

### 9.1 Introduction

9.1.1. The Inquiry interpreted the experiences of 'others' in its second term of reference to include all staff who were affected by the outbreak of *Clostridium difficile* infection (CDI) within the Northern Health and Social Care Trust (NHSCT, the Trust). During informal sessions with Trust staff, Panel members identified a number of themes that impacted on staff during the course of the outbreak of CDI. These were then explored more fully with a cross-section of staff through written statements of evidence. Some of the staff who provided written evidence were requested to attend to give oral testimony to the Panel. The themes identified by the Panel were:

- organisational change
- workload
- resources
- priorities
- communication
- information and training
- support
- the impact of media reporting.

Each of these is examined in this chapter.

### 9.2. Organisational change

9.2.1. It was noted in Chapter 3 that the newly formed Trust, with its wide geographical spread, was still in the early stages of establishing itself at the beginning of the outbreak of CDI. This early stage of creating a new organisation was a period of significant activity and change for everyone within the Trust.

*The establishment of any new organisation is a massive task, particularly one with staffing levels of 14,000 working out of approximately 250 facilities and with nine hospitals.*

Former chief executive

*The footprint of the Trust was extremely large [so] locating people in managerial positions was extremely difficult because travel was a significant issue if people had to come to meetings.*

Former chief executive

*It is a major operation to combine three trusts... the key appointments had been made but the appointments further down the management structure were still being put in place, so that all took time to work through.*

Medical director

*When Clostridium difficile, ribotype 027 emerged in the Trust, the organisation was in transition, staffing structures were not populated, and systems and processes for working in the new organisation were not established. This made it difficult to get things done... the organisation was in such a state of flux that any significant or complex issue that would have required swift system-wide managerial action would have presented a challenge.*

Head of governance and patient safety

9.2.2. The focus of the senior management team (SMT) at this time was therefore on the necessary formation of a cohesive and effective management structure and systems out of the three predecessor organisations.

9.2.3. However, as explained in Chapter 3, there was an experienced and highly regarded system for control and prevention of infection since the predecessor trusts had a common infection prevention and control (IPC) team (IPCT). This team was established in the early 1990s, and was well known and respected across the new Trust. The IPCT was led by a lead doctor, a consultant microbiologist who was well known for her high level of commitment to infection control.

*Dr [lead IPC consultant] had a particular interest and expertise in infection control... Throughout her entire career, Dr [lead IPC consultant]'s knowledge of and commitment to infection control was second to none in the profession.*

Consultant microbiologist

9.2.4. In the context of the Trust's ability to cope with the outbreak, it was also fortunate that the newly appointed medical director (who was the director of IPC) was well known to, and had worked closely in one of the former trusts with, the lead doctor of the IPCT.

*Microbiology services in general, and Dr [lead IPC consultant] in particular, were at the forefront in both identifying and leading the measures which needed to be taken to control this outbreak, and which proved ultimately successful.*

Consultant physician

### 9.3. **Discussion**

9.3.1. The outbreak of CDI had a significant adverse impact on the staff of the Trust in the period leading up to and immediately after the declaration of the outbreak. The new Trust was still in transition and was establishing itself as a new organisation when CDI became a major crisis and required a Trust-wide response. However, the business of recruiting to senior posts took time, and the infrastructure to support the SMT in its role was not there at that time. It is clear that this significant period of change was traumatic for staff, and the lack of clarity for many in relation to their posts, and their lines of responsibility and accountability created uncertainty during the early months.

- 9.3.2. The Trust-wide IPCT was an important legacy from the former trusts. It was well known to the staff in the new Trust, and had established policies and guidelines in place. If a new team had had to be recruited, it is highly likely that the key players may not have been in post at the time of the outbreak. The Trust would then have found it more difficult to organise its response to the outbreak.

#### 9.4. Workload

- 9.4.1. Throughout the Inquiry, staff told us about the significant impact the outbreak had had on their workload and ability to carry out their roles. Workloads increased due to the intensity of activity, the dependency needs of sick elderly patients with CDI, and the higher levels of cleanliness and hygiene required. Home lives were disrupted. No tier of management or staff was immune to the impact on the working environment caused by the outbreak.

*For me, the workload was enormous, with long hours, work taken home, and many out-of-hours commitments. I was, however, very committed to the new Trust and, having been chief executive in both Causeway and Homefirst Trusts before taking over in NHSCT, I felt I had many advantages. I knew many staff and services, and had good relationships with many key players.*

Former chief executive

*The workload shared between Dr [consultant microbiologist] and I increased dramatically during the outbreak, as clinicians required much more frequent support and advice as they dealt with patients infected with *Clostridium difficile*.*

Lead consultant IPC

*The workload for the team was becoming increasingly difficult to manage and to prioritise, as senior management required countless facts and figures on a daily basis, yet we were also advised that our presence was not seen enough on the wards. This was a very stressful and tiring time for the team as we often had to work many hours answering phone calls at home, day and night, on several occasions being called in to any hospital within the Trust as an emergency, then returning to work on a Monday morning without a break.*

IPCT nurse

**Clostridium difficile* testing before the onset of this outbreak was running at 400 tests per month. During the outbreak this increased to over 1,000 per month.*

Head of laboratory services

*The workload was heavy on a normal day, and also physically demanding, but during the outbreak it would have doubled or trebled... I was totally exhausted after my day's work and could not even afford to take a five minute break. The nursing staff were also under a lot of stress and pressure during the outbreak, but we all pulled together... Prior to the outbreak, we washed the beds once a week. During the outbreak, we were doing it twice a day with detergent and twice a day with Actichlor Plus. So that I was washing 16 beds [four beds in each of the four bays] four times each per day.*

Domestic assistant

- 9.4.2. Workload for some staff at all levels within the Trust also increased due to the necessity to attend many meetings and briefings or to produce new policies and guidelines to assist staff in managing the outbreak. While attendance at these was essential, it took staff away from their normal duties and responsibilities and was an additional burden on an already stretched workforce.

*The workload was increased for me in terms of additional meetings at both a senior and more operational level.*

Pharmacy manager

- 9.4.3. The medical director described the 'all systems' approach to managing the outbreak and the importance of recognising that responsibility for its management lay across a number of service groups within the Trust. The outbreak control team (OCT) meetings were key to securing decision making and deciding how agreed actions would be implemented. Sub-groups of the OCT were established. This restructuring created its own difficulties.

