

The Effect of Surgical Site Infection on Cost and Utilization Following Primary Knee Replacement in Nova Scotia 2005-2014

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Introduction

Surgical site infection (SSI) following joint replacement results in considerable disease burden. Costs include longer wait times for initial joint replacements which, in Nova Scotia (NS), are the longest in the country. Despite the widespread consequences, costs and utilization following knee replacement have not been comprehensively measured in Canada previously.

Objectives and Approach

The objective was to measure costs and health care utilization of SSI following knee replacement through linked administrative data sources. The study cohort was constructed using procedure codes from hospital discharge data. Diagnostic variables were examined to determine the occurrence of infection within one year of discharge. A non-infected control group matched on age, sex and comorbidities was also selected. Costs and utilization from inpatient, day surgery, clinic and physician claims data were totaled over two years following discharge. Resource weights multiplied by standard cost was used to measure hospital costs while outpatient costs were government approved payments to physicians.

Results

Over the 2005-2014 period, there were 204 infected cases for an overall 1-year rate of 1.8%. Non-infected controls visited a physician or were admitted to the hospital 21 times in the two year period following surgery compared to infected cases who averaged 40 (p-value

Conclusion/Implications

Costs attributable to infection following primary knee replacement are substantial in NS affecting both inpatient and outpatient services. With an increased focus on program evaluation by policy-makers, infection control administrators should include regular monitoring of the direct and indirect costs of SSI on a system-wide basis using linked administrative data.

