

Rates of infection in intensive care units in England show impressive fall—and we can explain why, say researchers

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Hospitals across England reduced the rate of serious bloodstream infections in intensive care units (ICUs) during a two-year programme, research has shown.

More than 200 ICUs in England participated in the National Patient Safety Agency's Matching Michigan programme, which aimed to bring down infections linked to [central venous catheters](#) to the rate seen in a landmark programme in the US state of Michigan. Reducing the number of infections by more than 60%, the English ICUs were able to equal the low rates seen in the US.

"This is a very impressive result," said Professor Julian Bion of Birmingham University, who was clinical lead for the initiative. "No national data existed before this programme. The work showed that ICUs were already performing well at the beginning, with half the infection rate seen at the start of the equivalent US effort. By the end, two thirds of the English ICUs were reporting no infections."

Intriguingly, while infection rates declined in ICUs that were in the programme, they were also declining just as fast in ICUs that were waiting to join the programme.

Now research conducted alongside the programme, led by Professor Mary Dixon-Woods of the University of Leicester, and funded by the

independent [health improvement](#) charity the Health Foundation, has been able to identify the reasons for this.

"ICUs were already responding to the evidence of best practice in this area and to policy pressures by the time the programme came along," she commented. "Simply carrying out five key practices consistently can help control infections. Our research showed that many units had already improved their procedures, and several showed considerable ingenuity in making care safer for patients."

The five practices are: observing strict [hand hygiene](#); cleaning the skin with the correct antiseptic; avoiding the groin as the route of insertion; using full barrier protection – cap, gown, gloves and mask; and reviewing daily whether the patient still needs the catheter.

Though the programme did boost efforts in some ICUs, the improvements that were occurring anyway meant that it was difficult for the programme overall to show additional impact.

"The programme cannot take all the credit for the improvements seen," said Professor Bion. "But the outcome is that care is safer for patients, and NHS staff are to be congratulated for this. The programme has provided the foundation for establishing a clinically-led national infection reduction system for ICUs in England."

Professor Dixon-Woods says: "It is very pleasing that we have been able to explain better why rates of infection are falling. The results of the research are good news for NHS staff, who may have felt demoralised in recent months. It shows that they have been following best practice as defined internationally, and are now getting the public recognition they deserve. More than that, it's very good news for NHS patients."

More information: Richardson, B. et al. 'Matching Michigan': a

2-year stepped interventional programme to minimise central venous catheter-blood stream infections in intensive care units in England. *BMJ Qual Saf.* 2013 Feb;22(2):110-23 [qualitysafety.bmj.com/content/ ... jqs-2012-001325.full](http://qualitysafety.bmj.com/content/22/2/jqs-2012-001325.full)

Dixon-Woods, M, et al. Explaining Matching Michigan: an ethnographic study of a patient safety program. *Implementation Science* [www.implementationscience.com/ ... tent/8/1/70/abstract](http://www.implementationscience.com/content/8/1/70/abstract)

Provided by University of Leicester

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