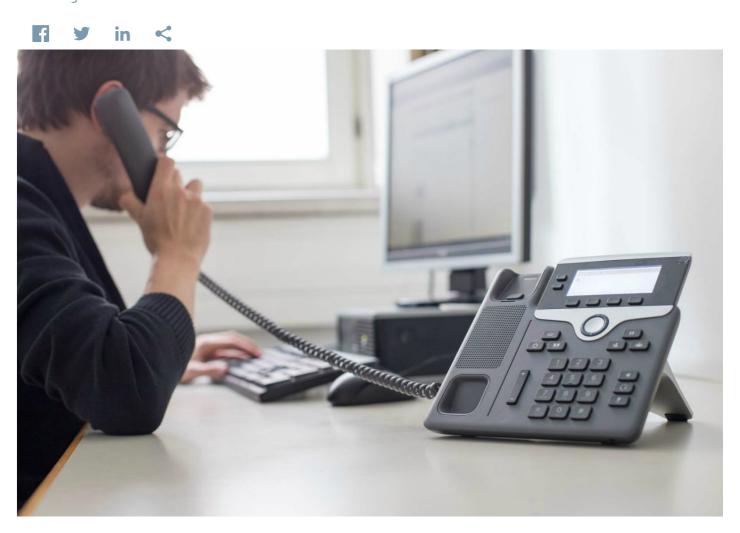# Armed With Data On Medication Use, Pharmacists Counsel Patients

Tech Launch Arizona
University of Arizona

One of the nation's top pharmacists, J. Lyle Bootman, and a panel of experts reported in "When Medicine Hurts: The Silent Epidemic," that for every dollar Americans spend on prescription drugs, another dollar is spent on "misadventures" with those medications, including everything from being prescribed the wrong drug to taking the incorrect dosage of the right drug to dangerous drug combinations.

For the elderly, such medication-related misadventures can be particularly disastrous: Advanced age is often accompanied by multiple chronic illnesses being treated by various healthcare providers, each prescribing a variety of medications that are then supplemented with over-the-counter drugs.

"Not only are there clinical consequences to these medication-related problems, there are economic consequences as well," says Bootman, Ph.D., Sc.D., dean of the University of Arizona (UA) College of Pharmacy. "More doctor visits, more lab tests or a fall as a result of receiving a wrong medication — all of which could be prevented if someone were

managing medications."

For millions of Medicare patients across the country, someone is now managing their medications: the pharmacists and staff of the Medication Management Center, a service developed at the UA College of Pharmacy now licensed to SinfoníaRx of Tucson.

Who Will Provide Medication Therapy?

In 2006, Bootman and Kevin P. Boesen, then a manager of the college's fourth-year pharmacy students, were studying the Medicare Modernization Act of 2003 and preparing students to help Medicare recipients sign up for the new prescription drug coverage known as Part D. The new law also specified that Medicare recipients were eligible for medication therapy management (MTM).

"We realized there was no good business solution out there to provide medication therapy management (MTM) to Medicare patients," says Boesen, now CEO of SinfoníaRx.

To fill the gap, he wrote a business plan for a MTM service in which UA pharmacists and pharmacists-in-training would provide counsel to Medicare patients on medication issues over the phone (paid for by Medicare Part D). The service, named the Medication Management Center, started with one customer — a national health plan — and UA pharmacy staff manually analyzing the patients' prescription claim records to identify potential problems.

They quickly realized that computer software could help analyze the reams of patient information, making the entire operation more efficient.

Data Analytics Make Operation More Efficient

"We knew of 150 to 175 algorithms we could immediately program into the computer that could go through thousands of patients in minutes and give us a printout of medication issues, prioritized by risk level," says Bootman.

Using funds generated from the first year's counseling fees, the college hired Kevin Barber, an expert in database building. Barber was able to construct a health information platform to perform the necessary data analytics, producing a daily queue of calls to be made, complete with a phone script, decision trees and details of the patient's medication-related issues. The computer program prioritizes lists of patients who qualify for MTM — typically those with multiple chronic illnesses — who need a phone call to discuss medication alerts.

"Many patients are identified as having more than one medication-related issue," explains Boesen. "For example, a patient may be taking two drugs that are contraindicated because they are filling prescriptions from two different physicians. Another alert might indicate that the patient is not refilling a medication as frequently as expected, possibly due to medication-related side effects. "

Such high-level calls of an urgent or more complex nature are channeled into a queue for pharmacists to handle. Simpler medication issues are handled by pharmacy technicians; issues that fall somewhere in between go to a pharmacy student. Based on their phone conversations, staff members make notes in the patient's file and ultimately fax the patient's physician with any recommended changes.

