Health Information and Quality Authority

An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

Report of the unannounced inspection at the St Vincent's University Hospital, Dublin

Monitoring programme for unannounced inspections undertaken against the National Standards for the Prevention and Control of Healthcare Associated Infections

Date of on-site inspection: 30 March 2016

About the Health Information and Quality Authority

The Health Information and Quality Authority (HIQA) is an independent Authority established to drive high quality and safe care for people using our health and social care and support services in Ireland. HIQA's role is to develop standards, inspect and review health and social care and support services, and support informed decisions on how services are delivered. HIQA's ultimate aim is to safeguard people using services and improve the quality and safety of services across its full range of functions.

HIQA's mandate to date extends across a specified range of public, private and voluntary sector services. Reporting to the Minister for Health and the Minister for Children and Youth Affairs, the Health Information and Quality Authority has statutory responsibility for:

Setting standards for health and social services – developing person-centred standards, based on evidence and best international practice, for health and social care and support services in ireland.

Regulation – registering and inspecting designated centres.

Monitoring children's services – monitoring and inspecting children's social services.

Monitoring healthcare quality and safety – monitoring the quality and safety of health services and investigating as necessary serious concerns about the health and welfare of people who use these services.

Health technology assessment – providing advice that enables the best outcome for people who use our health service and the best use of resources by evaluating the clinical effectiveness and cost-effectiveness of drugs, equipment, diagnostic techniques and health promotion and protection activities.

Health information – advising on the efficient and secure collection and sharing of health information, setting standards, evaluating information resources and publishing information about the delivery and performance of ireland's health and social care and support services.

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1. Introduction

The Health Information and Quality Authority (HIQA) carries out unannounced inspections in public acute hospitals in Ireland to monitor compliance with the *National Standards for the Prevention and Control of Healthcare Associated Infections*.[1] The inspection approach taken by HIQA is outlined in guidance available on HIQA's website, www.hiqa.ie – *Guide: Monitoring Programme for unannounced inspections undertaken against the National Standards for the Prevention and Control of Healthcare Associated Infections*.[2]

The aim of unannounced inspections is to assess hygiene in the hospital as observed by the inspection team and experienced by patients at any given time. They focus specifically on the observation of the day-to-day delivery of services and in particular environment and equipment cleanliness and compliance with hand hygiene practice. In addition, following the publication of the 2015 *Guide: Monitoring Programme for unannounced inspections undertaken against the National Standards for the Prevention and Control of Healthcare Associated Infections*,[2] HIQA assesses the practice in the implementation of infection prevention care bundles. In particular this monitoring is focused upon peripheral vascular catheter and urinary catheter care bundles, but monitoring of performance may include other care bundles as recommended in prior national guidelines[3-4] and international best practice.[5]

Assessment of performance is focused on the observation of the day-to-day delivery of hygiene services, in particular environmental and hand hygiene and the implementation of care bundles for the prevention of device related infections under the following Standards:

- Standard 3: The physical environment, facilities and resources are developed and managed to minimise the risk of service users, staff and visitors acquiring a Healthcare Associated Infection.
- Standard 6: Hand hygiene practices that prevent, control and reduce the risk of spread of Healthcare Associated Infections are in place.
- Standard 8: Invasive medical device related infections are prevented or reduced.

Other Standards may be observed and reported on if concerns arise during the course of an inspection. It is important to note that the Standards are not assessed in their entirety during an unannounced inspection and therefore findings reported are related to a particular criterion within a Standard which was observed during an inspection. HIQA uses hygiene observation tools to gather information about the cleanliness of the environment and equipment as well as monitoring hand hygiene practice in one to three clinical areas depending on the size of the hospital.

HIQA's approach to an unannounced inspection against these Standards includes provision for re-inspection within six weeks if Standards on the day of inspection are poor. This aims to drive improvement between inspections. In addition, in 2016, unannounced inspections will aim to identify progress made at each hospital since the previous unannounced inspection.

An unannounced inspection was carried out at St Vincent's University Hospital on 30 March 2016 by Authorized Persons from HIQA, Kathryn Hanly, Katrina Sugrue and Noreen Flannelly-Kinsella between 10:45hrs and 17:20hrs. The areas assessed were:

- St Brigid's Ward which is the National Liver Transplant Unit. This is a 21-bedded unit, of which two beds were closed and 15 were occupied at the time of inspection. The ward comprises two two-bedded rooms, three single rooms one of which has an ensuite toilet, one four-bedded room and two five-bedded rooms with ensuite facilities. One two-bedded room is a designated high dependency unit.
- The Interventional Radiology Suite in the Radiology Department, which comprises two interventional procedure rooms and two three-bay recovery areas. One of these recovery areas was dedicated to the accommodation of patients requiring transmission-based precautions.
- In addition, St Monica's Ward and St Luke's Ward 1, which were inspected during an unannounced inspection by HIQA on 16 June 2014, were re-visited to assess the level of progress which had been made following the 2014 inspection.

HIQA would like to acknowledge the cooperation of staff with this unannounced inspection.

