

Portsmouth Hospitals NHS Trust reduces norovirus outbreaks by 95%

Outbreaks of norovirus at Queen Alexandra Hospital (QAH) have fallen from 20 per year to just five over three years after the introduction of a novel real-time surveillance system. The Portsmouth infection control team worked closely with The Learning Clinic, to use the Vitalpac system to help identify and isolate infected patients before infections could spread and create an outbreak.

The problem

Controlling costly and disruptive norovirus outbreaks

An outbreak of norovirus creates huge disruption in hospitals. Managing outbreaks can cost a trust upward of £600,000 per year. Ward closures, cancelled operations, staff sickness and longer hospital stays for those affected are bad for patients and very expensive for trusts.

QAH had steadily improved the management of outbreaks of diarrhoea and vomiting between 2007/8 and 2009/10, but the absolute number of outbreaks barely changed and continued to disrupt hospital activity.

Dr Caroline Mitchell a consultant working on the Infection Prevention and Control team at QAH identified that the traditional approach to infection control was a crucial problem:

“ We were far too reactive. Collecting and analysing data was taking too long. We needed to become quicker and more proactive. If we could find a way to isolate cases quickly, a full-blown, expensive and disruptive outbreak could be preventable.”

The solution

Using Vitalpac IPC manager to control infection outbreaks

In 2009, QAH deployed Vitalpac across the hospital. Using a hand held device to record routine patient observations, nurses also record whether the patient has had any episodes of vomiting and diarrhoea. The Infection Prevention and Control team recognised that accessing this critical information would allow them to identify any infected patients quickly.

QAH worked with the team behind Vitalpac – The Learning Clinic – to develop Vitalpac IPC Manager. The programme pools both the data gathered on Vitalpac, including patient location, and the live feeds from microbiology lab results to identify potential norovirus index cases. The infection control team then use this information to isolate infected patients, preventing spread to other patients and consequent ward closures. The location data helps the team quickly find the patient, and the clinical data helps the team make an informed decision about the most appropriate action.



Timeline

2010

The trust approaches The Learning Clinic to utilise VitalPAC for automating the routine capture of IPC data

June 2010

The trust deployed VitalPAC IPC Manager across QAH site

2010/2011

Only one outbreak of norovirus recorded on one ward



The results



Just one outbreak of norovirus in a year

In 2010/11, there was only one outbreak of norovirus. The year before, there were 20 cases across the hospital. The outbreak in 2010/2011 lasted only seven days and affected just a single ward. The hospital reduced death rates in multiple specialties, equivalent to 370 fewer deaths every year after Vitalpac was deployed (Schmidt et al, BMJ Q&S 2014). Comparatively, other hospitals in the area had to close up to 20 beds each day due to outbreaks, making the results at QAH even more outstanding. Comparatively, other hospitals in the area had to close up to 20 beds each day due to outbreaks, making the results at QAH even more outstanding.

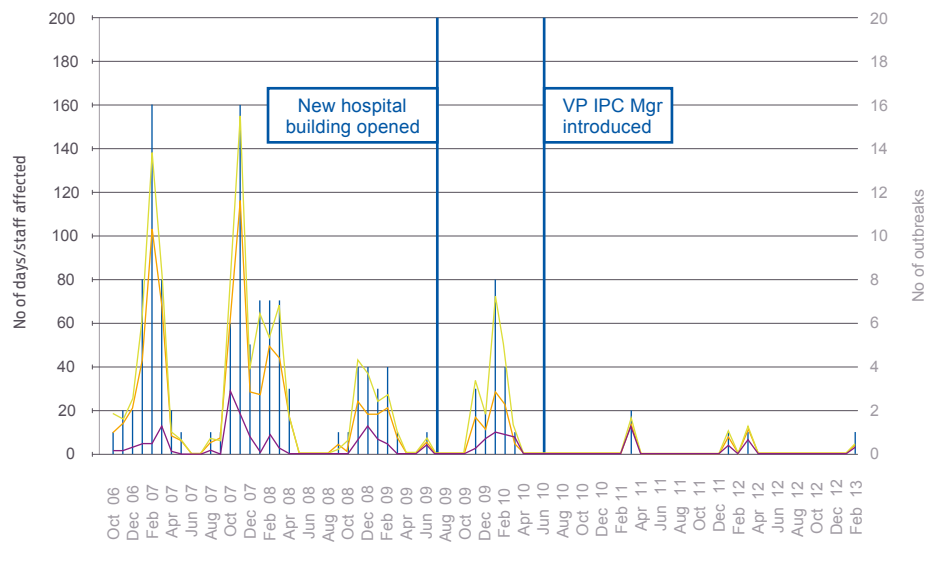
Dr Caroline Mitchell, comments on the impact that Vitalpac IPC Manager has had on the hospital:



There is no doubt that the infection prevention service is far more effective than before. Using Vitalpac IPC Manager we can assess more patients and the team is considerably more efficient as they are not chasing lab results. We have achieved our ultimate goal as a team – to reduce infection outbreaks”.

OUTBREAKS AT QAH & PREDECESSOR SITES

- The reductions in norovirus outbreaks at Portsmouth, eliminating huge amounts of wasted bed days and disruption, occurred despite ongoing high levels of norovirus regionally and nationally (Mitchell et al, BMJ Q&S 2015).
- These results were maintained, and over the next three years, outbreaks were contained to just five outbreaks from June 2010 to February 2013, affecting only 33 patients and 20 staff in three years
- Getting these outbreaks under control has saved the hospital over £290,000 each year. There were 18 fewer outbreaks, 107 fewer days where wards had to be closed and 37 fewer staff affected



AVERAGE NO. OF BEDS CLOSED PER DAY: QAH VS SE COAST AVERAGE VS ENGLAND AVERAGE

