Northern Ireland Assembly

Committee for Health, Social Services and Public Safety

OFFICIAL REPORT (Hansard)

Pseudomonas Outbreak

15 February 2012

NORTHERN IRELAND ASSEMBLY

Committee for Health, Social Services and Public Safety

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Members present for all or part of the proceedings:
Ms Sue Ramsey (Chairperson)
Mr Jim Wells (Deputy Chairperson)
Ms Paula Bradley
Mr Mickey Brady
Mr Gordon Dunne
Mr Mark H Durkan
Ms Pam Lewis
Mr John McCallister
Mr Kieran McCarthy

Witnesses:

Mr Edwin Poots	Minister of Health, Social Services and Public Safety
Dr Michael McBride	Department of Health, Social Services and Public Safety
Dr Andrew McCormick	Department of Health, Social Services and Public Safety
Dr Liz Reaney	Department of Health, Social Services and Public Safety

The Chairperson: Minister, apologies for the delay; we got caught up in the issue of community care and meals on wheels. Thank you very much for your patience.

Minister, I invite you and, if need be, your team to make your presentations before I invite questions or comments from members.

Mr Poots (The Minister of Health, Social Services and Public Safety): Thank you for the opportunity to appear before the Committee, Madam Chairman. I intend to speak very briefly, and, with your authority, I will ask Michael, the Chief Medical Officer (CMO), to give a detailed presentation. I will first give you an update and then hand over to Michael, unless there is a problem with that.

There have been no new cases of pseudomonas infection in neonatal units since 24 January 2012. That is good news. The number of cases associated with the Royal Jubilee Maternity Service (RJMS) remains at seven. Three of those babies died of pseudomonas, and one baby died from other causes. There have been no new pseudomonas colonisations since 27 January. The total number of

colonisations associated with the Royal Jubilee Maternity Service remains at six, and there are currently five other babies who are colonised but not associated with the Royal Jubilee facility.

The neonatal capacity across Northern Ireland consists of 106 cots. Five of the neonatal units provide all levels of care, and two units provide special care only. No mothers or babies have been transferred outside Northern Ireland since this incident began.

The independent review is now under way. I have met Professor Pat Troop, who is the chair of the review. The Committee has received a copy of the terms of reference. Essentially, those are to investigate the reasons for the incidents; investigate the actions taken; identify lessons to be learned; and report on the experiences of the families who have been affected. It is more detailed than that, but that covers the broad thrust of the terms of reference. The period for the review will cover 1 November to 31 January 2012. That covers two phases: phase 1 is the interim report by the end of March; and phase 2 is to report within eight weeks of the interim report.

As regards the emergency response and the continuing work, the regional health response group, chaired by Dr Carolyn Harper of the Public Health Agency (PHA), has been co-ordinating the health and social care sector's response to the pseudomonas incidents. As the outbreak is now under control, the group is holding its last teleconference this afternoon. The PHA is discontinuing the daily updates on its website. The PHA and the Department will continue to monitor the situation, and the PHA will complete an epidemiological investigation that it is leading. The tap replacement programme in neonatal units is under way and will be completed, and whatever lessons are identified by the independent review will be acted on.

We are very happy to take questions, but if it is in the gift of the Committee, Dr McBride could perhaps give a presentation first that would be helpful to us all.

The Chairperson: Yes; it is important that Dr McBride gives that presentation.

Dr Michael McBride (Department of Health, Social Services and Public Safety): Thank you, Minister and Chair. Basically, I will set the scene on the issues that I intend to cover. I will give you a little bit of background about pseudomonas, which I hope will be helpful. I will walk you through the briefing paper and the high-level detail in it. I will address questions that Committee members have raised. I will then give a little flavour of the national context and response. Finally, I will close by looking ahead to some aspects of the ongoing programme of work, which the Minister mentioned. Obviously, I am happy to take questions.

I will set the scene about pseudomonas. It is, as you recently heard, a bacteria that is found widely in the environment. It is found in soil, in water and in damp places and environments in particular. It rarely causes infection in healthy people. Therefore, it is what we know as an opportunistic infection. It can cause infection in immunocompromised individuals whose immune systems do not work as they would normally work in healthy people. It can occur on the skin. The Minister referred to colonisation. It does not necessarily cause infection. As the Minister said in his statement to the Assembly, the bacteria is difficult to eradicate completely and permanently. He also said that, if we start to look for the bacteria, we will find it. Indeed, recent experience in Northern Ireland has been that we looked for it, and we found it.

With regard to the epidemiology of pseudomonas — that is, the pattern of disease that it causes — over the past four years in Northern Ireland, there have been between 80 and 95 bloodstream infections each year. Therefore, there have been fewer than 10 a month. The majority of those have been in people who are over 45 years of age. Often, those people are very elderly or have significant co-morbidities or underlying health problems. With specific regard to those who are aged under one year, the figures for the period 2008 to 2011 are one, two, one and seven. The figure of seven in 2011 partly reflects the situation in Altnagelvin Area Hospital. Obviously, those figures will be verified and finalised. It is also important to note that prior to the Altnagelvin incident, there was no evidence of an increase in overall numbers or, indeed, any particular problem in neonates or neonatal care units in respect of pseudomonas infection.

It is important to state that not all pseudomonas infections are hospital-acquired infections. The bacteria is widespread in the environment. It can be acquired in the community and, certainly, in a range of healthcare environments, particularly by individuals who are predisposed to it.

The Minister's briefing paper has updated you on the numbers of infections and colonisations. As he said, it is reassuring to note that there have been no new infections since 24 January and no new colonisations since 27 January. No mothers or babies have been transferred outside of Northern Ireland since the incident started. The neonatal service network in Northern Ireland has coped well with additional pressures.

