RUDOLF SCHÜLKE STIFTUNG

Agenda for the Symposium of the Rudolf Schülke Foundation

„Hygiene Policies in European Health Care Facilities - How to Harmonize the Discrepancies in Europe"

27 und 28 February 2020 Madison Hotel / Hamburg

Chair: Prof em Hans-Günter Sonntag, Heidelberg

Thursday, 27 February 2020, 11:00 – 17:00, Room Elbe

11:00 – 11:30

1. **Introduction and objective of the symposium**

   Prof Martin Exner, Chairman of the Rudolf Schülke Foundation / Institute of Hygiene and Public Health (IHPH), University of Bonn, (Germany)

11:35 – 11:55

2. **In Addition**

   Prof Frank-Albert Pitten, Associate Chairman of the Rudolf Schülke Foundation / IKI Institute of Hospital Hygiene and Infection Control, Gießen (Germany)

12:00 – 12:20

3. **Situation in France**

   Prof em Philippe Hartemann / Department Environment and Public Health, Faculty of Medicine, University of Nancy (France)

12:25 – 12:45

4. **Situation in Germany**

   Dr Bärbel Christiansen / Medizinaluntersuchungsamt und Hygiene, Universitätsklinikum Schleswig Holstein, Kiel (Germany)

12:50– 13:10

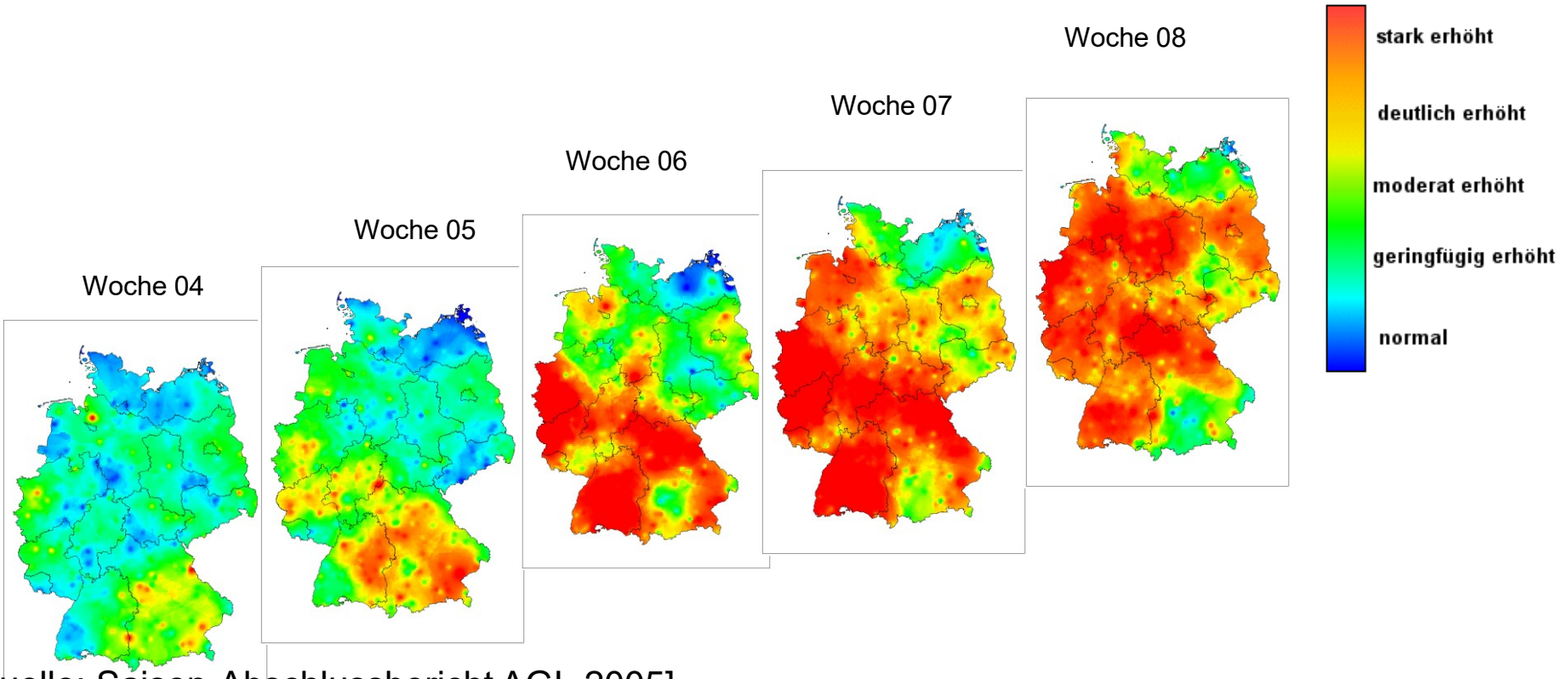
5. **Situation in Germany in Addition**

   Prof em Ursel Heudorf / Public Health Department, Frankfurt a. M. (Germany)

13:15 – 13:45

Lunch

Steigende Aktivität akuter Atemwegserkrankungen ab Woche 4/2005



[Quelle: Saison-Abschlussbericht AGI, 2005]

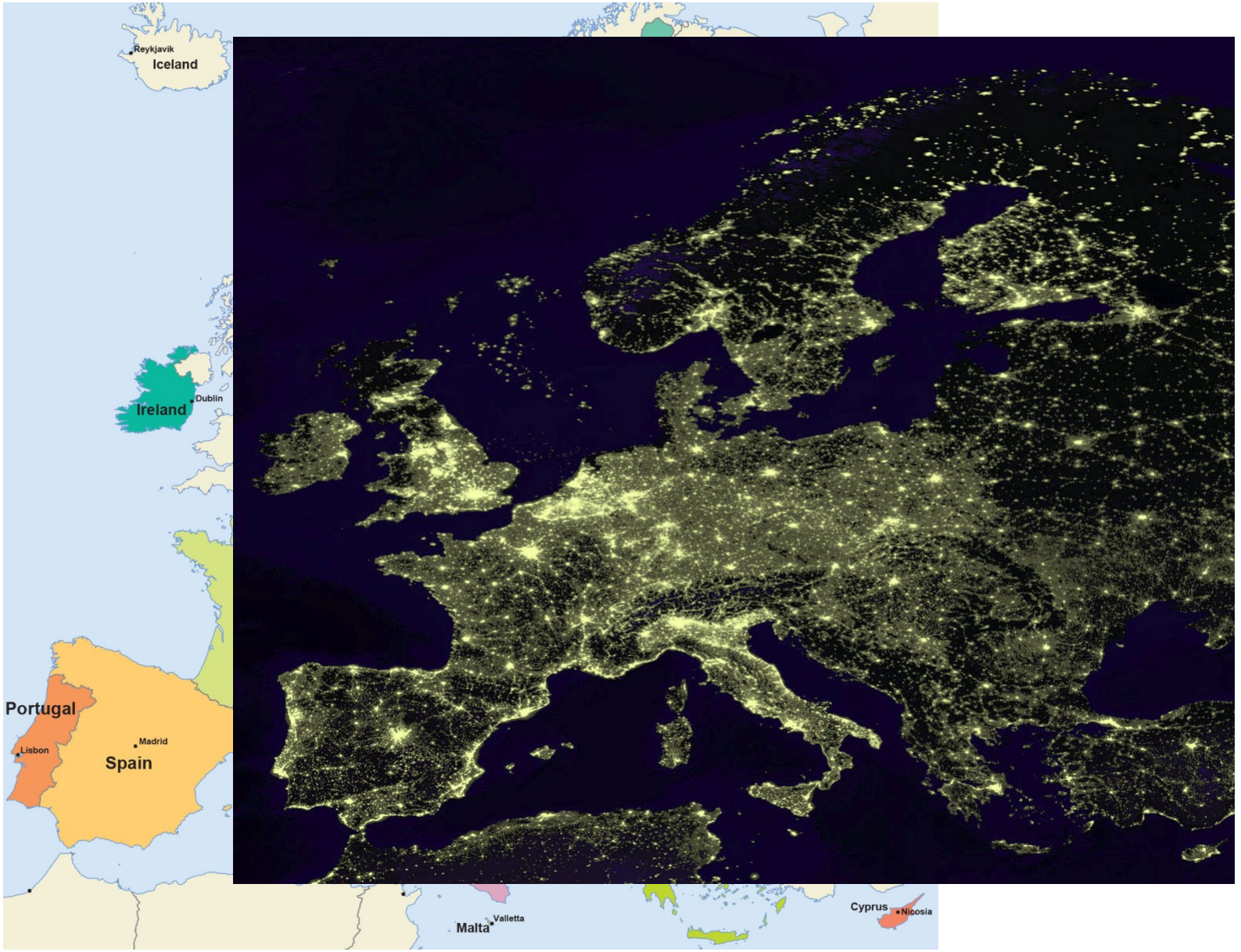
Topics

- Europe and European Union
- Health care associated infections (HAI) in Europe
- Antibiotic resistance in Europe
- Prevalence versus DALY in HAI
- Vision for patient safety in European corporate identity
- Questionnaire
- HAI and Health policy in Europe