2. Findings

This report outlines HIQA's overall assessment in relation to the inspection and includes high risks identified and key findings of relevance. A list of additional low-level findings relating to non-compliance with the Standards has been provided to the hospital for inclusion in local quality improvement plans. However, the overall nature of areas of non-compliance are contained in this report.

This report is structured as follows:

Section 2.1 outlines the level of progress made by St Monica's Ward and St Luke's Ward 1 after the unannounced inspection on 16 June 2014.

Section 2.2 outlines high risks identified during the unannounced inspection on 30 March 2016 and the mitigating measures implemented by the hospital in response to the findings. Copies of communications from HIQA and St. Vincent's University Hospital seeking assurances regarding these issues are shown in Appendices 1 and 2 respectively.

Section 2.3 outlines the additional key findings of the unannounced inspection on 30 March 2016.

Section 2.4 outlines the key findings relating to hand hygiene under the headings of the five key elements of the World Health Organization (WHO) multimodal improvement strategy[6] during the unannounced inspection on 30 March 2016.

Section 2.5 outlines the key findings relating to infection prevention care bundles during the unannounced inspection on 30 March 2016.

2.1 Progress since the last unannounced inspection on 16 June 2014

HIQA reviewed the quality improvement plan (QIP)[7] published by St Vincent's University Hospital following the June 2014 inspection which was developed to address the findings of the 2014 inspection.

Inspectors revisited St Monica's Ward and St Luke's Ward 1 which were inspected during the unannounced inspection in 2014. It was evident that progress had been made in both areas and many of the findings of the previous inspection had been addressed.

It was reported to inspectors that findings related to unclean patient equipment and the secure storage of chemicals in St Monica's Ward had been addressed immediately following the 2014 unannounced inspection. It was noted that similar to the 2014 inspection, inspectors observed a small number of items stored inappropriately in the linen room.

At the time of visiting St Monica's Ward, HIQA observed that the majority of occupied isolation room doors were left open which is not in line with best practice. This finding was brought to the attention of the ward manager at the time and will be discussed further in Section 2.2.

St Luke's Ward 1 is an acute surgical ward where targeted screening for vancomycin resistant *Enterococci* (VRE)[*] is performed. VRE surveillance results have shown an increased incidence of VRE colonization in this and other clinical areas since 2014. St Luke's Ward 1 does not have adequate ensuite toilet/ shower facilities to effectively isolate or segregate patients with transmissible infection.

Following the previous inspection the hospital provided a clean utility room in St Luke's Ward 1. However, it is of concern that two significant findings made during the 2014 HIQA inspection have not been addressed. Specifically, the lack of a door and a designated clinical hand wash sink in the 'dirty' utility room.

These findings are significant in the overall context of general infection prevention and control and in relation to VRE prevention and control. These issues should be addressed so that there is clear segregation of clean and dirty functions in addition to adequate isolation and sanitary facilities for patients with transmissible infection. Findings in relation to the hospital's approach to the management of VRE are further discussed in this report.

2.2 High risks identified during the unannounced inspection on 30 March 2016

Information gathered and observations made during this unannounced inspection and subsequent correspondence from the hospital identified high risks in respect of infection prevention and control at the hospital. Risks identified included:

- An increased incidence of hospital acquired VRE colonization at the hospital.
- The poor overall infrastructure of St Brigid's Ward - the National Liver Transplant Unit, which does not facilitate effective infection prevention and control.
- Poor compliance with transmission-based precautions and other deficiencies in relation to aspects of infection prevention and control.

HIQA wrote to the hospital following this inspection to seek assurance from the hospital Chief Executive Officer in relation to the management of these issues.

[*] Vancomycin resistant *Enterococci* (VRE) are a type of bacteria that have developed resistance to an antimicrobial called vancomycin. *Enterococci* are normally found in the human digestive tracts and may reside there without causing a problem or infection. Individuals found to carry VRE in their bowel are referred to as being colonized with the bacteria. However in a small proportion of vulnerable patients colonisation may result in urinary tract infection, or more seriously - bloodstream or heart infection. The latter can be very difficult to treat and may result in patient morbidity and mortality.

An increased incidence in hospital acquired VRE colonization

In 2014 St Vincent's University Hopsital reported an outbreak of linezolid[†]-resistant VRE infection in the National Liver Transplant Unit. This was the first report of this type of antimicrobial resistance pattern in Ireland.[8] The emergence of linezolid resistant VRE is concerning as this limits treatment options for seriously ill patients. For this reason, it is essential that antimicrobial resistance is proactively prevented and controlled in hospitals through antimicrobial stewardship and effective infection prevention and control measures. The hospital reported in an academic journal publication that the outbreak of linezolid resistant VRE in the hospital in 2014 was likely facilitated by the practice of accommodating patient in multi-occupancy rooms with shared toilet facilities.[8]

An increase in patient screening to detect VRE colonization was implemented at the hospital during 2014 and 2015. The hospital has subsequently identified an increased incidence of hospital acquired VRE colonization since 2014. Hospital acquired VRE colonization refers to patients who screen positive with VRE more than 48 hours after admission, having previously screened negative on admission to the hospital. This indicates acquisition post-admission. Information provided during the inspection indicated the increase in hospital acquired VRE colonization was particulary notable in patients undergoing gastrointestinal surgery.

