

Got Raw Milk? UCLA Professor of Medicine Says ‘No Thanks’

Analysis by [Sally Fallon Morell](#)

March 28, 2024

STORY AT-A-GLANCE

- › In a December 2023 article, Claire Panosian Dunavan, a UCLA professor emeritus, questioned the appeal of raw milk, citing historical efforts to reduce infant mortality through pasteurization and expressing concerns over the risks of illness from pathogens in raw milk
- › Sally Fallon Morell refutes claims about the heightened risk of illness from raw milk, pointing to data and analyses suggesting that the dangers are grossly overstated
- › Historical declines in infant mortality were more due to sanitation and public health measures than the pasteurization of dairy
- › Pasteurized milk has been shown to contribute to a range of health issues, including allergies and asthma
- › Studies from Europe and anecdotal evidence have linked raw milk consumption to lower rates of asthma, allergies, and stronger bones, among other health advantages

During the last few years, bureaucrats and public health officials have been quiet about raw milk, but then Iowa legalized its sale in May. The accompanying publicity – in The New York Times and USA Today,^{1,2} plus many other publications – has resulted in a flurry of pro-pasteurization, anti-raw milk Internet posts.

One of these appeared on December 8, 2023,³ written by Claire Panosian Dunavan, professor emeritus of medicine and infectious diseases at the David Geffen School of

Medicine at the University of California, Los Angeles (UCLA) and past president of the American Society of Tropical Medicine and Hygiene. Dunavan can't understand the "risky allure" of raw milk. "Is it buyers' faith in 'nature's perfect food' or sellers' pure, naked greed?" she asks. The main claims in her article:

In the 1890s, Nathan Straus (co-owner of Macy's) started a private foundation to dispense pasteurized milk after his son died of typhus during a vacation in Italy – the death blamed on raw milk. (Dunavan then credits Straus with a drop in U.S. infant mortality from 125 per 1,000 to fewer than 16 per 1,000 between 1891 and 1925.)

Raw milk consumers are 840 times more likely to suffer illness than those who drink pasteurized dairy.

Recent outbreaks of illness blamed on raw milk have occurred in California, Utah and Idaho.

Raw milk contains dangerous pathogens like campylobacter and salmonella.

Raw milk may cause Guillain-Barré syndrome.

People are avoiding pasteurized milk because of milk allergy "as opposed to a serious, even life-threatening infection."

The real villains are the people who sell raw milk "because they believe there's an audience out there that will buy it," even though they "know" that raw milk will harm some people.

Are Raw Milk Farmers Driven by Greed?

Let's look at these points one by one, starting with the accusation that raw milk farmers are motivated by pure, naked greed. (In the spirit of full disclosure, I am a dairy farmer who sells raw milk.)

Conventional dairy farmers today receive about the same price as they did during World War II, even while their costs have skyrocketed. Typically, they get \$1.45 per gallon, which costs them \$2 to produce.⁴

This explains why the number of licensed dairy operations in the U.S. has steadily declined by more than 55%,⁵ from 70,375 in 2003 to 31,657 in 2020. More than 3,000 dairy farms stopped production during 2020 alone — that's eight per day.

Some of these farmers have avoided going bankrupt by switching to raw milk sales. Typically, consumers are happy to pay from \$5 to \$10 per half gallon — enough to save the family farm, especially if the farmer reduces his costs by nourishing his cows on grass (the natural food for cows) rather than feeding grain.

Dunavan refers to farmers' desire to make a decent living as “pure, naked greed,” but let me give you an example of real greed. Dairy company CEOs typically make salaries upwards of \$3 million per year. They do this by keeping milk prices as low as possible — hence the heartbreak of losing the farm inflicted on thousands of dairy farmers. That is what most of us would call pure, naked greed.

