Testimony Vermont S-70

Before House Agriculture and Forest Products Committee

SUMMAY ORAL STATEMENT

April 15, 2014

Chair Partridge and members of the House Agriculture and Forest Products Committee. I am Dr. Ted Beals and I am please you have enabled me to speak from Michigan in support of S70. I am a retired pathologist with 30 plus years as an academic scientist, medical school faculty at the University of Michigan, and 8 years of experience in the Senior Executive Service of the Veterans Health Administration in Washington DC, overseeing the professional quality of diagnostic services in the country's VA Medical Centers. Since retirement, as a consumer of milk in the fresh and unprocessed form, I have focused my research on dairy safety and working to inform the public and officials with scientific facts about this quality food. I also benefit from having spent 6 years in face to face meetings of the Michigan Fresh Unprocessed Whole Milk Workgroup which charged invited participants from the dairy industry, academia, public health, producers of fresh milk, and consumers to make a recommendation to our Michigan Department of Agriculture and Rural Development on how to make this distinct dairy product available to those in our state who want it.

I repeat, I do drink fresh unprocessed milk, as a personal and professional choice. I travel a long way to get that milk, and pay adequately for the quality I receive.

I want address my professional and scientific comments about the recommendations included in the Rural Vermont 2014 Raw Milk Report and specifically to S 70. However, much of the testimony before you has focused on the advice that people should not even be allowed to consume raw milk (what I refer to as fresh unprocessed milk). They argue that the risk of allowing raw milk consumption is just too great. When pasteurization became the diary industry's standard for prolonging self-life of this perishable product, the aggressive campaign was predicated on the concept that milk was inherently dangerous and it was necessary to pasteurize it in order to make it safe. And now more than a hundred years later, as an increasing number of families want to know who is producing their food, and making choices based on quality, the old campaign tactics have resumed. These campaigns are based on speculation aimed to frighten. **So it is apparently important that as a scientist, physician, and public health advocate, I avoid speculation and stick to the settled scientific facts!**

For additional reference and more in-depth scientific information, the REPORT of the Michigan Fresh Unprocessed Whole Milk Workgroup (a 90 page consensus summary of the workgroup's thorough discussion of a whole range of questions and topics about this dairy product) could be helpful to you.

Some Critical Observations:

1). The dairy product which I refer to as "fresh unprocessed milk" is a distinctly different product that is produced under different farming practices. The regulatory controls that apply specifically to these different products must be considered separately. Your current legislation does this, and the amendments/recommendations clearly take this distinction into consideration. Opponents inappropriately use the term "raw milk" to refer to both: milk that has been produced for pasteurization and additional processing, and for fresh milk that has been produced and regulated with the specific intent that it will be consumed by families without any processing.

I will mention a few of the distinctions between these two types of raw milk:

- **Fresh milk** is delivered to the consumer just as it comes from the teat of the cow.
  Pre-pasteurized milk *is produced with the assurance that it will be pasteurized before being consumed.*

- The prevalence of the short list of pathogens of current public health concern, is extremely low in **fresh milk.**
  The testing of ***pre-pasteurized milk*** *has repeatedly documented (and presented to you in testimony) that this milk frequently contains one or more of these pathogens.*

- **Fresh milk** is produced specifically for consumers that want quality milk and are willing to pay a premium for that quality.
  Pre-pasteurized milk *is produced to maximize yield and minimize costs because that is what their consumer (the dairy industry) pays for.*

- When **fresh milk** exceeds its "shelf-life" it clabbers (a natural and healthy change). Some of the consumers of fresh milk deliberated allow this change to happen by taking their milk out of the refrigerator, because they like the changed texture and altered nutrition.
  When ***processed milk*** *exceeds its shelf-life it "spoils"(a degenerative process affecting the quality of the product and making it smell, taste, and look bad; making it unmarketable).* Note: drinking either types of milk that has undergone these changes will NOT cause a person to become sick! Personal note: we obtain our fresh milk weekly and have not had any problems with keep milk for 10 days to two weeks. And we have, over the years obtained out milk from 5 very different farms, so this is not something unique. Many families that are drinking fresh milk must travel considerable distances to obtain their milk, because the dairies are far apart, and in many cases it is required or desirable to pick-up at the farm. So the norm is to pick up once a week or more. Speculation that the shelf life of fresh milk MUST be only days is a good example of failure to understand the real world out here.

