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JULY/AUGUST 2018 FOR THE PHARMACIST

Chain Market Report

A conversation about key findings from our annual survey of chain pharmacy executives on technology needs and priorities. story begins on page 15

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Pharmacists see community pharmacy as an opportunity.

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Blockchain is getting a lot of press. Is pharmacy a candidate for this?

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Why this is not really gaining traction.

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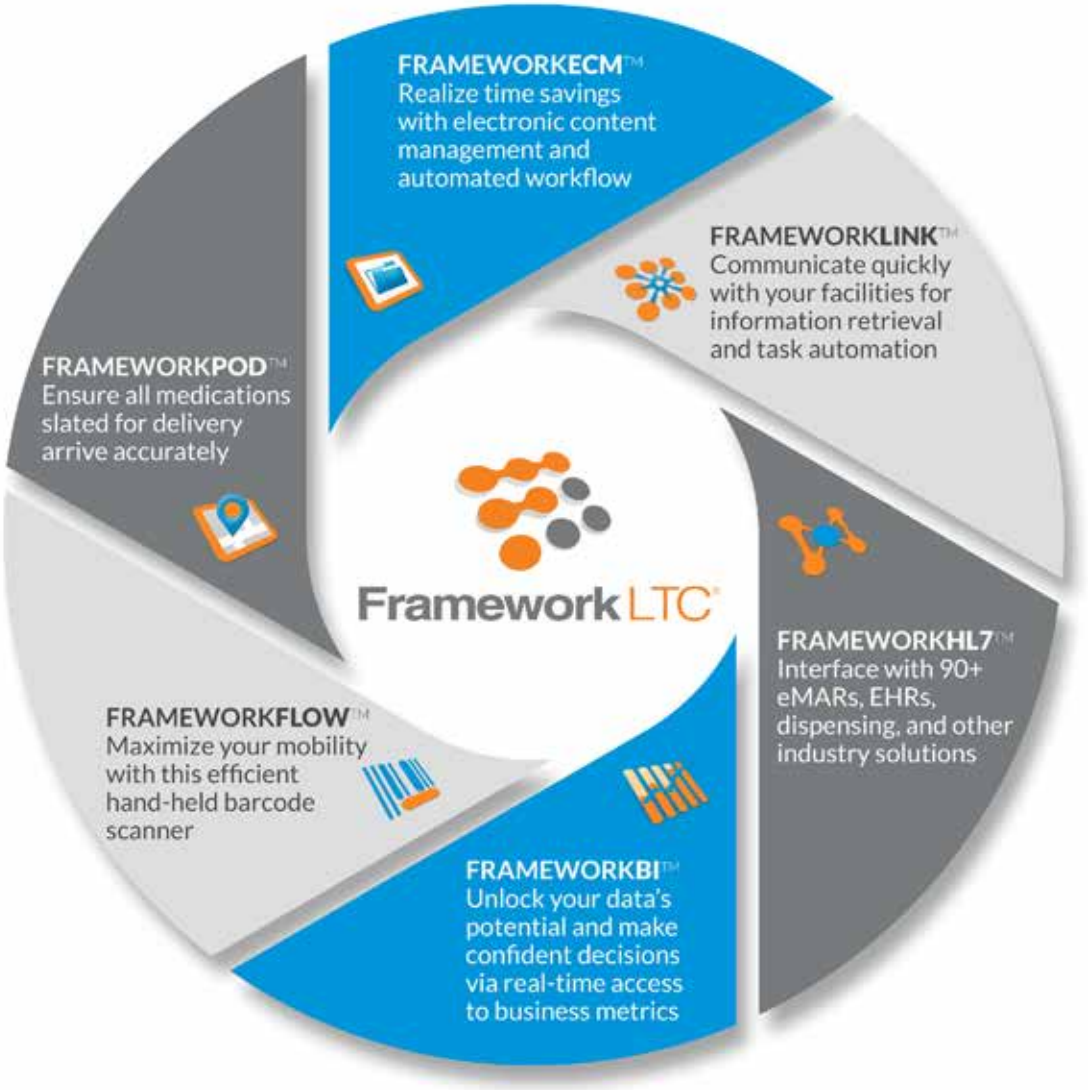

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FOR THE PHARMACIST

July | August 2018
The intersection of technology and management.

COVER STORY

Chain Market Report

by Will Lockwood

SaluMed Pharmacy Owner Tomas Diaz and Thrifty White Pharmacy's Director of Specialty Pharmacy Jeremy Faulks talk about chain pharmacy technology priorities and challenges. We also take a look at the highlights from the response to our survey of chain pharmacy executives. story begins on page 15

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by Bruce Kneeland

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Almost 40% of independent pharmacies who converted pharmacy software in the last year chose PioneerRx. That's nearly double the sales of any other pharmacy system.*

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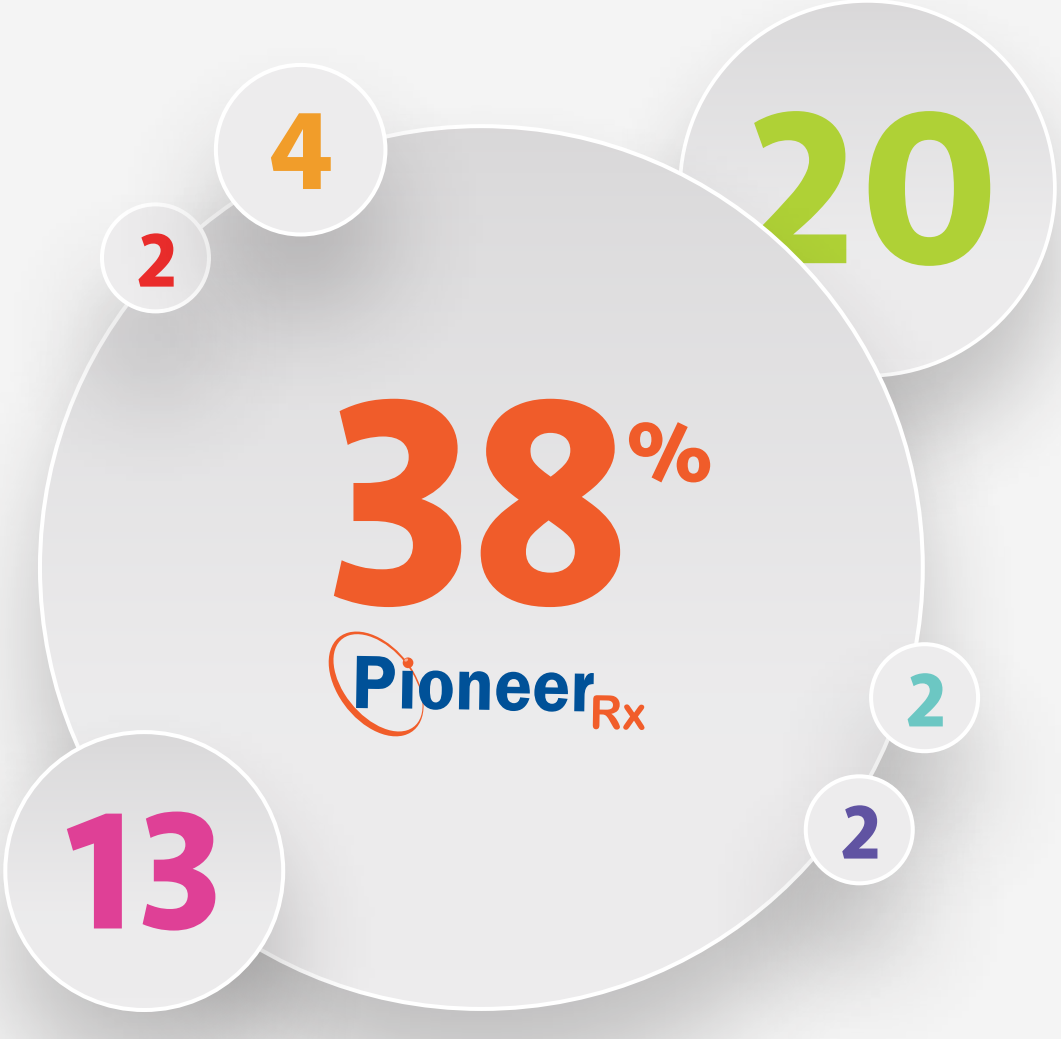

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Data Sharing

HERE I AM ADDRESSING DATA SHARING among state prescription monitoring programs (PMPs). This is happening in a big way, thanks to the National Association of Boards of Pharmacy's PMP InterConnect program. Currently, 45 states have agreed to share data through InterConnect. And the service is being used, with close to 18 million requests a month from prescribers and pharmacists, and 39 million responses.

The point was driven home that InterConnect is the answer to the White House call for national interoperability of prescription monitoring programs back in March.

PMP InterConnect is a highly secure network. The American Society for Automation in Pharmacy (ASAP), the author of the standard every state requires for reporting controlled substances dispensed, has endorsed InterConnect, as has the American Medical Association.

The states have been hard at work in making access to their data easier and faster through redesigned websites and also through support of what is referred to as "one click" access through the workflow in a pharmacy or an EHR (electronic health record) system.

To date 380 facilities in 33 states have enabled point-of-care, one-click access. And several additional states have committed to providing one-click access. Here ASAP also plays a role with its Web Service standard, which has been incorporated into the pharmacy systems from several pharmacy system vendors. This standard allows the request of information on a person of interest from more than one state through InterConnect and can support what's called a "pick list," where states support this type of response. It can also handle a patient's risk scores in a response.

Now Nebraska is using the ASAP standard for pharmacies to report all prescriptions dispensed, not just controlled substances, as a feed to its health information initiative. This expanded use of the ASAP standard demonstrates the important role it is playing not only in addressing the opioid crisis, but also in populating a health information exchange with prescription data for data sharing.

Bottom line: There is a solution to national interoperability that is in place now and is working well. With more and more states requiring registration of prescribers and dispensers with their PMP and with more and more states requiring the prescriber and dispenser to first check the PMP under certain conditions, this is going a long way in addressing the opioid crisis. Data sharing improves the process. **CT**

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industry news

SoftWriters, a Managed Health Care Associates company, has announced that **Tim Tannert** has been promoted to president. With Tannert's promotion to president, **Scott Beatty**, the current SoftWriters CFO, has been promoted to chief operating officer, this in addition to his CFO responsibilities.

Tannert joined SoftWriters in 2011 as COO. During his 20-plus years in the pharmacy profession, he served in multiple executive leadership roles with long-term care (LTC) pharmacy providers, including Omnicare Pharmacy and an independent LTC pharmacy that provided services throughout the state of Ohio. Tannert is a graduate of the R.H. Raabe College of Pharmacy at Ohio Northern University.

Tim Tannert

Scott Beatty

Beatty joined the company in 2015 to lead the finance and human resources areas. Prior to SoftWriters he worked across multiple fast-paced companies in the New York City area. Beatty holds an M.B.A. degree from NYU's Stern School of Business and a B.S. degree in finance from Penn State.

Managed Health Care Associates is a leading healthcare services and software company focused on the alternate site healthcare provider market. SoftWriters is a leading provider of software solutions for pharmacies that provide care to long-term and post-acute-care patients, assisted-living residents, independent-living residents, pharmacies servicing group homes, correctional pharmacies, specialty pharmacies, and pharmacies servicing 340B contracts.

At **SATO America**, **Tim Cook** has been named president. Cook is an industry veteran of 25 years, and six years with SATO America as senior VP of sales. Earlier in his career, he held executive positions with Avery Dennison/Monarch, Zebra Technologies, and Honeywell AIDC.

