



GenerationRx
Safe medication practices for life.

Public Report

UPDATED 2024

Older Adult Toolkit

Executive Summary

Increased prescription drug misuse over the last two decades has prompted extensive discussion about the lack of research-based prevention education curriculum targeting the topic.

- ▶ **In response to this emerging public concern, Generation Rx (GenRx) was established in 2007 in The Ohio State University College of Pharmacy to teach safe medication-taking practices across the lifespan.**

Through combined efforts with partner organizations nationwide, GenRx has reached over 3 million people in direct educational programming since 2010, and over 100,000 facilitators have utilized the GenRx family of resources including five toolkits to engage elementary, teen, university, adult, and older adult audiences in both classroom and community-based settings.

In the United States today, there is a growing population of older adults, many of whom rely on medications for their health needs. The US Census Bureau estimated a US population of 99.98 million people aged 55+ in 2022, up from 97.35 million recorded in 2020.¹ This aging population is more likely to have multiple chronic health conditions and thus are at greater risk to experience polypharmacy, the use of five or more medications. According to the CDC, among US adults aged 60-79, 83.6% used one or more prescription drugs in the past 30 days, and 34.5% used five or more.² The use of more medications make older adults more vulnerable to adverse effects. Adverse drug reactions have been independently associated with polypharmacy, and the likelihood for an adverse drug reaction increases threefold for those with major polypharmacy (the use of ten or more medications).³ In a study of older adults attending general practice, approximately one in four patients experienced at least one adverse drug reaction over a 6-year period.³

Although most people will take medicine at some point in their lives, formal training on safe medication-taking behaviors is not often utilized in the community. The Generation Rx Older Adult Toolkit is a free resource that practitioners and educators can use to teach these important behaviors. Implementing best emerging education practices is essential for addressing medication related concerns, such as accidental and intentional medication misuse, medication adherence, safe storage, and safe disposal practices. The older adult toolkit is ideal for pharmacists and community health educators to use in small group and community-based settings. The toolkit focuses on three main themes:



This report summarizes the key findings of a study assessing the effectiveness of the Generation Rx Older Adult Toolkit to better inform the development and implementation of current and future educational resources.



GENERATION RX - OLDER ADULT PROJECT

In the early days of the COVID-19 pandemic, there was increased concern for the safety of older adults living through the isolation. The Ohio Department of Mental Health & Addiction Services (OhioMHAS) identified medication safety as a particular risk factor in rural areas during this time. This provided a unique opportunity for Generation Rx and the OSU Extension network to partner: together, the two could bring free, research-based resources to areas that sorely needed them. In the spring of 2021, The Ohio State University College of Pharmacy received funding from OhioMHAS through the State Opioid Response Grant 2.2. The Generation Rx – Older Adult Project was executed between April 2021 and September 2022. The project focused on the older adult population (defined as ages 50+) living in Ohio and fostered collaboration between The Ohio State University College of Pharmacy faculty/staff and the Ohio State Extension Network.

The project’s reach and impact included:

- 1) Ohio State coordinated the recruitment, selection, and training of 27 Generation Rx facilitators implementing programming across 20 Ohio counties. Facilitators completed the *Generation Rx Ambassadors* online training program, building capacity for future Generation Rx training for older adults.
- 2) 12 Extension representatives received training and technical support to implement program evaluation among the older adult population. Following completion of the *Generation Rx Ambassador* program, these Extension professionals delivered both live and virtual medication safety programming, as communities adapted under COVID-19 related safety restrictions.
- 3) Programming took place in various community settings (i.e., senior centers, faith-based spaces, libraries, Meals on Wheels sites, and independent living communities). A multi-media awareness campaign was also deployed to reinforce safe storage and disposal practices.



Project Implementation Strategies



Selecting, training (via Ambassadors), and supporting Extension-led teams to deliver Generation Rx education to older adult audiences in their home communities

Targeting program outreach to a balanced mix of community-based sites, independent living settings, and a large exhibition event via live and virtual-based delivery modalities



Providing tools to promote medication adherence and safe medication disposal



Establishing meaningful evaluation tools for this population

Category	Project Reach
Direct programming reach	1,550 people
Indirect programming reach	3,473 people
Digital Advertising impressions	270,139 impressions
Household Reached: TV	3.1 million households
Households Reached: Direct Mail (Valpak)	533,570 households
Facebook Reach	325,700 people
Ohio Association of Area Agencies on Aging Promotion Reach	600 people