Map of the European Union

Popuation
2020 estimate
447,206,135
Inhabitants

Map of the European Union



Goals and values of the EU

The goals of the European Union are:

- promote peace, its values and the well-being of its citizens
- offer freedom, security and justice without internal borders
- sustainable development based on balanced economic growth and price stability, a highly competitive market economy with full employment and social progress, and environmental protection
- combat social exclusion and discrimination
- promote scientific and technological progress
- enhance economic, social and territorial cohesion and solidarity among EU countries
- respect its rich cultural and linguistic diversity
- establish an economic and monetary union

The EU in the world

- The European Union is the largest trade block in the world.
- It is the world's biggest exporter of manufactured goods and services, and the biggest import market for over 100 countries.
- Free trade among its members was one of the EU's founding principles. This is possible thanks to the single market. Beyond its borders, the EU is also committed to liberalising world trade.

European Commission

The European Union

What it is and what it does

Public health

Citizens' health is a major priority for the European Union. The EU's health policy complements Members States' policies to ensure that everyone living in the EU is protected from serious cross-border health threats and has access to quality healthcare.

- While the organisation of healthcare is the responsibility of individual Member States, (The EU has no major competences in the field of health care) the EU complements national policies to achieve shared objectives.
- The EU's coordinating role in preparing for and responding to serious cross-border health threats is essential to protect Europeans from antimicrobial resistance, pandemics and other infectious diseases such as Ebola.
- The EU's health policy also generates economies of scale by pooling resources, and helps countries to tackle common challenges, including the risk factors of chronic diseases or the impact of increased life expectancy on healthcare systems.

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Health at a Glance: Europe 2018

STATE OF HEALTH IN THE EU CYCLE

OECD

European Commission

HEALTHCARE-ASSOCIATED INFECTIONS

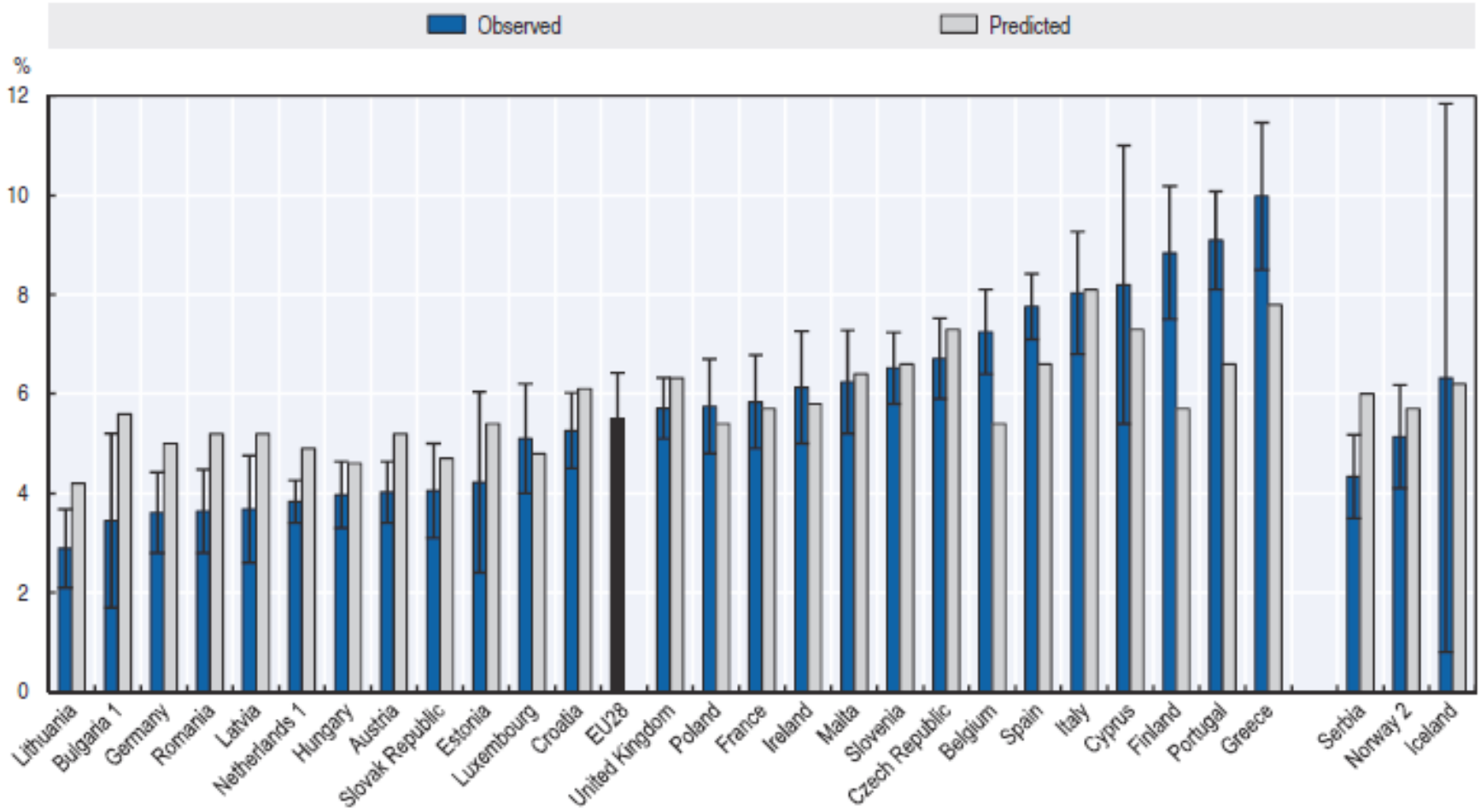
The European Centre for Disease Control estimates

- that 3.8 million people acquire a healthcare-associated infection each year in acute care hospitals in EU countries and Norway and Iceland,
- An estimated 90 000 people in the EU die each year due to the six most common infections in health care settings
- At least 20% of healthcare-associated infections are considered to be avoidable through better infection prevention and control

HEALTHCARE-ASSOCIATED INFECTIONS

- On average across EU countries (weighted), 5.5% of patients acquired an infection during their hospital stay in 2016-17.
- The observed percentage
- - was lowest in Lithuania, Bulgaria, Germany, Latvia, the Netherlands and Romania (less than 4%),
- - and highest in Greece, Portugal, Italy, Finland and Cyprus (more than 8%).

