



Excellence in Pharmacy Education and Research at Cedarville University

BY CYNTHIA MWENJA, PhD

McKenzie Grinalds, Assistant Professor of Pharmacy Practice at Cedarville University, specializes as a neurology pharmacist. This position allows her to teach in the school of pharmacy, continue her work as a licensed pharmacist, and engage in pharmacy research targeted at improving pharmaceutical care for people with epilepsy. Grinalds received personalized support for her research through her competitive selection as a participant in the American College of Clinical Pharmacy Foundation's MeRIT Program.

Denise H. Rhoney, Ron and Nancy McFarlane Distinguished Professor in the University of North Carolina at Chapel Hill Eshelman School of Pharmacy, says that schools of pharmacy can offer “opportunities for synergy” with other health professions departments such as nursing, dentistry, and medicine. Pharmacy program can also develop undergraduate courses to gain students’ interests in learning how to work with diverse groups of people to solve problems in this field. Rhoney points out that prospects for collaboration are available across campus—schools of pharmacy have many opportunities to branch out and highlight the diverse aspects of the pharmacy discipline to students across campus. While many people think of pharmacists as people in white coats behind the drugstore counter, Rhoney stresses the importance of remembering that the field of pharmacy was originally driven by research questions of how to best prevent, identify, and manage problems with medication.

Students in pharmacy programs spend a total of six to eight years in school, learning how medicines affect bodies. According to

Aleda Chen, Associate Dean and Professor of Pharmacy Practice at Cedarville, pharmacists are among the most accessible healthcare providers. These programs train people who will work in many different parts of each community to provide service to patients—she notes that even communities without healthcare clinics often have pharmacies available.

Research

Grinalds’ career reflects the expansive potential available within the pharmaceutical field. As a member of the American College of Clinical Pharmacy (ACCP), she was chosen to be part of the MeRIT Program through the ACCP Foundation. This competitive program, she says, equips early-career pharmacy scholars to be better researchers by pairing program participants with an ACCP research mentor, along with a local advisor.

Rhoney says that pharmacists must go beyond mere technical skills and fact memorization; they must also learn to research effectively—how to ask questions, answer them, and think about the implications.

MeRIT program participants engage in this process beginning with a one-week “boot camp” followed by two years of ongoing mentorship. Chen has served Grinalds’ on campus mentor for the MeRIT program, and Rhoney was her ACCP assigned mentor. Through the process, Grinalds identified questions that hadn’t yet been answered, then narrowed her focus to a feasible topic that interested her.

As a result of her work with Rhoney and Chen, Grinalds published “Scoping Review of Rational Polytherapy in Patients with Drug-Resistant Epilepsy,” with Chen, research assistant Caleb Yoder, and two others as co-authors. This research considers how pharmacists might most rationally choose the right combination of drug therapies for individual epilepsy patients. Grinalds says that specific combinations of drugs have not yet been tested, and both patients and practitioners would benefit from having better evidence to make prescribing decisions.

This project, she says, has opened research doors for her, and she hopes in her future research to continue answering the questions



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that remain after the review was completed. She is currently laying the groundwork for this research and hopes to collaborate with peers at other institutions in order to locate a large enough research population to conduct the next study she envisions. Rhoney says that Grinalds' progress over the two years shows the value of mentorship; she has "soaked up" the experience to build on her already impressive strengths. Additionally, receiving mentoring from more than one person can offer multiple helpful perspectives to budding researchers.

Regarding faculty research, Grinalds says, Cedarville promotes a spirit of collaboration; she is thankful that she does not have to focus on author hierarchy—all research publications count toward tenure and promotion decisions. This institutional support, she observes, fosters collaboration and leads to more faculty productivity. Grinalds also points out that Cedarville's

supportive atmosphere encourages research partnerships with faculty members working at other institutions.

Mentorship and Teaching

Cedarville also values mentorship in its own programs; it provides training and pay for full-time students to serve as research assistants for faculty members. The students can help with literature reviews, data collection, IRB applications, research posters, and the like. The students also get the chance to present alongside the faculty member. Chen says that it is important to bring students into research so that they can see firsthand how research and practice work together to advance science and meet patient needs.

Caleb Yoder, Cedarville University Student Pharmacist (2025) and Research Assistant in the Department of Pharmacy Practice at Cedarville, worked with

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Grinalds on the epilepsy scoping review; this research, he says, was his primary focus during his first year in the pharmacy program. Yoder appreciates learning about the prevalence and importance of the topic as well as seeing how Grinalds organized the research and kept the project on track for completion. Now in his second year in Cedarville's pharmacy program, Yoder is continuing in the research program on another project.