Tim Cook

Also at SATO America, **Steve Sundstrom** has been appointed the new VP of sales. He has more than 20 years of experience in the technology sector. In the past seven years, Sundstrom held positions with Honeywell, including general manager for printing solutions followed by general manager of its Breakthrough Business unit.

Steve Sundstrom

ScriptPro has partnered with **Jackson Health System** in Miami in developing a compact, flexible, conveyor-automated system for the new Jackson Memorial Pharmacy. According to ScriptPro CEO Mike Coughlin, his company collaborated closely with Steven Nemeroff, Pharm.D., associate director of pharmacy, and other Jackson Health executives to plan this project from the ground up.

Progressive Care Inc., a personalized healthcare services and technology company, has launched a new proprietary patient engagement program, DischargeRX. Through Progressive Care's wholly owned subsidiaries, DischargeRX will provide hospitals with needed support in preventing unnecessary hospital readmissions. At no cost to the hospital or patient, the program will provide access to a PharmCo representative, who will offer medication-related services throughout the patient's transitional process.

Once patients receive a prescription from their physician, PharmCo will obtain their prescriptions directly from the hospital, fill them, and then provide home delivery the same day as discharge in effective adherence packaging.

"Our new DischargeRX program hopes to provide even more patients with Progressive Care's adherence packaging, proactive engagement model, and pharmacological expertise," says S. Parikh Mars, CEO of Progressive Care. The company is based in Miami.

VIP Pharmacy Systems has announced that it has expanded its interfaces with **Parata Systems** to include the Parata PASS Pack system for automated adherence packaging. This Parata system packages prescription and over-the-counter medications into individual dose packs labeled with the day and time for each dose.

"Our cooperation with Parata to integrate with the PASS suite gives our users the ability to improve their patient adherence rates while simplifying medication dosing for those patients and caregivers," says Kenton Summers, VP of VIP Pharmacy Systems. **CT**

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Going Independent

by Bruce Kneeland
Community Pharmacy Specialist

IT IS QUITE COMMON FOR ME WHEN TRAVELING to drop in unannounced on an independent pharmacy or two. Over the past few months these unplanned drop-ins have resulted in my meeting the owners of several brand-new, start-from-scratch pharmacies.

So I started to wonder, with all the problems facing community pharmacy, why would anyone start a brand-new pharmacy, and what advice could he or she share with others contemplating doing the same? So I interviewed four pharmacists who have recently done just that. Here's some of what I learned.

Jason Dykstra, Pharm D., opened Chino Valley Pharmacy, in Chino Valley, Ariz., in the fall of 2016. He says having someone who can help you create and stick to a plan is the most important advice he could offer. Since he was coming out of a grocery store pharmacy chain, he says one critical thing his mentor did was to help him choose a buying group. Together they chose American Associated Pharmacies (AAP). And, he says, once he joined AAP other things fell into place, such as which wholesaler to use and which PSAO (pharmacy services administrative organization) to join.

Ann Deaton Redding, Pharm. D., opened Crossroads Pharmacy Coffee and Gifts in Smiths Station, Ala., in March of this year. Redding had worked for years as a pharmacy and district manager for a big-box chain. So she decided to get the help she needed at the National Community Pharmacists Association (NCPA) Pharmacy Ownership Workshop. The team there helped her create a plan that has seen her pharmacy take off faster than she had originally anticipated.

Selma Alami, Pharm D., is co-owner in Mustang Drug, in Mustang, Okla. The pharmacy opened in the spring of 2017. Alami got the help she needed from her two business partners, who also own three other pharmacies in Oklahoma.

Amy Farlinger, R.Ph., had been working for an independent for 18 years. When the owner sold to a regional chain, the small county-owned hospital approached her with an offer to open an outpatient pharmacy. She opened Cresco Family Pharmacy in Cresco, Iowa, early in 2015.

Selma Alami, Pharm.D.
Mustang Drug
Mustang, Okla.

Farlinger says that because of her relationship with the hospital, some of the decisions a new owner needs to make were easy for her. The pharmacy was to be located in a remodeled section of the hospital. Cardinal Health was chosen as her wholesaler, as that is the company the hospital pharmacy used. And, she says, the hospital's procurement team had already contracted with QS/1 for her pharmacy management system. She says that all worked out great, as each of these vendors bent over backward to help make her pharmacy a success.

But Farlinger says she still had plenty of hurdles to overcome. Even though her pharmacy was owned by the well-established county hospital, it still took months to get all the licenses and permits necessary. And she advises new owners to be prepared for the frustration of not being able to get one license until you have another, which you can't get without the first. "Creativity and persistence is a critical success factor," according to Farlinger.

Dykstra says one thing his community needed was a pharmacy with a professional touch. To that end, he stocks a nice assortment of home medical equipment. To further differentiate his pharmacy from his chain competition, he does medication synchronization, adherence packaging, and home delivery.

Because she was new to the area, Redding spent a lot of time talking to the "locals," trying to understand what would appeal to the community. Her solution: putting in a first-class coffee bar and gift shop. The coffee bar features a variety of coffee blends, as well as fresh, locally produced pastries. She says the coffee bar provides her with a chance to chat with people coming in just for coffee. And Redding says doing that results in a lot of transferred prescriptions.

Since Redding came from a chain

background, she had to do some serious research when it came to selecting a pharmacy system. This included visiting other pharmacies in the area. After seeing some of them in action and talking with several vendors, she selected Liberty Software. She says she really appreciates its customer service, training on the system, and the fact that she can get to any other function the system provides from the primary filling screen.

Ann Deaton Redding, Pharm.D.

Crossroads Pharmacy
Coffee and Gifts
Smiths Station, Ala.

Alami says that as a newly graduated pharmacist and a newcomer to the area, she knew she also needed to network in the community. One avenue she chose was joining the Mustang Chamber of Commerce. And much to her delight, the chamber had started a wellness program in 2015 to help improve the overall health of the community.

Alami supports the wellness program with comprehensive medication reviews that include counseling on drug nutrient depletion. She says some of the enhanced care features in her Computer-Rx pharmacy system make providing this kind of service possible. When asked why she chose Computer-Rx, she says her partners also use the system, and having all four stores on the same platform helps with reports and other management services. And, she says, its customer service, training, and support in helping her get the store open was exceptional.

She also reports good success with the Ortho Molecular drug-induced nutrient depletions program and says the consumer information leaflets and educational support it provides help build front-end sales while also providing patients with reasons to recommend Mustang Drug to their friends.

Farlinger says that from the beginning her practice was going to center on helping people understand and appropriately take their medications. So she provided comprehensive medication reviews and makes the extra effort necessary to communicate with prescribers on ways to improve each patient's medication regimen. The results, according to her, have been improved adherence and better outcomes.

Amy Farlinger, R.Ph.

Cresco Family Pharmacy
Cresco, Iowa

Jason Dykstra, Pharm.D.

Chino Valley Pharmacy
Chino Valley, Ariz.

I did not ask these pharmacy owners for any details on how much it costs to open a pharmacy. But most of those interviewed said getting adequate funding was essential. As Farlinger says, not only do things take longer than you planned, but they also cost more than you expected.

Dykstra advises that you not scrimp on technology. He says he shopped around and found pharmacy systems that cost less, but that after carefully contemplating initial and long-term costs he selected PioneerRx as his pharmacy system. He says it came with a built-in point-of-sale system, which has proven valuable in managing his front end. And he is glad he also has its web page factilitating internet refills.

When it comes to understanding the funding process for a new pharmacy, Alami comes with a unique perspective. As part of her residency, she did a one-month internship at Live Oak Bank. And, she says, she was also helped by being part of the University of Oklahoma's College of Pharmacy team participating in the NCPA Pruitt-Schutte Student Business Plan Competition. So she chimes in with Dykstra in saying that you need do everything you can to secure adequate funding before you get too far into the process.

From talking with these successful startups, a few key points emerge: Have a solid plan; find and use a mentor; get to know your community; and provide that community with some unique service. Finally, realize that everything will take longer and cost more than you planned, so secure adequate funding.

Then, based on the success of these four brand-new pharmacies, it would appear that going independent could be a wise personal and professional choice. **CT**

Bruce Kneeland is a semi-retired pharmacy industry consultant living in Prescott, Ariz. He visits dozens of community pharmacies each year and delivers CE programs intended to help pharmacy owners be more successful. He can be reached at bfkneeland@gmail.com.

Pharmacy at the Center of Collaborative Care: A Case Study

by John Pugh, Pharm.D, R.Ph.
Owner
Prosperity Drug Company

John Pugh, Pharm.D., R.Ph., owner of Prosperity Drug Company in Prosperity, S.C., sees opportunity in building collaborative practice agreements with local hospitals. At this year's QS/1 customer conference, Pugh outlined the steps he took to establish relationships with local physicians and hospitals to put his pharmacy in a role of active manager of his patients.

Building a collaborative relationship with local physicians and hospitals is a natural extension of clinical services offered by the pharmacy. Prosperity Drug Company is a traditional community pharmacy in a 2,100-square-foot building on the square in downtown Prosperity, S.C. About 1,000 square feet on the first floor is dedicated to the front end as well as a soda fountain. The pharmacy is several hundred square feet, with a staff of five pharmacists. There was no "ah-ha" moment to move to clinical services. I believe the profession has changed since I opened the pharmacy in 2006, as payments have shifted and the focus on patient outcomes has increased. We've found opportunities that have led us to expand into clinical services by building collaborative relationships with the physicians and a hospital in our area. The process began when we installed a Medicine-On-Time system in 2012. Originally, it was to service an assisted-living facility. It turned out it wasn't really what that organization needed, so we started offering the packaging to our patients who still lived at home.

GETTING CONNECTED

Once we started using Medicine-On-Time, we promoted multidose blister packaging. It created a really nice product, and we realized that it was truly helping people sort their meds. In the process of developing this service, we learned a lot about how to manage those patients, and a key component was medication reconciliation. Another door opened when a physician we worked with closely began sharing med lists with patients. We saw this valuable piece of information and began asking patients to share their medication list with us. We often found discrepancies between what the patient was actually taking and what the physician thought he or she was taking. Reviewing the medication list and talking with the patient then allowed us to communicate with the physician to determine exactly what medication regimen the patient should be on.

We saw an opportunity here to improve the health of our patients and share information with the doctor, and our staff started asking providers for med lists proactively.

About that same time, medication synchronization was gaining traction nationally. We immediately saw the potential for med sync to bridge the gap between our traditional "on demand" pharmacy and the Medicine-on-Time program. We quickly discovered that medication reconciliation was just as important to running an effective sync program as it was for blister packing. Therefore, we ran these programs internally on parallel tracks and simply filled the Medicine-on-Time prescriptions in blister packs instead of vials.

Once we established working lines of communication with our local providers, it gave us a tremendous opportunity to share other pertinent clinical information. For example, why not look at labs, see if a patient has a contraindication to a drug or has tried one and it didn't work? We met with physicians and explained what we wanted to do. Most are happy to work with you, especially since they don't have to do any additional work on their end. You just have to ask! Once you start reviewing the med lists, you get a lot of information you can share, and that has helped tremendously.