*The downside of this new structure was that there was an increase in the number of groups and therefore the number of meetings associated with managing the outbreak. This did, at times, present a challenge to staff in terms of ensuring adequate attendance at meetings and then finding time to ensure agreed actions were carried out: at the same time all staff were continuing to have to carry out their normal duties.*

Medical director

## 9.5. Resources

- 9.5.1. The historical context, described in Chapter 3, is an important backdrop to the experiences related by staff at all levels within the Trust. Underfunding within nursing and domestic services had been a particular difficulty for many years, and had been raised frequently with the Northern Health and Social Services Board, the main commissioner of services in the Trust.
- 9.5.2. The chief executive took the decision to authorise whatever expenditure was needed to bring the outbreak under control, including increasing the nursing and cleaning establishment, employing locum medical staff and providing any necessary pharmaceuticals and equipment.

*It was extremely difficult, because one of the written and unwritten rules in health finance is that you do not commit money for which you do not have a recurrent source of revenue, and I was finding it extremely difficult to get any support for revenue and resources to allow us. But my chairman supported me in my view... that we would do whatever we had to do. That included things like buying VHP [vaporised hydrogen peroxide] machines, buying steam cleaners, buying 100 mattresses, 80 commodes, whatever had to be done.*

Former chief executive

*During the outbreak, concern was expressed at times about the costs associated with controlling the outbreak, but at all times there was a very clear message from SMT that there would be approval for whatever expenditure was necessary to bring the outbreak under control.*

Medical director

- 9.5.3. The Panel has no doubt that this situation was a source of anxiety and stress for the chief executive and contributed to the Trust's failing to meet its requirement to achieve a break-even position on its budget for the financial year 2007/08. The evidence received by the Panel demonstrated that the finance staff were also under pressure to deal with the financial consequences of the outbreak.

*All resources required to address the outbreak in 2008/09, as identified through formal action plans approved by the OCT, by-passed the normal financial control measures and were implemented. Safety of patients was the priority of the organisation throughout the outbreak.*

Finance director

- 9.5.4. The microbiologists recognised that the availability of additional medical staff in May and June 2008 significantly boosted the resources of the microbiology department and resulted in the workload becoming more manageable.
- 9.5.5. The Inquiry was told about the significant resources invested in improving the level of domestic services, particularly the level of personnel and the impact of that on the cleanliness and hygiene of the Trust's facilities.

*Since the outbreak, a rapid response team has been put in place, which I now supervise. This team consists of 10 members, all given intense training by infection control. As a result of this, terminal cleans are now available 24 hours per day, seven days a week. The Trust has also invested a substantial amount of money in new equipment. This includes two new steam cleaners and two sterins machines, which we used when cleaning an area after a C diff patient. This released a vapour of hydrochloride peroxide into the room for approximately two hours.*

Domestic services rapid response supervisor

- 9.5.6. However, the Inquiry heard conflicting evidence in relation to the Trust's position on resources. Some staff believed that the additional burden of CDI on their departments had not been recognised and that they did not have access to extra resources over this period.

- 9.5.7. The laboratory manager advised the Inquiry that no extra laboratory staff, time or resources were allocated. This was despite an almost tripling of tests being carried out in the laboratory. While additional microbiologists had been appointed to deal with the outbreak, the laboratory manager felt he required additional technical staff to deal with the enormous increase in laboratory tests being conducted.

*I was expected to provide all extra microbiology services without extra resources and within existing processes. This led to a heavy reliance on staff goodwill to meet service needs.*

Laboratory manager

## 9.6. Priorities

- 9.6.1. Witnesses to the Inquiry gave detailed accounts of the competing priorities within the Trust during 2007 and 2008. With the new Trust still in the process of establishing itself, the focus for the chairman, the chief executive, and the executive team was to put in place the necessary infrastructure.
- 9.6.2. In addition, the Trust was subject to challenging financial and patient access targets. Trusts were responsible to the service delivery unit (SDU) of the Department of Health, Social Services and Public Safety (Northern Ireland) (DHSSPS) for delivering their targets.

*During this initial period, the autumn of 2007, it is important to say that within the context of the overall organisation and overall HPSS culture, there was a very strongly enforced performance management culture ethos. Many senior staff in the Trust, including myself, felt that the process of holding to account by the then Service Delivery Unit was very aggressive in nature.*

Assistant director for medicine and unscheduled care

- 9.6.3. In order to establish a cohort isolation ward in the Antrim Area Hospital, the hospital had to be reconfigured and a surgical ward redesignated for medical patients. This put a strain on the ability of the organisation to meet priorities for action (PfA) targets.

*During the period of the outbreak, the Trust, on a number of occasions, requested that the PfA targets be relaxed to allow it to deal with the C diff outbreak without sanction for not meeting access targets.*

Former director of nursing

The staff reported to the Inquiry that these requests were turned down.

- 9.6.4. For the SMT, the Health and Social Care (HSC) Safer Patients Initiative<sup>(42)</sup> was also a priority.

*The Trust had clearly set out that delivering high quality safe care to its patients and clients was a key objective and this was mirrored in the Trust's mission statement. The challenge of providing high quality care whilst also meeting financial and access targets had been highlighted as a major issue for all trusts in Northern Ireland.*

Medical director

9.6.5. Balancing competing priorities posed difficulties.

*I believe that prior to the outbreak there was conflict between meeting performance targets for A&E [accident and emergency department] waiting times and hospital flow and infection prevention and control practice. Patients in Antrim moved wards multiple times and at all times of day and night. This inevitably created pressures for nursing staff and problems cleaning bed spaces and equipment.*

Head of governance and patient safety

9.6.6. The IPCT was concerned that its service was only one of a number of priorities.

*Infection control was a priority within the Trust, but, as with all NHS organisations, there were other priorities too, and hence there were competing demands on a finite budget.*

Lead IPC consultant

9.6.7. The apparent low priority for infection prevention and control practice was felt to contribute to a lack of management action on their advice.

*When quality assurance audits were completed by the IPCT, the results were given to the ward manager verbally, this was followed by a written audit report and compliance rate for each particular area. The written report was fed up through the directorate managers. This practice had been carried out from before 1999, when I started in the IPCT. Unfortunately, the team received little assurance that the actions required were being addressed, as some of the same issues appeared on audits on a regular basis.*

IPCT nurse

*Management appeared to regard the IPC team as remote, out of touch and unhelpful. I believe these relationships negatively influenced the attitude of some senior managers towards internal expertise and knowledge during the outbreak.*

Head of governance and patient safety

9.6.8. As soon as the Trust recognised that it had an outbreak of CDI in January 2008, controlling it became the main priority for the organisation. The chief executive took the lead and established an OCT. This was initially the strategic and operational hub of the management of the outbreak.