As a pharmacy student, Yoder is excited to see the role of the pharmacist expanding into more settings. He notes that pharmacists have unique drug knowledge and can supply options for optimal therapy for patients. These insights, he says, make the pharmacist an essential part of a patient's care team. In addition to being a graduate student, Yoder works in a hospital pharmacy; this job gives him a direct hand in patient care. Beyond the subject content of the classes and passion

for the field of pharmacy that Grinalds brings to the classroom, Yoder particularly appreciates the extracurricular guidance and support she offers. Along with course content, Grinalds offers tips for "surviving as a student in general," study tips, and "good resources for how to study well," Yoder reports. Yoder appreciates the well-rounded way that Grinalds prepares students to succeed as future pharmacists and researchers.

Cedarville's approach to mentoring extends to faculty development and mentoring, as well. Through her colleagues, Grinalds has learned to promote active learning through the flipped classroom strategy and some team-based learning methods. These strategies extend her previous pedagogical instruction. During her residency training, Grinalds earned a teaching certification for pharmacists. In earning this certification, she developed classes and lectures, as well as gaining

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classroom experience. Currently in her fourth year of teaching, Grinalds was in the second Doctor of Pharmacy (Pharm.D.) graduating class at Cedarville. She says she is grateful to invest in students alongside the faculty members who taught her.

Cedarville has a module-based program in which students rotate through three-week blocks of classes, though there are some semester-long classes, as well. Even if she is not teaching in a particular block, Grinalds says, she often provides guest lectures in her areas of expertise, and most of her teaching load occurs at the graduate level. During the students' third year, Grinalds teaches a class that "brings all of their previous classes together before clinical rotations," re-grounding them in the attitudes, skills, and knowledge they will need as they go into teaching and pharmacy practice. For this vital course, Grinalds makes sure to double-check every term to make sure she is teaching students about current research, guidelines, and new drugs that have been approved. She also stays up to date with the latest in pharmacy education through her membership in the American Association of Colleges of Pharmacy (AACP), which is "the national organization representing pharmacy education in the United States," according to its website.

Working Pharmacist

A licensed and working pharmacist, Grinalds serves 50% of her faculty appointment at Premier Health's Miami Valley Hospital working as a Clinical Pharmacy Specialist in Neurology. She says that universities and local hospitals have varying arrangements, but such affiliation agreements are common for those working in pharmacy practice programs. As a neurology specialist, Grinalds rounds with the neurology teams to focus on helping patients dealing with issues such as epilepsy, multiple sclerosis, migraines, and similar concerns. Rhoney discusses the value of having pharmacists at patients' bedsides; their insights on disease and relevant medications can prove crucial for patient care.

Becky Sillaman, System Director of Clinical Pharmacy Services at Miami Valley Hospital, oversees the practice site for Grinald's pharmacy work. This position, Sillaman says, gives Grinalds the opportunity to interact with patients and providers. Additionally, Sillaman says that Grinalds has been instrumental in helping to build new, consistent orders into the hospital's medical software system; these updates have been a necessary response to an expansion of the hospital's oncology infusion centers. Grinalds' existing relationships with the doctors involved—as well as her experience working with patients—have proven "tremendously helpful," Sillaman notes; she has been particularly effective in getting diverse providers to agree to the systemization of these order sets.

Sillaman says that the affiliation agreements between Cedarville and Premier Health have been in place for over a decade. The people who serve in these dual roles need excellent

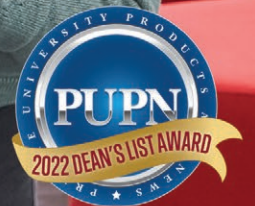
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time management and interpersonal skills, since they need to balance expectations and due dates for two employers and workplaces. Grinalds, she says, meets these demands beautifully; she has an excellent ability to collaborate.

Takeaways

Colleges and universities considering establishing or expanding their pharmacy programs need to think carefully about the qualities that faculty members in this area need. Chen commends the ways that Grinalds “thinks deeply and creatively” about both her pharmacy work and preparing students to work in this profession. Additionally, Chen says, Grinalds continues to model scholarly inquiry and advance the profession’s collective knowledge. Grinalds’ talents were apparent even as a student, Chen says; she points out that administrators should be aware of the benefits of supporting

faculty members in recognizing and mentoring such promising students.

