

## **Regulation of Raw Drinking Milk and Cream – The options**

### **The Options**

1. **Option 1:** that the retail sale of raw drinking milk and cream should be banned. This ban would include raw drinking milk produced from sheep, goats and buffaloes as well as from cows. **But it would not prohibit the supply of unpasteurised milk for food production, for instance for speciality cheeses.**
2. **Option 2:** that the retail sale of raw drinking milk and cream be allowed to continue under existing controls, but with an additional requirement that all bottles/containers carry a label with advice that unpasteurised milk should not be consumed by vulnerable groups. It is anticipated that such a label would read, *“Raw drinking milk and cream made with raw milk may contain organisms harmful to health. The Food Standards Agency strongly advises that children, pregnant women, the elderly and those who are currently unwell or have a chronic illness, should NOT consume raw milk or raw cream.”*
3. **Option 3:** that no changes be made to the current controls as detailed at paragraphs 11-12 of Annex A.
4. We have asked at various points in this Annex for specific information, which we hope will help to inform consideration of the issues.

### **Risks to health associated with unpasteurised milk.**

5. It has long been recognised that unpasteurised milk is a potentially high-risk product, because it cannot be guaranteed free of pathogens, even when produced under the best possible hygiene conditions.
6. A wide range of pathogens has been reported in milk. These include:

- *Campylobacter* – this organism may be present in milk because of faecal contamination, or because of active infection in the udder. The infection caused by this organism is often associated with severe stomach cramps and bloody diarrhoea.
- *Salmonella* – this organism may become present in milk by a number of different routes, but the most common cause is faecal contamination during milking. *Salmonella* infection (or salmonellosis) can be very serious, and in some cases fatal, particularly for the very young or the very old.
- *E coli O157* – this organism is widespread in cattle, and where it is present in milk, faecal contamination is the usual cause. *E coli O157* may be associated with uncomplicated diarrhoea, or with haemorrhagic colitis (bloody diarrhoea). In severe cases it can result in kidney failure, serious brain damage, or death.<sup>1</sup>

### **The prevalence of pathogens in unpasteurised milk**

7. Following the 1995 recommendation of the Advisory Committee on the Microbiological Safety of Food (ACMSF) that the Government should review policy in this area, two surveillance studies were commissioned. One was undertaken by ADAS on behalf of the Department of Health, and one was undertaken independently by the Public Health Laboratory Service (PHLS).
8. The ADAS survey was carried out over a period of one year. In total, 1674 samples were collected and tested between May 1995 and May 1996. 83 samples had undetectable or low levels of phosphatase, and could not therefore be considered to be raw milk<sup>2</sup>. The survey indicated that over 60% of the samples taken contained indicators of faecal contamination. In addition, 7% of samples contained *Staphylococcus aureus*, 2% contained *Listeria monocytogenes*, and one sample contained *Salmonella*. The

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<sup>1</sup> The outbreak of *E coli* in Lanarkshire in 1996 resulted in a number of fatalities, though the cause of the outbreak was cross contamination between raw and cooked meats, and not raw milk consumption.

ADAS survey did not detect *E.coli* O157 or *Campylobacter* in any of the samples, though it did point out that another study had detected *Campylobacter* in 6% of a total of 985 samples.

9. The PHLS survey was carried out from May 1996 to July 1997 and a total of 1205 raw milk samples were taken. In this study, 73 samples were found to have a negative phosphatase, indicating that they had received significant heat treatment. Of the remaining samples 43 (3.7%) contained various pathogens including *E.coli* O157 (3 samples), *Campylobacter* (21 samples), and *Salmonella* (5 samples).

### **The extent of food borne illness associated with raw milk**

10. There is little data specific to Wales on outbreaks of foodborne disease associated with the consumption of raw milk. Most of the information given below relates to England and Wales, or to England only. However, there are no known differences between the epidemiology of milk borne infections in Wales and the epidemiology of those in England.
11. At the time of the previous consultation in 1998, the Welsh Office was aware of only one recent relevant outbreak of food poisoning in Wales. This outbreak was caused by *Campylobacter* in 1994. This outbreak involved 23 cases among a school party on a farm visit who were given raw milk by the farmer.
12. Figures collated by the PHLS's Communicable Disease Surveillance Centre at Colindale show that for the period 1992-1999, there were a total of 25 outbreaks of Infectious Intestinal Disease in Wales and England associated with milk. In 12 of these outbreaks, raw milk was the vehicle of infection. These figures suggest that in almost half of all milk-associated outbreaks, raw milk is the vehicle of infection, despite the fact that in 1989, raw milk sales accounted for an estimated 2-3% of the total sales of milk,