The Chair referred to guidance in her introductory comments. Guidance was issued by the Department on 22 December 2011. It reinforced previous advice that was issued in September 2010 and in July 2011. It advised of the risk from water sources, actions that were required and the importance of good infection prevention and control in organisations. The key to preventing all infections is good infection prevention and control practice. As you will be aware, we issued further guidance on 28 January. That advised on a number of immediate steps to deal with the emerging situation, first and foremost, to protect babies. At that time, that involved separating babies from water, essentially, so that babies in those units were not exposed to tap water, directly or indirectly. We also put in train a range of precautionary additional actions, such as water testing, tap replacement and ongoing water testing. That was clarified in the letter of 28 January in which details were outlined.

On 9 February, we issued additional guidance on the water-testing schedule, specifically with regard to other augmented care units outside of neonatal intensive care — adult and paediatric critical care areas. It is important to emphasise the fact that we developed the guidance with full expert scientific and medical advice from colleagues across the UK in the Health Protection Agency and our local colleagues in the Public Health Agency. As the Minister said in his statement to the Assembly, there was no guidance sitting on a shelf at a UK level that we could simply take down and apply in a Northern Ireland context. So we had to develop the guidance in the context of the ongoing situation with which we were dealing.

I will expand on and provide some detail about water sampling and tap replacement. As I said, steps have already been taken to ensure that babies are not coming into contact with tap water, directly or indirectly. That has been in place for quite a considerable number of weeks. Pseudomonas has been detected in water samples from a small number of taps in all neonatal units. A tap replacement and water-testing programme is ongoing, in keeping with the interim guidance that we issued. The Minister's statement referred to the fact there is ongoing work at a national level on developing guidance on water-testing protocols, which is nearing completion. We have been informing that work from our experience in Northern Ireland and assisting in its development. It is anticipated that that UK-wide guidance will be available towards the end of March.

I will give you some additional information on water sampling and tap replacement. Across seven neonatal units, 175 taps are being replaced, which includes all taps, not only clinical hand-washing taps, in all units. That is as an added precautionary step and is obviously important in providing assurance to the public. Priority has been given to replacing taps that have tested positive in the first instance, and any such taps are not being used until such time as they are replaced. The majority of that work has now been completed, and those taps have been replaced. With any remaining taps that need to be replaced, liaison is required with clinical teams, because in some areas we will need to move babies from one part of a unit to another part. That may impact on the neonatal service by reducing capacity, so we will need to do it very cautiously and carefully, in a planned and co-ordinated way, so that we do not create other risks in the system unnecessarily.

The Committee posed a range of questions that I will cover briefly. You asked specifically about the Regulation and Quality Improvement Authority (RQIA) hygiene inspections in neonatal units. As you are aware, the RQIA review of intrapartum care was conducted in 2009. As part of that, there were hygiene inspections of all the units in the five trusts across Northern Ireland. It focused on delivery units only — delivery suites, and so on — and did not include neonatal units. The Minister's statement to the Assembly on 31 January referred to the fact that he has asked the RQIA to develop a specialist audit tool that will provide self-assessment standards for trusts. The RQIA will also be in a position to provide independent assurance to the public and, ultimately, to the Minister that those standards are

being followed and implemented. Obviously, it will take some time to develop that specialist tool. I am not aware of any such existing audit tool in the UK.

You asked for my views on taps, specifically ultraviolet (UV) taps. Ultraviolet taps are innovative technology. There is good evidence to suggest that they are effective for certain waterborne bacteria such as legionella. All taps in the Belfast neonatal intensive care unit have been replaced by UV taps. The unit is working to a rigorous testing protocol that was agreed by the Belfast Health and Social Care Trust, the Public Health Agency and the Health Protection Agency. Separate but linked to that is the fact that, at a UK level, the Health Protection Agency is independently testing that methodology under laboratory conditions, because we need to know whether this innovation and technology will be effective in reducing future risks of pseudomonas from waterborne sources. Wider application in a Northern Ireland context and across the UK will be determined only when those results become available.

It is important that good robust infection prevention and control procedures are in place to protect babies in the interim.

You asked about the range of taps in Northern Ireland. There are a number of different types of taps in all units throughout Northern Ireland. Apart from the ultraviolet taps and new technology that is being used in the Belfast Trust, on which I updated you, all other taps are being changed to manual lever-action mixer taps at clinical hand-washing stations on the advice of the Health Protection Agency. There is a suggestion that some newer taps, particularly automated taps — the thermostatic mixing valve taps — may, because of their design, be more predisposed to biofilm formation inside the tap unit. Indeed, that may possibly have contributed to the circumstances that we have encountered in Northern Ireland.

As I said, we are informing the evidence base on that. We have adopted a precautious approach. We are using old-style taps for clinical hand-washing stations. The taps are maintained at regular intervals according to the manufacturers' instructions. All the taps that have been removed from Northern Ireland, including those that were tracked back to the water test results, are being sent to the Health Protection Agency for testing and analysis. It is vital that we inform the evidence base at UK level about the safest design of taps for use in those units.

You also asked specifically why the start date for the RQIA review is 1 November. It is important that we recognise that the independent review must focus clearly on a defined period. The start date of 1 November allows the review team to investigate all events that led up to the incident in the weeks that preceded the infection of babies in Altnagelvin Area Hospital. We are not quite clear about the incubation period for pseudomonas. How long is it from exposure to the bacteria to signs of infection starting to develop? Therefore, we erred on the side of caution to extend the time frame backwards to allow the review team to consider a range of relevant factors.

We have taken actions to reassure expectant mothers about the safety of the Royal Jubilee Maternity Service. There were a significant number of press releases — more than a dozen — from the Minister and the Department. The NI Direct website was updated daily. Locally and nationally, there was a range of extensive media interviews. The Minister answered a question for urgent oral answer on 23 January. He made a statement on 24 January and a further statement on 31 January. He stated that the independent review is vital to ensure that lessons are learned and shared at UK level and that they are implemented. It is also a component in reassuring the public and giving them confidence.

The Public Health Agency has also played an important role in getting key messages out. It has given a range of interviews and put information on its website. It has published a range of information leaflets for parents. Trusts have been actively involved in providing briefings for parents who have babies in the units and communicating to others who use their services. I have issued guidance on a range of issues that relate to the incident.