It should be noted that the majority of cases of VRE colonization do not go on to develop infection. However, a persistently high incidence of VRE colonisation and cross transmission in a hospital increases the risk of VRE infection in more vulnerable patients who have specific risk factors for infection. Such patients may include those undergoing solid organ transplantation, or abdominal surgery. For that reason, effective infection prevention and control measures need to be prioritized in higher risk clinical areas. HIQA acknowledges that the hospital performs ongoing monitoring of VRE related bloodstream infection and intravascular device related infection and has reported a 43% reduction in the overall rate of vancomycin resistant *Enterococcal* bloodstream infections in 2015 compared to 2014.

Notwithstanding the significant reduction in VRE bloodstream infections in 2015, the findings of this inspection have identified significant scope for improvement in relation to St Vincent's University Hospital's approach to aspects of VRE infection prevention and control.

[†] Linezolid is an antimicrobial medication frequently used for the treatment of serious infections including VRE infection

St Brigid's Ward – The National Liver Transplant Unit

Overall the patient environment and patient equipment was generally clean at the time of inspection.

Inadequate infrastructure and facilities

The infrastructure and facilities in St Brigid's Ward do not facilitate effective infection prevention and control for patients who are known to be at greater risk of acquiring infection. Findings in this regard were as follows:

- There were an insufficient number of ensuite isolation rooms to accommodate patients requiring transmission precautions.
- Not all single rooms used for isolation purposes had an ensuite shower/toilet.
- Not all multi-occupancy rooms used to cohort patients with transmissible organisms had ensuite toilet/bathroom facilities.
- Patients colonized with resistant bacteria were sharing shower facilities with patients not colonized with resistant bacteria.
- Commodes were stored in the above shower facility rather than in a 'dirty' utility room.
- There was limited spatial separation between patients in a multi-bed room.
- Access to a clinical hand wash sink in one multioccupancy room was impeded whenever curtains were drawn around an adjacent bed.
- There was no designated clinical hand hygiene sink in the 'dirty' utility room[‡]. A sink beside the sluice hopper was used for both hand hygiene purposes and cleaning of equipment.
- The paper towel dispenser for hand drying was located adjacent to the sluice hopper. This poses a risk that the hands of the healthcare workers will become directly contaminated with faecal organisms containing bacteria such as VRE.
- A blood gas analysis machine was inappropriately located in a clean utility room rather than in a separate location. This is a failure to separate functional activities and could result in the inadvertent contamination of clean injection trays and consumables with blood.
- Storage facilities were limited. Sterile consumables were stored on a mobile cart on the ward corridor adjacent to the door of a patient toilet. This cart was not fully enclosed which poses a risk of contamination of clean supplies. Sterile supplies should be stored in a designated storage in fully enclosed

[‡] A 'dirty' utility room is a temporary holding area for soiled/contaminated equipment, materials or waste prior to their disposal, cleaning or treatment.

storage units or cupboards. Intravenous medication stocks were stored in a locked cupboard in the entrance lobby of the ward.

HIQA observed that a five-bedded patient room with an ensuite facility was vacant at the time of inspection. The decision not to utilise this additional capacity represented a missed opportunity to increase spatial separation between patients and to provide access to an additional toilet and shower in the ward.

Transmission-based precautions

Transmission based precautions were not consistently implemented in line with the hospital transmission based precautions policy at the time of inspection. Specifically;

- Doors to isolation and cohort rooms were both open in St Brigid's Ward. This meant that patients with transmissible organisms were not physically separated from others in line with hospital policy and also that precautionary signage on doors was not clearly visible to staff and visitors.
- Good practice in relation to the use of personal protective equipment by staff was not consistently observed.

Failure to consistently implement transmission precautions increases the risk of spread of infection.

Response from St Vincent's University Hospital in relation to these risks following HIQA's inspection on 30 March 2016.

Communication to HIQA from the hospital stated that the hospital recognied the incidence of VRE and the infrastructure of St Brigid's Ward to be significant issues in the context of infection prevention and control. HIQA was informed by the hospital that the measures in place to address VRE include targeted screening, isolation/cohorting of cases and enhanced cleaning and decontamination which are in line with relevant national guidelines.[9]

Documentation submitted by the hospital showed that the Consultant Microbiologist with responsibility for infection prevention and control advised the hospital in December 2015 that a VRE cohort ward should be considered. It was also reported that the potential to relocate St Brigid's Ward has been explored by the hospital. However, there was no agreed plan or timeframe in which to address these issues at the time of this report.

The hospitals' response did not include an outbreak report that detailed findings of an epidemiological investigation into the increased incidence of hospital acquired VRE and subsequent management at the hospital. HIQA would expect that unusual clusters or potential outbreaks of infection would be investigated and that an

outbreak control report would be produced in due course to describe the situation and identify opportunities for improvement.

