

Virtual cleanroom could increase safety, minimize risks, reduce education costs for pharmaceutical professionals

March 20 2019, by Chris Adam



Penguin Innovations, a Purdue University-affiliated startup, created a virtual interactive cleanroom to teach future pharmacists and technicians how to properly prepare and handle medications and other products found in pharmacies. Credit: Purdue University

A deadly meningitis outbreak linked to a Massachusetts pharmaceutical



lab has drawn new interest to the way drugs are made in the United States and the training for those who work in pharmacies.

Now, a Purdue University-affiliated startup has come up with an interactive and virtual way to teach future pharmacists and technicians how to properly prepare and handle medications and other products found in pharmacies.

Penguin Innovations, founded by Steve Abel, a professor of pharmacy practice in Purdue's College of Pharmacy and Purdue's associate provost for engagement, created a virtual interactive cleanroom (VIC). Those sterile rooms, where medications are prepared, are common in hospitals and pharmaceutical labs.

"The more you practice, the better you become," Abel said. "Our virtual cleanroom environment provides a space to accelerate learning while overcoming the barriers of cost and <u>limited resources</u>."

Abel said colleges and pharmacy technician training programs could save up to \$18,000 per student in drug and supply costs from preparing just one dose of the available products in the VIC. The virtual room has about 70 of the most commonly prescribed drug products, along with their actual product labeling, including adult, pediatric and hazardous products.





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The virtual interactive cleanroom is divided into two environments: the standard cleanroom and a special room for hazardous products. The ondemand instructional format provides direct real-time feedback and testing capabilities. It offers training consistent with accreditation standards for pharmacy technician and pharmacist education and <u>training</u> programs.

"At Purdue we are all about taking our knowledge and resources out into the world to improve the quality of life for people near and far," Abel said. "This is an extraordinary example of Purdue taking our expertise in <u>pharmacy</u> and turning it into a useful tool to save lives through better medication preparation."



Abel worked with undergraduate and graduate students in the Purdue Polytechnic Institute to create the virtual <u>cleanroom</u>.

Provided by Purdue University

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