce these infections and improve the outcomes for those affected. Further information on the surveillance programme can be found here:

<https://www.hps.scot.nhs.uk/a-to-z-of-topics/escherichia-coli-bacteraemia-surveillance/>

Hand Hygiene

Information on national hand hygiene monitoring can be found at:

<http://www.hps.scot.nhs.uk/haic/ic/nationalhandhygienecampaign.aspx>

Good hand hygiene by staff, patients and visitors is a key way to prevent the spread of infections. More information on the importance of good hand hygiene can be found at:

<http://www.washyourhandsofthem.com/>

Cleaning and the Healthcare Environment

Keeping the healthcare environment clean is essential to prevent the spread of infections. NHS Boards monitor the cleanliness of hospitals and there is a national target to maintain compliance with standards above 90%. The cleaning compliance score for the Board can be found at the end of section 1 and for each hospital in section 2. Information on national cleanliness compliance monitoring can be found at:

<http://www.hfs.scot.nhs.uk/online-services/publications/hai/>

Healthcare environment standards are also independently inspected by the Healthcare Environment Inspectorate. More details can be found at:

<http://www.nhshealthquality.org/nhsqis/6710.140.1366.html>

Appendix B

Chief Nursing Officer Directorate
Fiona McQueen, Chief Nursing Officer



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Chief Executives NHS Scotland
HAI Executive Leads
Cc Infection Control Managers

25 March 2020

Colleagues

In recognition that Infection Prevention Control Teams (IPCTs) have a critical role in providing Infection Prevention Control (IPC) advice to frontline clinicians in response to the COVID-19 pandemic, Scottish Government has agreed the following temporary changes to routine surveillance requirements:

- All mandatory and voluntary Surgical Site Infection (SSI) surveillance should be paused until further notice.
- For *Staphylococcus aureus* bacteraemia (SAB), *Escherichia coli* bacteraemia (ECB) and *Clostridioides difficile* infection (CDI), Boards should continue to report case numbers and origin of infection data but are **not** required to report risk factor data as would normally be expected under enhanced/extended surveillance. This will still allow Boards to report on case numbers and to establish whether cases are healthcare or community associated.
- Routine surveillance in ICU will pause in order to prioritise resource for enhanced surveillance of COVID-19 specifically. Any Ventilator Associated Pneumonia (VAP) and other infections associated with COVID-19 will be identified and reported through this enhanced surveillance programme. As part of the COVID-19 response, there will be dedicated enhanced surveillance of COVID-19 infections specifically. It is important to note that extra surveillance resource will be required to support this enhanced COVID-19 surveillance in ICU and Chief Executives should look to resource this appropriately within their own Boards.

The data for CDI, SAB and ECB will continue to be fed into the Quarterly Epidemiological Data Officials Statistics, enabling Boards and HPS to identify trends, exceptions and to take immediate mitigating action where necessary.

Please note that, throughout this period, Boards are still required to implement local surveillance of all mandatory NHS Scotland alert organisms and conditions set out in Appendix 13 of the National Infection Prevention and Control Manual (NIPCM).

With best wishes

Professor Fiona McQueen
Chief Nursing Officer

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PPE Supplies Dashboard**Week Commencing : 27th April 2020**

| Key PPE Supplies | Projected Requirement* | | Current Days Supply | Pipeline | | | Actuals Daily W/e 26/04 | Comments |
|-------------------------------|------------------------|----------|---------------------|-----------|-----------|--------|-------------------------|--|
| | Per Day | Per week | | This Week | Next Week | Week 3 | | |
| FFP3 Mask | 405 | 2,835 | 125.80 | 12.44 | 7.41 | 7.41 | 415 | Being looked at Nationally |
| Fluid Resistant Gown | 100 | 700 | 9.14 | - | - | - | 75 | Increasing stocks of reusable alternatives. Expected delivery next week. |
| Purple Gloves | 1,020 | 7,140 | | | | | 1,020 | Stocks are not currently counted - Green |
| Visor | 850 | 5,950 | 5.28 | 4.28 | 8.47 | 8.47 | 850 | Daily usage figure reflect wide distribution of Eye Protection. |
| Type IIR Fluid Resistant Mask | 9,100 | 63,700 | 26.08 | - | 52.53 | 32.97 | 9,104 | Daily usage figure almost double initial estimates |
| Aprons | 9,390 | 65,730 | | | | | - | Stocks are not currently counted - Green |
| Blue Gloves | 10,790 | 75,530 | | | | | - | Stocks are not currently counted - Green |
| Eye Protection (disposable) | 1,797 | 12,579 | 5.50 | - | - | - | - | Reusable eye protection is being sourced and distributed |
| Alcohol Gel/Hand Sanitisers | | | | | | | | Stocks are not currently counted - Green |


* Initial projected PPE requirements have been adjusted to take account of actual usage data over the past 2 weeks that this has been collated

Notes

- **Fluid Resistant Gowns** : An improving position. Average daily projected requirement reduced to reflect actual usage and the impact more recently of the reusable gowns.
- **Visors** : An improving position. The distribution of Eye Protection has reduced the daily requirement significantly and national stocks are improving.
- **Fluid Resistant Masks** : Use has been significantly above projected. We will review sessional use data to establish if this is sensible and sustainable.

 *Less Than 7 days and no sustainable supply identified*

 *More Than 7 days in stock but issue in the supply identified*

 *More than 7 days and a sustainable supply identified*