

Potential Risks Associated With Raw Milk Consumption

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Background

- Nationwide trend to be healthy
- Perception that natural is healthier
- Raw milk advocates
 - Benefits to drinking raw milk are lessened by pasteurization
- Anti-raw milk group
 - Risks outweigh the benefits
- Different state laws governing raw milk sales

Problem Statement

With the desire for the option to sell, purchase, and consume raw milk on the rise, the public may not know the benefits, risks, and necessary regulations to ensure the safety of raw milk for consumption.



Research Question

1. Is there a difference in the number of outbreaks, illnesses, and hospitalizations between states that have differing levels of regulations?
 - States that do not allow sales (N)
 - States that allow on the farm sales (F)
 - States that allow retail sales (R)

Methodology

- Research data from CDC, National Outbreak Reporting System (NORS) for *Campylobacter* spp., *E. coli* spp., *Salmonella* spp., and *Listeria monocytogenes*
- Determined population of different study groups
- Determined if there was a difference in foodborne outbreaks, illnesses, and hospitalization numbers from states that have different levels of regulations
- Data were analyzed using the PROC-GLM procedure in SAS, version 9.2 (SAS Institute, Cary, NC)

Study Population

- All 50 states
- Outbreaks, illnesses, and hospitalizations from states grouped into different categories.

Raw Milk Sales are Not Allowed (N)

- Alabama
- Alaska
- Delaware
- Florida
- Georgia
- Hawaii
- Indiana
- Iowa
- Louisiana
- Maryland
- Michigan
- Montana
- New Jersey
- North Carolina
- North Dakota
- Ohio
- Tennessee
- Virginia
- West Virginia
- Wyoming

Raw Milk Sales Allowed on the Farm (F)

- Arkansas*
- Colorado*
- Illinois
- Kansas
- Kentucky
- Massachusetts
- Minnesota
- Mississippi*
- Missouri*
- Nebraska
- New York
- Oklahoma
- Oregon
- Rhode Island
- South Dakota*
- Texas
- Vermont*
- Wisconsin

Raw Milk Sales Allowed at Retail (R)

- Arizona
- California
- Connecticut
- Idaho
- Maine
- Nevada
- New Hampshire
- New Mexico
- Pennsylvania
- South Carolina*
- Utah
- Washington

Results

2005-2009 Surveillance Data

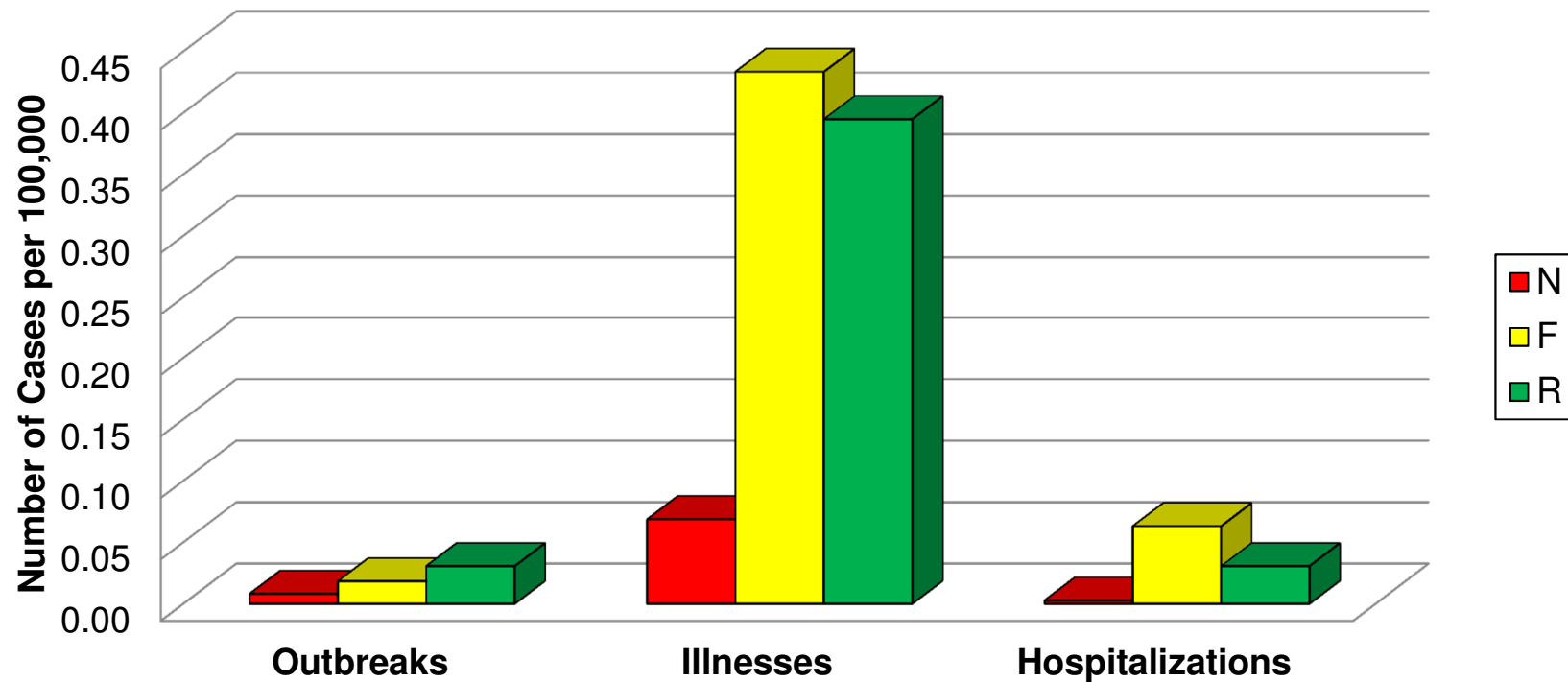


Figure 1: 2005-2009 Surveillance Data. This figure illustrates the number of raw milk and raw-milk-related product outbreaks, illnesses, and hospitalizations per 100,000 people in the three study groups: states that do not allow raw milk sales (N); states that allow raw milk sales at the farm (F); and states that allow raw milk sales at retail (R).