At a national level, and in response to the situation in Northern Ireland, England, Wales and Scotland have all now issued letters to their respective health services advising about water sources and the potential risks to patients. We have a responsibility to learn lessons and, fundamentally, to share the learning from this tragedy. As the Minister said in his statement, that is important. We owe it to the

memories of the babies who tragically died here. Clearly, their parents need answers to certain questions. We all need answers to certain questions. That includes every health professional who works in the health and social care sector in Northern Ireland and elected representatives, who want to know how and why it happened and what action we can take to ensure, to the best of our ability, that it never happens again. Therefore, we are doing all that we can to ensure that we are sharing Northern Ireland's experience with the other jurisdictions and colleagues, including in the Republic of Ireland.

Our further guidance went out on 9 February. It covers a testing schedule for water from taps in neonatal units and augmented care units other than neonatal units. We have said all along that we recognise that patients in those other units are more vulnerable to a range of infections, including pseudomonas. It is important to make the following point: that does not mean that the units themselves currently pose a risk to the patients. Such patients are often immunocompromised as a result of co-morbidities and underlying health problems. The units pose no risk to the patients. It would be fundamentally wrong for anyone to raise unwarranted public concern or promote a particular view that somehow the units are unsafe or that the safety and quality of care in them is not the priority of each and every single member of staff working in them. Quite frankly, the evidence in looking at bacteraemias across Northern Ireland does not support any view of that nature.

In relation to other augmented care units, the guidance requires a range of additional actions by trusts and the Public Health Agency. Many of those actions are already in place and are a part of good infection prevention and control practice that operates as a matter of course. In addition to such normal good practice, we have asked that laboratory results of pseudomonas infections are reviewed by unit. As I said, that occurs in units as a matter of course as a part of good infection prevention and control, and the PHA monitors that information at a regional level. It monitors for trends and changes, and it will advise on appropriate further investigation if trends or departures from the norm are detected.

The question that the trusts ask themselves now is whether there is any evidence of any concern on the basis of the results. They will assess risks and identify the need for any further investigations. That may include environmental sampling for pseudomonas and testing water, but we need to bear in mind that pseudomonas infections can arise from a variety of sources. It would be completely wrong to make an assumption that any particular instance is related to water. The trusts have also been advised that, if there is any concern about patterns or clusters of cases, they should seek expert advice from the Public Health Agency and the estates directorate in the Department as required. That is the proportionate and correct response, and that is what we have been advised to do by the Health Protection Agency and specialists working in this area at a UK level.

Further data is being collected by the trusts. They are looking at the number of cases and at when and where they occurred. The data is still being examined for any possible links, clusters or trends. It is a matter of course that such data would be examined in any event. It is also important to point out and remember that, to date, there are no striking patterns or evidence of any particular problem. On that analysis, there is no evidence of any particular problem in any particular unit, or any augmented care unit. Those results need to be considered and interpreted in the wider context of each unit. So it is a complex process, and it would be wrong to jump to any simplistic conclusions. We will take evidence-based, planned, measured and co-ordinated responses to any trends or identified problems.

Taps are only one source of the infection, but they are not the only source. We need to consider all the evidence, which is what the trusts are doing. We cannot jump to conclusions and do the wrong thing; any underlying risk remains an underlying risk. It is important to point out that not all pseudomonas infections are hospital-acquired, and they can arise in a range of environments. The key approach is good infection prevention and control practice in our units.

The Health Protection Agency is developing national guidance, and the Department of Health in London is leading on behalf of the other jurisdictions. The Health Protection Agency has now established a pseudomonas working group to support Northern Ireland and to address the wider implications for England and elsewhere. We are contributing to and informing that evidence base. It is fair to say that there is intense scientific interest in our experience, and it is acknowledged by all that we need to learn from what has happened and ensure that we translate that learning into good practice across the UK to prevent a recurrence. As the Minister said, we will learn from our experiences.

Finally, looking forward, the Minister has already given you details of the independent review, which, I have no doubt, will make very significant recommendations. The detailed epidemiological work — the detective work to discover how the infections occurred in Altnagelvin Area Hospital and the Royal Jubilee Maternity Service, and the colonisations — is ongoing. The Public Health Agency is leading on that, with input from the Health Protection Agency. As I said, tap replacement and examination is ongoing. We are contributing to the national Health Protection Agency work to develop national guidelines, and, as the Minister mentioned in his closing comments, we are continuing to monitor the situation by way of regular liaison with colleagues in the Public Health Agency who, in turn, liaise with colleagues in the trusts.

I apologise for taking a little bit longer than anticipated, Chairperson.

The Chairperson: I will come to that in a wee second. It is important, and I thank the Minister and his team for coming along today.

The issue is a matter of public interest, so it is important that members ask questions so that we can get as much information as possible out there. I will ask you, Minister, or one member of your team to answer rather than have everyone trying to answer the same question. We do not have much time in this evidence session, so it is important to get as much information as possible.

I want to ask about the timeline. Dr McBride, when were you informed about the possible outbreak following the incident in Altnagelvin Hospital?

Dr McBride: I am conscious that a lot of dates are involved. My recollection — Liz will keep me correct — is that we were advised of an awareness of a problem in Altnagelvin Hospital on 13 December, when the trust became aware that it had three babies with pseudomonas infection at that time. It had no typing information available at that time, but it had three babies connected in time and place with pseudomonas infection, and it was concerned that there was a potential for linkages. That was when it was first brought to our attention.

The Chairperson: When was the Minister informed?

Dr Liz Reaney (Department of Health, Social Services and Public Safety): The Minister was also informed on 13 December. A submission was put to the Minister immediately to alert him to the initial information that came to us at that stage. It obviously takes some time for details to come through, because it is an emerging and evolving situation. It is about piecing those details together to determine what the appropriate course of action would be over the next few days.

