

Voluntary surveillance of *Clostridium difficile* in England, Wales and Northern Ireland, 2009

Key Points

- This update describes laboratory reports of *Clostridium difficile* detection, a proxy measure of *C. difficile* gastrointestinal infection (CDI), made voluntarily to the HPA in 2009 from laboratories in England, Wales, and Northern Ireland. Reports are based on the detection of *C. difficile* in faecal samples by a variety of methods, of which not all will detect toxin.
- There were 28,458 reports in 2009, comprising 25,719 from England, 1,754 from Wales and 985 from N. Ireland. This was a 23% decrease in the number of *C. difficile* laboratory reports compared to 2008.
- The incidence rate of *C. difficile* per population have decreased in England, Wales and Northern Ireland from 63 to 50, 96 to 59 and 94 to 55 samples per 100,000 population respectively.
- Around 77% of all reported cases were in the 65 years and over age group.
- The number of laboratories across England, Wales and Northern Ireland reporting cases of *C. difficile* has decreased by 1% from 173 in 2008 to 171 in 2009.

The dataset used here comprises laboratory based surveillance of *C. difficile* faecal samples in England and Wales that has been reported since 1990 as part of the Public Health Laboratory Service's voluntary monitoring of infectious diseases. From 2001, this surveillance was extended to include Northern Ireland¹. Most of the information is received through electronic reporting to the HPA's database (LabBase) by NHS laboratories; the remainder are obtained from paper records. Additional information on reported cases may include patient details such as age and sex, and details of the detection methods used.

Mandatory reporting of *C. difficile* in people aged 65 years and over was introduced in England in January 2004, and expanded to include people aged between 2 and 64 years in April 2007. This surveillance scheme brings in greater participation and reporting, but it has not replaced voluntary reporting of cases of *C. difficile* disease. Furthermore, voluntary surveillance allows comparison of trends over a longer time period as well as inter-country comparisons. The results of the two systems are not directly comparable for a number of reasons. Unlike the mandatory system, the voluntary system may include samples that are culture positive, or identified through means other than the detection of toxins. The reporting definitions of the mandatory surveillance require that only cases of CDI in patients aged 2 years and over must be reported. In the mandatory scheme reporting is only mandatory for 167 NHS Acute trust laboratories, whereas LabBase has a larger sampling scheme.

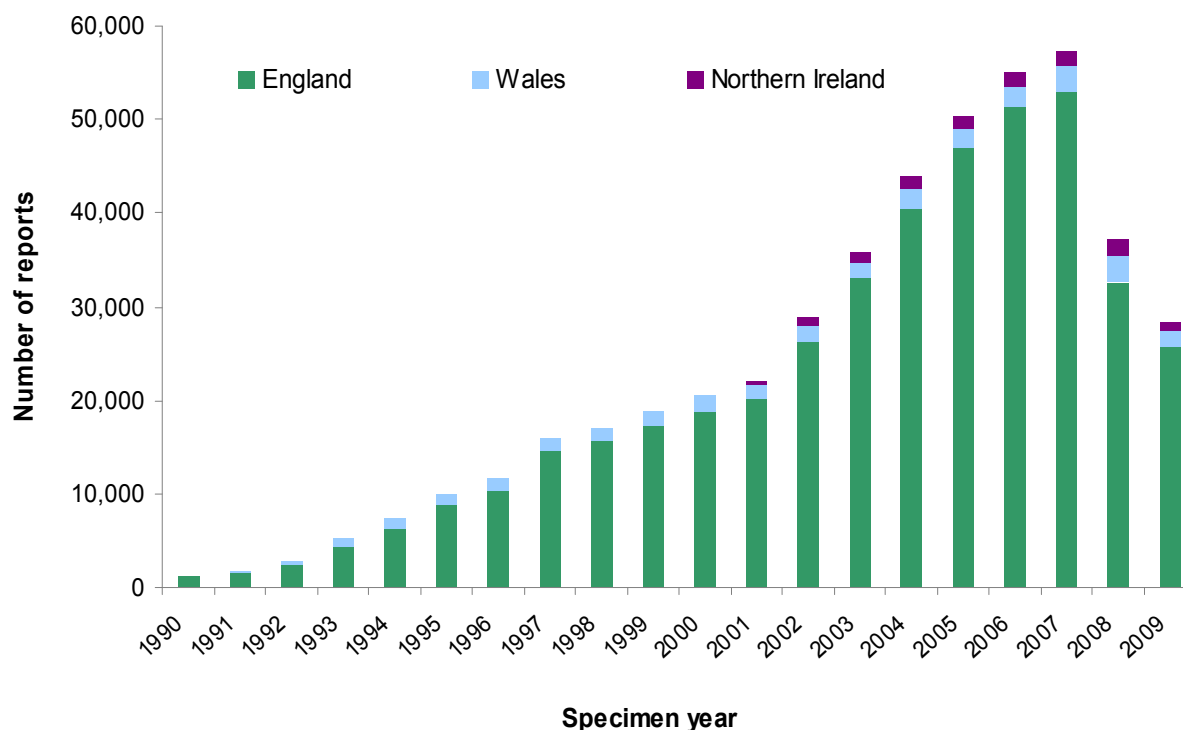
This report covers voluntary laboratory reports of *C. difficile* faecal samples made to the HPA in 2009 for all ages from laboratories in England, Wales, and Northern Ireland. Rates of *C. difficile* were calculated using Office of National Statistics 2008 mid-year resident population estimates as denominators. Data were analysed and displayed according to current regional HPA boundaries.

