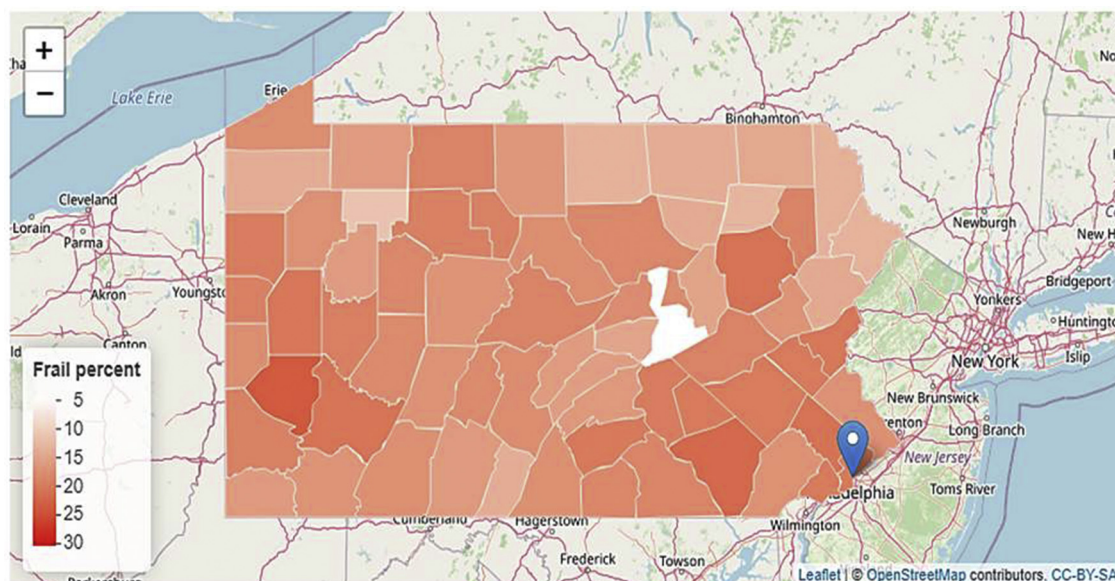**Fig. 1.** Image from tool showing frailty prevalence in zip code 19106 and surrounding counties.

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Research Needed on Microlearning as a Training Strategy for CNAs in Skilled Nursing Facilities

To the Editors:

Training, implementing, and sustaining behavioral protocols among frontline workers of skilled nursing facilities (SNFs) is challenging for a variety of reasons. Limited resources, competing demands, protocol complexity, lack of a champion, instability of leadership, and stakeholder resistance are some examples of barriers to successful training and implementation of new protocols.[1] The need to identify strategies to overcome training barriers within SNFs became especially evident in the early months of the COVID-19 pandemic when care staff had to rapidly learn new infection prevention protocols in the midst of overwhelming care needs, staff and PPE shortages, and changing

governmental guidelines. In the chaotic environment of this unprecedented time, learning new procedures was understandably challenging.

In the autumn of 2020, following the initial wave of the COVID-19 pandemic, our team conducted a qualitative study to assess the challenges faced by certified nursing assistants (CNAs) in skilled nursing facilities in the New York City metro area. We also queried them about successful strategies and resources needed as they move forward in this pandemic. We conducted focus groups with 56 CNAs from 5 different SNFs. We would like to highlight a recurrent theme that points toward a testable approach to training and continuing education for CNAs in SNFs.

Our results emphasized that training should be a continuous process. Frequent reminders of material learned from training sessions are critical for the successful implementation of infection prevention protocols. One CNA suggested that these reminders should happen as frequently as once an hour, possibly using an overhead PA system. Multiple CNAs from different SNFs mentioned the use of large television monitors on the nursing home floor to supplement learning from in-person trainings. This strategy was especially effective when the material presented matched in-service training and was consistent with messaging from managers and other information sources. These audiovisual prompts would be updated as aspects of protocols evolved over time, for example, regarding infection control.

These recommendations are consistent with the growing evidence for the use of microlearning in health care.[2,3] Microlearning is the strategy of packaging training content into "bite-sized" pieces that cover very specific material in short intervals to introduce new material or support learning of previously learned material.[4] Using short bursts of reminders after learning new information can be especially helpful for strengthening memories[5,6] particularly in care environments where stress can degrade memory functioning.[7] In comparison to formal in-session trainings that could take hours and require companies to hire backfill, stand-alone microlearning opportunities on the floor could be integrated into the workday (eg, 10 minutes at the end of care plan or team meetings). These learning opportunities could be delivered via video and potentially followed with a simulation exercise to reinforce implementation.[3] Microlearning opportunities can be shaped to flexibly adapt to the dynamic nature of care environments, with consideration for inevitable protocol changes due to advancements in medicine, updates in health care delivery systems, and changing government regulations.

More research is needed to understand how microlearning could be applied to training and continuing education for CNAs in SNFs. Some questions might include the following: (1) Is microlearning feasible in SNFs (eg, cost, usability, acceptability)? (2) What are the optimal units of microlearning in a SNF? and (3) Are there synergistic effects of microlearning when coupled with clinical simulation exercises? Microlearning strategies may provide more opportunity and flexibility for CNAs to learn the necessary skills required on the care units while also minimizing the cost of training for organizations by reducing the need for backfill during classroom training sessions. Moreover, frequent microlearning opportunities on the floor may facilitate the implementation of other important protocols like person-centered care strategies. We suggest avoiding the use of overhead PA systems whenever possible to minimize disruption to residents in their home.

The catastrophic circumstances CNAs in SNFs faced during the COVID-19 pandemic emphasized the need for effective learning strategies under duress and time constraints. To create more effective modes of training for CNAs during future pandemics or merely enhancing the retention of training in general, we hope that researchers will consider examining the efficacy of microlearning in SNFs.

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