



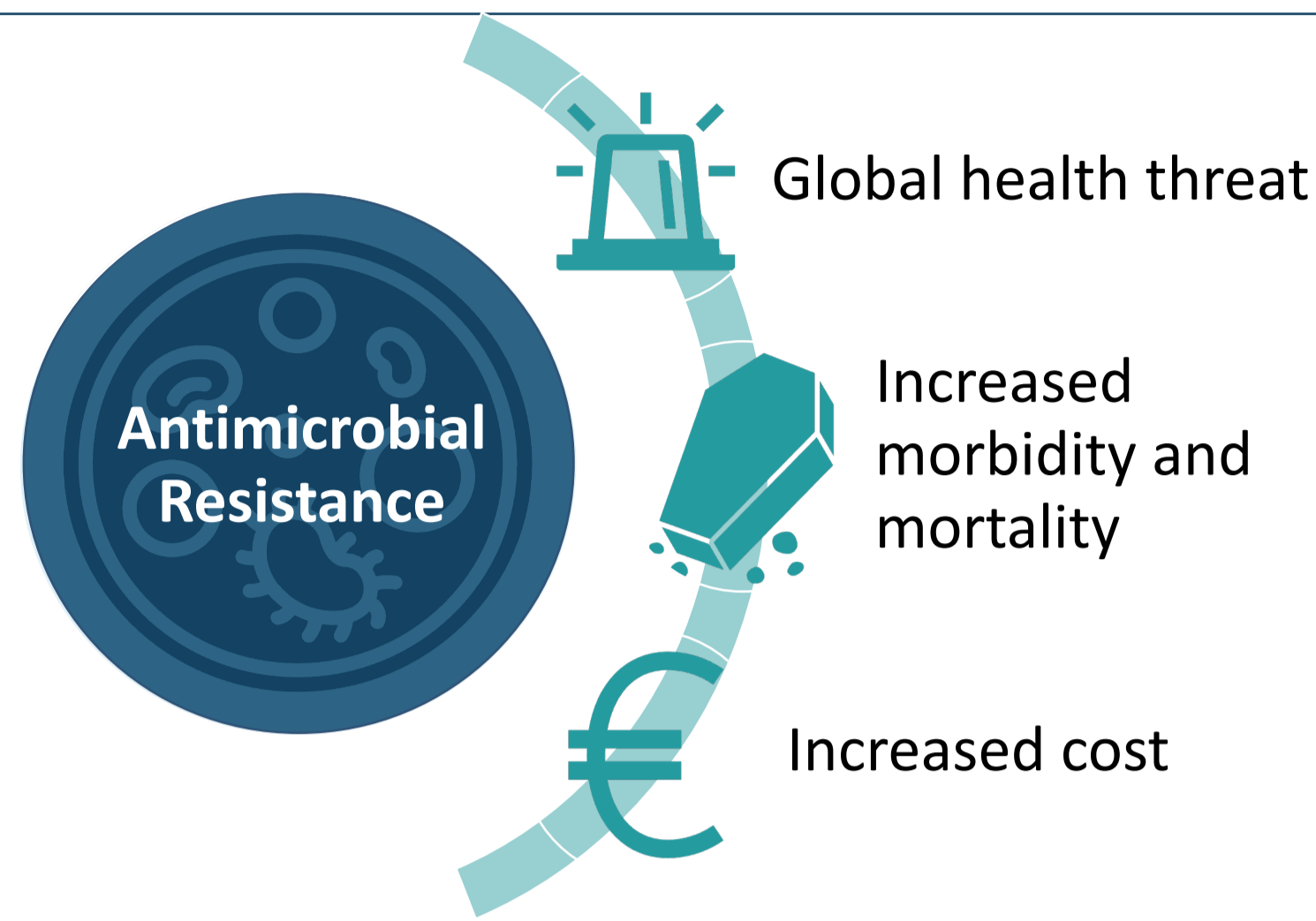
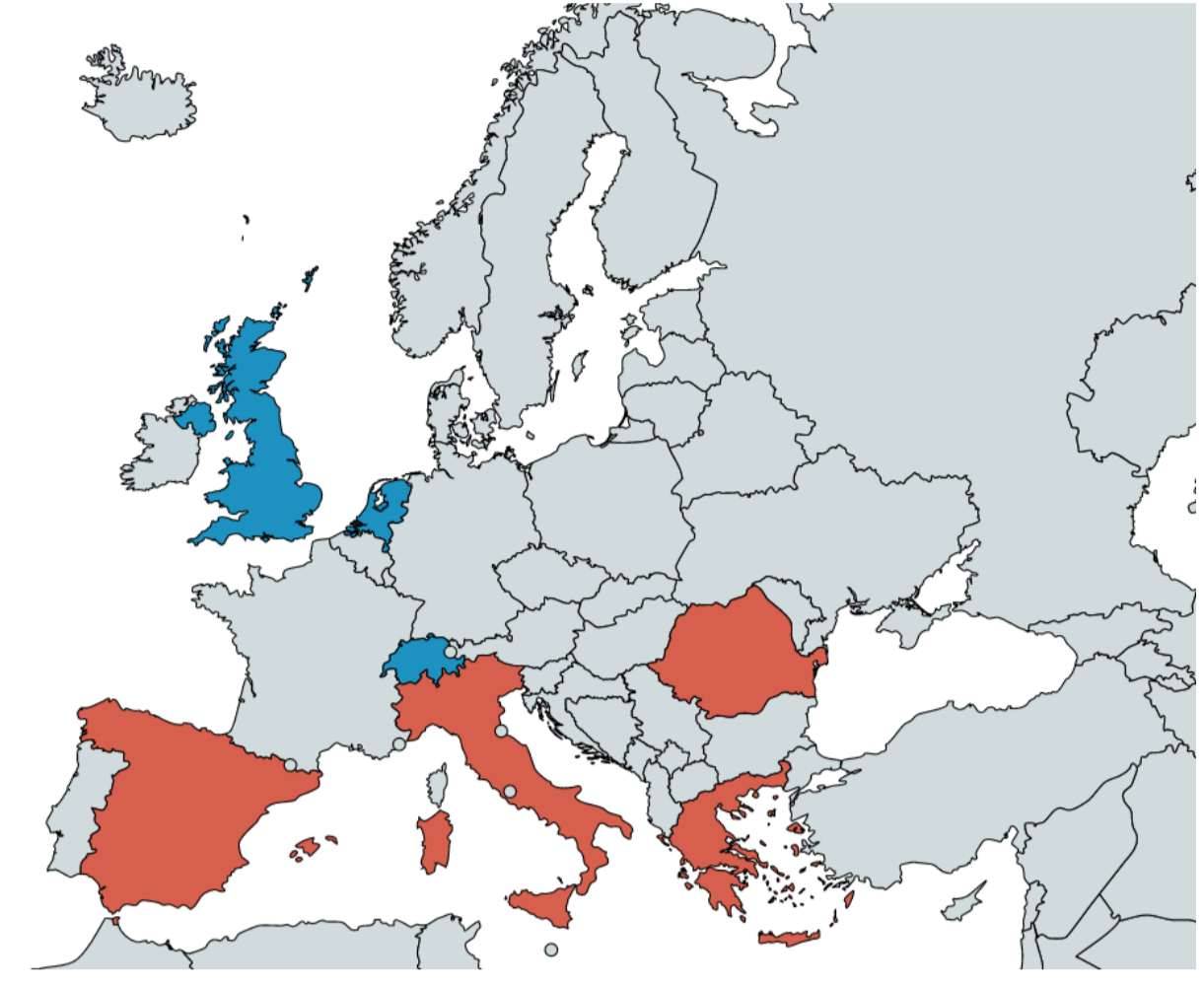
# Healthcare associated-infections due to multidrug-resistant microorganisms in three European countries: a descriptive analysis from REVERSE



