How Long do Nosocomial Pathogens Persist on Inanimate Surfaces: A Scoping Review

Lucy Porter*[1,2] Ola Sultan*[1,2] Brett Mitchell[2,3] Adam Jenney[4] Martin Kiernan[5] David Brewster[1,2] Philip Russo[1,2,3]

**Equal Leads - Cabrini Medical Staff Research Scholarship*

1) Cabrini Health 2) Monash University 3) Avondale University 4) Alfred Health 5) University of West London

Background

The hospital environment plays an important role in facilitating the transmission of healthcare associated infections. Patients accommodated in a room previously occupied by a patient with a multi-resistant organism are at an increased risk of acquiring that organism.

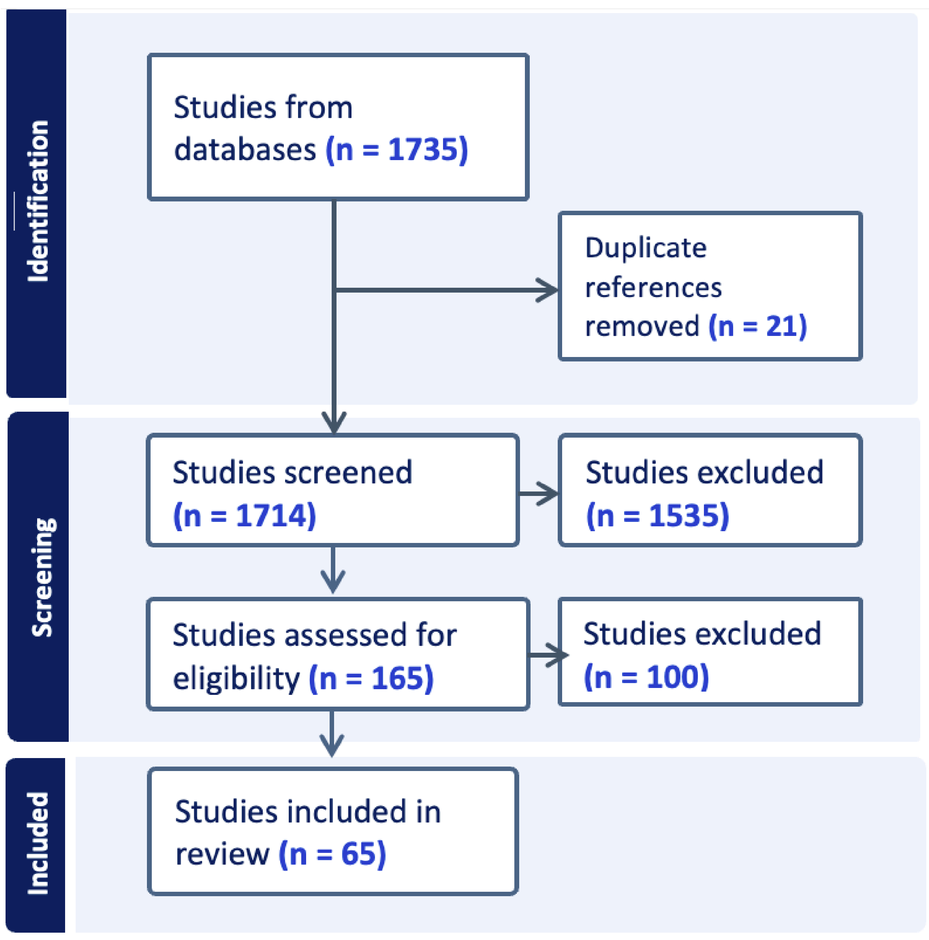
This scoping review builds on a sentinel review published in 2006, which highlighted the ability for common nosocomial pathogens to survive on inanimate surfaces for extended periods of time. This results in a potential, ongoing reservoir for pathogen transmission within healthcare settings.

Aim

The aim of our research is to update Kramer et al.'s previous review and provide contemporary data on the survival of pathogens relevant to the healthcare environment.

