

Exploring the Impact of Frozen Food Storage and Handling on Foodborne Infection Risks Among Older Adults with Diabetes in London Care Homes

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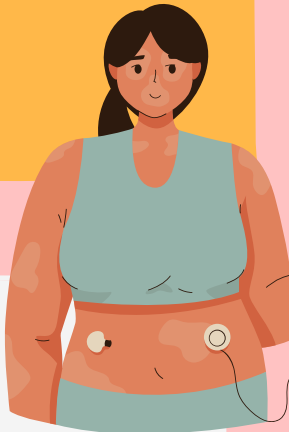


Prevalence

- In the UK, older adults (65+) account for over 70% of reported foodborne infections, due to weakened immune systems and chronic illnesses such as diabetes (UKHSA, 2023).
- The Food Standards Agency (FSA, 2022) reported that improper frozen food storage and thawing practices contribute significantly to outbreaks of *Listeria monocytogenes* in care settings.
- *Listeria* infection rates are 3–5 times higher in older adults with diabetes compared to non-diabetics (Public Health England, 2021).
- London care homes accommodate a large population of older adults with comorbidities, making foodborne illness prevention a major public health concern (CQC, 2023).
- In London care homes, where up to 25% of residents live with diabetes, the rising burden of food-borne infections with London reporting 1,739 lab-confirmed *Salmonella* cases in 2024 underscores a dual threat of metabolic and infectious disease for older adults (Diabetes UK, 2021).

Research Aim

To explore the relationship between frozen food storage and handling practices and the occurrence of foodborne infections among older adults with diabetes in London care homes.



RATIONALE

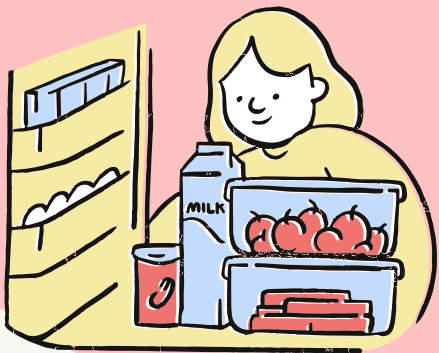
- Frozen food storage and handling are often overlooked aspects of infection control in care homes, even though they play a vital role in preventing bacterial growth and food-borne illness (WHO, 2020; FSA, 2022).
- Unsafe practices such as inadequate temperature monitoring, improper thawing, and poor hygiene during food handling can allow pathogens like *Salmonella* and *Listeria monocytogenes* to multiply, increasing infection risk for residents (UKHSA, 2024; WHO, 2020).
- The Food Standards Agency (FSA, 2022) recommends that frozen foods be stored at -18°C or below, and thawing should occur in a refrigerator, not at room temperature, to prevent bacterial contamination.
- Older adults with diabetes are particularly vulnerable to infections because of weakened immune function, delayed wound healing, and higher risk of complications from food-borne pathogens (NHS, 2023; CDC, 2024).
- Diabetes prevalence is high in UK care homes, with around 25% of residents living with diabetes, increasing their susceptibility to infection (Diabetes UK, 2024).
- There is limited qualitative research on how care-home staff understand and apply frozen food safety practices for vulnerable diabetic residents, and this study addresses that gap by contributing to improved infection prevention, staff training, and food safety protocols in London care homes (NHS, 2023; Health Foundation, 2021; WHO, 2020; FSA, 2022).

RESEARCH IMPACT

- This research emphasises the importance of enhanced infection surveillance in care homes, encourages the use of digital temperature monitoring for safer food storage, and promotes multidisciplinary collaboration among care managers, dietitians, EHOs, and infection control teams to strengthen food safety culture (UKHSA, 2023; FSA, 2021; NHS England, 2023).
- This study supports targeted diabetes care policies for infection prevention among high-risk residents, contributes to reducing antimicrobial resistance (AMR) through fewer foodborne infections, and informs safer nutritional guidelines linking food safety with improved metabolic outcomes (WHO, 2023; DHSC, 2022; NICE, 2022).
- This research supports measurable CQC food safety benchmarks, offers potential economic benefits by reducing hospital admissions and staff absences, and enhances resident empowerment through greater awareness and involvement in meal-related decisions (CQC, 2022; The King's Fund, 2022; NHS, 2023).

Research Question

How does frozen food storage and handling in London care homes influence the risk of foodborne infections among older adults with diabetes?



Research Objectives

1. To examine current frozen food storage and handling practices in selected London care homes.
2. To explore awareness, experiences, and infection risks among older adults with diabetes related to foodborne illnesses.
3. To identify gaps in existing food safety procedures and propose practical recommendations to improve infection prevention in care homes.

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