PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Establishing the prevalence of healthcare associated infections in Australian hospitals: Protocol for the Comprehensive Healthcare Associated Infection National Surveillance (CHAINS) study
AUTHORS	Russo, Philip; Stewardson, Andrew; Cheng, Allen; Bucknall, Tracey; Marimuthu, Kalisvar; Mitchell, Brett

VERSION 1 – REVIEW

REVIEWER	Evangelos I. Kritsotakis School of Health and Related Research, University of Sheffield, UK
REVIEW RETURNED	09-Jul-2018

GENERAL COMMENTS	Russo et al. present their protocol for conducting a national-level point-prevalence study of healthcare-associated infections in Australian public hospitals. The study design has been carefully thought and the protocol is ethically and procedurally sound and well presented. Hopefully it will serve as a basic model for designing and presenting similar studies by others. I only have a few minor comments. Minor comments: 1. The age-related inclusion criterion is reported inconsistently (age>=16 years in page 6, line 47 vs age>=18 in page 7, table 1). 2. Page 8, line 13. What definition of a “multidrug resistant organism” are you intending to use in this study? Are you including the tracer AMR phenotypes and pathogens as in the ECDC protocol? 3. Page 8, line 13. How would ‘colonisation’ be defined and detected in your study? 4. Page 44, lines 44-45. The statement “some HAIs may be missed due to randomisation” is confusing as there is no randomisation in this study. Perhaps, this should be better stated as “some active HAIs may be missed due to random sampling of patients”?

REVIEWER	Diamantis Plachouras European Centre for Disease Prevention and Control, Sweden
REVIEW RETURNED	20-Aug-2018

GENERAL COMMENTS	This is a comprehensive and clear description of the rationale, purpose and methodology of a national point prevalence survey of healthcare-associated infections in Australia. I have only one specific remark related to the hospital sampling. The authors plan to apply a combination of representative sample among hospitals that have voluntarily expressed willingness to participate. This may lead to bias that could have been avoided with systematic sampling. The authors could probably address this point in the limitations paragraph.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1

1. This has been corrected to >18

2. The following statement has now been included in the Patient Data section.

"Data on the presence of a multidrug resistant organism will also be collected. These will include:

- MRSA: Methicillin Resistant Staphylococcus aureus,
- VRE: Vancomycin Resistant Enterococci
- ESBL: Extended-spectrum β-lactamase
- CPE: carbapenemase-producing Enterobacteriaceae
- Clostridium difficile
- Other drug resistant Gram negative organisms
- Other organisms that have been identified by the hospital as an MRO"

3. The flowing statement has now been included in the Patient Data section

"Screening for colonisation will occur according to local protocols by participating hospitals. The prevalence of colonisation will therefore represent colonisation as detected according to current Australian infection prevention practices. We will report on the local screening practices to assist with interpretation of the prevalence of colonisation."

4. This comment has been amended and now states "Some active HAIs may be missed due to the random sampling of patients…"

Reviewer 2

The Limitations section now includes the following statement.

"As hospitals were purposively selected rather than a random sample, we cannot exclude selection bias. To examine this, we will compare administrative and infection prevention metrics of participating hospitals with those of non-participating hospitals in the same peer categories. Such metrics will include state/territory location, remoteness area, bed numbers, presence of high-risk units for HAIs (e.g. oncology, bone marrow transplantation and solid organ transplantation), healthcare-associated Staphylococcus aureus bloodstream infection rate (cases per 10,000 bed days), and hand hygiene compliance."