



**Health
Information
and Quality
Authority**

An tÚdarás Um Fhaisnéis
agus Cáilíocht Sláinte

Guide to the Health Information and Quality Authority's review of antimicrobial stewardship in public acute hospitals, 2015

25 June 2015

A quality assurance review to determine the current status of antimicrobial stewardship provision in public acute hospitals in Ireland.

About the Health Information and Quality Authority

The Health Information and Quality Authority (the Authority or HIQA) is the independent Authority established to drive high quality and safe care for people using our health and social care services. The Authority's role is to promote sustainable improvements, safeguard people using health and social care services, support informed decisions on how services are delivered, and promote person-centred care for the benefit of the public.

The Authority's mandate to date extends across the quality and safety of the public, private (within its social care function) and voluntary sectors. 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 those health and social care services in Ireland that by law are required to be regulated by the Authority.
- **Supporting Improvement** – Supporting services to implement standards by providing education in quality improvement tools and methodologies.
- **Social Services Inspectorate** – Registering and inspecting residential centres for dependent people and inspecting children detention schools, foster care services and child protection services.
- **Monitoring Healthcare Quality and Safety** – Monitoring the quality and safety of health and personal social care services and investigating as necessary serious concerns about the health and welfare of people who use these services.
- **Health Technology Assessment** – Ensuring the best outcome for people who use our health services and best use of resources by evaluating the clinical and cost effectiveness of drugs, equipment, diagnostic techniques and health promotion activities.
- **Health Information** – Advising on the efficient and secure collection and sharing of health information, evaluating information resources and publishing information about the delivery and performance of Ireland's health and social care services.

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1. Purpose of this guide

This is a guide to the Health Information and Quality Authority's review of the provision of antimicrobial stewardship in public acute hospitals in Ireland. The guide outlines why the Authority has decided to focus on this patient safety issue, how the review process will be conducted, and what the desired outcomes from this review will be.

2. Introduction

Under Section 8 (1) (c) of the Health Act 2007,¹ the Health Information and Quality Authority (the Authority or HIQA) has the legal remit and responsibility for monitoring against the *National Standards for the Prevention and Control of Healthcare Associated Infection*.² In line with 2015 business plan objectives,³ the Authority has developed an inspection programme to monitor compliance against these Standards, focused specifically on antimicrobial stewardship in public acute hospitals. The inspection programme will consist of two parts; a process of self-assessment followed by announced inspections in a selection of hospitals. This document contains detail on both parts of this programme.

2.1 Emergent antimicrobial resistance – a societal threat

The widespread introduction of antibiotics in the 1930's and 1940's had a transformative effect, not just for the provision of healthcare, but for society as a whole. Infections which were once potentially life-threatening became treatable as a matter of routine. The leading causes of death in developed countries reverted from infectious to other causes such as heart disease and cancer.⁴ As modern medicine continued to evolve, the use of advanced treatment methods such as cancer chemotherapy, organ transplantation and complex surgery were enabled through the use of antibiotics which could treat or prevent infection that might unavoidably occur as a result of these lifesaving interventions. Indeed, the complication rates associated with more routine surgery such as caesarean section or bone and joint surgery were likewise reduced significantly thanks to the impact of antibiotics.⁵⁻⁷

Ever since the discovery of penicillin, it has been recognised that the emergence of resistance to any new antibiotic agent should be anticipated after a period of time following its introduction to clinical practice.⁸ Bacteria divide very quickly in the right environment, and can adapt and evolve over time to overcome threats posed by agents formerly toxic to them, such as antibiotics. Consequently, even with the most careful usage of an antibiotic agent, some resistance amongst a certain percentage of formerly sensitive bacteria to that antibiotic will occur after a period of usage in clinical practice. In order to overcome this evolutionary response to antibiotic use, it is imperative that two complementary measures occur together. Firstly, the ongoing

pipeline of antibiotic development and introduction into clinical practice needs to stay ahead of the rate of emerging resistance to older antibiotics. Secondly, both clinicians and patients need to act to ensure that the value of antimicrobial agents currently in use is preserved for as long as possible through careful and expert usage, in a strategy known as antimicrobial stewardship.

2.1.1 The diminishing pipeline of new antimicrobial agents

The development of any new medicine is a complex, time consuming and extremely expensive endeavour. It is estimated that the total cost of developing a new medicine may extend to over €2.3bn.⁹ When deciding to invest in the development of a new medicine, pharmaceutical companies need to take into account the likely risk and return on investment relative to possible expenditure.

Since the late 1980's, and especially over the past 10-15 years, the rate of investment by pharmaceutical companies in the development of antimicrobial agents has declined significantly,¹⁰ as resources have been diverted to the development of more lucrative and less financially risky therapeutic classes. As a consequence, and related to increasing technical difficulty in discovering new antibiotics,¹¹ the approval rate for new antimicrobial agents has declined significantly, and has failed to keep pace with the rate of emergence of antimicrobial resistance. This mismatch between reduced drug discovery and emergent resistance is greatest amongst certain strains of Gram-negative bacteria.¹⁰ Gram-negative bacteria most commonly cause urinary tract infection, abdominal infection, bloodstream infection and pneumonia, and are regularly identified as the causative bacteria in cases of life threatening sepsis.

The failure to maintain investment in new antibiotics has required prescribers to begin to rely on the usage of older, less effective or more toxic antimicrobial agents to treat infection.¹² Such agents had until recently fallen out of favour with clinicians due to the arrival of newer and better options, but resistance to these newer established agents has meant that clinicians now increasingly find themselves having to return to the use of older, less advantageous antibiotics through necessity. This is because these older antibiotics may have retained an ability to treat the bacteria that have developed resistance to newer antibiotics due to their relative lack of recent use. However, in many cases, while they remain able to treat the resistant bacteria in laboratory conditions, their effectiveness in treating infection as it occurs in patients is not as great, and may result in more side-effects for patients when compared to conventional options. In an Irish context, such a pattern of resistance, which then requires usage of less conventional, less effective antibiotics has begun to emerge for some patients.^{13,14} Looking further afield, international experience has begun to describe cases of infection with bacterial strains that are resistant to all antibiotics,^{15,16} and in the absence of new antibiotic discovery this will become a more widespread problem. Indeed, a recent UK government report¹⁷ predicted that

the consequence of inaction in the face of this threat could result in multidrug resistant bacteria conservatively accounting for more annual deaths globally than cancer and diabetes combined by 2050, with a 15 fold increase in annual mortality relative to what we see today.

Governments and other international bodies are acting to improve the commercial incentive for pharmaceutical companies to increase investment in new antibiotic agents.^{18,19} Recent reports suggest that after a slow start, some progress has begun to occur in developing new agents.^{20,21} However the initial time lag experienced in mobilising efforts to improve this incentive, and the as yet unproven effectiveness of new drugs in the prospective pipeline mean that in the short term, healthcare has begun to enter a difficult period where there is a risk that some infection will be untreatable with antibiotics due to multidrug resistance.

2.2 Antimicrobial stewardship

In an era where the discovery of new antibiotics has failed to keep pace with the emergence of resistance, measures to preserve the utility of the antibiotics that still retain activity becomes essential. Antimicrobial stewardship refers to a set of coordinated strategies which aim to improve the quality of usage of antimicrobial medications, with the goal of enhancing patient health outcomes, reducing adverse effects, reducing the emergence of resistance, and reducing healthcare costs.²² In short, antimicrobial stewardship programmes intend to ensure that every patient receives the right antimicrobial therapy, at the right dose, route and duration, for the right infection type at the right time. In addition, it also intends to ensure that therapy is continually reviewed, refined and discontinued where the patient's condition allows.