The Chairperson: I am asking because I want to know whether we have learned lessons from the clostridium difficile outbreak, when there was a lack of information at that level. Were the trusts not advised that, following the inquiry, there was a need to collate information on infectious diseases following the clostridium difficile outbreak?

Dr McBride: Trusts collate information on healthcare-associated infections on an ongoing basis. We have specific arrangements in place in relation to the particular bacteria to which you refer, such as clostridium difficile and MRSA, and we put in place particular measures at that time for those two bacteria because of the fact that we had a very significant —

The Chairperson: What about pseudomonas?

Dr McBride: We had a significant problem with rising rates of clostridium difficile. We had an outbreak and a significant number of deaths occurred as a result. Those arrangements are in place. I reiterate that there are arrangements in place whereby trusts correlate all their information about healthcare-associated infections. That is analysed in the trusts, which have infection prevention control teams that liaise closely with laboratory staff, ward staff and augmented care units to identify emerging patterns or clusters and take appropriate action. That data is analysed, and the Public Health Agency, as I mentioned in my introductory comments, analyses data on pseudomonas bacteraemias at a

regional level and will identify trends or any increases in rates. Actions and questions will be raised at a regional level when there is a need for them on any specific issue.

Liz may wish to expand on that.

Dr Reaney: I will try to clarify. The laboratories provide information on numbers of pseudomonas bacteraemias or blood infections to the PHA. Additional individual patient details and clinical information are not part of that. The trusts have that part of the information, so the PHA can see whether there is any change in the total numbers of the pseudomonas bacteraemias. We know that, over the past four years, there have been between 80 and 95 pseudomonas aeruginosa bacteraemias a year, as Michael said. There has not been any particular change in that. The trusts have the information at the level of the units.

The Chairperson: Michael, as the Chief Medical Officer, if the Minister got the information around 13 December, why was your letter issued only on 22 December?

Dr McBride: At that time, we did not know what the issue was or the cause of the incident in Altnagelvin. We had three babies who had the pseudomonas infection, but we did not know whether those were linked . We had no typing information at that time to identify whether they were linked or related in any way. However, we did have a concern about the fact that we had three cases in the same unit within the same time period. Clearly, that raised questions about whether there was a common cause and how that situation could have occurred. You do not know at any particular time in any situation. We did not know that they were connected, and we certainly did not know the underlying cause of any connection between them.

The Chairperson: Between 13 and 22 December, were you investigating the potential causes — that is, taps?

Dr McBride: An outbreak control team had been convened by the trust. The Public Health Agency was involved in that. We were liaising closely with PHA and trust colleagues to seek to understand what had actually been occurring. We needed to know what it was that we needed to identify. That is the problem.

The Chairperson: Were you identifying the potential risk areas? I am asking that because, in your letter, you highlight the fact that, in July 2011, a couple of things had happened in relation to the health estates investment group. The letter also emphasised — this was in July 2011:

"a team approach should be used for reviews ... Infection control teams working closely with estates management teams to identify potential risk areas".

The first part of your letter states that potential risks could be outbreaks of infection of pseudomonas or similar events. So between 13 and 22 December, were you looking at taps as a potential risk area?

Dr McBride: We were looking at a range of potential risk areas. The trust would have been looking at all possibilities. As we said, pseudomonas is widespread in the community. As the Minister pointed out in his statement, outbreaks in other neonatal units and augmented care units had been associated with everything from contaminated breast milk banks to bottled water used by staff, to water from taps, to contaminated ventilators and a range of other equipment. It could have been any number of possible causes. We did not know that the cases were linked. Indeed, it turned out, as we know from the typing, that two of the cases had the same strain and one had a different strain. At that point, we did not even know that the cases were linked, but we had a concern that there was perhaps an underlying problem that had resulted in those three cases being clustered in the one unit at the same time.

It is important to make the point that we had to await the results of the specialist tests. We determined that it was important to get that information out as quickly as possible to the wider system rather than await the results of the specialist tests coming back. Therefore, we communicated the information that it had occurred in Northern Ireland. We had previously communicated information to the service about similar incidents in England and Wales. We said that the situation had now occurred

in Northern Ireland and, in the letter, identified the risks associated with the potential for water contamination. We did not know that to be the case. We identified, to a range of staff in organisations in the wider system, the risks to those very vulnerable neonates and the actions that were required to be taken. We did not wait. We were keen to get the information out as early as we possibly could.

The Chairperson: Like other people, my job is to try to get out as much information as possible. However, my concern is that, between 13 and 22 December, did we focus on taps being a potential risk? Your letter states:

"In September 2010, HSS ... wrote to colleagues to raise awareness of potential cross infection risks from taps and basins. This followed receipt of a number of reports from English NHS Trusts ... concerning outbreaks of infection with Pseudomonas. Similar events have recently been reported in Northern Ireland."

Dr McBride: We focused on the fact that it was one potential source. It would have been absolutely wrong for us to assume that there was a particular source, based on the information that we had at that time. We did not know, and, at that stage, had not established whether a tap could have contributed to the outbreak in Altnagelvin. We did not have that information, and we did not have those facts at that time. Any potential reference to a tap as a potential source would have been misleading, and any reference to the fact that this was solely around neonatal intensive care units or solely related to Altnagelvin would also have been misleading. It would have missed the point that it was individuals whose immune systems were suppressed and debilitated in a range of augmented care environments who are vulnerable.

We were proactive in getting out further advice to the service in the absence of full information and details. The typing information became available only after the letter was issued.

The Chairperson: I am not for one minute asking you to assume anything, because I know that you have a difficult job to do. I am just trying to tease out some of the issues.

Dr McBride: I accept that.

The Chairperson: The matter was raised in 2010 and 2011. However, I will come back to that.

Mr Wells: One of the problems we face is the fact that we have to send all those tests across the water. Are we moving to a situation where we will be able to do those tests ourselves? For instance, Scotland and Wales send all their material to one place, and you were dealing with the Christmas period when, presumably, that facility was closed.

