



# Tackling AMR in Europe's healthcare facilities:

Best practice to prevent the development and spread of drug-resistant bacteria



# Introduction



Healthcare facilities = hotspots for the development and spread of drug-resistant bacteria

The Lancet Infectious Diseases → 75% of infections with drug-resistant bacteria in Europe are associated with healthcare

ECDC → multidrug-resistant bacteria = a leading cause of the estimated 8.9 million annual healthcare-associated infections in Europe

# Surveying European healthcare

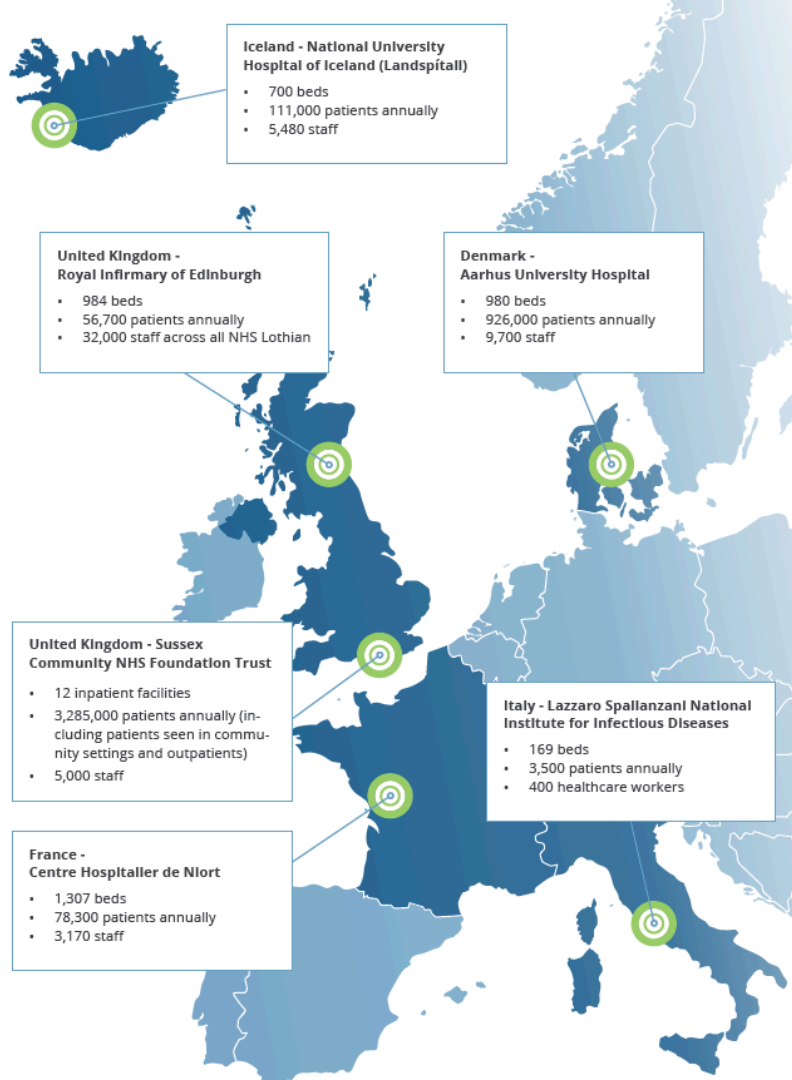


In 2019, HCWH Europe launched a survey to identify best practice for tackling AMR in healthcare facilities across Europe.

The report makes recommendations in five areas:

1. Antibiotic stewardship
2. Infection prevention and control
3. Wastewater treatment
4. Procurement practices
5. Training and information

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# 1. Antibiotic stewardship



Only 10-20% of all antibiotics are used in hospitals  
BUT the intensity of use is much higher than in the community

In addition, hospitals are usually where last-resort antibiotics are used

OECD → up to 50% of all antimicrobial consumption in human healthcare may be inappropriate

In survey: antibiotic stewardship = main action identified to address AMR within the hospital

# Recommendations

- Involve infectious disease specialists in decision-making processes for antibiotic prescriptions for drug-resistant infections
- Make prescriptions of broad-spectrum antibiotics conditional to strong pharmaceutical control to safeguard their effectiveness in the treatment of severe infections
- Make the best use of technology (e.g. apps, e-learning modules, intranet) to facilitate easy access and dissemination of antimicrobial prescribing guidelines
- Undertake regular reviews of clinical antibiotic prescriptions to reduce inadequate or inappropriate antibiotic consumption

