EP0172
ePoster Session
Clostridium difficile: news on clinical epidemiology and novel approaches to therapy

Clostridium difficile infection (CDI) mortality in Scotland 2010 to 2014

A-Lan Banks[1], Jennifer Bishop[2], Oscar Mesalles-Naranjo[2], Derek Brown[3], Henry Mather[3], John E. Coia*[3], Camilla Wiuff[4]

[1]*National Health Service - National Services Scotland, Health Protection Scotland, Glasgow, United Kingdom*

[2]*National Health Service - National Services Scotland, Information Services Scotland, Glasgow, United Kingdom*

[3]*NHS Greater Glasgow and Clyde, Glasgow, United Kingdom*

[4]*National Health Service, Health Protection Scotland, Glasgow, United Kingdom*

Background: Mandatory surveillance of *Clostridium difficile* Infection (CDI) in Scotland has been carried out since 2007. National surveillance enables the monitoring of trends in the incidence rates of CDI but does not provide any information on the survival of patients. By linking reported CDI case patients from the national surveillance programme to hospital episode and mortality data we can describe the clinical and demographic risk factors of patients with CDI and their survival rates.

Material/methods: CDI cases reported between 2010 and 2014 were linked with acute and maternity hospital records and death records, as well as 1503 characterised isolates collected as part of a national surveillance programme. The linkage was undertaken matching unique patient identifier numbers with hospital records where available. 30-day mortality was calculated from the linked patient data and an additional range of demographic and clinical risk factors were assigned to each case of CDI including age, sex, deprivation, co-morbidities and number of previous admissions and whether the infection was acquired in hospital (HA-CDI) or community (CA-CDI).

Results: There was a decrease in the number of patients dying within 30 days of diagnosis of CDI from 20.3% to 14.1% between 2010 and 2014 (Figure 1), with a year on year decrease in case-fatality of 5.6% (p=0.001). 18% of CDI cases were identified as CA-CDI, 73% as HA-CDI and 9% as unknown. CA-CDI patients were significantly younger (75 years) than HA-CDI patients (79 years) and had significantly less comorbidity. 30-day survival was higher in CA-CDI patients at 89% compared to 73% in HA-CDI patients. 30-day mortality was highest among RTs 027 (25%), 001 (23%) 106 (20%) and 023 (20%), though no association with mortality for any one ribotype was observed following adjustments for age (Figure 2). Increased age, higher Charlson score, whether the patient CA-CDI or HA-CDI, recent operation, liver comorbidity, lung comorbidity, and malignancy comorbidity were associated with increased mortality.

FIGURE 1: 30-day all-cause mortality (%) of CDI cases between 2009 and 2013

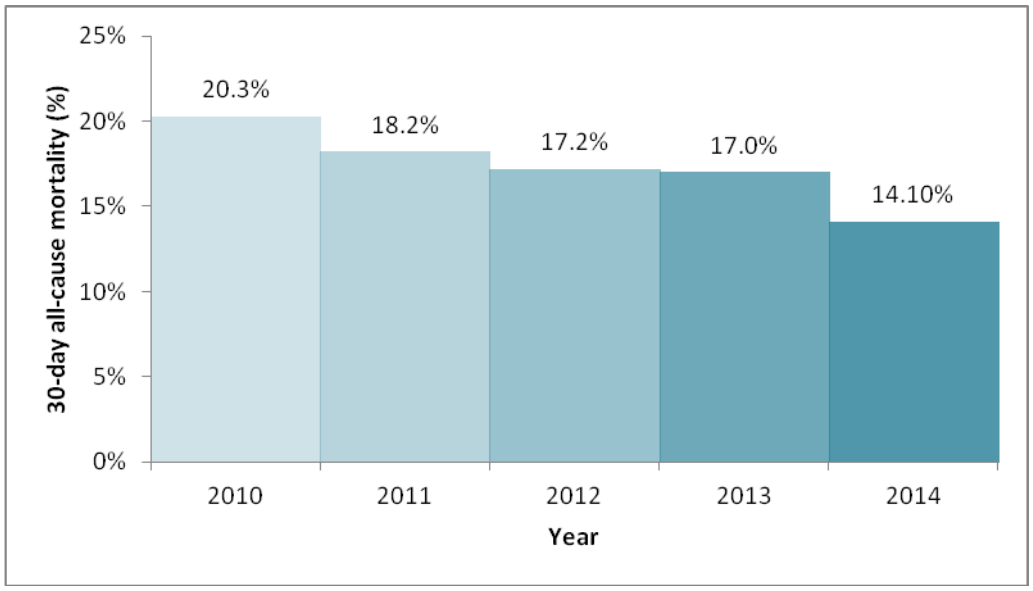
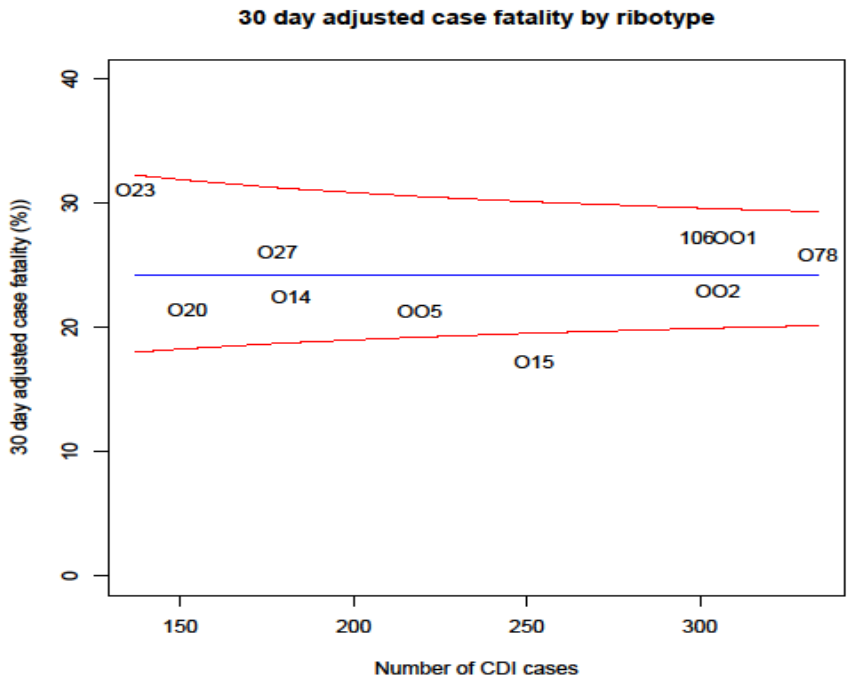


FIGURE 2: Funnel plot of age-adjusted 30-day all-cause mortality (%) of cases by C. difficile ribotype (ribotype 001 and 106 overlap)



Conclusions: This study highlights that survival of CDI patients has improved over the observed period but there are differences in the epidemiology and survival of HA-CDI and CA-CDI patients, and a lack of association by ribotype. When looking at national trends in incidence and survival rates and when comparing between health boards it is important to take into account the distribution of HA-CDI and CA-CDI cases as well as all the more well known risk factors. This study also demonstrated that added value can be achieved through the use of linked patient datasets to enhance the information already provided through disease surveillance programmes.