Cedarville’s program offers a strong model in that it encourages faculty members to incorporate students into the research process. This approach ensures that students are trained as pharmacists and researchers, Rhoney says; she goes on to state that she admires private institutions like Cedarville in their willingness to give back to the community by supporting faculty members like Grinalds who have a “passion for developing research.” Grinalds, as both a recent graduate and current faculty member, exemplifies the potential of all aspects of this exciting field in her teaching, research, and pharmacy work.



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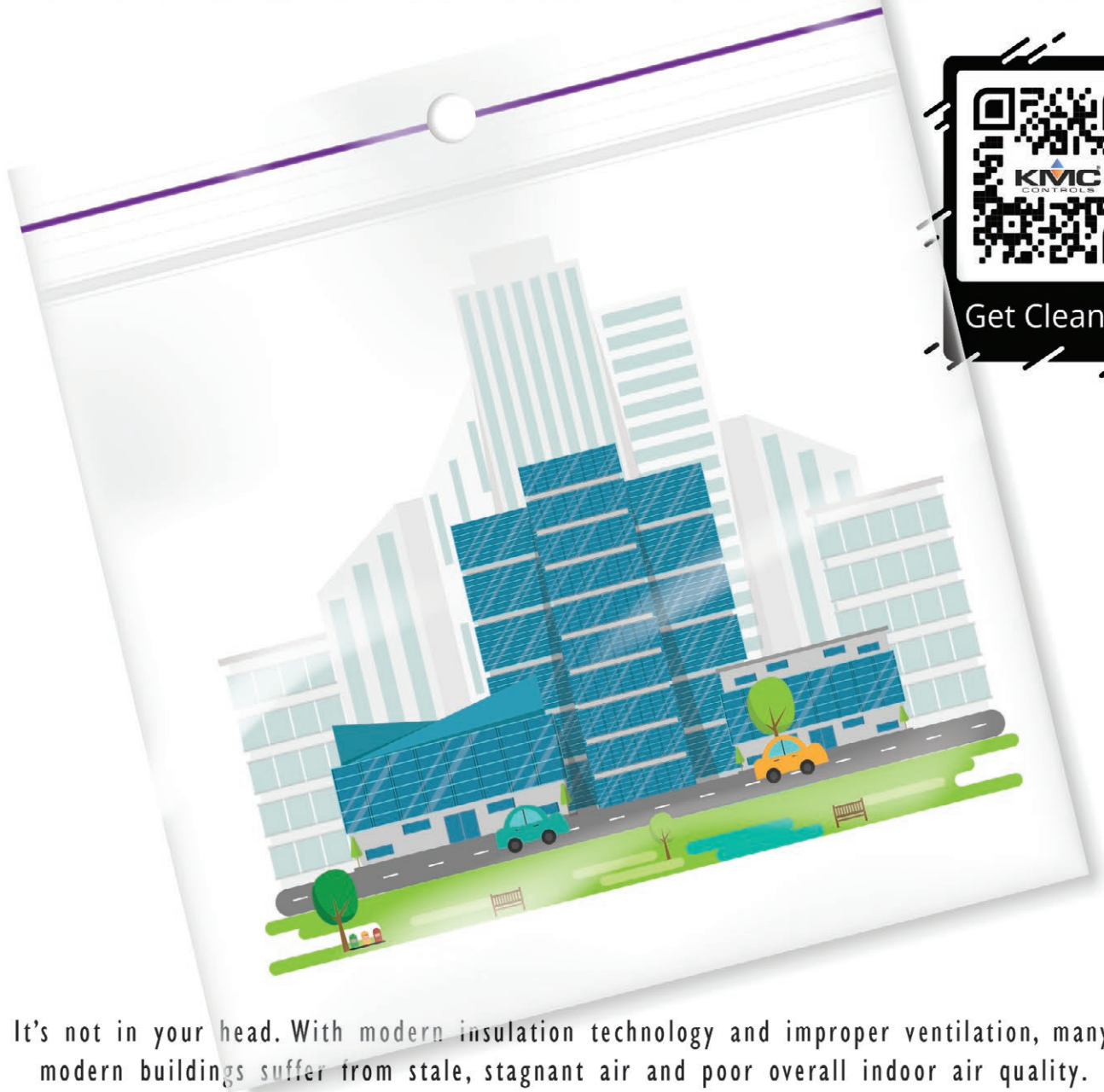
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