GET THE INFORMATION YOU NEED

The med list allows Prosperity Drug staff to connect the dots between pharmacy and physician. I then thought about helping our local hospital with readmissions, so I met with their administration to see how we could get information about our mutual patients. The biggest challenge

continued on page 12

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Lynn Connelly, R.Ph.
Owner/Pharmacist,
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here was that the hospital does a great job and has an extremely low readmission rate. However, they realized the benefits of collaboration to ensure that their readmission rate stays low. What was important was consistency of information access — reliance on nurses to send over information for patients had room for human error. The IT (information technology) director said the hospital was part of the South Carolina Health Information Exchange (SCHIEx), and our pharmacy could join that network so we could get the information we needed on demand.

It's been very useful to share data through the health information exchange. For example, using the information we get from SCHIEx allows our staff to get patient weights to check doses (especially on pediatric patients) or see if an elderly patient's renal function is sufficient for a med that has been ordered. Since many facilities across the state use SCHIEx, we are not limited to our local hospital. Doctors see the value in this level of care, and the doctor's staff sees Prosperity Drug as the pharmacy "that does it differently."

TRIGGERS

Accessing SCHIEx means we're not dependent on the hospital to send us anything. And we can identify the e-scripts that come from the hospital pretty easily. There is an alert that pops up when a script comes through from a doctor at the hospital when there is a discharge. It allows us to say there is something going on and start asking questions (see a list of triggers at wp.me/p9LtTd-18X).

The collaborative process begins in the pharmacy when the staff notices a trigger that we've created. Once the staff identifies a trigger, a pharmacist can log into SCHIEx to review clinical information. This is a work in progress. As we get better at this process and identifying triggers, we can make

Prosperity Drug is a community pharmacy that has expanded its services to raise its level of patient care through collaborative partnerships with physicians.

notes in our QS/1 system to update what we've learned. We have also set up the system so that an alert pops up when there is a new prescription that may indicate a discharge from the hospital. There is a lot of subtlety in this process, so it is imperative to leverage the pharmacist's expertise. Physicians realize your practice is doing something special when you start making phone calls and say, "Hey, I've received the medication list and noticed the patient should be taking 2 grams of metformin a day, but the fill history indicates he or she is only taking 1 gram a day and the patient complains of GI discomfort. Could the patient switch to an extended-release formulation?" Or you have a patient who's hit the donut hole, and you need to come up with a new strategy so that person can afford his or her diabetes medication. We can come up with a plan using medications the patient can afford and make a recommendation. When we initially meet with the physicians, we explain how this is a value and how we can serve as a resource for them. The doctor will recognize your pharmacy as doing something different, and that's when you stand out.

THE IDEAL PHYSICIAN PARTNER AND HOW TO COMMUNICATE

Everybody's on the same team here in our community in rural South Carolina, because our hospital and physicians are independently owned and locally controlled. Our community doctors admit their own patients to our hospital, so continuity of care is maintained. Our providers have got the end game in mind, which is improved patient outcomes. They are doing it right, and it makes it easier for us to thrive. I think our community is a great testament to how exceptional healthcare can be delivered in rural settings anywhere in America.

In today's healthcare environment, doctors and hospitals have skin in the game, as far as people taking their medications correctly is concerned, because of quality indicators and metrics. However, much is beyond their control. They prescribe the right medication for diabetes, cholesterol, or blood pressure, but the patient goes home and doesn't understand what he or she is supposed to do. We're offering a solution that helps to follow those patients between visits, helping them become adherent to their medication regimen, and resolving any issues before they linger or become a problem.

DOCUMENTATION IN YOUR PHARMACY SYSTEM

Just as you need a relationship with doctors in your area, you also need to have relationships with your pharmacy management system vendor. As you look to document your clinical encounters, you probably

have features in your software already that will support this new workflow, and you need to work with your vendor to see how best to use the system. Also, talk to other customers who are using the system to document clinical outcomes and see what you can learn. We visited two pharmacies to get ideas for what we wanted to do.

For our needs, outcomes notes in QS/1 work perfectly. As you build up information, you can easily review the patient's history. That's another area where pharmacy can step it up. The days of jotting down some notes are over. Use the pharmacy system to document what has happened with a patient, and the staff needs easy access to the information and a streamlined way to note necessary follow-up consultations with the patient or the physician. You want any staff member who is handling the patient file to know exactly where the patient is in the care process, and have the ability to share the information with the physician or hospital and print the file.

IT'S TIME TO START

Other pharmacists have said to me that they are thinking about adding clinical services but have not begun yet. We have to do this to take care of our patients and stay relevant moving forward! For example, when they hear that Amazon is buying PillPack, some pharmacists get worried about change. It can be intimidating. But are these large, national companies doing medication reconciliation? Do they work with local physicians? How are they dealing with medication changes mid-month? There is still a huge need for independent community pharmacists to go out there and do it better. These clinical pieces are the key to what will make us different from any mail-order operation and provide better outcomes for our patients.

We don't have to be a disruptor across the nation — we can be a disruptor in our local area. At Prosperity Drug we make sure we're doing everything we can to take care of our patients and the people who live in our community. Independents are small — that's a strength, not a weakness. We have to ensure we're going out there and coming up with innovative ideas and practicing at the top of our license. We don't want to miss the opportunity just because we haven't done it that way before. **CT**

John Pugh, Pharm.D., has owned Prosperity Drug Company since 2006. He can be reached at jwpugh@prosperitydrug.com.

Pharmacist eCare Plan Now Active in the Marketplace

Eight Technology Vendors Have Pharmacist eCare Plan Functionality

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Chain Market Report

A conversation with two chain pharmacy executives on current technology needs and priorities.

by Will Lockwood
VP | Senior Editor
Will can be reached at
will@computertalk.com

In this conversation we talk with SaluMed Pharmacy Owner Tomas Diaz, R.Ph., and Thrifty White Pharmacy's Director of Specialty Pharmacy Jeremy Faulks, Pharm.D., about the state of chain pharmacy technology priorities and challenges. We also provide a broader look at the market by highlighting a few of the findings from the response to a survey of chain pharmacy executives and offering a few sidebars with expert advice from around the industry.

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ComputerTalk: Let's start off by talking about your latest technology initiative. Tomas, what's been happening at SaluMed Pharmacy?

Tomas Diaz: We recently went live with Epicor's Eagle N POS [point-of-sale] system. It's absolutely critical for us to ensure that we're managing our inventory uniformly in both locations. We needed one database for pricing, ordering, house charge accounts, our loyalty program, etc. Our two pharmacies are only about three miles apart, and I want patients and customers to be able to shop either and get a uniform experience.

CT: There's a real benefit from a focus on what POS can do to manage inventory across locations, then?

Diaz: Yes, you want to look at POS that's scalable. We've found it makes a big difference. It's basically like managing one store.

Jeremy Faulks: Keeping an accurate inventory is incredibly important when it comes to the prescription side of things as well. We actually run a proprietary inventory model with a first-in, first-out system to track prescription inventories across all of our stores. We're also using TCGRx Beacon in several of our busier locations. That's a high-density pick-to-light and put-to-light system. The fact that we fill so many prescriptions centrally helps us manage inventory more effectively, too. Local pharmacies don't carry a whole lot of maintenance meds.

Jeremy Faulks, Pharm.D.
Director of Specialty Pharmacy
Thrifty White Pharmacy

- Ninety-five retail locations in the Midwest
- Central-fill facility
- Long-term care pharmacy serving 27,000 beds across 100 facilities
- Specialty pharmacy serving all 50 states

Technology:

- Proprietary pharmacy management software
- Asembia-1 specialty software
- PrescribeWellness
- TCGRx Beacon inventory management
- Knapp central fill

CT: Jeremy, what's the latest addition to Thrifty White's technology suite?

Faulks: We're in the middle of rolling out PrescribeWellness with the goal being able to really dive deep into the clinical and the outcomes side of pharmacy. We are looking to identify patients who need some sort of clinical intervention and building the workflows that will allow us to both deliver and then document this care. It's all part of building a model in which we are paid for more and more clinical services as prescription reimbursements continue to get squeezed.

CT: That squeeze on prescription reimbursements isn't letting up, is it?

Faulks: No, it's not. It's just getting harder and harder to be a pharmacy where the focus is just on efficiently filling scripts. And this is something that we apply resources to, with our central-fill model, but there's still not a whole lot of wiggle room anymore to fill scripts faster and more cheaply. So we're really putting a lot of our energy around documenting outcomes, helping patients get healthier overall, and demonstrating our value there. We want to be able to go to payers and other partners and show why we should get paid for clinical services versus just putting pills in bottles.

CT: And there's a real need for technology platforms to be successful here?

Faulks: We've been trying to do a lot of this over the past five or 10 years, with paper and spreadsheets, but we realize now the value of pulling all our clinical care efforts together onto one platform so that there's a single loca-

tion for this in the workflow and a single view of what a patient needs.

Diaz: It's very important to us to have a platform that streamlines the clinical work in the pharmacy. We're automating outgoing calls for refill reminders and all sorts of clinical messaging, for example. We also focus on the dashboards we need to see how well we're doing clinically with our patients. We can see our patient population multiple different ways and get into the specific areas that are a focus for [Medicare] Part D star ratings, such as patients on medications for cholesterol or diabetes and those on ACE inhibitors. We use Mirixa and OutcomesMTM as well, for the medication therapy management opportunities, but we really want to see how we are doing and where we're going to have a big impact with a conversation or a phone call.

CT: Speaking of efforts around documenting clinical care, are either of you participating in the Community Pharmacy Enhanced Services Network (CPESN) and using the Pharmacist eCare Plan?

Faulks: Yes. We're actually part of the CPESN network in Iowa and we are using the eCare Plan in some cases. And then we have another MTM [medication therapy management] vendor we use to participate in programs with the state of North Dakota.

CT: Overall, what's the state of actually creating a business model for clinical care?

Faulks: I think we're getting there. We're trying to get it more streamlined from a billing standpoint. I think that's one of the areas of opportunity that we're engaging in through the ability we're gaining to document care in a manner in which we can submit for medical billing and populate, for example, an 837P [professional] form for Medicare billing. So in terms of finding the business model, as we're building clinical services, we're keeping an eye on what it's already possible to bill for.

Tomas Diaz, R.Ph.
Owner
SaluMed Pharmacy

Two locations
Bay Shore and
Brentwood, N.Y.

Technology:

- EasyRx pharmacy management software
- Epicor Eagle N point-of-sale system
- PrescribeWellness
- Digital Pharmacist
- HangRx will-call management

CT: Do workflow and staff roles need to change for this?

Diaz: Our workflow has been changing. For instance, we had a robot in the pharmacy for about 10 years, but now we're just using counting machines and workflow stations. We're finding that's really efficient. Something else we have that's been very positive for us is a TV monitor that alerts patients when their prescription is finished. It's HIPAA compliant. It just puts the patient's name up when the prescription is ready.

CT: And you are using will-call management as well, right?

Diaz: Yes. That's a system that uses lights to show us where the prescription is in will-call. It speeds up that process a lot. That does work well.

Faulks: We've incorporated clinical-care opportunity reminders for patients in the will-call queue in our pharmacy system. So when you look up a prescription, you also see, for example, if the patient should have a CMR [comprehensive medication review] or if they're eligible for a flu shot or plan comparison. This is helping us address one of the biggest problems we've had in the past, which is that patients were just picking up prescriptions and walking out of the store without our team realizing that these other opportunities existed. We've found that the reminder to our team within the will-call queue works very well.

CT: Jeremy, what's Thrifty

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White's strategy for deploying dispensing automation?

Faulks: Similar to Tomas, we haven't had great success with robots in stores. We've had much better success using them as part of our central fill.

