# AMR in the environment - the impact of healthcare facilities

Erik Ruiz - Health Care Without Harm Europe

Health Care Without Harm

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# ABOUT US

We are a network of thousands of hospitals, healthcare leaders, and healthcare professionals, with members across Europe and partners across the globe.

Together we prove that it's possible to deliver the highest quality of care in a way that's sustainable environmentally and financially.

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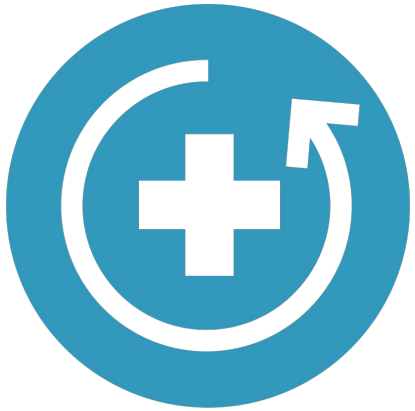
# OUR PROGRAMMES

CLIMATE-SMART HEALTHCARE



CIRCULAR HEALTHCARE

SAFER PHARMA

# SAFER PHARMA

## STRATEGIC GOAL

Pharmaceutical pollution and its contribution to the development of antimicrobial resistance (AMR) is minimised.

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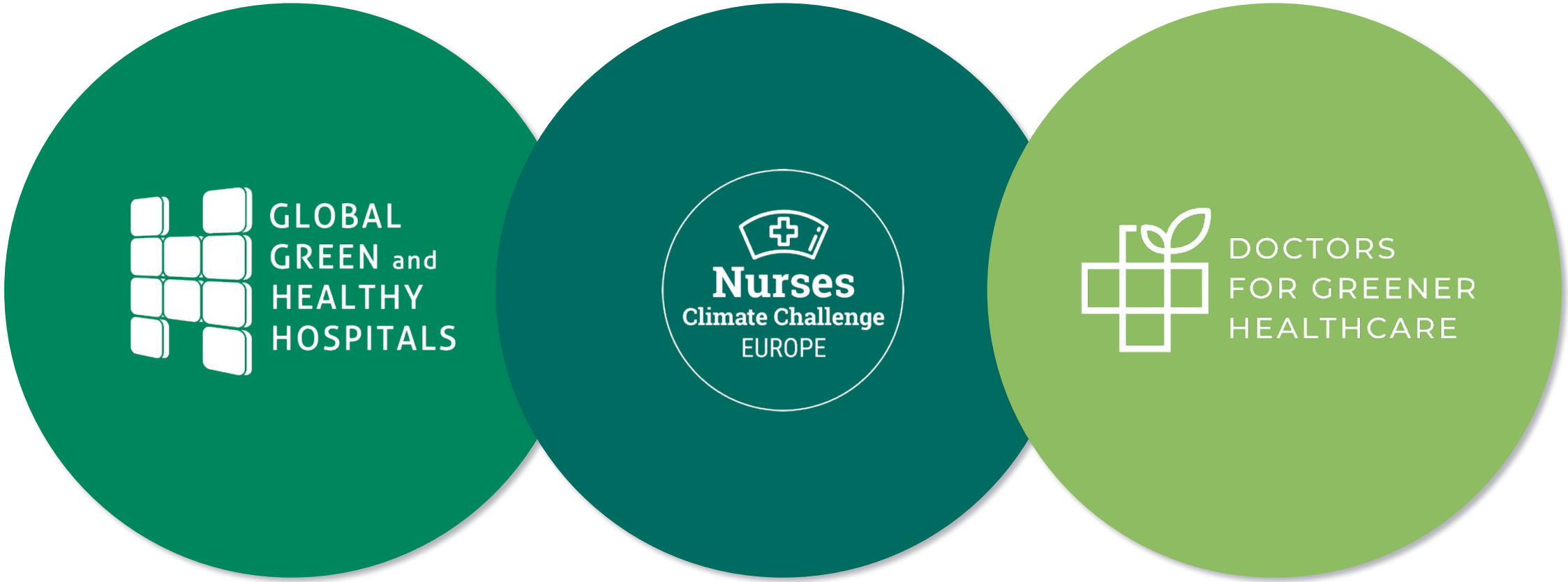
# OUR ACTION NETWORKS



