Supporting care homes to cut C difficile reinfections

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After putting in place measures to reduce C difficile in hospital, our trust found that patients in the community were experiencing recurrences of infection, which can lead to readmission.

We launched a project in which care homes receive a free or part-funded deep clean of residents’ rooms, and skilled nurses offer support to care home staff. This has led to a reduction in recurrences of C difficile.

This initiative won the Infection Prevention and Control category of the 2012 Nursing Times Awards.

**In this article...**

- The changing picture of C difficile infection
- How the cycle of repeated infection can be broken

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**C** difficile is present in the guts of up to 3% of healthy adults (Health Protection Agency, 2012). People at risk of contracting C difficile infection include those being treated with broad-spectrum antibiotics, people with serious underlying illnesses and older people. More than 80% of all C difficile infections occur in people aged over 65, with most deaths occurring in the over-85 population. C difficile spores are extremely resilient and can survive for long periods of time on clothes, soft furnishings and environmental surfaces.

Although the majority of deaths from C difficile infection occur in hospital, there was a slight reduction in the percentage of deaths in hospital in 2009-11 compared with 2006-08 (Office for National Statistics, 2012). However, the two percentage point reduction in C difficile deaths in hospital has been accompanied by an increase in deaths in people’s own homes (up by 0.4%), in hospices (up by 0.4%) and in care homes (up by 1.2%) (Table 1).

<table>
<thead>
<tr>
<th>Place of death</th>
<th>2006-08 (%)</th>
<th>2009-11 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHS hospital</td>
<td>93.1</td>
<td>91.1</td>
</tr>
<tr>
<td>Patient’s home</td>
<td>4.8</td>
<td>6</td>
</tr>
<tr>
<td>Home</td>
<td>1.1</td>
<td>1.5</td>
</tr>
<tr>
<td>Hospice</td>
<td>0.7</td>
<td>1.1</td>
</tr>
<tr>
<td>Other</td>
<td>0.3</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Source: Office for National Statistics (2012)

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**5 key points**

1. *C difficile* is increasingly a community-acquired infection
2. Some patients experience recurrent episodes of *C difficile*
3. Deep cleaning in care homes can help prevent such recurrences
4. Hospital nurses can provide skills, knowledge and support to community teams
5. By working in partnership, nurses can keep the circulation of pathogens between hospital and the community to a minimum

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**A health community approach**

North Tees and Hartlepool Foundation Trust undertakes many steps to reduce opportunities for *C difficile* infection to spread. These include employing a specialist team of hygienists who work in partnership with the infection prevention and control team (IPCT) to provide a deep clean and decontamination service.

As recently as four years ago, the number of hospital-acquired *C difficile* infections was greater than the number of community-acquired infections reported locally. Today, a higher proportion of cases are being reported as community acquired than hospital acquired.

Root-cause analysis of cases of *C difficile* in the hospital identified that a number of patients had recurring infections. We believed this could be because they were being discharged to home environments burdened with *C difficile* spores. We also
found that Stockton and Hartlepool care homes had recorded a number of repeat and sporadic cases of *C. difficile* infections.

In partnership with our commissioning primary care trust and the North East Strategic Health Authority, the trust developed a proposal to provide a limited pilot service to deep clean the rooms or homes of patients who regularly acquired *C. difficile* infections. This service, alongside training by infection prevention and control nurses, has resulted in a reduction of repeat cases.

**The project’s aims**

We were able to run the project in a managed way following funding provided in April 2012. This meant we could cover all care homes in Hartlepool and Stockton.

Our work supports local community organisations to work together and share knowledge and expertise relating to environmental management, to reduce *C. difficile* outbreaks and related hospital admissions. To date, we have undertaken 23 interventions (training/deep cleaning) at 11 homes. We have also worked with public health colleagues to support management of an outbreak of *C. difficile* in a nursing care home. We believe that our project is possibly the first in the NHS to achieve all this.

