

# How much do we Trust epidemiological definitions of healthcare-associated *C. difficile* infection

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## 1. Background

- Epidemiological definitions from PHE do not include previous hospitalisation in defining healthcare-associated ('Trust-apportioned') *C. difficile* cases,<sup>1</sup> in contrast to other definitions such as from the CDC and ECDC.<sup>2</sup>

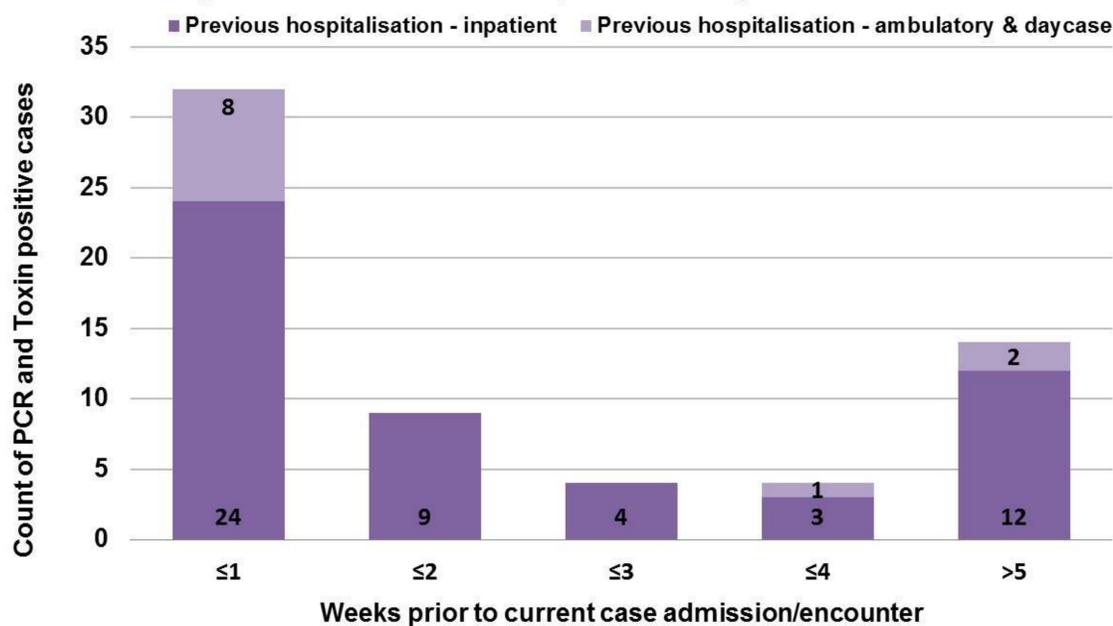
## 2. Aim

- To investigate the frequency of previous hospitalisation in patients presenting with *C. difficile* infection within the first 72 hours of hospital admission or during an outpatient encounter.

### Previous Hospitalisation by Week (FY14-15)

Out of the 83 *C.difficile* PCR and Toxin Positive Cases Identified within 72 Hours of admission or outpatient encounter, 63 had previous hospitalisation