# GLOBAL GREEN AND HEALTHY HOSPITALS

## THE HEALTHCARE PROVIDERS AT THE HEART OF OUR ORGANISATION

GLOBAL GREEN and HEALTHY HOSPITALS

153 members in 24 countries
across the WHO Europe region

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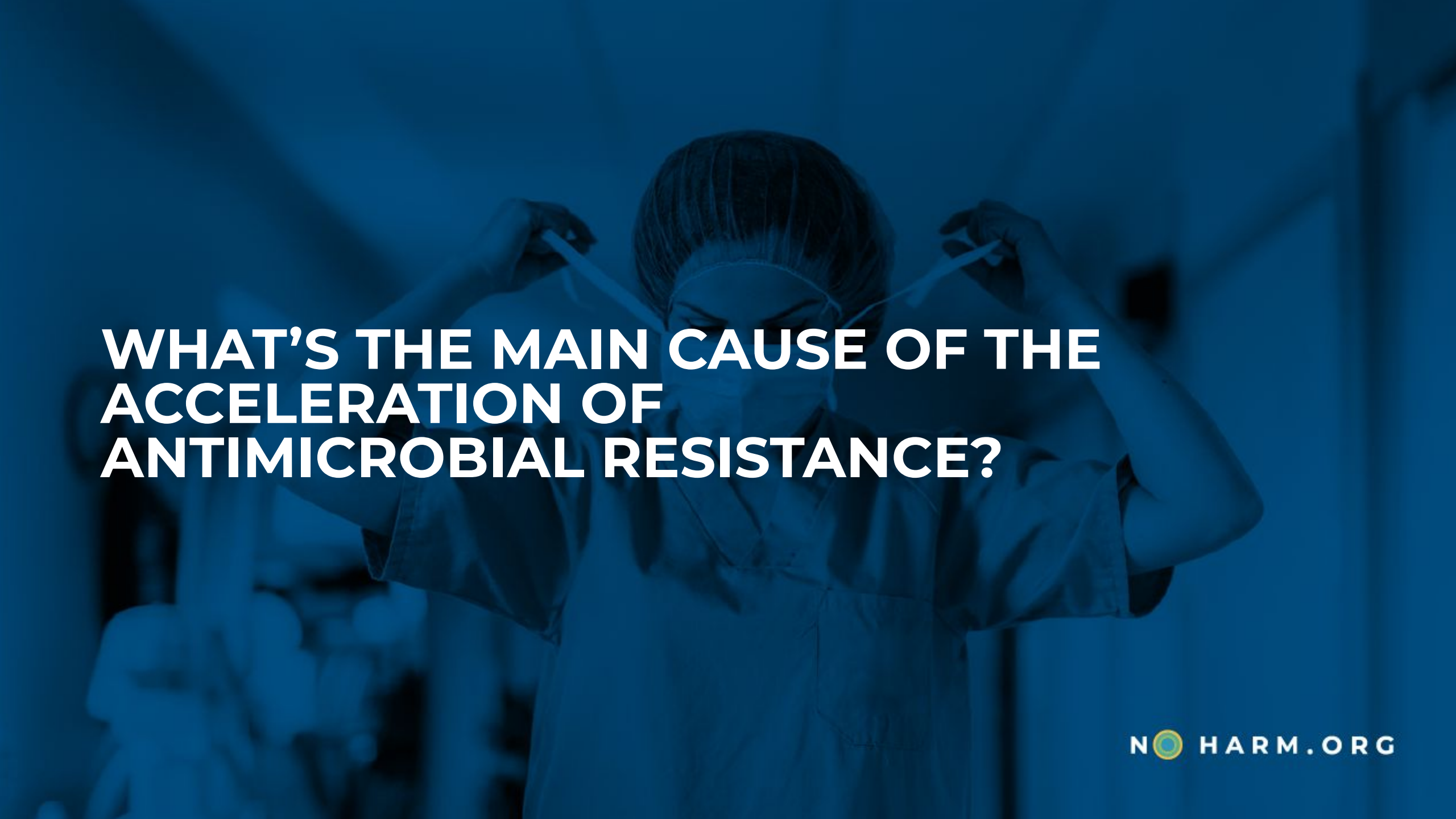