- An increasing number of thoughtful consumers (now more than 10 million and increasing rapidly) want their milk **fresh, unprocessed**, and from dairy farmers that they know personally and trust to be producing a quality food.
  The number of consumers of ***commercial milk*** *is dropping as alternative beverages become aggressively marketed.*

- The dairy farmers affected by this legislation are providing their **fresh milk** to people that they know and who trust them as their personal farmer.
  The dairy farmers producing ***pre-pasteurized milk*** *are selling to an industry and have essential no direct reminder of the effect of their product on the public.*

- There are normally many bacteria in **fresh milk** (and that is desirable because many originate in and on the teats of the cows where the mix of colonized bacteria select for those that digest milk, and these are subsequently important in our digestive tracts.
  It is important that ***Pre-pasteurized milk*** *contain few bacteria (low counts) because high counts interfere with the pasteurization process and contribute to a shortened shelf life for pasteurized and homogenized milk that is produced.*

Let me briefly talk professionally and scientifically about some of the comments on risks emphasized by those who have testified that raw milk is too risky to be consumed.

Much of the anti-raw milk testimony argues that the presence of ANY bacteria is a public health risk. The days of germophobia are hopefully passing away. We now know that microorganisms are all around us, all of the time, and our actual welfare is dependent on our symbiotic relationship with these organisms. The human microbiome is become recognized beyond the scientific world. Many bacteria in our food are essential for proper digestion to maximize the nutrition in the food. We are shifting to an appreciation that insisting that our food be free of bacteria is bad public policy.

No food is absolutely safe. It is not possible to legislation absolute safety of anything, including food. Many expert foodborne-illness-review panels have concluded that fresh milk is not even among the foods with the highest risk (and milk is arguably the most consistently consumed food). There are instances in which epidemiological investigations have concluded that milk was the most likely vehicle or transmission of infectious diarrhea. Many of these have been instances when pre-pasteurized milk was given to people by well-meaning dairy farmers. In the material submitted by Dr. Berl the cases she cites from Vermont are examples of this unpermitted use. (These are not outbreaks from fresh milk as being considered in this legislation). There are some incidents which have implicated fresh milk as the vehicle for spread. And equally important, some have resulted from drinking milk that was pasteurized. Depending on who is counting, between 50 and 150 infectious gastroenteritis cases are attributed to consuming raw milk on an annual average. That is among 10 million people who are nearly all consuming this milk on a daily basis. Remember, the CDC has published information that estimates that one out of every six of us in the USA will have some for of foodborne illness each year.

It is possible that in extremely rare situations, very serious complications of infectious gastroenteritis can develop. The occurrence of these complications are not any different when the primary illness is attributed to fresh milk as when the infections are from some other sources. As a physician I am very concerned about any such serious complication. When information about such rare instances are presented in testimony, the emotional impact is very real. But as an advisor for public health policy, it is important to recognize that it is not possible to legislate or regulate to make it so there will be NONE of these tragic complications. There are far more instances of these tragic cases attributed to other foods, and even when the diseases are not attributed to food consumption.

In the last 15 years that I have rigorously cataloged dairy foodborne illnesses attributed to drinking fluid milk in this country, the ONLY deaths were two resulting from consuming Grade A pasteurized milk. None from fresh milk intended for consumption unprocessed

As part of the reiteration of the risks of raw milk, opponents say that any contaminants will quickly multiply and become a health problem. This is not scientifically accurate. The alarming rates of bacteria growth given, are growth under laboratory conditions in special media designed to promote growth, at 97°F and without any competitive microorganism. In the real world we are considering, fresh milk not only does not promote growth of the pathogens of concern, tests published (and unchallenged) by acknowledged dairy scientists, have established that even if you place unbelievable high concentrations of the virulent pathogens into fresh milk at refrigerated temperatures **they do not even survive**. Within hours the numbers drop at log-rhythmic rates.

So the scientific reality is that although contamination of milk is obviously possible, the amount of contamination to cause an infectious dose in a glass of fresh milk is measured in grams/glass, and in a large container of fresh milk it takes a lot, not drops. **And the ultimate reality-check is that if all the emphasis on the risk of raw milk due to all the pathogens and the rapid growth of pathogens in milk, and the other speculations were true, it would be impossible to hide the resulting huge number of outbreaks from the 10 million people currently drinking this supposedly highly risky milk almost every day.**

I have heard that the committee was interested in illness in New Hampshire and Vermont. This data is available on line from the CDC that includes ALL reports of foodborne illnesses in the USA.