Good practice with respect to antimicrobial stewardship is supported by a strong evidence base²³ and it has been proven to be cost saving for organisations that invest in this patient quality and safety initiative. High performance by antimicrobial stewardship programmes in a hospital setting requires a coordinated approach throughout the organisation. Such an approach requires at a minimum; effective leadership and governance at a managerial and clinical level, effective quality assurance mechanisms, a responsive quality improvement and change management approach which continuously learns and adapts to improve performance, an appropriately resourced, skilled and trained workforce, sufficient access to necessary diagnostics, and accountability amongst prescribers and other relevant staff.

2.2.1 National antimicrobial stewardship recommendations

Standard 12 of the Authority's *National Standards for the Prevention and Control of Healthcare Associated Infection* provides a template for antimicrobial stewardship in

Irish Healthcare settings. This Standard, allied with Standard 11 (Surveillance), but also with the remainder of the Standards, provides a framework for hospitals to leverage improvement against.

In addition to these Standards, The Strategy for the Control of Antimicrobial Resistance in Ireland (SARI) produced *Guidelines on Antimicrobial Stewardship in Irish Hospitals* in 2009.²⁴ These guidelines outline an number of evidence based principles which must be implemented by all publically funded acute hospitals in Ireland. The guidelines outline the necessary governance structures, essential staffing requirements and recommended interventions required to implement antimicrobial stewardship effectively in both the acute and non-acute residential healthcare setting. Given that these guidelines, and the *National Standards for the Prevention and Control of Healthcare Associated Infection* have now been in use for over five years, it is expected that all public acute hospitals will have established active antimicrobial stewardship programmes at this point in time.

2.2.2 The parallel importance of good infection prevention and control practice

To fully address the risk of emergent antimicrobial resistance it is very important that hospitals continue their work to promote and enhance good practice with respect to infection prevention and control as part of a programme that complements the hospital's antimicrobial stewardship programme. Measures that prevent infection in the first instance, and reduce the spread of resistant organisms where patient infection or colonisation with multidrug resistant organisms is found, are vital to fully address this emerging risk. Hospital antimicrobial stewardship programmes will be unsuccessful if they are not supported and accompanied by an effective wider infection prevention and control programme.

The Authority intends to continue to focus on the wider aspects of infection prevention and control practice in hospitals through its programme of unannounced inspection against *The National Standards for the Prevention and Control of Healthcare Associated Infection*, which will run parallel to this review throughout 2015. The methodology applied to these unannounced inspections has recently been enhanced to include a focus on not only environmental hygiene and hand hygiene, but on each hospital's approach to the implementation of infection prevention care bundles as well. Full details of the revised approach are outlined in a recently published guide document.²⁵ The combined impact of both this review of antimicrobial stewardship provision and the unannounced inspection programme will result in an expanded and complementary level of regulatory oversight against the *National Standards for the Prevention and Control of Healthcare Associated Infection* by the Authority in 2015.

3. The Authority's planned approach to regulatory review of antimicrobial stewardship provision in public acute hospitals in 2015

Antimicrobial resistance is a challenge which affects the entire health service. The public acute hospital system is increasingly interdependent, with patient transfer between hospitals occurring with an ever increasing frequency. With increased patient transfer the potential risk of transmission and spread of multidrug resistance increases. Indeed, greater international travel, and international medical tourism have been implicated in the spread of multidrug resistance across borders. Given the systemic risk posed by antimicrobial resistance, it is critically important that all hospitals have appropriate defences to both mitigate the risk of transmission of multidrug resistant bacteria, and prevent their emergence through good antimicrobial stewardship. Consistent good practice is required across the entire Irish health system to address this threat. The Authority intends to assess the provision of antimicrobial stewardship across all 49 public acute hospitals in one unified piece of regulatory work to reflect this need for standardised systemic strength. Effective management of the risk posed by antimicrobial resistance requires an effective and coordinated national programme of antimicrobial stewardship, which identifies areas of weakness for improvement, areas of strength for further enhancement, with the intention to share learning for the benefit of all.

In undertaking this piece of regulatory assurance work, the Authority intends to identify the current provision of antimicrobial stewardship programmes through measurement against *The National Standards for the Prevention and Control of Healthcare Associated Infection*,² and SARI *Guidelines for Antimicrobial Stewardship in Irish Hospitals*.²⁴ As effective antimicrobial stewardship requires a coordinated hospital wide approach, the *National Standards for Safer Better Healthcare*,²⁶ which are of relevance to all services, have also been considered in formulating the approach to this review process. The Authority has also been guided by other relevant national and international standards, guidelines, recommendations and published literature. This has included reference to a number of the recently published National Clinical Guidelines produced by the National Clinical Effectiveness Committee which are of relevance to antimicrobial stewardship programmes;

- National Clinical Guideline No. 2 - Prevention and Control Methicillin-Resistant *Staphylococcus aureus* (MRSA) – December 2013²⁷
- National Clinical Guideline No. 3 – Surveillance, Diagnosis and Management of *Clostridium difficile* Infection in Ireland – June 2014²⁸
- National Clinical Guideline No. 6 – Sepsis Management – November 2014.²⁹

To further assist with this work, an expert advisory group has been formed and has provided advice to the Authority in relation to the regulatory programme to date. The

advisory group membership includes patient representation, alongside members with relevant expertise from across the Irish health service. This advisory group will continue to support this programme as it progresses.

It is intended that this review will be composed of two parts. Part one of the review will require all 49 public acute hospitals to complete a self-assessment tool. The Authority developed this self-assessment tool following an extensive literature review, and detailed input from the expert advisory group and three pilot hospitals. This tool will be supplied to each hospital in an interactive PDF format, and hospitals are required to complete the tool and return it to the Authority within 28 working days. This tool is outlined in Appendix 3 and further details in relation to the tool are outlined in section 3.1 of this guide.

The information provided by hospitals via the self-assessment tool will assist the Authority in establishing an introductory understanding of hospital performance in relation to antimicrobial stewardship in 2015. The data provided will be fully analysed and reviewed by the Authority, and will be used to inform part two of the review. Part two of the review will include follow up announced inspection at approximately 14 of the 49 hospitals to verify findings and provide a deeper understanding of how antimicrobial stewardship is conducted in various settings. It is recognised that different hospitals will have different antimicrobial stewardship requirements based upon the relative size of the hospital, patient population, clinical casemix and other factors. This will be considered when assessing each hospital, and the review aims to describe practice as it occurs, detect and share good practice for the benefit of all hospitals, and identify opportunities for improvement where possible.

3.1 The self-assessment tool

The self-assessment tool has been formulated by the Authority based on national and international best practice evidence. An expert advisory group also provided technical expertise and advice. In addition, the tool was piloted in three Irish acute hospitals, and further refined following feedback from these hospitals.

The self-assessment tool is divided into two sections, Sections A and B:

- **Section A** requests information related to essential elements that the Authority, has identified as both necessary and achievable for all acute hospitals regardless of size or resource allocation. These essential elements have been selected in line with specifications outlined in both the *National Standards for the Prevention and Control of Healthcare Associated Infection*,² and the SARI *Guidelines for Antimicrobial Stewardship in Irish Hospitals*.²⁴ It should be noted that it is expected that in the majority of hospitals, the extent

of the hospitals antimicrobial stewardship programme would significantly exceed that covered in this section.

- **Section B** requests further detailed information in relation to specific aspects of each hospital's stewardship programme beyond those listed in section A. This section is broken down under the headings of Governance, Workforce, and Additional Stewardship Programme Component Parts. This section is designed to gather data both to inform the Authority in planning part two of the review, and to enable the Authority to describe and share practice for the benefit of collective improvement across the system.

The questions within the tool have been informed by international best practice evidence and similar work conducted in other countries,³⁰⁻³⁶ the expert advisory group, and shaped by the *National Standards for the Prevention and Control of Healthcare Associated Infection*, the *SARI Guidelines for Antimicrobial Stewardship in Irish Hospitals*, and other relevant national guidelines. Antimicrobial stewardship programmes are a key component of any hospital's overall quality and safety agenda. To be successful, the programme needs consistent high performance across a number of quality themes. With this in mind, each question in the tool has also been aligned to a specific theme from the *National Standards for Safer Better Healthcare*, which are of relevance to all healthcare services. Each of the eight themes (Figure 1.) is represented within the tool, and colour coded to identify to the reader where the question sits in relation to each standard theme.