6.28. Observed and predicted percentage of hospitalised patients with at least one healthcare-associated infection, 2016-17

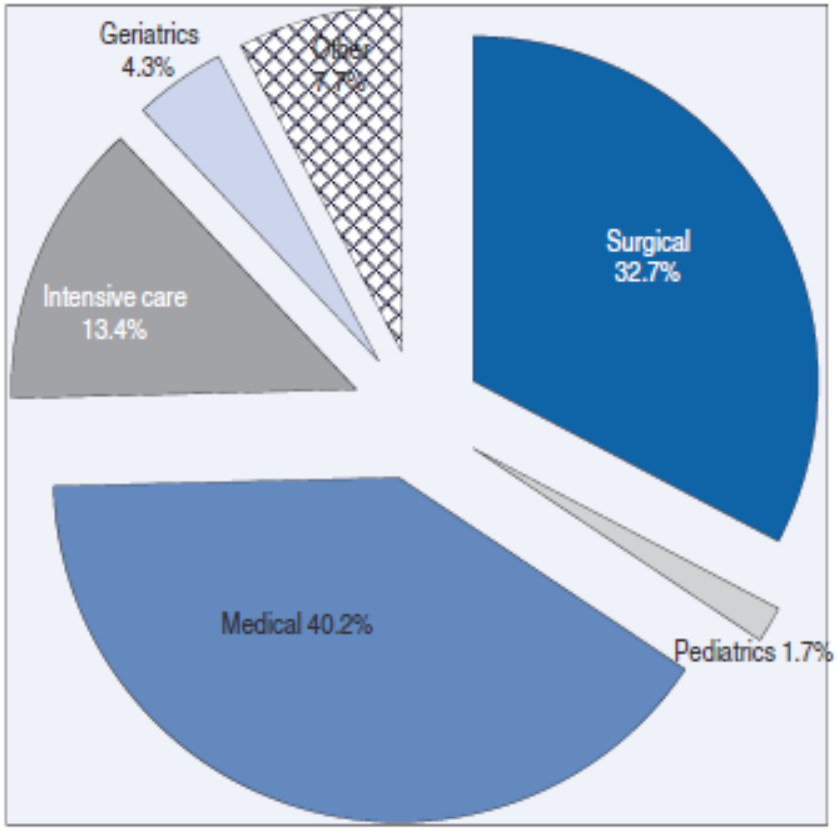


1. Country representativeness of data is limited in Bulgaria and the Netherlands.
2. Data from Norway includes partial imputation for missing types of infections.

Note: 95% confidence intervals represented by H. Data for Denmark and Sweden are not available. The EU average includes Iceland and Norway.

Source: ECDC 2016-17 Point prevalence survey.

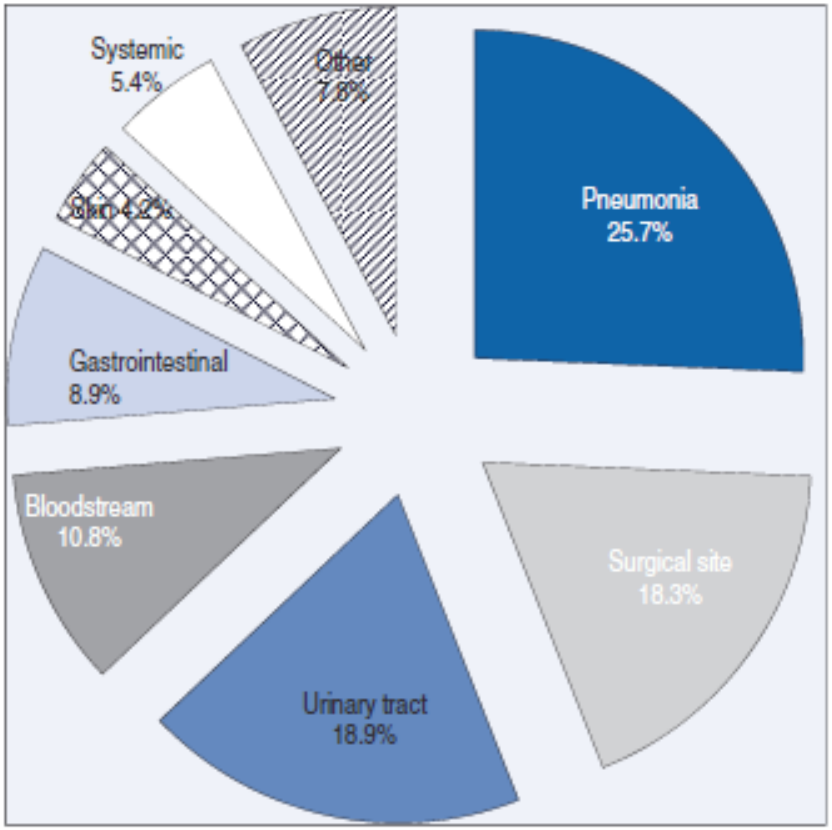
6.29. Healthcare-associated infections by type of care (specialty) across EU countries, 2016-17



Source: ECDC 2016-17 Point prevalence survey.

StatLink http://dx.doi.org/10.1787/888933836162

6.30. Healthcare-associated infections by type of infection across EU countries, 2016-17



Source: ECDC 2016-17 Point prevalence survey.

StatLink http://dx.doi.org/10.1787/888933836181

HEALTHCARE-ASSOCIATED INFECTIONS

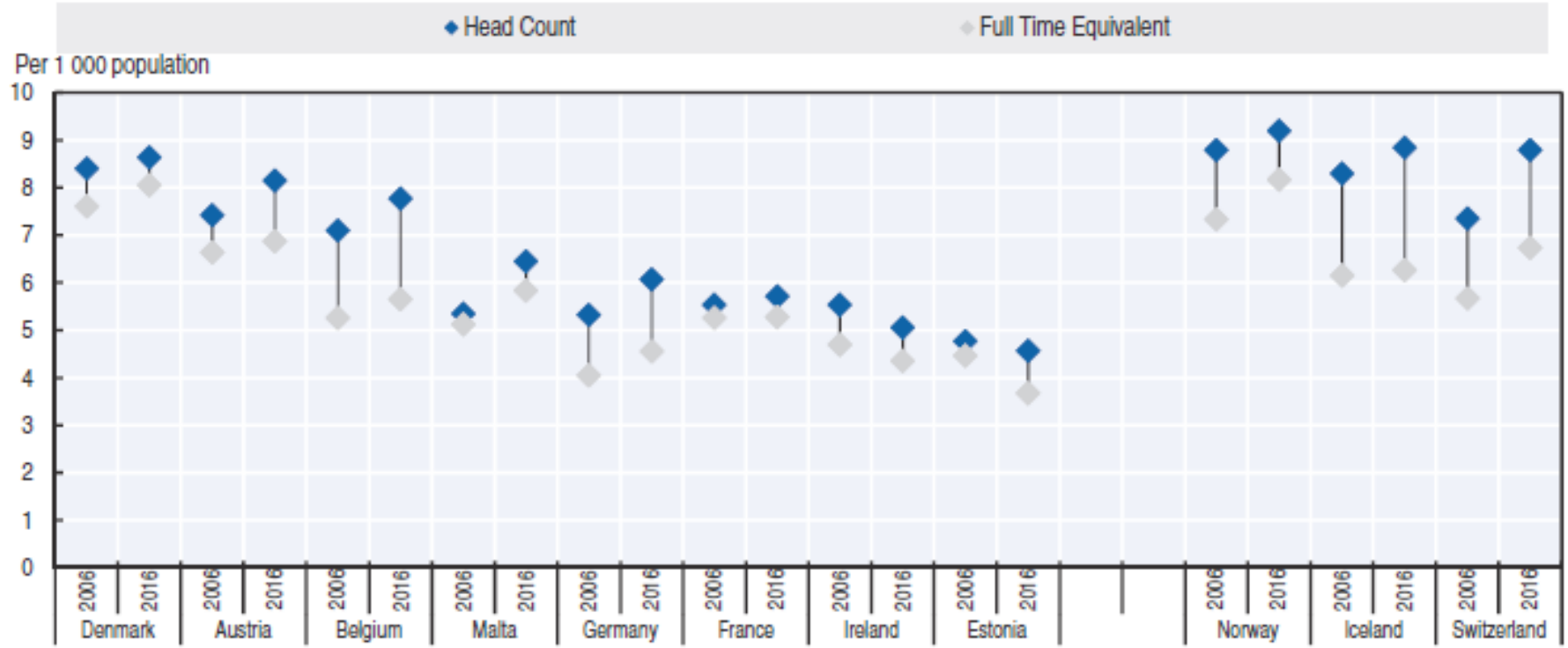
- Compounding the impact of healthcare-associated infections are infections due to antimicrobial resistant bacteria, which can lead to complications, longer hospital stays, or death.
- A single resistant infection has been estimated to cost about EUR 8 500 to 34 000 more than a non-resistant infection, due to additional hospital days and additional treatment costs (OECD, 2017).
- Inappropriate use of antibiotics contribute to antimicrobial-resistant bacteria in hospitals and in the community.