CT: The premise of in-store robotics has always been that it's a time saver, though, right?

Faulks: Honestly, we found that it took a decent amount of work to keep dispensing automation at the store level running properly, which meant that we weren't saving as much time as we expected. But as we've been able to gain scale with central fill, we're actually seeing great results. Probably half of what gets dispensed in our stores gets filled centrally right now. Interestingly, the big key for getting to that point for us was building our med synchronization program enrollment. Central fill takes all that work out of the store. So all the store team has to do is dispense the medication and then handle the clinical opportunities.

CT: So a strong med sync program is a key component of making central fill work. And the details of the med sync program are handled centrally as well?

Faulks: Yes, the 10-day check-in call ahead of the fill date to find out about any med changes, any scripts that need to go out for refills or need PAs [prior authorizations] or anything like that, it's all taken care of upstream. At the local pharmacy the team's not worried about trying to fill these scripts that we can plan ahead for using med sync. And that is a real time savings, which is important for doing clinical work because something that we've learned

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Buy or Build?

by Matthew Johnson, Pharm.D., CEO and Co-founder, Amplicare

Progressive pharmacies look to technology to help them accomplish their goals. But the burning question is: Should chain pharmacies buy or build such technology?

MATTHEW JOHNSON

Approximately nine out of 10 Americans live within five miles of a pharmacy, according to the National Association of Chain Drug Stores (NACDS). The local pharmacy has always been at the heart of any American community.

One of the biggest issues a pharmacy faces is scarcity of time. Between 2017 and 2018, the population in the United States increased by 2.3 million. As the number of patients increases, so do the number of prescription fills — which makes pharmacists busier than ever. Moreover, pharmacists desire to spend more time practicing at the top of their license, with greater focus on clinical services and patient care. The severe lack of time makes it harder for pharmacists to see how this desire can ever be attained.

Advantages of buying

- Get a better solution while focusing on core business; pharmacies are not technology firms.
- Lower cost, as the initial R&D and development costs are spread across other clients of the software partner.
- Ability to pilot a solution for fit before investing a significant amount of resources, and use the pilot experience to better plan for successful user adoption.
- Implementation time is faster, even with added custom-developed features.
- With the right software partner, custom development options offer the benefits of building.
- Maintenance and upgrades are the responsibility of the software partner.

Advantages of building

- Full proprietary control of how the platform is built.
- Option to license or sell the platform.

For pharmacies that wish to move nimbly and manage costs more effectively, the advantages of buying outweigh that of building their own solution. The costs for acquiring complete control are high. Due to the lack of in-house core competency in software development, a risk exists for yielding a solution that is not ideal, which may make monetizing it unrealistic. Chain pharmacies have chosen to work with software providers such as Amplicare to rapidly deploy solutions that fit their needs, and also to customize based on their specific desires. Integrating automated alerts (e.g., Amplicare Assist) in the pharmacy management system with clinical opportunities or over-the-counter supplement upsell opportunities saves the pharmacist time that would have been spent in visiting various dashboards to seek out such activities.

The time saved has enabled clinical interventions at chain pharmacies to increase substantially, thus improving patient care and fulfilling the desire of pharmacists to have a greater clinical role. **CT**

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"It definitely improves our workflow efficiency and it's very easy to use. We've tried other counters in the past and they didn't work well for us. The RM1 works and it's a great value. We have seven, one for each of our locations."

Miral Patel, RPh – Owner, Curlew Pharmacies, Clearwater, FL

RxMedic

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is that it's hard to add staff to do that. So the more work that we can pull out of the stores and do centrally, the more time the team has to spend with patients and focus on the clinical.

CT: We've talked a lot about clinical care, and rightfully so. What other opportunities are out there for building pharmacy revenue?

Diaz: Retail is very important to us. It probably generates half of our income, because the salaries and the cost of running it are so much lower than the prescription business.

CT: Retail's an area where you can find more margin?

Diaz: It's an opportunity that a lot of pharmacies miss. The prescription business has a huge revenue number, but look at the bottom line and you can see how important retailing is. As I mentioned, we brought in a new POS from Epicor to strengthen our programs. We want to be able to offer a great frequent shopper program and easy house charge accounts, and take advantage of promotional pricing efficiently. And our POS system really helps us with that. It's crucial for just making it easier for people to shop. We're also finding that there are good opportunities to take advantage of as the retail environment changes. Right now, for example, malls aren't doing well, and companies like Hallmark and some other prestigious brands that shoppers look for want to be in the local communities. So there's an opportunity there for us to develop the front end.

CT: Jeremy, how is Thrifty White approaching retailing and the front end?

Faulks: We've actually taken the opposite approach as retail competition has inten-

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The State of Automation: Trends in Chain Pharmacy

RxMedic Vice President David Williams has been around pharmacy technology for over 30 years. This has given him a keen eye for trends, and in this interview he talks about two areas of automation where he's seen shifting interest in the chain market recently: low-cost counting technology and will-call automation. Williams discusses why RxMedic is focusing on these areas to meet the needs of the chain pharmacy market.

DAVID WILLIAMS

ComputerTalk: David, let's start talking about dispensing automation. What are you seeing right now in the chain market?

David Williams: We're seeing chains moving away from high-end automation at the store level. There's plenty of data that shows that they're moving to central fill, and in some cases, mail order, and moving away from high-end robotics at the individual pharmacy level. Where we're seeing the market for in-store automation going is toward inexpensive counting technology.

This is one reason why we've focused our efforts on our RxMedic RM1, which is a small, simple, vision-based pill counter. Pharmacies have a lot of options for tabletop counting devices, and our product is really intended to be as simple a solution as possible for reducing the costs and time associated with counting oral solid prescriptions. If you're paying staff $50 to $70 an hour and they're spending time counting manually, the return on investment for the RM1 is pretty clear.

It also has an accumulation function that allows you to use it for taking inventory, or for doing counts of C2s.

CT: What other trends are you seeing in terms of chain investment in automation?

Williams: Well, one thing I know from all my years of experience is that when you're on the trade show circuit and you see more and more vendors offering a certain product, that's pretty good evidence of a trend. And we've been seeing a lot of will-call automation systems out there. **CT**

More Online

Breaking Down the Benefits of Will-Call Automation

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Will-Call Management: Beyond Pickup Reminders

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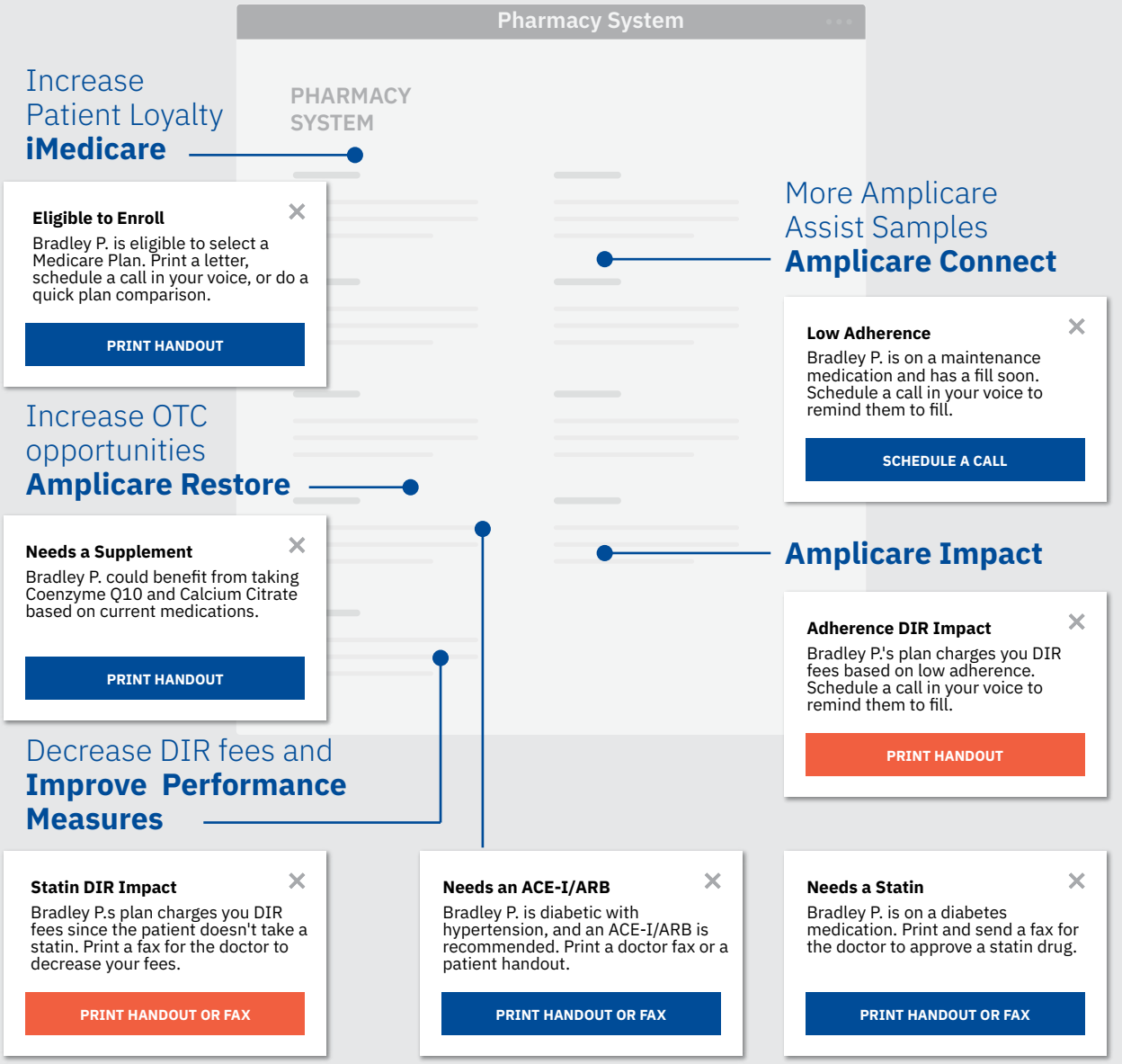

Amplicare

To learn more, contact us at **growth@amplicare.com** or visit **www.amplicare.com**

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sified. We made the decision that we didn't want to try to get cheaper than Walmart or Amazon, and we've been remodeling our stores over the last five or six years to shrink the front end and add more space for clinical counseling suites. All of our new footprints now have three clinical suites that are in space taken away from the front end. We still offer a variety of OTCs, but we're more selective.

CT: Let's talk about the regulatory environment. What are the challenges there right now?

Faulks: There's been a little more press pressure lately on the diversion side of things, with controlled substance reporting and track and trace requirements. We're working on a new suspicious-order monitoring program because we operate a generic warehouse for our stores, some of our affiliate partners, and other independent pharmacies as well.

CT: What are your priorities for the end of the year? What are the things that are top on your to-do list, Tomas?

Diaz: We're making efforts to address DIR [direct and indirect remuneration] fees, which is actually something that improving patient outcomes and star ratings helps with. Then, it's always important to increase margins. The number of prescriptions doesn't really matter anymore. We have to look at having the right insurance mix so that we can increase our prescription margins a bit, and we're focusing more attention on the front end. We're also focusing on DME [durable medical equipment]. We're doing something interesting there, which is working with wholesalers that will actually deliver DME items for us. We help our customer

Knowing the Score: Managing Cumulative Medication Risk

Orsula Knowlton, Pharm.D., M.B.A., is co-founder, president, and chief marketing/business development officer at Tabula Rasa HealthCare. She shares how the company's Medication Risk Score addresses interactions in complex medication regimens, how pharmacogenomics can identify opportunities to improve outcomes, and why it's critical for these tools to be in pharmacists' everyday software workflows.