"We now send 20,000 faxes a week to physicians," says Boesen. "Doctors really like [when we address] safety issues."

In fact, 50 percent of all recommendations made by call center staff are safety-related says Boesen, such as potentially dangerous drug interactions or a patient who is not adhering to the dosage recommendations.

"No other [MTM] model is similar to ours because of our unique data systems that can predict patient risk and prioritize medication issues," says Bootman. "It's a highly valuable tool and a key to our success."

Success Draws More Clients

The addition of the IT platform and successful outcome data it could produce — including the number of drug interactions averted and increases in medication adherence — enabled the Medication Management Center to attract additional health plans as clients, including pharmacy benefit managers who contract with hundreds of health plans.

"By early 2013, we realized the Medication Management Center was really useful for patients but that remaining in the university environment would limit its growth," explains David Allen, vice president of TechLaunch Arizona (TLA). "To have a shot at widespread distribution, we knew we had to spin it out of the university."

TLA found an unusual degree of interest in the technology: Three different parties expressed an interest in funding a startup company around the medication management software, including a highly respected Tucson entrepreneur and UA graduate named Fletcher J. McCusker. McCusker had just established a new home healthcare business called Sinfonía HealthCare and was looking to expand its continuum of care for patients and their families.

"Of the bids the UA received for the Medication Management Center, I think they chose us because we wanted to keep the center a Tucson-based company," says McCusker, Sinfonía CEO. "And we wanted to make it a joint venture with the university."

Spinning out to the Private Sector

By year-end 2013, TLA agreed to license the copyrighted software to Sinfonía HealthCare and make the business operations of the Medication Management Center a subsidiary of the home healthcare company. Fifteen UA employees, including six full-time pharmacists, joined the new company called SinfoníaRx. In turn, SinfoníaRx contracted with the UA College of Pharmacy Medication Management Center to continue providing the direct patient care services to the center's clients. Today, that contract covers the services of 20 pharmacists, 25 pharmacist technicians and 80 pharmacy students, all from UA.

"TLA really helped shepherd the process, making it easy and seamless," says McCusker.

"Fletcher really met all of our needs and understood that the center wasn't just programmers," says Allen. "The service agreement between SinfoníaRx and the Medication Management Center allows us to give our pharmacy students an experiential dimension to their education they wouldn't be able to get otherwise."

Allen says staffing the center with pharmacy students is a unique and compelling benefit that allows the UA College of Pharmacy to attract very high-quality students — which in turn helps attract clients to SinfoníaRx.

Win-Win for Pharmacy Students, Patients

"There is very little Medicare funding available for medication therapy management," says Boesen. "The use of students helps keep our costs down, while involving students in patient counseling enables them to apply their classroom work to the real world."

Whether it's a pharmacy student, technician or full-time pharmacist on the phone with a patient, everyone at the center believes combining the personal touch and the right data is the secret sauce.

"Medication therapy management is not something that can be delivered solely with a technical solution," says

Boesen. "Having a professional interpret the output of the medication analysis, then call and talk to the patient is critical to the solution."

Today, the center's roster of clients includes 300 different health plans impacting 6 million patients.The center's staff performs more than 1 million file reviews a month, 10 percent of which are forwarded to staff for attention, resulting in about 75,000 patient calls a month.

"We're serving approximately 20 percent of the total market of 30 million Medicare lives plus about 500,000 commercial insurance patients," says Boesen.

Improving Drug Safety, Reducing Costs

As a result of the center's work with patients and their physicians in 2012, 163,468 medication changes were made, representing approximately $65 million in total savings.

Capitalizing on that momentum, Boesen says SinfoniaRx has its sights set on expansion — both in the type of patient they serve and the illnesses they monitor.

"We would like to expand beyond elderly patients to younger populations with chronic illnesses," he says. "And we'd like to be able to integrate additional data points, such as using home scales that would notify our staff of quick weight gains in patients with heart disease that could help us prevent a hospitalization or ER visit."

McCusker says they are also looking at international clients.

"We have had interest from the United Kingdom, Saudi Arabia and New Zealand," he says. "Huge dollars are spent on unnecessary medications and payors are beginning to see the economics of reviewing their prescription claims data. It's sweeping the nation and the world.

"This is the most powerful thing any of us have ever been involved with."

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