

ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD
INFORMATION PAPER

FSA FOODBORNE DISEASE STRATEGY: TRENDS IN FOODBORNE DISEASE FIGURES

Background

1. Paper ACM/704 (Sept 04) presented the annual Board update report on the Agency's Foodborne Disease Strategy. This information paper provides further detail about how progress against the target is measured and trends observed in figures since 2000.
2. The Agency's Foodborne Disease Strategy seeks to deliver the Service Delivery Agreement aim of reducing the incidence of foodborne disease by 20% over 5 years by 2006. Updated provisional data for 2003 indicate that the number of laboratory reported cases of foodborne disease decreased by approximately 18% compared with the baseline figure for 2000.

Setting the baseline

3. To enable progress towards the target as defined above, it was necessary to establish a reliable baseline figure for monitoring trends in foodborne disease in the UK. Data from a large study of Infectious Intestinal Disease (IID)¹ showed the relative importance of different gastro-intestinal pathogens and demonstrated that the level of ascertainment of the major pathogens through the laboratory reporting system was good.
4. It was agreed in August 2001 that laboratory reports to the UK surveillance centres of five major foodborne bacteria (*Salmonella*, *Campylobacter*, *E. coli* O157, *Listeria monocytogenes* and *Clostridium perfringens*) would be used to monitor trends in foodborne disease across the UK. Together, these bacteria account for the majority of cases of foodborne illness where a pathogen is identified, as well as those that cause most severe disease and death. It was also

agreed that the UK baseline figure for food poisoning should exclude cases acquired abroad.

5. On this basis, a baseline figure of 65,209 laboratory-reported cases was announced on 23 August 2001, which reflected provisional data for the year 2000. Following adjustment for the final figures for the year, the baseline figure for monitoring food poisoning in the UK was revised to a total of 65,643 cases for all five pathogens.

Monitoring trends

6. Since 2001, data for these five pathogens provided by the surveillance centres have been monitored regularly and trends in the numbers of laboratory-reported cases of each organism followed closely. Some in-year monitoring is carried out on the basis of figures published in England by the Health Protection Agency (HPA) in its Communicable Disease Report or presented to the Epidemiology of Foodborne Infections Group. However, these initial figures are subject to change as additional late results are added or existing results reclassified. Moreover, they do not include all the pathogens under surveillance. Provisional annual figures are calculated within 3 months of the year-end but are not finalised for 6-12 months after the end of each year.

Progress towards the target

7. Provisional data for the total number of cases for the five key pathogens being monitored for 2003 (the last complete year for which figures are available) suggest that there has been a reduction of approximately 18% in the number of foodborne illness cases compared with the baseline figure from 2000.
8. Although the 2003 figures remain provisional at present, these data indicate that good progress is being made towards achieving the target (Figure 1). Details of

¹ Adak G K, Long S M, O'Brien S J. Gut 2002; 51:832-841

the numbers of laboratory reports for each of the five pathogens being used to monitor progress since 2000 are shown at Figure 2.

9. Within the overall figure:

- Laboratory reports of foodborne illness due to *Campylobacter*, which accounted for 78% of the baseline cases, have shown a reduction of 22% in comparison with the number of cases reported in 2000.
- Similarly, cases of foodborne illness due to *E.coli* O157 decreased by 25% over the same period.
- Although the number of cases of *Salmonella* remain virtually unchanged over the period of the Strategy to date (-0.6%), this should be viewed in the context of the very sharp fall in reported cases that preceded the setting of the target, and the large series of outbreaks of non-PT4 *Salmonella* Enteritidis in England in 2002 and 2003. There has been a continuing fall in *Salmonella* Typhimurium and *Salmonella* Enteritidis PT4.
- The number of cases of *Listeria monocytogenes* and *Clostridium perfringens* together accounted for only 0.5% of the baseline total, although these cases are significant due to their severity and association with outbreaks respectively. Between 2000 and 2003, the number of cases of *L.monocytogenes* more than doubled (from 119 in 2000 to 239 in 2003). The ACMSF has previously been informed about the increase in cases of listeriosis and the convened a sub-group to review Agency advice to vulnerable groups, to see whether this needs to be re-emphasised, updated or expanded. Indications are that the number of reported cases has decreased again in 2004.
- Given the absence of England and Wales data for 2003 and the significant reporting of *Clostridium perfringens*, it would not be appropriate to draw any conclusions about trends between 2000 and 2003. The HPA is planning to enhance surveillance of this organism.

10. Together these data indicate that the Agency is on track to meet its target of reducing foodborne disease in the UK by 20% by 2006.

Foodborne disease trends in relation to the foodborne disease strategy

11. The main areas of activity of the foodborne disease strategy have been the reduction of pathogens in raw poultry (targeting *Salmonella* and *Campylobacter*) and red meat (targeting *Salmonella* and *E. coli* O157), introduction of HACCP-based food safety management in small businesses in the catering sector and messages around cooking and avoiding cross-contamination in both commercial and domestic kitchens. The trends in laboratory reports suggest that these activities are having an effect on illness due to the target pathogens. We plan to analyse outbreak data to see if this provides any indications of changes in foods or behavioural factors associated with outbreaks.

