HIQA National Review of Antimicrobial Stewardship in Public Acute Hospitals

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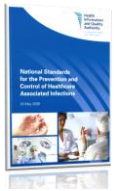
Presentation outline

- HIQA, Infection Prevention and Control, and Antimicrobial Resistance
  - National Standards
  - From hygiene, to more comprehensive infection prevention and control inspections
- Antimicrobial Stewardship in public acute hospitals – why a National Review?
- How did we do this review?
- What did we find?
- What has happened since?

HIQA's current legal remit in the Healthcare Setting

- Section 8 of the Health Act 2007 – Monitoring against National Standards
  - *National Standards for Safer Better Healthcare*
  - *National Standards for the Prevention and Control of Healthcare Associated Infection*
  - *National Standards for Safer Better Maternity Services*

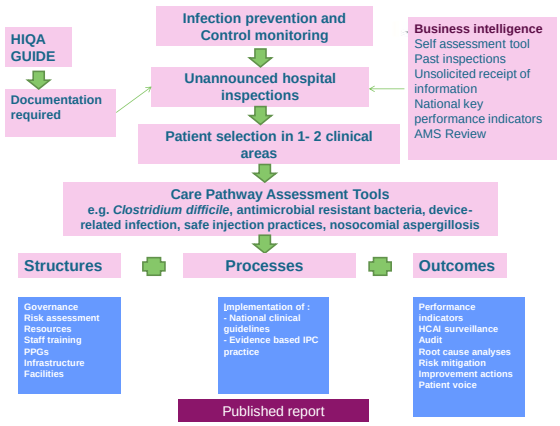


Prevention and control of healthcare associated infections - monitoring history

- 2007 – 2012 Independent national hygiene services quality reviews in 2008/2009. Inspection against national hygiene standards
- 2012 - unannounced inspections and announced inspections looking at all National Standards for the Prevention and Control of Healthcare Associated Infections in acute hospital setting
  - mainly focusing on environmental hygiene and hand hygiene
- 2015/2016 – unannounced inspections focused on higher risk clinical areas, environmental hygiene, hand hygiene and prevention of infection in the use of invasive medical devices
- 2016 Antimicrobial Stewardship Review including self assessment across 49 hospitals

Our revised approach to monitoring in 2017

- Modified infection prevention and control monitoring programme
  - Focus on specific key elements of an infection prevention and control programme, including measure to control
    - *Clostridium difficile*
    - MDRO's
    - Invasive device related infection
    - Safe injection practices
    - Nosocomial aspergillosis
- More detailed focus on Reusable Invasive Medical Device decontamination (Scopes, surgical instruments etc) to begin in 2018
  - External advisory group and international input underway to assist with refining methodology
  - Further detail to be provided in advance of commencement



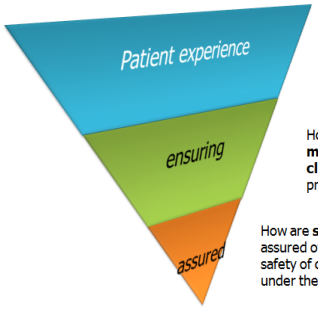
Why a National Antimicrobial Stewardship Review?

- Antimicrobial Stewardship a distinct part of the National Standards
- A critical additional element in addressing the threat of antimicrobial resistance
  - Antimicrobial resistance - a key strategic threat - recognised by An Taoiseach on the country's risk register
  - Higher mortality globally than cancer and diabetes combined by 2050
- Allowed us to take a higher level view of national governance in working to address the threat of antimicrobial resistance in the health service
- Also allowed us to consider important elements of surveillance, not previously addressed by individual hospital inspections

How did we do this review?

- Methodology informed by National Standards, literature review, and input from an external advisory group
  - Also linked in with other regulators and relevant national bodies in UK and the Netherlands to inform approach and findings
- Developed a self-assessment tool, distributed to all 49 public acute hospitals for return within 28 days
- Conducted follow-up announced one day inspections in 14 hospitals
  - representative sample by hospital type, size, specialisation, and geographic location
- Also focused on national leadership, governance and management
  - interview with key national leadership figures, documentation review, data analysis, international benchmarking

Systems regulation



What are **patients** experiencing?