True Causes of Infant Mortality

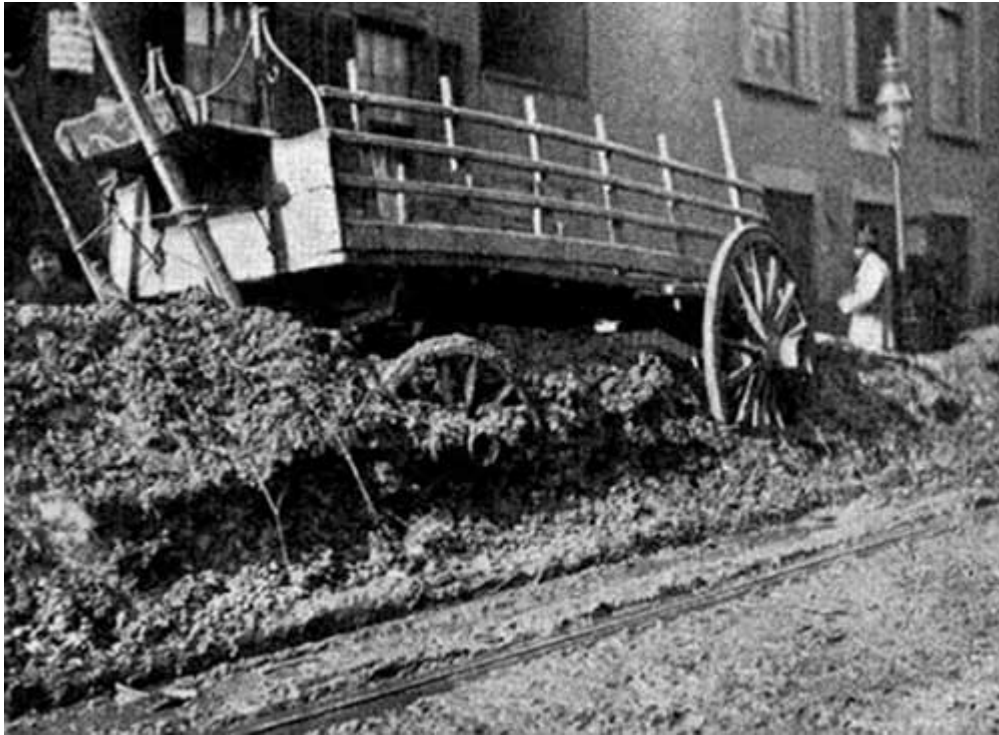
About Nathan Straus losing his son to typhus and blaming it on raw milk, according to that font of conventional knowledge, Wikipedia, typhus is caused by bacteria spread by lice, chiggers or fleas.⁶ Since Dunavan is a public health expert, she should know this. (I have not been able to find any reference to raw milk causing typhus, except for the case of Straus' son.)

Typhus reigns in filthy conditions and it was a real problem, especially in cities, before the advent of modern housing, sewage systems and washing machines. Even today we see outbreaks of typhus, but public health experts typically blame them on rats, never on raw milk!⁷

As for the decline in infant mortality in the U.S. at the turn of the 20th century, it was during this period that public officials worked to clean up our cities with the installation

of sewage systems, rubbish collection and clean water.

This was also the period when the car gradually replaced the horse and mule – before the car, our cities were stinking cesspools of manure and grime. Immigrants huddled in crowded housing without running water and refrigeration, and with only rudimentary sanitation. The death rate by the age of five was 50% – and this was blamed on raw milk rather than unsanitary conditions – officials called it the “milk problem.”



Manure piled up on a New York City street creating deadly unsanitary conditions – health officials called this the “milk problem.”

Raw milk may indeed have contributed to the high death rate because it came from distillery dairies – inner city confinement dairies of unimaginable filth where cows were fed distillery waste. The milk was so deficient and watery that chalk was often added to make it look white – this was the milk that Straus wanted to pasteurize.

However, pasteurization cannot take the credit for the decline in infant mortality as it was around this time that distillery dairies were banned. The real hero was not Nathan Straus, who did nothing for public clean-up efforts, but Dr. Henry Coit, who worked to bring clean raw milk from the countryside to the cities.

