

The cost of infections after knee replacement: demonstrating the impact for care providers within the CHU de Québec - Université Laval.

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## **Introduction**

Infection prevention is a crucial issue in the health care system. However, despite the efforts made, many healthcare facilities continue to face significant challenges in infection prevention, starting with hand hygiene. Our analysis aims to shed light on the consequences of the lack of prevention of infections on patients.

Infections can prolong the length of stay of patients, leading to additional complications and an increased burden on hospital resources. In addition, these infections significantly increase the costs of care, both for patients and for healthcare facilities. By presenting data and case studies, our project will demonstrate the importance of strengthening infection control measures to improve patient outcomes and optimize available resources.

The goal of our analysis is to demonstrate to the managers of the CHU de Québec-UL, with local data, the negative impacts and issues related to preventable infections.

## **Methods**

The CHU de Québec – Université Laval analyzed the care pathway of approximately 10 patients who underwent knee replacement surgery that ended in infectious follow-up in the 2022-2023 fiscal year. These are patients followed by the Infection Control Team (IPAC) only. By September 2025, we plan to replicate the analysis on the 2023-2024 data to increase the sample of cases studied.

The data used are first of all, the cost data of the CHU-UL. Subsequently, we expanded our analysis to include cost data from the Capitale-Nationale region (to include home care costs), an estimate of the costs of community pharmacy medication, and an estimate of the costs for physician compensation.

## **Results**

The current literature, which comes mainly from the United States, showed an increase in costs of about \$30,000 per patient. The preliminary results of our analyses indicate a cost increase of approximately \$10,000. To that amount, we will add the costs of community pharmacies, the costs of home care and the costs for medical compensation.

## **Discussion/Conclusions**

Our analysis addresses the impact on costs without neglecting the patient experience and the decrease in the resources available to health institutions and the network to meet population-based health needs.

The scope of our analysis was limited to the impact on costs and therefore the effect on the capacity of health facilities and the health system. It is complementary to studies on the impact of secondary infections on the patient experience.

Despite the small number of cases studied, it confirms the observations of similar studies. It supports, with local data, the importance of strengthening infection control measures to improve patient outcomes and optimize available resources.

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