In New Hampshire total foodborne illnesses for 1998-2011; total of 7,582 illnesses, 1,034 hospitalizations and 14 deaths. There are no outbreaks or illnesses attributed to milk.

For Vermont: 5,342 illnesses (1998-2011) with 875 hospitalizations and 16 deaths. No illnesses attributed to fresh milk produced for consumption unprocessed. There were 3 outbreaks with 23 illnesses 3 hospitalizations and no deaths but all 3 were from pre-pasteurized milk bulk tanks, served incidentally by well-meaning dairy farmers to visitors not customers.

Another myth is that the currently growing number of consumers who are seeking their milk fresh, from farmers they know and trust, are not aware of the risks. The truth is that they are very well aware that there are risks, just like with the consumption of any food. They do not believe that the risks outweigh the benefits. And this is a typical consumer reaction to reality. We just went through several highly publicized devastating national outbreaks with hundreds of people sick, and many dying. People certainly knew about this, but quickly returned to consuming lettuce, peanuts and cantaloupes, not because they were poorly informed, but because they balanced the risks.

There is a lot made of reports that children make up a majority of the illnesses attributed to raw milk. It is common for reports of raw milk incidents to list the number of ill children. It is hardly ever documented how many of the consumers were children. In one incident that I investigated thoroughly, the rate of illnesses by age, matched the age of the consumers. And if you look at reports from other foods that are reported as vehicles for infectious gastroenteritis, they nearly all show a predominance of children that become ill. There is nothing different about milk.

You have heard repeatedly that there are no scientifically proven benefits of drinking fresh milk. To cite only one of the most recent examples, overlooked by these opponents, is the documented protective effect on asthma and childhood allergies from milk that has not been heated, This is current, settled-science, from published studies conducted by large teams of scientists and physicians in several European countries, involving thousands of children. Such studies are possible in Europe because it is common for children to have a choice of fresh milk or commercial pasteurized milk. Even in their schools. The studies have been repeated, more clearly establishing the documented protective effect. And these extensive studies are ongoing; currently trying to determine if there are any genetic factors involved, and which specific components of fresh milk are responsible for the protection.

I wish to include some professional comments about the specific recommendations that have been presented to the committee to improve the existing law. The primarily concern is the distribution of consumer's milk at Farmers Markets. And reasonable testing requirements.

1. It is unquestionably **important that milk maintain a cold chain** throughout the distribution system. This would be adequately controlled by maintaining the consumer's containers in a bath of ice water. The

presence of ice in the bath is a more reliable indicator that the temperature has been maintained than seeing a refrigerator. The consumer, who in my judgment has a shared responsibility to maintain the quality of the fresh milk that they are obtaining all the way to the family table, can see for themselves that their milk is in an ice bath. Scientifically the advantage of an ice bath is that you do not need a thermometer. I always transport my fresh milk in a cooler with ice.

2. **Consumer education is very important**. I have the pleasure of being married to Peggy Beals the author of a widely used booklet for consumers on maintaining their milk quality titled Safe Handling – Consumers' Guide, Preserving the Quality of Fresh, Unprocessed Whole Milk. This booklet, in its fourth edition, is being distributed by fresh milk producers across North America to their consumers emphasizing the shared responsibility of the farmer and the consumers.
3. **Concerning the testing for bovine tuberculosis and brucellosis in the dairy herds**. There is no scientific, public health, or animal health benefit to requiring repeat annual testing for these two diseases in states that are Accredited Free of the diseases. Once tested to demonstrate absence of disease exposure (initial testing of all animals in the herd, and testing of all imported animals), annual testing does not provide any additional benefit. It is important to understand that the testing of animals for bovine tuberculosis and brucellosis, is NOT about public health, it is about animal health. These disease were once a devastating animal health threat until they were eradicated. But an animal must have the disease for a long time and become very sick before there is any risk that the infections extends into the udder and might be transported to people.

Thank you for your attention, I covered a lot of material, but that is because there have been so many others speculating on the risks. I will be most happy to answer any questions that you and the members of the committee might have.