

## WHO'S WHO

**MIKE COUGHLIN** is founder, president and chief executive officer of Mission, Kan.-based ScriptPro. For nearly 20 years he has advocated for technology to play a bigger role in retail pharmacy.

**MARK GREGORY** has been vice president of pharmacy and government affairs at Kerr Drug since 1997. A pharmacist by training, he was an early proponent of electronic prescribing and other technologies.

**L. PRESTON HALE** is a pharmacist and the national manager of strategic accounts at QS/I Data Systems. He serves on the national advisory board for the dean emeritus of Virginia Commonwealth University School of Pharmacy and is a past president of the Virginia Pharmacists Association.

**DOYLE JENSEN** is executive vice president at Johnson City, N.Y.-based Innovation, maker of the PharmASSIST family of automated prescription dispensing and work-flow management systems. The company is one of the industry's most versatile providers of pharmacy automation, offering counting, work-flow management and quality-control systems.

**TOM RHOADS** is chief executive officer of Parata Systems. Over the past two decades he has held a variety of health care-related positions, ranging from manufacturing to information technology. He joined Parata in 2004. During his time with the McKesson Corp. subsidiary Rhoads has overseen its efforts in marketing, national accounts, sales and product service.

**CHRISTOPHER THOMSEN** is vice president of business development at Kirby Lester LLC. For almost 40 years the company has offered a variety of counting systems to pharmacies around the world. Its products range from the KL15e tablet counter/pill counter to the fully automated KL60 dispensing system and the high-speed, high-volume KL200. Thomsen has been involved with pharmacy technology for over 25 years.

**RON WEINERT** is vice president of health systems services at Walgreen Co. A pharmacist, he has been with the drug chain for 23 years. Weinert is a member of the Illinois State Board of Pharmacy and serves on the deans advisory boards at the Illinois College of Pharmacy and Rosalind Franklin University.

# What's next in pharmacy technology

*With implementation of the Affordable Care Act and other factors changing the American health care system, a variety of technologies — some old and some new — are expected to become even more crucial to community pharmacies. Recently Chain Drug Review asked representatives from the companies that supply those systems and the retailers who use them to take a look at what lies ahead.*

**CDR:** With health care reform starting to unfold and the government providing incentives to get more providers to employ electronic health records, how do you see this technology impacting the way community pharmacies operate?

**WEINERT:** There will continue to be large increases in electronic prescribing, and there will be more ability to share data with providers to enable coordinated care. This will allow pharmacies to receive more clinical information regarding patients and enable pharmacists to provide more clinical interventions.

More coordinated care will make it easier to confirm the presence of a disease in a patient; to design and monitor an evidence-based patient-centered care plan; and document assessment, medication and monitoring recommendations.

**GREGORY:** Pharmacies are well positioned to participate in the development and expansion of the electronic health record. A patient's medication history and the growth of electronic prescribing are key components of the electronic health record.

With financial incentives for physicians to adopt electronic exchange of data there will be more visibility for a complete prescription history.

The expansion will create operational efficiencies at pharmacies for electronic transmission of new prescriptions. And requests for refills fit well in the pharmacy fulfillment work flow.

Patient care and medication compliance will be improved, because a comprehensive medication history will be readily available. And with the expansion of electronic prescribing, it is less likely that prescriptions will be abandoned by patients when prescribed by their doctor.

**RHOADS:** As electronic health records promise to centralize patients' information, people can be more portable with their health care overall.

This portability and ease of access is an opportunity across the health care spectrum. As pharmacies continue to evolve and become even more the front line of health care and patient interaction, electronic health records

offer an individual view into a patient's history, including prescription renewals, allergies and other considerations.

This allows pharmacists to better understand a patient's full spectrum of health needs, and provide appropriate recommendations faster.

For community pharmacists specifically, patients often rely on their counsel to make primary health care decisions, and having access to such records can only improve outcomes.

**COUGHLIN:** I think we are going to see a lot of government-enforced changes to the way pharmacies operate in the coming years. These will likely come in the form of incentives followed by mandates, or as changes to government programs, like Medicare, that force everyone to get in line or be left out.

Pharmacies will need to have close, trusting relationships with their system vendors to deal with these challenges. System vendors will need to maintain powerful teams to monitor and keep up with the changes. You can't run a pharmacy without a computer system.

In the future, much more than in the past, the 'system' will include not just the hardware and the software that is deployed at the pharmacy, but also the resources of the system vendor that keep the information technology up to date and compliant.