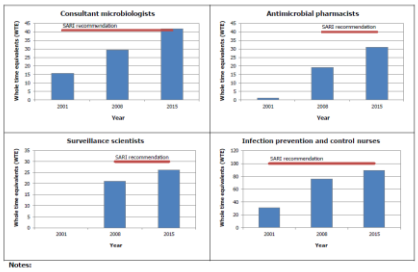
How are **middle managers and clinicians** ensuring best practice occurs as routine?

How are **senior managers** assured of the quality and safety of care provided under their watch?

Key contributors to success

- An appropriate complement of well-trained and well led specialized staff, working as a team
- A support framework which includes good laboratory, information technology, surveillance and clinical pharmacy resources
- Effective governance arrangements with effective senior management supports

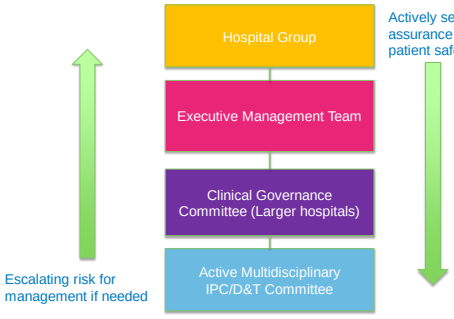
Figure 2. Staffing compared to national SARI recommendations for WTE specialized staff for infection prevention and control, and antimicrobial stewardship



Notes:

- WTE = whole-time equivalent.
- The red line ——— denotes the SARI recommendations for staffing levels.[81] Staffing levels refer to posts in publicly-funded acute hospitals and do not include academic sessions, public health and other non-hospital appointments.
- Consultant microbiologists: SARI recommendation based on Royal College of Pathologists guidance for minimum staffing.
- Antimicrobial pharmacists: based on the SARI recommendation of at least one whole-time equivalent for large acute hospitals, and at least 0.5 whole-time equivalent for smaller acute hospitals.
- Surveillance scientists: based on the SARI recommendation of at least one whole-time equivalent for large clinical laboratories, and at least 0.5 whole-time equivalent for smaller clinical laboratories.
- Infection prevention and control nurses: based on a past minimum ratio of one infection control nurse to every 125 acute inpatient beds. This does not include requirements for long-stay institutions and community-based services.

High performance – strong leadership, whole hospital involvement

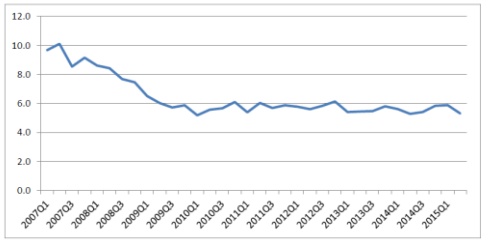


Notable areas of progress

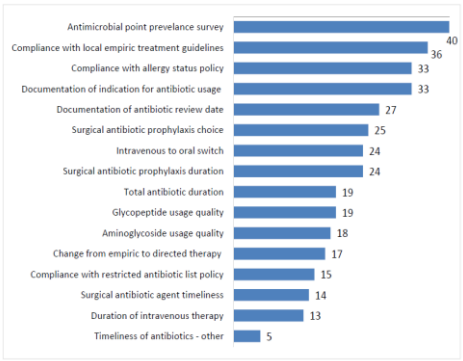
- Significant progress has been made in the areas of antimicrobial consumption surveillance – stabilisation in prescribing volume
- Good work done in developing and embedding prescribing guidelines – good use of technology
- Controls around key antimicrobial agents
- Point-of-care interventions
  - Ready access to expertise
  - Proactive expert intervention, leading to streamlining and deescalation
  - Prescribing apps
  - Drug kardex modifications
  - Dose optimisation, TDM, IV to PO switching

The impact of designer prescribing?