ComputerTalk: Orsula, tell us about Tabula Rasa HealthCare's concept of a medication safety program.

Orsula Knowlton: It's a concept that we developed around our Medication Risk Score in order to address the very serious issue of adverse drug events, which are the fourth leading cause of death in the United States. We're trying to help patients understand and take ownership of their medication safety, while at the same time positioning the pharmacist as the medication safety coach.

CT: So even with the sophisticated pharmacy systems out there today and the ease of access to drug interaction review, there's still room for improvement?

Knowlton: What we find is that the existing one-to-one drug interaction reviews aren't able to address the cumulative, multi-drug effect of a complex medication regimen. For example, when your vials all have a sleepy eye on them, how do you address that cumulative risk of sedation? When

ORSULA KNOWLTON

medications are metabolized by the same drug pathway, how can these competitive interactions be managed? To date there really hasn't been a way to identify the cumulative risk at the point of care. So we developed the Medication Risk Score, and a good analogy is to the FICO score. The score takes many factors into consideration to assess the risk of a medication regimen as a whole.

CT: How does the Medication Risk Score fit into a pharmacy system's outcomes-focused dashboards, such as adherence metrics?

Knowlton: For the pharmacist, the Medication Risk Score provides the capability not just to assess quickly a patient's cumulative risk, but to manage that risk as well. If the risk score is flashing danger, then the pharmacist can run scenarios to assess which medication recommendations will bring the risk score down into the safe zone. Our technology is able to pinpoint the specific medications that are causing the elevated risk, and because of this the pharmacist has actionable information that he or she can use to make recommendations for changes. **CT**

Read more at wp.me/p9LtTd-18C.

find the right product and do the billing, and the wholesaler ships the item directly to the patient's home, with our name on it. It never has to stop at the pharmacy.

CT: Jeremy, what about Thrifty White Pharmacy?

Faulks: We're rolling out a big update to our dispensing system over the next three to four months in all of our stores. This will bring a lot of big changes to the in-store workflow process. We're streamlining a lot of things that these teams were doing manually before. This is another big piece for making the store process more efficient and faster. Then, alongside that, we're continuing to roll out the PrescribeWellness clinical platform to the rest of our stores to enable them to really leverage the time we'll be freeing up with the new workflow updates. Then next winter we're looking at upgrading central fill and scaling further there.

continued on next page

Findings from the survey...

If you could add one feature right now, what would it be?

- EHR [electronic health record] integration.
- Direct, real-time integrations with clinical software.
- Robust reporting, particularly for specialty pharmacy.
- Improved long-term care module.
- DIR fee management tools.
- Better interfaces with outside vendor platforms.
- Ability to transfer products between pharmacies.
- Easier med-sync functionality.
- Adherence and plan performance metrics.

Read more stats and findings from the 2018 survey at www.computertalk.com/chain-report-2018

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CT: Can you give a good example of a change coming to the in-store workflow?

Faulks: One of the biggest changes is that we're going to be capturing all prescription images electronically, using a camera, essentially, rather than a scanner. So instead of having to print all the labels and a sticker and check on hard copies, everything will be checked against the image of the prescription within the system. Labels won't print out until the store staff scans the product at the fill station. So instead of having baskets and labels everywhere, you won't even get your paperwork until you have the right drug and you are ready to fill.

More Online:

The Top Tech for Patient Engagement

Most Important Adherence Drivers

Most Common Patient Messaging

CT: Will you be using counting technology for this?

Faulks: We're piloting some of that in our stores. We want to try to roll out some more systems into the stores that can actually capture images of the product that was filled, and then the pharmacists check against that image of the pills rather than from looking into the vial. We're familiar with this kind of process already, since we do telepharmacy in about eight stores right now. We're looking at trying to take the same technology we use for telepharmacy and apply that to the community pharmacy workflow so we can get away from having pharmacists stuck behind the counter. **CT**

Rethinking Your Printing: Who Are You Labeling Your Prescriptions for?

WES MOFFETT

With 50 separate state regulatory agencies telling us what we need to put on prescription labels, it is difficult for any multi-state pharmacy chain to comply. National chains may have 50 separate label formats, and often more. But even if you only have to comply with one state's requirements, in many cases it is still difficult.

This is because of the very limited space available on small pill vials. One response is for pharmacies to standardize on pill vials that are at least 13 dram in size. We have probably all seen patients receive a 20 dram vial for what could easily be put in an 8 dram vial. And even though we all want one national oversight agency to issue the rules, it is obviously not going to happen any time soon, so we are stuck with this morass of regulations.

Now think about the changes in the last few years about the actual role of pharmacists within the pharmacy. Are they constantly in the back filling prescriptions? Or are they trying to get up front to interact with the patients more often? Yes, to everyone's benefit they are interacting more with the patients.

So if we are most concerned with the customer's experience, why do we still make it so difficult for them to read what is on the vial label? With the majority of prescriptions being for the elderly, who typically have poor eyesight (sorry to generalize; many younger people have poor eyesight, too), we know quite well that many of the customers cannot read much of the label. How many times have customers asked you to read part of the label to them?

Here is a prime example: First Databank and Medi-Span both provide basic auxiliary warnings for all drugs. These are printed in a 5 point font, regardless of the number of words. Can anybody really read these? They are usually reprinted on the patient information leaflets (PIL), but again in the same format, so they have very limited value. Whereas if you use the exact same warnings, but from a provider like Architext, you will have this difference:

Which do you think best serves your customers?

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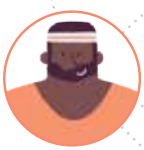

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Rethinking Your Printing: Who Are You Labeling Your Prescriptions for?

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While it costs a touch more to use these enhanced warnings, what about the things that don't cost you any more to print? Our local pharmacy prints the prescription number, patient name, medication name and instructions, and pharmacy phone number in relatively large print; everything else is too small for many people to read.

And while there simply is not enough room on some prescriptions to print everything in large type, on most prescriptions there is room. So how about using intelligence in your software to look at the amount of instruction for any medication and decide if you could use some of the extra room to print the medication identification in large print? Or any of the other things we print in such small type? Why print in unreadably small type when there is extra space on the label?

So far, we have only talked about the label printing, but we also need to think about the PIL printing. This is done on a laser printer, and it is expensive to keep replenishing the toner. So first, why do we print the PIL at all? Bottom line: Because the lawyers run our society. But suppose the patient doesn't want the paper? Maybe for environmental reasons, maybe because it is a refill and he or she doesn't need the information repeated, maybe for other reasons.

So the right thing to do would be to ask patients if they want the PIL. But we don't do this — we print it out in advance. Why do we do this? Primarily so as not to slow down the checkout process at busy times. Yet how often does a medication not get picked up? Sure, you can return the medicine to stock, but you have to throw away the PIL that you preprinted. In some chains it is estimated that up to 10% of PILs are either thrown away or need to be changed and printed again.

How would you like to lower your toner cost by 10%?

I understand printing these in advance so as not to form a line at the register. But if you fill fewer than 150 prescriptions per day, you are not going to have much of a line at the register, even during peak times. When pharmacy technology teams evaluate new laser printers, they ask several questions, but two of the most important to them are: What is the time for the first page to print, and what is the speed of the printer? If you bought based on this, then you have laser printers that are fast enough to print at time of checkout. And you might be surprised at how many customers say that, no, they do not need the PIL. There are newer methods of providing this information digitally that many customers would prefer. I very much enjoy speaking with pharmacies about newer methods that are better for everyone.

My point is that whether it is a pill vial label or a patient information leaflet, there are better ways to use what you print in order to increase customer satisfaction. Let's stop just following past procedures and think about what is best for our customers (and hence for our business). Or should we return to having the pharmacist stay in the back? **CT**

Wes Moffett is president of Printed Solutions, which specializes in helping pharmacies deploy printers and labels that improve workflow and save money. He can be reached at wesm@printedsolutions.com.

Delivering on Adherence: How Packaging and Med Sync Drive Results

Hashim Zaibak, Pharm.D., has built Hayat Pharmacy into an 11-location chain in the Milwaukee area, with a focus on improving adherence and patient outcomes in underserved communities, including those with recent immigrants who are often not very familiar with the U.S. healthcare system and pharmacy services. One way Zaibak has done this is to combine a strong delivery program with TCGRx's AdherePac packaging, produced by the ATP system. Hayat Pharmacy is now also using TCGRx's blister filling solution, SmartCardRx. Find out why Zaibak has adherence packaging playing a central role, and his thoughts on the Amazon-PillPack acquisition.

ComputerTalk: Hashim, you've built a chain pharmacy from scratch starting in 2011. That's quite a feat. How did it happen?

Hashim Zaibak: I was looking to move on from working at a major chain in 2011 when I was approached by a group of independent physicians that had built a brand-new building with a clinic in it. They wanted to put an independent pharmacy inside. I was very interested and did my homework, including attending one of NCPA's [National Community Pharmacists Association's] ownership workshops and traveling to Chicago to talk to some of the people who own pharmacies there.

Keep in mind that we didn't start with the idea of becoming a chain. We started the business with that single pharmacy inside the clinic, but our success there led me to look to build the current pharmacy group.

CT: Walk us through your adherence program. Why did you start building it, and what are the key elements?

Zaibak: We started out with a medication synchronization program called Simplify My Meds. We work with a lot of underserved communities, including many new immigrants who lack some of the basic information about why it's important to be adherent to their medications. Right there, we saw a real need to help our patients, and med sync is the start of removing the barrier of having prescriptions filled throughout the month, requiring them to make multiple trips in to see us.

CT: And how does the adherence packaging element come in?

Zaibak: Once we're filling a patient's prescriptions all at once, taking the multiple vials out of the equation can be a big help for many people. We started by offering the strip packaging from TCGRx's ATP, and we've since added in their new SmartCardRx blister filling solution. We're finding that some retail patients do in fact prefer the blister cards we fill with SmartCardRx, and we've recently started to work with some smaller group homes that prefer the blister cards, too.

The Details: Hayat Pharmacy

- PioneerRx chain-wide.
- TCGRx ATP and SmartCardRx for adherence packaging.
- Offers Simplify My Meds with approximately 3,000 patients enrolled.

CT: You've made one of your locations your adherence packaging center, right? How did you decide on this?

Zaibak: Yes, we chose to put both the ATP and SmartCardRx in one location, which is centrally located, and offer patients the option of having their prescriptions delivered if that pharmacy isn't their preferred location and they aren't able to get in to pick them up.

I'll note that there are a couple of things we find are important to make this model work. First, you need to have a pharmacy management system with strong chain functionality, so that it's easy to transfer a patient's prescriptions to the location with the adherence packaging. This is something we find PioneerRx makes very easy for us.

Second, make sure you have enough space in the location you choose. You need to accommodate the footprint of the automation or packaging station, and you need to have the space to allow for the packaging workflow.

CT: It sounds as if delivery plays an important role, too.

Zaibak: It does. Today we have 10 full-time drivers, and a good percentage of our business is delivered. We're building adherence through med sync with packaging, and we can't have that break down by making it hard for our patients to actually get the prescriptions that we're filling for them because, for instance, they lack good transportation options. Delivering prescriptions packaged in these formats is another way for us to remove any barriers to providing the best outcomes for our patients.

CT: Let's turn to a very current topic, briefly. It seems as if Amazon sees a lot of potential in the packaging model.