Data from: CDC NORS Data 2005-2009

Results (continued)

2005-2009 Causative Agents

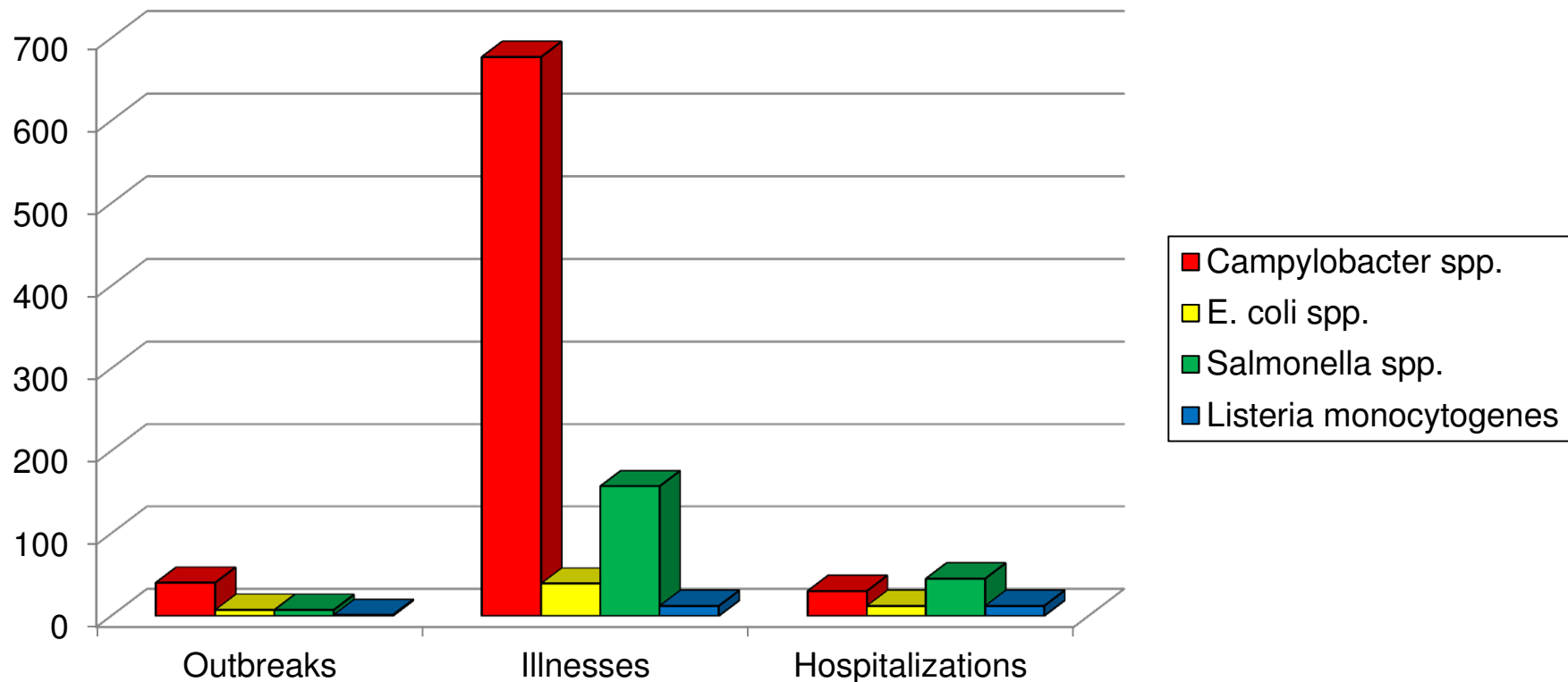


Figure 2: 2005-2009 Causative Agents. This figure shows the number of outbreaks, illnesses, and hospitalizations that have been linked to raw milk for the timeframe of this study for each of the four bacteria, *Campylobacter* spp., *E. coli* spp., *Salmonella* spp., and *Listeria monocytogenes*.

Results (continued)

- There were no significant differences between groups
 - Outbreaks ($P = 0.89$)
 - Illnesses ($P = 0.43$)
 - Hospitalizations ($P = 0.32$)

Conclusions

- Raw milk consumption is associated with foodborne outbreaks, illnesses, and hospitalizations.
- Although the differences in the number of outbreaks, illnesses, and hospitalizations among groups were not significant, there are people getting ill from consuming raw milk.

Recommendations

- Educate consumers of the risks associated with consuming raw milk.
- Give consumers the opportunity to see how many people have gotten sick and/or hospitalized from consuming raw milk.
- Assist lawmakers in determining whether or not raw milk sales should be legalized in his or her state.

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Questions?