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<sup>2</sup> Phosphatase is an enzyme that occurs naturally in milk, but is destroyed by heat treatment. Where phosphatase is undetectable, or detectable at a low level, the milk is likely to have been heat-treated.

and that this declined through the 1990s, to a point where current consumption of raw milk accounts for an estimated 0.01% of sales.

13. Campylobacter was the organism identified in 4 of the 12 outbreaks associated with raw milk, E.coli O157 in 3 outbreaks, and Salmonella in 5 outbreaks.
14. These figures represent only those outbreaks officially notified by a clinician or public health professional as foodborne, and as such will clearly under represent the overall incidence of foodborne illness due to raw drinking milk. The figures do not include sporadic cases of foodborne illness, nor do they include multiple cases within a single family, as these do not constitute a general outbreak. The Public Health Laboratory Service Communicable Disease Report of 7<sup>th</sup> March 1997 states that ‘Many dairy farmers, stockmen and their families continue to drink unpasteurised milk...It is likely that substantial numbers of sporadic cases and family outbreaks of gastroenteritis result from drinking unpasteurised milk.’<sup>3</sup>
15. Estimates of the likely scale of the under-reporting of Infectious Intestinal Disease (IID) vary widely. A report of the study of IID in England recently published by the Food Standards Agency suggests that for every case of IID detected by national laboratory reporting surveillance, another 135 go undetected in the community. This study did not however identify specifically food-borne IID, but addressed all IID.
16. The study also identified variations in the level of reporting according to the organism. Their studies suggested that for every case of Campylobacter reported to CDSC, another 7 go undetected in the community; for Salmonella, one in three cases is reported to CDSC.<sup>4</sup>
17. It does not appear to be possible to estimate with any certainty the actual level of IID in Wales associated with raw milk but there has been only one

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<sup>3</sup> CDR Review, volume 7, review number 3, 7 March 1997

<sup>4</sup> A Report of the Study of Infectious Intestinal Disease in England, pp127-132

recorded outbreak of IID associated with raw milk in Wales since 1992: the Campylobacter outbreak in March 1994, in which 23 people were affected. With IID as a whole, there may be many more cases of IID associated with raw milk occurring in the community than are reported and investigated.

### **Public health benefits of a ban on the retail sale of raw drinking milk and cream**

18. A ban on retail sale is likely to reduce further the consumption of raw drinking milk and cream. Any reduction in consumption may be expected to reduce the levels of IID associated with raw drinking milk. However, this is difficult to quantify. Had a ban on retail sale been in force in Wales since 1992, it might have only prevented one outbreak of IID associated with raw milk – the March 1994 Campylobacter outbreak.
19. It is thought that many farmers and their families consume raw drinking milk produced on their own farms. This consumption will continue, as any ban would be on the retail sale of raw milk, allowing supply other than in the course of a business to continue. Therefore, some of the unreported sporadic cases, and those affecting a number of family members may continue to occur.
20. Nonetheless, a ban on retail sale would help reduce the unreported cases of IID associated with raw milk that currently occur. In addition, a ban will also offer protection against any general outbreaks in the future. Though there have been no fatalities associated with raw milk consumption in England and Wales since 1986, the Lanarkshire E.coli 0157 outbreak in 1997 demonstrates the potential impact of such outbreaks of IID.
21. Sales of raw cows' drinking milk and raw cows' cream have been banned in Scotland since 1983. The ban followed epidemiological and microbiological evidence gathered in Scotland between 1970 and 1982 which showed that in that period some 3,500 consumers were affected in

50 outbreaks of milk borne Salmonella infection from raw milk. There were 12 fatalities among those affected.

22. In attempting to assess the potential public health benefits of a retail ban, a useful comparison can therefore be drawn between the data on foodborne disease outbreaks associated with raw milk in England and Wales, and the equivalent data for Scotland for the period 1980-1996.