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Figure 1

Laboratory reports of *Campylobacter*, *Salmonella* and *E.coli* O157 in the UK (all cases), 1992-03

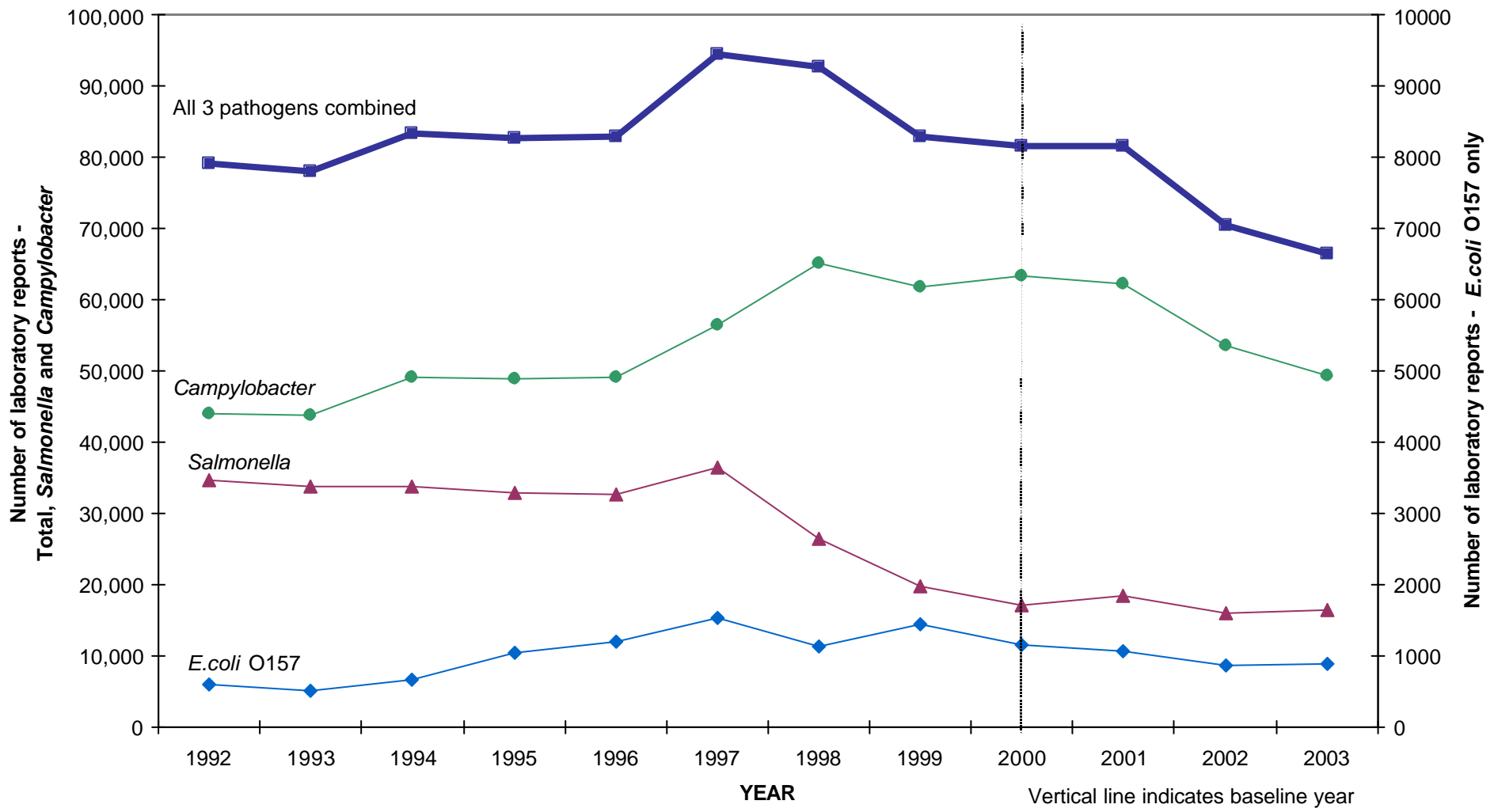


Figure 2

UK FOODBORNE DISEASE DATA (2000 TO 2003)

CASES NOT THOUGHT TO HAVE BEEN ACQUIRED ABROAD

Number of laboratory reports	<i>Campylobacter</i>	<i>Salmonella</i>	<i>Clostridium Perfringens</i>	<i>E. coli</i> O157	<i>Listeria monocytogenes</i>	<i>All pathogens being monitored</i>
2000 (Baseline data)	51,166 (*78%)	13,138 (*20%)	181 (*0.3%)	1,035 (*2%)	113 (*0.2%)	65,643
2001	50,550	14,336	161	932	156	66,135 (+0.7%) [#]
2002	43,158	12,719	60	761	159	56,857 (-13%) [#]
2003 [^]	39,667	13,210	55 ^{**}	775	239	53,946 (-18%) [#]

* Contribution to the Agency's baseline for foodborne illness

** England and Wales figures not available

[^] Provisional figures

[#] Percentage difference compared to the baseline figure

ALL CASES

Number of laboratory reports	<i>Campylobacter</i>	<i>Salmonella</i>	<i>Clostridium Perfringens</i>	<i>E. coli</i> O157	<i>Listeria Monocytogenes</i>	<i>All pathogens being monitored</i>
2000 (Baseline data)	63,370 (*77.5%)	16,989 (*20.8%)	181 (*0.2%)	1,147 (* 1.4%)	113 (*0.1%)	81,800
2001	62,912	18,410	161	1,049	162	82,694
2002	53,535	15,828	60	851	160	70,434
2003 [^]	49,309	16,354	55 ^{**}	876	239	66,833

* Contribution to the Agency's baseline for foodborne illness

** England and Wales figures not available

[^] Provisional figures