

Guidance for Open Farms: Cost Benefit Analysis

<p>Problem Under Consideration:</p>	<p><i>E. coli</i> are common bacteria which live in the intestines of warm blooded animals. Certain forms (strains) are commonly found in the intestine of healthy people and animals without causing any ill health effects. The most important property of these strains is the production of one or more potent toxins, which can cause illness in people. Among these is a group of bacteria known as Vero cytotoxin-producing <i>E. coli</i> or VTEC. This group includes <i>E. coli</i> O157.</p> <p>VTEC can cause illness ranging from mild through severe bloody diarrhoea (mostly without fever) to haemolytic uraemic syndrome (HUS) and thrombotic thrombocytopenic purpura (TTP) affecting the blood, kidneys and in severe cases the central nervous system. VTEC are relatively rare as the cause of infectious gastro- enteritis in Great Britain (GB). However the disease can be fatal, particularly in infants, young children and the elderly</p> <p>Transmission of <i>E.coli</i> O157 occurs in the majority of cases by ingestion of contaminated meat/food products, water or hand/mouth contact following contamination with infected faecal material.</p> <p>A number of outbreaks (defined as two or more confirmed cases) involving members of the public have been confirmed over the past 20 years by the Health Protection Agency (HPA) in England and Wales and Health Protection Scotland (HPS) and predecessor organisations. Available data suggests that open farms rather than commercial farming present the most significant risk of ill health resulting from exposure to <i>E.coli</i> O157.</p> <p>Recent data supplied by the HPA and HPS suggests that 73 cases of <i>E.coli</i> O157 infection resulting from contact with animals were recorded in outbreaks in GB between 1992 and 2008. This compares with the 93 cases recorded in the single outbreak at Godstone farm in 2009. There will also have been sporadic (i.e. single cases) cases of infection over the same period but for reasons explained below the precise number is not known.</p> <p>Taking cases confirmed as part of a declared outbreak together with sporadic cases, it is believed the number of cases of <i>E.coli</i> O157 infection resulting from contact with animals, at open farms or elsewhere, is less than 100 per annum. The risk needs to be set in the context of the number of visitors to open farms (see below). There are no recorded deaths from <i>E.coli</i> O157 infection as a result of transmission of the bacterium from animals to humans. There has been one death (of a child) who was infected in 1997 and developed a more serious and chronic form of the disease. He subsequently died some 7/8 years later. Thus, although the hazard can be high, the risk of infection is low.</p>
<p>Background information</p>	<p>The largest outbreak of <i>E.coli</i> O157 in humans associated with animal contact recorded in the UK, occurred at Godstone farm (Surrey) in late summer 2009.</p> <p>Following the outbreak, the HPA set up an independent expert committee (the Committee) to investigate the outbreak, the factors that contributed to it and its subsequent handling. The Committee published its report in June 2010. Of 43</p>

recommendations, 17 were directed to HSE, either alone or in association with other organisations.

In its report, the Committee recommended amongst other things, that HSE should lead on developing an Approved Code of Practice (ACoP) for management of the risk at open farms.

Number of open farms and visitors

The National Farms Attraction Network (NFAN), the principal industry body, operates a voluntary registration scheme with ~150 members. However, not all visitor farm attractions are registered with it.

There are also approximately 1000 working farms in England and Wales within the scope of the existing guidance [<http://www.hse.gov.uk/pubns/ais23.pdf>] registered with the Learning outside the classroom (Lotc) scheme, administered by Farming and Countryside Education (FACE) through the Countryside Education Visits Accreditation Scheme (CEVAS). CEVAS has also identified a further 700 farms that receive children and other visitors as part of the Government programme to ensure learning outside the classroom. Equivalent information is being sought from Scotland. There are therefore roughly 2000 open farms in the UK.

Similar difficulties arise in obtaining estimates of the number of visitors to visitor farm attractions. Broad brush estimates from industry sources initially suggested 5-10 million visitors per annum. However, some larger open farms alone are known to receive 250-500,000 visitors a year. It therefore seems likely the original estimate was too low.

At a recent meeting with industry representatives, it was suggested that a minimum of 10m visitors a year would be a more realistic baseline.

Number of cases of *E.coli* O157 infection

Further information is currently being sought from the HPA and HPS as to:

1. The number of cases of animal to human transmission of *E.coli* O157 since it was first identified in the early 1990s; and
2. The comparative breakdown with other sources of infection e.g. food, water etc.

The HPA advises that unless a case is part of an outbreak and is therefore subject to formal investigation, it is not possible to determine whether it is associated with food, water, animal contact or person-to-person spread e.g. through a nursery.

The number of sporadic cases annually exceeds the number reported as part of an outbreak and therefore it is not possible to state categorically how many cases per annum are the result of animal contact.

Current best estimates are as previously advised and are set out in Annex 1.