23. The figures show that there remains in Scotland a low background level of outbreaks since their ban was introduced. However, the number of cases affected per outbreak has declined significantly. In 1982, before the Scottish ban, there were 18 outbreaks of food borne disease associated with raw milk in England and Wales, affecting a total of 612 people. This gives an average figure of 38.5 cases per outbreak. In Scotland there were 14 outbreaks affecting a total of 539 people, giving an average figure of 34 cases per outbreak.

24. However, in 1987 there were 9 outbreaks of food borne disease associated with raw milk in England and Wales affecting a total of 366 people (giving an average of 40.6 cases per outbreak). In Scotland there were 5 outbreaks associated with raw milk but only 30 people in total were affected, giving an average of only 6 cases per outbreak. In 1992 there was only one reported outbreak in England and Wales, in which 72 people were affected; in Scotland there were two outbreaks, but only 6 people in total were affected.<sup>5</sup>

25. These figures suggest that restricting the supply of raw milk by means of a retail ban would reduce the levels of food-borne disease associated with raw milk.

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<sup>5</sup> Confirmed cases to CDSC

## 26. Labelling of raw milk

27. Following the previous consultation in 1997, the Government announced that it would not introduce a ban on the sale of raw drinking milk, but that it did intend to introduce stricter labelling requirements. Raw drinking milk must already carry a label warning of the risks associated with consumption, but this does not specifically advise against consumption. The proposed new labelling rules would have required raw drinking milk to carry a stronger warning, based on the advice of the Chief Medical Officer that vulnerable groups should not consume raw drinking milk, these being the groups most at risk. These new labelling rules have to date not been introduced in England and Wales.

28. Introducing a stricter labelling requirement may have little or no impact on the volume of raw drinking milk consumed in Wales because the controls on supply will not change. Consumers will continue to choose whether or not to consume raw drinking milk. But the new labelling requirement may enhance consumer awareness of the advice that certain vulnerable groups should not consume raw milk. **Views and comments are requested what the likely impact of introduction of the stronger warning on labelling would be. Views and comments are also requested on whether, if the sale of raw milk were to continue, current labelling rules are adequate, or whether raw milk should be required to carry the stronger warning to vulnerable groups.**

### Impact on consumers

29. The market for raw drinking milk is very small, so most people would be unaffected by any change to controls. Nonetheless, a ban on the retail sale of raw drinking milk will clearly affect those who currently consume raw milk, and may drive sales underground where they would not be subject to the current range of public health protection controls. Those who currently choose to consume unpasteurised milk have in the past argued strongly that they should be allowed to continue to do so. Raw milk

consumers also argue that sales of raw milk are already restricted (it can only be bought direct from the farmer, or from a roundsman), and that it is already required to carry a label indicating the potential dangers (see Annex A paragraph 11). So a ban on the sale of raw milk may increase consumer protection, but it will also reduce consumer choice. Conversely, labelling allows consumers to make an informed choice about whether to consume raw milk, but may have less consumer protection benefits than a ban.

30. Some raw milk producers are caterers, who may serve raw milk to their customers (guests at a bed and breakfast establishment for instance). The current Food Labelling Regulations require raw cows' sheep milk and goats milk which is not prepacked or is sold at a catering establishment to have the health warning either 'attached to the container in which the milk is sold' or 'on a ticket or notice that is readily discernible by an intending purchaser where he chooses that milk'. Customers of such catering establishments should therefore be aware of whether or not the milk they consume is unpasteurised.
- 31. Views and comments are requested on whether, because of the risks to health, the retail sale of raw milk and cream should be banned, or whether consumers should be allowed to continue to choose whether or not to consume raw milk and cream.**

### **The market for raw drinking milk and cream**

32. The sale of raw cows' drinking milk represents a very small part of the overall consumption of drinking milk in Wales. The number of registered producers of raw cows' drinking milk in Wales and England has fallen from around 570 in 1997, to about 350. The volume of sales of raw cows' drinking milk is not known. However, the Dairy Hygiene Inspectorate (DHI) estimates that sales of raw cows' drinking milk account for about 0.01% of the total sales of drinking milk, which if accurate equates to an average of about 150 pints per producer per week. This represents a significant fall

over the last decade; in 1989, raw cows' milk is estimated to have accounted for as much as 2-3% of total drinking milk sales.