# WHAT'S THE MAIN CAUSE OF THE ACCELERATION OF ANTIMICROBIAL RESISTANCE?

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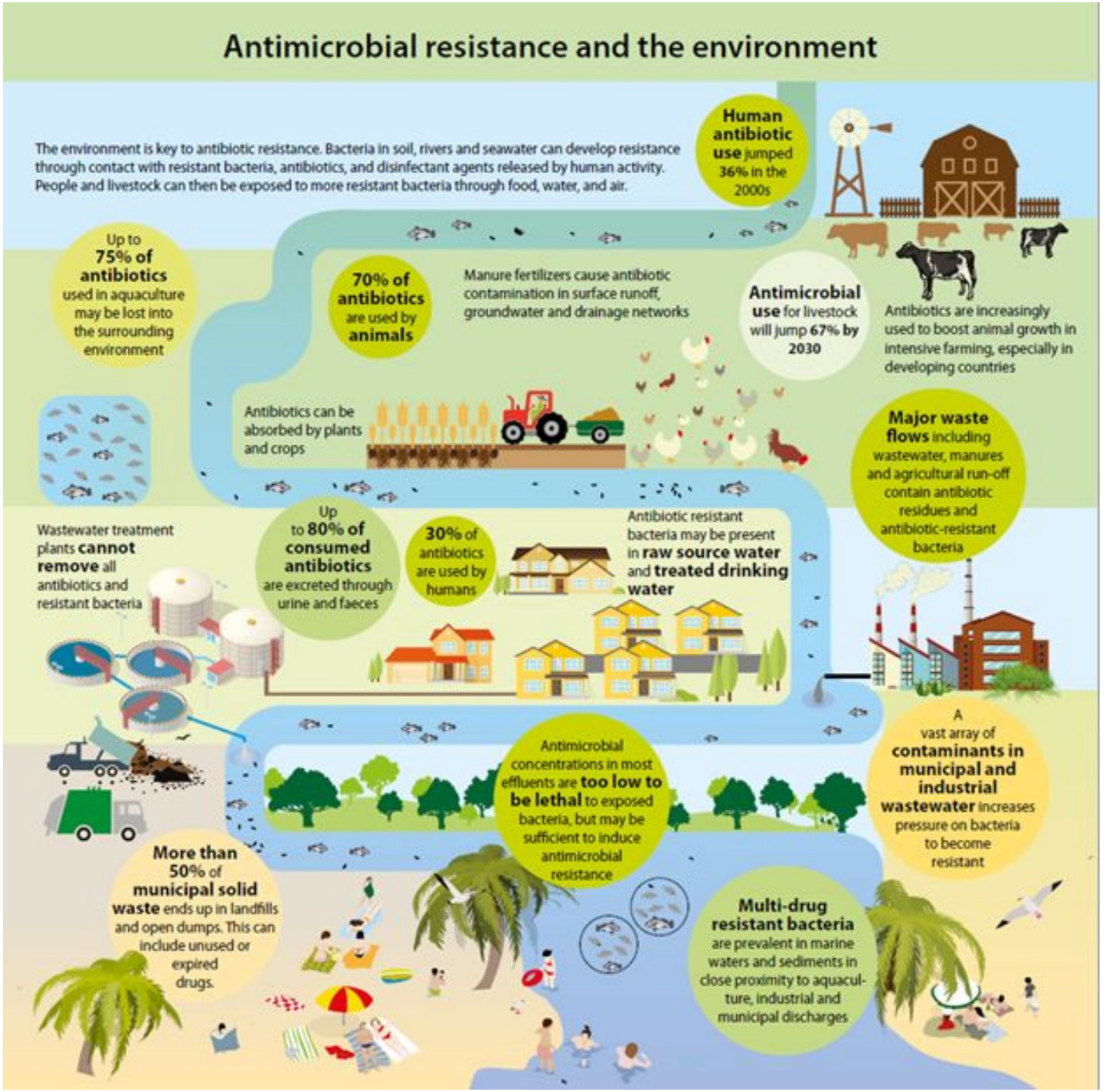


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Source. UNEP 2020


WHAT'S THE IMPACT OF HEALTHCARE FACILITIES?
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# WHERE DO PHARMACEUTICALS END UP?

