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Pharmacists to play bigger role in clinical care under health care reform

Pharmacists are mentioned in HC reform bill

The 2010 health care reform bill, now called the Affordable Care Act, has the potential of creating many opportunities for pharmacists to become involved in clinical care, experts say.

"Looking specifically at Medicare/Medicaid patients receiving care at the hospital, we can play a larger part in their care," says **Ernest R. Anderson, Jr.**, MS, FASHP, FMSHP, system vice president of pharmacy at Caritas Christi Healthcare System in Brighton, MA.

Pharmacists specifically are mentioned in the Affordable Care Act. Their role is seen as a provider who does counseling and education of patients on multiple drugs.

"In the medical home model, in which a team of providers take care of patients in both inpatient and outpatient settings, pharmacists are a part of that team and model," Anderson explains.

The new health care reform bill sets up accountable care organizations (ACOs), which are a way for providers within a hospital and in the community to develop a partnership when providing care to a specific patient population, says **Brian Meyer**, director of government affairs for the American Society of Health-System Pharmacists (ASHP) in Bethesda, MD.

"By virtue of doing that partnership, they share in the savings of health care costs," Meyer says. "This is a different sort of payment structure that is related to, but not the same as, a medical home."

The medical home model is centered around primary care providers, but the ACO is a corporate entity that creates and organizes its own health care models, presumably including medical home models, he explains.

Both ACOs and the medical home model will be further defined and explained by the Centers for Medicare

SUMMARY POINTS

- Health care reform offers some opportunities to involve pharmacists in more clinical care.
- Hospital pharmacies should look at their roles in new models, such as the accountable care organization model.
- One good strategy is to continually decrease drug costs while improving quality of care.

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and Medicaid Services (CMS), he adds.

"The ACO is a way to try to provide care both regardless of the setting — inpatient or outpatient — and to create an entity where all providers can come together and be reimbursed," Meyer says.

"The point is that ACOs [initially] will be reimbursed under fee for service or other payment methods, but those that meet certain quality performance standards can receive some shared savings," he adds.

The inclusion of these in the health care reform bill is a signal that the current fee for service hospital care payment model likely will change in the long term.

Also, the way hospitals think of their own role in population-based health care likely will change.

"Hospitals in the future will be held responsible for certain disease states, not only while patients are inpatients, but also for their readmission rates and mortality rates," Anderson predicts. "As I look at this opportunity as a pharmacist, I think we need to play a larger role in discharging planning for patients and in the ongoing maintenance of patients."

Helping patients maintain their health will be particularly important for people with high-profile disease states, including those with diabetes, high cholesterol, and hypertension, he adds.

"Pharmacists have a big role to play in those areas," he says.

Future health systems and ACOs and health care providers serving in a medical home model will have multidisciplinary teams that include pharmacists.

"Pharmacists are the best educated, and the best suited for educating patients on taking their medications properly," Anderson says. "A lot of patient adherence is understanding why they need to take their medications and understanding the consequences of not taking them."

Yet, it remains a challenge to convince hospital leadership to give pharmacy a seat at the table.

"We need to make sure pharmacy is recognized within the c-fleet as having a significant role to play," Anderson says. "Pharmacists are mentioned in the health care reform bill, so that's a great reason why they can go to the hospital administration and say, 'We need to be part of developing a system like the ACO or developing the medical home model.'"

This is the message pharmacy directors need to communicate to hospital administrators, he adds.

"When it comes to medication, pharmacists are the experts, and I think we are the ones who can do the best job of it," he says. "We have to educate the administrators that this is our role."

Meyer and Anderson suggest hospital pharmacy leaders focus on these issues raised by the health care reform bill:

• **Continue to reduce drug costs and improve quality of care:** "Hospital pharmacists have been doing this all along," Anderson says. "They work on cost control related to inpatient services, driving a formulary, and making sure we utilize drugs in a cost effective manner.

For example, there is plenty in the professional literature with regards to antimicrobial stewardship, which can reduce the spread of drug-resistant bacteria as well as reduce antibiotic costs.

The Obama administration has pushed through

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Editor: Melinda Young.
Executive Editor: Coles McKagen, (404) 262-5420, (coles.mckagen@ahcmedia.com).
Senior Managing Editor: Paula Cousins, (404) 262-5468, (paula.cousins@ahcmedia.com).
Director of Marketing: Schandale Kornegay.