*When the Clostridium difficile outbreak occurred it became the highest priority for myself, the chairman, Trust board and Senior Management Team (SMT). My personal chairing of the OCT, which had weekly meetings, plus attending other sub-groups and ad hoc meetings is clear evidence of the priority I afforded the outbreak. My commitment to ensuring resources were applied where essential is also evidence of my commitment and determination to get the outbreak under control.*

Former chief executive

- 9.6.9. The consultant elderly care physicians in Ward A 1 took the decision that they were best placed to care for patients with CDI, most of whom were old and frail. As a group, they recognised the difficult position the Trust found itself in and decided they should manage the cohort ward.

*Throughout this difficult time, we were aware that A1 was the most appropriate isolation area and that the patients with Clostridium difficile were very frail, sick and required a co-ordinated approach to their care...*

*Dr [consultant physician in elderly care medicine], Dr [consultant physician in elderly care medicine] and I also felt that we should support our nursing staff. They were changing from nursing patients with oncological problems and stroke to often frail sick patients with multiple daily episodes of diarrhoea... Everyone I was working with was doing their utmost to improve the situation.*

Consultant physician in elderly care medicine

- 9.6.10. Other staff in the Trust recognised the shift in priorities once the outbreak was declared.

*In the period prior to the outbreak, my perception was that management structures were focused on addressing Department of Health targets for elective and emergency care... After the outbreak was declared, management was prioritising the acute care of infected patients as well as measures to limit the spread of infection.*

Consultant physician

*For the Trust, the highest priority was to put in place policy and procedure to stop the outbreak and to prevent future occurrence... compliance with infection control policy was and continues to be mandatory, with all staff aware of the importance of challenging non-compliance and reporting concerns.*

Ward sister

- 9.6.11. The DHSSPS had at that time invited the Department of Health's cleaner hospitals team (CHT) to carry out an assessment of IPC procedures in each of the five trusts in Northern Ireland. The team reported: 'There are many encouraging signs within the Trust. There is considerable energy and effort being given to take forward the actions contained within your current plan'.

- 9.6.12. The main issue for the CHT was the lack of assurance for the Trust board and SMT that management and policy decisions were, in fact, being carried out as expected. For this reason the OCT decided to establish a 'task force' of experienced ward managers to work alongside the IPCT to assist ward managers to implement the infection control procedures.

## **9.7. Discussion**

- 9.7.1. The pressure of prioritising the competing demands of meeting financial and patient access targets in the midst of a significant crisis for the Trust was constant. Senior management perceived a lack of support in the response of the SDU to the problem of meeting targets in the middle of dealing with a serious patient safety and quality issue. The Inquiry Panel noted that the chief executive and a director both raised these concerns separately in meetings with the SDU.

- 9.7.2. The expert witness in IPC who gave evidence said that the experiences of the IPCT in the Trust were similar to those of IPCTs in other trusts in the UK.

*What is crucial is recognition that a competent [IPC] team will only be effective in an organisation with a culture that allows it to be effective i.e. one that acts on the expert advice the team provides and enables the team to provide advice directly to those at the highest level of the organisation.*

- 9.7.3. The evidence of the expert in infection control in relation to trusts valuing in-house expertise is important. With hindsight, the advice given by the IPCT, and the actions taken before May 2008, may have contributed to the reduction in CDI rates.
- 9.7.4. Had senior management ensured that the advice of the IPCT was implemented consistently at ward level, it is possible that the CHT and the task force may not have been needed. The introduction of the task force caused distress for some members of the IPCT. However, in the context of the outbreak, the CHT brought knowledge of similar situations and assurance mechanisms that would deliver the level of assurance needed by the Board.

## **9.8. Communications**

- 9.8.1. The formal systems in the Trust for senior managers to communicate with staff were relatively underdeveloped at the time of the outbreak. The geographical reach, the number of staff and the diversity of work in the Trust – from acute and emergency medicine, through to mental health, community and social services – posed a significant communications challenge. For that reason, the Trust agreed that the former trusts' communication systems would be maintained until a corporate approach was agreed.
- 9.8.2. There were delays in establishing formal communication systems and processes. Throughout the outbreak, the Trust was developing and building the intranet as the main vehicle for communicating with staff, but it was not universally accessible until the outbreak was over. Equally, the outbreak was almost over by the time the Trust had replaced the three separate e-mail systems inherited from the former trusts with a single system.
- 9.8.3. While the Panel heard conflicting evidence in relation to internal communications, the majority of staff reported that they did not experience difficulties accessing clinical information during the outbreak. The Panel heard evidence from staff that the method of disseminating information from the IPCT was particularly effective.

*Before and during the outbreak, the microbiology department employed a wide range of measures to disseminate knowledge regarding infection control from in-person briefings by the microbiologists, use of e-mail cascades, the intranet, paper copies of protocols in wards and departments, and widespread signs/posters. In my opinion, staff within this department did everything possible to promote best practice from an infection control perspective.*

Consultant in accident and emergency medicine

*A notice board was made available in the sister's office. All new information and memos, updates etc. was placed here. Also, information was written into the staff communication book to be read. It is common practice on the ward for staff to update themselves using the communication book and notice board.*

Ward sister

- 9.8.4. Despite the geographical spread of the Trust, staff in Whiteabbey and Moyle hospitals also relayed positive experiences in relation to internal communication of clinical matters.

*Communication between the key staff members responsible for managing individual cases on a ward during that period was extremely good. Despite the undoubted stress and additional work involved for the laboratory, infection control, ward and cleaning staff, everyone seemed to make an extra effort to ensure that patient care issues were addressed in keeping with the latest recommendations... regular bulletins and newsletters were circulated, both in print and on the intranet, updating staff on the current situation re the outbreak, and for senior staff in all disciplines daily figures were circulated, giving the numbers and distribution of cases within the Trust.*

Consultant in elderly care medicine

*Communication came from numerous sources, such as the infection control team, lead nurses, laboratory, chief executive, director and chairman. This was due to the need to address issues, make amendments, or change policy, ultimately to improve practice and prevent infection... Communication within the team was vital to ensure that each new piece of information was given to, and understood by, all the team. This took the form of handovers, safety briefings, team meetings and an information board.*

Ward sister

- 9.8.5. The communications department had no responsibility for internal communications with Trust staff: instead the system of cascade briefings was delegated to directors and line managers. The Panel was advised that an audit of communication had demonstrated poor compliance in cascading information Trust-wide.