HEALTHCARE-ASSOCIATED INFECTIONS

- Healthcare-associated infections can be prevented by implementing a series of measures, as set out in the Council of the European Union's Recommendation on Patient Safety, including the Prevention and Control of Healthcare-Associated Infections (2009/C 151/01).
- At the hospital level, key components of effective infection prevention and control strategies include:
- - the creation of a local infection control team;
- - staff training;
- - use of evidence-based guidelines;
- - infection surveillance and feedback; and
- - rigorous maintenance of environmental hygiene (WHO, 2016).
- Most European countries have established their own national guidelines for infection control programmes (ECDC, 2018).

Nurses working in hospital

7.14. Nurses working in hospital, head count vs full time equivalent, 2006 and 2016 (or nearest year)



Note: Data include professional and associate professional nurses as well as midwives working in hospital.
Source: OECD Health Statistics 2018, *https://doi.org/10.1787/health-data-en*; Eurostat Database.

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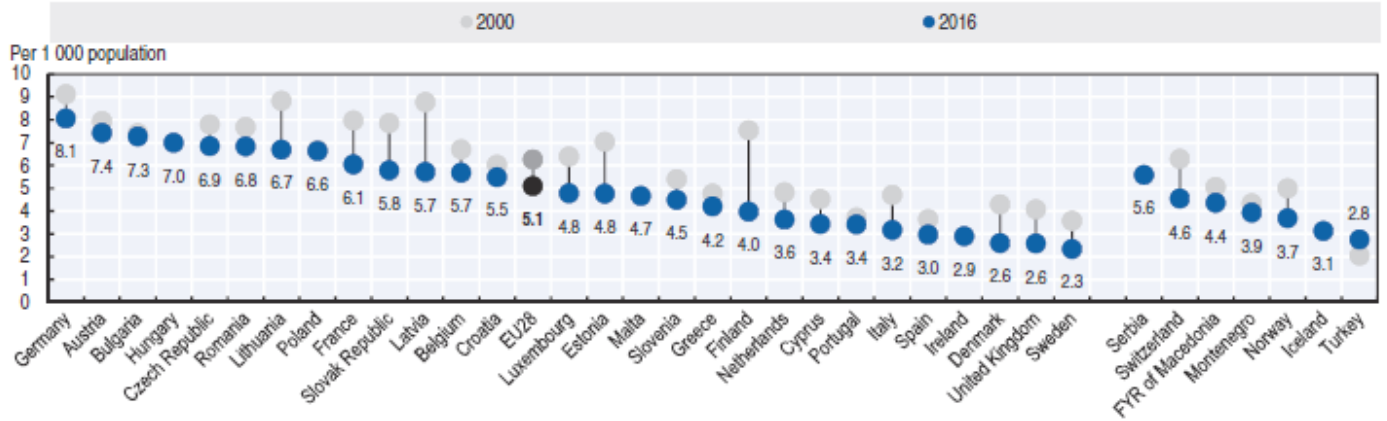
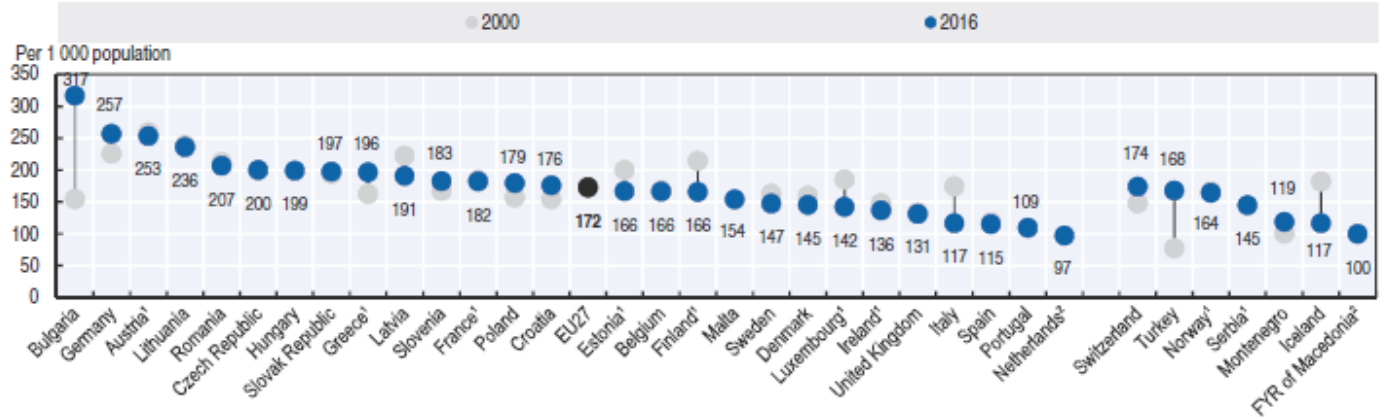
7.22. Hospital beds per 1 000 population, 2000 and 2016 (or nearest year)



Source: OECD Health Statistics 2018, *https://doi.org/10.1787/health-data-en*; Eurostat Database.

StatLink http://dx.doi.org/10.1787/888933836599

7.23. Hospital discharges per 1 000 population, 2000 and 2016 (or nearest year)

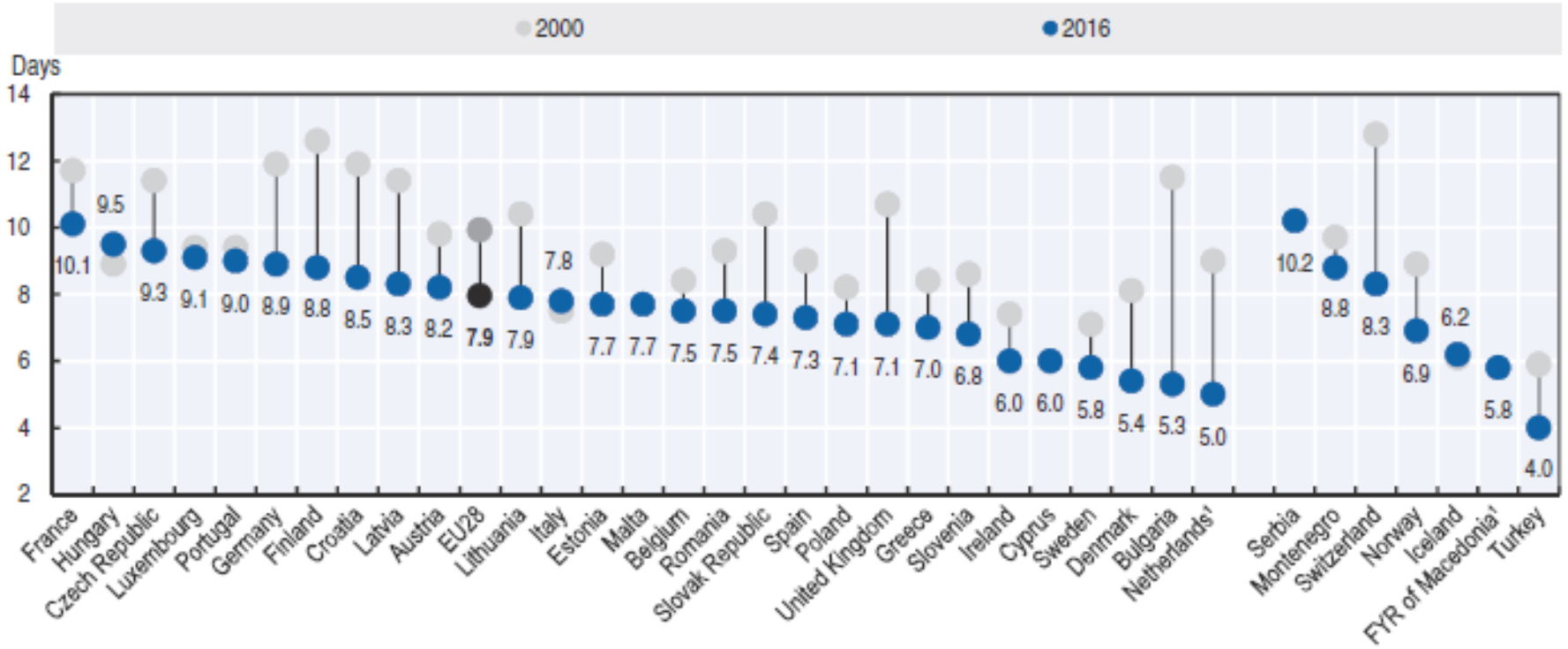


1. Data exclude discharges of healthy babies born in hospital (between 3-10% of all discharges).
2. Data include discharges for curative (acute) care only.