Dr McBride: I will start and, if the Chairperson is content, I will ask Liz Reaney to comment as well.

You make a valid point. However, you need to bear in mind that numbers here are small — very small in a Northern Ireland context. As Liz said, we deal with between 80 and 95 bacteraemias a year, and that is spread out over the 12-month period and over all the trusts in Northern Ireland. They are very specialist tests. It is not that they could not be done in centres outside Collingdale, but Collingdale is the centre of excellence and expertise for that particular test and that, therefore, is an important consideration.

Undoubtedly, the independent review will look at a range of issues. Had the typing information been available earlier, would that have placed us in a better position to identify the linkages in those cases? At that stage, for example, we may have known that the cases were absolutely linked before the letter went out, but we did not have that information. I expect that the independent review team will want to look at that. Liz, do you want to add anything?

Dr Reaney: Michael has largely covered the matter. The key issue is the number of those particular tests. You will appreciate that there are many types of organisms, and they require different tests. Therefore, it is difficult for one lab to provide the full range of tests for a vast number of organisms. We have reference laboratories for the less-common stuff, which is the reference laboratory for the entire UK. The Health Protection Agency has that reference laboratory. It means that all quality

standards will be met, and we are able to stand over the results of the tests. The expertise lies with the microbiologists and the other clinicians looking after those tests.

We wondered about that issue, and there have been some preliminary discussions about whether it would be possible to extend the range of tests that we can do in Northern Ireland so that we may be able to do some type of first-stage test. We may not be able to do the full range of typing, but there are a number of different steps. We will need to look in more detail at whether it would be possible for us to do an additional first step here.

Mr Wells: Since the matter arose, I met a group of people who are involved in the care of those with cystic fibrosis (CF), and pseudomonas is a big issue for CF sufferers. Indeed, that is the issue.

Dr Reaney: It is a very big issue.

Mr Wells: I accept your point that, beyond the neonatal units, you are confident that the other units do not represent any threat or possible danger. However, was any special attention paid to the units that deal with CF? I had never heard of pseudomonas before these incidents arose, but as soon as I mentioned it to a CF sufferer, he knew chapter and verse about it, because it is a big concern for CF sufferers.

Dr McBride: I will start, and if the Chair is content, perhaps Liz can also come in. Pseudomonas infection, particularly chronic colonisation and recurrent infections with pseudomonas, is a major problem for people living with cystic fibrosis. Indeed, it causes quite destructive lung damage and is a real problem in managing people with cystic fibrosis. They are vulnerable to that by virtue of the enzyme defect that results in an inability to clear secretions from the lung, and so on.

In relation to looking at the analysis of the bacteraemias, trusts will look at that on an ongoing basis. If they were to identify any increase in the numbers of cases, a clustering of cases or linked cases in any unit, whether a cystic fibrosis unit, a renal unit or a burns unit, they would make a risk assessment, identify any potential sources and common sources — either from patient to patient or from environment to patient — that may have resulted in an increase in pseudomonas. They will do that through a proper risk assessment process. That might involve a particular unit, and it might involve checking for water contamination. As I mentioned in my presentation, it is important that, based on the evidence that we currently have and the ongoing work of the trusts, we have no evidence of a changing pattern, as Liz said, or an increasing problem in any other units outside of the neonatal service with which we are dealing.

Dr Reaney: You raised the issue of cystic fibrosis sufferers, and it is well known that a high proportion of those children and young people will suffer from pseudomonas. That is very much a factor of their medical condition, and it is important to realise that they can pick that pseudomonas up from their home environment, school, the community and possibly from hospital. There is no particular reason why they are more likely to pick it up in hospital than from any of the other community settings. We have to be realistic about what we can do. Obviously, we are looking carefully to ensure that none of the units is contributing to any problem for patients, which is where the very high infection control standards come into play. It is important to stress that those patients could have got pseudomonas from a very wide range of sources, not necessarily a hospital environment.

Mr Wells: Might some of the problems have emerged because of the time of year at which they did so? Let us be honest, on 22 December, the last thing that I had on my mind was anything but Christmas. The timing was difficult. Were some of the facilities closed because of the Christmas holidays during the period under review?

Dr McBride: The health service does not have the luxury of working nine to five. It is there 365 days a year, 24/7. That is what it is there to do. None of the units will have been closed. The letter was communicated to a wide range of staff, including chief executives in the organisation, medical directors, directors of nurses and infection prevention control leads. Those are individuals who are aware of the vulnerability of patients in those units and of the risks of outbreaks in those units. They are aware of the need for good, robust infection prevention control in those units and of the significance of a letter from the Chief Medical Officer, which, as the Minister said, he expects to be

taken seriously when flagging up a potential risk. I honestly do not believe that that would have been a factor, Jim.

Mr Wells: Some testing facilities in England closed during that period.

Dr McBride: I honestly do not know the answer to that, Jim. That is a different point, and I am sorry, but I do not have the information. Your point about the ability to do testing and some of the typing in Northern Ireland is legitimate. We considered that matter, and I would be surprised if that was not something that the independent review may consider. The difficulty is that we are waiting a minimum of five days, or in some instances a week or 10 days, for information. So we are already behind in identifying any commonality among the particular cases. Those days are important, and that will be an important aspect of the review.

Mr Poots: Over the period 2008 to 2011, 80 to 95 infections were associated with pseudomonas. In 2008, 10 people died as a result of pseudomonas. In 2009, three people died. In 2010, a further 10 people died, and in 2011, three people died. Already this year, three babies have died in the neonatal unit. When the trusts received a letter highlighting pseudomonas, therefore, they would have been well aware of the dangers of pseudomonas because 80 to 95 per annum were being infected by it, and an average of six to seven per annum were dying from it. Ensuring that there was as little prospect as possible of people picking up pseudomonas should have been very high on their agenda.