Editorial Questions

For questions or comments, call Paula Cousins at (404) 262-5468.

various initiatives with incentives for hospitals to move to electronic databases and computerized provider order entry (CPOE) systems.

"You can have physician support built into the CPOE, so if a physician orders a drug and there are cultures suggesting it's not the right drug for that type of bacteria, then you could have a smart system with feedback to the physician, saying there are other drugs on the formulary that might be more appropriate for the bug you're trying to treat," Anderson explains.

The pharmacy can build in physician support in electronic systems for high risk drugs, such as heparin with its narrow therapeutic range.

"They can build into the system [safety measures] to make sure the drug is started appropriately and responded to in an appropriate fashion," Anderson says. "They can build in physician alerts that go to physicians and pharmacists and that help to make sure the prescription has been dose-adjusted appropriately."

Smart systems also can alert physicians and pharmacists to adjust a dose if lab values indicate renal function problems, he adds.

"Smart systems like that enable higher quality outcomes based on real time feedback provided to either physicians or pharmacists," Anderson says.

Medication therapy management (MTM) is another model that could be employed to reduce drug costs and improve care quality, and pharmacists often lead MTM programs.

Also, the federal government is promoting the concept of having pharmacists involved in an annual, comprehensive medication review of patients with chronic illnesses, Meyer says.

"There's a newly created innovation center that gives the Centers for Medicare and Medicaid Services (CMS) some pretty wide latitude to look at various potential changes in care," he adds. "And among the areas that are specifically listed in the legislation and law are ones that allow CMS to test different models of care, including the medical home concept and chronic care management and coordinated care."

In all of these medication management are specifically mentioned, and this is an opportunity for pharmacists to be involved, Meyer says.

- **Improve care transition:** Hospital pharmacists increasingly might be involved in care transitions from the hospital to community and the reverse as health care reform regulations unfold.

"Pharmacists will find this is a new term they'll hear about from the c-fleet," Meyer says. "So keep your eyes and ears open as this thing gets further developed because it includes a role for pharmacy."

The focus on care transitions will include a renewed emphasis on quality and cost savings, he adds.

"It includes medication reconciliation to ensure patients are going to follow and adhere to prescription medication regimens they are prescribed at discharge and to make sure providers have accurate medication information," he explains. "And pharmacists can help ensure safe medications are used appropriately while patients are in the hospital."

The health care reform legislation has built-in incentives that will push the industry toward developing electronic medical records and bridging the gap between inpatient and outpatient services, Anderson says.

"Most hospitals and physicians in the outpatient sector tended to act in silos, separate from one another," he says. "What that can do is be very wasteful since you'll have different groups of physicians ordering the same lab test."

This is why pharmacists and other health care providers will need to work on bridging the gap between the hospital stay and the outpatient sector.

"There are incentives built into health care reform that will encourage us to develop these electronic systems," Anderson says.

Experts offer advice on optimizing pharmacy revenue

Expand what hospital pharmacy already does well

Hospital pharmacies can improve the pharmacy's revenue by focusing on specialty services and business models that challenge the traditional structure.

One strategy for initiating this type of growth is to look at what the hospital already is doing and assess the operations for growth potential and trends of increasing revenue flow, experts suggest.

"We look for anywhere someone else is making money on our patients because we don't want that revenue siphoned off by a third party," says **Scott Knoer**, PharmD, MS, director of pharmacy at the University of Minnesota Medical Center,

Fairview in Minneapolis, MN.

"We looked at a pharmacy benefit management (PBM) company and saw that someone else was making money off of our employees, and we became our own PBM," Knoer says.

The PBM expanded to enroll health plan members from other self-insured employers, so now only one-fourth of its business involves prescriptions filled by the health system's employees, he adds.

"Since we started this in the 1980s, we have grown in infrastructure and now have a back office with people who do the billing and checks up front to make sure people have insurance for specialty pharmacy," Knoer says. "We've built in that infrastructure over the years, and that's allowed us to seek new business."

One of the new business opportunities that sprung from the PBM infrastructure involves specialty pharmacy.

"We're a specialty pharmacy like all the big players," says **Tony Zappa**, PharmD, MBA, chief information officer and director of specialty/infusion operations at Fairview Pharmacy Services, LLC, of Minneapolis.