The main aims of the project were to:

- Reduce opportunities for infection to be spread or recur;
- Improve patient outcomes;
- Reduce opportunities for community *C. difficile* outbreaks;
- Reduce the number of patients who acquire *C. difficile* in the community and subsequently require hospital admission;
- Prevent the blockage of discharge accommodation in the community due to outbreaks;
- Provide skills, knowledge and support to community teams, enabling reduction of risk in residential and care homes;
- Increase partnership working and collaboration across the whole patient pathway.

As the funding received did not support a full service, the trust agreed to provide the service at a cost relative to the complexity of the environment, in care homes that were not covered by project funding.

**What we offer**

The trust IPCT’s nursing expertise includes:

- A dedicated nursing post responsible for providing care homes with advice on case management;
- *A C. difficile* care pathway;
- An informal prescription check;
- Liaison with GPs when necessary;
- An initial care or residential home visit once a toxin-positive stool specimen has been reported to the department.
- Poor practice has been observed in relation to environmental management for *C. difficile* cases, where care home cleaning teams lack sufficient knowledge to effectively remove spores from rooms. Cleaning products used have sometimes been non-chlorine releasing/non-sporicidal, or not validated by the NHS as being sporicidal. Some products require application times that extend the cleaning period beyond the capacity of allocated cleaning schedules. Training for community domestic teams is often minimal, and informal discussion with the IPCT has revealed there has been a lack of emphasis on training domestic teams to manage alert organisms for communicable diseases such as *C. difficile*.
- As part of the pilot, the trust provided two free deep cleans and hydrogen peroxide vapour decontamination (“fogging”) of residents’ rooms and en-suite facilities in two care homes. The deep cleans were used in a Stockton home (home A) for a resident who had been *C. difficile* toxin-positive three times, and in a Hartlepool home for another repeat (five times) case (home B). The latter home subsequently agreed to pay for a second room to be deep cleaned.

The SHA provided funding to continue the pilot and the commissioning PCT committed £10,000 to extend the project to March 2013.

During the period of this project, there was a *C. difficile* outbreak involving six residents of a care home (home C). Our original objective to offer deep cleaning for two or more occurrences of *C. difficile* was due to our funding. However, in this outbreak, neither of those cases had previous occurrences. Since then the PCT has offered more funding for additional work, to include this home, and the project objectives have been amended to include single occurrences of *C. difficile*. The home also agreed to part fund this intervention.

Following deep cleaning of this home, one patient has had a recurrence of the infection. Medical assessment resulted in causation being placed on the strain of *C. difficile* as opposed to environmental factors.

**Recontamination in care homes**

Only through reducing the circulation of pathogens, such as *C. difficile*, across both hospital and community will the burden be reduced and kept down to an irreducible minimum in healthcare settings. **NT**

**BOX 1. CASE STUDY**

Harold Ward* was diagnosed with bowel cancer and, two years later, developed diarrhoea. Three samples were sent for testing over two months and each time the sample was polymerase chain reaction positive but toxin negative, suggesting *C. difficile* carriage. The trust IPCT provided advice, ensured Mr Ward was isolated and reviewed him in his care home.

Mr Ward was reported by staff as being non-adherent with medication. Following discussion with the GP and the hospital consultant microbiologist, it was agreed that Mr Ward was likely to be shedding spores that could infect other residents, and that deep cleaning should be undertaken.

The hospital team agreed to provide a deep clean service and deliver training. Mr Ward was transferred into an empty (decant) room for 24 hours while deep cleaning and hydrogen peroxide vapour (HPV) decontamination was carried out.

The service provided by the trust consisted of an initial visit to the home by the quality and decontamination manager to estimate the duration of cleaning and to perform a health and safety risk assessment. A date to start cleaning was agreed and care home staff attended deep clean awareness training.

On the first day, two ward hygienists removed all small items from Mr Ward’s room into an adjoining bathroom. The remaining room contents were both steam cleaned and cleaned using a chlorine-based product where possible, including fixtures (for example walls, ceilings and doors) and high-use contact points (for example bed and television controls, bedside table, and light switches).

Furniture and equipment were placed back in the room and HPV fogging was completed, then the room was sealed overnight. On the second day, the deep clean was repeated for the decant room and adjacent bathroom. Mr Ward now has no symptoms and no other cases have been reported within this care home.

*The patient’s name has been changed*

References


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