1. Person-centred Care and Support
2. Effective Care and Support
3. Safe Care and Support
4. Better Health and Wellbeing
5. Leadership, Governance and Management
6. Workforce
7. Use of Resources
8. Use of Information



Figure 1: Diagrammatic representation of the *National Standards for Safer Better Healthcare* themes.

3.1.1. How to complete the self-assessment tool

The self-assessment tool will be sent to each hospital via email. The hospital will have a period of 28 working days to complete and return the questionnaire to the

Authority via email only to qualityandsafety@higa.ie. The questionnaire is in the form of an interactive PDF, which allows for direct data entry. The majority of the questions require a 'yes' or 'no' answer, however, further space for free text has been provided where required.

A number of staff in each hospital, at both a clinical and managerial level, are required to provide input to ensure an accurate response. The tool may be saved during the completion process to allow for additional completion by different parties. Piloting in a number of hospitals has shown that saving the document in one centrally accessible but secure location allows all necessary contributors to access the document which saves time and assists with version control.

The Authority also requests that the following additional documents be provided as part of each hospital's submission, alongside the completed tool, in electronic format:

- an electronic copy of each hospital's antimicrobial stewardship programme plan for 2015 or most recent available
- an electronic copy of each hospital's most recent assessment report of the antimicrobial stewardship programme if available
- an electronic copy of each hospital's most recent empiric antimicrobial prescribing guidelines
- an electronic copy of each hospital's Standard Operating Procedure (or equivalent) for use in the event of a *Clostridium difficile* outbreak
- an electronic copy of an organogram clearly showing the lines of communication and cooperation between each hospital's Drugs and Therapeutics Committee, the Antimicrobial Stewardship Team, the Infection Prevention and Control Team, the Pharmacy Department, the Risk Management Team/Department, and the hospital's Senior Management Team.

Finally, each hospital will be provided with a declaration form to be completed and returned to the Authority on submission of the data outlined above. This form must be signed by the CEO or General Manager of each hospital, and the relevant Hospital Group CEO, to declare that all information contained within the response is accurate.

3.1.2. Confidentiality

The Health Information and Quality Authority is subject to the Freedom of Information Acts³⁷ and the statutory Code of Practice regarding Freedom of Information³⁸. As part of the tool submission process, hospitals are requested to explain to the Authority if they regard any information submitted to be confidential. If the Authority receives a request for disclosure of information, the Authority will take full account of each hospital's explanation, but the Authority cannot give an

assurance that confidentiality can be maintained in all circumstances. Hospitals must not return any information to the Authority that could be used to identify an individual patient.

3.2. Follow up announced inspection

On completion of part one of this review process, the Authority will collate and analyse the information gathered. The Authority will then progress to announced inspection in approximately 14 hospitals to verify findings from the self-assessment exercise. This also allows the Authority to gain a broader understanding of the nature of each programme provided. Hospitals will not be selected for inspection until after the findings from the self assessment have been analysed. However, it is anticipated that those hospitals chosen for inspection will allow the Authority to gather a full picture of antimicrobial stewardship provision across the entire acute hospital system.

The Authority's approach to announced inspection in each hospital will likewise be tailored towards verifying findings from the self-assessment tool, and the final methodology applied will be determined after that process. However, it is anticipated that a key component of the inspection will include a focus on the governance arrangements for antimicrobial stewardship in each hospital. This will require Authorised Persons to interview staff members involved in both clinical and corporate governance oversight of the antimicrobial stewardship programme, including those responsible for leading the programme. It is likely that other frontline staff, including prescribers, may also be requested to meet with the Authority to further explore certain aspects of the review.

Each inspection will be announced to facilitate each hospital in coordinating attendance of key personnel on the day of inspection. Each inspection will be conducted over the course of one working day, and the Authority's requirements from each hospital - in terms of personnel that are required for interview, additional documentation and data, or other sources of information - will be requested in writing in advance of the inspection date. It is anticipated that announced inspection will commence in Q3 2015.

In addition, to enhance findings from the self-assessment tool and announced inspection process, the Authority may undertake to interview additional personnel employed by the Health Service Executive as deemed necessary throughout the review. Should this be needed, the Authority will write to the required personnel involved to arrange each interview.

3.2.1. Authorised Persons

- This review will be conducted by Authorised Persons, employed by the Authority.
- Authorised Persons are appointed in accordance with section 70 of the Health Act 2007¹ for the purposes of monitoring compliance with standards.
- All Authorised Persons will carry an authorisation card together with a form of personal identification.
- Authorised Persons will work within the powers described in the Health Act 2007.¹
- All Authorised Persons must comply with the Authority's Code of Conduct,³⁹ which is available on the Authority's website, www.higa.ie.

4. Risk identification, assessment and notification

During the course of this review, Authorised Persons may identify specific issues that they believe could present a risk to the health or welfare of patients.

- If risks are identified, the Authorised Persons will use the Authority's Risk Matrix (Appendix 1) to assess the likelihood and the impact of the identified risks.
- Any high risks to the health or welfare of patients identified during the review will be escalated in line with the Authority's escalation process (Appendix 2).
- High risks which require **immediate** mitigation, will be brought to the attention of the Hospital CEO/ General Manager, and may be further escalated to the level of Hospital Group CEO or higher up dependent on the nature of the risk identified. This is to ensure that the actions necessary to mitigate such risks are implemented. Formal written notification of the identified risk will also be issued to the Hospital CEO/ General Manager within **two working days** of the risk identification, with the requirement to formally report back to the Authority stating how the risk has been mitigated within **two working days** of receiving formal notification.
- In the case of high risks which **do not** require immediate mitigation, formal written notification of the identified risk will be issued to the Hospital CEO/ General Manager within **two working days** of the risk identification with the requirement to formally report back to the Authority with an action plan to reduce and effectively manage the risk within **five working days** of the risk identification.

5. Report of findings

On the completion of both parts of this regulatory review (the self-assessment process and onsite announced inspections), the Authority will collate findings and create a single assurance report. This report will be published on the Authority's website www.hiqa.ie, with an anticipated publication date of Q1 2016.

This report will summarise the findings from the entire review process, with the intention of providing an overview of the antimicrobial stewardship provision in public acute hospitals in Ireland in 2015. The report intends to take a health system wide approach to the review in describing stewardship provision, and it is not intended to name individual hospitals in the final report. The report intends to identify and share good practice, and identify opportunity for improvement where it exists for the benefit of collective improvement across the system.

In conducting this review, the Authority is conscious that there will be some variance in the application of antimicrobial stewardship programme provision by hospital. This variance will partly be determined by the inherent needs of each individual hospital as a result of, for example, their relative size, complexity of patient population and support from other centres. The Authority has identified essential elements that all hospitals are expected to have in place at this timepoint. The full implementation of these elements in all hospitals would ensure that there is a minimum level of protection for patients across the whole health system against the threat of antimicrobial resistance through antimicrobial stewardship. The report will therefore act as a baseline assessment of the provision of antimicrobial stewardship in public acute hospitals against these elements. It is also intended that the report will describe other elements of stewardship provision, in order to incentivise collective improvement across the public acute hospital system for the benefit of current and future patients.

Appendix 1 – Risk matrix

Risk assessment process: the Authorised Persons will assess the consequence of the risk to patients and the probability of reoccurrence to determine the level of risk, using the tables below. The consequence of the risk, and the probability of occurrence are both assessed and given a score from 1 to 5. The risk matrix is then used to give an overall risk score. This score then corresponds with the classification of risk table.

Consequence of the risk: What is the actual impact of the risk?

