

Raw Milk Informational Session
Senate Committee on Agriculture & Rural Affairs
September 18, 2007

Good morning, Chairman Brubaker, and members of the Committee. I am Michael Huff, Deputy Secretary for Health Planning and Assessment with the Pennsylvania Department of Health. As the Department's lead on matters related to emerging and re-emerging infectious diseases, Secretary of Health Calvin Johnson has asked me to address the important issue of raw milk. With me today is Dr. Stephen Ostroff, the Department's Director of Epidemiology. Thank you for this opportunity to discuss this important issue.

The Department appreciates the opportunity to take part in this timely informational meeting related to raw milk production in Pennsylvania. This topic is of great interest to the Pennsylvania Department of Health, due to the perceived growing consumer demand for this product, the rapidly increasing number of permits for raw milk sale and distribution being issued by the Department of Agriculture, as well as the likelihood of an increasing number of human illnesses that will inevitably result from these trends.

Raw milk has long been known by public health authorities to be an inherently unsafe product. Before widespread adoption of pasteurization across the United States, contaminated milk was one of the most common causes of food-borne illness. In 1938, it was estimated that 25% of all food and waterborne outbreaks were associated with milk.

Now, with pasteurization used for almost all milk, it is estimated that less than 1% of outbreaks are milk-related. And among those milk-related outbreaks that occur today, almost all are due to consumption of raw milk or raw-milk derived products.

Between 1998 and 2005, a total of 45 such outbreaks related to raw milk itself or cheese derived from un-pasteurized milk were reported to the Centers for Disease Control and Prevention (CDC) from across the country. These outbreaks accounted for 1,007 illnesses, 104 hospitalizations, and two deaths. The number of reported outbreaks and illnesses is most likely an underestimate, since not all ill persons seek medical care, receive appropriate tests to confirm the diagnosis, are reported to health authorities, willingly disclose their consumption of these products when interviewed, or can be linked to a specific food source. Therefore, the degree of underestimation of the public health burden of raw milk is not known. But as just one example, for every reported case of salmonellosis in this country, approximately 30 others go undiagnosed or unreported. The numbers are likely to be similar for other food-borne pathogens associated with raw milk.

Pathogens that infect humans, including *Salmonella*, *Campylobacter*, *E. coli O157:H7*, and *Listeria* are shed in the feces of cows. As a result, these pathogens may be present in, or on, the udder, and can easily contaminate milk during the milking process. Infection with these pathogens can cause serious illness in humans, including severe diarrhea, bloodstream infections, meningitis, kidney failure, and death.

Standard hygiene practices during milking can reduce but not eliminate the risk of milk contamination. In a recent survey of Pennsylvania dairy farms published in a scientific journal in 2006, one or more species of pathogenic bacteria, including *Salmonella*, were isolated from 13% of bulk tank raw milk samples.

Pasteurization dramatically decreases the number of pathogenic organisms present in milk, prevents transmission of pathogens, and does not appreciably alter the nutritional content of the product. Pasteurization has been determined to improve the safety of milk more than all

other measures, including certification of raw milk. Unfortunately, repeated outbreaks have demonstrated that even raw milk collected using stringent hygiene methods might be contaminated with pathogens. Even when there is governmental regulation and oversight of raw milk production, such as in Pennsylvania, consumers should never assume that certified raw milk is pathogen-free or incapable of causing illness.

Our recent experience with a certified raw milk producer in York County demonstrates the problems we are currently encountering with the raw milk industry in the state. In February of this year, the Department of Health recognized that several people in south-central Pennsylvania with a rare subtype of *Salmonella Typhimurium* had consumed raw milk from one specific dairy. The Pennsylvania Department of Agriculture directed the dairy to cease the sale of raw milk immediately. The dairy defied the Department's orders, and, as a result, the outbreak stretched out in three separate phases into July.

