

200 Jahre Semmelweis 21.6.2018

Krankenhaushygiene und Infektionskontrolle im 21. Jahrhundert

Univ. Prof. Dr. Elisabeth Presterl MBA

Univ. Klinik für Krankenhaushygiene und Infektionskontrolle

Medizinische Universität Wien



Johann Peter Frank (1745 – 1821)

Geb. Rodalpen - Deutschland

Gest. in Wien

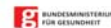
- Begründer des öffentlichen Gesundheitsdienstes und des Faches Hygiene als universitäres Fach
- Publikation: "System einer vollständigen medicinischen Polizey"
 - Forderung nach besserer Ausbildung von Ärzten, Schwestern und Hebammen, Finanzierung des Gesundheitswesens und für ein verpflichtendes Medizinstudium der Wiener Chirurgen



Zu den Aufgaben der Krankenhaushygiene (Hygieneteams) gehören alle Maßnahmen, die der Erkennung, Verhütung und Bekämpfung von Infektionen in Krankenanstalten und der Gesunderhaltung dienen.

(Österreichisches KaKuG §8a Abs4)

Zielsteuerung-Gesundheit
Bund • Länder • Sozialversicherung



Qualitätsstandard
Organisation und
Strategie der
Krankenhaushygiene

PROHYG 2.0
Organisation und Strategie der Krankenhaushygiene



http://www.bmgf.gv.at/home/Gesundheit/Gesundheitssystem/Qualitaetsversicherung/Qualitaetsstandards/QS_Krankenhaushygiene_nbsp_Qualitaetsstandard_Organisation_und_Strategie_der_Krankenhaus_Hygiene

