INSIGHT REPORT:
Identifying the gaps between evidence and practice in the prevention of surgical site infections
Surgical site infections (SSIs) are infections occurring within 30 days of a surgical procedure (or up to one year after surgery in patients receiving implants) and affecting either the incision or deep tissue at the operation site. Despite recent advances in prevention, SSIs threaten the lives of millions of patients each year and represent a serious clinical problem as they are associated with substantial mortality and morbidity, and impose severe demands on healthcare resources.

The most recent figures show 800,000 SSIs per year in Europe. This represents almost 20% of healthcare-associated infections (HAIs) in Europe and results in more than 16,000 deaths annually. Moreover, SSIs negatively impact patients’ physical and mental health. Increased patient morbidity, mortality, and loss of earnings during recovery are some of the indirect costs associated with infection. Intangible costs may also be incurred by the patient, such as pain and anxiety. In addition, patients may experience delayed wound healing and be more susceptible to secondary complications, such as bacteraemia. Distress may also be caused to the patient and family members if the patient is absent from home and work for a prolonged period of time. The development of an SSI causes a substantial increase in the clinical and economic burden of surgery. The overall cost of SSIs in Europe is estimated to be around €19 billion per year.

Surgical Site Infections are also linked to anti-microbial resistance. As any HAIs, SSIs are often caused by antibiotic-resistant organisms. SSI treatment has become very complex and challenging due to antibiotic resistance (AMR), the pathogens’ adaptive ability to defend themselves against drugs intended to kill them.

Patients who are infected with drug-resistant infections are more likely to develop complications and are up to three times more likely to die from the infection. About two thirds of the 671,689 infections with antibiotic resistant bacteria in Europe are HAIs. Treating HAIs requires extensive use of antimicrobials, which contributes to increasing AMR in healthcare settings. Therefore, it is critical to focus on HAI prevention including the implementation of comprehensive programmes and simple interventions, easy to comply with by healthcare professionals, patients and citizens.

The ultimate aim of preventing SSIs is to protect and promote patient safety while decreasing the rate and burden of infections, especially those due to AMR bacteria. The inability to develop a surveillance system for SSI will make routine medical procedures and operations dangerous or ineffective. On the contrary, if actions are taken, the threat of drug-resistant infections will be minimised, saving millions of lives and safeguarding the scientific achievements of the last century for future generations.

SERIAL INSIGHT REPORT: IDENTIFYING THE GAPS BETWEEN EVIDENCE AND PRACTICE IN THE PREVENTION OF SURGICAL SITE INFECTIONS

EXECUTIVE SUMMARY

In order to take a picture of the existing gaps between current medical practices and evidence-based guidelines, we decided to use the 2016 WHO guidelines for the prevention of SSI as the benchmark for research.

Health First Europe believes that understanding the level of implementation of the main preventive measures is necessary to set up effective public health policy and implement targeted infection prevention and control protocols. The data collected in our report shows striking gaps between evidence-based measures suggested by official guidelines and current medical practice in European hospitals, raising a serious concern for the safety of European patients.

To prevent and manage infections across the surgical pathway, it is necessary to implement a holistic and multilevel strategy. This should include system change, training, education, monitoring, surveillance, evaluation and communications for awareness raising.

This Insight Report aims to draw attention to the need to change practices in order to save lives. Therefore, we have developed 5 policy asks for the European policy makers to reduce the incidence of SSI in Europe:

- Creating a European Framework on HAI prevention and control
- Harmonising evidence-based guidelines and protocols
- Expanding ECDC’s role to ensure observation, surveillance and data gathering
- Facilitating guidelines, implementation and adherence
- Developing a European curriculum for infection prevention

Last but not least, it is necessary to facilitate the exchange and scaling up of best practices at all levels and put in place reward systems to promote excellence in quality of care and patient safety.
OUR POLICY ASKS FOR EUROPEAN POLICY MAKERS

This Insight Report aims to draw attention to the need to change practices in order to save lives. Therefore, we have developed 5 policy asks for European policy makers to reduce the incidence of SSI in Europe:

1. **Creating a European Framework on HAI prevention and control**
   
   Within a broader European legislative framework on infection prevention and control, it is necessary to build consensus around evidence-based guidelines such as the one from WHO and define clear protocols to prevent SSI.

2. **Harmonising evidence-based guidelines and protocols**
   
   The European Commission should facilitate the creation of an Expert Forum to adopt evidence-based guidelines (such as the WHO Guidelines) and to support their implementation across Europe. It is necessary to foster scientific associations’ involvement into inter-sectoral training of HAI prevention and control. At the same time, it is necessary to include recommendations on HAI reduction in the European Semester as a policy tool to motivate national progress on HAI prevention and control; to design future EU funding opportunities and conditionalities to boost national policy and implementation capacity.

3. **Expanding ECDC’s role to ensure observation, surveillance and data gathering**
   
   It is important to foster ECDC’s role to identify, assess and communicate current and emerging threats to human health posed by infectious diseases. Surveillance data regarding infections are a key element of any prevention programme. Data can be used to assess the extent, escalation and status of infections, to examine, scan and monitor trends of infection rates, inform alert programs, and improve performance, strategy and competence development.

4. **Facilitating guidelines implementation and adherence**
   
   Implementation of guidelines and their associated tools require careful dissemination and clear implementation strategies. The creation of instructions and standardised safety checklist can increase surgical procedure safety, reinforce accepted safety practices and promote better communication and work among the surgical team.

   Having in place standardised quality indicators, together with an increased focus on evidence-based medicine and international recommendations, can provide valuable information for improving the safety profile of healthcare assistance and for a more effective and efficient use of available resources.

5. **Developing a European curriculum for infection prevention**
   
   The European Commission should support Member States in developing harmonised education and training standards on infection prevention and control as part of their national healthcare professional curricula. These training standards should consider the current learning tools developed by ECDC and WHO (e.g. the WHO surgical checklist and guidelines on the prevention of surgical site infections). Education of all health professionals in preventing HAIs should begin at undergraduate level and be consolidated with further training throughout the postgraduate years. Hospitals should have the means and tools to educate clinical staff about infection prevention and control programs.

Last but not least, it is necessary to facilitate the exchange and scaling up of best practices at all levels and put in place reward systems to promote excellence in quality of care and patient safety.