The cost of treating recurrent *Clostridium difficile* infection in patients attending 4 tertiary care level hospitals in Sweden.

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Introduction

*Clostridium difficile* is a common species of gram-positive, anaerobic, spore-forming bacteria that is frequently the cause of healthcare-associated infectious diarrhea in acute and chronic care facilities. *Clostridium difficile* is found in 1–3% of all healthy adults and in 15–25% of all individuals with recent healthcare exposure. The clinical manifestations may vary in severity from asymptomatic carriage to self-limited mild and watery diarrhea, to colitis, to life-threatening pseudomembranous colitis, fulminant colitis and death[1].

To our knowledge there has been no previous attempt to establish the healthcare costs of recurrent *Clostridium difficile* infection (CDI) in Sweden. The objective of this study is to investigate the treatment cost of a single event of recurrent CDI in patients attending tertiary care level at four hospitals in Sweden.

Materials and Methods

Following approval by the Central Ethical Review Board in Stockholm, the investigators identified patients treated for CDI using the clinic patient record database. To be eligible the patient had to: (i) have suffered from at least one recurrent CDI, defined as a positive toxin test for *Clostridium difficile*, and at the time of the recurrent CDI were not participating in any clinical study or suffering from any diseases that might resemble CDI making it difficult to assess resources used to treat the CDI; (ii) the recurrence had occurred less than 12 weeks after the previous infection and (iii) if still alive provided a written informed consent.

A point estimate of the resource cost was calculated as from county councils in Sweden and the official price-to-pharmacy price lists of the Dental and Pharmaceutical Benefits Agency. Only direct costs incurred in hospitals and associated primary care facilities were registered and no costs associated with increased care needs at home, in nursing homes or loss of income etc. due to the CDI were included in the calculations.

Results

120 patient records were included in this study. 47 patients were treated on an out-patient basis, while 73 patients were hospitalized. Of the 73 hospitalized patients 23 patients were already hospitalized due to other illnesses (median 10 days; mean 9.8 days) and 50 patients were hospitalized solely due to the investigated recurrent CDI (median 7 days; mean 7.9 days).

Table I contains basic information on the study population.

Table II: Resource utilization when caring for 120 patients with *Clostridium difficile* infection

Table III: Cross-tabulation of mean treatment cost based on number of *Clostridium difficile* infections and Horn’s Index

Conclusion

This study shows that considerable costs are associated with the treatment of a single event of recurrent CDI. Avoiding the recurrence of CDI, and minimizing the need for hospitalization during treatment, are the two most important measures when minimizing the economic burden of recurrent CDI.

References:


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**Table II: Resource utilization when caring for 120 patients with *Clostridium difficile* infection**

**Table III: Cross-tabulation of mean treatment cost based on number of *Clostridium difficile* infections and Horn’s Index**

**Figure 1: Resource use to treat latest recurrent *Clostridium difficile* infection**

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**Conclusion:**

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