



GenerationRx
Safe medication practices for life.

Public Report

UPDATED 2024

Generation Rx Ambassadors

Background

Generation Rx (GenRx) believes that safe medication use is a critical component of building healthy communities. Our team strives to ensure that everyone has the knowledge and skills needed to use medication safely in their daily lives.


- ▶ **Since its inception in 2007, Generation Rx has provided age-appropriate education to over 3 million people through its five research-based toolkits focused on elementary, teen, university, adult, and older adult populations.**

To achieve this mission, Generation Rx has historically relied on an in-person train the trainer approach in addition to facilitator guides provided with each toolkit. As the program grew, the train the trainer model became unsustainable. Thus, the Generation Rx Ambassadors Training Program (herein referred to as *Ambassadors*) was created to meet the increased demand for high quality, standardized, research-based training for Generation Rx facilitators.


This report summarizes the structure and content of *Ambassadors* and highlights the findings from three pilot studies with pharmacy, veterinary medicine, and nursing student audiences.




Highlights from Pilot Studies

Pharmacy 

Ambassadors helped align pharmacy students' perceived abilities and objective knowledge when delivering medication safety messaging.

Nursing 

Nursing professionals are most likely to deliver Generation Rx key messages with individual patients and families in the clinical setting.

Veterinary Medicine 

Veterinary professionals must think about medication safety for both their patients and animal owners.

Program & Study Design

Ambassadors is designed as a self-paced asynchronous virtual course that typically takes participants about 3 hours to complete. The training program has five modules which participants work through to complete the training and earn their certificate. Each module contains its own learning outcomes, assessments, content, and activities. The figure below provides more detail about the program design.



- Discuss Generation Rx mission and key messages
 - Explain medication safety principles and consequences associated with misuse behaviors in an age-appropriate manner
 - Implement a Generation Rx educational program that demonstrates best practices
 - Identify next steps to continue the Generation Rx Ambassador experience
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- Module Quizzes with 80% minimum score
 - Training Program Satisfaction Survey
 - Pre- and Post-program surveys
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- Readings: Insights from medication safety experts
 - Interactive video presentations with knowledge check questions
 - Reflection: Development of an action plan

During 2020 – 2021, Generation Rx faculty piloted *Ambassadors* across three unique student cohorts and evaluated it using a pre-/post-program survey assessing students’ objective knowledge gains and self-perceived abilities to appropriately deliver Generation Rx education, as well as a training program satisfaction survey. All measures were collected asynchronously and de-identified. When relevant, a two-sided paired t-test was used to analyze changes in knowledge and perceived abilities within pilot participants between the pre- and post-program surveys. Exemption from The Ohio State University’s Institutional Review Board was granted.

	Pharmacy	Nursing	Veterinary Medicine
Participant	PharmD, health science undergraduate & graduate students	Graduate family nurse practitioner students	Professional Veterinary students & residents
Sample Size	(n=52, pre and post)	(n=39, pre; n=29, post)	(n=21, pre and post)
Generation Rx experience prior to <i>Ambassadors</i>	Aware of program with no experience (52%) or entirely unaware of program (19%)	Aware of program with no experience (8%) or entirely unaware of program (92%)	Aware of program with no experience (17%) or entirely unaware of program (83%)



Read the full findings of the pilot study for pharmacy professionals, published in the *American Journal of Pharmaceutical Education*¹.



Ambassadors for Pharmacy Professionals

Medication safety is at the core of the pharmacy profession and Generation Rx key messages are relevant in any pharmacy setting. As the most accessible healthcare provider, it is crucial that pharmacy students feel confident in their abilities to deliver these messages to people of all ages in an appropriate manner. Since Generation Rx was founded, it has relied on pharmacy students and the pharmacy community to deliver Generation Rx education. As the largest group of Generation Rx facilitators, pharmacy students were an ideal cohort to pilot the *Ambassadors* training program in 2020.

One of the key findings from the pharmacy pilot was that students over-estimated their perceived abilities when delivering medication safety education prior to completing the training. For example, prior to *Ambassador* training, 65% of students perceived a strong understanding of the Generation Rx key messages related to safe medication practices, yet only 23% of students correctly answered the corresponding objective knowledge question (see table below). However, after students completed *Ambassadors*, there was alignment in the students' perceived abilities and objective knowledge.

- ▶ This alignment was maintained across most training program content areas, suggesting *Ambassadors* serves as an effective tool for preparing future pharmacy professionals for effective medication safety outreach.