Figure 1



## 3. Method

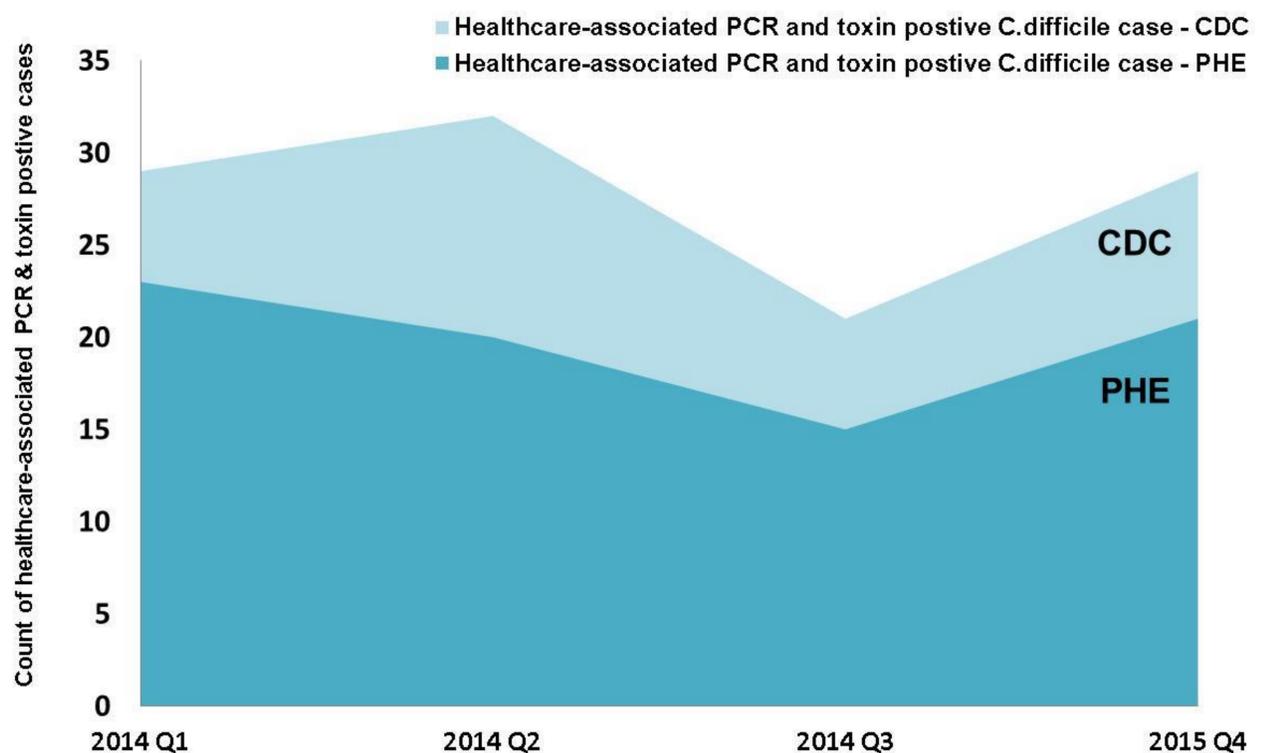
- We evaluated all cases of PCR and toxin-positive *C. difficile* cases identified in the 14/15 Financial Year.<sup>3</sup>
- We compared case attribution for surveillance definitions from PHE (which do not include previous hospitalisation) and CDC (which include previous hospitalisation).<sup>1-2</sup>
- For each case of *C. difficile* identified in the first 72 hours of admission, previous hospitalization in our hospitals was determined through medical note review.

## 4. Results

- Of the 84 cases that were identified in the 14/15 Financial Year, that presented in the first 72 hours of admission (defined as non-Trust-apportioned by PHE) or during an outpatient visit, 63 (75%) had previous hospitalisation. 40 of these (63%) had a previous overnight hospital stay in the 4 weeks prior to their positive specimen, and 24 cases (38%) within 1 week prior to their positive specimen (Figure 1)
- When applying the CDC definitions to reportable toxin positive cases in 14/15 Financial Year, there was an increase of 41% in healthcare-associated cases (from 79 to 111 cases) (Figure 2).
- 31/32 additional healthcare-associated cases according to CDC surveillance definitions were due to previous hospitalisation in the 4 weeks prior to the positive specimen.

### Healthcare-associated Toxin Positive *C.difficile* Cases PHE vs CDC Definition

Figure 2



## 5. Summary/discussion

- A high proportion, 75% (63 out of 84) of *C. difficile* cases defined as non-healthcare-associated by PHE definitions had recent overnight hospitalisation in our hospitals, suggesting that these cases may be attributable to the previous episode of care.
- PHE should consider including previous hospitalisation in their epidemiological definitions.

## References

- Public Health England: Guidance On The Diagnosis And Reporting Of *Clostridium difficile*. 6 March 2012.
- McDonald C. Recommendations for Surveillance of *Clostridium difficile* – Associated Disease. February 2007, vol. 28, no. 2.
- IPC Data Scorecard. FY 2014/15.