Fairview Pharmacy Services is a corporate system that has 32 ambulatory clinic pharmacies, including Fairview Home Infusion, a mail order pharmacy, a compounding pharmacy, specialty pharmacy, and a clinical trials program. It's as subsidiary of Fairview Health Services which encompasses the University of Minnesota Medical Center, Fairview.

"We specialize in transplants at the University of Minnesota, so you get a lot of patient referrals from that program," Zappa says. "We capture 95% on discharge and don't lose that many patients to the competition or back to local retail pharmacies."

The retention rates are high because of the attention patients receive from pharmacists and other staff, he adds.

Pharmacists who specialize in transplant medicine meet with patients.

Before patients have transplant surgery they visit the clinic and talk with the pharmacy staff. This contributes to a continuity of care since the same staff will work with them after the transplant, Knoer explains.

"We have access to their medical records, and we can pull up their lab records, which is more than most mail order pharmacies can do," he adds. "So that's important and provides a continuity of care."

Transplant pharmacist specialists discuss medication issues with patients post-surgery, checking to see if they have any clinical or financial problems, Zappa says.

"The specialist handles their first few months of prescriptions," he says. "The clinic shares a lobby and can get their medications to them fairly quickly."

In the early weeks post-transplant, patients' medication dosages will be adjusted and changed each week, and the pharmacist will work with them during these adjustments to assess adherence issues and side effects. Once the dosage is set, the patient's prescription will be transitioned to a mail-based program, Zappa says.

"As often as the patient comes in, for the first 30 days the patient is back sometimes daily, and at least weekly," Zappa adds. "This could go on for a couple of months."

"Patients come in for blood draws, and the physician and pharmacist work hand in hand with the patient," Knoer says.

Specialty pharmacy services can be any services that involve high risk or complicated therapies, including combinations of high risk drugs, Zappa notes.

HIV antiretroviral medication regimens and rheumatoid arthritis treatment are two examples, he says.

"These could include hepatitis C treatment, growth hormones, and oral oncology because of the cost of the drug and it tends to be a life-long treatment," he explains. "Then there are odd things like people born with metabolic deficiencies that require enzyme replacement and hemophilia, which is difficult to manage and is very expensive."

Growth hormone treatment can cost $35,000 annually, and this is an area in which all of the system's pharmacists have knowledge.

The health system has pharmacists specializing in hemophilia care. Hemophilia treatment can cost an average of $350,000 to $400,000 a year with some patients spending over $1 million a year, Zappa says.

"We lose money on treating hemophilia in

SUMMARY POINTS

- Improve pharmacy's revenue by adding specialty services.
- If someone else can make money off hospital staff's meds, then hospital pharmacy should be able to do so too.
- Specialty services like transplants, hemophilia, rheumatoid arthritis can generate huge drug revenues.

inpatient care," Knoer says. "But the ambulatory business is profitable."

Hemophilia patients can visit the outpatient centers for infusions.

"If you're a health system that maybe has an ambulatory or outpatient pharmacy but which hasn't focused on this area before, then these patients are going somewhere to get these medications," Zappa says. "And if they're not going to you then you're giving up an opportunity for revenue."

For pharmacists to qualify as specialists they typically need advanced training or at least must have an interest in learning more about these sometimes rare diseases and how the diseases impact patients.

"It's more about patient support than distribution," Zappa says.

The revenues can be significant. For example the average patient with rheumatoid arthritis spends $20,000 a year on drugs, Zappa says.

"HIV drugs can cost $25,000 a year, and transplant patients will spend $10,000 to $15,000 a year on drugs, and you go up from there," he says. "If you get an average margin on these projects, it leaves you with a fair amount of money to invest in these people."

Patients take these medications the rest of their lives, so health plans are receptive to pharmacies that focus on medication adherence and minimizing adverse drug events (ADEs), Zappa notes.

"This will decrease doctor office visits and hospital utilization," he says. "We can identify potential problems and risks."

For example, pharmacist specialists with training in hepatitis C will know that patients are likely to feel horrible while taking the drugs for the first 30 to 60 days.

"It can cause depression, so we identify people who are likely to suffer from depression and help them get in to see their doctor as soon as possible," Zappa says.

This early intervention helps to keep the patients on therapy and clear their systems of hepatitis C.

Another business model involves health systems and pharmacies partnering with other health systems to provide a network that has bigger purchasing power.

This volume-based contracting model might serve as competition to national specialty pharmacies that develop sole contracts with limited distribution networks, Knoer suggests.