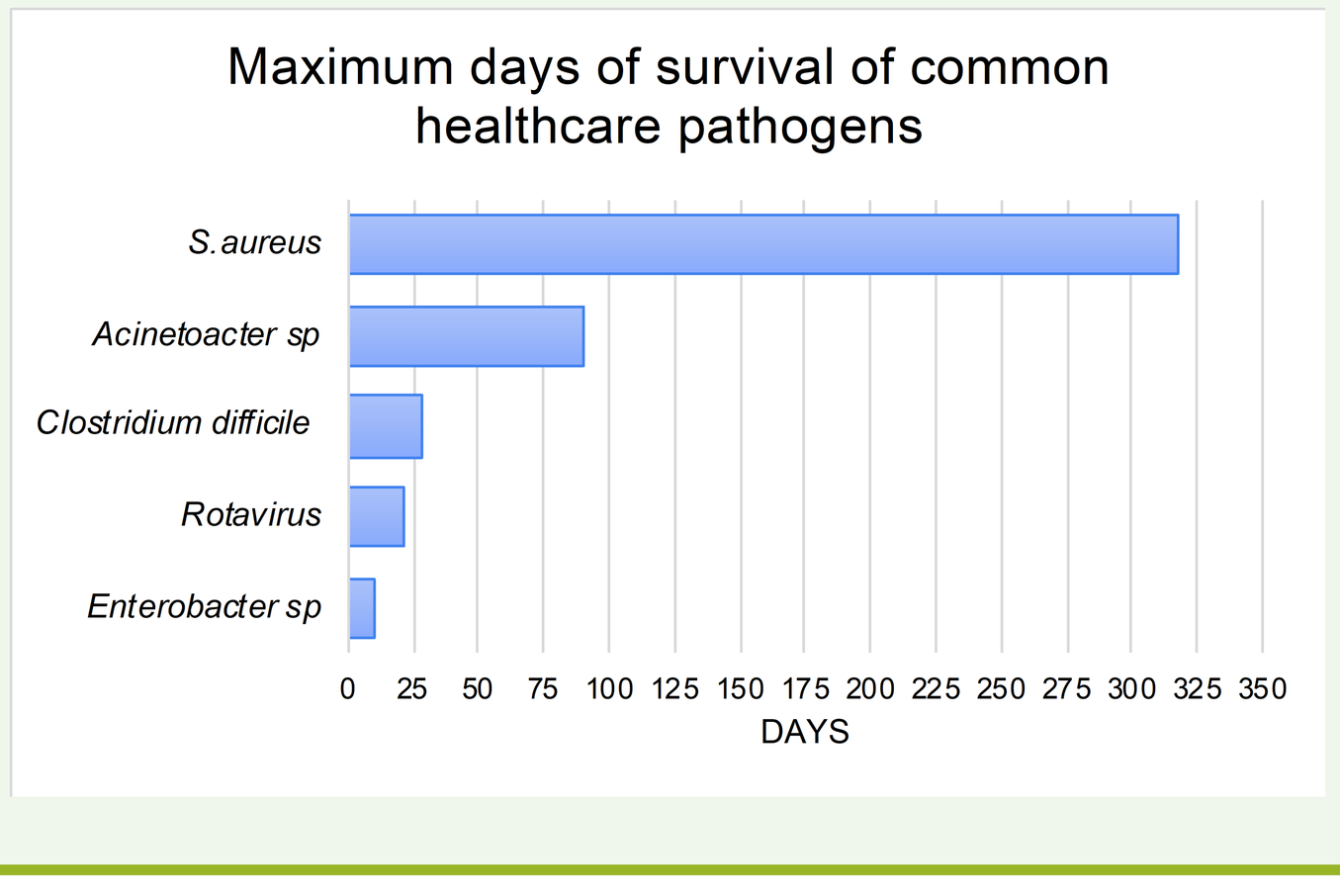
Method

We used a systematic approach to search the literature. Ovid MEDLINE, CINAHL and Scopus databases were searched for studies that described the survival time of common nosocomial pathogens in the environment. Pathogens included in the review were bacterial, viral, and fungal. Studies identified in the search were independently screened in Covidence against predetermined inclusion and exclusion criteria by two researchers. A spreadsheet was developed for the data extraction.



Results

The search identified 1,735 studies. Following removal of duplicates and application of the search criteria, the synthesis of results from 65 included studies were included. 117 different organisms were reported. The longest surviving organism reported was *Klebsiella pneumoniae* which was found to have persisted for 600 days in a sink drain. Maximum reported survival of common healthcare pathogens are presented in the chart below.



Conclusion

Common pathogens of concern to infection prevention and control, can survive or persist on inanimate surfaces for months. This data supports the need for the implementation of appropriate cleaning and disinfection to help break the chain of infection in healthcare settings.

References

Kramer, Axel, et al. "How Long Do Nosocomial Pathogens Persist on Inanimate Surfaces? A Systematic Review." *BMC Infectious Diseases*, vol. 6, no. 1, 16 Aug. 2006,

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