

How Registered Dietitians can Prevent Foodborne Illness in Long Term Care Facilities

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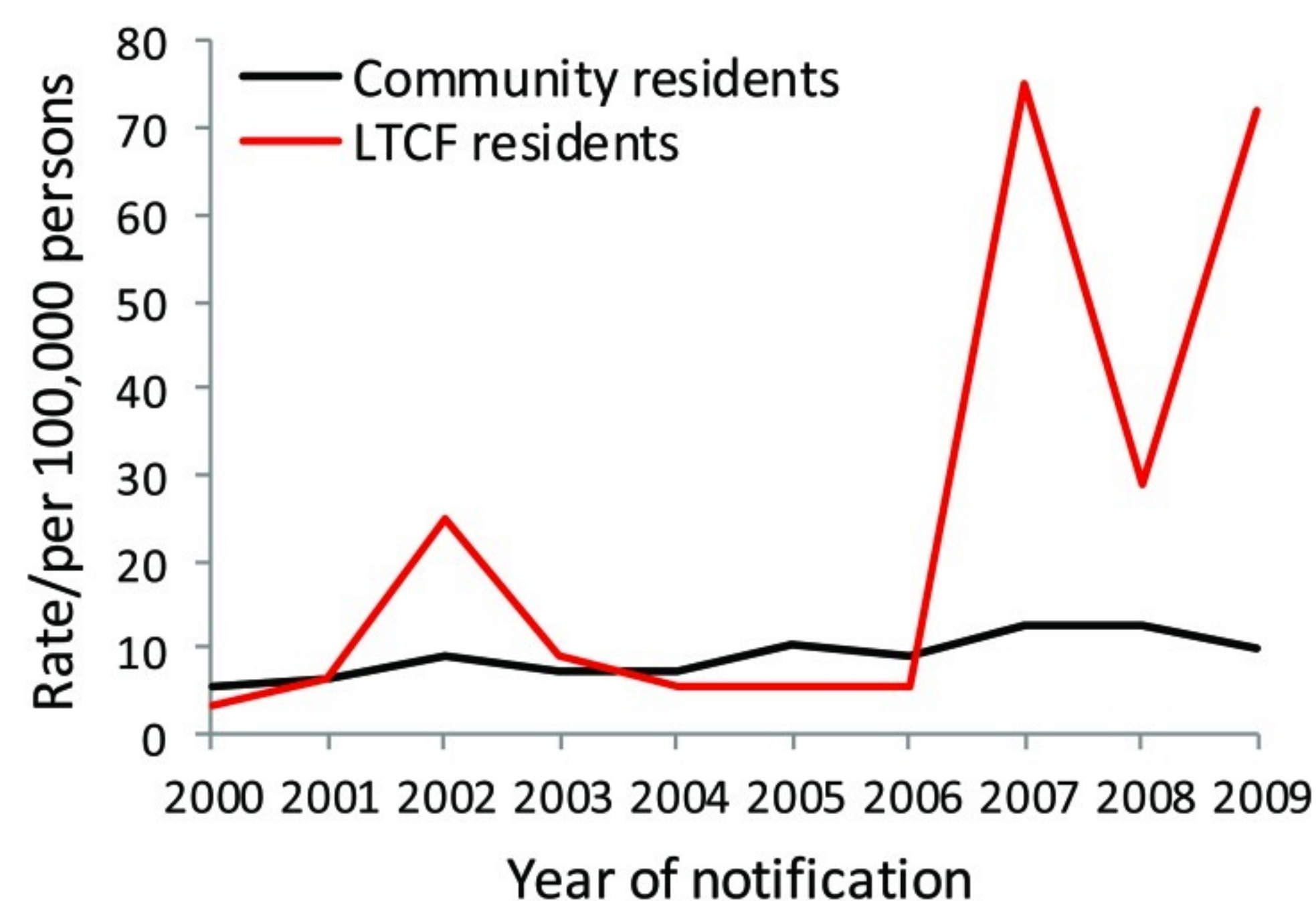
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Introduction

The role of a Registered Dietitian (RD) in long-term care facilities (LTCF) is to maintain the nutritional status of their patients by building appropriate diets, advocating for the patient with their doctors, ensuring proper caloric intake, and providing patient education on the relationship between a healthy diet and a healthy lifestyle (2022, RD Nutrition Consultants, LLC). Before a RD is able to help ensure proper nutrition for the patient they must make sure the meal was safely prepared as well as obtained and will not cause any unintentional harm to the patient by causing a foodborne illness. Countless hours of education is incorporated into every undergraduate program to prepare RDs to stop the spread of foodborne illness before it ever has the chance to make it into their facility (Medeiros & Buffer, 2012). People working in LTCFs must be especially diligent due to the increased risk of infection of their patients. Strict prevention measures are taken so both family members and patients can rest assured that they may eat with confidence and safety.

Why are the Elderly High Risk?