Zaibak: PillPack is definitely a very similar concept. What this says to me is that we made a good decision getting into adherence packaging a couple of years ago. Amazon's announcement has made me even more comfortable that we've made the right decision. **CT**

Multistore Independent Pharmacy Streamlines Operations with New Technology

Founded in 1989, SaluMed Pharmacy operates two locations that have always centered on the primary goal of fulfilling the needs of the central Long Island, N.Y., community and its Hispanic market — labeling products and prescriptions in Spanish, featuring Spanish-language consultations, and offering translation services.

In January 2018, SaluMed Pharmacy began leveraging the Epicor Eagle N Series retail pharmacy management solution to focus on multistore integration, customer centricity, reducing pricing and inventory errors, and improving business reporting.

"We've always been a technology-savvy business, and see the value in an integrated point of sale (POS) system. We had been using a 'home grown' system as our POS solution that, over the last few years, hadn't been able to fulfill business needs. The restricted functionality of that solution was gravely limiting our ability to improve the business," says Tomas Diaz, owner, SaluMed Pharmacy. "We implemented the robust Epicor Eagle N Series solution to gain efficiency, improve customer service, utilize business analytics data, increase customer loyalty, enhance promotional pricing, and especially, take advantage of its multistore capabilities that fit our business."

Seamless Pharmacy and Retail Integration

The pharmacy business is no longer exclusively about prescriptions — steadily, pharmacies are becoming more and more reliant on front-end retail operations to maintain margins, fuel growth, and — perhaps most importantly — meet the growing expectations of their customers. They must efficiently and effectively manage their front-end inventory to maximize profits and optimize competitive pricing to drive front-end growth. Inventory management, pricing, and planning are critical to the business. "We're a business that has high-volume front-end operations. Eagle N Series software helps us manage our multistore format more easily," adds Diaz. "With our previous solution, consistency with pricing and inventory in both locations was a continuous struggle. Completing inventory transfers and manual entry between stores was also difficult and a very fragmented process. Now with Epicor, once we update prices and inventory count in the system, it seamlessly and instantaneously updates that information across the business. This keeps us accurate and consistent for our customers and finances — encouraging optimal business growth."

"We implemented the robust Epicor Ealge N Series solution to gain efficiency, improve customer service, utilize business analytics data, increase customer loyalty, enhance promotional pricing, and, especially take advantage of its multistore capabilities."

Tomas Diaz
Owner
SaluMed Pharmacy

Epicor Software Corporation drives business growth. We provide flexible, industry-specific software that is designed around the precise needs of our manufacturing, distribution, retail, and service industry customers. For more information, please visit www.epicor.com. **CT**

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Worth Quoting

George Pennebaker, Pharm.D.

I WAS JUST GETTING A PRETTY GOOD IDEA about what to put in my next column when the fire began near our home. It got big, fast. I am now finally able to relax and write.

You probably read about the "County Fire" in Yolo County, Calif. It has burned over 90,000 acres of land. Three thousand to 4,000 firefighters on the lines, airplanes, helicopters, and "You must evacuate" orders to us and many of our neighbors.

When the sheriff drives in with all of the patrol car's lights blazing and blinking and says you need to leave NOW, it sure interferes with your normal habits. We grabbed our medications, our computers, and our dog, and left. Thank goodness we have close relatives with a large house about 30 minutes away. We stayed with them for about five days.

I emailed the Lockwoods and told them I would be late with my column, and that I didn't know how late because these fires are so unpredictable. They said stay safe and get it to us when you can. So here is what I was thinking about when I got interrupted.

QUOTES AND COMMENTS

I collect quotes. I like to use them because they always do a better job of saying what I want to say. Here are some of my favorites, with a few comments.

> "If you tell the truth, you don't have to remember anything."
>
> — Mark Twain

He was famous for his writing and insights on the characteristics of his era. He also provided us with the best quote of all. Everyone should have this one embedded in his or her soul.

> "When you reach the end of your rope, tie a knot in it and hang on."
>
> — Franklin D. Roosevelt

We all get into frustrating circumstances every now and then. That's the time to hang on and work through them without giving up. If you throw up your arms, you will let go of that rope and surely fall.

> "Laughter is the closest distance between two people."
>
> — Victor Borge

Victor Borge was an accomplished concert pianist. When he made some comments during a performance, he discovered that he also had a talent for comedy. His shows turned into comedy interrupted with piano performance.

Think about it: Sharing a laugh is wonderful.

Then there are some that, as true as they are in all places, seem to come up more under our current political climate.

> "With indifference there can be no response. No chance for justice. No chance for change. Indifference is worse than hatred and prejudice."
>
> — Anonymous

So true. All of us who have concerns about an issue need to shed indifference and do something. Getting involved does not just happen to you. It requires your initiative to go to that meeting of a group of people you don't know but might find interesting.

> "Too often, we judge other groups by their worst examples, while judging ourselves by our best intentions."
>
> — George W. Bush

Another think-about-it. We gather others into a group and give it a name, often derogatory, and then compare its figurehead to our own intentions, which are often no more than intentions.

> "Common sense is nothing more than a deposit of prejudices laid down in the mind before you reach eighteen."
>
> — Albert Einstein

> "Only two things are infinite, the universe and human stupidity, and I'm not sure about the former."
>
> — Albert Einstein

He kind of put us all in our place. Of course, he is known as the big thinker, so it is reasonable for him to think that the rest of us are not.

AND THEN THERE ARE THE FUN QUOTES

> "Beer is proof God loves us."
>
> — Anonymous

I think it's time for one.

> "If at first you don't succeed, then skydiving is not for you."
>
> — Steven Wright

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As an ex-pilot I could never understand why people wanted to jump out of perfectly good airplanes. The first time or the hundredth time.

> "It was impossible to get a conversation going, everybody was talking too much."
>
> — Yogi Berra

There are so many times when it seems that with this much energy and knowledge in the room it would be nice to have a conversation that has some depth instead of the chatter that skims over the surface of interesting subjects.

CAREER AND LIFESTYLE

> "I'm always ready, sometimes prepared."
>
> — George Pennebaker

It's really a motto. Having that attitude has put me in some of the strangest positions and unbelievable opportunities. I have taken jobs that I was totally unprepared for and succeeded in most of them. (This column, started in 1985, is just one of them.)

> "If you aren't in over your head, how do you know how tall you are?"
>
> — T.S. Eliot

I think that too many people don't attain their potential because they just get to a point where they are comfortable and stop exploring new goals. That's too bad.

> "If you can find a path with no obstacles, it probably doesn't lead anywhere."
>
> — Frank A. Clark

WRAP-UP

These are some of my favorites. I am sure each of you also has some favorite quotes. Please forward them to me. We might get enough for another column.

P.S. As this is being written the fire is still burning in some remote areas. No one was killed or injured. No houses or major structures were damaged. California's fire forces are experienced and very well trained, as well as dedicated. **CT**

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Blockchain 101: Foundations and Potential in Pharmacy

Brent I. Fox
Pharm.D., Ph.D.

Joshua C. Hollingsworth
Pharm.D., Ph.D.

THE INTERNET OF THINGS!

Quantum computing! Artificial intelligence! Digital detox! What do these terms have in common? They are some of the most popular buzzwords in the technology industry today. The savviest of *ComputerTalk*'s readers can likely add several more words to our list. In fact, many readers are probably having one of those "duh" moments, as they wonder why blockchain is not included in the list above. If forced to rank the technologies that are receiving the most hype and buzz, we would in fact select blockchain as number one. Rarely a day passes when an article or video on blockchain does not cross our paths in one form or another. Try this: Search Google or Bing for "blockchain" and review the page titles (after skipping over the promoted search results).

Most likely, your results are going to range in scope from blogs and commercial sites to sites from established organizations whose goals are to provide informative, objective information. Additionally, in today's world, most people mentally link blockchain with its currently most widely recognized application: cryptocurrency. And the cryptocurrency that is most established and well known is Bitcoin. But our goal in this column is to provide *ComputerTalk*'s readers with a shared, foundational understanding of blockchain technology and how it may play a role in pharmacy.

As history buffs, we have to start at the very beginning (it seems a perfect place to start… remember "The Sound of Music"?).

If forced to rank the technologies that are receiving the most hype and buzz, we would in fact select blockchain as number one. Rarely a day passes when an article or video on blockchain does not cross our paths in one form or another. Try this: Search Google or Bing for "blockchain" and review the page titles.

The first known reference to using cryptography to secure blocks of data to ensure that timestamps could not be altered dates to 1991 (https://link.springer.com/article/10.1007%2FBF00196791). Fast forward to 2008 when Satoshi Nakamoto published a paper describing a method to secure an electronic system of currency (https://bitcoin.org/bitcoin.pdf). The system was based on the blockchain (and cryptography), and it solved the problem of previous digital currencies: How to prevent someone from spending the same currency more than once. Bitcoin was born. Adding to the intrigue, Satoshi Nakamoto is a pseudonym. While some believe the CIA knows the true identify of Satoshi Nakamoto (the person or persons), no one has publicly and verifiably been identified as the inventor of Bitcoin.

WHAT IS A BLOCKCHAIN?

At this point, we should clarify relevant terms and draw several important distinctions. A blockchain is a distributed, electronic ledger that consists of a series of blocks (i.e., transactions) linked together through cryptography. Cryptography is the use of complex mathematical processes to store and transmit data to ensure that it is only accessed by authorized users. Blockchains are built in a sequential, longitudinal order and cannot be deleted. All computers that access a blockchain must approve the addition of new blocks. If a block is not approved, it is not added to the chain. One of the most important aspects of blockchains is that they are peer-to-peer networks.

What does this mean? Blockchains exist in the digital world and are accessed through software (and even phone apps), although the average consumer will likely not see the actual blockchain. Blockchains

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are distributed so that all parties connected to the blockchain have a shared version of the records on the chain. New blocks (i.e., transactions) are added to a blockchain only after all parties verify the authenticity of the block. Once added to a blockchain, a block cannot be altered. This is often referred to as "immutability" and is important for establishing trust in the chain. Collectively, these characteristics of blockchains lead to one of their most important features: They eliminate the need for an intermediary to verify transactions between entities. Whereas traditional banks served as the intermediary between parties involved in a transaction, the blockchain allows parties who do not necessarily know each other to conduct transactions without actually needing to trust each other. Instead, the parties trust the blockchain.

Hopefully, the previous discussion helps clarify why Bitcoin is receiving so much attention, both positive and negative. Because it is built on a blockchain, Bitcoin (and other cryptocurrencies) allows individuals to securely and privately conduct transactions without the need for an intermediary.

POTENTIAL USE IN PHARMACY

What about other applications of blockchain besides currency? Can you think of anything that is commonly encountered in pharmacy that is shared electronically between multiple people? It contains private information and should only be accessed by authorized individuals. This "thing" ideally should have an associated audit trail that verifies its authenticity and history, and cannot be altered or deleted. Yes, you guessed correctly: Prescriptions are an obvious blockchain-use case. Consider that multiple pharmacies on a shared blockchain would have access to the single "truth" regarding any prescription on that blockchain. The blockchain could serve as the source for information about any individual prescription, as well as provide patients' complete medication histories.

Yes, you guessed correctly: Prescriptions are an obvious blockchain-use case. Consider that multiple pharmacies on a shared blockchain would have access to the single "truth" regarding any prescription on that blockchain.