"Instead of supplying specialty drugs to traditional wholesalers, they'll pick three or four specialty pharmacies to distribute it, and that leaves small systems like ours without the drug," Zappa explains. "By combining our system with other hospitals we hope to team up and gain access to the drugs."

Health system pharmacies also could become involved in medication therapy management (MTM) for chronic illnesses, assisting with the more complex cases, Knoer says.

"Fairview is advanced in this area," he says. "We work with complex patients who have hypertension and diabetes, and we provide consults."

So if a diabetic patient is on four medications or more then the patient receives medication therapy management services.

"We feel like we can take better care of these patients because of our continuity of care," Knoer says.

So the pharmacist's direct patient care involvement is part of the package that is marketed to employers who are looking for a PBM, Knoer says.

"We go to the people who have to pay for that prescription drug benefit, and we have a marketing group who markets the PBM," he adds. "That's important because when a system gets as big as Fairview then you need marketing services."

Fairview also provides consultation services to health systems that are considering expanding into a specialty pharmacy business model, Zappa says.

"We have an active consulting business where people go out to health systems, do an assessment of current capabilities, growth plans, and risk appetite," he adds. "And we give feedback and recommendations on what they should do first and how to go about it, including which computer systems to buy and what their staffing requirements are."

Pharmacy directors can help hospitals meet challenges of a poor economy

Change utilization patterns to improve costs

Hospitals nationwide face tighter budgets, staff layoffs, and financial uncertainty in the wake of a two-year recession that shows little sign of abating.

It's in this environment that hospital pharmacy directors should put forth their best plans to cut

costs, increase revenues, and adapt to the reality of health care reform and the prospect of new payment models.

"Pay attention to the trend; look at the landscape; there are plenty of signs that hospitals are downsizing, closing, consolidating, and people are tightening their belts," says **Ross W. Thompson**, MS, BSPharm, director of pharmacy services at Tufts Medical Center in Boston, MA. Thompson was a scheduled speaker about preserving core pharmacy services in an era of declining revenue at the 15th Annual American Society of Health-System Pharmacists Conference for Leaders in Health-System Pharmacy, held Oct. 18-19, 2010 in Chicago, IL.

"We're being asked to trim our budgets back or go through cost savings measures more acutely than in recent years," Thompson says. "We probably first saw the financial downturn in late 2008, and people still are feeling pinched."

For example, a colleague of Thompson reported that his hospital has required a 3% reduction in spending, which is a frustrating change to make when drug costs can fluctuate and any staffing cuts in the pharmacy could lead to higher drug expenditures.

Pharmacy directors need to look at their drug budgets to see how much of these costs they could cut directly and how much of the drug cost decreases could be achieved with help from physicians and more judicious utilization, Thompson says.

"There's really good evidence published in the literature about how pharmacists put into a position to be interventional and to guide therapy prospectively can more than offset their salaries in what they save in cost avoidance and true utilization pattern changes," he explains. "It's kind of a unique argument to take to hospital administration to say 'Gosh, for me to save more money we need to hire more labor,' but that argument can lend itself more to defending your intent to maintain your level of resources."

Here are three areas in which pharmacy leaders can focus efforts to improve the pharmacy's bottom line and its role within the health system:

1. Cost containment: One way to cut costs and simultaneously improve quality is through antibiotics streamlining.

"When the patient comes in and you're not certain of the origin of their infection, you start with a broad spectrum of antibiotics," Thompson says. "You wait for the culture to come back, which will help you narrow down to a specific antibiotic that's less expensive than the broad spectrum of drugs."

Often, physicians will be hesitant to narrow the therapy when the patient is improving under the broad spectrum of drugs, he notes.

"But there's good evidence that it's totally appropriate and fine to narrow down the drugs," he says. "That would be one tactic for containing costs."

Another strategy is to narrow the formulary to leverage your purchasing power.

"In a therapeutic class with six to eight products on the market that do the same thing clinically, you can leverage your purchasing contract and shift as much utilization as you can to what is a preferred agent for your organization," he explains.

Some hospitals have an automatic substitution program that is a more expedient way of shifting utilization.

For instance, a hospital in which physicians prescribe among eight drugs that are therapeutically similar could have a policy that empowers the pharmacy to automatically substitute the preferred agent of these eight drugs, Thompson says.