Source: OECD Health Statistics 2018, *https://doi.org/10.1787/health-data-en*; Eurostat Database.

StatLink http://dx.doi.org/10.1787/888933836618

8.8. Average length of stay in hospital, 2000 and 2016 (or nearest year)



Note: Data refer to average length of stay for curative (acute) care (resulting in an under-estimation).
Source: OECD Health Statistics 2018; Eurostat Database.

http://dx.doi.org/10.1787/888933826865

Health at a Glance 2019

OECD INDICATORS

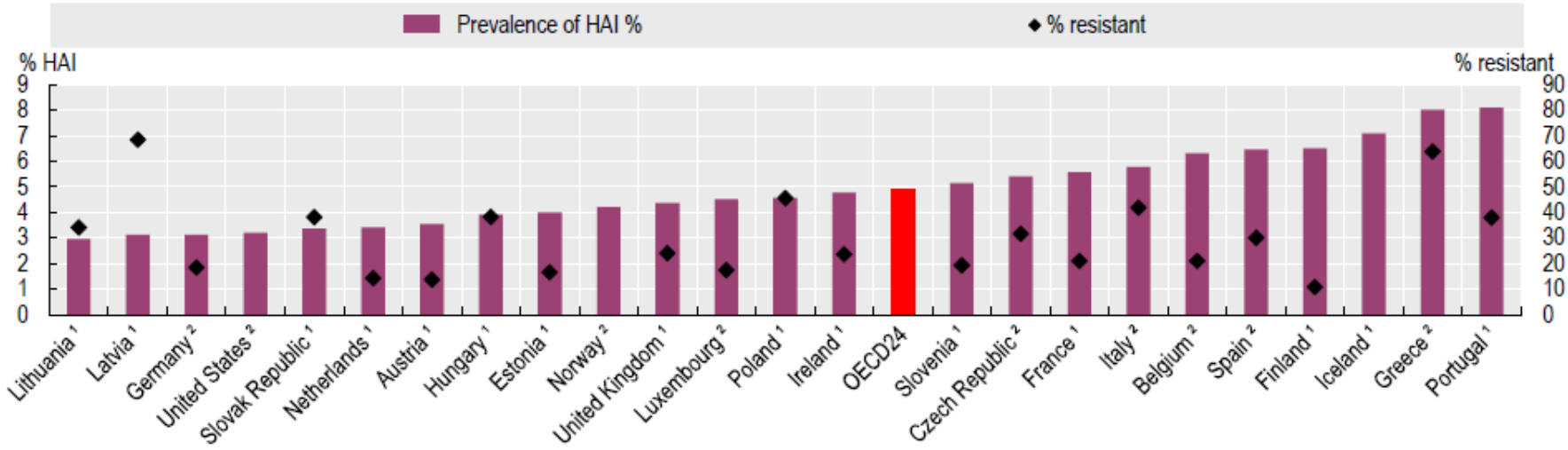
OECD

OECD Indicators 2019

- HAIs are the single most deadly and costly adverse event, representing up to 6% of public hospital budgets.
- This impact is increased by antibiotic-resistant bacteria, which can make HAIs difficult or even impossible to treat.
- On average, across OECD countries, just under 4.9% of hospital patients had an HAI in 2015-17. This proportion was 5.2% in 2011-12.
- The observed proportion of patients was
- - lowest in Lithuania, Latvia and Germany (around 3%) and
- - highest in Portugal, Greece and Iceland (more than 7%).
- Antibiotic resistance rates ranged from 0% in Iceland to nearly 70% in Latvia, although these rates should be interpreted with caution due to small sample sizes in some cases.

OECD Indicators 2019

Figure 6.5. **Percentage of hospitalised patients with at least one health care-associated infection and proportion of bacteria isolated from these infections resistant to antibiotics, 2015-17**



Note: No resistance data available for Iceland, Norway and the United States.
1. Under 5% of patients from ICUs. 2. Over 5% of patients from ICUs.
Source: ECDC 2016-17 Point prevalence survey. CDC 2015 point prevalence study.

StatLink https://doi.org/10.1787/888934016037

RESEARCH

National point prevalence survey on healthcare-associated infections in acute care hospitals, Switzerland, 2017

Walter Zingg[1,2], Aliki Metsini[1,2], Carlo Balmelli[3], Dionysios Neofytos[1], Michael Behnke[4], Céline Gardiol[5], Andreas Widmer[6], Didier Pittet[1], on behalf of the Swissnoso Network[7]

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7. Members of the Swissnoso Network are acknowledged at the end of this article

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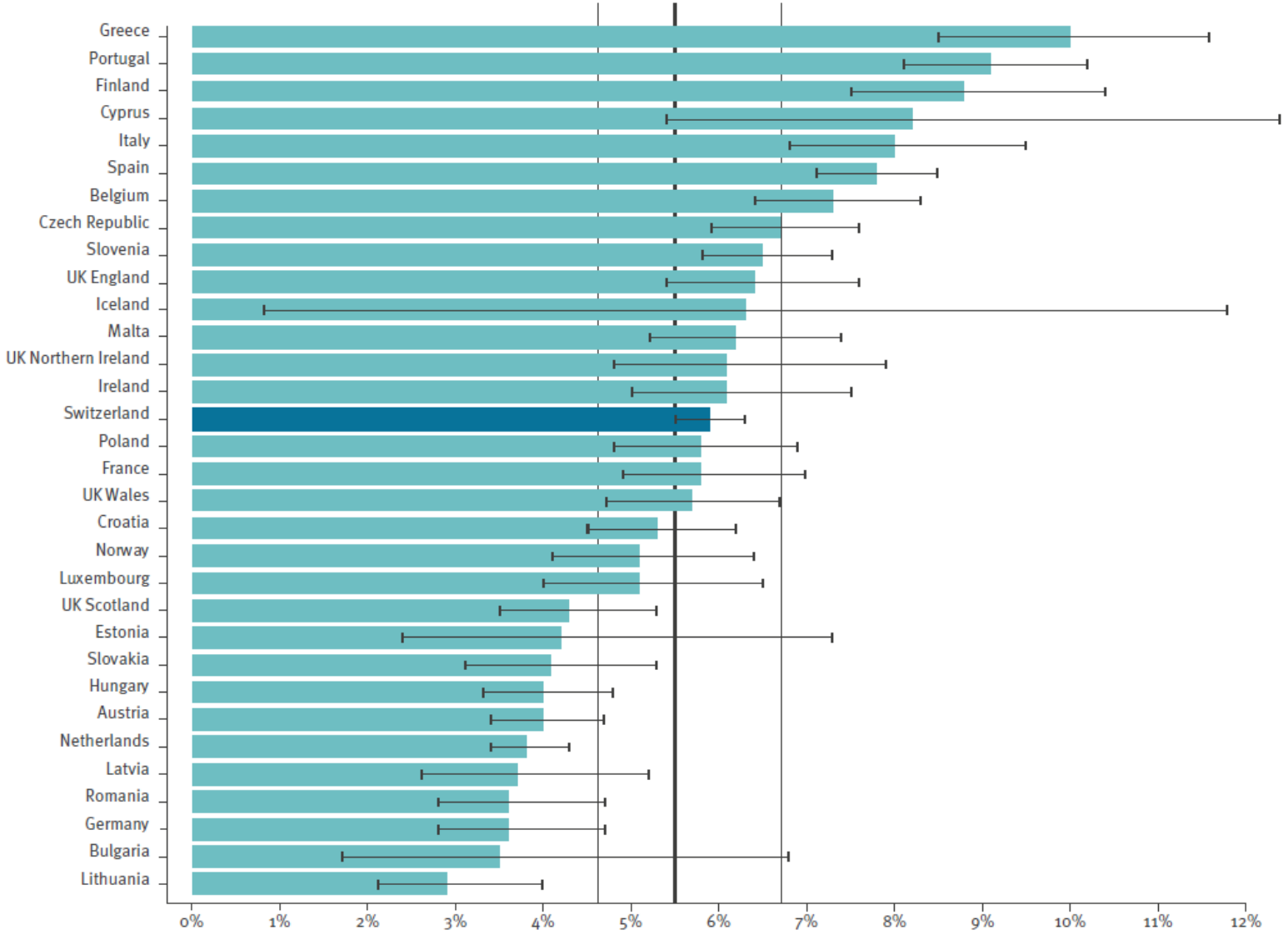
Article submitted on 31 Oct 2018 / accepted on 20 Feb 2019 / published on 08 Aug 2019