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Laboratory reports received under the voluntary reporting scheme

In 2009, the HPA received 28,458 reports of *C. difficile* laboratory samples, a 23 % decrease on the 37,134 reports received during 2008 (Figure 1, Appendix Table 1). The 2009 total comprised 25,719 from England, 1,754 from Wales and 985 from Northern Ireland. This reflects a decrease of 21% in England, of 39% in Wales, and of 41% in Northern Ireland.

Figure 1. Voluntary laboratory reports of *C. difficile* positive faecal specimens: England, Wales and Northern Ireland 1990 - 2009***



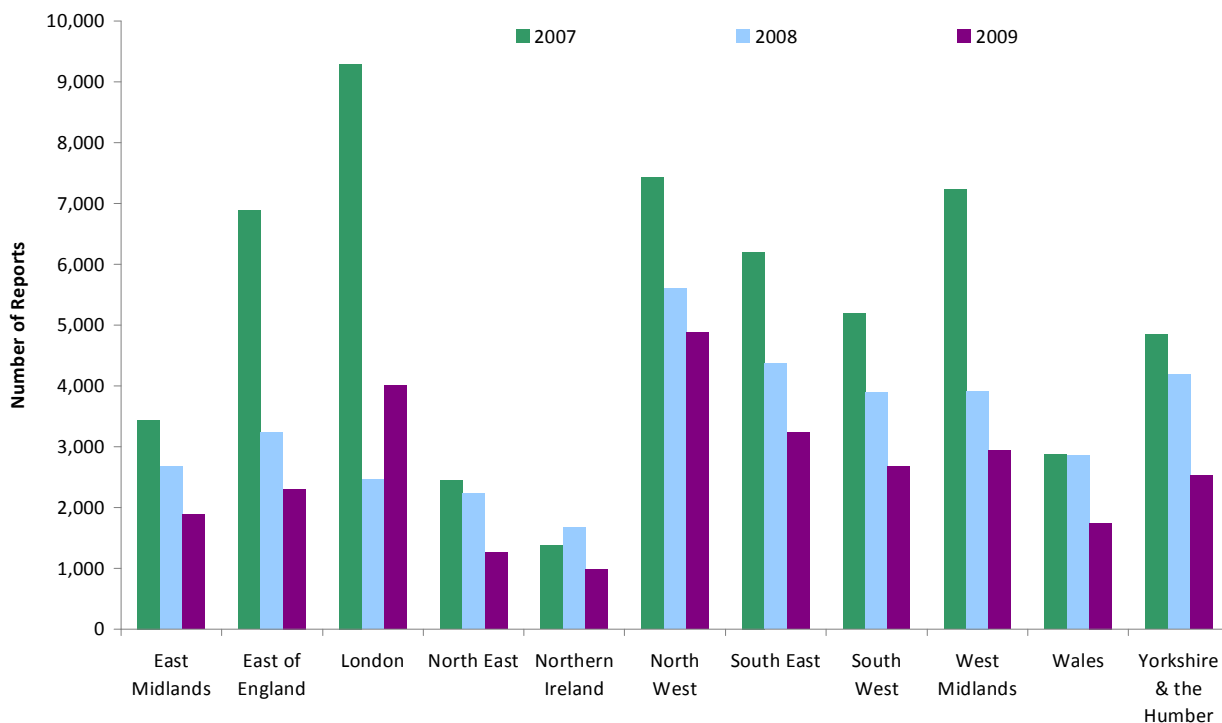
* Data from 2009 are provisional (data was extracted on 28th January 2010)

** Northern Ireland reports included from 2001

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The overall rate of *C. difficile* laboratory reports for England, Wales and Northern Ireland was 51 per 100,000 population in 2009, a decrease from 66 per 100,000 in 2008. The rates of *C. difficile* laboratory reports for the overall population were 50 per 100,000 population in England (down from 63), 59 samples per 100,000 in Wales (down from 96) and 55 samples per 100,000 in Northern Ireland (down from 94).