It is estimated that 30%-90% of orally administered pharmaceuticals are excreted into wastewater as active substances in the faeces and urine of patients (1)

Removal rates in wastewater plants range from 0%- 97% (2)

Wastewater treatment plants primarily designed to eliminate biodegradable substances and nutrients – **not able to completely remove pharmaceutical substances**

Residues discharged via effluent into surface waters – **Enter water cycle**



1. Lockwood, S. et al. (2016) Options for a strategic approach to pharmaceuticals in the environment.
2. Deblonde, T. et al. (2011) Emerging pollutants in wastewater: A review of the literature.

# ENVIRONMENTAL IMPACT OF ANTIBIOTIC USE IN HOSPITALS

20%-30% of inpatients receive an antibiotic treatment during their hospital stay. (3)

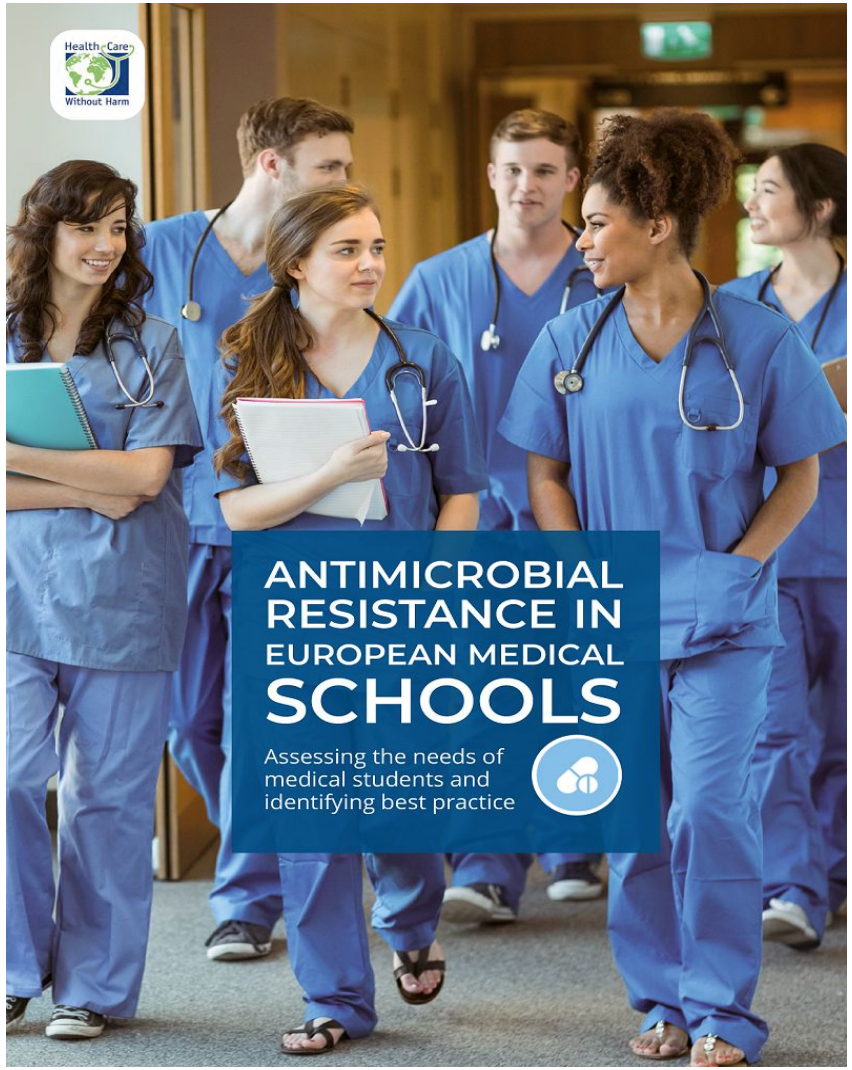
**High-risk point sources:** The proportion of resistance genes or resistant bacteria is usually higher in hospital wastewater than in household wastewater – last resort (4)

