

## Candidaemia in England, Wales and Northern Ireland: 2005

### Introduction

These analyses are based on data extracted from our voluntary surveillance database, LabBase 2\*, on the 22<sup>nd</sup> September 2006 for the period 2000-2005. The data presented here differ in some instances from data in earlier publications due to the addition of late reports to the database.

Rates were calculated using 2005 mid-year resident population estimates based on the 2001 census for England, Wales, and Northern Ireland. Regional analyses were made with reference to the Government Office Regions introduced in April 2002.

### Overall trend in reports

There were 1736 reports of *Candida* spp isolated from blood specimens in England, Wales and Northern Ireland in 2005 (see E-Table 1). This represents a 16.3% increase in the number of candidaemia reports made to the HPA since 2004 (1493 reports) and is consistent with the increasing trend observed since 1990 (1). However, the increase observed between 2004 and 2005 (16.3%) is over twice that reported between 2003 and 2004 (7.6%). As reporting is voluntary, these increases may be due in part to improved ascertainment.

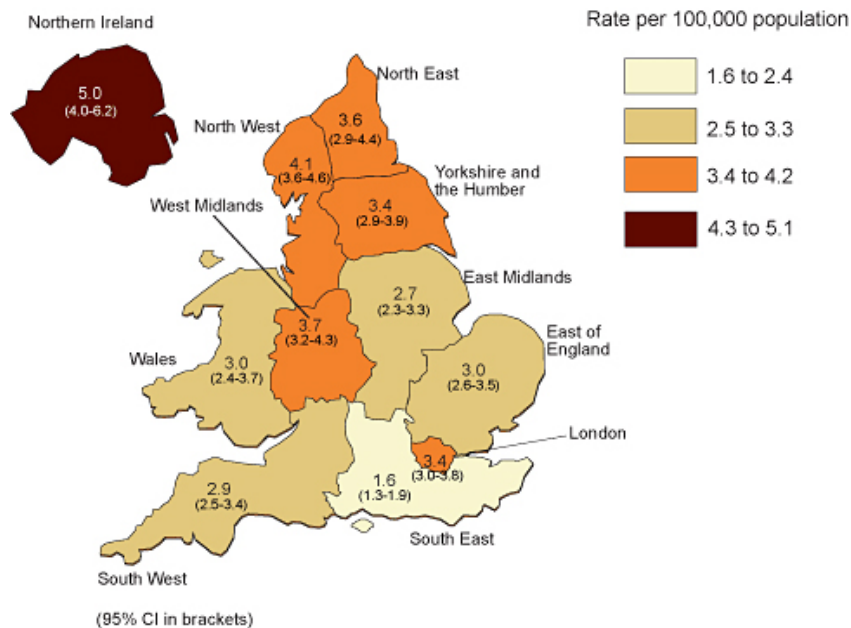
E-Table 1 **Laboratory reports and rate of candidaemia by region; England, Wales and Northern Ireland: 2005-2002**

Region	Number of reports (rate per 100,000)			
	2005	2004	2003	2002
North West	281 (4.1)	239 (3.5)	174 (2.6)	135 (2.0)
North East	92 (3.6)	107 (4.2)	70 (2.8)	68 (2.7)
Yorkshire & Humber	172 (3.4)	142 (2.8)	130 (2.6)	69 (1.4)
West Midlands	201 (3.7)	186 (3.5)	169 (3.2)	121 (2.3)
East Midlands	118 (2.7)	98 (2.3)	105 (2.5)	70 (1.7)
East of England	167 (3.0)	146 (2.7)	139 (2.5)	108 (2.0)
South West	148 (2.9)	124 (2.5)	116 (2.3)	111 (2.2)
South East	128 (1.6)	131 (1.6)	161 (2.0)	147 (1.8)
London	255 (3.4)	160 (2.2)	190 (2.6)	173 (2.4)
<b>England</b>	<b>1562 (3.1)</b>	<b>1333 (2.7)</b>	<b>1254 (2.5)</b>	<b>1002 (2.0)</b>
<b>Wales</b>	<b>88 (3.0)</b>	<b>76 (2.6)</b>	<b>52 (1.8)</b>	<b>70 (2.4)</b>
<b>Northern Ireland</b>	<b>86 (5.0)</b>	<b>84 (4.9)</b>	<b>74 (4.3)</b>	<b>76 (4.5)</b>
<b>England, Wales &amp; N.I.</b>	<b>1736 (3.1)</b>	<b>1493 (2.7)</b>	<b>1380 (2.5)</b>	<b>1148 (2.3)</b>

### Region-specific rates

- The overall reported rate of candidaemia increased from 2.7 per 100,000 (95% CI: 2.6-2.9) in 2004 to 3.1 per 100,000 (95% CI: 3.0-3.3) in 2005 (see E-Table 1).
- The highest country-specific rate of reported candidaemia was observed in Northern Ireland: 5.0/100,000 (95% CI: 4.0-6.2).
- Within the English regions, the South East had the lowest reported candidaemia rate with 1.6/100,000 (95% CI: 1.3-1.9) whereas the North West had the highest rate of reports with 4.1/100,000 (95% CI: 3.6-4.6) (see Figure 1).
- The largest regional change in the rate of reported candidaemia since 2004 was observed in the London region, which increased from 2.2/100,000 (95% CI: 1.8-2.5) in 2004 to 3.4/100,000 (95% CI: 3.0-3.8) in 2005.

