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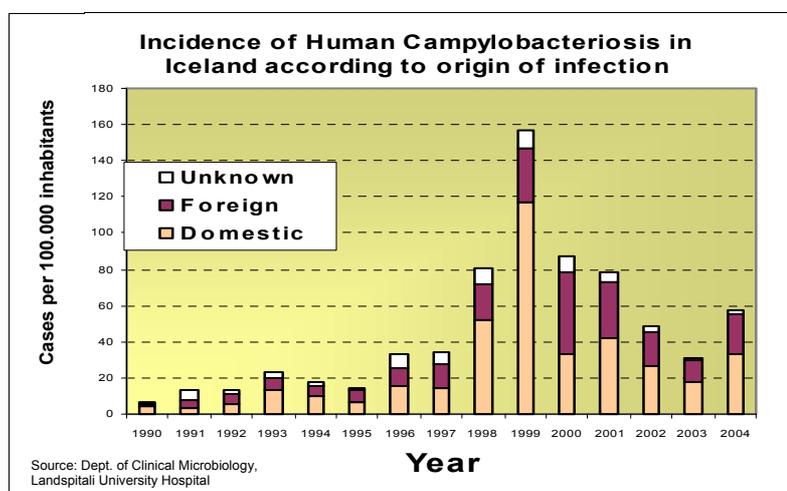
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CAMPYLOBACTERIOSIS IN ICELAND

In the years 1998 to 1999 there was an epidemic of campylobacteriosis in Iceland that could be traced to the sale of raw chicken products. The sale of unfrozen poultry was first allowed in the country towards the close of 1995 but sales were negligible until a few years later. As soon as the origin of the epidemic had been identified, measures were taken, such as making additional demands regarding chicken-farm hygiene and the establishment of a systematic surveillance of *Campylobacter* contamination in chicken.

remained more or less stable and the number of cases of domestic origin has remained small since the year 2000. The number of infections that can be traced to a foreign origin, on the other hand, has changed very little from one year to another.

Some obvious seasonal fluctuations have been observed in the incidence of *Campylobacter* infections in humans, with a higher level of incidence in late summer. These fluctuations are also reflected in the number of contaminated chickens. In spite



Samples were taken from chickens shortly before and after slaughtering to examine whether or not they were contaminated with *Campylobacter*. The practice of deep-freezing all contaminated chickens before marketing was adopted, since this greatly reduces the risk of infection from contaminated poultry. At the same time, education on the proper handling of raw poultry in the kitchen was directed at the general public.

As a result of these measures the number of campylobacteriosis cases of domestic origin was significantly reduced. The surveillance of *Campylobacter* contamination in chickens reveals that it has

of rigorous control the possibility of contaminated unfrozen chicken finding its way to the market cannot be dismissed. There is, therefore, every reason to observe strict hygiene in handling raw poultry in order to prevent cross-contamination with other foods. Eating undercooked chicken should also

be avoided. In 2005, only sporadic cases of campylobacteriosis have been identified in humans, and it is vitally important to constrain infections during the summer months.

It should also be kept in mind that people can get infected through sources other than contaminated chicken. One known source is water wells contaminated with surface water that may spread campylobacter and other pathogens to humans. This happens chiefly in summer when people are staying in summer houses where the water is not completely safe from such contamination. Boiling contaminated consumer water prevents infection.

NOROVIRUS INFECTIONS IN THE SUMMERTIME

A common route of infection is contaminated food and water.

It is vitally important to ensure a safe and careful installation of water wells and sewage systems.

Thorough handwashing and hygiene are always essential and the most effective means of preventing transmission.

In recent years outbreaks caused by norovirus infections have been increasing considerably in Iceland, particularly during the summer months. New cases of norovirus infection can be expected to occur in the coming months.

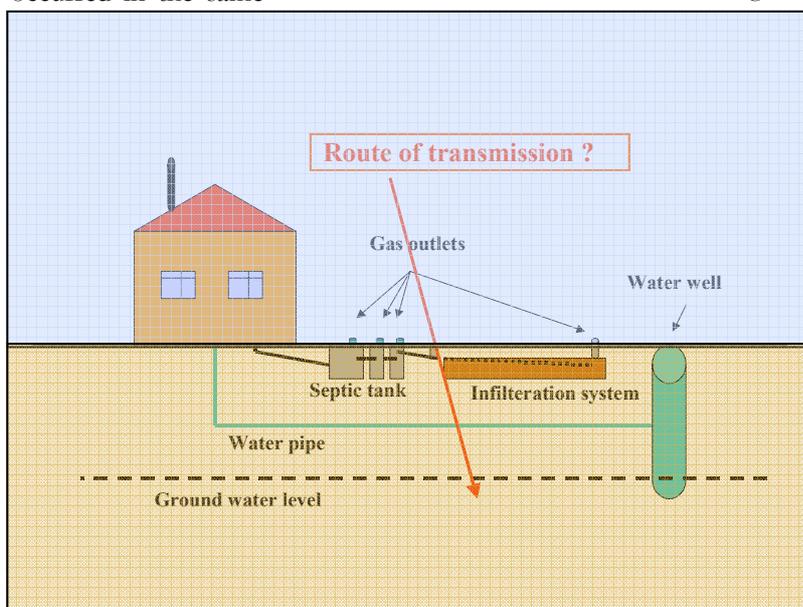
The travel industry has been affected by these infections as outbreaks have been associated with restaurants and hotels. In 2001, at least 117 people were infected in a hotel in the Northeast of Iceland. Another outbreak of infection occurred in the same hotel in late summer of 2004, when 100 people became ill. An investigation following that outbreak revealed that the source of the infection was the hotel's drinking water which had become contaminated, probably from a septic tank (see figure). Measures were taken to prevent further transmission.

Neither have popular tourist and summer house resorts been spared. During Whitsun last year at least 150 people (out of ca. 2000) visiting a popular tourist resort in the West of Iceland fell ill. Efforts to detect the source of transmission were unsuccessful but there were hopes that repairs of the water system would prevent further outbreaks. Smaller outbreaks associated with fishing huts and summer houses have also occurred in different parts of the country. It is vitally important to ensure a safe and careful installation of water wells and sewage systems.

Norovirus infections have been a great problem aboard cruise liners sailing to

Iceland on their route. Norovirus infections have also caused outbreaks in residential homes for the elderly and nursing home in various parts of the country in recent years. Infections in such institutions can prove very serious for residents, patients and staff and it is important to observe strict hygiene since the disease is extremely contagious. There have been cases of transmission by means of aerosolisation of vomit from patients.

The most common symptoms of norovirus infection are diarrhea and/or vomiting that



can be accompanied by abdominal pains, myalgia, headache and sometimes mild fever. Otherwise healthy people usually recover from the infection within one to three days without any treatment.

There are a number of routes of transmission. Among the most common ones are contaminated food and water. Another common route is food contamination caused by an infected individual as well as direct person-to-person transmission. Those infected with norovirus disease should not cook or serve food to others. Thorough handwashing and hygiene are always essential and the most effective means of preventing transmission.