Consequence category	Impact on individual/future patients
1 Negligible	<ul style="list-style-type: none"> ▪ No obvious harm ▪ No injury requiring treatment
2 Minor	<ul style="list-style-type: none"> ▪ Minor injury ▪ No permanent harm
3 Moderate	<ul style="list-style-type: none"> ▪ Significant injury or ill health ▪ Some temporary incapacity
4 Major	<ul style="list-style-type: none"> ▪ Major injuries or long term incapacity or disability ▪ Major permanent harm as result of clinical or non-clinical incident injuries or long term incapacity or disability ▪ Major permanent harm
5 Catastrophic	<ul style="list-style-type: none"> ▪ Death

Probability of reoccurrence: What is the chance of this event occurring or reoccurring? Identify the 'probability rating' for reoccurrence from the following table:

Probability Score	Descriptor	Frequency
1	Rare	This will probably never happen/reoccur
2	Unlikely	Do not expect it to happen/reoccur again but it is possible
3	Possible	Might happen or reoccur occasionally
4	Likely	Will probably reoccur, but it is not a persistent issue
5	Almost certain	Will undoubtedly reoccur, possibly frequently

The lead Authorised Person classifies the risk using the risk matrix below and documents the findings that indicate the risk.

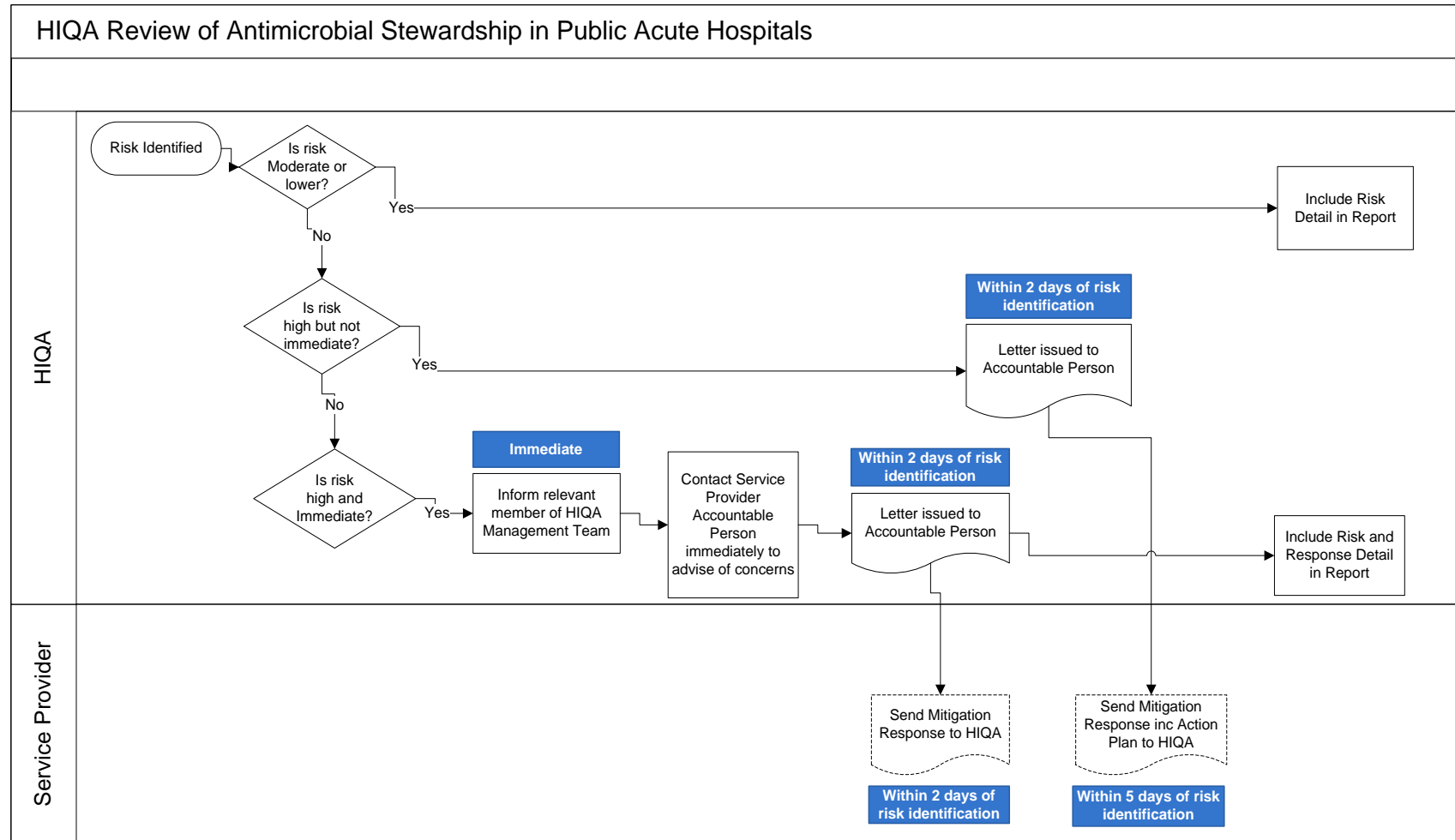
Risk Matrix

Probability ↓	CONSEQUENCE CATEGORY →				
	Negligible (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Almost certain (5)	5	10	15	20	25
Likely (4)	4	8	12	16	20
Possible (3)	3	6	9	12	15
Unlikely (2)	2	4	6	8	10
Rare (1)	1	2	3	4	5

The risk is then classified as high, moderate, low or very low as per the risk matrix score. See classification of risk table below.

Classification of risk	Risk Matrix Score
High Risk (Red)	15, 16, 20 or 25
Moderate Risk (Orange)	8, 9, 10 or 12
Low Risk (Yellow)	4, 5 or 6
Very Low Risk (Green)	1, 2 or 3

Appendix 2 – Risk Escalation Process



Note: Accountable Person: identified individual who has overall executive accountability, responsibility and authority for the delivery of high quality, safe and reliable services.

Appendix 3 – Copy of the self-assessment tool

Introduction

Under Section 8(1)(c) of the Health Act 2007, the Health Information and Quality Authority has the legal remit and responsibility for monitoring against the *National Standards for the Prevention and Control of Healthcare Associated Infection*. To aid the Authority in this monitoring role, the following Antimicrobial Stewardship self-assessment tool has been devised, and must be completed by your hospital and returned to the Health Information and Quality Authority **within 28 working days**.

This self-assessment tool has been designed to help the Authority to identify if every Irish public acute hospital has, at a minimum, the essential elements of an antimicrobial stewardship programme in place. These essential elements have been arrived at based upon international best practice evidence, prior published Irish and international guidance and expert advice provided to the Authority. The essential elements have been selected on the basis that all acute hospitals should have these in situ to optimise antimicrobial treatment and protect patient from the risk of antimicrobial resistance, regardless of hospital size, patient population or geographic location.

Receipt of this information will allow the Authority to determine each hospital's approach to ensuring that the essential elements of antimicrobial stewardship programmes are in place. It will also allow us to describe and share information on the current provision of antimicrobial stewardship programmes across the publically funded Irish acute hospital system. The information provided by your hospital will inform a summary publication detailing composite results for the health system. This will facilitate sharing of information across the system, and allow for a determination on where the areas of relative strength lie, and where a further focus for improvement should be concentrated.

In addition to the essential elements, this self-assessment tool also contains further sections which include amongst other things, questions relating to governance, workforce, the interrelationship between hospital stewardship programmes and specific detail relating to stewardship programme implementation in each hospital. This information is being gathered to allow the Authority to gain a deeper understanding of the specific nature of each stewardship programme. Collation of this data will likewise inform our planned summary report, with the intention that such sharing of information will allow for collective learning for hospitals across the system. It is recognised in collecting this data that hospitals may have different approaches to achieving high performance, and that hospitals will have different inherent antimicrobial stewardship capacity and capability based upon their relative resource allocation, size, and infrastructure and programme maturity.