**THOMSEN:** Health care reform will be a catalyst that pushes community pharmacy into a new and higher level of connectivity, and it will have a far-reaching impact on how all systems will work with each other. That includes pharmacies and the automation companies that serve them.

For pharmacies that have not yet dealt with this level of technology, it could be fairly expensive and time-consuming to catch up.

My belief is that electronic health records will allow community pharmacies to operate at a much higher and more involved level. With this depth of information the pharmacist will move from a prescription-dispensing function to having a place at the table in steering the patient's well-being.

Electronic health records will provide up-to-the-minute patient and drug information that will allow all providers to make more informed decisions.

It should help to reduce drug dispensing errors, flag dangerous drug interactions and eliminate some of the busywork or redos. If implemented appropriately, electronic health records will create tremendous benefits across the entire health care spectrum, including community pharmacy.

**HALE:** Even though most pharmacists have complied [with EHR practices], I am not sure that they are convinced that it saves time and is cost justified, as they see it as a continual cost. Even though this is the age of texting and nonverbal communications, we must not fail to communicate to discuss what is best for the patient.

**JENSEN:** First and foremost, I believe EHR use will help community pharmacies by providing access to patients' historical and medication information, which they can use to be more effective when treating patients in their various therapeutic programs.

However it's not simply about access. Community pharmacies also need to be able to contribute to the patient EHRs by entering details about their filled prescriptions and patient counseling.



Mark Gregory

Pharmacy management systems, which will be the main providers of EHRs, will need to make this functionality available to community pharmacies sooner rather than later. And at issue here is prioritizing all the community pharmacy enhancement requests, such as better will-call features, tracking patient counseling, new Medicare rules, and on and on.

Given this push, pharmacy system vendors will be forced to be more selective regarding their development efforts, and some of these requests will need to be put on the back burner. This could cause some level of frustration for community pharmacies that are trying to compete with the larger chains.

**CDR:** Do you think that the industry will be able to adequately address the public's concerns about the privacy of their information?

**THOMSEN:** Health information privacy will always be a concern. It is our personal information, after all. But the fact is that electronic data security over the past 10 years has been thoroughly tested.

Consider all the things that we trust to e-commerce today: transferring large sums of money, sensitive corporate informa-

tion and investments. We even post many aspects of our personal lives on social web sites. This is how our society communicates now.

Patients, for the most part, are going to trust that their personal information is safe as long as they are confident that their physicians and pharmacists, etc. are overseeing the process.

Certainly, there will some concerns, and there will always be some devious people looking for ways to hack into databases. But we are using the best encryption technology available, and that technology will continue to improve. We have to move forward.

**JENSEN:** There's definitely a very serious exposure issue here, and the industry will be challenged to make this patient information airtight.

Hospitals seem to have a pretty firm handle on patient privacy, but providing community pharmacies with access to these patient records will require an in-depth level of security on the community pharmacies' computing infrastructure.

As an industry we may also have to emulate what the government and Department of Defense currently do, which is require pharmacy technology providers to pass a rigorous security certification program.

**COUGHLIN:** Government leadership will be required in this area. Up to now there has been a huge amount of government emphasis on what we must do to keep patient information confidential. If electronic health records are to be of real value, there needs to now be some leadership in the direction of what we should do to use this information to protect the health of patients.

It is not a service to the patient when his or her health information is not available to those who need it for legitimate treatment purposes.

Pharmacy industry leaders should work together and guide the government to provide reasonable, practical rules in this area.

**GREGORY:** Long before passage of HIPAA regulations patient privacy was always top of mind for the profession.

All discussions of expansion of the electronic health information exchange include a strong component addressing the privacy and security of health information.

Public concern is well represented at the table in policy efforts to expand health information exchanges. It is critical to address public concerns and use the information to its full extent to enhance patient care and treatment.

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**'We have an interesting challenge'**

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**RHOADS:** Electronic records, whether financial, employment or education, are here to stay.

Other industries such as banking, have already adopted electronic record technology without compromising privacy. That said, in order for the public to accept EHR, the industry will need to prove that a patient's information is secure.

There are really two areas to consider: the first relates simply to how information is secured; the second is fear of how a record could be used against an individual. For example, could employers gain access, and if so, would the information potentially influence a hiring decision?

**WEINERT:** The industry will address these concerns, and the public will embrace the advances in how they are serviced by pharmacies. Customers are seeing electronic health records and other technologies beginning to be deployed in many different health care settings.

**HALE:** All people have to do is try to find it [their personal information].

They will soon see that they can quickly get access to their personal wealth, the value of their home, their personal credit status, a satellite picture of their home, but I don't think they will find anything about their health status.