Public health officials at the time lauded Coit's certified raw milk with saving children's lives and noted that children in orphanages brought up on raw milk were healthier than those given pasteurized milk.

Questioning the Reports

About raw milk safety, Dunavan repeats the recent claim that people who drink raw milk are 840 times more likely to contract food-borne illness than those who don't.⁸

But an analysis by epidemiologist Peg Coleman, based on data considered by the Food and Drug Administration (FDA) and the Food Safety and Inspection Service (FSIS), found that on a per annum basis, out of 23 foods considered, pasteurized milk ranked second highest and raw milk ranked seventh highest in causing severe illness.⁹ The real question that one must ask, however, is how accurate are reports of illness and death from raw milk?

The Weston A. Price Foundation analyzed a 2007 PowerPoint presentation by John F. Sheehan, then director of FDA's Division of Dairy and Egg Safety, who contended that pasteurization is the only way to ensure the safety of milk.¹⁰

Table 1 shows that the 15 studies Sheehan referenced (through 2005) either were methodologically flawed or that bias or outright fabrication guided the conclusions that he drew; not one of the studies cited by the FDA actually proved that raw milk caused the illness.

We need to do the same analysis for reports of raw milk illness from 2005 to the present – one that includes the claims of illness from raw milk in California, Idaho and Utah. It's safe to assume that many of them are bogus, given the alacrity of public health officials to blame raw milk for any illness without a thorough examination of all the data.

Table 1: Unfounded Conclusions From Raw Milk Studies

LAW OR BIAS	NUMBER	PERCENT
No Valid Positive Milk Sample	12/15	80%
No Valid Statistical Association with Raw Milk	10/15	67%
Findings Misrepresented by FDA	7/15	47%
Alternatives Discovered, Not Pursued	5/15	33%
No Evidence Anyone Consumed Raw Milk Products	2/15	13%
Outbreak Did Not Even Exist	1/15	13%
Did Not Show that Pasteurization Would Have Prevented Outbreak	15/15	100%

According to the late Dr. Ted Beals, who analyzed reports of foodborne illness from 1999 to 2011,¹¹ government data report an average of 42 illnesses from raw milk per year out of 90,771 illnesses from all sources.

Using these figures, Dr. Beals concluded that one is 35,000 times more likely to become ill from other foods than from raw milk. Beals also noted that there is no way to quantify whether any one food is safer than another from the data we have, but at the same time, it is clear that there is no basis for singling out raw milk as “inherently dangerous.”

Recently, melons have ranked high in causing illness – including an outbreak from cantaloupe that resulted in over 300 illnesses, over 100 hospitalizations and four deaths. Where is Dunavan’s outcry against greedy melon growers? And what about raw oysters, which kill 15 people per year?¹² Where are the warnings to oyster lovers not to eat these terrible things?

Pathogen Facts

Dunavan implies that raw milk can cause Guillain-Barré syndrome (GBS) – a degeneration of the nerve cells that causes muscle weakness and paralysis – because raw milk can carry campylobacter, and campylobacter often gets the blame for GBS.

Of course, many, many foods harbor campylobacter. In 2019, there were over 100,000 reported cases of GBS worldwide;¹³ a quick Internet search does not find any of these cases associated with the consumption of raw milk.