CI: confidence interval; ECDC: European Centre for Disease Prevention and Control; HAI: healthcare-associated infections.

Bars and whiskers: HAI prevalences and 95% CI by country. Vertical lines: mean prevalence and 95% CI across the countries participating in the 2016 and 2017 ECDC point prevalence survey. Source: [14].

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Cassini et al. Lancet Inf. Dis. 5. 11. 2018
Antibiotikaresistenz in verschiedenen Ländern und Deutschland (Pfeil)

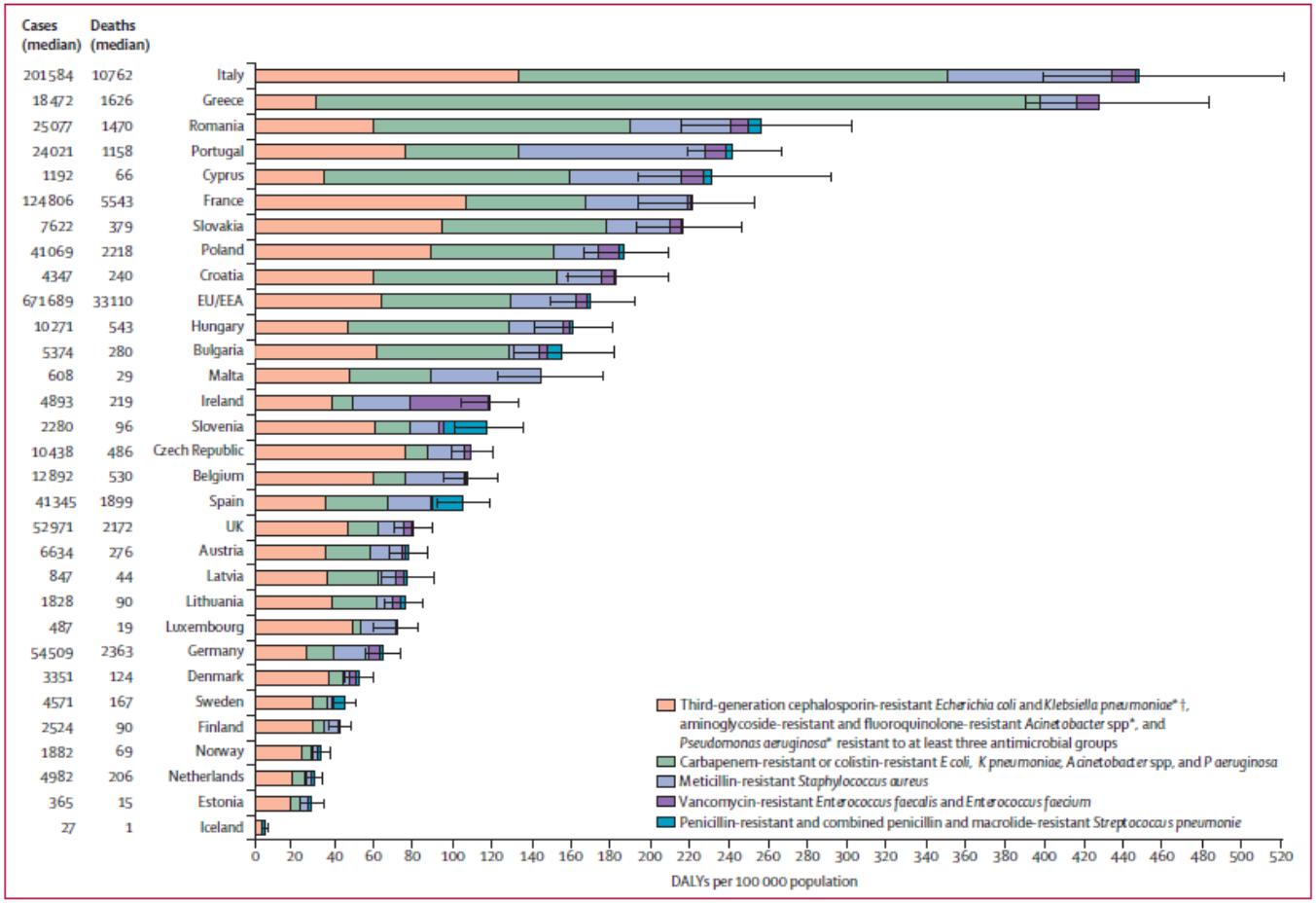
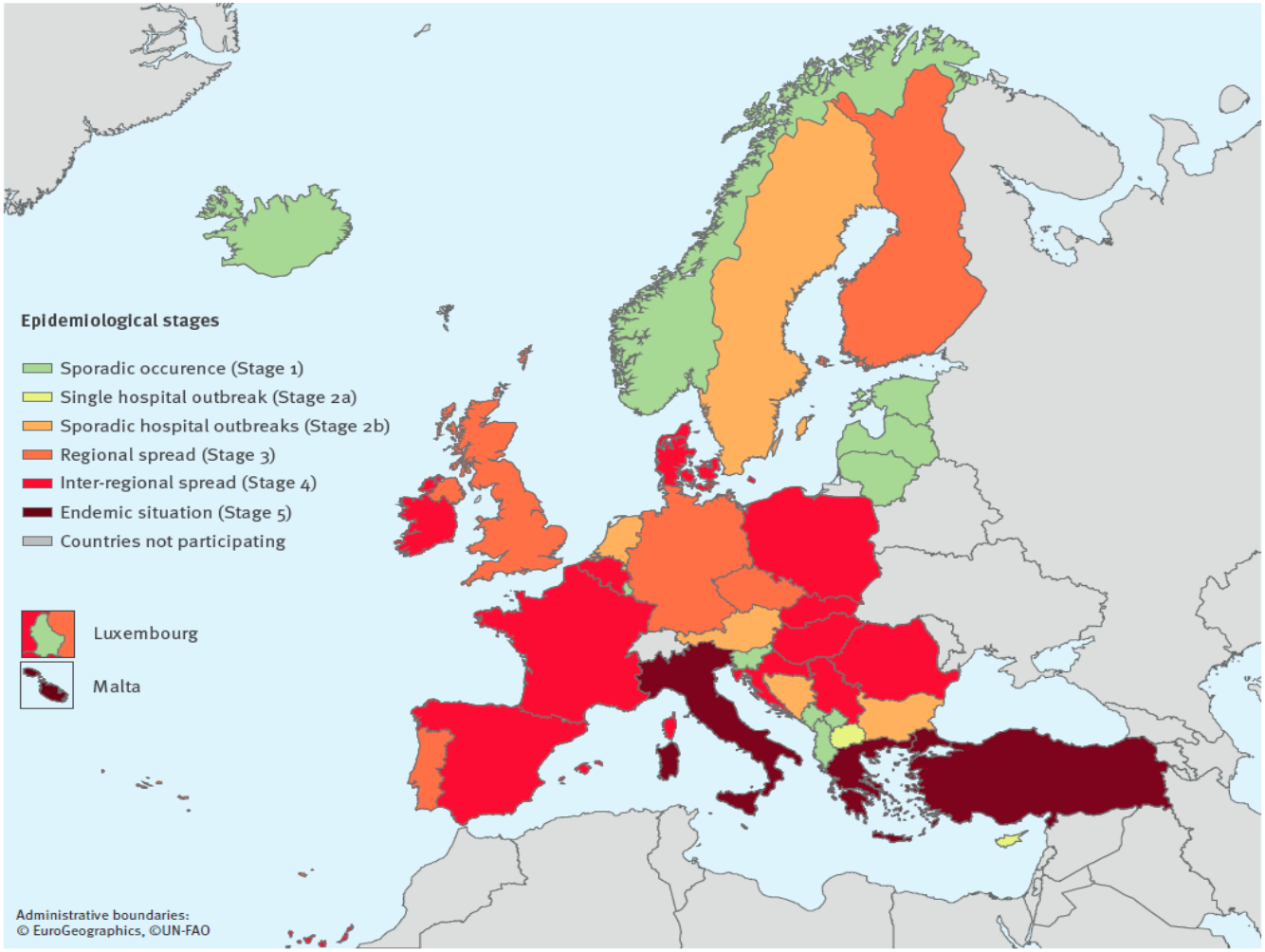