*The internal audit found it took sometimes months for a directive to get from the top of the organisation to the front line, and multiple communications resulted in some not being acted on.*

Head of governance and patient safety

## **9.9. Information and training**

- 9.9.1. Chapter 8 described and examined the dissatisfaction of patients and relatives with the information they received from staff. However, the Inquiry was told that some nursing staff felt that they had insufficient detailed knowledge to provide accurate information. The Panel received evidence from a senior nurse that most staff had undertaken basic training in infection prevention and control, a few had undertaken specialist training, but the majority of them felt that their knowledge in the specifics of CDI was poor.

- 9.9.2. Nurses from Ward A1, Antrim Area Hospital, reported having to change their speciality over night to accommodate patients with CDI without having the necessary training and knowledge of the disease. This was especially evident in their communication with patients and families. The Panel also noted that staff were unable to allay visitors' fears with regard to the risk that *Clostridium difficile* (*C difficile*) posed to those visiting patients in hospital, especially in relation to children.

*It was a steep learning curve. Initially, we really only knew the basics of treatment of C difficile, but as we became more confident, we were much happier to go and speak with relatives because we knew so much more about it. The causes, the treatment, the outcomes, the relapses, we had learnt an awful lot about it... We have improved greatly, we are so much more confident in it now. We're not afraid to approach relatives and we are so much more knowledgeable.*

Ward sister

- 9.9.3. As the outbreak progressed, the main responsibilities for communicating specialist information to clinical staff was with the OCT itself. The consultant microbiologist and the IPCT advised on clinical guidance and protocols. The Panel was told that one of the major difficulties was keeping staff up to date with the latest guidance, when the guidance itself was subject to constant revision and updating. Sometimes, the desire for the guidance to be correct in every detail caused delays and multiple rewrites, and got in the way of front line teams receiving timely advice in accessible formats.

*One challenge at ward and department level was, therefore, to ensure that the most up-to-date version of each guidance document produced by the Trust was communicated to clinicians. The Trust's guidelines on empirical antimicrobial prescribing and on the best practice management of Clostridium difficile were frequently updated and recirculated during the early stages of the outbreak. Obviously, it took time for all clinical areas to catch up with the latest editions of these documents. I do, however, consider that experienced clinicians (including myself) learned that the most effective way of communicating was via the Trust's intranet site, backed up by regular 'walkabouts' to wards to standardise and raise awareness of key information.*

Consultant in accident and emergency medicine

- 9.9.4. Staff told the Panel that they valued succinct guidelines, and found the laminated prescribing guideline produced on a single A4 sheet especially useful.

*A new antibiotic protocol was introduced following the C difficile outbreak in January 2008. This protocol was more visible than the previous antibiotic protocol as it was posted on the wards in a succinct laminated format. I found this protocol and the ease of access to it very helpful when prescribing antibiotics.*

Junior doctor

- 9.9.5. For the most part, the attitude of staff towards receiving and acting on new guidance seems to have been positive. However, the medical director told the Inquiry that when it came to adopting the 'bare below the elbows' dress code, some medical staff had resisted the changes. The executive team then made adherence to the rule mandatory and subject to disciplinary proceedings for non-compliance.

## 9.10. Staff support

- 9.10.1. The Panel heard that the board made efforts individually and collectively to support staff. The chairman appointed himself the infection lead for the board, and made regular and frequent visits to staff working in clinical areas. The chief executive, medical director and director of nursing devoted time to meeting formally and informally with staff, and visiting clinical areas, especially the cohort ward.

*In my opinion, staff felt supported by management. Senior management gave this situation the highest priority. Regular letters would be received from the chief executive. The Trust chairman visited the ward on a number of occasions during which he would discuss infection control issues and question staff. As a ward manager, I believe that I support the team. We were fortunate in that we are a small unit with staff who have worked together for some time. During difficult periods the team has always pulled together to support one another. It was no different in this instance.*

Ward sister

- 9.10.2. The Panel was told that senior executives' visits to the clinical areas were appreciated by staff. The domestic supervisor said that towards the end of the outbreak the chief executive had met the cleaners and thanked them for their work, and that this had made them feel valued.

- 9.10.3. Conversely, it was reported by the head of laboratory services that there were feelings of resentment and regret on the part of the laboratory staff that their contribution to managing the outbreak was never properly recognised.

*There was a heavy reliance on staff goodwill to meet microbiology service needs. However, they felt this was not recognised or appreciated by senior Trust management. In publications of the staff newsletter, the chief executive thanked many named groups of staff with the exception of laboratory staff. I complained to my line management about the lack of recognition of the laboratory service, yet further publications continued to omit any recognition.*

Microbiology service manager

- 9.10.4. The Panel saw no evidence that the Trust had formal mechanisms for assessing morale, hearing from staff or finding out systematically whether communications were working. The head of governance and patient safety told the Panel that, from the inception of the Trust, there was no staff survey or other feedback mechanisms. This made it impossible for the board and the executive to analyse problems or identify areas or services needing special attention.

## 9.11. Support from and communication with external organisations

- 9.11.1. The Panel was told that while the Trust recognised the support of some colleagues external to the organisation, they were disappointed that more assistance or support was not offered from other colleagues in the DHSSPS or other trusts.

*Trust employees were disappointed that we seemed to be targeted by the media and not supported more by the DHSSPS and other trusts despite the fact that a C diff outbreak could occur in any other trust in Northern Ireland.*

Trust chairman

- 9.11.3. In giving evidence, the former chief executive also acknowledged the assistance of the chief medical officer, but she felt that DHSSPS support was limited.

*It was made very clear that negative publicity about the health service was very unwelcome, and while support was offered by the chief medical officer and some other colleagues in the department, it initially felt to me that it was more to be able to report what they were doing than to really make sure the Trust and I had the support and assistance we required.*

Former chief executive

- 9.11.4. However the former chief executive recognised the support of the Cleaner Hospitals Team.