Policy Objectives:	HSE wish to ensure that the regulatory framework in place is sufficient to control the risks associated with E-Coli O157 without placing an unnecessary burden on business.
Options:	<p><u>Option 1:</u> Do Nothing. Continue with the current guidance and regulatory framework.</p> <p><u>Option 2:</u> Introduce a new Approved Code of Practise (ACoP) to give the guidance a more formal stance, as well as legal legitimacy. There would be no changes to the actual guidance.</p>
Calculation of the costs and benefits:	<p><u>Option 1:</u> Do Nothing Baseline costs and benefits.</p> <p>There is a risk that were another large outbreak of <i>E.coli</i> O157 to occur and HSE was considered to have ignored advice for the introduction of a stricter regulatory framework, there may be a reputational cost to the organisation.</p> <p><u>Option 2:</u></p> <p>Costs</p> <p>There is a risk that an ACoP would have the opposite effect than the one intended. Given that compliance in the industry is generally viewed positively, because duty holders wish to avoid outbreaks of <i>E.coli</i> O157 (as one would carry a significant reputational cost), it is likely that many duty holders would read the ACoP. Whilst the ACoP imposes no new burdens on business, by its very nature, it is a more difficult read and harder to understand than guidance. This is because an ACoP includes the relevant legislation, is more complex in its language and legal in tone. This could result in confusion amongst duty holders, which could lead to a decrease in compliance with the control measures, especially amongst those duty holders who come to the ACoP for the first time, and would have used the guidance under the <i>status quo</i>. This could have negative health and safety effects.</p> <p>The new ACoP would have a production cost to HSE. Best estimates suggest that this process would take 1 week of a Band 1 Legal Officer's time and 2 months of a Band 2 Legal Officers time (at a cost of £3,325 and £14,706 respectively¹). There would also be 1 week of time from a Band 1 in the Sectors team and 1 month of a Band 3 from the Sectors team (at a cost of £3,085 and £6,158 respectively²). This gives a total (one off) production cost of £27 thousand.</p> <p>ACoPs are available as a free download on the HSE website, or can be purchased as a hard copy for a small fee. HSE does not incur any cost from the publication, although any duty holder wishing to have a hard copy will have to purchase it. We assume that they would view the potential benefits of doing so as greater than the purchase cost.</p> <p>There would be a familiarisation cost following the introduction of</p>

¹ Source: HSE Global Ready Reckoner 2009/10 based on the full economic wage of a Band 1 Solicitor (daily wage multiplied by 5) and of a Band 2 Solicitor (annual wage divided by 6).

² Source: HSE Global Ready Reckoner 2009/10 based on the full economic wage of a Band 1 Regulatory Inspector (daily wage multiplied by 5) and of a Band 3 Regulatory Inspector (annual wage divided by 12).

	<p>the ACoP. The current guidance consists of 5 pages (4 for duty holders and 1 for teachers) and takes an estimated 30 minutes to read (and understand) and possibly a further 1 hour to consider and assess the implications. We assume that given compliance is viewed positively within the industry, the vast majority of duty holders will read the guidance and attempt to comply with its recommendations fully.</p> <p>In contrast, an ACoP would have around 20-30 pages, and being a more formal document would take correspondingly longer to read. It is estimated that it would take between 1 and 2 hours to read and at least one hour to consider and assess the implications (though since the ACoP introduces no new burdens, we assume that duty holders would have to spend some time confirming that this was the case). We assume that given compliance is viewed positively within the industry, the vast majority of duty holders will read the ACoP and attempt to comply with its recommendations fully.</p> <p>For every duty holder who reads the ACoP following its production, there would be familiarisation and consideration costs of between £31.26 and £46.89, based on the average hourly wage of a farmer being £15.63³. Duty holders who have previously read (and complied with) the guidance are assumed not to be required to take any further actions in order to be compliant.</p> <p>Were a duty holder to read the ACoP having not read the guidance, they would incur a compliance cost. Implementation of any changes thought by the duty holder to be necessary could take a considerable time and could be expensive.</p> <p>Given that compliance in the sector is high, it is not unrealistic to assume that all 2000 open farms would read the ACoP following its publication. This would result in a total (one off) cost to the industry of between £63 thousand and £94 thousand.</p> <p>There would be a cost of between £7.81 and £23.45 for any duty holder who seeks advice for the first time, and would previously have read the guidance and now has to read the ACoP (which takes 30 to 90 minutes longer to do).</p> <p>HSE experts believe that those duty holders who are currently aware of and have read and acted upon the existing guidance would probably access and read the ACoP. Being generally positively disposed towards compliance it is not believed that their behaviour would change substantially. Further, experts do not believe the ACoP would attract other (less compliant) duty holders to read it. This is because the majority of duty holders are believed to read and acted on the guidance already; as they are not believed to be averse to compliance, but are to a greater or lesser extent confused or uncertain about what they are required to do. It is unlikely that the more legalistic format and content of an ACoP would be easier to understand than the current guidance.</p> <p>The small number of duty holders who are prompted to read the</p>
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³ Source: Annual Survey of Hours and Earnings 2009 (SOC 4 digits); mean hourly wage for a farm manager (code 1211) uprated by 30% to reflect non-wage costs

ACoP given its legal standing and who would not have accessed or followed the existing guidance, would incur a cost of between £31.26 and £46.89 from reading and assessing the ACoP. There would be a further, unquantifiable cost incurred from implementing the required control measures.