The hospital reported that it is working to address existing infrastructural deficiencies within its budget and bed capacity constraints. Given that there has been at least one reported outbreak of VRE in the hospital and an increased incidence of hospital acquired VRE colonization, it is of concern to HIQA that risks in relation to emergent antimicrobial resistance have not been escalated to Hospital Group level and beyond.

Observations made at the time of this inspection and subsequent information provided by the hospital did not assure HIQA that this ongoing issue had been comprehensively managed by the hospital at the time of the inspection. Learning from an outbreak in the hospital in 2014 and from past reports of VRE outbreaks internationally in relation to ward infrastructure and control measures have not been used to reduce risks to patients.

2.3 Additional key findings of the unannounced inspection on 30 March 2016

Interventional Radiology Suite infrastructure and environment

Overall the environment and patient equipment in the Interventional Radiology Suite were generally clean with some exceptions. Dust was observed in some of the mobile carts containing sterile supplies. Dust was also observed on floor edges behind storage units on the main corridor of the suite and on the base of the procedure table in intervention room 1. At the time of the inspection, maintenance works were in progress in intervention room 1. Dust control measures were not fully implemented in that some equipment and sterile supplies were not adequately protected or removed prior to the commencement of maintenance works.

Entrance doors to the Interventional Radiology Suite and to individual procedure rooms were not secure at the time of the inspection. Access to procedure rooms was easily attained through unsecured utility rooms located near the opened entrances to the Interventional Radiology Suite. Invasive treatment areas or diagnostic departments are considered to be high risk functional areas[10] and should be secured to restrict access to the area.

A lack of adequate storage facilities was evident at the time of the inspection. The main corridors of the suite were cluttered with trolleys. Sterile supplies were stored on uncovered mobile storage units on the main corridors of the suite. An uncovered cart containing dirty linen was stored adjacent to the carts containing sterile supplies. This is not acceptable from an infection prevention and control perspective.

Clean linen was stored on unprotected trolleys on the main corridor and in one recovery bay. HIQA was informed that there was no dedicated linen storage facility in the suite. Storage of linen in this manner is not in line with best practice or St Vincents's own hospital policy.

An environmental hygiene audit carried out by a multidisciplinary audit team in October 2015 demonstrated 93% compliance with desired standards. However some opportunities for improvement in both cleaning and maintenance were identified in the Interventional Radiology Suite during the inspection. While the unit was generally well maintained, some walls were marked and damaged in patient areas.

Patient equipment

Opportunities for improvement in the cleaning and management of some patient equipment were observed in the Interventional Radiology Suite.

Several open mobile carts containing sterile supplies were situated in close proximity to procedure tables in both procedure rooms. HIQA noted that while fixed storage units were closed or covered during procedures, these mobile carts and their contents were exposed to a potential risk of inadvertent contamination with blood borne viruses and other pathogens. Storage facilities for clean consumables in this area needs to be improved. Exposure of clean stock supplies to contamination with blood or body fluids during invasive procedures must be prevented.

A red stain was observed on an injection tray containing sterile equipment for insertion of intravascular devices at the time of inspection. A sharps container also stored on this tray was overfilled, posing a risk of percutaneous injury to staff. Sharps containers should be permanently sealed when approximately two thirds full. It was reported that blood glucose monitors and their holders were sometimes brought to the point of care when taking blood samples for monitoring patients' blood sugar. It is recommended that only the equipment required for a procedure should be brought to the patient bedside.

Stocks of respiratory equipment were stored on a mobile patient monitoring trolley and at each point-of-care in the recovery bays. It is recommended that a minimal amount of supplies are stored at the point of care areas to avoid contamination of supplies.

The surface of an ultrasound gel bottle holder and nozzle were unclean in one procedure room in the Interventional Radiology Suite. Outbreaks of infection have been associated with contaminated ultrasound gel.[11]

Assurances were not in place that reusable spray bottles containing detergent for general purpose cleaning had been emptied, washed out and dried following each cleaning session. Poor management of reusable containers can support bacterial

growth in liquid solutions which may result in the dispersal of bacteria into the clinical environment. It is recommended that local processes are improved in this regard.

2.4 Key findings relating to hand hygiene

2.4.1 System change[6] : *ensuring that the necessary infrastructure is in place to allow healthcare workers to practice hand hygiene*.

- Alcohol-based hand gel dispensers were available in patient areas in the Interventional Radiology Suite but not at each point-of-care in line with national guidelines.[12] Alcohol-based hand rub is considered the gold standard for hand hygiene in healthcare.[13] HIQA observed a preference for hand washing by staff in the patient recovery area at the time of the inspection. Access to hand gel at the point-of-care has been shown to be an effective way to facilitate greater compliance with hand hygiene best practice and should be a focus for improvement.
- The design of clinical hand wash sinks in the Interventional Radiology Suite and St Brigid's Ward did not conform to Health Building Note 00-10 Part C: Sanitary assemblies.[14] Authorized persons observed a number of loose seals between the backsplash and the taps on the hand hygiene sinks in St Brigid's Ward impeding thorough cleaning of these areas. All joints should be completely sealed as most environments in healthcare facilities have the potential to serve as reservoirs for waterborne microorganisms.
- There was limited access to a clinical hand wash sink in rooms 1-4 on St Brigid's Ward when curtains were pulled around the patient's bed.