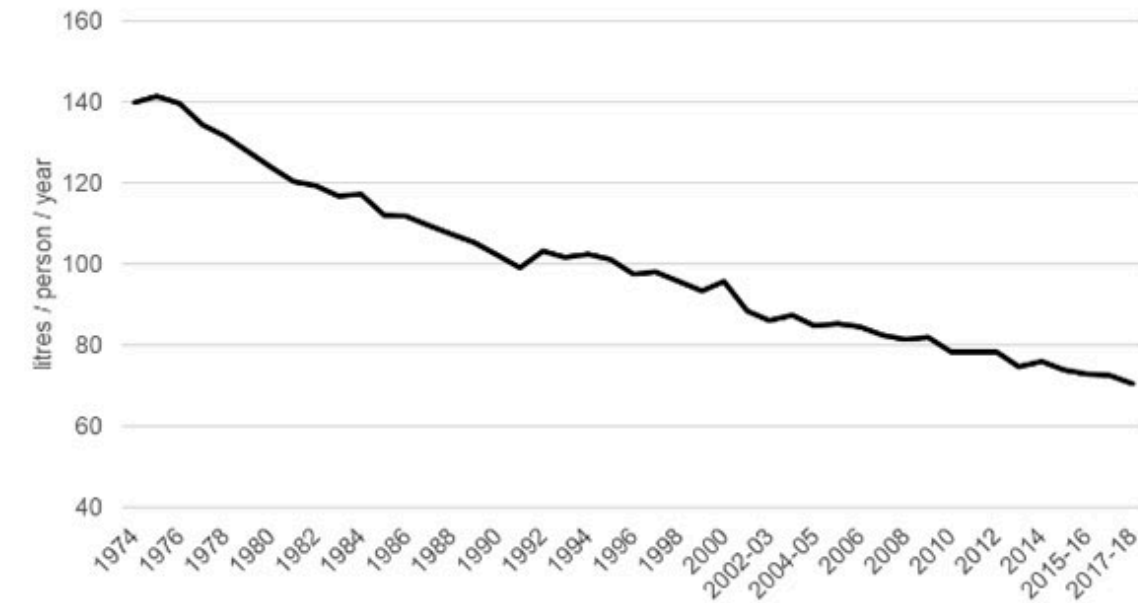
By the way, campylobacter and salmonella, the two pathogens most commonly associated with raw milk, do not grow in refrigerated raw milk. In a pilot study sponsored by the Raw Milk Institute, refrigerated raw milk inoculated with high and moderate counts of these pathogens suppressed their growth.¹⁴

Inoculated listeria did grow in raw milk, but an association of this pathogen with raw milk is extremely rare. Moreover, a recent systematic review found that the risks of severe listeriosis infection were greater for pasteurized milk products than for raw milk products.¹⁵

Consumers Shunning Pasteurized Milk

Dunavan wonders why people would indulge in the risky behavior of drinking raw milk. There are very good reasons for drinking raw milk, but first, let’s consider why fewer and fewer people are drinking pasteurized milk. In both the UK and the U.S., consumption of pasteurized milk has declined by 50% since 1974 (Figure 3). (I would love to know whether Dunavan herself drinks pasteurized milk!)

UK per capita liquid milk consumption has fallen by 50% since 1974



Source: Defra Family Food Survey

Figure 3: UK per capita liquid milk consumption, 1974-2018

To find out why consumption of pasteurized milk is declining, let's consider a 2019 study out of China, entitled "Processing milk causes the formation of protein oxidation products which impair spatial learning and memory in rats."¹⁶

The researchers subjected milk to four processing techniques: boiling, microwave heating, spray-drying and freeze-drying. (Boiling takes milk to 212 degrees F; ultra-pasteurization takes milk to 280 degrees F. Most milk sold today is ultra-pasteurized.)

All four techniques (even freeze-drying) caused oxidative damage to the milk proteins and resulted in "various degrees of redox state imbalance and oxidative damage in plasma, liver, and brain tissues." Feeding damaged milk proteins to rats resulted in learning and memory impairment – no wonder IQ levels are falling!

The researchers concluded, "humans should control milk protein oxidation and improve the processing methods applied to food." But how to improve those processing methods? What types of processing methods would they suggest? How about no processing at all? Why not just treat milk carefully and cleanly and let the many natural antimicrobial compounds in raw milk do their work?¹⁷

Milk Proteins Are Easily Damaged

Milk proteins are not tough like muscle or collagen proteins; they are extremely fragile and easily damaged by heat and pressure (as in heated drying). No wonder the consumption of industrial pasteurized milk is declining – the body sees processed and damaged milk proteins as foreign proteins and mounts an immune response.