Study Design

During 2022, Generation Rx partnered with The Ohio State University Extension (OSU Extension) to provide the Older Adult Safe Medication Practice for Better Health programming across the state of Ohio. Extension educators were awarded mini-grants and trained using the Generation Rx train the trainer program, *Generation Rx Ambassadors*. Educators then delivered the programming in their communities. To assess the change in knowledge and behavioral intentions regarding safe-medication practices from the use of the toolkit resources, participants were asked to complete pre- and post-program surveys. Each extension educator was responsible for recruitment and screening of study participants. Faculty from The Ohio State University College of Pharmacy analyzed the survey data and published these findings.⁴ Only participants over 50 years of age were included in the analysis. 297 pre-surveys and 245 post-surveys were analyzed. Basic demographics of the survey participants are provided below:

	Pre-Survey (%) N=297	Post-Survey (%) N =245
Age range, years	50-59 (9.1%) 60-69 (17.2%) 70-79 (39.1%) 80-89 (29.0%) 90-99 (5.7%)	50-59 (11.0%) 60-69 (17.1%) 70-79 (38.4%) 80-89 (29.0%) 90-99 (4.5%)
Gender Identity	Female (74.4%) Male (21.9%)	Female (75.1%) Male (24.1%)
Race	African American (13.8%) Asian (4.7%) White (72.4%) Other (2.7%) Prefer not to answer (0.7%) Missing response (5.7%)	African American (13.1%) Asian (1.2%) White (77.6%) Other (4.1%) Prefer not to answer (0.7%) Missing response (3.3%)
Ethnicity	Hispanic or Latino (2%) Neither Hispanic nor Latino (74.1%) Wish not to answer (13.1%)	Hispanic or Latino (1.6%) Neither Hispanic nor Latino (78.0%) Wish not to answer (9.0%)

Appropriate Medication Storage & Disposal

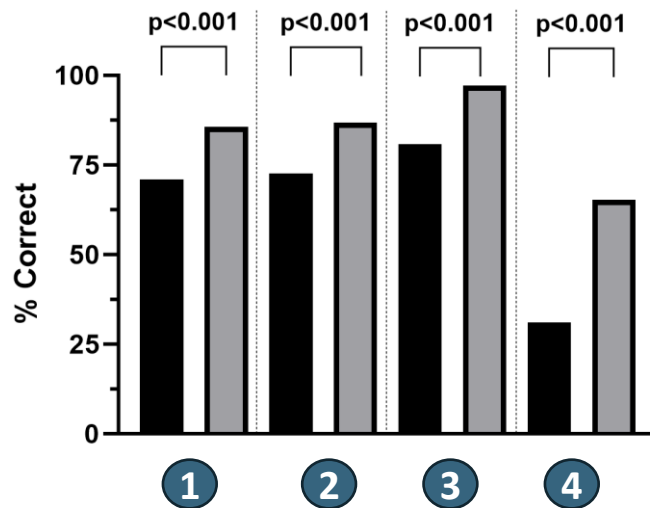
Program Participants showed significant gains in knowledge of safe storage and disposal of medication after the educational sessions.



EVALUATION OUTCOMES

Knowledge Gained

The Generation Rx program enhanced participants' knowledge of safe medication practices across all 3 key message areas of educational programming, including becoming knowledgeable about the medications one takes, learning and modeling safe medication practices, as well as being informed about medication misuse.



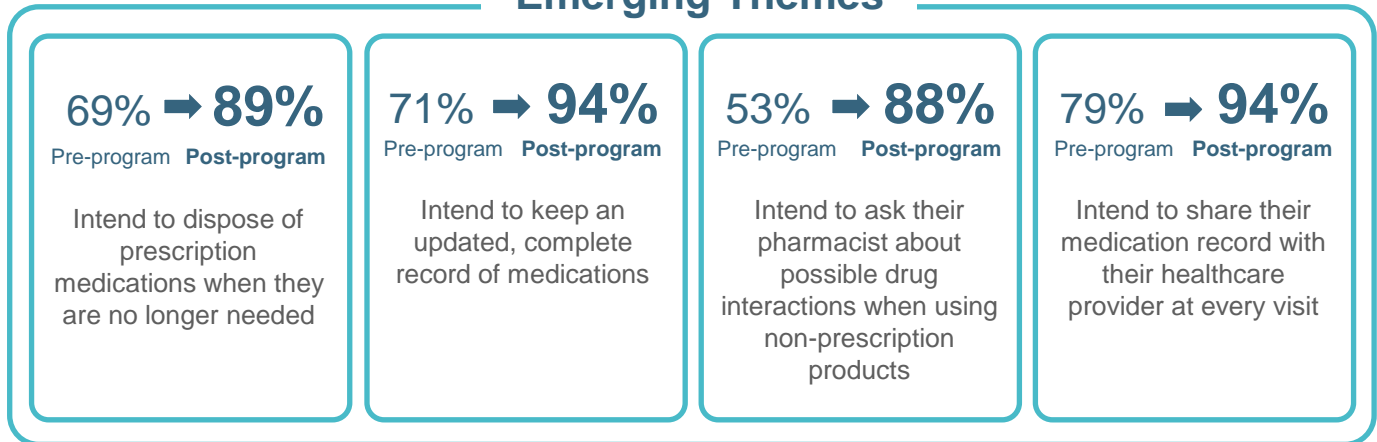
This graph displays pre- and post-program results of participants' knowledge (bars) in four content areas related to the Generation Rx Older Adult Toolkit. Significant knowledge gains were observed in understanding:

- 1 What is considered medication misuse (% correct from 71% pre-program to 85.7% post-program)
- 2 Standard OTC medication label information (% correct from 72.7% pre-program to 86.9% post-program)
- 3 Acceptable medication disposal methods (% correct from 80.8% pre-program to 97.1% post-program)
- 4 The best location to store medications (% correct from 31% pre-program to 65.3% post-program)

Behavioral Intentions

Participants self-reported behavioral intentions following the Generation Rx program. Results showed significant positive results from pre-program to post-program:

Emerging Themes



Perceptions & Satisfaction

Post-program participants reported positive perceptions of the educational programming and strong satisfaction with the session they attended. The following percentages represent those who strongly agreed or agreed with the statements below:

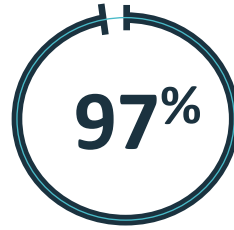
“As a result of today’s program...”



“I am more aware of the importance of taking my medications as directed by a healthcare provider.”



“I am more knowledgeable about how to properly read the labels on my prescription and non-prescription medications.”



“I would recommend this session to a friend or colleague.”



“The information gained from today’s session was relevant to me.”



From the Generation Rx Older Adult Toolkit, both the PowerPoint Presentation or Trivia Game Activity were utilized by the OSU Extension Educators. Data analysis showed both forms of programming to be effective with a trend towards the Trivia Game Activity having slightly better knowledge gains from pre- to post-survey.

Voices in the Field

Generation Rx worked with OSU Extension Educators across the state of Ohio to deliver medication safety education to older adult audiences in their home communities. Two Extension Educators share about their experience teaching the Older Adult Toolkit Key Messages to individuals in their communities.

Laura Stanton, OSU Extension Family & Consumer Sciences Educator
Warren County



“ Overall, the Generation Rx program was a success. Most people who attended the workshops were engaged, curious, and attentive. I heard many positive comments about how insightful the program was and how much the participants appreciated the opportunity to think about the topic and reflect on the importance of medication safety. We often had people ask for extra copies of the handout because they wanted to share the information with a friend or loved one.

Success Story: Making an impact

Laura arrived at the Mason Senior Center to teach a workshop on Mindfulness. Right before she started, Laura asked the group of 16 how many attended the Generation Rx program she taught earlier in the month. Most of the group had been in attendance. As she started to get into Mindfulness, one of the gentlemen in the room raised his hand and said, "Excuse me. Do you mind if I share something before we get started?" He stood up and grabbed his wallet. He then proceeded to unfold a piece of paper that had all his medications listed on one side, and all his wife's medications listed on the other side. He and his wife shared that they created the list after the Generation Rx program, and they each had one on their body (purse and wallet), left one in each of their car glove compartments, and had one hanging on their refrigerator.

Not to be outdone, another person raised their hand and shared that they just got their flu vaccine at the local CVS store. They took all their expired medications with them to their appointment and safely disposed of their medications at the drug disposal box. Laura said that it was wonderful to hear these stories and know that the material she had taught had a significant impact on people's behaviors.

Patricia Holmes, OSU Extension Family & Consumer Sciences Educator
Montgomery County

“ This was a valuable experience for me as an educator to share information with older adults about medication and answer their questions (and they had a lot of questions). Participants thanked me for coming, because knowing what is accurate or just a social media myth was hard for them to discern the difference. This should help patients be willing to be their own health care advocates and follow guidelines for medication use, storage, and disposal. Additionally, many said they had not stopped to realize they could ask the Pharmacist at their drug store about their medications or reactions. Because of these comments, I feel our community will benefit from Generation Rx classes for older adults and for other age group toolkits too.





Questions?

Access the free Generation Rx University resources at:
www.GenerationRx.org and email info@generationrx.org with any questions.

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Sources

¹United States Census Bureau. (2023, June). National population by characteristics: 2020-2022. <https://www.census.gov/data/tables/time-series/demo/popest/2020s-national-detail.html>.

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