"The preferred agent would be a generic drug or the lowest cost therapeutic of similar drugs," he says.

Other cost containment strategies include IV to PO switches and encouraging voluntary generic substitution.

These types of cost containment measures are small changes, but they can add up fast, saving a significant amount of money when accumulated.

During the recession and hospital budget cuts, pharmacy directors could use the current financial crisis to help gain better buy-in from physicians for cost containment changes.

"There's nothing new or magical about some of these tactics, and physicians have been approached about them over the years," Thompson says. "But hopefully, their receptiveness increases when they realize the pharmacy budget is being cut 3%."

2. Revenue generation: Unlike the fixed reimbursement rate environment hospitals face, the ambulatory environment can generate significant revenue through the addition of specialty services.

A hospital could add an outpatient prescrip-

SUMMARY POINTS

- Hospitals are continuing to downsize, so new revenue strategies are needed.
- Contain costs with antibiotic streamlining.
- Prepare for transition to pay for performance system.

tion drug program or an infusion center for administering therapy, such as chemotherapy, Thompson says.

"Hospitals can invest in infusion centers when they want to do outpatient chemotherapy, and those environments are revenue fee for service models," he says.

"At Tufts when we were looking at cost containment, I shifted the conversation to talk about revenue generation in outpatient pharmacies," Thompson says. "I can try to control costs on the acute side or increase our margin on the outpatient side."

This strategy proved to be very successful. Thompson was able to convince the hospital leadership to give the outpatient pharmacy a green light, and within less than one year of operation, the new pharmacy was already generating enough revenue to pay back its start-up costs, he says.

"In our particular situation we had a very dated outpatient pharmacy situation designed for 100 prescriptions a day and designated for patients who didn't have insurance plans for prescriptions," he explains. "That was the status quo for 10 to 15 years."

When Massachusetts implemented universal health care, this increased the number of patients who had access to prescription coverage, greatly changing the dynamics.

"So we turned the old pharmacy model on its head and looked to move into a new space and promote the pharmacy as a pharmacy of choice and not just the pharmacy for indigents who have no other options," Thompson says. "We turned this into a very successful and profitable operation that adds convenience for our patients."

Patients leaving the hospital or visiting an outpatient clinic will walk past the pharmacy on their way to their cars. So they now can pick up their new medications before they head for home.

The new pharmacy operation was launched in December, 2009, resulting in a pharmacy staff increase and expanded services.

"We have pharmacists integrated into the more active clinics like the ones that support solid organ transplant recipients where the drug therapy is tremendously complex," Thompson says.

If these patients go to the typical corner pharmacy, they might not have access to a clinical pharmacist who can sit down with them to discuss their drug therapy, side effects, and complications, he adds.

"All of the pharmacy's expenses are offset by the additional revenue of their filling their prescriptions here, so everyone wins," he says. "The start-up costs were paid for in nine to 10 months."

3. Pay for performance: "There's a lot of discussion on the national stage about pay for performance," Thompson says.

Massachusetts is a pilot case for the national health care reform legislation because of its earlier health reform law.

"We've begun implementing pay for performance metrics," Thompson says. "We'll get reimbursed as an organization based on how well we achieve against performance metrics."

The performance metrics include the usual ones, such as patient injuries and hospital-acquired pneumonia, but also one of the core performance metrics is patient satisfaction, he says.

"In particular, for our Blue Cross Blue Shield contract, one of our bigger payers, we have certain reimbursement at risk based on how we perform," he says.

"So from the pharmacy perspective, if I can build a case for how I can influence the patient's experience, I'll arguably get more support and resources for those experiences," Thompson explains.

Pharmacy leaders might take a look at a national satisfaction survey metric called HCAHPS, which stands for Hospital Care Quality Information from the Consumer Perspective. It is a tool that could become the standard and adopted within the national health care model, he says.

"It was developed in part through a collaborative that the Centers for Medicare and Medicaid (CMS) established as a work group," he says.

The HCAHPS initiative, also known as the CAHPS® Hospital Survey, was intended to provide a standardized survey instrument for measuring patients' perspective on their care while in the hospital.

HCAHPS asks patients a core set of questions that can be combined with a broader, customized set of hospital-specific questions. They receive the survey in the mail two to four weeks after discharge. Among those questions are at least three that pharmacy services could impact, he adds.

"One simple example is there are questions that ask about the patient's level of satisfaction with communication about their medications," Thompson says.