Following conclusion of the self-assessment, the Authority will progress to announced on-site inspection in a selection of hospitals. The purpose of inspection

will be to verify self-assessment responses. It will also enable the full determination of findings in relation to the presence of antimicrobial stewardship essential elements, and facilitate a detailed evaluation of the overall programme in each setting. The self-assessment tool has been designed to provide the Authority with relevant information to assist us in the planning of announced follow-up inspection. On conclusion of the announced inspections, a final summary report of national findings will be published on the Authority's website, www.higa.ie.

The Chief Executive Officer or General Manager of each acute hospital may delegate completion of this form to the antimicrobial stewardship programme lead or an alternative staff member as appropriate. However, the Hospital's Chief Executive Officer/General Manager is ultimately responsible to ensure that it is satisfactorily completed and that it accurately reflects the antimicrobial stewardship arrangements within your hospital at the time of completion. Your hospital's Chief Executive Officer/General Manager, and Hospital Group CEO must sign and return the self-assessment declaration form provided with this tool upon its completion.

This self-assessment tool is in the form of an interactive PDF. Once the tool has been received, it should be saved onto a PC or laptop only. It is suggested that you first check that you can save and store interactive PDF's on the device you propose to use to complete the tool. This will allow the tool to be filled out in separate stages and at different times should this prove necessary. Please ensure to save all progress in the tool before shutting it down to ensure work is not lost.

The tool must be filled out and sent back to the Authority electronically as an attachment to an email. Please note that all fields must be filled in to complete the questionnaire. The abbreviation 'N/A' should be used to fill in any field which is not relevant to your hospital. This tool follows the themes contained within the *National Standards for Safer Better Healthcare*. Each question is linked back to the relevant theme within these standards via a colour code, with each colour in figure 1 signifying a different theme. Section A of this tool contains questions related to Antimicrobial Stewardship Programme essential elements. Section B contains additional questions that have been formulated based upon national and international standards and guidelines. Throughout the tool, there are various questions that relate to surveillance. This term may relate to pathogen or disease related surveillance, or surveillance of antimicrobial usage. Each question will outline what aspect of surveillance is referred to in each case. The completed self-assessment tool should be emailed to qualityandsafety@higa.ie. The Authority will only accept a soft (electronic) copy of this form.

Please note that the Authority is subject to the Freedom of Information Acts and the statutory Code of Practice regarding Freedom of Information. It would be helpful if you could explain to us if you regard the information you have included to be

confidential. If we receive a request for disclosure of information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. For this reason, do not to return any information that could be used to identify an individual patient. Please take care when completing the questionnaire to ensure that any information which could potentially be used to identify an individual patient be removed before returning the questionnaire to the Authority.



Figure 1. Diagrammatic Representation of The National Standards for Safer Better Healthcare Themes.

Each question in this self-assessment tool is linked back to the relevant national standard via its corresponding colour code.

- Sky Blue** = Safe Care and Support,
- Yellow** = Better Health and Wellbeing,
- Pink** = Use of Information,
- Navy Blue** = Use of Resources,
- Lime Green** = Workforce,
- Dark Green** = Governance Leadership and Management,
- Magenta** = Person-Centred Care and Support,
- Purple** = Effective Care and Support

Section A - Antimicrobial Stewardship Essential Elements

Essential Structural and Organisational Elements			
A.1.01	Is there a defined antimicrobial stewardship programme in place at your hospital?	Yes <input type="radio"/>	No <input type="radio"/>
A.1.02	If yes, please list the programmes proposed to meet your top three objectives for 2015:		
A.1.03	Which member of the senior management team in your hospital is corporately responsible for oversight of antimicrobial stewardship?		
A.1.04	Does the hospital have a defined budget (in excess of monies allocated to fund staff posts) allocated to the antimicrobial stewardship programme at your hospital?	Yes <input type="radio"/>	No <input type="radio"/>
A.1.05	Does the hospital have a named Consultant Medical Microbiologist or Infectious Diseases Physician who is responsible for leading the Antimicrobial Stewardship programme?	Yes <input type="radio"/>	No <input type="radio"/>
A.1.06	If yes, please state this person's job title below.		
A.1.07	Does the hospital have a multidisciplinary Drugs and Therapeutics Committee in place?	Yes <input type="radio"/>	No <input type="radio"/>
A.1.08	If yes, please insert the date of the last meeting in the box below.		
A.1.09	Please provide the job title of the Chair of the Drugs and Therapeutics Committee.		
A.1.10	How often does the Drugs and Therapeutics Committee meet? (Tick one option only)		
<input type="radio"/> Monthly <input type="radio"/> Every other month <input type="radio"/> Quarterly <input type="radio"/> Twice Yearly Other (please specify)			

A.1.11	Does the hospital also have an Antimicrobial Stewardship Committee (Antimicrobial Advisory Committee or equivalent) accountable to the Drugs and Therapeutics Committee? <small>(Note it is acknowledged that some hospitals may not be of a sufficient size to warrant this additional committee)</small>	Yes <input type="radio"/>	No <input type="radio"/>
A.1.12	If yes please insert the date of the last meeting		
A.1.13	Does your hospital participate in a regional antimicrobial stewardship committee or equivalent?	Yes <input type="radio"/>	No <input type="radio"/>
A.1.14	If yes, please list the other hospitals involved with this committee		
A.1.15	Does the antimicrobial stewardship programme have formal links to the wider medicines safety programme and/or risk management programme in your hospital? (e.g. formal reporting lines, dual membership of committees etc)	Yes <input type="radio"/>	No <input type="radio"/>
A.1.16	Are adverse incident reports related to antimicrobial usage fed back to the antimicrobial stewardship committee or the Drugs and Therapeutics Committee?	Yes <input type="radio"/>	No <input type="radio"/>
A.1.17	Does the hospital have access to a 24-hour 7 days a week microbiology laboratory?	Yes <input type="radio"/>	No <input type="radio"/>
A.1.18	Does this microbiology laboratory have up to date INAB accreditation?	Yes <input type="radio"/>	No <input type="radio"/>
A.1.19	Does your hospitals clinical governance framework allow for restricted prescribing rights for key antimicrobial agents (for example Microbiologist or ID Physician only use) as deemed clinically necessary?	Yes <input type="radio"/>	No <input type="radio"/>
A.1.20	Does the hospital have a defined and documented surveillance programme, with clear goals and objectives that are reviewed on an annual basis?	Yes <input type="radio"/>	No <input type="radio"/>
A.1.21	Are there local guidelines to ensure that commercial promotion of antimicrobials and interactions between prescribers and the pharmaceutical industry are carried out in an ethical manner, and approved by the hospital's drugs and therapeutics committee?	Yes <input type="radio"/>	No <input type="radio"/>
Please insert additional comment or clarification below related to this section of the tool, with reference to the question number where relevant			

Essential Workforce Elements (Applicable to all Hospitals)			
A.2.01	Is there 24-hour access 7 days a week to a Consultant Medical Microbiologist at your hospital?	Yes <input type="radio"/>	No <input type="radio"/>
A.2.02	Does your hospital have a Clinical Pharmacist who, as at least part of their role, contributes to the delivery of the hospital's antimicrobial stewardship programme?	Yes <input type="radio"/>	No <input type="radio"/>
A.2.03	Does your hospital have named individual/individuals with responsibility and allocated time for coordinating the surveillance programme? (note surveillance programme in this context refers to disease/pathogen specific surveillance or infection surveillance, including device related or surgical site infection)	Yes <input type="radio"/>	No <input type="radio"/>
Please insert additional comment or clarification below related to this section of the tool, with reference to the question number where relevant			