A. Sonpar<sup>1,2</sup>, E. Carrara<sup>3</sup>, G. Daikos<sup>4</sup>, A. Hristea<sup>5</sup>, P. Retamar-Gentil<sup>6</sup>, J. Rodriguez-Bano<sup>6</sup>, E. Tacconelli<sup>3</sup>, W. Zingg<sup>1,2</sup>

<sup>1</sup>University Hospital Zurich - Zurich (Switzerland), <sup>2</sup>University of Zurich - Zurich (Switzerland), <sup>3</sup>University of Verona - Verona (Italy), <sup>4</sup>National and Kapodistrias University of Athens - Athens (Greece), <sup>5</sup>Carol Davila University of Medicine and Pharmacy - Bucharest (Romania), <sup>6</sup>University of Seville - Seville (Spain)

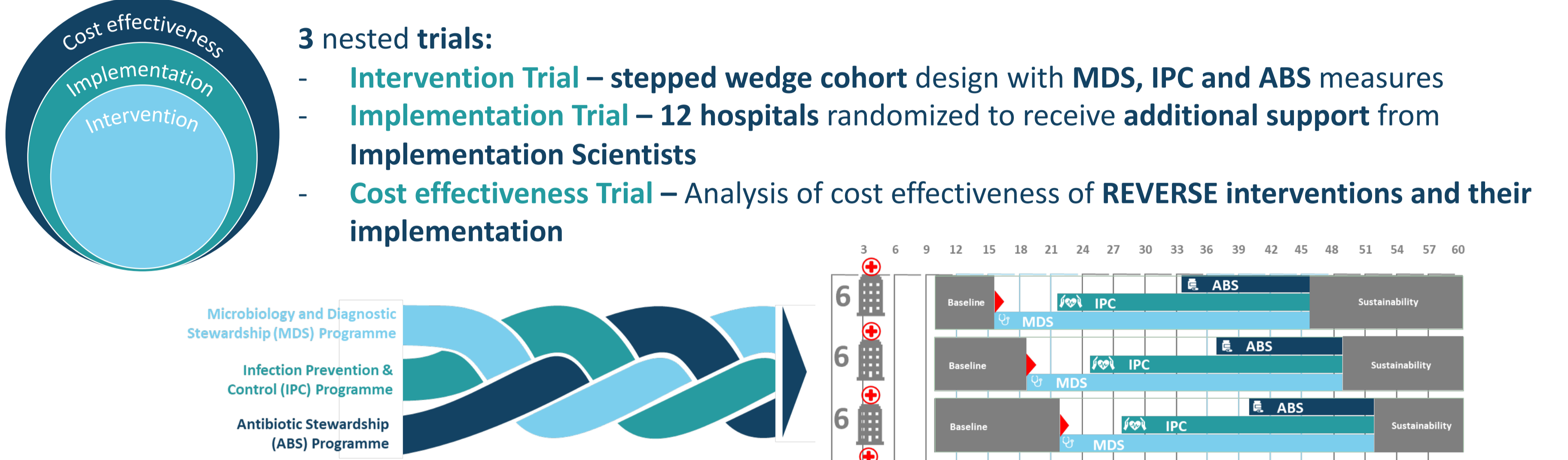
**REVERSE** (pREvention and management tools for rEducing antibiotic Resistance in high prevalence SETtings) is a type 2 intervention-implementation project in 24 acute care hospitals in the 4 European countries Greece, Italy, Romania and Spain with high prevalence of multidrug-resistant microorganisms.