Figure 2. Voluntary laboratory reports of *C. difficile*: English health regions, Wales and Northern Ireland 2007- 2009*



* Data from 2009 are provisional (data was extracted on 28th January 2010)

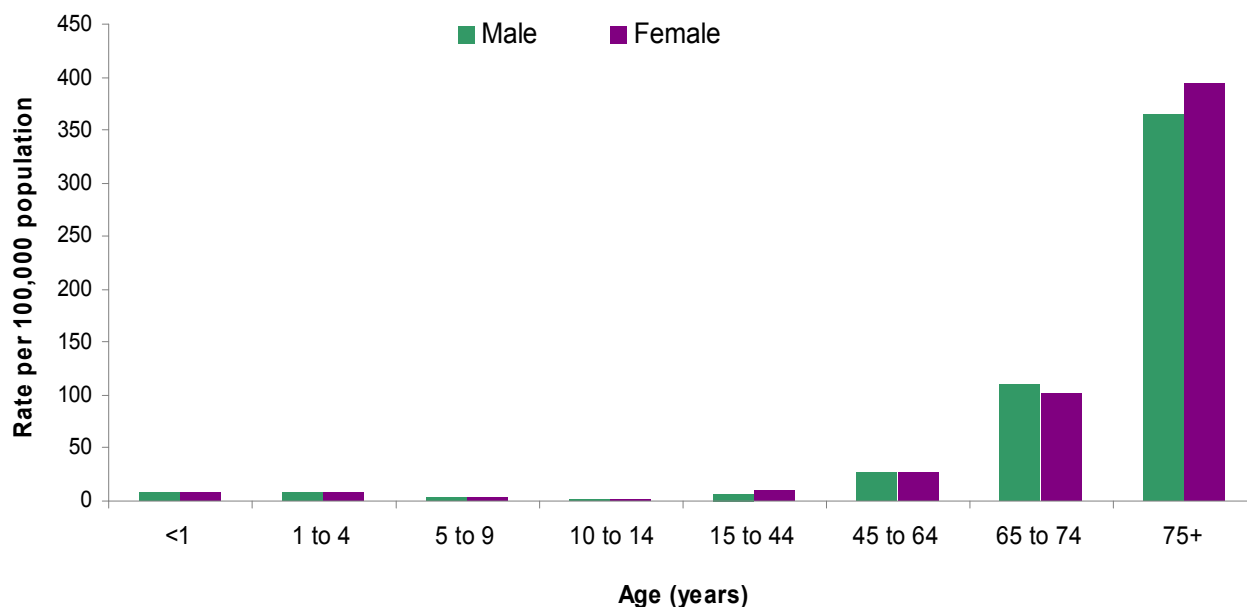
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Age and sex-specific rates of *C. difficile*

The age distribution of reports did not change substantially in 2009 although the proportion of total reports from people under 65 years increased slightly from 20% in 2008 to 23% in 2009. Infection remained more common among the older age groups, 386.4 per 100,000 population in people aged 75 years and older (Appendix Table 2).

Compared with 2008, the number of *C. difficile* reports decreased by 24% in both males and females. Overall rates of reports were higher in females than males, 57.2 versus 42.8/100,000.

Figure 3. Age specific rates[†] of *C. difficile* from laboratory reports under voluntary reporting scheme: England, Wales and Northern Ireland, 2009*



* Data from 2009 are provisional (data was extracted on 28th January 2009)

[†] Rates are calculated using 2008 ONS mid-year population estimates

Acknowledgements

We are grateful to microbiology colleagues in NHS acute Trusts for their contributions to this reporting scheme, as well as efforts from colleagues in the regional offices of the Health Protection Agency.

References

- ¹ HPA. *Clostridium difficile*: England, Wales and Northern Ireland, 2000 to 2002. *Commun Dis Rep CDR Wkly* 2003;13.

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Appendix

Table 1. Number of voluntary reports of *C. difficile* positive faecal specimens in England, Wales and N. Ireland 1990-2009***

Year	England	Wales	Northern Ireland	England, Wales & Northern Ireland
1990	1172	22	-	-
1991	1591	70	-	-
1992	2423	506	-	-
1993	4439	993	-	-
1994	6387	1083	-	-
1995	8905	1134	-	-
1996	10440	1290	-	-
1997	14541	1331	-	-
1998	15721	1397	-	-
1999	17279	1438	-	-
2000	18812	1744	-	-
2001	20064	1599	345	22008
2002	26357	1710	930	28997
2003	33201	1587	1016	35804
2004	40414	2114	1388	43916
2005	47023	1957	1412	50392
2006	51284	2255	1429	54968
2007	52988	2883	1384	57255
2008	32602	2860	1672	37134
2009	25719	1754	985	28458

* Data for 2009 are provisional (data was extracted on 28th January 2010)

** Northern Ireland reports reported from 2001

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Table 2. Age and sex distribution of voluntary laboratory reports of *C. difficile* in England, Wales, and Northern Ireland, 2009*

Age Group	Male	Female	Unknown	Total	Rate per 100,000		
					Male	Female	Total
<1 y	31	30	1	62	8.3	8.4	8.5
1 to 4 y	108	101	3	212	7.8	7.7	7.9
5 to 9 y	45	41	1	87	2.8	2.7	2.8
10 to 14 y	42	37	1	80	2.4	2.3	2.4
15 to 44 y	881	1210	8	2099	7.5	10.5	9.1
45 to 64 y	1931	1908	27	3866	27.9	26.8	27.5
65 to 74 y	2461	2506	30	4997	110.2	102.0	106.5
75+ y	6321	10485	123	16929	366.2	394.8	386.4
Unknown	14	16	96	126			
Total	11834	16334	290	28458	42.8	57.2	50.6

* Data for 2009 are provisional (data was extracted on 28th January 2010)