*The greatest help we secured at a practical level during the outbreak was around May 2008 when two senior staff from the Cleaner Hospitals' Team from the Department of Health in London came over and shared a level of expertise and skill which really helped us to overcome and control the outbreak.*

Former chief executive

## 9.12. Media reporting

- 9.12.1. On 7 January 2008 the OCT was convened to confirm that an outbreak existed and discuss the actions required to manage it. There was no crisis communications plan at that time:

*The first meeting of the outbreak control team that I attended was on 14 January, and at that meeting I was charged with developing a communications plan for the outbreak.*

Head of communications

- 9.12.2. The OCT issued a press release on 22 January 2008 to brief the media about the outbreak, having satisfied itself that it was able to describe a plan of action, had agreed the key messages, and decided on the lead spokesperson.

*We knew we had an outbreak, the key thing for us was that everything that was happening at ward level should be happening in terms of the management of individual patients, and it was a matter of making sure that we were as well prepared as possible in terms of the announcement of the outbreak and the questions that were going to arise from that,*

*because clearly we recognised this was going to be a major concern and we had to be in a strong position to be able to give reassurances to the public. We also had to make sure that all the relevant stakeholders, as it were, including for example, primary care, were fully informed, so that was the rationale behind it. I would have to say never, at any time, was there any sense that this was a cover-up or trying to hide things, this was simply to try and make sure we were as well prepared as possible in advance of that announcement.*

Medical director

- 9.12.3. The press release was focused on the actions the OCT was taking to contain the outbreak, and on advice to hospital visitors and members of the general public on what they could do to help the Trust.

*At this point we were very clear... our main aim at this point was to make people aware of this infection and to make them aware of the part that they could play in helping us to eradicate this infection. And we were very focused on that, and the issue of the impact it would have was less... we were less strong on that. At this point, we were very clear we wanted to get out information to the public and all of the other stakeholders which would support us in the work of eradicating it.*

Head of communications

- 9.12.4. The Trust also held a press conference, and the Panel heard that it immediately found itself under pressure from journalists who were requesting additional information about when the outbreak started, the number of patients affected, and whether there had been any deaths. The senior management and communications team had not foreseen this, and were not equipped to respond to these queries.

*You can see in the press release we wrote that there could be a contributing factor to deaths. We did not, at this point, know. I hadn't been informed of the number of deaths that were associated with the C diff outbreak at this point..... I think we could have looked in more detail at the content of the information that went to [the media] and I think it was a lack of understanding about the outbreak, about the impact that it would have, and certainly about the issue around the deaths. We had a lack, or I had a lack, of understanding around that.*

Head of communications

- 9.12.5. The Panel noted that over the course of a few weeks the Trust's relationship with the media deteriorated. On 22 January 2008, the Trust received a freedom of information request from the BBC for access to background information and internal e-mails about the outbreak.
- 9.12.6. During the period between 22 January 2008 and 31 August 2008, the Trust's communications team received 52 media enquiries relating to the outbreak. The medical director acted as spokesperson for the Trust most of the time, but on occasions, the chief executive gave interviews.
- 9.12.7. The Trust's communications team was responsible for briefing the two spokespersons and for relations with the media. Both the medical director and the chief executive did, however, feel that sometimes the Trust struggled to get its messages across to journalists.

The head of communications said that on the whole her team had not found the experience of dealing with the outbreak too stressful.

*Yes, I mean, one of the key issues was the number of deaths associated with the outbreak, and unfortunately I got into very difficult discussions on air in a number of interviews with regard to the number of deaths... because, I mean the natural reaction, and it is very understandable, I think, from members of the public to say 'well you've got an outbreak, you say you've had deaths associated with it, tell us how many deaths and when they've occurred', and when you're coming back say well we're not really quite sure how many deaths – I mean, for the man and the woman on the street that is a difficult message to understand.*

Medical director

*So when I was being interviewed, I was truthfully giving the figures that I had, but very quickly the press were going to the General Register, they were getting different information and there certainly was an imputation – and I was asked directly by someone from the BBC – was it not a fact that I was simply lying about the number of deaths? Now, as a professional, with the value base that I have espoused I found that very, very difficult to take and I... and I said in my statement, I think, that one of the mistakes that we made may be that we gave too much information and we were not sure of the accuracy of it, and we might have been better saying 'look, at this point in time we do not know'.*

Former chief executive

- 9.12.8. The medical director appreciated the support of the chief medical officer, who provided a number of broadcast interviews to reinforce the messages the Trust was trying to communicate.
- 9.12.9. The Panel heard that the impact of negative media coverage was felt in particular by the nurses and cleaning staff on Ward A1 at Antrim Area Hospital, and by members of the IPCT. One member of staff told the Inquiry of having suffered verbal abuse from members of the public in a supermarket queue. Cleaners, nurses and other staff said there were times when they felt embarrassed and ashamed to say where they worked, even with members of their own family and friends.

*I think it was, I mean, there's a number of areas of my experience, I suppose personally, as a spokesperson, obviously the interviews, the challenges from that was difficult and challenging, and also then the impact upon the reputation of the Trust, and, you know, reading these reports, watching the news programmes, not just for myself but for the senior management team, there was the impact then for individual members of staff because this was being felt at all levels of the organisation, where, you know, ward staff, doctors, nurses, all of our staff felt that we were being personally blamed for the outbreak. Some, you know, individuals were, you know, aggressive with staff because of that, and maybe you could understand that in terms of what they were hearing. And then, indeed, in terms, as is already said, upon our community and upon our patients generally, this real risk that hospitals were being seen as very dangerous places, you know, that was a very negative message coming across.*

Medical director

- 9.12.10. The Trust chairman told the Inquiry that he was so displeased with the way in which the BBC handled the story of the outbreak that he wrote a letter of complaint in September 2008.

*I felt the BBC in particular was determined to make the outbreak a major news story. They hyped the interest and misrepresented the Trust regularly, using inaccurate information in their reporting to the point that the general public were being turned against our staff.*

Chairman

- 9.12.11. Managers and staff told the Inquiry they were unhappy about the way in which some journalists covered the story.

*[They] approached visitors outside hospitals and invited them to recount any negative experiences their loved ones had experienced in relation to C difficile. They portrayed hospitals as dangerous places, and, I felt, made little or no effort to explain or educate the public about a very complex issue and report in a balanced way.*

Former chief executive

*The media interest in the outbreak was understandably intense. However, there was a feeling that the outbreak was being sensationalised by the media, and at times the Trust felt that it was being misrepresented by the media... there was no real attempt by the media to fully understand the contributing factors to C difficile on the whole.*

Former director of nursing

*Media coverage often encouraged patients and family members to take their frustrations out on nursing staff, often blaming them for having contracted Clostridium difficile within the hospital.*

Ward sister

- 9.12.12. Many staff stated they felt distressed by the media interest in the outbreak. Managers and staff perceived the media as negative and unfair.