2.4.2 Training/education[6] : *providing regular training on the importance of hand hygiene, based on the 'My 5 Moments for Hand Hygiene' approach, and the correct procedures for handrubbing and handwashing, to all healthcare workers*.

- Staff are required to attend hand hygiene training on an annual basis. Overall 85% of relevant staff were up-to-date with hand hygiene in the hospital. In the Interventional Radiology Suite, 88% of staff were up-to-date with training at the time of inspection.
- Monitoring of mandatory hand hygiene training in St Vincent's University Hospital is via an electronic system 'My View' which is a traffic light database system accessible in all areas. It places responsibility on individual staff members to ensure compliance with training. Inspectors were informed that ward managers have local oversight of the system however, at the time of the inspection, this information was not readily available in the areas inspected.

2.4.3 Evaluation and feedback[6]: *monitoring hand hygiene practices and infrastructure, along with related perceptions and knowledge among health-care workers, while providing performance and results feedback to staff*.

National hand hygiene audits

St Vincent's University Hospital participates in national hand hygiene audits, results of which are published twice a year.[15] The results in Table 1 are taken from publicly available data from the Health Protection Surveillance Centre's website.

Table 1: St Vincent's University Hospital national hand hygiene audit results

Period 1-10	Result
Period 1 March /April 2011	85.7%
Period 2 Oct/Nov 2011	89.5%
Period 3 May/June 2012	82.9%
Period 4 Oct/Nov 2012	87.1%
Period 5 May/June 2013	91.0%
Period 6 Oct/Nov 2013	90.0%
Period 7 May/June 2014	90.5%
Period 8 Oct/Nov 2014	90.0%
Period 9 May/June 2015	93.3%
Period 10 Oct/Nov 2015	91.0%

Source: Health Protection Surveillance Centre – national hand hygiene audit results.[15]

Hand hygiene compliance at the hospital was above the HSE national key performance indicator for hand hygiene compliance in May/June 2015. The hospital has consistently achieved hand hygiene compliance of greater than 90% in these audits since 2013 which is commendable.

Local hand hygiene audits

- Monitoring of hand hygiene practices is undertaken quarterly by the Infection Prevention and Control Team. The most recent hand hygiene audit conducted for the hospital in 2016 showed a compliance of 88%. The most recent hand

hygiene audit results for the Interventional Radiology Suite was 100% in March 2016. The most recent audit results for St Brigid's Ward for quarter 1 2016 showed compliance of 97% and St Monica's Ward achieved compliance of 87%. The results of local hand hygiene audits are fed back to unit managers and to all levels of management within the hospital.

Observation of hand hygiene opportunities

Authorized persons observed hand hygiene opportunities among a small sample of staff in the areas inspected. This is intended to replicate the experience at individual patient level over a short period of time. It is important to note that the results of the small sample observed is not statistically significant and therefore results on hand hygiene compliance do not represent all groups of staff across the hospital as a whole. In addition, results derived should not be used for the purpose of external benchmarking.

The underlying principles of observation during inspections are based on guidelines promoted by the WHO[16] and the HSE.[17] In addition, authorized persons may observe other important components of hand hygiene practices which are not reported in national hand hygiene audits but may be recorded as optional data. These include the duration, technique[ϒ] and recognized barriers to good hand hygiene practice. These components of hand hygiene are only documented when they are clearly observed (uninterrupted and unobstructed) during an inspection. Such an approach aims to highlight areas where practice could be further enhanced beyond the dataset reported nationally.

HIQA inspectors observed seven hand hygiene opportunities in total during the inspection. Hand hygiene opportunities observed comprised the following:

- one before touching a patient
- one before a clean/aseptic procedure
- one after body fluid exposure risk
- three after touching a patient
- one after touching patient surroundings

- five of the seven hand hygiene opportunities were taken. The two opportunities which were not taken comprised the following:

  - before a clean/aseptic procedure
  - after touching patient surroundings

[ϒ] The inspectors observe if all areas of hands are washed or alcohol hand rub applied to cover all areas of hands.

Of the five opportunities which were taken, the hand hygiene technique was observed (uninterrupted and unobstructed) by the authorized persons for five opportunities and the correct technique was observed in two hand hygiene actions.

2.4.4 Reminders in the workplace[6]: prompting and reminding healthcare workers about the importance of hand hygiene and about the appropriate indications and procedures for performing it.

- Hand hygiene advisory posters were available, up-to-date, clean and appropriately displayed.
- Stickers were placed on soap dispensers beside the clinical hand wash sinks on St Brigid's Ward detailing the WHO 'My 5 Moments for Hand Hygiene'. However, due to their small size they may go unnoticed.