Abgenommen durch die
Arbeitsgruppe Gesundheitssystem
im Juni 2015

Herausforderungen für die Krankenhaushygiene im 21. Jahrhundert

LIVE SAVING-LIFE IMPROVING- LIFE
PROLONGING HIGH TECH MEDICINE

versus

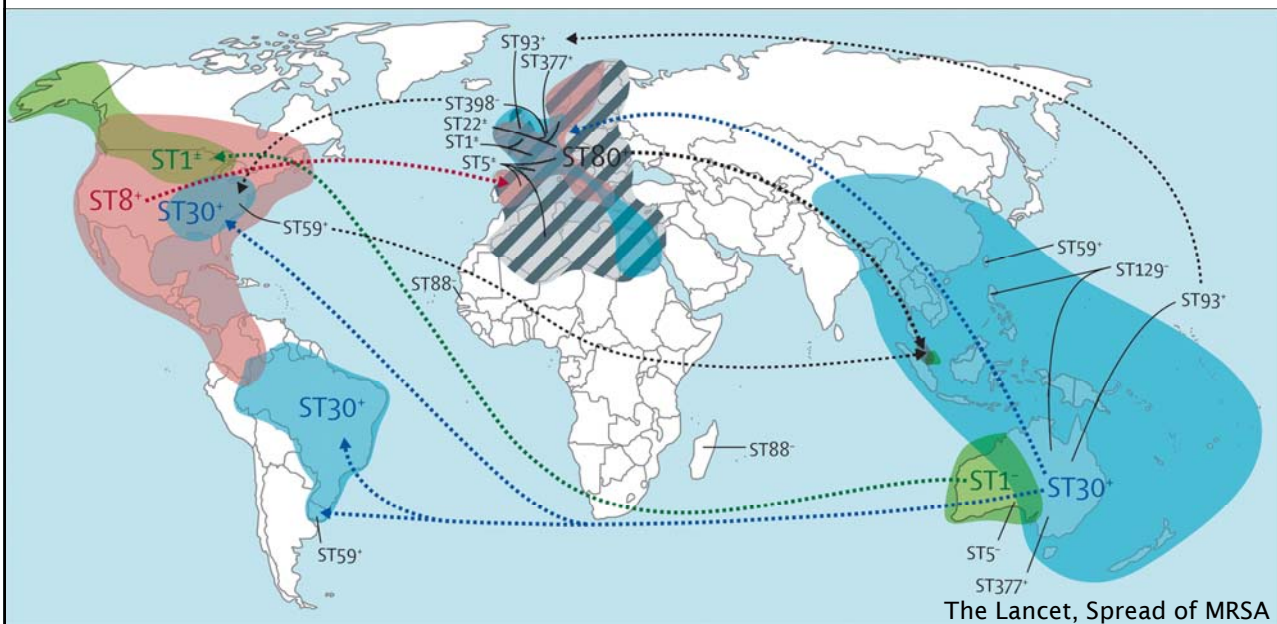
GLOBAL FACTORS

- Präzisionsmedizin – Targeted Therapy – Eingriffe in das menschliche Zellfunktionssystem
- Technik - Technologie
 - Architektur und Betrieb von Gesundheitsstätten
 - Roboter
 - Bildgebung
 - Endoskopie
- Daten – Informationstechnologie
- Bionic und Artificial Organs
 - „Cyborgs“ Fremdmaterial
- Mikrobiom - WGS
 - Interaktion Mensch-Mikrobe - Ernährung
- Medizinische Versorgungsprozesse

- Globale Produktion, Warenaustausch, Reisen
 - „Multiresistente Mitreisende“
- Global warming - Klimaveränderung
- Ressourcenverknappung
- Auftreten von Erkrankungen durch alte und neue Erreger
 - Sozioökonomische Veränderungen
 - Krieg, Flucht und Zusammenbruch von Gesundheitssystemen
- Wissensverlust

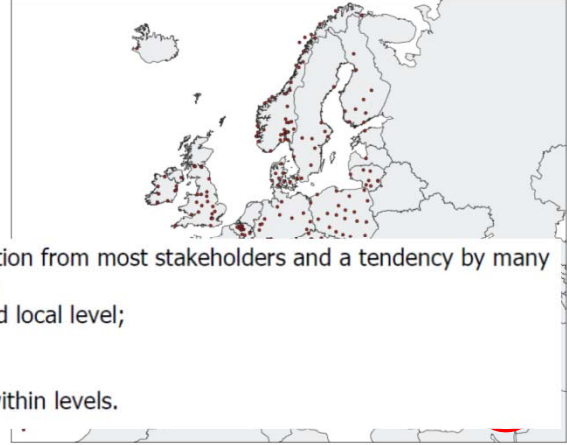


Die globale Epidemie des Auftretens von multiresistenten Erreger



Carbapenemase-bildende Gram-negative Erreger (inkl. pan-resistente Erreger)

- Europäisches und globales Problem!
- Klonale Ausbreitung?
- Behandlungsoptionen limitiert
- „WAS TUN?“
 - 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.



ECDC Stockholm, December 2017

Grundmann et al., Lancet Infect Dis 2017;
17: 153-63



Other sites: ECDC European Antibiotic Awareness Day ESCAIDE - Scientific conference Eurosurveillance journal

 **European Centre for Disease Prevention and Control**
An agency of the European Union

<https://ecdc.europa.eu/en/home>

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Ebola outbreak in DRC

An Ebola virus disease (EVD) outbreak is ongoing in the Equateur Province, DRC. The risk of introduction to the EU is currently considered very low.

[See the latest updates](#)

Ebola outbreak in Democratic Republic of the Congo Guidance on active case finding in prison Measles in the EU/EEA Understanding drug-resistant gonorrhoea

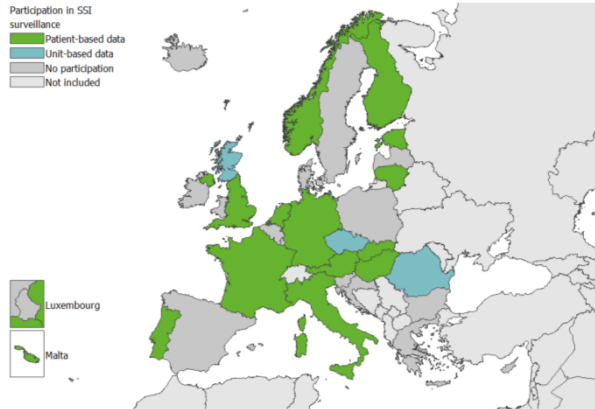
REGULATION (EC) No 851/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 April 2004, establishing a European centre for disease prevention and control - Pflichten für EU Staaten