This explains why milk protein is the number-one allergy and why studies link consumption of pasteurized milk with digestive disorders, rashes, asthma, diabetes ... and even sudden death.

Based on statistics provided by the Allergy & Asthma Network,¹⁸ one can deduce that pasteurized milk causes approximately 20 deaths from anaphylactic shock per year! The type of milk that is truly dangerous is pasteurized milk. Yes, indeed, a good “reason not to” drink pasteurized milk is allergy – life-threatening allergy. Parents are figuring out that they shouldn’t give this junk to their children ... or drink it themselves.

Pasteurized milk is the milk that causes health problems, while raw milk is indeed Nature’s Perfect Food – after all, it is the food in Nature that nourishes all mammals, loaded with vitamins and minerals, each one of which has a special enzyme that ensures 100% assimilation. When milk is pasteurized, these nutrients are largely destroyed, or rendered very difficult to absorb (Table 2).

Table 2: Destruction of Nutrients and Nutrient Assimilation by Pasteurization

Vitamin C – Raw milk but not pasteurized can resolve scurvy. “Without doubt ... the explosive increase in infantile scurvy during the latter part of the 19th century coincided with the advent of use of heated milks.”¹⁹

Calcium – Longer and denser bones on raw milk. (Source: Studies from Randleigh Farm.)

Folate – Carrier protein inactivated during pasteurization.²⁰

Vitamin B12 – Binding protein inactivated by pasteurization.

Vitamin B6 – Animal studies indicate B6 poorly absorbed from pasteurized milk.
(Source: Studies from Randleigh Farm.)

Vitamin B2 – Completely destroyed.²¹

Vitamin A – Beta-lactoglobulin, a heat-sensitive protein in milk, increases intestinal absorption of vitamin A. Heat degrades vitamin A.^{22,23}

Vitamin D – Present in milk bound to lactoglobulins, pasteurization cuts assimilation in half.²⁴

Iron – Lactoferrin, which contributes to iron assimilation, destroyed during pasteurization. Children on pasteurized milk tend to anemia.

Minerals – Bound to proteins inactivated by pasteurization; Lactobacilli, destroyed by pasteurization, enhance mineral absorption.^{25,26}

Reasons to Go Raw

More reasons to drink raw milk: less asthma and respiratory infections, fewer allergies and rashes. These are the conclusions of a number of European studies, which pasteurization proponents in the U.S. dismiss, but which public health officials in Europe have taken seriously. These include:

- **A 2001 study published in The Lancet** – Less asthma, fewer allergies²⁷
- **The 2006 PARSIFAL study (Clinical & Experimental Allergy)** – Less asthma, fewer allergies²⁸
- **The 2011 GABRIELA study (Journal of Allergy and Clinical Immunology)** – Less asthma, fewer allergies²⁹

- **A 2012 study (Current Opinion in Allergy and Clinical Immunology)** – Less asthma, fewer allergies³⁰
- **The 2014 PASTURE study (Journal of Allergy and Clinical Immunology)** – Less respiratory infection^{31,32}

In the U.S., asthma kills nine people per day, many of them children. When parents see that raw milk relieves asthma in their child, they go out of their way to obtain this magical product from greedy farmers.

There's more: early studies indicate that raw milk given to growing animals confers longer and denser bones compared to pasteurized milk.³³ I've heard from several gals diagnosed with osteoporosis who started drinking raw milk daily and passed their bone density test two years later.

Raw milk also contributes to strong, healthy teeth.³⁴ And many people who can't tolerate pasteurized milk can enjoy raw milk without problems. I've even had parents tell me that their children's behavior improved after they made just one change in their diet – switching from pasteurized to raw milk.

Looking to the Future

For these and other reasons – such as the fact that raw milk tastes so good – raw milk sales are booming. Our website realmilk.com gets almost 400,000 visits per month, most of them to the Raw Milk Finder page.

