

Background: Medication waste contributes to an estimated \$30 billion wasted in pharmaceutical spending each year in the United States. Pharmacists are well-positioned in the healthcare system to combat these unnecessary expenses through a variety of methods. This research has been conducted in order to discover and implement new methods and activities to reduce medication waste.

Methods: A 12-question survey was developed to determine pharmacists' perceptions of their patients' knowledge of how to dispose of their medications, learn about programs or actions already in place to combat medication waste, and ascertain pharmacists' views of the severity of medication waste in their respective fields of practice. This survey was administered virtually via Zoom focus group meetings. The virtual meetings were recorded for later analysis, however, no personal identifiers such as name, email address, or place of employment were recorded along with the interviewees' answers. Demographic information such as practice setting (hospital, retail/community, ambulatory care, etc.) and number of years in practice were recorded to help give perspective from different levels of experience and type of pharmacy practice. The principle investigator (PI) asked each question to all participants in the meeting before moving to subsequent questions. Open discussion was encouraged along with each question after formal answers had been given.

Results: A total of ten pharmacists were in three focus groups. The average number of years spent as a practicing pharmacist was 8.7, with the fewest being two years and the most being 24 years. A total of four pharmacists practiced in a retail/community setting only, with another four pharmacists having spent time practicing in both retail/community and hospital settings. One pharmacist identified as practicing in an outpatient hospice setting. Another pharmacist had only hospital experience, specifically in the emergency department. All pharmacists believed that their patients have little knowledge of what to do with their unused medications. The most common disposal methods pharmacists feel their patients utilize are flushing medications down the toilet and putting them in the garbage. Pharmacists identified the following methods they regularly use to reduce medication waste: reducing the quantity dispensed for new-start medications (n=3), keeping medications in factory packaging to maintain the original expiration date (n=3), sending medications to nurses for administration immediately before the medication is due to be given (n=1), sending medications to the hospital floors a predetermined number of times per day (n=1). Six pharmacists said that nothing was done at their practice site to reduce medication waste. Nine of ten pharmacists say they place major emphasis on adherence when counseling patients. All participants answered that they will follow up with patients to assess adherence.

Conclusion: While a majority of pharmacists are utilizing an assortment of activities and methods to reduce medication waste, improvements can be made to further reduce waste. More research can be done in the future to expand on the ideas identified in this study as well as find new methods of reducing medication waste.