Figure 1 **Region-specific rates of candidaemia reports with 95% confidence intervals; England, Wales and Northern Ireland: 2005**



### Species-specific data

- *Candida albicans* was the most frequently reported species in 2005, accounting for 55% of candidaemia reports, with other common species including *C.*

*glabrata* (18%) and *C. parapsilosis* (10%). Seven other uncommon species were responsible for the remaining 7% of invasive *Candida* infections (see E-Table 2).

- The proportion of reports in which invasive *Candida* infection was recorded without full species information decreased slightly from 10.4% in 2004 to 9.9% in 2005.

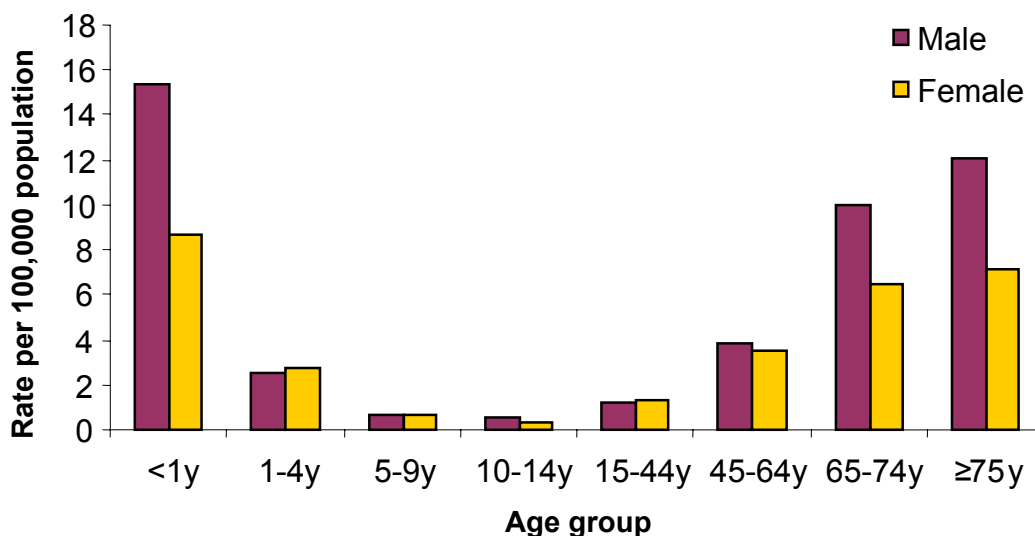
**E-Table 2 Laboratory reports of candidaemia by species; England, Wales, and Northern Ireland: 2002-2005**

Species	2005	2004	2003	2002
<i>Candida albicans</i>	956 (55.1%)	818 (54.8%)	752 (54.5%)	588 (51.2%)
<i>Candida famata</i>	3 (0.2%)	2 (0.1%)	7 (0.5%)	5 (0.4%)
<i>Candida glabrata</i>	303 (17.5%)	240 (16.1%)	224 (16.2%)	199 (17.3%)
<i>Candida guilliermondii</i>	11 (0.6%)	10 (0.7%)	13 (0.9%)	13 (1.1%)
<i>Candida kefyr</i>	4 (0.2%)	1 (0.1%)	1 (0.1%)	4 (0.3%)
<i>Candida krusei</i>	23 (1.3%)	28 (1.9%)	25 (1.8%)	14 (1.2%)
<i>Candida lusitanae</i>	13 (0.7%)	10 (0.7%)	10 (0.7%)	16 (1.4%)
<i>Candida parapsilosis</i>	181 (10.4%)	177 (11.9%)	150 (10.9%)	130 (11.3%)
<i>Candida tropicalis</i>	69 (4.0%)	52 (3.5%)	41 (3.0%)	37 (3.2%)
<i>Candida pelliculosa</i>	1 (0.1%)	0 (0%)	0 (0%)	0 (0%)
<i>Candida</i> spp -species not recorded	172 (9.9%)	155 (10.4%)	145 (10.5%)	131 (11.4%)
<i>Candida</i> – other named	0 (0%)	0 (0%)	12 (0.9%)	11 (1.0%)
Total	1736	1493	1380	1148

### Age-specific rates

- Candidaemia rates were higher in males than females in most age groups (see Figure 2).
- The highest age and sex-specific rate of reported candidaemia in 2005 was in males aged under 1 year at 15.4/100,000 (95% CI: 11.5-20.1) followed by males aged 75 years and over at 12.1/100,000 (95% CI: 10.4-13.9).

Figure 2 **Age-specific rates of candidaemia per 100,000 population: England, Wales and Northern Ireland: 2005**



Reporting to species level is important for monitoring changes in the epidemiology of these infections, with different species being associated with infections in different patient groups and with differing levels of antifungal susceptibility (2). For assistance with identification, laboratories can submit isolates to the Mycology Reference Laboratory in Bristol, <http://www.hpa.org.uk/srmd/mycology/index.htm>

### Suggested citation

Data found in the CDR weekly summary publication and on the online full text version can be cited as: HPA, Candidaemia in England, Wales and Northern Ireland: 2005. *Commun Dis Rep Wkly* [serial online] 2006 [date cited]; **16**(42): HCAI

### References

- (1) Lamagni TL, Evans BG, Shigematsu M, Johnson EM. Emerging trends in the epidemiology of invasive mycoses in England and Wales (1990-1999). *Epidemiol Infect* 2001; **126**: 397-414.
- (2) Hobson RP. The global epidemiology of invasive *Candida* infections – is the tide turning? *J Hosp Infect* 2003; **55**: 159-168

### Footnote

\*Labbase2 is the database that collects laboratory reports of all microorganisms isolated at nearly 400 NHS and other laboratories throughout England and Wales. The database is managed and accessed at the Centre for Infections.