	<u>Statement of Perceived Ability:</u> “I can share the Generation Rx key messages with others.” (% Agreement)	<u>Objective Question:</u> “The Generation Rx key messages focus on: __” (% Correct)	Conclusion
Before Ambassadors	65%	23%	A mis-alignment exists between perceived ability and objective knowledge about the key messages of safe medication practices.
After Ambassadors	98%	100%	<i>Ambassadors</i> aligns perceived ability to share the key messages of safe medication practices with actual objective knowledge.

Ambassadors for Nursing and Veterinary Medicine Professionals

The opportunity to expand *Ambassadors* to include the nursing and veterinary medicine communities stemmed from Ohio's Strategic Prevention Framework for Prescription Drugs Grant (SPF Rx). The SPF Rx advisory council concluded that Ohio's prescription drug prevention plan would need several strategies. Among those, Ohio sought a) to raise awareness about the dangers of prescription drug misuse and the importance of proper use, storage, and disposal, and b) to work with the medical community on the risks of over-prescribing and the importance of proper use, storage, and disposal; and c) to enhance prevention efforts happening in rural and underserved communities, where health care is not as easily accessible.

Nursing and veterinary medicine professionals were identified as healthcare providers who could deliver GenRx medication safety messaging in their communities or with individual patients and clients during everyday interactions. Thus, with support from the Ohio Department of Mental Health and Addiction Services, Generation Rx created two unique versions of *Ambassadors* – one for nursing professionals and one for veterinary professionals. For each program, GenRx faculty partnered with faculty in either the College of Nursing or the College of Veterinary Medicine at The Ohio State University to learn the best way to support the unique needs of nurses and veterinarians as it relates to medication safety outreach and education. These conversations supported slight modifications to the learning outcomes, assessment questions, and content identified in the program design. Methodology to execute the pilot studies for each audience remained similar to that reported in Downing et.al. 2023¹.



Nursing Pilot



Like pharmacy, medication safety is an important aspect of nursing professional training and nurses are most likely to deliver medication safety messages during individual patient interactions in a clinical setting. Statistically significant knowledge gains were seen in participants' ability to recognize the mission and key messages of GenRx, recognize risk and protective factors, identify consequences from medication misuse behaviors and implement a GenRx program.

11% to 72%



Knowledge of protective factors for prescription drug misuse among nursing participants increased from 11% to 72% after completing *Ambassadors*.

22% to 85%



Knowledge of consequences from prescription drug misuse among nursing participants increased from 22% to 85% after completing *Ambassadors*.

13% to 86%



Knowledge of GenRx safe medication practices among nursing participants increased from 13% to 86% after completing *Ambassadors*.

Nursing Pilot (continued)

THREE themes emerged in participant responses to an open-ended question about goals and next steps as Generation Rx Ambassadors:

- 1 Incorporate medication safety into clinical practice
"Better educate future patients on medication safety"
"Incorporate GenRx into patient visits"
- 2 Deliver a Generation Rx educational program
"Facilitate a Generation Rx program at a local school"
"Host Generation Rx presentation"
- 3 Learn more about Generation Rx
"Get more comfortable navigating the toolkits"
"Attend a Generation Rx presentation"

Veterinary Medicine Pilot

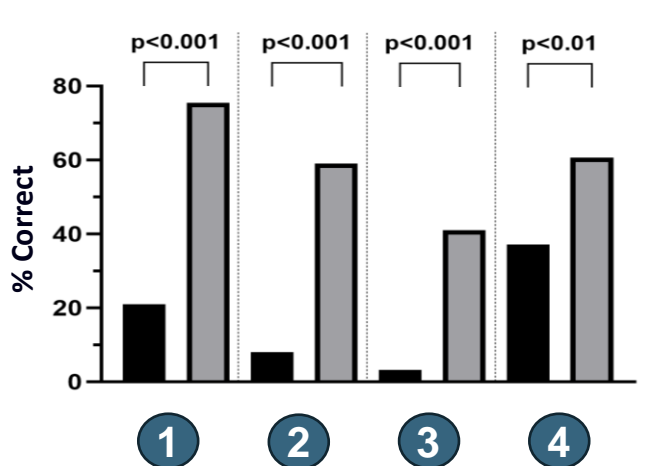


Medication safety is a complex topic that applies not only to humans, but animals too. For this reason, it is important for veterinary professionals to feel confident teaching pet owners about medication safety and to recognize signs of misuse in their practice.