Another and related potential application of blockchain is the supply chain. Two factors are currently driving interest in securing the pharmaceutical supply chain: controlled substance diversion and the Drug Supply Chain Security Act (DSCSA). In both contexts, the ultimate goals are to identify if drugs "leak" from the supply chain or are introduced by an unauthorized entity, and to enable authenticity of returned medications. In 2017, several pharma companies, along with McKesson and AmerisourceBergen, initiated the MediLedger Project, which aimed to evaluate blockchain as a mechanism to track and trace medications throughout the supply chain. In other words, could a blockchain-based system meet DSCSA requirements? An important challenge in this context was to ensure data privacy while maintaining pharma business intelligence and provenance. Ultimately, the MediLedger Project demonstrated that a blockchain-based solution was able to meet DSCSA requirements.

Other potential use cases for blockchain that are currently being explored include documenting when an EHR (electronic health record) is accessed and modified. Porsche is examining blockchain as a mechanism for maintaining automobile records. The disparity of these two examples illustrates the fundamental utility of blockchain technology: It is a method to securely maintain transaction records in a peer-to-peer network without the need for an intermediary. But is the hype realistic? The answer remains to be seen. One looming challenge is quantum computing, which experts are predicting will provide the computational capacity to "break" the immutability of blockchain cryptography. To overcome this pending limitation, others have recommended creating quantum blockchains, which include quantum particles. While the engineers tangle with quantum blockchains, we will continue to explore the role of blockchains in pharmacy and healthcare. Please let us know if you have any thoughts on this topic. **CT**

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Health Information Exchange

Marsha K. Millonig
B.Pharm., M.B.A.

I HAVE SPOKEN AT ASAP

(American Society for Automation in Pharmacy) meetings in the past about health information exchange (HIE) and the role of the pharmacist in this important component of patient care. In those presentations, I reviewed pharmacy's role in health information technology — always a leader — and identified key steps to ensure that pharmacists can exchange information appropriately to support the delivery of patient care. Understanding the priorities behind the decision to exchange data and determining what and how it is to be exchanged were among those key steps.

We all intrinsically understand that the safe, timely, and accurate exchange of health information is a necessity. In this day and age, we expect ease in our transactions. We have it in our personal lives — shopping, banking, transportation — yet struggle for it in our industry.

Progress has been slower than anticipated during the last two years. Pharmacists are doing good work when it comes to checking their local prescription drug monitoring program (PDMP), which is a valuable tool in addressing the overuse and misuse of opioids. But exchanging other information, such as lab values, immunization administration records, allergy and adverse event reporting, and documentation of care provided, still does not routinely occur within workflow.

It is clear that exchanging information is important, so why has the industry not gained more momentum? There are likely quite a few reasons. First is probably resources and priorities. Data exchange partners have to agree on what information can and should be exchanged. Then resources have to be allocated to assess the exchange mechanisms, e.g., secure email such as DIRECT or SFTP (secure file transfer protocol), and whether a standard or a proprietary format will be used. Once those decisions are made, then planners must consider how to integrate the data exchanged into the workflow. Exchanging the data only has value if it is available to the end users when and where they need to see it. All the basics of project management then come into play — timelines, milestones, resources — in order to achieve the goal of exchanging information. And this process is likely to be repeated depending on the type of data or the exchange partners involved.

The Centers for Medicare and Medicaid Services (CMS) published a final rule in April 2018 that will drive the industry's transition to a more current version. Compliance with this new version is required for those who are subject to the regulation by Jan. 1, 2020.

Another likely reason for the delay is that the industry has been waiting for a newer version of NCPDP's SCRIPT Standard to more effectively exchange data such as allergy or adverse events, prescription fill status, and prior authorization information. The Centers for Medicare and Medicaid Services (CMS) published a final rule in April 2018 that will drive the industry's transition to a more current version. Compliance with this new version is required for those who are subject to the regulation by Jan. 1, 2020. More information and a link to the final rule are available at https://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2018-Fact-sheets-items/2018-04-02.html.

LOOKING AHEAD

So within the next two years, pharmacists and prescribers will have a more effective tool to exchange data. The challenge will be in seeing if there is interest and capacity in leveraging all

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that the SCRIPT Standard can support. Otherwise, we'll be where we are today, exchanging the bare minimum on a prescription-related transaction. That minimum will change either through regulation or through industry, or patient demand.

And what about other trading partners, such as payers? The new version of the SCRIPT Standard includes enhancements to the prior authorization transactions (generally exchanged between the prescriber and the payer/PA processor). It's clear that use of electronic prior authorization improves efficiency and positively impacts patient care by reducing the time needed to process a prior authorization request. Proprietary solutions are available in the marketplace that allow a prescriber to check the pharmacy benefit, in real time, before sending a prescription to the pharmacy. This type of data exchange can lead to smarter prescribing decisions — selecting a product with the highest coverage level for the patient — that can improve adherence and reduce inefficiencies in the prescribing process. Yet adoption of these tools takes time, and many are waiting for either a standard transaction that will be used by all prescribers and payers, or a mandate before investing the time and effort to implement a new feature.

The primary data exchange between a pharmacist and payer involves claims transactions. On May 17, 2018, the National Committee on Vital and Health Statistics sent a letter to the Secretary of Health and Human Services recommending that the standard named for pharmacy claim billing be updated to a newer version. This occurs nearly nine years after the last version was named.

FOR MORE ON HEALTH INFORMATION EXCHANGE

To review all the act's provisions, visit:
https://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2018-Fact-sheets-items/2018-04-02.html

As pharmacists continue to provide additional services, they need a way to document their work to support any associated billing. Pharmacy systems will need a way to capture care documentation and associated code systems so that claims can be promptly and efficiently submitted.

As with the SCRIPT Standard, the telecommunication standard has seen dozens of changes included at the request of the industry. Moving to this new version will improve the ability of pharmacies and payers to exchange data. No specific timeline for this transition has yet been announced.

As pharmacists continue to provide additional services, they need a way to document their work to support any associated billing. Pharmacy systems will need a way to capture care documentation and associated code systems so that claims can be promptly and efficiently submitted. Standards are available that can support the exchange of information; the greater challenge is extracting the data from whichever system stores it, if there even is a system to store it. There are solutions available, whether embedded within current pharmacy management systems or as an add-on tool that can integrate with existing systems. These tools will be extremely valuable as pharmacists offer more services that are reimbursable.

Hopefully, when we look back two years from now we'll be able to report on significant progress regarding health information exchange. I'll continue to keep readers updated on developments. **CT**

Marsha K. Millonig, B.Pharm., M.B.A., is president of Catalyst Enterprises LLC in Eagan, Minn. The firm provides consulting, research, and writing services to the healthcare industry. The author can be reached at mmillonig@catalystenterprises.net.

Interoperability, FHIR, and Blockchain

Tim Kosty, R.Ph., M.B.A.

THE 21ST CENTURY CURES ACT

(Cures Act) was signed into law in December 2016. The law requires the Office of the National Coordinator for Health Information Technology (ONC) to create a pathway for establishing an interoperable exchange of electronic health information. Section 4003 of the act directs the ONC to "develop or support a trusted exchange framework, including a common agreement among health information networks nationally." The network will be called the Nationwide Health Information Network (NHIN).

Congress tasked the ONC with addressing the core principle of interoperability, which is defined as building and maintaining trust. The ONC's vision of interoperability includes:

- Patient-centered care by means of a system where healthcare providers have the capability to access patient health information from all available sources in a convenient, secure, and judicious manner.
- A system that delivers a longitudinal picture of a patient's health.
- A mechanism for researchers to harness health information data to advance research and development.
- Full and convenient access for patients to their complete personal health records.

WHAT IS THE PURPOSE OF INTEROPERABILITY?

The purpose of interoperability is to provide relevant and timely information to healthcare providers at the point of care, with the goal of improving healthcare decision-making and patient outcomes. The Standards and Interoperability (S&I) Framework presented by the ONC provides insight into the components needed to achieve the seamless electronic interchange of health information between organizations and information systems. The S&I Framework includes:

> Implementing the TEF appears to be a "field of dreams" venture. The use of blockchain technology in products like Apple Health Records will make TEF obsolete before it is implemented.

- Technical infrastructure (directories and certificate authority).
- Use cases and health information standards.
- A process to evaluate, test, and refine the standards exchange.
- Certified products that meet security and interoperability standards.
- Policies and governance structures for the NHIN.

The framework components require a central, trusted authority to facilitate the exchange of healthcare information, create legal agreements to protect all participants, certify compliance with the technical standards, and ensure that standard policies and procedures are used. The Cures Act envisions health information exchanges (HIEs) linked together across the country. The ONC has specified that a trusted exchange framework (TEF) include the selection of a single recognized coordinating entity (RCE) through an RFP (request for proposal) process that has extensive experience with existing health information network capabilities. Once selected, the RCE will work within the TEF framework to develop a "common agreement" that qualified health information networks (HINs) and their participants can voluntarily adopt.

QUALIFIED HEALTH INFORMATION NETWORKS

Qualified HINs will be the HIEs that have been selected to participate in the National Health Information Network. HIEs are in place around the country and are focused regionally or within a state, making them natural qualified HIN candidates. From an operating perspective, CMS (the Centers for Medicare and Medicaid Services) has indicated they would like the network to contain the fewest number of qualified HINs possible.

PROJECTED TIMELINES

In January and February, there was a 45-

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day public comment period on the Draft Trust Exchange Framework. Press reports on the comments indicate the industry had major concerns about limiting the number of HIEs participating and the administrative and technical requirements that will be handled by the RCE. The ONC schedule noted that the RCE selection and the final draft of the combined Trusted Exchange Framework and Common Agreement (TEFCA) are expected mid-2018. It is likely that this time frame will be delayed as the public comments are evaluated and responded to by the agency.

CURES ACT IMPLEMENTATION CHALLENGES

The TEF is a complex system, and it will be challenging to get all industry participants to sign the common agreement, given the cyber security concerns and the firewalls needed for organizations to protect their internal IT (information technology) assets. One cyber security issue still needing to be addressed includes who is responsible for network breaches. Healthcare companies must also assign administrative rights and responsibilities to access the NHIN and create the structure and process to implement changes post-implementation.

Because participation in the TEF is voluntary, the ONC will need to incentivize involvement. All healthcare systems have extensive IT development lists and processes to determine which initiatives to fund. Outside of required regulatory updates, IT initiative business cases must be chosen based on expected financial outcomes and improvement of patient care, which remain unknown for NHIN.

All stakeholders need to achieve a final consensus on the common agreement. Once the draft is published, attorneys will dissect the draft and generate many comments for review and adjudication. The RCE needs to be selected and contracted by the ONC, which could prove challenging. Finally, the ROI (return on investment) is not clear for health systems to prioritize IT development funds. Expect a long implementation timeline for the TEF and NHIN to become operational.

PRIVATE SECTOR SOLUTIONS TO INTEROPERABILITY

The Cures Act and TEF are the government's plan to create interoperability across the nation, but the private sector is also creating interoperability solutions and leveraging the latest blockchain technology to facilitate data access. Blockchain is a distributed ledger technology that is the basis for Bitcoin and other cyber currencies. The technology behind blockchain is expected to revolutionize the tracking of information in many industries, including healthcare.

BLOCKCHAIN CHARACTERISTICS

Blockchain does not require a trusted central authority to validate network participants. A network of computers (nodes) maintains and secures the blockchain, while each participant stores a copy. The blockchain cannot be changed, but new information/blocks can be added via mathematical validation by the nodes. Blockchain is based on a cryptographic mathematical structure that is nearly impossible to fake.