*The TV, radio and press coverage actually painted Antrim Area Hospital in a very negative light. The domestic services department felt that they were unfairly criticised. The hospital was not dirty, it was clean. Domestic services take pride in their work. Staff morale was very low at the time of the outbreak. We were under extreme pressure, which spilled out over into our family and social life. Some staff were verbally attacked and criticised for not doing their job properly. We felt that the attack was unfair and unjustified. I felt the hospital did not manage the media very well. I felt frustrated and demoralised during this period.*

Domestic services assistant

*[There was a] 'siege mentality'. I think we, you know, there... there was this kind of sense that... that we were getting it from every possible, conceivable direction. I mean we were not just getting it from the... the news media and the print media, we were getting it from politicians, we had politicians standing up from quite early on demanding that there should be a public inquiry into this disgraceful, dirty hospital in Antrim where people were going in and having all this done to us. So I think the effect that had on the senior management team was, you know, that it almost put us into this kind of huddle where we were just so conscious of the fact that we... we had to get through this and we really had to get through it relying on our own resources.*

Former chief executive

- 9.12.13. The former chief executive told the Inquiry about consultants whose patients were worried about coming to the hospitals. A consultant paediatrician had been told by parents that they did not want to bring their child to outpatients. Others had decided not to undergo elective surgery because of the perceived risk of contracting the infection.

### **9.13. Discussion**

- 9.13.1. The Inquiry heard from an expert in communications and public relations. She gave evidence that organisations must always be prepared to cope in the event of a crisis such as an outbreak. It is important to keep in mind that the public want to be able to trust its institutions and they have the right to information (Appendix 9).

*Principles of openness and transparency must characterise media work in an outbreak of healthcare associated infection such as C difficile. Trust must be maintained in health communication. In the NHS, four elements underpin crisis communication: speed, accuracy, credibility and consistency. If any of these elements are missing it is likely that the media will become dissatisfied and cynical or suspicious and the public relations team will feel they are losing control.*

- 9.13.2. She went on to suggest that public relations professionals often face difficulties in organisations if they are not briefed or involved early enough in the crisis, are not given the whole story, the key spokespeople are not available to assist, and they are left feeling the scapegoat for the organisation in crisis. The media can be relentless and make significant demands on a small team that is responding to requests for information.
- 9.13.3. In detailing best practice, the expert witness to the Inquiry noted:

*Sometimes speed and accuracy can bring about some conflict, but you can say quite honestly to journalists and to families at times, we don't actually know, we need to collect this information for you and secure the facts about the matter before we can tell you definitely and accurately what is going on, but we will do that by – and you will have done an assessment, and that is why the chief executive is critically important, that senior management and chief executives are involved, so that the information can be secured as quickly as possible and then accurate information is given out.*

## 9.14. Conclusions and recommendations on the experiences of staff of the Trust

- 9.14.1. Some efforts were made by the Trust to inform the media, for example by issuing a briefing document and inviting reporters and television crews into the hospital to see for themselves the actions being taken to control the outbreak. However, the Inquiry believes that at the start of the outbreak the flow of relevant information to the media was not well handled by the Trust. The Trust did not have a crisis communications plan in preparation for such an eventuality, and it is the strong impression of the Panel that the Trust misjudged what was required to satisfy the information needs of journalists and the wider public. More thorough briefing of journalists on CDI and its causes might have reduced inaccurate reporting on the association of CDI and dirty hospitals and reduced the extent to which some sections of the public blamed staff for the outbreak.
- 9.14.2. Informed and responsible reporting could have reinforced the facts, namely: that the spores of *C difficile* occur everywhere and are not affected by common cleaning and antiseptic materials; that all larger hospitals have some patients with CDI; that CDI only occurs in patients who have been taking antibiotics; and that prevention is achieved by prudent use of antibiotics and vigorous hand washing with soap and running water. All of this information was readily available and would have been confirmed by independent experts to whom the journalists could have been referred.
- 9.14.3. The Trust responded defensively rather than proactively. The expert witness in communications and public relations advised:

*Best practice would indicate if there is something going wrong like that it is best to take an action, a decisive action, declare that something is happening and deal with it, get on the front foot and deal with it quickly, and that way you maintain trust, it demonstrates as well a level of honesty and transparency that people are entitled to.*

- 9.14.4. The media play an important role in communication with the public at times of untoward events such as outbreaks of infection. The Trust was at a disadvantage and its management under pressure because of not having a ready prepared outbreak control plan covering all aspects of the management of an outbreak, including a crisis communication plan, in place when the outbreak was first recognised.
- 9.14.5. **Recommendation: we recommend that the DHSSPS reviews the current regional guidance on infection prevention and control<sup>(23)</sup> to ensure that trusts have comprehensive outbreak control plans that adequately cover the following elements:**
- definitions of an outbreak, including an outbreak of an infection in hospitals
  - the individual(s) who have authority to declare an outbreak
  - the arrangements for public declaration of an outbreak
  - the membership, chairmanship, role, responsibilities and accountability of the outbreak control team
  - the resources that may be required to respond to an outbreak in terms of finance, personnel, equipment and pharmaceuticals
  - the arrangements for isolating and, where necessary, cohorting infected patients
  - the arrangements for training staff and keeping them updated
  - a communications strategy, specific to the outbreak, to include information to staff, patients, relatives and other hospital visitors, the public and the media
  - the members of staff who will act as liaison and spokespersons with the media, together with their training needs and their information sources.

