

The Ongoing Public Health Hazard of Consuming Raw Milk


The role of raw milk and other unpasteurized dairy products in the transmission of infectious diseases is well documented. Raw milk was recognized as a source of severe infections over 100 years ago, and pasteurization of milk to prevent these infections is one of the public health triumphs of the 20th century. Human pathogens such as *Escherichia coli* O157, *Campylobacter jejuni*, and *Salmonella* bacteria can contaminate milk during the milking process because they are shed in the feces of healthy-looking dairy animals, including cows and goats. Infection with these pathogens can cause severe, long-term consequences, such as hemolytic uremic syndrome, which can result in kidney failure, and Guillain-Barré syndrome, which can result in paralysis. These infections are particularly serious in those who are very young, very old, or who have impaired immune systems. They can even be fatal.

Pasteurization

Adherence to good hygienic practices during milking can reduce, but not eliminate, the risk of milk contamination. Pasteurization (the process of heating milk to a high enough temperature for a long enough time to kill disease-causing bacteria), is the only way to ensure that milk products do not contain harmful bacteria. In order to be pasteurized, milk is legally required to meet the [Grade A standard](#) for cleanliness. Routine pasteurization of milk began in the 1920s and became widespread in the United States by 1950 as a means to reduce contamination and resulting illness. This led to dramatic reductions in diseases previously associated with milk. Many public health experts consider pasteurization to be one of public health's most effective food safety interventions. Pasteurization is recommended for all animal milk consumed by humans by the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration (FDA), the American Academy of Pediatrics, the American Academy of Family Practitioners, the American Veterinary Medical Association, the National Association of State Public Health Veterinarians, and many other medical and scientific organizations.

Regulation of the Sale of Raw Milk

In 1987, the FDA prohibited the distribution of raw milk over state lines for direct sale to consumers. Despite the federal ban on sale of raw milk across state lines and broad use of pasteurization by the dairy industry, human illness and outbreaks associated with consumption of unpasteurized products continue to occur. Raw milk is still available for sale in many states, and CDC data shows that the rate of raw milk-associated outbreaks is higher in states in which the sale of raw milk is legal than in states where sale of raw milk is illegal.



Reporting of Outbreaks

As of April 11, 2010, from 1998 to 2008, the CDC National Outbreak Reporting System received reports of 86 outbreaks of infections due to consumption of raw milk or raw milk products, resulting in 1,676 illnesses, 191 hospitalizations, and 2 deaths; most of these were caused by *Escherichia coli* O157, *Campylobacter jejuni*, or *Salmonella* bacteria. The reported outbreaks represent only the tip of the iceberg. For every outbreak and every illness that is reported, many others occur that are not reported. Beyond the outbreaks, raw milk causes sporadic individual cases of illness as well. Because not all cases of foodborne illness are recognized and reported, the actual number of illnesses associated with raw milk and raw milk products is likely greater. It is important to note that a substantial proportion of the raw milk-associated disease burden falls on children; among the 86 outbreaks caused by raw dairy products from 1998 to 2008, 79% involved at least one person less than 20 years old.

To protect the health of the public, state regulators should continue to support pasteurization and consider further restricting or prohibiting the sale and distribution of raw milk and other unpasteurized dairy products in their states.

CDC has a recently updated [raw milk website](#) that contains useful information and materials, including a list of relevant publications and other scientific resources on illnesses associated with raw milk consumption. This information can be shared with persons involved in foodborne outbreak investigations and the regulation of unpasteurized dairy products.