**CDR:** How do the various players in the health care system (hospitals, physicians, payers and pharmacies) solve the interoperability problems that many see with widespread use of electronic health records?

**THOMSEN:** Good question — without an easy answer.

Throughout 'computer history' there have been attempts to standardize on interoperability between systems. Health Level Seven (HL7), for instance, has been around since 1987 as an attempt to provide a standard for interoperability between the various functions in health care requiring data exchange. It is a conceptual standard and is therefore interpreted in many different ways by different organizations. So that makes it a complex data exchange, which in turn results in everyone writing custom computer code.

If there was an easy answer to this, we would probably have someone doing it now.

From a practical standpoint, if you have systems that don't interoperate, shop around. Find solutions that can be connected and find vendors that are willing to solve these challenges.

The reality is that all technology providers strive to differentiate their products — different applications, added benefits, things their software can do that others cannot. And the situation

is further complicated by the continual release of updates and new versions.

I am hesitant to say that we would ever reach a point where all technologies are simply going to plug in and work. That would mean that we have either reached the holy grail of software, or we have stopped improving and developing new technology.

With that said, though, I see a time when we will have a much easier task to integrate different software and hardware. Technology vendors will write code with an ability to be more adaptable, yet still differentiated. It is in everyone's best interest.

Our industry is at a point where it is going to be necessary to come to agreement on a set of

vacy issue discussed above.

You're not going to be able to please everyone when it comes to the sharing of personal health information. Practical rules need to be developed and embraced on a national scale before much progress can be made on the interoperability issue.

**JENSEN:** Once again we have an interesting challenge on our hands.

Interoperability requires clearly defined interface standards for EHRs to be implemented by many vendors. The standards are just now being developed, and it may be a while before they can be widely implemented. We'll be talking about it again next year. Until then, interoperability will be difficult to achieve between software products without customized work.

In our current world, pharmacy technology providers write and maintain interfaces to all types of systems. As we move to EHR use, our hope is that these pharmacy system vendors and organizations, like ASAP [American Society for Automation in Pharmacy], will help bring these standard interfaces to market, thereby eliminating some of the costs pharmacy vendors have to pass along for writing unique interfaces for every product.

On the positive side, this shouldn't affect pharmacy automation and work-flow systems, since from a data-flow perspective these products generally sit behind the pharmacy systems.

The issue will be which vendors will have resources to continue to enhance their work flow and automation offerings while also addressing EHR requirements. It's always a balancing act for companies with products in multiple pharmacy segments.

**RHOADS:** The solution will likely come in a form of universally adopted and implemented standards. A third party must develop a standardization methodology that defines access levels as well as layers of security. The complexity of such standards lies in determining how patients will be engaged to manage that access.

But I am confident that the industry will come to agreement on these standards, as advancing point-of-care technology benefits all parties generally and the pharmacy segment specifically.

**GREGORY:** There are many statewide health information exchange initiatives.

At least where Kerr Drug operates in North Carolina all health care stakeholders are represented in the information exchange development and deployment.

One critical element of the development is to build a sustainable model whereby all systems and information are interoper-

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**Tom Rhoads**

standards that will allow current and new technologies to reach a level of true interoperability. Maybe we should look at other industries that have figured it out.

**HALE:** They need to start with a trust and thinking of the patient. Everyone needs to understand that it is about the patient, and the large entities need to stop trying to be the sole provider of care for the patient and understand that the data needs to be shared to achieve optimal outcomes. I think the ease of use will come via the automation vendor and how they present the data to the user.

**WEINERT:** All parties need a standard way to exchange data. We are working with SureScripts on the creation of its Clinical Interoperability platform.

There are examples of the industry agreeing to standards in the past, and that type of collaboration will be needed going forward. Examples include NCPDP's [National Council for Prescription Drug Programs] eRx Standard and Telecommunications Standard. X12 also publishes standards that are used within the medical community today. It will require all parties involved to work together to do so.

**COUGHLIN:** National standards need to be developed for sharing information.

The first step along this path is to effectively address the pri-

# 'Technology will allow increased availability of clinicians'

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able and driven off of a common standard. I see these geographical and/or state health information exchanges as the driver for interoperability and standards.

**CDR:** As technology makes it easier for pharmacists to provide patients with a full array of services even if that pharmacist does not have face-to-face contact with his or her patient, what is your view of the future for telepharmacy and do you see this idea becoming a part of some retail chains' operation?

**HALE:** I think that this needs clarification. There are many avenues not just for chain operations but all pharmacy operations for which the product can be provided to the patient without face-to-face contact.