- 9.14.6. **Recommendation: the Trust should review its outbreak control plan at least annually to ensure that it is kept up to date.**
- 9.14.7. We recognise that the experiences of the staff who were giving direct care to patients with CDI were stressful due to the nature of the care the patients required, together with the need to observe strict hygienic precautions. This was added to by a relative lack of detailed knowledge of CDI and its management on the part of some staff, and by some adverse media reports.
- 9.14.8. **Recommendation: we recommend that the Trust gives attention to the needs of staff for training and support in caring for patients with CDI, particularly when they are called upon to care for patients during an outbreak and may have to change their area of practice at short notice.**
- 9.14.9. The risk of an outbreak of CDI is high in any hospital admitting frail elderly patients. The advice of experienced IPC staff had been available to the Trust from its inception, but we heard some evidence to suggest that the management action to ensure that this advice was implemented at ward level was lacking until the task force was established.
- 9.14.10 **Recommendation: the Trust should always take account of, and act upon, the advice of infection prevention and control staff. The challenges an outbreak presents to staff at all levels, and the support required to maintain morale must be recognised. Where the help of outside bodies or personnel is needed, the Trust must be aware of the risk that existing staff may consider that their advice, expertise and role has been devalued or rejected. They should be fully involved in the arrangements for collaborating with new teams or additional personnel.**
- 9.14.11. We acknowledge that the experience of staff, especially the senior managers of the Trust, during the outbreak was stressful due to the underdevelopment of the policies, processes, responsibilities and accountabilities of the newly formed organisation, together with a deficiency of resources, both financial and in terms of personnel.
- 9.14.12. **Recommendation: organisational change should be recognised by the DHSSPS as carrying high risk for patient safety and quality of care, including the potential for a sub-optimal response to an outbreak of a healthcare associated infection. At such times of change, this risk should be addressed specifically and reported in the risk register of all trusts.**

### 10.1. Introduction

- 10.1.1. It is now almost four years since the outbreak began, and two-and-a-half years since it was declared at an end. The Panel acknowledges that much has changed at the Trust during that time. The interim chief executive who was in post during much of the period over which the Inquiry was conducted provided a detailed written statement of evidence listing these changes. Some examples noted by the Panel are identified below.

### 10.2. Environmental cleanliness

- 10.2.1. Enhanced environmental cleaning was introduced when the outbreak was first recognised. In August 2008, the verification of cleaning labels was introduced. These are attached to items such as commodes, mattresses or any other equipment following cleaning to confirm when they were cleaned and who last cleaned the item.
- 10.2.2. The monitoring and supervision of environmental cleanliness introduced in January 2008 continues. The supervisor, in collaboration with the ward manager, now signs off a checklist or audit at the end of the day on the standard of cleanliness of the ward or unit.
- 10.2.3. These changes in practice were recognised in the Regulation and Quality Improvement Authority's infection prevention/hygiene inspections regional overview report in September 2010<sup>(43)</sup>. The Trust's improved compliance within all the areas monitored was noted by the inspectors, and staff were commended for their efforts in improving the cleanliness of the clinical environments.
- 10.2.4. Education and training for domestic assistants has been enhanced, and now includes a competency assessment review where their knowledge is tested and further training and support offered where gaps are identified.
- 10.2.5. The British Institute of Cleaning Science accredited training programme has been undertaken by 60 members of staff, and the remaining staff will be offered this training. The Trust has recently been recognised as an accredited training centre for the British Institute of Cleaning Science, the first in Northern Ireland.

### 10.3. Surveillance

- 10.3.1. Surveillance of healthcare associated infection (HCAI) was a paper-based system in each of the predecessor trusts. During the outbreak, the consultant microbiologist, in conjunction with laboratory and information technology department colleagues, developed an electronic surveillance system. This more readily facilitated the analysis and management of patient data.
- 10.3.2. The panel was told that, building on this system, all HCAs are now reported electronically every day, and are an agenda item on weekly senior management team (SMT) meetings. The interim chief executive advised the Panel that the SMT also convenes monthly as the governance management board, in order to focus specifically on all aspects of patient safety and quality.

## 10.4. Internal communication

10.4.1. Deficiencies in the internal communication of the Trust were highlighted during the outbreak by many of those who gave evidence. The interim chief executive's statement reports the following developments.

- A new two-weekly e-brief system has been introduced to the Trust, and managers are required to use the e-brief as part of their team meeting processes.
- A calendar of infection prevention and control (IPC) events has been introduced to focus attention each month on a particular aspect of IPC. A range of promotional materials has been designed and is being used to highlight to staff, the public and the media their responsibilities in relation to IPC.
- A weekly report is now submitted to the SMT on communication activities.
- The Trust's intranet is being used extensively as a user-friendly mechanism to access up-to-date and reliable information. Staff commented on the benefits of the new intranet facility to access policies and guidelines.

## 10.5. Organisational assurance

10.5.1. New systems were developed to improve assurance and were identified in the Trust's assurance framework. They included:

- the tracking of when and who cleaned equipment that was described above
- the daily monitoring of cleanliness by the domestic supervisor and ward manager
- displaying 'dashboards' of compliance data such as hand hygiene audits
- compliance audits of antimicrobial prescribing practices
- the daily and weekly reporting to SMT of all HCAs.

10.5.2. The Trust has produced an IPC delivery plan that highlights its strategic objectives for 2010/11. This plan demonstrates the Trust's intention to deliver high quality IPC practice, and details the organisational accountability and assurance arrangements.

## 10.6. Discussion

10.6.1. During the oral hearings, a number of senior staff told the Panel that they had failed fully to recognise the issues of communication and board assurance. They did not have systems in place to assure themselves that the quality of care, including communication, was adequate. It would appear that the Inquiry has served as a means for the Trust to discover the issues for patients, relatives and the public.

*From my position, and I suspect for the whole organisation, it certainly has been a learning experience, and I think we will be going away to take on pieces of work around communication, assurance, about how that's taking place.*