Nationales Referenzzentrum für Nosokomiale Infektionen und Antimikrobielle Resistenz

2. Europäische Punkt-Prävalenzstudie zu Infektionen in Akutkrankenanstalten 2016-2017, ECDC

des BMASGK an der Univ. Klinik für Krankenhaushygiene und Infektionskontrolle

Figure 1. Participation in the surveillance of surgical site infections (SSIs), EU/EEA, 2015



Source: ECDC, HAI-Net, 2015



Conclusions and options for response

Carbapenem-resistant Enterobacteriaceae (CRE) pose a significant threat to patients and healthcare systems in all critical care areas. CRE infections are associated with poor outcomes, especially death. In the absence of effective treatment and the limited availability of treatment options, also antibiotic resistance of carbapenems for other non-CRE infections are of high importance. In the near future, CRE are expected to spread in healthcare settings as well as in the community, and measures should address both modes of transmission.

Options for actions to reduce identified risks

1. Actions related to limited treatment options and high mortality
Track and compare antibiotic usage and reporting is needed in order to avoid a change in antibiotic resistance, which is associated with increased mortality and morbidity. Patients with CRE infections and health care workers with carriage in antibiotic dispensing or clinical microbiology, which would ensure the best possible outcome, given the limited treatment options.

2. Actions to prevent transmission of CRE in hospitals and other healthcare settings
Implementation of and strict adherence to infection control measures, including hand hygiene, contact precautions, and use of protective gear (gowns, gloves, masks, and eye protection) are essential to reduce the spread of CRE. In addition, measures to reduce the use of antibiotics, particularly carbapenems, are essential to reduce the selection pressure for CRE. In addition, measures to reduce the use of antibiotics, particularly carbapenems, are essential to reduce the selection pressure for CRE. In addition, measures to reduce the use of antibiotics, particularly carbapenems, are essential to reduce the selection pressure for CRE.

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The EUCIC Infection Prevention and Control Certificate

European Training Programme



Das erste Pan-europäische Trainingsprogramm "European Infection Prevention and Control Certificate" startete im Februar 2018

World Health Organization

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Infection prevention and control

Critical role of infection prevention and control

No one should catch an infection while receiving health care, yet, hundreds of millions of people are affected every year; this is avoidable. And this alarming figure affects those providing health care too. Infection prevention and control (IPC) is a practical, evidence-based approach which prevents patients and health workers from being harmed and ensures quality health care. It involves practising WHO hand hygiene recommendations, having a clean and hygienic environment, monitoring infections and having action plans to reduce their frequency, never re-using needles and syringes, using antibiotics but only when truly needed, to reduce the risk of resistance. A large proportion of infections are caused by antibiotic resistant organisms: there is

Guidelines on Core Components of Infection Prevention and Control Programmes at the National and Acute Health Care Facility Level

World Health Organization

Medizinische Universität Wien

Human factors engineering

- Studies:
 - Fit between people and products, equipment, facilities, procedures, and environments
 - How work design affects people
- Attempts to:
 - Match work to people's capabilities, limitations, needs
 - Change the organization, task, technology and environment to better fit the person

• Courtesy of Loren A. Herwaldt, MD, University of Iowa College of Medicine



Krankenhaushygiene im 21. Jahrhundert

- Internationale Zusammenarbeit
 - Ressourcennutzung
- Evidenz schaffen
 - Forschung, Studien und Wissenschaft
- Kommunikation und Vernetzung
 - Miteinander reden
 - Austausch und Verbreiten von Wissen
 - Ausbildung, Schulung und Training