2.4.5 Institutional safety climate[6]: creating an environment and the perceptions that facilitate awareness-raising about patient safety issues while guaranteeing consideration of hand hygiene improvement as a high priority at all levels.

- Hand Hygiene audit results were displayed on a notice board in the Interventional Radiology Suite. This was not a consistent practice observed in all areas inspected and visited.
- St Vincent's University Hospital has demonstrated a commitment to improving hand hygiene compliance at all levels. Evidence viewed at the time of the inspection showed that a high percentage of staff were up-to-date with hand hygiene training. The hospital has consistently achieved 90% or above in national hand hygiene audits since 2013 and has a regular schedule of internal hand hygiene audits in place. The hospital needs to build on the achievements to date to ensure that hand hygiene compliance is sustained.

2.5 Key findings relating to infection prevention care bundles[§]

Care bundles to reduce the risk of different types of infection have been introduced across many health services over the past number of years, and there have been a number of guidelines published in recent years recommending their introduction across the Irish health system.

Authorized persons reviewed documentation and practices and spoke with staff relating to infection prevention care bundles in the areas inspected and visited. HIQA viewed peripheral vascular catheter care bundle record sheets on St Brigid's Ward which demonstrated good compliance with all the elements of this care bundle.

It was reported that monthly audits of peripheral vascular catheter bundle completion were performed as part of nursing metrics. However there was lack of

[§] A care bundle consists of a number of evidence based practices which when consistently implemented together reduce the risk of device related infection.

awareness and feedback at local level of results achieved during care bundle audits. February 2016 audit results demonstrated 100% compliance with peripheral vascular catheter care bundles on St Brigid's Ward. Hospital wide metric results are trended on a monthly basis by the Nurse Practice Development department. However, overall hospital wide compliance for audits carried out in 2015 was 54% and audits completed in 20 clinical areas in February 2016 showed 59% compliance. These results indicate that further improvement in care bundle compliance is required.

The hospital has a programme of invasive device infection surveillance, which provides quarterly performance feedback to clinical areas. Surveillance of infection with timely feedback to staff makes potential problems visible and actionable. This is evidence of good practice and shows that the hospital is committed to reducing bloodstream infection related to such devices. In addition, the Infection Prevention and Control Team carry out a monthly visual inspection of a sample of peripheral vascular catheters.

Urinary catheter care bundles were not in use. It is recommended that the implementation of Urinary Catheter Care bundles should be progressed in line with national guidelines.

It was reported to HIQA that cental venous catheter and ventilator associated pneumonia care bundles were in place in the Intensive Care Unit.

The routine application of infection prevention care bundles has been proven to reduce device related infection internationally and has been recommended in relevant national guidelines and the National Standards for the Prevention and Control of Healthcare Associated Infection, for a number of years. St Vincent's University Hospital needs to continue to build on the progress to date to fully embed infection prevention care bundles into routine practice in the best interest of patients.

3. Summary

This unannounced inspection against the *National Standards for the Prevention and Control of Healthcare Associated Infection* at St Vincent's University Hospital identified composite infection prevention and control related risks including an increasing incidence of hospital acquired vancomycin-resistant *Enterococci* (VRE) colonization, poor infrastructure in the National Liver Transplant Unit and poor compliance with transmission based precautions.

Observations made at the time of this inspection and subsequent information provided by the hospital did not assure HIQA that this ongoing issue has been comprehensively managed by the hospital at the time of the inspection. Learning from an outbreak in the hospital in 2014 and from past reports of VRE outbreaks internationally in relation to ward infrastructure and control measures has not been acted upon to reduce risks to patients.

Strict adherence and compliance with basic infection prevention and control measures across all disciplines is essential to help ensure that Healthcare Associated Infections are reduced. Regular risk assessment of the environment from an infection prevention and control perspective should occur. Infrastructural issues that impact on effective infection prevention and control should be prioritized and addressed on the basis of risk within the hospital and across healthcare systems. HIQA recommends that the deficiencies and non-compliances identified in this report should be reviewed so that the hospital complies with the *National Standards for the Prevention and Control of Healthcare Associated Infections.*[1]

St Vincent's University Hospital has implemented a high level of compliance with the multi drug resistant organisms (MDRO) screening guidelines. As a consequence of this higher screening rate, St Vincent's University Hospital possibly has a greater degree of visibility in relation to this problem than other hospitals, where implementation of these guidelines has been less comprehensive. However, having identified this problem, it is encumbent on St Vincent's University Hospital to ensure that it is effectively managed. VRE infection can have serious outcomes for certain at risk patients resulting in increased length of stay, higher costs and increased morbidity and mortality. Where a high incidence of colonization is detected, it needs to be effectively managed.