Mr McCallister: It was a terrible event for the families involved. Presumably, there are thousands of infections out there that the service is always guarding against and that require robust cleanliness regimes across hospitals. People will always have to be vigilant about every type of infection. Probably like my colleagues, I had not heard of pseudomonas although, as the Minister said, there have been ongoing fatalities over the past number of years as a result of it.

Are we collectively learning lessons and feeding those into the national system, where there will be expertise? We will probably have to do that at a national level simply because of the numbers and to get that expertise. In light of Jim's point, can you reassure the Committee and others that that expertise was available to us at all times, despite Christmas and new year holidays, and that experts were on call and available to advise and guide clinicians and management here on appropriate steps to take as quickly as possible? I accept that such situations are very fluid and evolving, and, like all good things, it is easier to be wise after the event.

Mr Poots: That the incident happened in the first instance has left a bitter taste in all our mouths. Of course, that does not compare with the grief and trauma of the individual families. However, we in Northern Ireland would be absolutely failing our own population, those families and others outside Northern Ireland if we did not make a major contribution to identifying how we can handle things better in future and how things can be handled better.

Therefore, the contribution that we will make to all the Health Protection Agency's efforts, and to the Troop report and its findings, are critical for the well-being of people in seeking to avoid the potential effects of infection by pseudomonas in future. The taps that are being removed from all the facilities, for example, are being sent with the associated water, and so forth, to be tested by the Health Protection Agency. They are all being stripped down and individually tested for the potential for pseudomonas. An extensive piece of work is being done. The knowledge that we gained, which has advanced rapidly over the past six to eight weeks, is being applied with expert colleagues elsewhere. It is critical that we engage in this — you are quite right, Mr McCallister — to ensure that all reasonable mitigation measures that can be put in place are put in place. We always have to balance risk against safety, and so on, and investments often have to be made. All that has to be based on a particular rationale, and that is what we are seeking to do.

Mr Dunne: Minister and the panel, thank you for coming along again today.

Michael, I refer to your letter of 22 December 2011, which calls up a further letter of July 2011 from Mr John Cole in relation to how you manage the risk from water systems. It mentions pseudomonas and legionella and, in the background provided, states:

"Across the UK, there have been a number of reported cases of high levels of pseudomonas and legionella bacteria found in water samples taken from water supply systems in healthcare facilities."

It also refers to another document dated 2010. Was that highlighting the fact that there was already a risk from the water systems and that that needed to be managed and controlled by our service?

Dr McBride: I think that it is fair to say that we highlighted to the service here the fact that there had been outbreaks in England and Wales. If a problem is identified in a particular area or part of the United Kingdom, that experience and learning is shared across the UK. When there were outbreaks in England and Wales, correspondence was issued by all Health Departments in the different jurisdictions at that time advising the system of the fact that there was a potential source — only but one potential source — of pseudomonas infection in relation to water systems. That was the basis of my letter and the chief estates officer's letter back on 15 September 2010 to make them aware of that potential.

There was a further workshop, and the letter to which you refer summarises the conclusions and work arising from that. It raised awareness of water as a source of potential infection from legionella and pseudomonas. It reminded colleagues of the control measures to put in place and the legislation underpinning that, particularly in relation to legionella.

We do not have the same robust evidence base and knowledge on pseudomonas as we do for legionella. At the time when those outbreaks were identified in England and Wales, a group was established to develop an evidence base on the risks of pseudomonas infection from water and guidance on, for instance, an appropriate programme of water testing and what that would look like.

Mr Dunne: Which we have for legionella.

Dr McBride: Yes, which we have for legionella.

It is also developing a range of standards for dissemination across the UK, from which we can all seek assurance and by which the public can be assured. Providers — the trusts — will put those standards in place, and the regulators, such as the Care Quality Commission in England and the RQIA here, will use them to assess compliance. That work has been ongoing. The Minister mentioned that in previous statements and interviews. We have been part of that work and are contributing to it at a UK level. We have asked that it be prioritised and brought forward. My understanding is that the recommendations arising from the national guidance will be issued at the end of March. Our problem was that, when this incident occurred, we did not have that guidance. There was no guidance on what to do in situations in which a water source is identified as the potential cause of an outbreak. We identified that, so we needed to ask whether there was a wider problem in our system, which is what we did. We then had to develop an approach around water testing that would identify where we had a problem and determine what we would do if we identified that problem in the absence of any resolved evidence base or national guidance. That was the challenge.

Mr Dunne: Mr Cole's letter of July 2011 mentions the ongoing work.

Dr McBride: Yes it does.

Mr Dunne: It was also mentioned in December.

Dr McBride: That is right; it was mentioned in the letter dated 22 December.

Mr Dunne: What is the up-to-date position on that work? Is it still in progress?

Dr McBride: That work has been completed. The recommendations have been accepted, and we are now at the detailed stage of developing the guidance and getting it agreed and disseminated. In the interim, it is important that we have an approach in Northern Ireland. We have not waited for the development of national guidance; we have interim guidance in place in Northern Ireland that will remain in place for as long as we require it to ensure that we protect the vulnerable babies in these units. We have guidance in place for augmented care units, which was also covered in the letter of 9 February. That will remain in place until such time as there is nationally agreed guidance that has been

fully informed by the best available scientific and public health evidence that details the exact approach that we should take. I am not sure whether Liz wants to add anything to that.

Dr Reaney: I draw your attention to the final few paragraphs of the Chief Medical Officer's letter of 9 February. It sets out the plans for the national guidance. It is an immense piece of work, and priority is being given to the actions that need to be undertaken urgently. The water-testing schedule is expected by the end of March 2012.

The issue in John Cole's letter to which you refer is largely concerned with legislation for the control of legionella and the need for control of pseudomonas aeruginosa. That will take slightly longer and is expected in March 2013, but it is part of the overall package of guidance. There is a great need for it, and the Chief Medical Officer has already written to the Chief Medical Officer in England requesting that the guidance be taken forward as quickly as possible. However, it is a massive piece of work, and legislation has to be put in place around it. That is the expected timeline, but we have emphasised the urgency of it.

