

# A systematic review of economic analyses of nosocomial infection prevention and control interventions in OECD hospitals

Eric Tchouaket Nguemeleu

Université du Québec en Outaouais, Canada



## Abstract

**Introduction:** Nosocomial infections (NIs) are a worldwide serious public health issue associated with major morbidity and mortality. They also pose a growing economic burden to healthcare systems. Since 2004, in Québec, Canada, there have been mandatory programs for the prevention and control of NIs that encompass four clinical best practices (CBPs): hand hygiene, hygiene and sanitation, screening, and basic and additional precautions. The cost effectiveness of the Quebec programs has yet to be evaluated.

**Objective:** This systematic review sought to consolidate the evidence on the economic evaluation of these four CBPs related to NI prevention and control interventions in OECD countries.

**Methods:** We focused on keywords for the prevention and control of four multi-drug resistant organisms: Clostridium difficile associated diarrhea (CDAD), Methicillin-resistant Staphylococcus aureus (MRSA), Vancomycin-resistant enterococci (VRE), and Carbapenem-resistant Gram-negative bacilli (CRGNB). We systematically searched in Medline, Cinahl, Cochrane, JSTOR, Embase, Web of Science, Cordis and OpenGrey. Studies published in English or French between 2000 and 2019 were considered. Costs were adjusted to 2019 \$ CAD; the cost-effectiveness, cost-utility, and cost-benefit ratios were estimated.

**Results:** From 11,679 unique records, we retained 28 manuscripts; all in English, from 11 different countries. Ten studies included an economic evaluation of at least two CBPs. Studies evaluated cost (n=12), cost saving (n=1), cost effectiveness (n=9), and cost benefit (n=7) but not cost utility.

**Conclusion:** The results present the financial impact of nosocomial infection prevention and control interventions in OECD hospitals. These findings will help inform/contextualize an economic evaluation of Canadian healthcare monitoring programs.

## Biography:

Eric Tchouaket Nguemeleu holds a master's degree in economics and health services management from Université de Paris Dauphine and a Ph.D. in Public Health from Université de Montréal. After completing a post-doctoral fellowship at Université de Sherbrooke in economic evaluation and public health, Prof. Tchouaket accepted a position in the department of nursing at Université du Québec en Outaouais. His current research program in the evaluation of nosocomial infection control is funded by both provincial and federal Canadian funding agencies. Prof. Tchouaket has authored over 50 peer reviewed articles and scientific communications in the field of public health.

## Speaker Publications:

1. "Economic analysis of healthcare-associated infection prevention and control interventions in medical and surgical units: Systematic review using a discounting approach".
2. "Protocol for evaluation of the continuum of primary care in the case of a miscarriage in the emergency room: A mixed-method study".
3. "Associations between level of services integration and nurses' workplace well-being".

[12<sup>th</sup> Euro-Global Conference on Infectious Diseases Webinar- October 05-06, 2020.](#)

## Abstract Citation:

Eric Tchouaket Nguemeleu, A systematic review of economic analyses of nosocomial infection prevention and control interventions in OECD hospitals. Euro Infectious Diseases-2020, 12<sup>th</sup> Euro-Global Conference on Infectious Diseases; Webinar- October 05-06, 2020

<https://europe.infectiousconferences.com/abstract/2020/a-systematic-review-of-economic-analyses-of-nosocomial-infection-prevention-and-control-interventions-in-oecd-hospitals>

