

Clostridium Difficile: Winning the battle

The latest *Clostridium difficile* figures show a 32% reduction on the same quarter last year (15,644 cases)*. Not all healthcare-associated infections are preventable. However, this shouldn't lead to complacency in the battle to continually drive down rates of healthcare associated infections. The figures show that there can be, and have been, significant reductions**.

Between January and December 2007 there were 50,392 cases of *C. difficile* reported in patients aged 65 years and over. This represents a 9% decrease on the previous calendar year when 55,635 cases were reported (between January and December 2006).

Between April 2007 and March 2008 there were 45,334 cases of *C. difficile* reported in patients aged 65 years and over.

Medical microbiologists work with biomedical scientists in microbiology laboratories and clinical staff on hospital wards or in the community. They play a pivotal role in the diagnosis and treatment of patients with infections, develop and test new drugs, monitor the spread of resistance and educate and advise fellow health professionals on the prudent use of antibiotics.



CASE STUDY

JENNY, 80, FRAIL AND LIVING IN A NURSING HOME

Recently, Jenny had a number of urine infections which were treated with antibiotics. A nurse at the home sent a urine specimen to the hospital for analysis. Her doctor prescribed antibiotics, but they didn't seem to work this time. He 'phoned the hospital's microbiologist, Kate, to go over the report, who explained that she was concerned that the bacteria causing the urine infection had got into Jenny's blood, resulting in septicaemia.

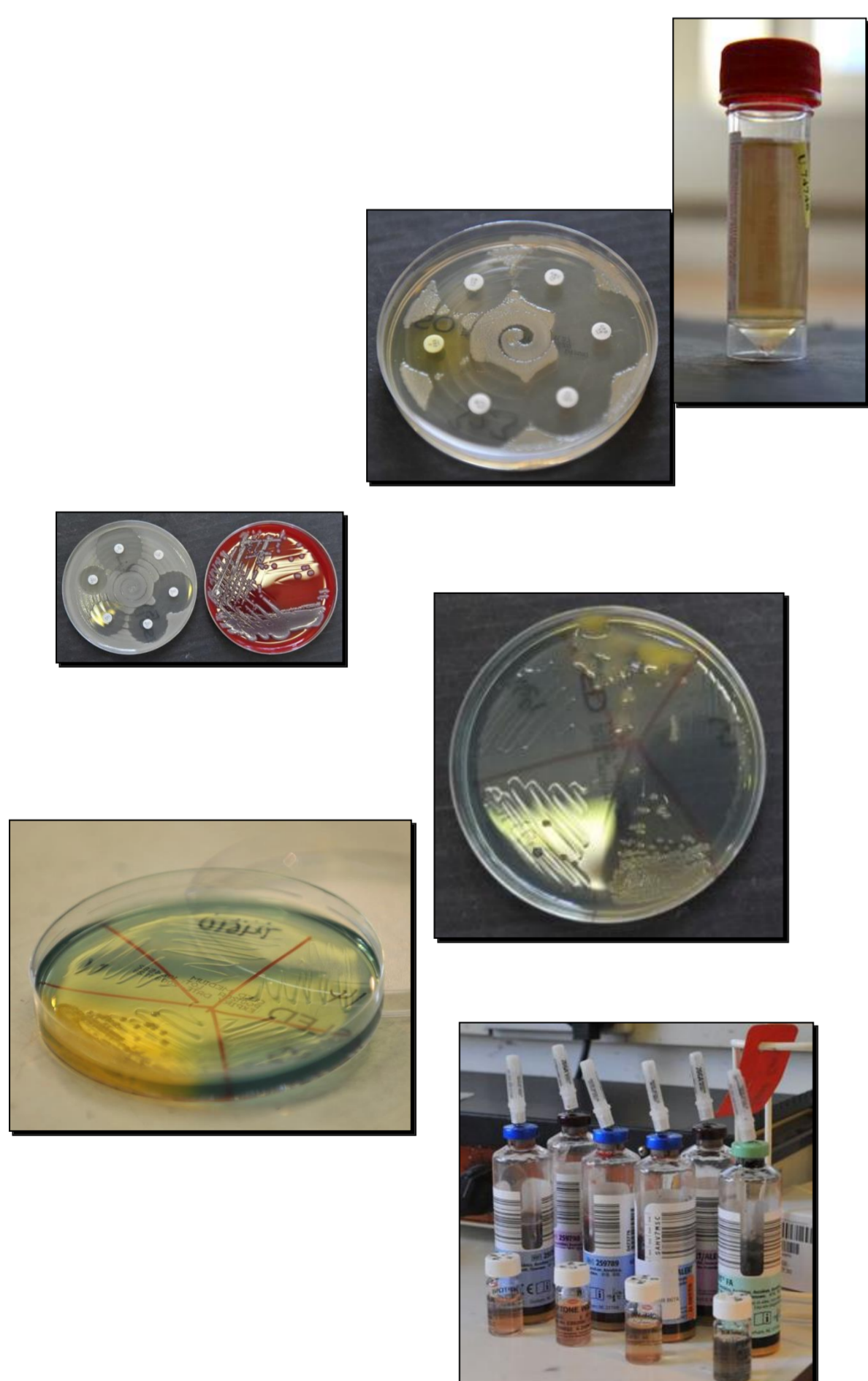
Jenny needed urgent treatment with an intravenous antibiotic in hospital. A further blood sample was taken and Kate, the microbiologist confirmed that Jenny had septicaemia. After treatment began, Jenny's condition improved until her fourth day on the ward when she developed severe diarrhoea.

One of the hospital's Infection Control Nurses, Gloria, was concerned that Jenny's diarrhoea was being caused by *C. difficile*. This is quite a common infection in patients who are being treated with powerful, so-called 'broad spectrum' antibiotics, which as well as killing the bug causing an infection, can also kill many of the 'friendly bugs' which normally live in the bowel. 'Friendly bugs' usually keep *C. difficile* under control but if they are wiped out by antibiotics, *C. difficile* starts to grow and produce a toxin which damages the lining of the bowel – causing diarrhoea.

Jenny was moved to a single room when Jenny's stool specimen tested positive for *C. difficile* and because Jenny was the third patient to develop *C. difficile* on the ward in two weeks, samples were sent to a specialist laboratory for further examination to see if they were in any way linked, using a molecular typing, often referred to as "genetic fingerprinting".

Investigations showed that these strains were identical meaning that either the strain was being passed from one patient to another or that patients had all been in contact with the same piece of equipment or had been cared for in the same part of the ward.

The new antibiotic worked well and Jenny was able to leave hospital later the next week.



* Source: Health Protection Agency 17 July 2008 and relate to the January to March 2008 period, the final quarter in the 2007/2008 financial calendar, providing annual figures.

** Professor Peter Borriello, Director of the HPA's Centre for Infections.)