Mr Dunne: So we are satisfied that we are doing all that we can to manage the risk at present.

Dr McBride: I am fully satisfied, based on the expert advice that we have received from the Health Protection Agency, that we are taking all necessary steps to manage the risks in the system at this time.

The Chairperson: Minister, you highlighted a number of deaths due to pseudomonas from 2008. You gave the figures for the number of people who have died. Was water, or were taps, seen as a source of the outbreak of the infection? Was an initiative taken at that time to change taps in intensive care units, or especially in neonatal care units, although I am not assuming that it was babies who died? I am concerned because, unless I have picked this up incorrectly, you highlighted the fact that there have been deaths due to pseudomonas since 2008, and the Chief Medical Officer has said that we still do not have any guidance.

Mr Poots: As I said, there were 23 deaths in total in 2008, 2009 and 2010. Only four children under the age of one year were infected with pseudomonas. I am not sure whether any of them died, but only four of them contracted pseudomonas. To be honest, it has largely affected an older population. It has been far more extensive in those over the age of 45, so in previous years it did not appear to be a problem in neonatal units. It is a relatively new risk that has been identified, certainly in Northern Ireland. Perhaps Liz or Michael could confirm whether it has been a particular problem in the UK or elsewhere for younger children.

Dr Reaney: I will elaborate on the information behind those deaths. The number that the Minister mentioned was 26 in total over those three years and included only one child under the age of one year. That was between 2008 and 2011. The vast majority were over the age of 45, and the vast majority of those were over the age of 65, with multiple abnormalities and some of them extremely elderly. So it is difficult to disentangle the effect of pseudomonas from everything else that is going on.

The Chairperson: I am only a layperson, but you are telling me that there were 23 deaths in 2008-09 and 2009-10, and the letter of September 2010 pointed out that there was a potential for cross-infection from taps and basins. If you are saying that there was a pseudomonas outbreak or deaths due to pseudomonas going back that far, did we look at potential cross-infection from taps and basins at that time?

Dr McBride: The numbers that the Minister and Liz took you through are not about outbreaks. The numbers you have heard are the 80 to 95 pseudomonas bacteraemias that occurred each year, which have remained static and stable and have not changed. As the Minister said, the vast majority of those are in older people. Nonetheless, those deaths are tragic. Those people were immunocompromised with underlying health problems. It is important to bear in mind that the potential source of that pseudomonas infection, as Liz said in an earlier answer and as I mentioned, could be a range of potential sources. It would be wrong —

The Chairperson: Specifically around those deaths, did we find out what the source was?

Dr McBride: It would be fundamentally wrong to conclude that the deaths or infections that we are discussing were caused by contaminated water from taps. You would be making a causal linkage, and we have no evidence that that is the case.

The Chairperson: I am not indicating a link. I am asking you whether we learned our lessons from 2008.

Dr McBride: Learn which lessons?

The Chairperson: The 2010 circular stated that there was a possibility of cross-infection from taps and basins.

Dr McBride: From?

The Chairperson: From taps and basins around pseudomonas. In September 2010 —

Dr McBride: Oh, sorry; 2010.

The Chairperson: So what lessons have we learned from the deaths in 2008, 2009 and 2010?

Dr McBride: Please correct me if I misunderstand the question. To my knowledge, we have not had outbreaks of pseudomonas in Northern Ireland prior to our experience of the outbreak in the neonatal units. I stand to be corrected on that. I am not aware, at this point in time as I sit here this afternoon, of outbreaks of pseudomonas infection.

As Jim's question highlighted, we know that some patient groups are more predisposed to pseudomonas infection as a result of being immunocompromised. We know from experience in England and Wales that water is but one potential source of outbreaks. We shared that information with the service in September 2010. However, as Liz said, there are many potential environmental sources of pseudomonas infection, including human-to-human transmission and environmental-to-human transmission. There is also healthcare-associated transmission, which should not, but does, occur, even with good infection prevention control. Individuals may also be admitted to a hospital environment with pseudomonas infection. I think that that was the point. I apologise if I misunderstood the question.

The Chairperson: I am not saying that there was an outbreak. I am going back to the figures that the Minister gave us, from the deaths in 2008. The 2010 circular states that there was a possibility of cross-infection from taps and basins. So did we look at the deaths from 2008 for the possibility of taps and basins being a source of the infection?

Dr McBride: As I say, prior to the evidence that emerged in England and Wales in 2010, there was no knowledge across the UK or in the health service across the UK that that was a potential source or problem. The first indication that there was a potential problem in England and Wales was in 2010, and we issued that circular.

The Chairperson: You probably do not have this information with you, and I do not want to bounce you on it, but could you let us know when the taps were last changed in neonatal intensive care units across the sector? I know that you will not have that information with you, but I would appreciate it.

Mr Poots: Quite of lot of the taps were changed relatively recently, by which I mean years as opposed to decades. My understanding is that many of them would have been replaced within the past five years. A lot of it was done with non-touch taps, with the idea that there was less chance of infection if the taps were not touched.

As it has transpired, it would appear that, according to circumstantial evidence, the older types of taps have proved to be safer than the current ones. That is one reason why ultraviolet taps are being trialled in the Royal Victoria Hospital only rather than being rolled out everywhere at this point.

The best means to fight hospital-acquired infections is the proper sanitisation of your hands after you have properly washed and dried them. If there is still something on your hands, the alcohol sanitisation is absolutely critical and necessary. That needs to apply not only to the staff but to everyone who visits a hospital. As a consequence of this tragedy, we need to highlight to hospital visitors that they must be aware that they could compromise the well-being of the person whom they are visiting or, indeed, others. It is absolutely critical that they follow the guidance and observe the rules to the letter when they are visiting those facilities.

Mr McCarthy: That is very important and useful information, but, unfortunately, the Minister knows as well as I do that it will be listened to today and forgotten about tomorrow. I want to ask about the document that you gave us. On 9 February, the Chief Medical Officer issued further interim guidance to the trusts on providing updated services for the augmented care units — burns units, renal units and critical care units. Where are we with that, a week later?