Some blockchains are private and require permission to access, while others are public, such as Bitcoin, and no permission is needed to add blocks to the chain. No single entity owns or controls a public blockchain; it is a distributed ledger with no central trusted authority and the nodes (participants) do not need to trust each other. The verification process eliminates this trust requirement, so there is no need for data-sharing agreements or processes and procedures; network protocols are also eliminated.

APPLE'S HEALTH VIEWER

In January 2018, Apple launched its Health Records patient data viewer, with a pilot program with 12 participating health systems. Two months later, 39 health systems were participating, a 325% increase and an extraordinary adoption rate. The Apple HealthView uses Fast Healthcare Interoperability Resources (FHIR, pronounced fire) to access data through electronic health record (EHR) systems.

FHIR is a draft standard created by HL7 (FHIR V3) and uses modular components called "Resources" that can be thought of as APIs (application program interfaces) that pull specific data from EHRs. Like ordering a product online where there is a URL specifying the product location in the vendors' database, FHIR technology uses similar principles. HL7 has created multiple implementation libraries to assist developers, and FHIR is free, enabling many developers to build applications with this technology.

The Apple Health Record is based on both blockchain and FHIR technologies. Health systems do not need complex data-shar-

ing and cybersecurity agreements, and no central trusted authority is required. Apple has created a patient-centric model where the patient agrees with an end-user agreement. This minimizes liability, as patients have been warned how their data is being used. The technology leverages patients' existing skill sets and enables them to download health records to their iPhone.

PATIENT EXPERIENCE

My colleague's health system participated in the initial pilot program, and he had the experience outlined below.

If the goal of interoperability is to improve access to patients' healthcare information at the point of care, accessing this information through Apple Health Records meets that need and puts the patient in control. There is not an NHIN required, and the patient is motivated to ensure that his or her healthcare provider has the latest information. No investment is needed by health systems and providers, and IT infrastructure and attorneys do not need to negotiate data sharing agreements.

> The Apple Health Record is based on both blockchain and FHIR technologies. Health systems do not need complex data-sharing.

PREDICTIONS

Implementing the TEF appears to be a "field of dreams" venture. The use of blockchain technology in products like Apple Health Records will make TEF obsolete before it is implemented. Finally, patients will have access to their healthcare records outside the healthcare system and provide it to their healthcare providers as needed. **CT**

Tim Kosty, R.Ph., M.B.A., is president of Pharmacy Healthcare Solutions, Inc., with 30 years of pharmacy experience. He can be reached at tkosty@phsirx.com.

Question	Response
What is the name of the app?	MyChart from Epic EMR, which is tied to Piedmont Health (a network of physicians and hospitals).
What were the steps to get it set up and linked to your records at your health system?	I went to the app and logged in with an ID and password. That process loaded all my prior and future appointments, medication history, flu vaccine reminder, blood tests, and future tests scheduled.
How was setup on a scale of 1 (easiest) to 10 (hardest)?	1
How long did the process take?	Less than five minutes.
What categories of information are available?	Upcoming and prior appointments, the ability to schedule an appointment with any physician in the health system network, test results, allergies, medications, messages from doctors, facility lookup of other hospitals, practices in the health system network, and questionnaires/surveys.

ASAP 2018 Midyear Conference

See more photos and details at www.computertalk.com/asap-2018-midyear

The American Society for Automation in Pharmacy held its 2018 Midyear Conference at The Breakers in Palm Beach, Fla. You can find presentations from the conference at www.asapnet.org/2018-midyear.html.

Jonathan Gregorsky, left, and Matthew Keppel from FamilyWize Community Service Partnership.

From left, ScriptPro's Sahar Girgis, Richard Pendleton from Strategic Information Initiatives, Kay Morgan from Elsevier, eRx Network's Richard Brook, and ScriptPro's Bernie Knutsen.

American Pharmacy Alliance's John Hobson, left, and Karl Steele, third from left, with John Vaughn, second from left, and Patrick Hawthorne from ConnectiveRx.

From left, CoverMyMeds' Ed Feltner and Charles Brinkley, ACAG Consulting's Annette Gabel, Patrice Olson from SureScripts, and AmerisourceBergen's Bob Jones. Gabel presented on the NCPDP F2 Telecommunication Standard, and Olson spoke about the new SCRIPT Standard.

Speakers Brent Fox, left, from the Auburn University Harrison School of Pharmacy and Pharmacy Healthcare Solution Inc.'s Tim Kosty. Fox provided an overview of blockchain, and Kosty followed up with a look at interoperability, FHIR, and blockchain.

IQVIA's Dan Colfer, left, and Liberty Software's Jeremy Manchester.

From left, QS/1's Sonny Anderson, Barb Carter from the Minnesota Board of Pharmacy PDMP, Chad Zadrazil from the National Alliance for Model State Drug Laws, and Nebraska Health Information Initiative's (NeHII) Kevin Borcher, who spoke on NeHII's lessons learned from requiring reporting of all prescriptions using the ASAP PMP standard.

Integra LTC Solutions' Louie Foster, left, and Raymond van Rooyen.

Rajesh Thomas, left, from ProCare Rx with MedQuest Pharmacy's Milton Maldonado.

From left, speaker Ben Bluml from the American Pharmacists Association Foundation, QS/1's Ed Vess, and Tabula Rasa HealthCare's Tom Wilson. Bluml presented the results of a pilot project that studied innovative methods for optimizing and personalizing medication therapy using pharmacogenetics.

Geeta Borse, left, and Nirav Patel from BestRx Pharmacy Software.

Luis Marquez, left, from Leon Medical Centers, with speaker Timothy Aungst from the Massachusetts College of Pharmacy and Health Sciences, whose topic was opportunities for pharmacy with consumer wearable health technologies.

QS/1 2018 Customer Conference

New Orleans, La. | More photos available at www.computertalk.com/qs1-2018-customer-conference

The 2018 QS/1 Customer Conference in New Orleans once again offered an opportunity to hear about new products and interfaces and connect with fellow pharmacists. At this year's conference the new leadership team was introduced: Alan Turfe, CEO and chairman of J M Smith; Kevin Welch, president, QS/1 and Integra; and Saul Factor, president, Smith Drug Company. The expo hosted more than 40 vendor partners as well as demos on QS/1 products, with staff available to answer questions. The keynote speaker, Chad Porter, shared his own story of overcoming adversity to serve as an example of how good leaders don't let obstacles keep them from reaching their goals.

Alan Turfe and Kevin Welch spoke about the new direction QS/1 will take as it builds on its history of technology excellence and enhanced customer service.

Whitney Bedo, Missie Barcia, and Rodney Krumm, right, Pontchartrain Pharmacy, with Hazem Nasser, Same Day Med, third from left, planned to discuss billing features with QS/1 staff during the expo time.

Cal Knowlton, B.Sc.Pharm., CEO and founder of Tabula Rasa HealthCare, with Farah Towfic, Pharm.D., and Matt Osterhaus, B.S.Pharm., of Osterhaus Pharmacy. Knowlton presented on personalized pharmacotherapy while Towfic and Osterhaus were both workshop facilitators.

Eland Yu, North East Medical Services, and Peter Nguyen, Stout Street Health Center, during a break in the CE sessions.

Maeghan Livaccari, Tulane University, left, and Trina Stewart, Tulane University Department of Pharmacology, were excited to attend the conference in their hometown.

Jamie McVan and Aleigh Wosewick from Village Pharmacy. They were interested in email/text messaging to build patient engagement.

Susan Gresham of OpenEdge Network, left, discusses the company's payment services with Monica Oban of Seminole Pharmacy.

Attendees enjoyed a tour and dinner at the Audubon Aquarium of the Americas.

Samuel Williams and Merritt Roane from Wilson Community Health Center. They were interested in using QS/1 for clinical services and documenting those services.

Scott Garrett, Kylie Garrett, and Chris Garrett, representing their family business, Southside Pharmacy. Kylie was interested in attending the collaborative-care workshop presented by John Pugh, Pharm.D. *Pugh's story is featured on page 10.*

The Impact of Disruptive Technology

Shan Bhide joined SoftWriters earlier this year as VP of technology, where he will lead the product management, development, and quality assurance functions at the company. With post-graduate degrees in engineering and information technology and management, Bhide's background encompasses all areas of software development. In this interview with ComputerTalk's *Maggie Lockwood, Bhide talks about how software development requires innovation and creativity, and the disruptive technologies that could transform pharmacy practice.*

ComputerTalk: You've had a very diverse career in technology and consulting.

Shan Bhide: I spent the majority of my career at ANSYS Inc., an advanced engineering simulation software company. I was instrumental in creating and promoting cloud, web, and mobile interface-based simulation software products that would allow Fortune 500, blue-chip companies to collaborate, share, design, analyze, and simulate real-life product performance. Thereafter I joined Ness USA, a leading consultancy, custom software, and services company that serves clients across multiple industries and domains. I led an initiative to set up innovation centers or labs across the global development and product management teams. These labs offered the clients an opportunity to discover cutting-edge technical trends with guidance on how to turn disruptive, bleeding-edge technologies into new revenue streams.

CT: Healthcare certainly has the space for bleeding-edge technology.

Bhide: Absolutely! I've always had an interest in and was intrigued by the healthcare industry in general and the pharmacy domain in particular. I jumped right in when I was approached by SoftWriters to join their executive team to influence, shape, and build the state-of-the-art long-term care (LTC) software solutions. Kind of an opportunity to prepare for your own golden old days by building a dream LTC software solution!

CT: Smart thinking!

Bhide: Just kidding, but yes, the LTC

Shan Bhide

domain seemed like a really interesting field to be in. I am so glad that I joined SoftWriters. It's a hidden gem — niche software in healthcare — and there is a huge opportunity in front of us. Long-term care is a field where we can absolutely make a tremendous impact, and I'm looking forward to making my mark.

CT: Now that you are settled in, what are your primary goals?

Bhide: Making software, in my mind, is more of an art than a science. It takes so many different things, like teamwork, collaboration, thinking outside the box, and creativity, to build an amazing software solution. We are wrapping up an ambitious software re-architecting project that makes our FrameworkLTC suite of software products scalable and high performance by improving the quality. Finishing this project is my top priority. I want to improve the overall software development process, making it customer centric and agile so that we can respond to our customer requests quickly. I want to create a collaborative software solution that allows internal and consulting pharmacists to work together to offer the best clinical and financial services to LTC pharmacies.

CT: What innovations are you most excited to see the company develop?

Bhide: Our customers are looking to improve the basic tenets of their business and profitability. They want to maximize their margins, compete effectively, and grow efficiently. They want to adopt a patient-driven or patient-focused payment model. They are looking for efficient pay-for-performance systems. Essentially, they want to quantify the value of their clinical services. I see that we have a great opportunity to bring enhanced value to our customers in this area. Breaking down the silos between internal and consulting pharmacists and allowing them to collaborate with nursing staff using an integrated pharmacy platform could be huge. Adopting pharmacogenomic-based techniques to allow individualized or personalized medication could result in significant improvements in patient care outcomes. Enabling voice-assistant technology like Amazon Alexa or Google Home to generate audio reports based on interactive questions is another exciting possibility. I am very passionate about bleeding-edge technical innovations like these and the unique opportunity they presents to us. Leveraging newer numerical models like machine learning and artificial intelligence to improve overall clinical care and quality while protecting revenues and maximizing the profitability could be a game changer. **CT**

Read more from Shan Bhide at wp.me/p9LtTd-18v

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