Aarhus University Hospital in Denmark is testing peracetic acid as a tool to neutralise ciprofloxacin-resistant bacteria. (5)

3. Hocquet, D. et al. (2016) What happens in hospitals does not stay in hospitals: Antibiotic-resistant bacteria in hospital wastewater systems.
4. Paulus, G. K. et al. (2019) The impact of on-site hospital wastewater treatment on the downstream communal wastewater system in terms of antibiotics and antibiotic resistance genes.
5. Stenuick, J. (2021) PHARMACEUTICAL RESIDUES IN HOSPITAL WASTEWATER. Five case studies from european hospitals

# DO HEALTH PROFESSIONALS KNOW?

Only 22% of the respondents had in their curricula the links between human health, animal health and the environment




357 medical students studying at 83 medical schools or universities across 28 countries

# MEASURES TO REDUCE ENVIRONMENTAL IMPACT OF AMC

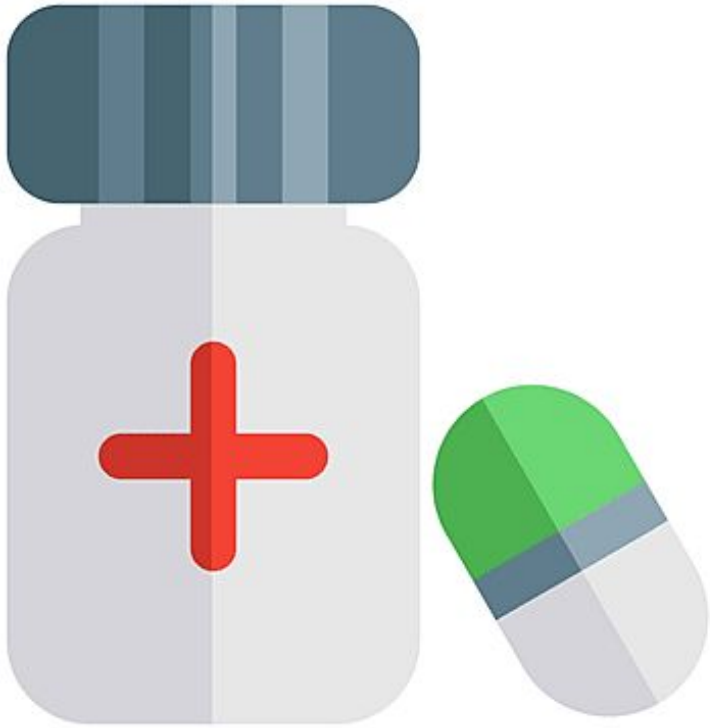
No easy fix...

1 Improve antibiotic prescription: Canisius-Wilhelmina Hospital in Nijmegen, The Netherlands reduced prescriptions of last-resort antibiotics by 25% and saved €40,000 in costs one year after introducing an antibiotic stewardship programme.

2 Green procurement practices.

3 Establish protocols to safely dispose pharmaceutical waste... and follow them

4 We need dedicated guidance for healthcare professionals on their impact on environmental health.



# WHAT ARE WE DOING TO ADDRESS THIS?

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# TRAININGS FOR HEALTHCARE PROFESSIONALS

- +4,000 health professionals trained in 7 EU countries
- Training on antimicrobial prescription, antimicrobial waste and patient empowerment
- Videos, app, podcasts...

AMR EDUCare

# RECOMMENDATIONS TO PROCURERS OF PHARMACEUTICALS

## 5 cases studies

1. Environmental requirements for pharmaceuticals (Norway)
2. Sustainability criteria for medicinal products (Sweden)
3. Carbon footprinting health products (France)
4. Sustainable Procurement Index for Health (UNDP)
5. Responsible Antibiotics Manufacturing Platform (RAMP)


## CONTACT

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