If today it's telepharmacy is tomorrow 'textapharmacy,' since this is the trend?

I see pharmacy evolving into two areas of reimbursement. Of course, the dispensing fee for the product will remain and will continue to cover the cost of deployment of the product.

I see pharmacy starting to ask for administration fees to cover the enormous amount of time spent in consulting with the patient on drug coverage and the work that goes into achieving payment for the patient.

I also see pharmacy asking for professional fees to cover professional oversight of the right drug for the right patient at the right time and the work they can do to lower health care costs by monitoring drug therapy. Third parties may not be the only ones addressing tiered pricing.

**WEINERT:** Technology in health care will allow increased access and availability of clinicians such as pharmacists.

The purpose of technologies such as telepharmacy is to provide the appropriate level of engagement to the patient/customer on their terms.

In addition, it allows us to provide greater 'reach' to patients where health care services are not readily available.

Telepharmacy, as well as telemedicine, has huge implications on how health care is shaped in this country, and we welcome the technology to provide patients more access and services while providing our clinicians the ability to provide care when needed.

**RHOADS:** The greatest opportunity for telepharmacy will be in situations where it can introduce pharmacist access where it has not been previously available.

As we've seen with in-store automation, technology adoption is always motivated by the core tenet that pharmacy works best when pharmacists are closer to patients.

Today, our automated pharmacy environments fundamentally transform the pharmacist's role as care provider, putting him or her squarely out in front for medication management, and to offer support services from immunization to diabetes support.

These advancements are only possible because next-generation automation significantly streamlines formerly manual tasks related to dispensing.

It is critical for today's pharmacists to communicate — even electronically — to provide the personal counsel and advice patients require. Pharmacists too often are removed from the counseling role by filling and quality control demands, which, while essential to patient safety, are not the best use of the pharmacists' high skill set.



Mike Coughlin

Telepharmacy, coupled with in-store automation solutions to free enough pharmacist time to support multiple locations, can help pharmacists support even remote patient-centric activities.

**COUGHLIN:** I believe that telepharmacy will become a cornerstone for optimal patient care and safe and effective medication use.

Chain pharmacy leaders are starting to recognize this, particularly as they see the effectiveness of telepharmacy in other sectors, such as the large-scale Navy deployment.

This is an obvious evolutionary step as pharmacies move from the product purveyor mode to the health outcomes protector mode.

**JENSEN:** Telepharmacy has tremendous potential for retail chains' operations, because it provides accessibility from remote locations and it will prove to be more efficient and cost effective.

At this point it's really not well defined for the industry. There's not much in the way of products and in actual retail implementations. Thus, we must continue to gather requirements from the key players so we can better understand what they want to do and how they want to do it.

**GREGORY:** Many new technologies can play an enabler role to create a better health care system. All need to be tested and pass the test for privacy, security and other regulatory hurdles.

There is a role for telepharmacy to create clinical and operational efficiencies.

**THOMSEN:** Absolutely. Telepharmacy will allow chain pharmacies to reach outside of their core geographies and into smaller communities and rural areas where they want to open a pharmacy but have challenges in hiring and keeping staff.

This is an extension of the pharmacy to provide basic services to patients in need. The list goes on and on as to the benefits of telepharmacy.

Telemedicine is a similar application, and it is used around the world. I see this as another extension.



Christopher Thomsen

**CDR:** There are two other technologies that some pharmacy operators are starting to employ to accommodate the way patients shop — social media and mobile apps. What benefits or drawbacks do you see to these developments?

**THOMSEN:** I can only see benefits, not drawbacks. The sky is the limit as to what can be done with technology. It can help tackle two challenges: help patients and improve business.

The pharmacy industry can pick and choose the aspects of social media that they want to adopt. Not that we are going to see Pharmacy Facebook, but I would expect to see certain parts of social media sites used creatively by a large number of pharmacy chains, especially in marketing and advertising. The fact is that social media technology is already smart, affordable and adaptable. Now community pharmacies just need to use what is appropriate.

With regard to mobile applications, the biggest value, in my opinion, is to positively enhance medication compliance. Mobile applications can be designed to check in with patients, monitor medication usage and vital signs, and provide prescription refill reminders.

My guess is that the time for these applications to become mainstream is right around the corner. Social media and mobile applications are not just for younger generations. They will be part of a community pharmacy's communication strategy, along with more traditional means of patient communication. Finding the right mix is essential, so patients will use what is right and what feels comfortable for them.