Head of governance and patient safety

- 11.1. Recommendation 1:** we recommend that the Trust ensures that there are tangible improvements in all its communications. In particular, clinical staff must communicate effectively with patients and their relatives. The Trust board must take an active interest in complaints, and seek regular feedback from patients and relatives on staff attitudes and the effectiveness of their communications (paragraph 8.21.3).
- 11.2. Recommendation 2:** we recommend that every patient who tests positive for *Clostridium difficile* infection (CDI) should be told the diagnosis and, if the patient agrees, appropriate close relatives should also be told. This information should be given by the medical staff responsible for the treatment of the patient, and should include the facts about CDI, the treatment proposed, the likely course of the disease, the relative importance of CDI in relation to the patient's other health problems, personal hygiene precautions, including dealing with the laundering of the patient's clothing, and the risk of infecting others. This should be reinforced by a leaflet containing the same information and provided at the meeting. Regular updates of the patient's progress should be given by doctors and nurses to the patient and relatives, and recorded. It is the responsibility of the consultant to ensure that relatives have reasonable access to fully informed medical staff (paragraph 8.21.4).
- 11.3. Recommendation 3:** the Trust's board must review its governance arrangements and satisfy itself that it is meeting in full its responsibilities for patient safety, quality of care and record-keeping (paragraph 8.21.13).
- 11.4. Recommendation 4:** we recommend that patients with CDI should, where possible, be nursed in single rooms with en suite toilet facilities, or in cohort bays similarly equipped. Where single rooms are used, nursing staff should take care to ensure that feelings of isolation, loneliness and/or stigma are prevented as far as possible (paragraph 8.21.15).
- 11.5. Recommendation 5:** we recommend that the Department of Health, Social Services and Public Safety (Northern Ireland) (DHSSPS) undertakes a review of hospital accident and emergency departments throughout Northern Ireland to ensure that they have appropriate facilities for the isolation of suspected infected patients in single rooms with en suite toilets. The redevelopment of the accident and emergency department at Antrim Area Hospital should be expedited, and must incorporate such facilities (paragraph 8.21.17).
- 11.6. Recommendation 6:** the Trust should assure itself that end of life care is instituted at an appropriate point in the management of patients in whom a fatal outcome from any condition, including CDI, is a possibility. The need for this should be discussed with the patient and/or a close relative where appropriate. The advice of the palliative care team should be sought (paragraph 8.21.19).
- 11.7. Recommendation 7:** the Trust should satisfy itself that the responsibility of the consultant to ensure that the death certificate is completed accurately is met; and that relatives are informed of what is recorded and why, and given the opportunity to discuss the patient's illness, its treatment, and any other questions or concerns (paragraph 8.21.21).

- 11.8. Recommendation 8:** we recommend that the DHSSPS reviews the current regional guidance on infection prevention and control to ensure that trusts have comprehensive outbreak control plans that adequately cover the following elements:
- definitions of an outbreak, including an outbreak of an infection in hospitals
  - the individual(s) who have authority to declare an outbreak
  - the arrangements for the public declaration of an outbreak
  - the membership, chairmanship, role, responsibilities and accountability of the outbreak control team
  - the resources that may be required to respond to an outbreak in terms of finance, personnel, equipment and pharmaceuticals
  - arrangements for isolating and, where necessary, cohorting, infected patients
  - arrangements for training staff and keeping them updated
  - a communication strategy, specific to the outbreak, to include information to staff, patients, relatives and other hospital visitors, the public and the media
  - the members of staff who will act as liaison and spokespersons with the media, together with their training needs and their information sources (paragraph 9.14.5).
- 11.9. Recommendation 9:** the Trust should review its outbreak control plan at least annually to ensure that it is up to date (paragraph 9.14.6).
- 11.10. Recommendation 10:** we recommend that the Trust gives attention to the needs of staff for training and support in caring for patients with CDI, particularly when they are called upon to care for patients during an outbreak and may have to change their area of practice at short notice (paragraph 9.14.8).
- 11.11. Recommendation 11:** The Trust should always take account of, and act upon, the advice of infection prevention and control staff. The challenges an outbreak presents to staff at all levels, and the support required to maintain morale, must be recognised. Where the help of outside bodies or personnel is needed, the Trust must be aware of the risk that existing staff may consider that their advice, expertise and role has been devalued or rejected. They should be fully involved in the arrangements for collaborating with new teams or additional personnel (paragraph 9.14.10).
- 11.12. Recommendation 12:** organisational change should be recognised by the DHSSPS as carrying high risk for patient safety and quality of care, including the potential for a sub-optimal response to an outbreak of a healthcare associated infection. At such times of change, this risk should be addressed specifically and reported in the risk register of all trusts (paragraph 9.14.12).

# Abbreviations

|                    |  |
|--------------------|--|
| AAH                | Antrim Area Hospital   |
| A&E                | accident and emergency (department)  |
| BSO                | business support organisation  |
| BVH                | Braid Valley Hospital  |
| <i>C difficile</i> | <i>Clostridium difficile</i>   |
| CDAD               | <i>Clostridium difficile</i> associated diarrhoea (later known as CDI)   |
| CDI                | <i>Clostridium difficile</i> infection   |
| CDSC(NI)           | Communicable Disease Surveillance Centre (Northern Ireland)  |
| CE                 | chief executive  |
| CHT                | cleaner hospitals team   |
| CMO                | chief medical officer  |
| CNO                | chief nursing officer  |
| CSR                | comprehensive spending review  |
| DH                 | Department of Health (England)   |
| DHSSPS             | Department of Health, Social Services and Public Safety (Northern Ireland)   |
| DNA                | deoxyribonucleic acid  |
| FOI                | freedom of information   |
| GRO                | General Registry Office  |
| HCAI               | healthcare associated infection  |
| HISC               | Healthcare Associated Infection Surveillance Centre  |
| HPSS               | health and personal social services (later HSC)  |
| HSC                | health and social care   |
| HPV                | hydrogen peroxide vapour   |
| ICD-10             | <i>International Statistical Classification of Diseases and Related Health Problems, 10th revision</i> (WHO publication) |
| ICP                | integrated care pathway  |
| IoM                | Institute of Medicine  |
| IPC                | infection prevention and control   |
| IPCT               | infection prevention and control team  |
| MCCD               | medical certificate of cause of death  |
| MRSA               | meticillin resistant <i>Staphylococcus aureus</i>  |
| MSSA               | meticillin sensitive <i>Staphylococcus aureus</i>  |
| MUH                | Mid Ulster Hospital  |
| MUST               | malnutrition universal screening tool  |
| NHS                | National Health Service  |

|           |   |
|-----------|---|
| NHSCT     | Northern Health and Social Care Trust                                     |
| NHSSB     | Northern Health and Social Services Board                                 |
| NI        | Northern Ireland  |
| NIPEC     | Northern Ireland Practice and Education Council for Nursing and Midwifery |
| NISRA     | Northern Ireland Statistics and Research Agency                           |
| OCT       | outbreak control team   |
| PfA       | priorities for action   |
| POC       | programme of care   |
| PPE       | personal protective equipment   |
| PPI       | public and patient involvement/proton pump inhibitor                      |
| RCA       | root cause analysis   |
| RPA       | review of public administration   |
| RQIA      | Regulation and Quality Improvement Authority                              |
| SAI       | serious adverse incident  |
| SMT       | senior management team  |
| ToR       | term of reference   |
| The Trust | Northern Health and Social Care Trust                                     |
| VHP       | vaporised hydrogen peroxide   |
| WH        | Whiteabbey Hospital   |
| WHO       | World Health Organization   |

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