When we set up realmilk.com in 1999, we had only a handful of listings; today, the website lists over 3,000 places to get raw milk in the U.S., and there are many more not listed. Raw milk farmers tell me that they can't produce enough raw milk to meet the demand – which means that these greedy farmers aren't charging enough for it.

The truth is, pasteurization is a Rust Belt technology – a bit like hitting a pile of manure with a sledgehammer. It lets the industry get away with raising cows in filthy, crowded conditions, but it doesn't make milk any safer, and it ruins Nature's perfect food.

We have come a long way since the days of Nathan Straus. We have the technology to produce clean raw milk – stainless steel, rapid cooling, on-farm testing, an efficient nationwide cold chain – and get it to every growing child in the country.

Raw milk is the future. I predict that within 20 years, pasteurized milk will be a thing of the past. Small, grass-based dairy farms will proliferate to meet the demand, and no couple will start a family without making sure there is a supply of raw milk nearby. Health officials like Professor Dunavan can protest all they want, but fewer and fewer people are listening.

About the Author

Sally Fallon Morell is author of the best-selling cookbook “Nourishing Traditions” and many other books on diet and health. She is the founding president of the Weston A. Price Foundation (westonaprice.org) and a founder of A Campaign for Real Milk (realmilk.com). Visit her blog at nourishingtraditions.com.

Sources and References

- ¹ [The New York Times, July 11, 2023](#)
- ² [USA Today, July 3, 2023](#)
- ³ [Medpage Today, Dec. 8, 2023](#)
- ⁴ [Wise-Answer, Feb. 7, 2020](#)
- ⁵ [American Farm Bureau Federation, Feb. 26, 2021](#)
- ⁶ [Wikipedia, Typhus](#)
- ⁷ [Live Science, Aug. 6, 2021](#)
- ⁸ [Food Safety News, May 2, 2017](#)
- ⁹ [A Campaign for Real Milk, 2023](#)
- ¹⁰ [Response to the FDA: A Point-by-Point Rebuttal to the Anti-Raw Milk, November 2007](#)
- ¹¹ [A Campaign for Real Milk, July 31, 2011](#)
- ¹² [A Campaign for Real Milk, Feb. 11, 2012](#)
- ¹³ [J Neuroinflammation. 2021;18\(1\):264](#)
- ¹⁴ [PLoS One. 2023;18\(12\):e0289249](#)
- ¹⁵ [Can J Public Health. 2022;113\(4\):569-578](#)
- ¹⁶ [RSC Adv. 2019;9\(39\):22161-22175](#)
- ¹⁷ [A Campaign for Real Milk PowerPoint presentation Nov. 19, 2012](#)

- ¹⁸ Allergy & Asthma Network, Anaphylaxis statistics
- ¹⁹ Pediatrics. 2001;108(4):E76
- ²⁰ J Nutr. 1982;112(7):1329-1338
- ²¹ J Food Prot. 2011;74(11):1814-1832
- ²² Am J Clin Nutr. 1989;49(4):690-694
- ²³ J Agric Food Chem. 2000;48(1):47-55
- ²⁴ J Nutr. 1981;111(7):1240-1248
- ²⁵ Br J Nutr. 2000;84(Suppl 1):S91-S98
- ²⁶ N Engl J Med, 1985 Feb 14;312(7):404-7
- ²⁷ Clin Exp Allergy. 2007;37(5):661-670
- ²⁸ J Allergy Clin Immunol. 2011;128(4):766-773.e4
- ²⁹ Curr Opin Allergy Clin Immunol. 2012;12(5):461-466
- ³⁰ ClinicalNews.org, Oct. 23, 2014
- ³¹ J Allergy Clin Immunol. 2015;135(1):56-62
- ³² A Campaign for Real Milk, Jan. 1, 2000
- ³³ Weston A. Price Foundation, Feb. 7, 2009
- ³⁴ A Campaign fo Real Milk, Mar. 29, 2008