Figure 3: Burden of infections with antibiotic-resistant bacteria in DALYs, EU and European Economic Area, 2015
Error bars are 95% uncertainty intervals. Greece did not report data on *S pneumoniae* isolates to the European Antimicrobial Resistance Surveillance Network in 2015. DALY rates are age-standardised to limit the effect of demographic differences across countries; numbers of cases and deaths are not age-standardised. DALYs=disability-adjusted life-years. *Excludes those resistant to carbapenem or colistin. †In 2015, most of the third-generation cephalosporin-resistant *E coli* (88·6%) and *K pneumoniae* (85·3%) isolates reported to the European Antimicrobial Resistance Surveillance Network produced an extended-spectrum β-lactamase.[5]

Epidemiological situation of carbapenemase-producing Enterobacteriaceae, assessment by national experts in European countries, July 2018 (n = 37)



ECDC Country visit

- Observations from this ECDC country visit confirm that the AMR situation in Italian hospitals and regions poses a major public health threat to the country.
- The levels of carbapenem-resistant Enterobacteriaceae (CRE) and Acinetobacter baumannii have now reached hyper-endemic levels and, together with meticillin-resistant Staphylococcus aureus (MRSA), this situation causes Italy to be one of the Member States with the highest level of resistance in Europe.
- During conversations in Italy, ECDC often gained the impression that these high levels of AMR appear to be accepted by stakeholders throughout the healthcare system, as if they were an unavoidable state of affairs.
- The factors that contribute negatively to this situation seem to be:
- • Little sense of urgency about the current AMR situation from most stakeholders and a tendency by many stakeholders to avoid taking charge of the problem;
- • Lack of institutional support at national, regional and local level;
- • Lack of professional leadership at each level;
- • Lack of accountability at each level;
- • Lack of coordination of the activities between and within levels.

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Low Prevalence versus high DALY- Load of HAI in Germany

RESEARCH

Application of a new methodology and R package reveals a high burden of healthcare-associated infections (HAI) in Germany compared to the average in the European Union/European Economic Area, 2011 to 2012

Benedikt Zacher[1,2], Sebastian Haller[1,2], Niklas Willrich[1], Jan Walter[1], Muna Abu Sin[1], Alessandro Cassini[3], Diamantis Plachouras[3], Carl Suetens[3], Michael Behnke[4], Petra Gastmeier[4], Lothar H. Wieler[1], Tim Eckmanns[1]
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Citation style for this article:
Zacher Benedikt, Haller Sebastian, Willrich Niklas, Walter Jan, Abu Sin Muna, Cassini Alessandro, Plachouras Diamantis, Suetens Carl, Behnke Michael, Gastmeier Petra, Wieler Lothar H., Eckmanns Tim. Application of a new methodology and R package reveals a high burden of healthcare-associated infections (HAI) in Germany compared to the average in the European Union/European Economic Area, 2011 to 2012. Euro Surveill. 2019;24(46):pii=1900135. https://doi.org/10.2807/1560-7917.ES.2019.24.46.1900135

Article submitted on 19 Feb 2019 / accepted on 12 Sep 2019 / published on 14 Nov 2019

- Despite the fact that Germany has a relatively low hospital prevalence of HAIs compared with the European Union/European Economic Area (EU/EEA) average,
- the burden of HAIs in Germany (308.2 DALYs/100,000 population; 95% UI: 221.2–416.3) was higher than the EU/EEA average (290.0 DALYs/100,000 population; 95% UI: 214.9–376.9).

Prevalence versus DALY in Germany

- The health burden of HAIs was substantially higher than the burden of other communicable diseases.
- The burden of all five considered HAIs in Germany was 308.2 (95% UI: 221.2–416.3) DALYs.
- This was also higher than the burden of 31 selected infectious diseases in the EU/EEA, which was estimated to be 273 (95% UI: 249–299) DALYs per 100,000 population

Prevalence versus DALY in Germany

- The number of HAIs, attributable deaths and DALYs (YLDs and YLLs) per 100,000 population was overall higher in Germany than in the EU/EEA average
- Since the hospital prevalence of HAIs in Germany in 2011 was considerably lower than the EU/EEA average from the ECDC PPS between 2011 and 2012, we initially expected a lower health burden of HAIs in Germany.
- However, extrapolating from the hospitalised to the general population the burden of HAIs in Germany was higher than the EU/EEA average.

Prevalence versus DALY in Germany

- Germany has the highest number of curative beds in Europe and the second largest number of hospitalised patients per 1,000 population among 34 Organisation for Economic Co-operation and Development (OECD) countries
- Hygiene and infection prevention and control measures affect HAI occurrence among hospitalised patients.
- Germany's relatively low prevalence among hospitalised patients may be partly explained by the generally good hygiene and infection prevention and control measures in German hospitals.
- However, since there are so many hospitalised patients, their effectiveness may be diluted when calculating the burden of HAIs per general population.

Prevalence versus DALY

- In Germany, the burden of HAIs is higher than the burden of other communicable diseases.
- Despite the fact that Germany has a relatively low prevalence of HAIs compared with other European countries, the burden of HAIs in Germany is higher than the EU/EEA average.
- A probable cause for the high burden of HAIs in Germany is the country's large hospital patient population.(20% of Germans population)
- It has been argued that the large numbers of acute care beds in Germany may lead to avoidable hospital stays
- Therefore, the reduction of avoidable hospital stays together with further focus on hygiene measures and infection prevention and control are important steps to reduce the burden of HAIs in Germany.