"So one program we're trying to justify here would give me the resources necessary to incor-

porate a pharmacist having a conversation with every patient about their medication each day of their hospitalization," he says. "The program would have the pharmacist directly communicating with the patient to see how this influences the patient's perception of their care."

Study shows that pharmacists have positive effect on patient care

Pharmacist intervention lowers adverse drug events

Pharmacists have a positive effect on reducing adverse drug events (ADEs), improving health outcomes, and improving medication adherence and patient knowledge about their medicines, according to a new study.[1]

"I'm a PharmD and clinician by trade, and what I find striking is the clinical outcomes were so significant," says **Marie Chisholm-Burns**, PharmD, MPH, FCCP, FASHP, professor and head of the department of pharmacy practice and science at the University of Arizona College of Pharmacy in Tucson, AZ.

"We did a systematic review and meta-analyses, looking at 55,000 citations of published articles," she adds. "By the time we went through our process and criteria we had almost 300 studies in the analysis."

The research team reviewed studies between 1922 and 2009, searching more than a dozen databases.

Investigators looked for studies in which pharmacists were involved in direct patient care, and they analyzed these for themes.

"We had a multidisciplinary team of physicians, nurses, pharmacists, an attorney, and an economist involved in the study," Chisholm-Burns says.

The team found that patients with diabetes had better outcomes when pharmacists were directly involved in their care, Chisholm-Burns says.

"Pharmacists' direct care helped to reduce ADEs, prevent rehospitalization, reduce length of stay in the hospital, and prevent medication errors," she says.

Quality of life factors also were improved with pharmacist involvement.

"Especially patients' general health was significantly improved with pharmacists involved in care," Chisholm-Burns says.

In a meta-analysis of hemoglobin A1c, LDL cholesterol, and blood pressure, investigators found that there was a significant difference with pharmacist care.

"Patients had better control of their diabetes, more improved blood pressure when pharmacists were involved in direct patient care of their activities," Chisholm-Burns says.

"It was striking that our involvement did make a difference in these studies," she adds. "These were consistent and statistically significant findings."

For example, the study found that patients who had a pharmacist involved in their care were 47% less likely to experience an ADE. Also, close to 90% of studies that looked at pharmacists' involvement in managing hemoglobin A1c found positive results. Likewise, 84% of the studies that looked at blood pressure management, and 82% of studies involving cholesterol management showed positive results regarding pharmacist involvement in care.1

The study was funded by the American Society of Health-System Pharmacists (ASHP) and the ASHP Foundation in Bethesda, MD. ASHP's goal is to advance practice models optimizing the role of pharmacists as members of the health care team.

"ASHP is trying to get the word out to everybody," Chisholm-Burns says.

The research, some of which is still being published, will support the pharmacy practice model initiative (PPMI), which brings together some thought leaders around the country to develop practice models supporting the use of pharmacists as direct patient care providers.

While it's great that ASHP is spreading the word throughout the health care industry that pharmacists can be valued members of the clinical team, it's even more important that the American public learn about this role for pharmacists, Chisholm-Burns notes.

"We should expand our circle a little more," she adds. "My goal is to get this word out to the American people because they're the consumers and they need to know about how to access pharmacist care."

SUMMARY POINTS

- Study highlights positive impact of pharmacists on patient outcomes.
- Patients report better quality of care, fewer rehospitalizations.
- Lab results improve for diabetics, other patients with chronic illnesses.

In the United States, which still ranks low in many public health indicators, it's especially important that pharmacists are involved in any future models of clinical care, she says.

"We should want to do a better job of improving our health in this country," Chisholm-Burns says. "I think pharmacists could be a critical piece in this puzzle given the right circumstances."

Eventually, the American people might demand to have pharmacists involved in their care, she adds.

"Maybe having pharmacists involved in direct patient care would be the solution to help improve health care in the United States," she says.

Reference

1. Chisholm-Burns MA, Lee JK, Spivey CA, et al. U.S. pharmacists' effect as team members on patient care: systematic review and meta-analyses. *Med Care*. 2010; [epub ahead of print].

Pharmacy needs place at table in project management

Be creative in finding staffing resources

Hospitals both large and small need to have pharmacists who have information systems skills to work with projects involving the installation of new medication distribution technology, an expert says.