Patients over 65 years of age are at an increased risk of infection from foodborne illness for multiple reasons. The government researchers with Food Safety have demonstrated how the human immune system weakens as a person ages, decreasing its ability to recognize harmful pathogens, leading to both prolonged and worse infections. As a person ages, they also have a higher risk of underlying health conditions, such as diabetes mellitus, congestive heart failure, chronic kidney disease, or liver disease for example. In order to properly function, the body needs all of the vital organs to work as an efficient team. As the aging process continues and a person loses partial or full function of one or more of their organs, the overall vitality of their immune system will slowly begin to deteriorate leading to the increased risk of infection. Many elderly struggle to maintain a healthy caloric intake on their own, and the added stress of a food borne illness could be detrimental.



In an article written by Martyn D. Kirk et al. in 2012 with the National Library of Medicine, they found that Salmonella infection rates rose quickly among the LTCF groups. This graph from their research was explained as, "Notification rates for *Salmonella enterica* serotype Typhimurium infections in persons >65 years of age, by long-term care facility (LTCF) and community residence status, Victoria, Australia, 2000-2009."

Most Common Foodborne Illness Organisms per Leah McGrath, RD, LDN, Corporate Dietitian (2022):

- Noroviruses
- Salmonella
- Clostridium Perfringens
- Campylobacter
- Staphylococcus aureus
- Clostridium Botulinum
- Listeria Monocytogenes
- Escherichia coli
- Vibrio



E.Coli, as pictured by the CDC

Signs and Symptoms of Foodborne Illness

- Nausea
- Vomiting
- Diarrhea
- Abdominal pain/cramping
- Dehydration
- Weakness

FIVE SIGNS of SEVERE FOOD POISONING

Do you have these symptoms? IF SO, SEE A DOCTOR!

- Bloody diarrhea
- Fever higher than 102°F
- Frequent vomiting
- Dehydration
- Diarrhea for more than 3 days

www.cdc.gov/foodsafety

The population 65+ is at a high risk of developing severe symptoms, according to the CDC if the five signs are observed, medical care should be sought out quickly.

How can RDs Prevent Foodborne Illness

Registered Dietitians can be the first line of defense when it comes to protecting the residents in LTCFs from foodborne illness. In a research article analyzing a Listeria outbreak in 2003, Melissa Thorpe wrote, "the most important preventive steps to control any foodborne illness are: controlling food temperature, avoiding cross-contamination, routine washing of hands, and maintaining adequate personal hygiene". Controlling temperature before, during, and after meal prep is essential in order to stop pathogens from growing and contaminating food. RDs may do this by maintaining what is known as the temperature safety zone, or under 40 degrees Fahrenheit and over 140 degrees Fahrenheit (McGrath, 2022). Avoiding cross contamination can help stop the spread of dangerous pathogens. RDs must ensure that an area set up for preparing raw meat or poultry is not also used to prepare ready to eat food such as fruit or vegetables. Personal hygiene and hand washing are especially important to prevent the spread of any harmful organisms from an employee to their kitchen.



Infographic of the best ways to prevent foodborne illness per the CDC, 2020.

Conclusion

RDs can help prevent foodborne illnesses from infecting their patients in LTCFs in many ways before the meal is ever presented to them. By following actions such as personal hygiene, proper cooking temperatures, separation, and knowledge of pathogens foodborne outbreaks can be greatly limited or even eliminated in these environments. Diligence and patient avocation may also help stop the spread of infection in a patient before symptoms become unmanageable and dangerous.

References

Staff, CDC. (2020, March 18). *Foodborne germs and illnesses*. Centers for Disease Control and Prevention. Retrieved November 28, 2022, from <https://www.cdc.gov/foodsafety/foodborne-germs.html>

Kirk, M. D., Gregory, J., Lator, K., Hall, G. V., & Becker, N. (2012, March). *Foodborne and waterborne infections in elderly community and long-term care facility residents, Victoria, Australia*. Emerging infectious diseases. Retrieved November 28, 2022, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3309568/>

McGrath, L. (2022, April 18). *Story from Ingles Markets: Leah McGrath, RD, LDN on how to reduce risks of foodborne illnesses*. The Asheville Citizen Times. Retrieved November 28, 2022, from <https://www.citizen-times.com/story/sponsor-story/ingles-markets/2022/04/18/leah-mcgrath-rd-ldn-how-reduce-risks-foodborne-illnesses/7317630001/>

Medeiros, L. C., & Buffer, J. (2012, November). *Current food safety knowledge of registered dietitians*. Current Food Safety Knowledge of RDs. Retrieved November 29, 2022, from <http://www.foodprotection.org/files/food-protection-trends/Nov-12-Medeiros.pdf>

Staff, R. D. N. C. (2018, May 19). *The role of registered dietitians in long term care*. consultant. Retrieved November 28, 2022, from <https://www.rdnutritionconsultants.com/single-post/2018/05/19/the-role-of-registered-dietitians-in-long-term-care>

Thorpe, Melissa. "Prevention of foodborne illness and the role of the dietitian. [Beyond the Headlines]." *Journal of the American Dietetic Association*, vol. 103, no. 1, Jan. 2003, pp. 20+. Gale Academic OneFile, link.gale.com/apps/doc/A98248177/AONE?u=xshrcad2557&sid=googleScholar&id=145101fa. Accessed 23 Nov. 2022.