**GREGORY:** Similar to what I mentioned earlier, all technologies need to be tested. There is a need in the social media realm to control the information exchange and validate that information being exchanged is from a qualified source. There may be a social media role to engage patients in peer-to-peer groups that are managing a common condition.

**COUGHLIN:** Perhaps these will become extensions to the



Ron Weinert

telepharmacy concept by putting patients with problems and questions in touch with pharmacists who have answers.

However, it seems possible that this could complicate the patient privacy issues discussed above.

These new technologies need to be recognized and addressed in the context of national privacy and health information sharing rules.

**RHOADS:** Social media have blossomed like no other technology in our lifetime.

Today, social media is really in its infancy in pharmacy, supporting retail promotions, prescription renewal reminders and disease state management alerts.

These services only scratch the surface. As we saw with the Web, innovators will personalize and transform customers' experience in creative new ways that we'll all soon come to expect as part of doing business.

**WEINERT:** Mobile and social media are often intertwined, since it's so easy and convenient to update your friends using your mobile device, and engage with your network wherever you are.

However, we have to separate these things somewhat. Customers want mobile solutions to enhance the convenience and accessibility of Walgreens.

It tends to be very task focused. With social media, they want to engage with our brand and other customers in broader ways than they could in the store alone, from sharing their favorite deals and product information to sharing their opinions.

**HALE:** The benefit is that these technologies meet today's customer preferences and allow them access that suits their work style.

However, as we start this year the first baby boomers enter the arena. It is not that they are not technology savvy but as they continue to age their skills will diminish and it will be the pharmacist's job to make sure they don't get lost in the 'texting age.'

**JENSEN:** These media are increasingly providing both con-  
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# 'Social media and mobile apps will continue to grow'

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venience and a better customer experience for folks.

Mobile apps enable pharmacies to reach those customers who are accustomed to and prefer on-the-go, lightning-quick messaging, such as outbound texting, e-mails and so on to alert them that their prescriptions are ready for pickup, need a physician's authorization, will be delayed, etc.

You're seeing this type of functionality provided with the latest generation of work-flow and IVR systems.

With social media, it provides pharmacies with a Web-based medium to reach a whole set of folks, especially the newer generation who are accustomed to using this technology for daily information.

For example, Walgreens posts benefits and Rx pricing on Facebook if you're a member of their Prescription Savings Club. And if you're an iPhone or Android user, they inform you that you can refill prescriptions by scanning the bar code on your prescription label with your phone's camera. Talk about cutting edge.



Doyle Jensen

**CDR:** How widespread do you think these technologies will become in a retail pharmacy setting?

**GREGORY:** This is hard to predict, but many of these applications and health exchanges are moving and being developed extremely quickly, so 2011 will be a key indicator.

**JENSEN:** I believe they will continue to grow and get better as society continues to move in this direction, and retailers learn more about people's behaviors.



L. Preston Hale

Like it or not, our cell phones, iPads and Facebook pages are rapidly becoming essential to people's everyday lives. They use them for everything from social and work-related communication to reading current news and events to shopping for the best online deals.

**HALE:** Social media and mobile apps will continue to grow and become a standard of practice in pharmacy.

The only thing that concerns me is that I hope that verbal communication does not go by

the wayside as letter writing has in our past history.

It happens to me, and I know you have experienced this as well: the 'endless e-mail.' I have been involved with e-mails that will continue over the day when a simple phone call would have addressed all issues and uncovered others that were not being asked.

As patients, we can only hope this does not occur with our health care.

**COUGHLIN:** They will be used as promotional tools for general merchandise sales, but I don't think they will have much impact on pharmacy practice in the near term, because there will be so many other pressing technology challenges facing the pharmacy operator and it does not appear that these technologies have much to do with meeting these challenges.

**THOMSEN:** I would expect community pharmacies to use these new communication vehicles very creatively and expansively. The challenge, however, will be to use them appropriate-

ly and judiciously. How effective these new media outlets will become will depend on how well we manage the amount and quality of information.

Fear of information overload would be the main reason a senior citizen, for instance, may hesitate to participate.

**RHOADS:** Time will tell how widely these platforms will become integrated into the retail pharmacy space.

The drivers to adoption will be the same as for other technologies in retail pharmacy: their ability to improve customer convenience and quality of care.

**WEINERT:** We believe mobile is going to transform retail pharmacy in a very positive way.

It's a logical extension of what we do — amplifying convenience and empowering customers to take better care of their health. Social media is already widespread, but people will be choosy about where they discuss their health issues and questions. Facebook may serve a different purpose than other forms of social media.

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