In fully evaluating this issue, it is important to note that Ireland had the highest percentage of vancomycin resistance *Enterococcus faecium* bloodstream isolates in Europe in 2015.[18] The high percentage of vancomycin resistance *Enterococcus faecium* bloodstream isolates identified in Ireland and the lack of the full application of MDRO screening guidelines in all hospitals may indicate a possible lack of awareness or underestimation of the extent of underlying colonization rates in other hospitals and from a national perspective. HIQA note that nationally, a specialist

taskforce has recently been established by the HSE, which among other things aims to address the high incidence of VRE experienced in the country. The findings of this report should be considered in the context of this wider issue.

HIQA notes that the hospital has adopted a multimodal strategy in improving hand hygiene practices. The hospital has exceeded the HSE's national target of 90% since May/June 2013 and should aim to maintain high compliance rates.

The routine application of infection prevention care bundles has been proven to reduce device related infection internationally, and has been recommended in relevant national guidelines and the National Standards for the Prevention and Control of Healthcare Associated Infection[1], for a number of years. Overall, HIQA found that the hospital is working towards compliance with Standard 8 of the Infection Prevention and Control Standards and is committed to improving the management of invasive devices. It is recommended that the implementation of Urinary Catheter Care bundles should be progressed in line with national guidelines.

4. Next steps

St Vincent's University Hospital must now revise and amend its QIP that prioritizes the improvements necessary to fully comply with the Standards. This QIP must be approved by the service provider's identified individual who has overall executive accountability, responsibility and authority for the delivery of high quality, safe and reliable services. The QIP must be published by the hospital on its website within six weeks of the date of publication of this report and at that time, provide HIQA with details of the web link to the QIP.

It is the responsibility of St Vincent's University Hospital to formulate, resource and execute its QIP to completion. HIQA will continue to monitor the hospital's progress in implementing its QIP, as well as relevant outcome measurements and key performance indicators. Such an approach intends to assure the public that the hospital is implementing and meeting the Standards and is making quality and safety improvements that safeguard patients.

5. References[¥]

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Appendix1 Copy of letter issued to St. Vincent's University Hospital

Health Information and Quality Authority
An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

Professor Michael Keane
Acting Chief Executive Officer
St Vincent's University Hospital
Elm Park
Dublin 4
m.keane@st-vincents.ie

1 April 2016

Ref: PCHCAI/595

Dear Michael

Under section 8(1)(c) of the Health Act 2007, authorized persons of the Health Information and Quality Authority carried out an unannounced inspection at St Vincent's University Hospital on 30 March 2016 against the *National Standards for the Prevention and Control of Healthcare Associated Infection*.

During the inspection process, a number infection prevention and control related risks were identified which require the Authority to seek further assurance from you. These include;

- The overall infrastructure of St Brigid's Ward, the National Liver Unit, was not optimal from an infection prevention and control perspective. Issues identified include;
  - Inadequate and insufficient isolation facilities within the ward. The majority of the isolation rooms in use did not have ensuite facilities which meant that the only communal bathroom on the ward was shared between all patients including those requiring transmissions based precautions. In addition, it was evident that bed spacing in multi-bedded cohort rooms in the ward were not in compliance with best practice guidelines.

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Health Information and Quality Authority
An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

- The dirty utility room does not have a designated hand hygiene sink. There is not enough space in the dirty utility room to accommodate commodes, which were stored instead in the patient bathroom shared by ten patients.
- Surfaces and finishes throughout the ward are degraded and do not facilitate effective cleaning.

– Poor compliance with transmission-based precautions was observed on St Brigid's Ward. The doors of all isolation rooms on the ward were open during the inspection which is not in line with best practice. A healthcare worker was observed donning personal protective equipment after entering an isolation room. In addition, personal protective equipment worn by another healthcare worker in an isolation room was removed outside the isolation room instead of inside the room.

– A high and increasing incidence of the detection of healthcare associated vancomycin resistant *Enterococci* (VRE) colonisation at the hospital. In particular, an identified high incidence of patients acquiring healthcare associated vancomycin resistant *Enterococci* colonisation on St Luke's Ward 1 and St Luke's Ward 2 in 2015.

In light of these findings, I am writing to you to seek both further clarification and assurance in relation to the risks identified. Specifically, please provide further details with respect to;

– The current state of knowledge in relation to the incidence of hospital acquired vancomycin resistant *Enterococci* colonisation and infection at your hospital, and associated measures enacted and planned to further address this issue.

The provision of relevant information should include; relevant outbreak control team reports, Infection Prevention and Control committee minutes and any other reports compiled by the Infection Prevention and Control Team at the hospital in response to this issue. HIQA note in requesting this information that the level of screening at the hospital has increased in line with national guidelines, and is more comprehensive than what is in

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place in many other Irish hospitals.

- During the course of the inspection authorized persons were informed of plans to relocate St Brigid's ward. Please inform us of the current status of this plan in line with current reconfiguration within the hospital.
- Please provide us with evidence of the presence (if in existence) of both the increased incidence of VRE, and the ongoing suitability of accommodation on St Brigid's Ward, on the hospitals risk register, and further evidence (if in existence) of formal escalation of these specific risks to the Ireland East Hospital Group management team.
- A copy of the hospital's outbreak control policy.
- A copy of the hospital's transmission based precautions policy.