There may also be a reputational cost to HSE from producing an ACoP. There is a view within the industry that the current regulatory framework is adequate for controlling the risk. That the number of visitors to open farms has risen steadily over recent years, but the number of cases of *E.coli* O157 traced back to open farms has remained largely constant is evidence for this. Introducing the ACoP might be seen as a knee-jerk reaction to an isolated incident, and damage the view of HSE as a “common sense” regulator.

ACoPs are also typically used when there are preferred, prescriptive measures that should be taken to reduce the risk. In the case of *E.coli* O157, the measures duty holders need to take depend on an assessment of the risks associated with the activities and the opportunities made available to members of the public at the venue. Irrespective, a high standard of personal hygiene (hand washing) following contact with potentially contaminated faecal material is effectively a default (backstop) control measure. This fact could increase the reputational cost as the ACoP is not seen as fit for purpose.

It may be considered that an ACoP for this issue may be disproportionate, and could be questioned by the Reducing Regulation Committee. ACoPs are considered in scope for the purposes of the One-In One-Out principle, so were the ACoP to be introduced an ‘out’ would need to be found.

Summary of Costs:

- Producing the ACoP: £27 thousand (one off)
- Familiarisation costs for existing open farms: £63 to £94 thousand (one off, total for 2000 farms)
- Additional familiarisation cost to new open farms: £7.91 to £23.45 per new open farm (number of farms not known)
- Costs to farms prompted to read the ACoP given its legal status: £31.26 to £46.89 per firm plus unquantified costs of compliance (number of farms not known)
- Potential reputational cost to HSE: unquantifiable.

Total cost of Option 1: £90 to £121 thousand (one off) plus additional unquantified costs.

Benefits

There is no basis for believing that the level of compliance with the control measures will be any higher for an ACoP than it currently is with guidance. Conversations with HSE experts confirm this, and we do not anticipate that duty holders’ actions will change following the introduction of the ACoP. Further, it is believed that there is already comparatively good compliance with the existing guidance, due to the fact that duty holders recognise the potential reputational damage of an outbreak of *E.coli* O157. It is in their interests to reduce the chance of this happening and this is more likely to be the case following than prior to the Godstone outbreak.

	<p>The fact that over the last ten years, the number of visitors at open farms has risen but the number of E.coli O157 cases has remained largely constant (showing a fall in the frequency of cases) would suggest that the current regulatory framework was adequate for controlling the risk of infection.</p> <p>Based on these two factors, we do not expect to see any significant health and safety benefits as a result of introduction of an ACoP.</p> <p>There may be benefits associated with greater public reassurance following the introduction of the ACoP and a reduced level of fear associated with visiting open farms. This reduction in fear is in itself a benefit, however it may lead to an increase in visitors to open farms, resulting in increased revenues and therefore profits for those operating them. This is not likely, however, as the publication would not be observed by a wider audience. This would result in limited scope for increased reassurance, as people simply do not know about the stricter health and safety regime. Moreover, there are other more effective mechanisms for raising public health awareness.</p> <p>Conclusion</p> <p>Due to the fact that option 2 has no tangible benefits, and costs of a minimum of between £90 thousand and £121 thousand, <i>option 1 is the preferred option.</i></p>
Consultation:	This approach has been discussed with HSE's Chief Economist and the Policy Capability Team.
Chief Economist's comments:	I am satisfied that the analysis of costs and benefits in this short impact assessment is robust and fit for purpose, and supports the choice of option 1.
Recommendation:	That based on proportionality, a full impact assessment is not produced.
Date:	January 2011

Signed:...Alan Spence..... **Date:** ...26 January 2011

HSE's Chief Economist

Annex 1

OUTBREAKS * OF *E.COLI* 0157 BY SUSPECTED SOURCE (UK 1992-2008)

SUSPECTED SOURCE	ENGLAND & WALES 1992-2008	MEAN No. OF CASES PER OUTBREAK (ENGLAND & WALES)	SCOTLAND 1996-2008	TOTAL
Food borne ¹	84	13.9	33	117
Waterborne ²	4	9.8	0	4
Animal to human ³	27	5.1	47	74
Contact with animals ³	58	9.0	15	73
Other ⁴	2	10.5	17	19
Unknown	20	6.4	0	20
TOTAL	195	10.3	112	307
Source: HPA Report of the Independent (Griffin) Investigation Committee (June 2010)				
Notes: ¹ Includes drinking water ² Excludes drinking water ³ Includes exposure to mud and slurry (England and Wales) ⁴ Includes contact with faeces, environment or contaminated water (Scotland)				

* Where an outbreak is defined by the HPA and Health Protection Scotland as two or more confirmed diagnoses