Dr McBride: I reiterate what I said earlier. There is good infection prevention control practice in our organisations; we analyse, on an ongoing basis, patterns in relation to any infection, whether it is pseudomonas, clostridium difficile or MRSA. The infection prevention control team works closely with laboratory and front line staff to identify any patterns or trends, to look for any clusters or links between cases and ask, if there is a potential for that, what it is that we are doing that we should not be doing and whether there are additional measures that we need to put in place. That, already, is good practice.

Essentially, we were reiterating good practice and ensuring that it becomes the norm. I would not underestimate or wish to misrepresent the impact that those tragic deaths have had on the health professionals, doctors, nurses and others who work in and manage those units or, indeed, the concerns that they have caused health professionals in other units in which there are vulnerable patients. We were being asked for further advice and guidance, so the advice that we issued, which was informed by the best available scientific and medical advice available to us in the UK, was very welcome and anticipated by the service. You can be absolutely confident, as I am, that it is being fully implemented and adhered to.

Mr McCarthy: That is good to hear.

Mr Durkan: I welcome the Minister and the panel. My question is for Michael. Are you content with the response of the Western Trust to the initial incidence of pseudomonas in Altnagelvin Hospital? I met representatives of the trust to discuss the issue and have been reassured by them. However, given the intense media interest in the later outbreak in the Royal Jubilee Maternity Service, when news outlets were vying for fresh angles on what was an extremely tragic story and were eventually led to Altnagelvin and, inevitably, drew a connection between what had happened there and what was happening in the Royal, it looked, to some people, as if they were making a scapegoat out of Altnagelvin. That was extremely distressing for the staff there, and one can only imagine the effect that it has had on the family of the baby who was transferred from Altnagelvin to the Royal Jubilee Maternity Service. Are you content with how they responded? I am no bacteriologist, but could the emergence of pseudomonas as a problem in neonatal units be in any way attributable to, ironically, a success in tackling other bacteria such as legionella? Might that have allowed pseudomonas to rise?

Dr McBride: I will start with your first question, Mark, which was on whether I am content with the information that I have. My understanding of the information that I have and the evidence that I have received is that the trust moved swiftly and promptly to identify the problem and take all appropriate steps, including convening an incident team to manage the situation to take the best available advice from Public Health Agency colleagues and others and rapidly identify what they felt was the source of the problem and deal with it effectively.

That is my view on the information that is available to me, but the more important point is one that the Minister made earlier that that is why he has asked for a full, independent, rigorous review of all the circumstances to do with how the infections and colonisations occurred in the Western Trust and Belfast and how the colonisations occurred in other units. That includes all communications to the system and between the Department, the Health and Social Care Board, the Public Health Agency and

the health and social care trusts in the run-up to that. Gordon and the Chair posed questions on that earlier. The acid test will be that independent, rigorous review. An investigation of all those circumstances will conclude how proportionate and timely all our actions were, and I will leave it to that process to make that decision and its recommendations in due course.

You asked whether there is a potential that some of our actions have inadvertently added to the potential risk. The Minister referred to some of the interventions that we have put in place in and around new technology. We have introduced new technology through automated, no-touch taps, which are designed to prevent the risk of contamination from a tap when hand washing. As Chief Medical Officer, I deal in evidence, fact and research rather than speculation, but there has been some suggestion in some of the literature that, potentially, the design of some of the more modern taps contains more plastic components, which are more predisposed to the formation of biofilms. That is an important factor to which we need answers. As the Minister said, that is why, when we are removing the taps, because we can link it back to the water samples that we have taken in Northern Ireland, we send all that information to the Health Protection Agency to make that assessment.

However, I do not think that the problems that have arisen in the units in England and Wales and, more recently, in Northern Ireland, are as a result of our displacing other bacteria and that pseudomonas is, therefore, breaking through. There have to be some questions about some of the measures that we may have put in around the new technology, potentially. That is one reason why, on the basis of Health Protection Agency advice, we have gone back, as the Minister said, to the more traditional lever-style taps.

Mr Durkan: Are those elbow-operated?

Dr McBride: Yes, and they have less plastic.

The Chairperson: Were the death in Altnagelvin and the first death in the Royal reported as serious adverse incidents?

Dr McBride: I will defer to Liz for that level of detail, Chair. I do not have that information with me.

Dr Reaney: Yes, they were. We tend to get the information initially by phone, and then a formal early alert was put in through the recognised system.

The Chairperson: The action kicked in because it was a serious adverse incident.

Dr Reaney: The action had already started, and the paperwork and the correct process was then followed as soon as possible. Obviously, the priority is to take the correct action, and I do not think that anyone would be waiting for the paperwork on that. Yes, early communication will have taken place. Therefore, we were already aware of the situation. The trusts were already managing and dealing with the appropriate action and response that was required.

The Chairperson: Minister, I want to thank you and your team for the update. Again, I apologise for the late start. It is important that the Committee is kept up to date on the situation. In fairness, you have given us as much information as possible, even in the House. It is important to recognise that there have been no new cases. It is also important to recognise the work that staff have done at this difficult time, as Mark mentioned earlier. Our thoughts are with the families.

On the back of the work of the independent review, I would appreciate it if the Committee could get regular updates of where that sits. If there is any more information that you believe that the Committee should have, feel free to give it to us. Do not allow us to hear it through other avenues? Thank you.

Mr Poots: Thank you, Madam Chair. We will endeavour to keep information flowing. As the Troop review reaches its immediate conclusions towards the end of March, we will want to come back to the Committee as quickly as possible to inform you first of what has been identified. Let us hope that the situation continues as it is and that there are no more cases of pseudomonas in neonatal wards. I am very thankful that that has been the situation for some time now. I trust that it gives the public some

reassurance that, although this has happened, we are responding vigorously to militate against its happening again. Thank you.