## 2. Infection prevention and control



IPC helps prevent infections that would otherwise require further treatment

Basic measures that can play a significant role in preventing the spread of bacteria between patients are often neglected

In survey: focus on whether hospitals are taking steps to improve sanitation infrastructure to prevent the spread of drug-resistant bacteria

→ mixed results as most respondents were unaware of potential projects in the pipeline

# Recommendations

- Encourage continued cooperation between IPC teams and antimicrobial pharmacists to prevent healthcare-associated infections
- Develop and implement healthcare-associated infection prevention bundles to improve prevention effectiveness and patient outcomes
- Develop standard operating procedures to ensure environmental hygiene of isolation rooms for multi-drug resistant organism patients
- Prioritise single-occupancy patient rooms when designing new healthcare facilities despite short-term costs to alleviate the long-term AMR burden



# 3. Wastewater treatment



30%-90% of orally administered pharmaceuticals are excreted into wastewater as active substances in the faeces and urine of patients

In the EU, just 10% of medicinal products in urban effluent come from hospitals (approximately), as antibiotics are widely used outside healthcare facilities

BUT there is evidence that hospital effluents have an important impact on the prevalence of drug-resistant bacteria for specific antimicrobials (e.g. ciprofloxacin, sulphonamide, and tetracycline)

Survey: little involvement from respondents in wastewater treatment practices outside Aarhus University Hospital

# Recommendations



- Measure the concentration of AMR in hospital wastewater compared to local municipal wastewater to determine the need for action
- Participate in pilot projects aiming to reduce upstream discharge of antimicrobials that contribute to high levels of resistance in hospital effluents

# 4. Procurement practices

China currently produces 80%-90% of antibiotic active pharmaceutical ingredients (APIs) globally while India is the leading producer of finished dose products

= countries with weaker environmental standards and regulatory systems than those in force in the EU → there has been evidence of large-scale environmental pollution

Manufacturing pollution is driving the emergence of drug-resistant bacteria that are spreading around the world through trade and travel

# 4. Procurement practices



As these countries are supplying the EU market, the EU also shares a part of the responsibility for global pollution

The European healthcare sector holds economic and ethical influence that if mobilised can transform the system

Survey: awareness of manufacturing conditions is growing BUT only one respondent includes environmental criteria in pharmaceutical procurement decisions

# Recommendations

- Mobilise the economic and ethical influence of the healthcare sector to transform the pharmaceutical production chain within the framework of the EU Public Procurement Directive
- Include environmental criteria in pharmaceuticals procurement to support informed decision-making when purchasing
- Raise the issue of pharmaceutical manufacturing pollution with policy makers and advocate for strengthened environmental regulations

# 5. Training and information



Training healthcare workers is integral to tackling AMR in healthcare facilities

→ need for continuing education around the adequate use of antimicrobials and patient-management

The fight against AMR requires a multidisciplinary approach

Survey: most respondents organise training for healthcare workers and some also provide materials to raise awareness amongst patients

# Recommendations

- Develop multidisciplinary training programmes on antibiotics monitoring, good prescription practices, and infection prevention and control
- Provide prescribers annually with their Defined Daily Dose\* ward profile as a benchmarking and control exercise
- Organise awareness-raising activities and provide patients with information (e.g. leaflets, signs) on medication compliance and proper antimicrobial use

\* a statistical measure defined by the WHO to allow for comparisons of drug consumption at an international level

# Conclusion



High-level of awareness on AMR among respondents

BUT results showed that healthcare facilities could make better use of the wide range of tools at their disposal

Measures come at a financial cost → need for more public funding

Investment is cost-effective: OECD → 3/4 deaths from drug-resistant infections could be averted by annual spending of \$2 USD/person on simple measures e.g. hand washing, prudent prescription practices



# HCWH Europe report out now

*Tackling AMR in Europe's healthcare facilities: Best practice to prevent the development and spread of drug-resistant bacteria*

Now available on the HCWH Europe website

[www.noharm-europe.org](http://www.noharm-europe.org)



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