Please provide this information to HIQA by 2pm on 8 April 2016. Should you have any queries, please do not hesitate to contact me at qualityandsafety@hiqa.ie. Please confirm receipt of this letter by email (qualityandsafety@hiqa.ie).

Yours sincerely

KATHRYN HANLY
Authorised Person

CC: Susan Cliffe, Head of Healthcare, HIQA
Mary Day, Group CEO, Ireland East Hospital Group
Mary Dunnion, Director of Regulation, HIQA

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Appendix2: Copy of letter received from St. Vincent's University Hospital

ElmPark
Dublin4
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Web: www.stvincents.ie

St. Vincent's University Hospital

April 2016.

Ms. Kathryn Hanly,
Authorised person,
HIQA Dublin Regional Office,
George's Court,
George's Lane,
Dublin 7.

Ref: PHCAI/595

Dear Ms. Hanly,

Thank you for your letter of 1st April 2016 in relation to the unannounced inspection carried out by HIQA at St. Vincent's University Hospital (SVUH) on 30th March 2016.

I wish to assure you that the incidence of VRE in the hospital and the infrastructure of St. Brigid's Ward are recognised by the hospital to be significant issues. SVUH has been working to address both within the confines of the budgetary allocation and the continuing pressures of insufficient bed capacity in the face of increasing clinical demands.

I have provided the specific details requested in your letter below.

SVUH-acquired VRE

In Q1 2016, 121 cases of VRE were detected in patients more than 48 hours after admission to SVUH; there were 148 cases in Q1 2015. The number of cases of SVUH acquired VRE in 2013 was 228, in 2014 was 359 and in 2015 was 521. In 2014, the routine screening for VRE was expanded from high-risk areas (ICU, haematology/oncology and liver unit) to include the GI surgical wards; this was fully implemented by 2015.

The number of cases of VRE bloodstream infections occurring more than 48 hours after admission to SVUH was 22 in 2013; 23 in 2014 and 13 in 2015. Data on other VRE infections is not routinely collected.

The number and rate of cases of VRE colonisation and number of cases of VRE bloodstream infection are included in the monthly infection prevention and control KPI set, which is reviewed by the Patient Safety Committee, the Infection Prevention and Control Committee, the Medical Executive and the Bed

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St. Vincent's University Hospital

Management Committee. The Patient Safety Committee provides a monthly update to the Board of Directors.

Measures implemented in SVUH to address VRE include increased screening in GI surgical wards, single room isolation or cohorting of VRE colonised patients in all clinical areas, increased frequency of environmental cleaning, and use of hydrogen peroxide for terminal decontamination. An upgrade of the ward facilities in the central ward block has been identified as a key priority for the hospital; this will include en-suite toilet and shower facilities and the reduction of the number of beds in each multi-bedded room. The capital funding provision for the hospital is not sufficient to carry out these works and a business case for funding is being prepared by the Estates Strategy Group. In addition, a proposal to create a dedicated VRE cohort ward as an interim measure has been submitted to the bed management committee.

Relocation of St. Brigid's Ward

Various options have been explored for the relocation of St. Brigid's Ward. Options are limited by the requirement for HEPA filtration for *Aspergillus* prevention in the context of the planned construction of the National Maternity Hospital on the SVUH campus. It is intended that two HEPA-filtered wards for SVUH patients will be provided in the first phase of the NMH build, one of which has been earmarked for St. Brigid's Ward. More immediate options that have been identified are the upgrade of the adjacent St. Michael's Ward or a move to the Nutley wing. Relocation to the Nutley wing is limited by the structural difficulties of installation of the required ventilation and the need to find alternative accommodation for the patient cohort that would be displaced by this move. A proposal to upgrade St. Michael's Ward was submitted to the Estates Strategy Group; this would require additional capital funding. The plan was delayed by the requirement from the National Winter Initiative to open additional beds at the end of 2015; St. Michael's Ward was the only vacant clinical area available for use. Funding was provided for this upgrade and all rooms now have en-suite toilet and shower facilities. In order for St. Brigid's to relocate to St. Michael's, HEPA filtration is required; a business case is being prepared for submission to IEHG/HSE for funding to progress this work.

Risk Register

Neither VRE nor the infrastructure of St. Brigid's Ward is on the hospital risk register at present; the register is currently being updated and both will be placed on the register. Neither issue has been formally escalated to the IEHG management team.

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Please find attached the Infection Prevention and Control Committee minutes 2013-2015, the Infection Prevention and Control Annual Report 2015, the Infection Prevention and Control Annual Plan 2016, the KPI monthly reports (January and February 2016), the KPI annual report 2015, the annual surveillance report 2015 and the two policies requested (Transmission based precautions and Management of an Outbreak).

Yours sincerely,

Michael Keane

Prof. Michael Keane
Acting CEO

cc Ms. Susan Cliffe, Head of Healthcare, HIQA
Ms. Mary Day, Group CEO, IEHG
Ms. Mary Dunnion, Director of Regulation, HIQA

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