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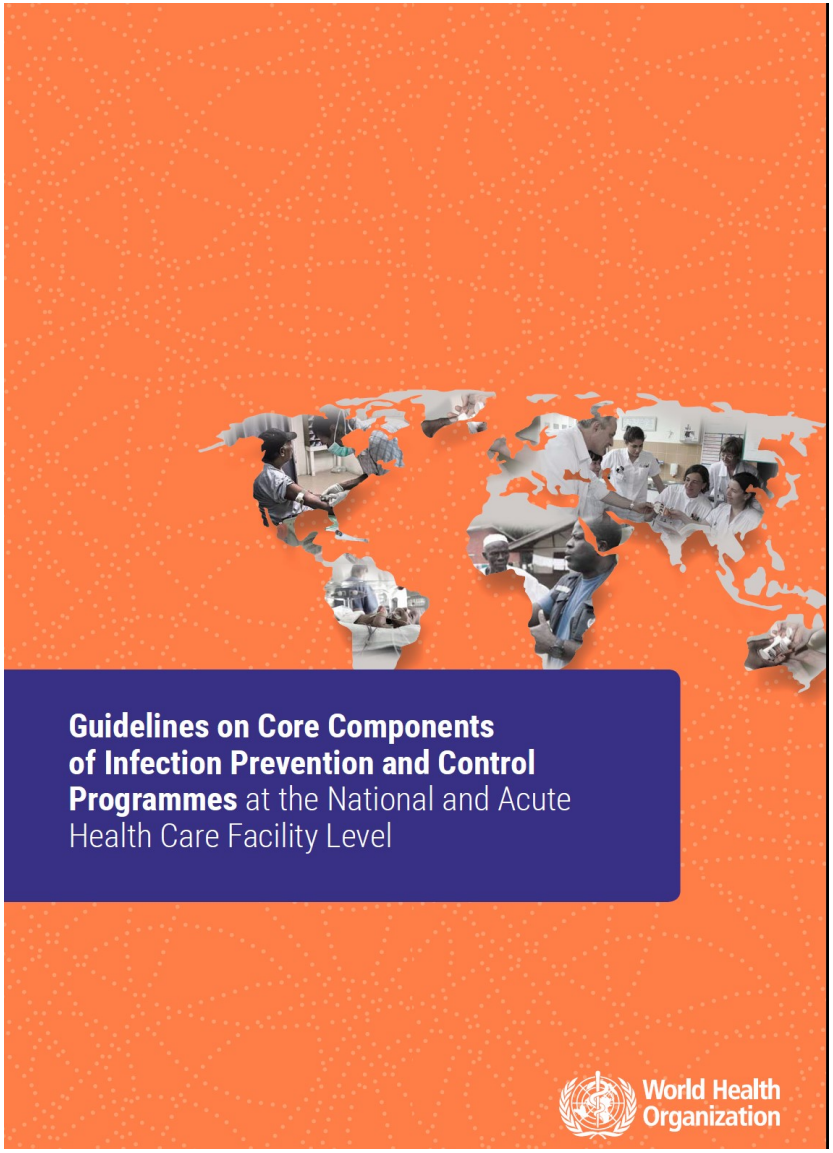
Our vision for European patient safety

- "Every European in every European country should have the right to be medically cared for according to the same hygiene safety standards." M. Exner

Guidelines on core components of infection prevention and control programmes at the national and acute health care facility level. World Health Organization 2016



- 1: Infection prevention and control programmes
- 2: National and facility level infection prevention and control guidelines
- 3: Infection prevention and control education and training
- 4: Health care-associated infection surveillance
- 5: Multimodal strategies for implementing infection prevention and control activities
- 6: Monitoring and evaluation and feedback
- 7: Workload, staffing and bed occupancy at the facility level
- 8: Built environment, materials and equipment for infection prevention and control at the facility level

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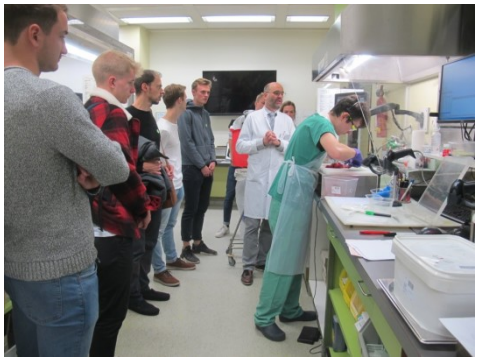
Regulatory Organization in the Speaker's Country for Hospital Hygiene and Infection Prevention

- - Are there any legal regulations, guidelines or recommendations regarding the hospital hygiene and infection prevention?
- - Which core areas are regulated here?
- - What is the legal quality of the corresponding recommendations (mandatory by law, non-binding recommendation)?
- - Are there sanctions for non-compliance and, if so, how are they applied OR ensured?

Training and further education

- - In the medical licensing regulations of each country, how many hours are stipulated for hospital hygiene and infection prevention (not counting microbiological diagnostics and clinical infectious diseases)?
- - Are there any binding regulations for medical schools with regard to hospital hygiene training?
- - Is there a fixed number of hours stipulated for hospital hygiene training?
- - Is hospital hygiene and infection prevention an examination subject at medical school or when training nursing staff?
- - Throughout their later career, do doctors and nurses receive further education and training in the fields of hospital hygiene and infection prevention?
- - How binding is this further education and training?



Use of Antibiotics

- - For the outpatient treatment of community-acquired infections, are antibiotics available on prescription only or also over the counter?
- - Are there any mandatory regulations on the use of antibiotics?
- - Is there a national antibiotic stewardship program?

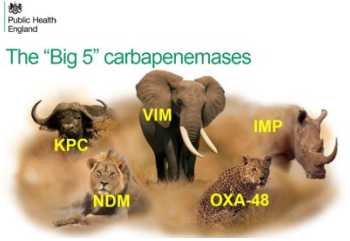
Hygiene Personnel – Infection Preventionists

- Are there binding requirements for the deployment of hygiene personnel, e.g. o physicians reponsible for hygiene management
- - hygiene specialists or nurses
- - hospital hygienists or consultants for hygiene and environmental medicine, public health microbiology
- - What are the tasks of the hygienic personnel?
- - Do cleaning and housekeeping personnel receive further education and training in matters of hospital hygiene and infection prevention?

Staffing

- - What is the patient/nursing staffing ratio in your country?

Surveillance



- - Is surveillance of nosocomial infections or nosocomial infectious agents carried out?
- - Is this surveillance binding and/or regulated by law?
- - Are nosocomial infections or pathogens, e.g. carbapenem-resistant pathogens, recorded?
- - Are the results per hospital and/or per country consolidated annually?
- - What is the epidemiological situation with regard to e.g. carbapenem and
- - carbapenemase-producing pathogens?
- - What are the most common nosocomial infections and infectious agents?
- - Is it mandatory to report it when patients with antibiotic-resistant pathogens are transferred to another hospital?
- - Are there any recommendations for the preventive isolation and screening of patients from abroad?

Cleaning, Disinfection, Sterilisation

- - Are there any recommendations for cleaning, disinfection and sterilisation?
- - Are there any recommendations for the reprocessing of medical devices
- - (instrument disinfection)?
- - Are there any recommendations for how to carry out surface disinfection?
- - Are there disinfectant lists?
- - Is there a means to ensure the efficacy of the process, e.g. using environmental tests or through process monitoring?

Hygienic-Microbiological Environmental Tests

- - Are there any recommendations for hygienic-microbiological environmental tests?
- - Are there any recommendations for the evaluation of hygienic-microbiological environmental studies?
- - Are there any specific measures to be taken in the event of deficiencies identified during environmental tests?

Structural-Functional Criteria

- - Are there any laws, guidelines or recommendations regarding structural-functional aspects?
- - How are structural-functional criteria implemented for new buildings and conversions, e.g. through hospital hygienic assessment?
- - What is the national legal mandate?
- - Are there specific recommendations for the construction of
- o surgical units
- o intensive care units
- o haemato-oncological wards
- o neo-natological wards
- o neurological early rehabilitation facilities
- o normal wards
- - Are there recommendations on the number of beds / rooms?
- - Are there any recommendations for water supply and sewage systems?
- - Are there any recommendations for sanitary facilities?

Outbreak Management

- - Are there criteria for the preparation of a systematic outbreak management?
- - Are there criteria for outbreak detection?
- - Is there an obligation to report outbreaks?
- - Are there fixed rules for outbreak management?
- - Are there requirements regarding the typing of identified pathogens to compare pathogens from the patient and those from the environment ?
- - Are there requirements regarding disinfection lists in the event of an epidemic?

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Causes, Deficit Analysis and Need for Optimisation

- - What are the most important problems and their causes regarding nosocomial infections in your country?
- - What would need to be improved most urgently in your country?
- - Could the EU, other European institutions or organisations, or consulting companies support your country in a deficit analysis?
- - Would this be accepted and/or would this impact regulation in your country?

RUDOLF SCHÜLKE STIFTUNG

Agenda for the Symposium of the Rudolf Schülke Foundation

„Hygiene Policies in European Health Care Facilities - How to Harmonize the Discrepancies in Europe"

27 und 28 February 2020 Madison Hotel / Hamburg

Chair: Prof em Hans-Günter Sonntag, Heidelberg