Ultimately, we found 29 Pennsylvania residents ill with the same rare *Salmonella* strain. There were also cases among Virginia residents who had visited south central Pennsylvania, and a single case in a young child who had become ill in August of 2006, six months before the outbreak began in February. Of the 29 ill PA residents, at least 20 drank raw milk or ate soft cheese made from raw milk from the York county dairy. Others were infants living in households that bought the raw milk or relatives of raw milk consumers.

In most cases, the investigation led back to that same dairy in York County. It is noteworthy that during the investigation, on multiple occasions further testing found the identical strain of *Salmonella* bacteria in raw milk from the dairy. Moreover, testing repeatedly also found *Listeria* and *Campylobacter* in the same raw milk, and on several occasions all three

pathogens were present in the same specimen. One of the ill individuals in this outbreak also was found to have *Campylobacter* in his stool.

It is important to note that 16 ill persons in this outbreak were children less than 7 years of age. Children, the elderly, and persons whose immune systems are compromised are especially at risk of illness when exposed to *Salmonella*, and are more likely to have serious illness and complications than other individuals. Since children often do not have a choice regarding what foods they consume, parents should be educated about the particular risks to their children related to the consumption of raw milk.

As in raw milk outbreaks that have occurred elsewhere, *queso fresco* (Mexican-style soft cheese) was produced from the dairy's raw milk and illegally sold in a York County store. These cheeses are often sold to primarily Spanish-speaking communities that may not receive notification of outbreaks through standard media outlets. Sale and distribution of soft cheeses and other products such as yogurt made from raw milk are illegal in Pennsylvania and all other states, and with good reason. Federal and Pennsylvania State laws uniformly do not permit sale of soft cheeses, yogurts, and similar products made from raw milk. The reason is that the more raw dairy products are handled and processed, the greater the possibility is for bacteria to be introduced. Also, the longer processing time and shelf life of products like yogurt, butter and soft cheese allow harmful bacteria to multiply to significantly higher levels and raise the risk of associated disease. As a result, we are not in favor of expanding current regulations regarding raw milk to allow sale and distribution of these other products.

We say this while recognizing that although soft cheese such as raw-milk derived *queso fresco* is a well-documented source of human disease, we are not aware of recent specific reports of illness arising from yogurt and similar raw milk products. However, the absence of such

reports should not be taken as evidence of their safety. Rather, since the sale of these products has long been illegal even in places which allow sale of raw milk, it is difficult for health departments to document such occurrences due to lack of reporting or cooperation by dairies and ill persons.

Some consumers believe that raw milk has potential benefits. However, the validity of any health or nutritional benefits from consuming raw milk has not been scientifically proven. The U.S. Food and Drug Administration has reviewed these claims and states that they are not substantiated by the literature currently available. It is the position of the Department of Health that any perceived benefits of drinking raw milk are far outweighed by the documented risks.

In Pennsylvania, the number of dairies with state-issued permits to sell raw milk has increased dramatically from 42 in 2005 to as many as 74 in 2007. In 2006 through this date in 2007, four small episodes of illness due to *Campylobacter* were investigated by the Department of Health and we concluded there was a likely association with raw-milk dairies in the Commonwealth. In several of these instances, our conclusions were limited by a lack of cooperation by ill persons who would not tell our investigators the source of the raw milk in their households. Unfortunately, the lack of cooperation in these situations has the potential to lead to additional illnesses from the same source. In addition to these episodes, the Department of Agriculture has announced a number of raw milk recalls due to finding human pathogens such as *Listeria* or *Campylobacter* in the milk.

We believe that more needs to be done to inform the public about the health risks associated with raw milk. It is an inherently unsafe product. Consumers who wish to reduce their risk of food-borne illnesses should refrain from consumption of raw milk, especially since

pasteurized milk is a readily available, safer alternative. Moreover, the Department of Health opposes any extension of permitted raw milk sales to products such as soft cheeses or yogurt.

On behalf of Secretary Johnson, thank you for inviting the Department to present this testimony. Dr. Ostroff and I would be happy to answer your questions.