For larger hospitals, this might involve having dedicated pharmacy staff working in an information systems (IS) department. For instance, Johns Hopkins Hospital in Baltimore, MD, has four pharmacists who are dedicated to IS work, says **Brendan J. Reichert**, MS, RPh, assistant director of med use informatics at the Johns Hopkins Hospital.

While most hospitals cannot afford the luxury of dedicating fulltime pharmacists to this role, they still should make it a priority to find a role for IS-trained pharmacists.

"Smaller hospitals might say they can't designate a pharmacist to work on this project for three months," Reichert notes. "They are concerned about how to backfill that position when they pull pharmacists for the project."

Ideally, hospitals will have a pharmacist involved with projects that impact the pharmacy. The pharmacist's role could include managing the project, coordinating meetings, or requesting changes in projects. **(See story of case study of pharmacy's involvement in IS project management, p. 130.)**

But even without fulltime staffing resources, there are practical ways hospital pharmacies can enhance their own involvement in project management, he adds.

For instance, hospital pharmacies could have job-sharing arrangements in which a pharmacist does information services work part of the time, Reichert suggests.

"For individuals to balance that and get pulled into operations and keep up with the maintenance and project then you have to have an understanding that the individual cannot spending all of their time building a clinical system," Reichert says. "They also cannot work on it for an hour, get interrupted and then return to it."

Ideally, IS pharmacists should have a block of time to devote to IS project work, and this should be separated from their other pharmacy work.

Smaller hospitals also can consult with pharmacist IS specialists when they're installing new technology, he adds.

Another option is to put pharmacy students in this role, Reichert says.

For a pharmacy barcoding project, Johns Hopkins Hospital had a pharmacist oversee the project with the help of pharmacy students, he notes.

"The pharmacy students would take any medications that would expire in the next three to four months and bag them up and test a barcode on everything in that system," Reichert says.

"We were going to a bedside barcoding system and had to build a database of all the medications in the system," he explains. "So, for acetaminophen, for example, we would bag up those bottles that would expire and educate the staff to use those first."

Nurses would pull acetaminophen, chart the medication, linking the correct medication with the barcode, he adds.

SUMMARY POINTS

- Hospitals need trained information services pharmacists on hand when installing new technology.
- Use pharmacy interns, new nurses, staff with physical limitations to fill in staffing needs when going through a technology transition.
- Consult with experts if pharmacy information services staff cannot be an option.

"We had to go through a couple of thousand line items to make sure everything was barcoded and linked up because we wanted a greater than 90% scan rate on all medications," Reichert says. "So we had four or five summer interns and student nurses working on this project."

New employees waiting to be licensed are another good resource to use for these kinds of projects.

"We found some hospital employees who were waiting to be licensed," Reichert says. "The hospital had helped them through nursing school and promised them positions."

Pharmacy directors can identify such employees by calling the hospital's human resources department and asking if there are any employees who are available for a special project.

"We contacted our HR department and were told they had two nurses waiting for a trauma critical care fellowship to start and were available for the next two or three months," Reichert says. "We also found nurses who had hurt their backs or legs and could not take care of patients, but could do this kind of work."

The IS projects also could use part-time employees.

"Let's say you have a mother who works for you two days a week and only can work specific hours, maybe after dropping her kids off at school," Reichert says. "You could have her come in at 9 a.m. and work for six hours a day."

There also might be some project work that part-time employees could do at home, he adds.

Other staffing resources include employees who are on accommodated work programs or who need jobs with minimal lifting.

"I'd bring in these workers to free up my staff so my technicians would be available to do other things in the pharmacy," Reichert says. "You could show that person how to answer the phone."

Pharmacy helped with smart pump and CPOE installation projects

Carving out pharmacy staff time is key

Hospital pharmacists could be an important resource as health systems upgrade their technology and install new electronic systems, such as computerized provider order entry (CPOE) systems.

In one case study of how pharmacy involvement assisted with CPOE and smart pump projects, a pharmacist with information systems (IS) experience helped to assemble a team.

The team had no experience in implementing smart pump and CPOE systems, and this can create anxiety, says **Brendan J. Reichert**, MS, RPh, assistant director of med use informatics at the Johns Hopkins Hospital in Baltimore, MD.

Vendors provided estimates of how many resources would be needed, but team members wanted their own projections based on worst- and best-case scenarios, Reichert says.