Figure 16. Total volume of fluoroquinolone usage in public acute hospitals per quarter in defined daily doses per 100 bed days from the start of 2007 until 2015



Audit



Key areas for further focus in individual hospitals

- Significant variance in approach – in some cases duplication in effort, greater scope for more collaboration across hospitals required
- A relative lack of progress in some hospitals – correlated strongly with relative level of resourcing
- Likely a symptom of a wider need to improve medication safety more generally in some cases
- Need to ensure adequate workforce is in place – greater coordination and cooperation at group level required
- Need to focus on ICT to advance surveillance, information handling and electronic prescribing

What about in the community?

- New resource allocation in the area of infection prevention and control peaked pre-2008
  - largely in response to the proliferation of MRSA and concerns around *C. difficile* – predominantly hospital problems
  - led to hospital-centric resourcing
- 2008 – Financial crash – recruitment moratorium
- Not all hospitals received planned resources
- Limited consideration of the need for parallel resourcing in the community
- Emergent Gram-negative antimicrobial resistance – a combined residential care/community/hospital problem
- Requires a whole health and social care system response

National leadership and governance

- This is a key strategic threat for the country
- Ireland therefore needed an updated national plan to inform the collective approach to reducing antimicrobial resistance emergence
- Greater governance coordination at a national level within the HSE also needed, especially across divisions
  - Poor oversight of emergent Gram-negative resistance
  - Limited mechanisms in place to properly support hospitals with problems
  - Greater awareness and urgency required by senior leaders
  - Lack of clarity around leadership

Recommendations

Recommendation 1

The HSE must address identified gaps in antimicrobial stewardship and infection prevention and control identified throughout this review. To begin addressing these deficiencies, the following measures are required:

a. The establishment of a permanent national Health Service Executive (HSE) operational management and oversight group, with sufficient authority to ensure the timely implementation of required infection prevention and control measures across acute hospital, community and residential care settings.

b. Better mechanisms to enable this national group to actively seek assurance with respect to performance and risk across the entire HSE, through better national surveillance systems for antimicrobial resistance and Healthcare Associated Infection, and setting up effective reporting mechanisms to senior HSE management.

c. A full evaluation of the roles, responsibilities and accountability of each current national contributory group or body involved in infection prevention and control and antimicrobial stewardship in the HSE to ensure collective clarity of function and defined lines of reporting.

d. An evaluation of current and future workforce needs, and the necessary information and communication technology (ICT) resources and other supports required to progress this work.

Recommendation 2

At a hospital-group and individual hospital level, efforts should be extended to build upon progress made to date in relation to antimicrobial stewardship and infection prevention and control. Improvement efforts should focus on:

a. Ensuring full compliance with relevant National Standards and guidelines, in particular those in relation to governance and risk management arrangements.

b. Ensuring that those remaining hospitals that do not have antimicrobial stewardship programmes in place are appropriately supported to enable their establishment.

c. Ensuring that where deficiencies in resources have been identified as a barrier to fully implementing infection prevention and control and antimicrobial stewardship best practice, that these deficiencies be addressed in a timely and sustainable way.

1. The potential for the allocation of additional resources along hospital group lines should be considered as a mechanism to improve efficiency and promote greater group collaboration.

2. Additional resources should be prioritised in the short term to those Model 3 hospitals that fare least well currently relative to others from a resource allocation perspective.

What has happened since?

- July 2017 - Irish Government publishes first interdepartmental national action plan for 2017-2020 around antimicrobial resistance
  - Joint initiative between Departments of Health and Agriculture
  - Aligned to WHO 'One Health' approach
- HSE National Taskforce formed around antimicrobial resistance
- HIQA
  - Continues monitoring role in this regard
  - Revised, more comprehensive inspection regime around infection prevention and control
  - Monitoring in the wider area of medication safety, which includes antimicrobial resistance