Niehus et al. – STROBE-AMS guidelines [Tacconelli *et al. BMJ Open* 2016]

| Item | Number | STROBE-AMS Recommendation | Addressed where |
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| Introduction | 2 | Report previous clinical in vivo and in vitro studies | Reported in **Introduction** and **Discussion and Conclusion** |
| Objectives | 3 | State specific objectives, including any prespecified hypotheses | See **Introduction** |
| Methods | | | |
| Setting | 5.1 | Describe if setting is epidemic or endemic (high, low, medium) for the study outcome | High prevalence setting of ESBL-producing bacterial carriage ("Study participants and follow-up", **Methods and Materials**) |
| | 5.2 | Specify type of hospital or unit and characteristics of population served by the healthcare setting | Medical and surgical wards, inpatients ("Study participants and follow-up", **Methods and Materials**) |
| | 5.3 | Describe antimicrobial formulary in use at the study location related to the analysed antibiotics | Ten most used antibiotics shown in Table 2, total number of antibiotics used, routes of administration and common antibiotioc classes described in text ("Patient cohort and treatment", **Results**) |
| | 5.4 | Describe infection control measures dedicated to the target resistant bacteria applied at the study location | No specific infection control measures targeting ESBL producing bacteria |
| Participants | 6a | Cohort study—Give the eligibility criteria, the sources and methods of selection of participants. Describe methods of follow-up | see **Methods and Materials** under "Study participants and follow-up" |
| | 6.1 | Define unit analysed (person, department or other) | 2 wards from 3 hospitals (high ESBL |

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| | | | prevalence) representing within hospital population in similar settings ("Study participants and follow-up" in **Methods and Materials**). Data was analysed per patient. No sub-analysis per ward due to limited number of patients |
| | 6.2 | Provide reasons (epidemiological and clinical) for choosing matching criteria | Not applicable |
| Variables | 7.1 | Specify antimicrobial usage according to: type, dosage, duration and route of administration | Antibiotic treatment was analysed by type, route and accounting for duration ("Dynamic within-host model", **Methods and Materials**). Dosage was not considered, see discussion of pharmacodynamic modelling (**Discussion and Conclusion**) |
| | 7.2 | Provide information using defined daily dosages (DDDs) and, in addition, other definitions closer to local reality (packages, prescriptions). Provide justification for the measurement presented | see 7.1 |
| | 7.3 | Address antimicrobial combinations | Multivariate dynamic model accounts for combinations. See also discussion of multiplicative effects (**Discussion and Conclusion**) |
| | 7.4 | Explain rationale for grouping of antimicrobials | Grouping explained in "Association of antibiotic treatment |

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| | | | and changes in resistance" (**Methods and Materials**). Antibiotics were considered individually in dynamic modelling ("Dynamic within-host model", **Methods and Materials**) |
| | 7.5 | Define time at risk for antimicrobial exposure and for resistance development | Study considered only within hospital treatment and pre-existing ESBL resistance |
| | 7.6 | Include description of potential confounders (other than epidemiological variables) | Distribution of patients' hospital origin, age and sex give ("Patient cohort and treatment", **Results**) |
| | 7.7 | Provide definition of resistance, multidrug resistance, including pattern of coresistance; whether studies performed to identify location or resistance eg, plasmid, chromosome, integron, transposon | ESBL resistance was identified phenotypically ("Identification of ESBL producing organism carriers", **Methods and Materials**) and detected genetically as $bla_{CTX\text{-}M}$ abundance. Co-resistance patters were not established |
| | 7.8 | Definition of infection and/or colonisation. If not a validated reference, provide evidence of robustness of the new definition | Colonisation was identified as described in "Identification of ESBL producing organism carriers" (**Methods and Materials**). Only carriage, not infections were considered |

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| Data sources/measurement | 8.1 | 8.1 Describe how antimicrobial consumption data were obtained (pharmacy, patients' charts, etc) and if it was actually used or purchased/dispensed | Antibiotic treatment data from patients' charts ("Study participants and follow-up", **Methods and Materials**) |
| Quantitative variables | 11.1 | Provide subgroup analyses for immunocompromised, surgical/medical patients and patients in intensive care units, if applicable | Stratification by ward (medical vs surgical) was not feasible due to limited number of patients |
| Results | | | |
| Descriptive data | 14.1 | Specify among the exposure: previous stay in long-term care facilities, nursing home and other healthcare settings | No on prior hospitalisation available |
| Other analysis | 17.1 | Report subgroup analysis by type of patients and type of microorganism, if applicable | see 11.1 |
| Discussion | | | |
| Limitations | 19.1 | Provide description of sources of selection bias, including infection control measures, audit and confounding | Discussed in **Discussion and Conclusion** |
| Generalisability | 21.1 | Discuss study setting, type of hospital, local epidemiology for the generalisability | Discussed in **Discussion and Conclusion** |