Short report

Infection control capacity building in European countries with limited resources: issues and priorities

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S U M M A R Y

We report the results of a panel investigation aimed at assessing the critical aspects regarding healthcare-associated infections in European countries with limited resources and pinpointing the highest priority issues that need to be addressed for effective infection control. Questionnaires were designed and information collected from national EUNETIPS representatives in Bulgaria, Hungary, Kosovo, Romania, and Serbia. Based on the data collected, we concluded that rigorous implementation of existing law, standardized training, and political commitment constitute a common relevant background and provide the lessons to be learnt for aligning healthcare systems in this area with internationally recommended standards of infection control.

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Introduction

Hundreds of millions of patients are affected by healthcare-associated infections (HCAIs) worldwide each year, leading to significant mortality and financial losses for healthcare systems. Of every 100 hospitalized patients, between seven (in developed countries) and ten (in developing ones) suffer at least one HCAI, with a significantly higher endemic burden of HCAI for patients admitted to high-risk departments such as intensive care units (ICUs).[1] Whereas urinary tract infection (UTI) is the most frequent HCAI in high-income countries, surgical site infection (SSI) is the leading infection in areas with only limited resources, affecting up to one-third of the operated patients, i.e. the level being up to nine times higher than in developed countries.[1] In the 21st century, infection control (IC) and hospital hygiene activities face new challenges: a lack of funds for specific HCAIs, insufficient resources, and increasing pressure for publicly reporting surveillance data. Whereas managers and administrators too frequently fail to allocate adequate resources to IC programmes, there is nevertheless a huge disparity in the availability of resources

Table I
General description and reliability analysis for closed-ended questions

Factors or issues investigated	Description	Cronbach's alpha (standard Cronbach's alpha)
Resources (Q1–Q4)	Q1–Q3 were country-specific Yes/No questions with almost no overlapping across countries – no further statistics were calculated. Q4 was a 7-item subscale with binary options, aimed at identifying most critical areas where resources are lacking (4a. Human resources; 4b. Technologies; 4c. Medical devices; 4d. Drugs; 4e. Supply services (cleaning, sterilization, etc.); 4f. Training; 4g. Policies). Cronbach's alpha was calculated.	0.77 (0.779)
Infrastructure (Q6–Q10)	Four-rank questions were aimed at identifying infrastructure and organizational issues in hospitals (e.g. availability of isolation rooms, toilets, antiseptic solutions, disinfectants), with no country specificity. Cronbach's alpha was calculated and answers ended in low reliability. These items were not included in the inter-item correlation analysis.	0.063 (0.114)
Standards and procedures (Q11–Q16; Q19, Q20)	Two- and four-rank questions seeking to determine degree of availability of national standards, local rigorous procedures and their application, standardized training, guidelines and protocols. Some data ended in no variance, with all negative answers – no further statistics were calculated for Q12, Q13, and Q19. Composite scale was constructed including Q11, Q14, Q15, Q16, Q20. For this scale, Cronbach's alpha was calculated.	0.625 (0.643)
Staff shortages (Q17, Q18)	Yes/No questions, no variance (i.e. all five countries experience serious staff shortages). No further statistics were calculated.	—
Antibiotics issues Q21–Q24)	Four-rank questions seeking for the degree of in-practice application of therapeutic protocols, capacity of antimicrobial resistance phenotypes identification, HCAI reporting by the microbiology laboratories, routine screening for antimicrobial resistant germs carriers. Cronbach's alpha was calculated.	0.924 (0.943)
Pathology surveillance (Q25)	Four answers for 'passive and active detection'; one country (Hungary) mostly relies on active detection. No further statistics were calculated.	—
HCAI reporting (Q26, Q27)	Yes/No questions regarding sanction applied for hospitals with high HCAI prevalence vs under-reporting the HCAI pathology. Cronbach's alpha was calculated – resulted in contradictory national policies, with low reliability of answers.	0.571 (0.58)

HCAI, healthcare-associated infection.

between countries and even between national centres.[2] A critical leading role in HCAI prevention and control is played by European institutions, i.e. the European Commission's Directorate General for Health and Consumer Protection (DG SANCO), European Centre for Disease Prevention and Control, European Food Safety Authority (EFSA), European professional and scientific networks, such as EUropeanNETwork to promote Infection Prevention for Patient Safety (EUNETIPS), or the World Health Organization (WHO). Moreover, they are key players in effectively preventing and controlling the spread of antimicrobial resistance.[3–6]

In this context, we aimed to identify or confirm common critical issues in HCAI control in south-eastern European countries which have limited resources to invest in healthcare. These issues should be top-priority targets for these countries' healthcare policies and for knowledge transfer from high-income European countries.

Methods

A panel investigation was conducted between January and March 2016. Based on WHO technical papers and previous reports regarding HCAI in developing countries, a 30-item questionnaire was designed and feedback was collected from the national EUNETIPS representatives of Bulgaria, Hungary, Kosovo, Romania, and Serbia. The countries were chosen based on geographical area and on their shared cultural and historical background as former communist regimes. All responses were the opinions of experts who agreed to participate in the panel and no verification was requested.

Both open-ended and closed-ended questions were asked. The latter were either dichotomous (0 for absence or not a cause; 1 for presence or agreement) or ranking on a four-point scale (0 for absence, the least degree, or never encountered situation; 1: sometimes encountered; 2: often or frequently