## REVERSE Objectives



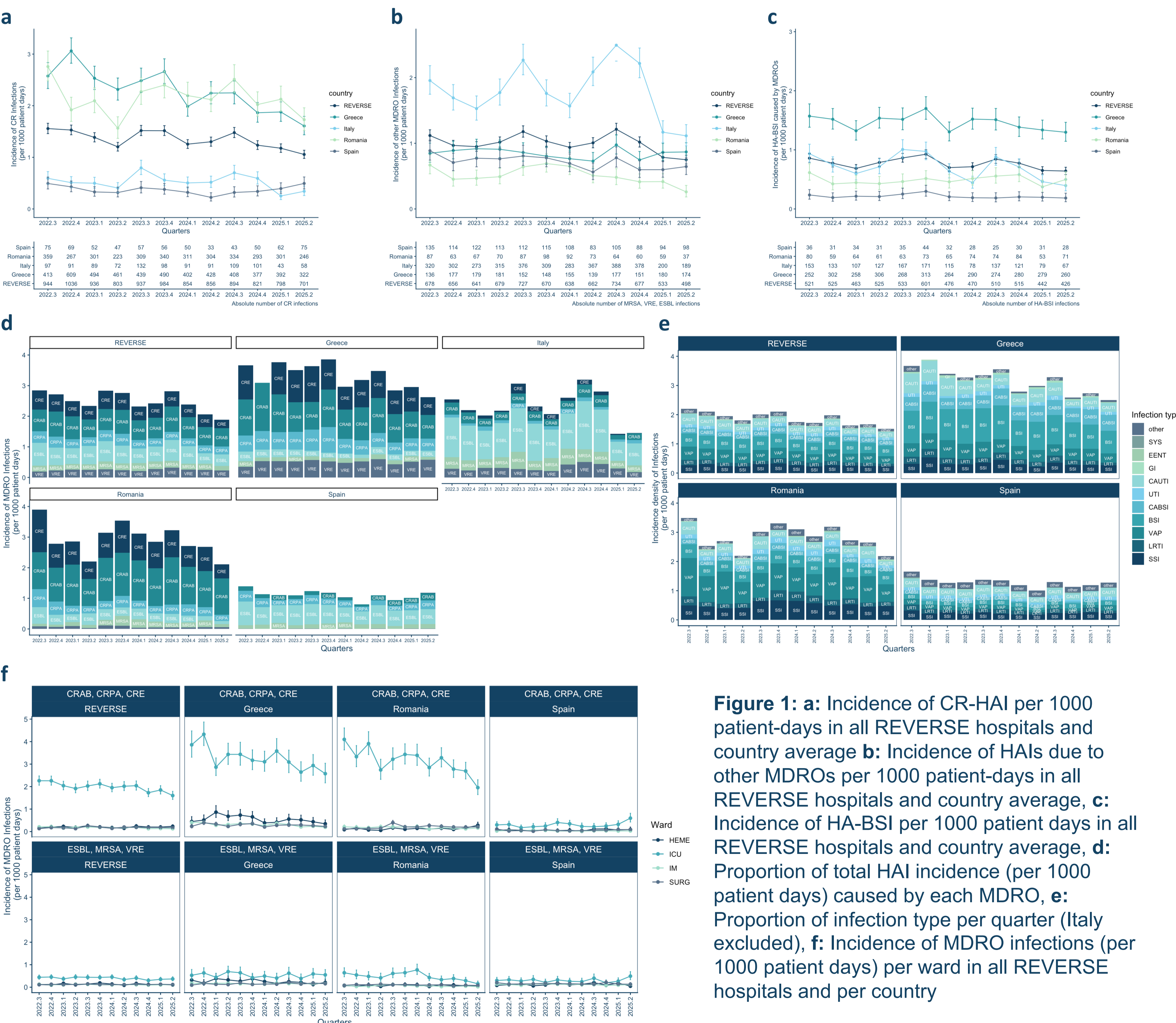
## Study Design



## REVERSE Outcomes

- 1 HAIs due to CRE, CRAB, CRPA
- 2 HAI due to ESBL, MRSA, VRE; HA-BSI ; HA-CDI; LOS; mortality; ABHR use; Antimicrobial use; readmission

## Results



## Conclusions

- CR-infection incidence is higher in Greece and Romania (Fig 1a)
- Other MRDO infection incidence is higher in Italy (Fig 1b)
- No inference as to the effectiveness of the intervention can be made despite downward trend
  - data is presented by quarter and not by time to intervention
- Most common infections differ by country: BSI (Greece), UTI (incl CLABSI) (Spain), VAP (Romania) (Fig 1e)
- Only microbiologically confirmed infections are included likely affecting this distribution
- Highest incidence in ICU wards (Fig 1f)
- REVERSE is a promising project to curb the rates of HAI due to MDROs

ABS: Antimicrobial Stewardship; BSI: Bloodstream Infection; CABSI: Catheter Associated Bloodstream Infection; CAUTI: Catheter Associated urinary Tract Infection; CR: Carbapenem Resistant; CRAB: Carbapenem Resistant *Acinetobacter baumannii*; CRE: Carbapenem Resistant Enterobacteriales; CRPA: Carbapenem Resistant *Pseudomonas aeruginosa*; EENT: Eye, Ear, Nose, and Throat Infections; ESBL: Extended Spectrum Beta-Lactamase producing Enterobacteriales; GI: Gastrointestinal Infections; HAI: Healthcare Associated Infection; IPC: Infection Prevention and Control; LRTI: Lower Respiratory Tract Infection; MDRO: Multi-drug Resistant Organism; MDS: Microbiology and Diagnostic Stewardship; MRSA: Methicillin Resistant *Staphylococcus aureus*; SSI: Surgical site infection; SYS: Systemic Infection; UTI: Urinary Tract Infection; VAP: Ventilator Associated pneumonia; VRE: Vancomycin Resistant *Enterococci*

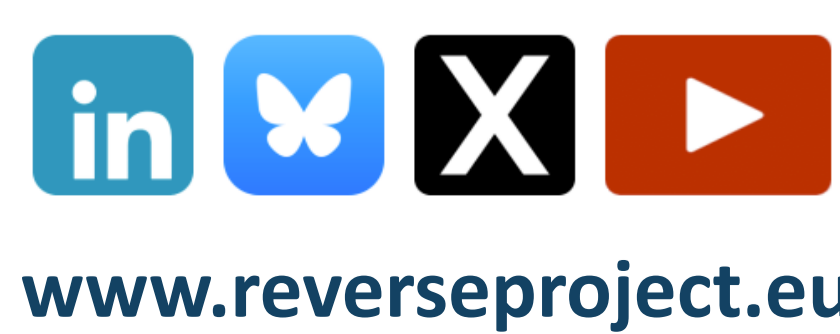
[1]WHO. Ten threats to global health in 2019; <https://www.who.int/news-room/spotlight/ten-threats-to-global-health-in-2019>. [2] [http://dx.doi.org/10.1016/S0140-6736\(21\)02724-0](http://dx.doi.org/10.1016/S0140-6736(21)02724-0) [3] WHO. 2015. Global Action Plan on AMR. [https://iris.who.int/bitstream/handle/10665/193736/9789241509763\\_eng.pdf](https://iris.who.int/bitstream/handle/10665/193736/9789241509763_eng.pdf)

REVERSE has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 965265. The content on this poster reflects only the author's view and the European Commission is not responsible for any use that may be made of the information it contains.

## REVERSE Consortium



## Follow REVERSE H2020 on



[www.reverseproject.eu](http://www.reverseproject.eu)

## Contact information

Ashlesha Sonpar  
University of Zurich  
Ashlesha.sonpar@usz.ch