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Prevention and control of healthcare-associated infection in Europe: a review of patients' perspectives and existing differences

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SUMMARY

European healthcare systems are under increasing pressure owing to demographic change, the upsurge of chronic diseases, and declining budgets. Yet the increasing threat posed by antimicrobial resistance calls for better surveillance, prevention and control of infection. Moreover, the increasing emphasis on cross-border mobility calls for better integration of these activities across Europe. This paper reviews European initiatives to achieve these goals and to increase patient involvement in healthcare safety at political and institutional levels.

Introduction

European healthcare systems are under increasing pressure owing to demographic change leading to rising demand for services, the upsurge of chronic diseases, and declining budgets and health workforces. This pressure challenges effective management of healthcare-associated infection (HCAI) in hospitals and other healthcare settings. Moreover, antimicrobial resistance has been identified as Europe's biggest health threat, which calls for better surveillance, prevention and control across the continent. The new Cross-Border patients' rights directive and the revised professional qualifications directive encourage mobility in the increasingly borderless European health domain.[1,2] This has consequences for infection control in the European Union (EU) in terms of: quality and safety standards at national and regional levels; the competence of health professionals; and making available transparent and comparable data about the prevalence of HCAI. However, organization of health systems remains a responsibility of EU member states, and despite increased awareness of patient safety, there are still significant differences in infection control among them. National and regional activities, such as programmes for tackling HCAI and protocols for hospital hygiene, are shaped by many factors, including available economic and human resources, the education and training of healthcare workers, levels of health literacy, and different clinical traditions.[3] These differences could pose a

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challenge for effective cross-border co-ordination of HCAI and for continuity of care.

Scope and impact of healthcare-associated infection

Healthcare-associated infections occur after exposure to healthcare — often, but not always, as a consequence of this exposure. HCAI that is acquired during a stay in hospital (i.e. was neither present nor incubating at the time of admission) is also known as nosocomial infection (NI).[4] However, HCAI is also increasingly common in other healthcare settings such as long-term care facilities (LTCFs) and home care.[3] According to 2008 data by the European Centre for Disease Prevention and Control (ECDC), the estimated annual number of patients with at least one NI in the EU is >4 million, with 4.5 million NIs directly responsible for ~37,000 deaths and contributing to a further 111,000 fatalities.[5] In 2013, ECDC estimated that on any given day ~80,000 patients have at least one HCAI, i.e. one in 18 patients in European hospitals has an HCAI.[6] HCAI in Europe is responsible for an estimated 16 million extra days spent in hospital per year, and accounts for roughly 25% of adverse events suffered by hospital patients, amounting to an estimated direct cost burden of €7 billion.[7] This direct cost burden includes fixed costs, such as buildings, equipment, and support services, as well as variable costs such as drugs, food and consumables. However, it does not include the indirect costs of lost wages and diminished work productivity, short- and long-term morbidity and mortality, or time and costs spent on hospital visits, travel, home care, etc.; nor does it include the intangible costs of pain and suffering, or changes in social functioning.[8]

In 2013, the European Centre for Disease Prevention and Control (ECDC) published the results of its first point prevalence survey (PPS) of HCAIs and antimicrobial use in European hospitals in 2011—2012.[9] It presents data on the most frequently reported infections and the micro-organisms causing them, antimicrobial drug usage, and infection control structures and processes. Although most HCAIs can be treated easily, some can seriously affect the health of patients, leading to increased hospital stays, further surgical interventions or prolonged treatments with antimicrobials, and causing considerable distress. Microbiology results were available on the day of the survey for about half (54.1%) of HCAI reported. Among those, the most frequently isolated micro-organisms were *Escherichia coli* (15.9%), *Staphylococcus aureus* (12.3%, of which 41.2% were reported as meticillin resistant), *Enterococcus* spp. (9.6%, of which 10.2% were reported as vancomycin resistant), *Pseudomonas aeruginosa* (8.9%), and *Klebsiella* spp. (8.7%). The survey concluded that many infections could be prevented by sustained, multifaceted infection prevention and control programmes, including surveillance. Such programmes, coupled with prudent use of antibiotics, will help all stakeholders to protect European patients.[6]

What is the applicable EU framework?

Boosting mobility is an integral element of the Cross-border Patients' Rights Directive and the revised Professional Qualifications Directive. Both emphasize the importance of transparency and collaboration of EU member states. The Cross-Border Patients' Rights Directive provides for setting up national contact points for dissemination of information about care standards, taking into account advances in medical science and recognized good medical practice; it also calls for the increased use of new health technologies and for co-operation on strategic matters. The Professional Qualifications Directive includes provisions about the free movement of healthcare professionals (automatic recognition for the 'sectoral' health professions, including doctors and nurses, as against case-by-case decisions under the general system), and it encourages continuous professional development (CPD) for health professionals.

The Action Plan on the European Health Workforce adopted in 2012 contains various measures to rectify persistent imbalances between demand and supply of health professionals.[10] These include initiatives on planning and forecasting (Joint Action), skills mismatches, mapping and reviewing European Continuing Professional Development practices, and ethical recruitment and retention (including the implementation of the 2010 WHO Global Code of Practice[11]).

The European Council's 'Recommendation of 9 June 2009 on patient safety, including prevention and control of healthcare-associated infections' provides guidance on patient empowerment and promotes a patient safety culture.[12] It calls on member states to disseminate information on safety standards, measures to reduce or prevent errors, the right to informed consent to treatment, and procedures for making complaints and getting redress. In terms of HCAI action, it provides that member states should use case definitions agreed at EU level to allow consistent reporting. (European case definitions for reporting communicable diseases were updated in 2012.[13]) The Council Recommendation triggered the development of national strategies and programmes, reporting and learning systems in many member states. The ECDC network for the surveillance of healthcare-associated infections (HAI-Net) co-ordinates different modules to support member states in establishing or strengthening the active surveillance systems referred to in Article II.8.c of the Council Recommendation. By leading to the adoption of a common, specific case definition for HCAI and by providing a standardized methodology and framework for national surveillance, EU-level action contributed to strengthening HCAI surveillance systems.

The European Commission's Working Group on Patient Safety & Quality of Care brings together the 28 EU countries, countries of the European Free Trade Association, WHO, OECD, health professionals, patients, and healthcare managers. It issued two reports in 2014, on education and training in patient safety, and reporting and learning systems for patient safety incidents across Europe.[14,15] The EU Network on Patient Safety and Quality of Care (PASQ Joint Action) continues previous project work undertaken in this area with the aim of creating a permanent platform for future co-operation between member states to enhance collaboration on patient safety and quality of care, and ensure meaningful involvement of patients and their representatives.[16] HCAI is also covered by the European Parliament and Council decision (1082/2013/EU) on serious cross-border threats to health, which strengthens the EU health security framework in the realms of preparedness planning, and the assessment, management and communication of risk.[17]

Several antimicrobial resistance initiatives, among them the Council recommendation on prudent use of antimicrobial agents in human medicine, the Commission's action plan