"You want to prepare for the worst and plan for the best," he says. "So I got my team together, and we kicked off the building of the pharmacy computer system before we started the official project."

The first step was to move hours that were allocated for pharmacy services to the project of implementing smart pumps and a CPOE system.

"We tried doing some resource leveling," Reichert explains. "We said, 'We're kind of in a lull period now, and we have routine maintenance with our clinical systems, but there are no big projects screaming at us, so let's put some little projects by the wayside and pull one employee to build the pharmacy computer system.'"

With the dedicated pharmacy employee, they began to build the pharmacy formulary in the computer system, he adds.

"We decided what IV labels we would use, reports we'd load into it, and the institution's formulary items, and we set up some of that infrastructure," Reichert says. "There were certain things we could not build, but we got innovative with our resources."

The key is to level out the peaks and low periods.

"Say you have a deadline with 4,000 medications you have to build into a formulary in two weeks," Reichert explains. "There will be a lot of anxiety among your team."

But if the team starts early and builds it over four weeks, then it's a less frustrating task and deadline.

"We already had the computer system up at four of the hospitals, and we were bringing it live at a brand new hospital," he says. "So we needed to think outside of the box on how to do resource leveling."

The team decided to start some steps early, veering off of the project plan provided by the

system's vendor.

"Think about what can be started a little early, what's required for each step, and how you can bring in additional resources to do the work," he says.

Other questions to ask are as follows:

- When can we train staff?
- Can we extend out the project?
- Can we bring in consultant resources for this phase of project?

"You try to mirror your work commitment with the resources you have on hand and do resource leveling," Reichert adds.

"Imagine going to work tomorrow with nothing to do and then the following day you have 10 hours of work to do," he says. "It helps your stress level to balance it out."

Another time factor to keep in mind is that a project that involves eight hours of work will likely require a 10-plus hour day to complete.

"You might have six of seven hours of a day scheduled out, but the other two or three hours are going to be spent handling your routine items, like answering emails, answering the phone, returning phone calls, and there will be something coming up in that day that you haven't scheduled for," Reichert says. "So you have to figure that it will be at most 30 hours a week that you'll be able to devote to a special project."

Study highlights benefits of pharmacist-led teams

Program cut costs, improved patient outcomes

A Northwestern Ohio health system achieved successful outcomes in improving health, increasing patient satisfaction, and cutting costs by involving pharmacists in a patient care team model, a new study reports.

Blanchard Valley Health System in Findlay, OH, has developed a business model that involves having health-system pharmacists provide medication therapy management (MTM) services to employees with chronic diseases. The study focused on improving patients' lipid levels, reaching HbA level goals, and reducing weight when needed.[1]

A large employer with more than 2,100 employees, Blanchard Valley Health System opened its Center for Medication Management in 2003 as part of pharmacy services, focusing initially on anticoagulation therapy. Eventually it was expanded to provide disease management, wellness and prevention services, diabetes education, and smoking cessation services.[1]

Pharmacists assess patients for medication problems, help monitor their laboratory values, and provide counseling and education.[1]

The center also reached out to local business leaders about contracting for the center to provide medication therapy management services with pharmacist involvement. The center's business model involves directly contracting with businesses' benefits department for both wellness and MTM sessions, as well as an ongoing condition care program.[1]

Seven hospital pharmacists provide the wellness and MTM screenings, and three pharmacists are involved in the ongoing condition care program. Also, pharmacists are involved in the program's overall operation and perform all technical functions except phlebotomy.[1]

The study showed that patient satisfaction has been high overall with 99.7% of respondents saying they would recommend these services to others and 98% saying it was a good use of their time.[1]

The program saved health plan payers $253 per patient per year for 216 patients. The cost savings was related to medication therapy changes recommended by pharmacists. This amounted to a $2.21 return on investment for every $1 spent. And the combined direct and indirect cost savings averaged $1,011 per patient each year.[1]

Also clinical outcomes indicated an overall improvement in patient care, including a statistically significant reduction in LDL cholesterol levels for all patients and an even greater reduction in LDL cholesterol levels for diabetic patients.[1]

There also was a significant reduction in body fat percentage and 16% of patients had a weight loss of 10 pounds or more. There was not a significant difference in HbA levels.[1]

The Center for Medication Management's services differs from other employer wellness programs because of its use of a pharmacist as a primary gatekeeper. Also pharmacists provide medication review and face-to-face education with patients.[1]

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