Adaptations to Generation Rx Key Messages:

Generation Rx Key Message	Adaptation for Veterinary Professionals
Only use prescription medications as directed by a healthcare professional.	Only give your pets prescription medications as directed by a healthcare professional.
Never share your prescription medications with others or take some else's prescription medication.	Do not share your own prescription medication with your pet or take your pet's medication. Do not share medications between pets.
Always store your medications securely and properly dispose of medications.	Keep your pet's medication safe by following safe storage and disposal guidelines.
Be a good example to those around you by modeling safe medication taking practices.	Be a health advocate for your pet.

Similarly to the nursing cohort, most pilot participants within the veterinary medicine cohort planned to utilize their *Ambassadors* training during individual client interactions. Pilot participants recognized the importance of educating clients about medication safety even prior to *Ambassadors* and this persisted and increased slightly after completing the training program. Significant knowledge gains were achieved across several content areas.



Completion of *Ambassadors* by veterinary professional students generates significant knowledge gains



This graph displays pre- and post-program results of participants' knowledge (bars) in the four content areas related to *Ambassadors* learning outcomes from all pilot participants (n=21). Significant knowledge gains were observed in understanding the (1) GenRx mission, (2) GenRx key messages of safe medication practices, (3) Appropriate audiences to receive GenRx education, and (4) Guidelines to implement GenRx education.

Implications for the Future



While Generation Rx has historically been utilized in group educational settings, these pilot studies have demonstrated that Generation Rx messaging is applicable and important on an individual level. We recognize that it is crucial to prepare healthcare providers to deliver medication safety education in their everyday practice and to feel confident they are using an evidence-based approach to connect with their patients and clients. One way to ensure our future healthcare providers are equipped to deliver this messaging is to integrate Generation Rx into professional student curricula. For example, The Ohio State University College of Pharmacy has required *Ambassador* training for first year pharmacy students since 2022 and has intentionally added Generation Rx activities to experiential education. The Ohio State University College of Nursing's Community Health Worker training program also added *Ambassadors* as a certificate program in early 2023; research and collaboration with this audience is ongoing.

“ The great thing about Generation Rx is that it provides nurses with all the tools they need to provide effective education to many different community audiences. Nurses can use Generation Rx to engage with audiences that reflect the populations of patients they care for, or the communities they work and live in. Generation Rx provides all the materials that nurses need to work with community partners to deliver effective prevention education on medication safety.”

- Jennifer Dush, PhD, APRN-CNP
Assistant Professor of Clinical Nursing
The Ohio State University College of Nursing

“ As a veterinarian my patients are my priority, and as an educator my focus is on teaching students about patient care and how veterinary medicine impacts public health and society as a whole. We need to educate students on the realities of veterinary practice, including medication diversion, as well as how to talk to owners about opioid misuse prevention, safe medication storage and disposal, and appropriate storage of medications. Generation Rx offers us a way to do this and has allowed us to partner with our colleagues in the Colleges of Pharmacy, Medicine, and Nursing.”

- Turi Aarnes, DVM, MS, DACVAA
Associate Professor, Veterinary Clinical Sciences
The Ohio State University College of Veterinary Medicine

Take the Next Step

Are you interested in becoming a Generation Rx Ambassador? *Ambassadors* is available to pharmacists, nurses, veterinarians, health profession students, and community-based professionals involved in prevention education.

Visit generationrx.org/ambassadors/enroll to learn more and enroll.





Questions?

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

Acknowledgements

This project was partially supported by a subgrant from the Ohio Department of Mental Health & Addiction Services, through the Strategic Prevention Framework for Prescription Drugs Grant program (#2100410). Extending our reach of Generation Rx education into the fields of nursing and veterinary medicine would not be possible without the guidance from Dr. Jennifer Dush and Dr. Turi Aarnes, faculty members within OSU's College of Nursing and College of Veterinary Medicine, respectively.

Sources

¹Downing MD, Schmuhl KK, Summers KE, Sandidge BR, Miracle TL, Pekny C, and Kwiek NC. "Pilot Evaluation of Generation Rx Ambassadors Virtual Training to Prepare Students for Medication Safety Outreach". *American Journal of Pharmaceutical Education*, 2023. Retrieved March 28, 2023, from [https://www.ajpe.org/article/S0002-9459\(23\)00572-7/fulltext](https://www.ajpe.org/article/S0002-9459(23)00572-7/fulltext)

Suggested Citation

Schmuhl, K., Downing, M., Lovatt, B.S., Emptage, R., and Kwiek, N. (2024). *Generation Rx Ambassadors: Evaluating the Impact of Three Pilot Studies*. College of Pharmacy, The Ohio State University: Columbus, OH

Keywords : prevention education, prescription drugs, substance misuse, wellness, veterinary medicine, nursing