33. In Wales, there are just under 3,500 milk producers in total, of which only 25 are registered producers of raw cows' milk. Herd size varies from 150 or more, to one producer with a single cow. The average herd size is around 70. As noted at paragraph 27, the volume of sales of raw milk in Wales is not known. However, it is believed that for most of these producers, raw milk represents only a small part of their overall business. **Views or information on this point would be welcomed.**

34. The Dairy Hygiene Inspectorate estimates that there are about 40 sellers of raw cows' cream in England and Wales, but the volume of sales is unknown. There are no known sales of cream made from raw sheep, goats' or buffaloes' milk. **Views or information on the volume of sales of raw cream would be welcomed.**

#### **Value of the market**

35. The figures at paragraph 29 are speculative – the figures for raw milk sales as a percentage of total drinking milk sales is a DHI estimate, and it is on this estimate that an average figure of 150 bottles per producer per week has been based. Moreover, there will clearly be considerable fluctuation between individual producers.

36. Of the 25 producers of raw drinking milk in Wales, 9 are caterers. These tend to be the small-scale producers. The DHI have suggested as an estimate that caterers might each produce on average 20 pints of raw drinking milk per week. The remaining 16 producers in Wales are retailers, and these are likely to produce more, perhaps averaging up to 50 pints per day or more. **Figures from raw cows' drinking milk producers of their average weekly production are requested.**

37. There is no information on the production of raw drinking milk from sheep, goats or buffaloes. **Figures from such producers are requested, along with information and views on how important to their business the retail sale of raw milk is.**

**Possible impact on raw milk producers of a change to the current controls**

38. As indicated above, there is little or no data about the volume of production of raw drinking milk or raw cream. It is therefore difficult to estimate the likely cost to business of a ban on the retail sale of raw milk. Similarly, it is not possible to estimate what the likely impact of stricter labelling on the levels of sale of raw drinking milk and cream might be, although a stricter labelling requirement is likely to increase to some degree the costs to producers involved in selling raw drinking milk. **Information and views are invited on the relative importance of raw milk sales to the overall business of producers, on the impact of the viability of raw milk producers of a ban, and on the likely costs of the additional labelling requirement.**

**Summary of options**

39. The table below summarises some of the possible benefits of each of the options, against potential drawbacks and costs. Comments on the table are welcomed: the Food Standards Agency intends to produce a more comprehensive cost-benefit analysis when it submits its policy proposals to the National Assembly.

| Option   | Possible Benefits/<br>Advantages  | Limitations/<br>Drawbacks  |
|--|---|--|
| <b>That the retail sale of raw drinking milk and cream be banned</b> | Would reduce consumption of potentially harmful product especially by vulnerable groups | Impact on small businesses – loss of turnover. Some businesses may cease to be viable  |
|  | Reduces likelihood of general outbreaks of IID associated with raw milk in future.      | Has only been one reported general outbreak of IID associated with raw milk in Wales since 1992  |
|  |   | Loss of a ‘niche’ product  |
|  |   | Would not prevent consumption by farmers, their families (i.e. where no ‘sale’ takes place)  |
|  |   | May result in traditional local sales (i.e. to friends and neighbours) being pushed underground. Those who continue to buy raw milk illegally might be at increased risk, because milk consumed will not have been subject to microbiological sampling |
|  |   | Does not allow consumers of raw milk to make informed choice about risk  |
|  |   | Costs of introducing new legislation   |

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|--|---|---|
| <b>That raw drinking milk be required to carry the CMO advice to vulnerable groups</b> | Allows customers to make an informed choice about whether to consume raw milk   | Limited public health benefits – will not prevent anyone consuming raw milk         |
|  | May reduce incidence of food-borne illness amongst vulnerable groups, where effects of such illness will be most severe | Some cost to producers in implementing new labelling requirement                    |
| <b>That the current controls are maintained</b>  | No costs to producers   | No increase in public health protection, no reduction in food-borne illness         |
|  | Small market – few consumers would be directly affected by any change to current controls                               | Will not require advice to vulnerable groups on labelling                           |
|  | No need for new legislation, or new enforcement controls  | Continuing low risk of serious general outbreak of food borne disease in the future |