Essential Audit and Surveillance Elements																															
A.3.01	Does your hospital have a programme of audit of antimicrobial usage practice in place?	Yes <input type="radio"/>	No <input type="radio"/>																												
A.3.02	Please list the last three antimicrobial stewardship related audits conducted at your hospital, with the date that the audit was conducted in each case.																														
A.3.03	For these audits, please specify to which groups of staff the findings were disseminated to (tick all that apply)	<table border="1"> <thead> <tr> <th></th> <th>Audit 1</th> <th>Audit 2</th> <th>Audit 3</th> </tr> </thead> <tbody> <tr> <td>Antimicrobial Stewardship Team</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Antimicrobial Stewardship Committee</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Drugs and Therapeutics Committee</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Hospital Senior Management Team</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Prescribers involved</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Potential antibiotic prescribers</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>			Audit 1	Audit 2	Audit 3	Antimicrobial Stewardship Team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Antimicrobial Stewardship Committee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drugs and Therapeutics Committee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hospital Senior Management Team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prescribers involved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Potential antibiotic prescribers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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A.3.04	Are local antibiograms, with pathogen and condition-specific susceptibility data regularly updated and reviewed by relevant personnel at your hospital?	Yes <input type="radio"/>	No <input type="radio"/>																												

A.3.05	Are multidisciplinary root cause analysis exercises conducted for all incidences of: <input type="checkbox"/> Hospital acquired <i>Clostridium difficile</i> <input type="checkbox"/> Severe <i>Clostridium difficile</i> <input type="checkbox"/> <i>Clostridium difficile</i> cases associated with clusters/outbreaks <input type="checkbox"/> Not at all																																																																														
A.3.06	Please outline what infections other than <i>Clostridium difficile</i> , if any, are subject to root cause analysis at your hospital <div style="background-color: #e1f5fe; height: 50px; width: 100%;"></div>																																																																														
A.3.07	Does your hospital undertake routine surveillance of <i>Clostridium difficile</i> infection rate per 10,000 bed days used?	Yes <input type="radio"/>	No <input type="radio"/>																																																																												
A.3.08	Does your hospital record and monitor the incidence of <i>Clostridium difficile</i> infection cases in-house in real time, for example by using run charts or statistical process control charts?	Yes <input type="radio"/>	No <input type="radio"/>																																																																												
A.3.09	Does your hospital take part in the enhanced <i>Clostridium difficile</i> surveillance programme conducted by the Health Protection Surveillance Centre?	Yes <input type="radio"/>	No <input type="radio"/>																																																																												
A.3.10	Please indicate which pathogen specific routine surveillance (not including EARS-Net or <i>Clostridium difficile</i>) that is currently ongoing in your hospital, including the organisational level (local, regional, national or international) that this data is reported to and compared at. Please tick all that apply.																																																																														
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A.3.11	Please insert any additional information relating to question A.3.9 below.
Please insert additional comment or clarification below related to this section of the tool, with reference to the question number where relevant	

Key Stewardship Interventions			
A.4.01	Are local/regional empiric evidence based antimicrobial prescribing guidelines, designed for use in the majority patient population in place at your hospital?	Yes <input type="radio"/>	No <input type="radio"/>
A.4.02	Please state when these guidelines are last reviewed and/or updated.		
A.4.03	Does your microbiology laboratory report antimicrobial susceptibilities in a restrictive manner?	Yes <input type="radio"/>	No <input type="radio"/>
A.4.04	Do reports routinely include interpretive comments to guide prescribers in deciding whether or not antimicrobial therapy is required or what drug to prescribe if an antibiotic is needed?	Yes <input type="radio"/>	No <input type="radio"/>
A.4.05	Does your hospital have a policy or guideline that includes advice for managing patients with antimicrobial allergies?	Yes <input type="radio"/>	No <input type="radio"/>
A.4.06	Does your hospital have a policy or guidance document to advise staff on safe administration of IV antimicrobials?	Yes <input type="radio"/>	No <input type="radio"/>
A.4.07	Does your hospital have a written policy or guideline document outlining expected practice in promoting optimal parenteral to oral conversion?	Yes <input type="radio"/>	No <input type="radio"/>
A.4.08	Does your hospital have guidance on dosing optimisation and therapeutic drug monitoring for antimicrobials with a narrow therapeutic index (e.g. aminoglycosides, glycopeptides)?	Yes <input type="radio"/>	No <input type="radio"/>
A.4.09	Is there an ongoing education programme for prudent antimicrobial use and improving antibiotic prescribing for each of the following categories of staff (tick all that apply)		
<input type="checkbox"/> Non-consultant Hospital Doctors <input type="checkbox"/> Medical Consultants <input type="checkbox"/> Nurse Prescribers <input type="checkbox"/> Non-prescribing nurses <input type="checkbox"/> Clinical Pharmacists Other (please specify)			

A.4.10	Please outline the supports (eg financial support, protected study time) afforded to antimicrobial stewardship team members to promote their ongoing training and education.
Please insert additional comment or clarification below related to this section of the tool, with reference to the question number where relevant	
Please outline what barriers, if any, limit your hospital's ability to provide any of the essential elements listed in section A above	

Section B - Additional Questions Related to Your Antimicrobial Stewardship Programme

B1. Governance

B.1.01	Does an annual review of the antimicrobial stewardship programme take place?	Yes <input type="radio"/>	No <input type="radio"/>	
B.1.02	Is an annual work plan for the antimicrobial stewardship programme produced following this review?	Yes <input type="radio"/>	No <input type="radio"/>	
B.1.03	Is the antimicrobial stewardship programme specifically listed as an area of focus in the hospitals service plan?	Yes <input type="radio"/>	No <input type="radio"/>	N/A <input type="radio"/>
B.1.04	Is the antimicrobial stewardship programme specifically listed as an area of focus in your hospital groups' service plan?	Yes <input type="radio"/>	No <input type="radio"/>	
B.1.05	Is antimicrobial stewardship included within the hospital's infection control strategy/annual work plan?	Yes <input type="radio"/>	No <input type="radio"/>	
B.1.06	Is antimicrobial stewardship a standing item on the Drugs and Therapeutics Committee's agenda?	Yes <input type="radio"/>	No <input type="radio"/>	
B.1.07	List membership (by roles) of the Drugs and Therapeutics committee			
B.1.08	Does the Antimicrobial Stewardship Committee have minutes or an action list?	Yes <input type="radio"/>	No <input type="radio"/>	N/A <input type="radio"/>
B.1.09	List membership (by roles) of the Antimicrobial Stewardship Committee			
B.1.10	Does your hospital hold any joint Drugs and Therapeutics meetings with any other hospital?	Yes <input type="radio"/>	No <input type="radio"/>	
B.1.11	If yes please list the hospitals:			
B.1.12	Does your hospital hold any joint antimicrobial stewardship meetings with any other hospital?	Yes <input type="radio"/>	No <input type="radio"/>	
B.1.13	If yes please list the hospitals:			

B.1.14	List membership (by role/speciality but not individual name) and number of contracted hours per week dedicated to this role for each member of the antimicrobial stewardship team.		
	Role		Number of hours per week
B.1.15	Is the hospitals superintendent pharmacist routinely located at this hospital site?	Yes <input type="radio"/>	No <input type="radio"/>
B.1.16	If not then please outline which hospital they are predominantly based at		
B.1.17	Please outline what formal links currently exist in relation to antimicrobial stewardship between your hospital and other hospitals in your hospital group		
Please insert additional comment or clarification below related to this section of the tool, with reference to the question number where relevant			

B2. Workforce

Staff Deployment			
B.2.01	How many Medical Microbiologists are employed by the hospital?		
	Role	Whole Time Equivalents Currently in Position	
	Consultants		
	Registrars		
	SHOs		
B.2.02	How many Infectious Disease Physicians are employed by the hospital?		
	Role	Whole Time Equivalents Currently in Position	
	Consultants		
	Registrars		
	SHOs		
B.2.03	How many Clinical Pharmacists with dedicated responsibility for antimicrobial stewardship (antimicrobial pharmacists) are employed by the hospital?		
	Job Title of each Clinical Pharmacist Assigned to Stewardship Activities	Whole Time Equivalents Currently in Position	Protected hours per week dedicated to antimicrobial stewardship activities
B.2.04	Overall number of Clinical Pharmacists		
	Whole Time Equivalents Currently in Position	Number of individuals employed to make up this Whole Time Equivalent	What is the estimated total cumulative number of hours per week that this workforce is engaged in ward/clinic/other clinical pharmacy work?

B.2.05	How many laboratory-based designated surveillance scientists are employed by the hospital? Please detail the number of hours per week that is spent on surveillance activities		
	Job Title	Whole Time Equivalents Currently in Position	Protected hours per week that are spent on surveillance activities
B.2.06	Number of Infection Control Nurses (Whole Time Equivalent)?		
	Job Title	Grade	Whole Time Equivalents Currently in Position
B.2.07	How many Infection Surveillance Nurses are employed at your hospital?		
	Job Title	Whole Time Equivalents Currently in Position	Protected hours per week that are spent on surveillance activities
B.2.08	How many nurses are employed by your hospital to assist with facilitating outpatient parenteral antimicrobial therapy (OPAT)?		
	Job Title	Whole Time Equivalents Currently in Position	
B.2.09	How many hours per week of administrative support are routinely provided to assist the antimicrobial stewardship programme at your hospital?		
B.2.10	Are any of the designated staff members listed above currently redeployed to other duties?	Yes <input type="radio"/>	No <input type="radio"/>

B.2.11	Have any of these staff ever been redeployed to other duties within the past 5 years?	Yes <input type="radio"/>	No <input type="radio"/>
B.2.12	Have all staff that had been redeployed now returned to antimicrobial stewardship duties?	Yes <input type="radio"/>	No <input type="radio"/>
B.2.13	If staff are redeployed please outline which staff members either have been or are currently affected by position, and the number of hours a week of time typically lost to antimicrobial stewardship activities per staff member		
B.2.14	Has the workforce outlined above ever increased during especially busy periods (e.g. during an outbreak, or as a result of a particular issue requiring further resources)	Yes <input type="radio"/>	No <input type="radio"/>
B.2.15	Please specify any currently unfilled vacancies in your hospital for any of the positions outlined above.		
Please insert additional comment or clarification below related to this section of the tool, with reference to the question number where relevant			

B3. Additional Stewardship Programme Component Parts

Provision of Information to Patients and the Public		
B.3.01	What patient education materials relevant to antimicrobial resistance and use are available to the general public and patients in your hospital: <input type="checkbox"/> Materials from the HSE's Public information campaign on antibiotics – antibiotics don't work on colds and flus <input type="checkbox"/> Leaflets <input type="checkbox"/> Posters <input type="checkbox"/> Information on hospital's website Other (please specify)	
B.3.02	Please outline what challenges, if any, you have encountered in providing educational material to the general public and patients in your hospital	
B.3.03	Please outline any other measures your hospital has enacted to involve patients in your antimicrobial stewardship programme	
Prescribing of Antimicrobials and Stewardship Interventions		
B.3.04	Do your antimicrobial prescribing guidelines include a list that stipulates which antimicrobials are restricted (approval of a specialist is required) or permitted for specific conditions?	Yes <input type="radio"/> No <input type="radio"/>
B.3.05	If yes how often is this list reviewed?	
B.3.06	If antimicrobials are restricted, please outline how this is achieved (please tick all that apply) <input type="checkbox"/> Restricted agents need approval by microbiologist or infectious diseases physician before release from the pharmacy <input type="checkbox"/> Restricted agents can only be prescribed by consultants <input type="checkbox"/> Restricted agents can only be prescribed by specified consultants/teams <input type="checkbox"/> Restricted agents may be prescribed by any staff member, and an initial supply will be provided, but there will be documented antimicrobial stewardship team review within 24-72 hours Other (please specify)	

B.3.07	Please list the restricted antimicrobial agents at your hospital by generic name, with the criteria for their restriction in each case		
B.3.08	Please describe how you monitor compliance with the restriction measures:		
B.3.09	Are antimicrobial stewardship ward rounds conducted in your hospital?	Yes <input type="radio"/>	No <input type="radio"/>
B.3.10	If yes, how often do they occur?		
B.3.11	How many times a week do Microbiologists or ID Physicians conduct ICU ward rounds? (tick only one option) <input type="radio"/> 5 days per week <input type="radio"/> Every other day <input type="radio"/> Once a week <input type="radio"/> NA (no ICU) Other (please specify)		
B.3.12	Is there a designated section on prescription charts for the prescribing of antimicrobials?	Yes <input type="radio"/>	No <input type="radio"/>
B.3.13	Does this include provision for an automatic stop date?	Yes <input type="radio"/>	No <input type="radio"/>
B.3.14	Is there information technology support for antimicrobial stewardship within your hospital?	Yes <input type="radio"/>	No <input type="radio"/>
B.3.15	If yes, please describe these supports:		
B.3.16	Does your hospital have an electronic prescribing system?	Yes <input type="radio"/>	No <input type="radio"/>
B.3.17	If yes please list areas where available: <input type="checkbox"/> ICU <input type="checkbox"/> Entire hospital <input type="checkbox"/> Other patient population group		
B.3.18	Does your hospital share guidelines and policies related to antimicrobial use with any other hospital?	Yes <input type="radio"/>	No <input type="radio"/>
B.3.19	If yes please list the hospitals that you share guidelines with:		

B.3.20	Does the antibiotic prescribing policy in your hospital require antibiotic prescribers to record the indication for antibiotics, on either the drug kardex or elsewhere in the patient's medical records at the time of prescribing the drug?	Yes <input type="radio"/>	No <input type="radio"/>
B.3.21	Is this audited?	Yes <input type="radio"/>	No <input type="radio"/>
B.3.22	Does the antibiotic prescribing policy in your hospital include a requirement for duration of therapy to be documented, on either the drug kardex or elsewhere in the patient's medical records at the time of prescribing the drug?	Yes <input type="radio"/>	No <input type="radio"/>
B.3.23	Is this audited?	Yes <input type="radio"/>	No <input type="radio"/>
B.3.24	Does your hospital provide any supports to non-acute hospital service providers (e.g. GPs, Nursing Homes)	Yes <input type="radio"/>	No <input type="radio"/>
B.3.25	If other supports are provided, please specify below		
Please insert additional comment or clarification below related to this section of the tool, with reference to the question number where relevant			

Local Prescribing Guidelines	
B.3.26	In what format(s) are your guidelines available (tick all that apply): <input type="checkbox"/> Printed booklet <input type="checkbox"/> Online document <input type="checkbox"/> Smartphone/Tablet app <input type="checkbox"/> Mobile website Other (please specify) <input style="width: 200px;" type="text"/>
Please insert additional comment or clarification below related to this section of the tool, with reference to the question number where relevant	

Surveillance and Additional Laboratory Services			
B.3.27	Please give three examples of how pathogen/disease specific or infection surveillance data has been used to advance the antimicrobial stewardship programme in your hospital.		
B.3.28	Does your hospital participate in enhanced EARS-NET surveillance?	Yes <input type="radio"/>	No <input type="radio"/>
B.2.29	Please list the pathogens for which you actively screen and the various clinical settings where screening takes place (e.g. unit, patient population)?		
B.3.30	Is pathogen/disease specific or infection surveillance data reported to senior management in the Hospital?	Yes <input type="radio"/>	No <input type="radio"/>
B.3.31	If yes, how is this surveillance data reported and acted upon?		
B.3.32	Does your hospital report quarterly antimicrobial consumption data to the Health Protection Surveillance Centre?	Yes <input type="radio"/>	No <input type="radio"/>
B.3.33	If yes, please outline which individuals and groups review the reports that are returned from the Health Protection Surveillance Centre?		
B.3.34	Do you have an additional system for antimicrobial consumption surveillance in place in your hospital to supplement reports provided by the Health Protection Surveillance Centre?	Yes <input type="radio"/>	No <input type="radio"/>
B.3.35	Please explain how antimicrobial consumption data has been used to inform improvement in practice locally		

B.3.36	<p>Please outline to which clinical staffing groups antibiotic consumption data is routinely fed back (tick all that apply)</p> <p><input type="checkbox"/> Individual Prescribers</p> <p><input type="checkbox"/> Individual Medical/Surgical Teams</p> <p><input type="checkbox"/> Relevant Consultants</p> <p><input type="checkbox"/> Clinical Departments</p> <p><input type="checkbox"/> Clinical Directorates</p> <p><input type="checkbox"/> All Prescribers</p> <p>Other (please specify) <input style="width: 400px;" type="text"/></p>			
B.3.37	<p>If risks are identified from surveillance or antimicrobial consumption data how is this risk escalated in your hospital?</p> <p><input style="width: 600px;" type="text"/></p>			
B.3.38	<p>Is there a surgical site infection (SSI) surveillance programme in place at your hospital?</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;"></td> <td style="width: 15%; text-align: center;">Yes <input type="radio"/></td> <td style="width: 15%; text-align: center;">No <input type="radio"/></td> </tr> </table>		Yes <input type="radio"/>	No <input type="radio"/>
	Yes <input type="radio"/>	No <input type="radio"/>		
B.3.39	<p>If there is a SSI surveillance programme in place, please list the surgical specialities included in this programme</p> <p><input style="width: 600px;" type="text"/></p>			
B.3.40	<p>Is there regular surveillance of healthcare associated invasive medical device infections including (tick all that apply)</p> <p><input type="checkbox"/> Hospital acquired central venous catheter related infection</p> <p><input type="checkbox"/> Hospital acquired peripheral venous catheter related infection</p> <p><input type="checkbox"/> Hospital acquired catheter associated urinary tract infection</p> <p><input type="checkbox"/> Hospital acquired bloodstream infection other than catheter related</p> <p><input type="checkbox"/> Ventilator associated pneumonia (VAP)</p> <p>Other (please specify) <input style="width: 400px;" type="text"/></p>			
B.3.41	<p>Is relevant surveillance data routinely reported to and reviewed by (tick all that apply)</p> <p><input type="checkbox"/> The Antimicrobial Stewardship Team</p> <p><input type="checkbox"/> The Antimicrobial Stewardship Committee</p> <p><input type="checkbox"/> The Drugs and Therapeutics Committee</p> <p><input type="checkbox"/> The Infection Prevention Control Committee</p> <p><input type="checkbox"/> The Hospital Senior Management Team</p> <p>Other (please specify) <input style="width: 400px;" type="text"/></p>			
<p>Please insert additional comment or clarification below related to this section of the tool, with reference to the question number where relevant</p> <p><input style="width: 100%; height: 100%;" type="text"/></p>				

Audit and Quality Improvement							
B.3.42	Please list the key performance indicators you use to evaluate your stewardship programme in terms of structure, process and outcome measures.						
	Indicator	Fed back to prescribers?		Reported to Drugs and Therapeutics Committee?		Reported to Hospital Senior Management?	
		Yes	No	Yes	No	Yes	No
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B.3.43	With respect to clinical audit over the past three years please tick all of the following which have been conducted:						
	<input type="checkbox"/> Antimicrobial point prevalence survey <input type="checkbox"/> Compliance prescribing policy requirements with respect to allergy status <input type="checkbox"/> Timeliness to commencement of appropriate antibiotics and other therapy for infection emergencies (e.g. meningitis, sepsis, necrotising fasciitis) <input type="checkbox"/> Compliance with local empiric treatment guidelines <input type="checkbox"/> Compliance with change from empiric to directed therapy based upon microbiological results/advice <input type="checkbox"/> Documentation of indication for antibiotic usage at the time of prescribing <input type="checkbox"/> Documentation of antibiotic review date <input type="checkbox"/> IV duration <input type="checkbox"/> IV to oral switch <input type="checkbox"/> Total antibiotic duration <input type="checkbox"/> Aminoglycoside usage quality <input type="checkbox"/> Glycopeptide usage quality <input type="checkbox"/> Compliance with restricted antibiotic list policy <input type="checkbox"/> Surgical antibiotic prophylaxis choice <input type="checkbox"/> Surgical antibiotic prophylaxis duration <input type="checkbox"/> Surgical antibiotic agent timeliness of administration pre-incision Other (please specify) <input type="text"/>						
B.3.44	Please describe how this data is fed back to prescribers (individually, or to relevant teams, departments or directorates)?						

B.3.45	Please list any antimicrobial stewardship quality improvement initiatives that have been conducted/completed in the last two years.
Please insert additional comment or clarification below related to this section of the tool, with reference to the question number where relevant	

Outpatient Parenteral Antimicrobial Therapy			
B.3.46	Does your hospital utilise an outpatient parenteral antimicrobial therapy (OPAT) services?	Yes <input type="radio"/>	No <input type="radio"/>
B.3.47	Please outline what system is in place in your hospital to ensure that patients who are potential candidates for OPAT are clinically reviewed to determine an appropriate treatment regimen before discharge from hospital:		
B.3.48	Does this clinical review always require input from medical microbiologists or infectious disease physicians?	Yes <input type="radio"/>	No <input type="radio"/>

Clinical Pathways			
B.3.49	Do you have written clinical pathways for specific infections?	Yes <input type="radio"/>	No <input type="radio"/>
B.3.50	If you do have written clinical pathways for infection, please outline which infection types these refer to:		
Please insert additional comment or clarification below related to this section of the tool, with reference to the question number where relevant			

Education and Training			
B.3.51	Are the principles of prudent antimicrobial prescribing included in induction training for all relevant staff?	Yes <input type="radio"/>	No <input type="radio"/>
B.3.52	What education interventions are in place to promote appropriate antibiotic use in your hospital (please tick all that are in place) : <input type="checkbox"/> Printed materials <input type="checkbox"/> Regular presentations <input type="checkbox"/> Electronic educational materials <input type="checkbox"/> Reminders to individual prescribers <input type="checkbox"/> Educational aids to guide prescribers at the point of prescribing. e.g. clinical algorithms for the diagnosis of infection <input type="checkbox"/> Awareness days <input type="checkbox"/> Online training programmes Other (please specify)		
Please insert additional comment or clarification below related to this section of the tool, with reference to the question number where relevant			

Section C - Additional Required Documentation

Please provide the following additional documentary information alongside this completed self-assessment tool in electronic format to the Authority at qualityandsafety@hiqa.ie. Please tick yes if available and supplied, or no if unavailable.

List of documents required (if available)		
Declaration to be completed by the hospital Chief Executive Officer/General Manager, and the Hospital Group Chief Executive Officer	Yes <input type="radio"/>	No <input type="radio"/>
A copy of your hospital's Antimicrobial Stewardship Programme Plan for 2015 or most recent available.	Yes <input type="radio"/>	No <input type="radio"/>
A copy of your hospital's most recent assessment report of the antimicrobial stewardship programme if available.	Yes <input type="radio"/>	No <input type="radio"/>
A copy of your hospital's most recent empiric antimicrobial prescribing guidelines.	Yes <input type="radio"/>	No <input type="radio"/>
Your hospital's Standard Operating Procedure for use in the event of a <i>Clostridium difficile</i> outbreak.	Yes <input type="radio"/>	No <input type="radio"/>
A copy of an organogram clearly showing the lines of communication and cooperation between your hospital's Drugs and Therapeutics Committee/Antimicrobial Stewardship Team, the Infection Prevention and Control Team, the Pharmacy Department, the Risk Management Team/Department and your hospital's senior Management Team.	Yes <input type="radio"/>	No <input type="radio"/>

Appendix 4 - References

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