Getting resources to where they’re needed

This is a story of how physicians at a teaching hospital did a good job of persuading their colleagues that good clinical practice meant using prophylaxis to prevent DVT, of how their use of prophylaxis was blocked by a systems problem, and of how they were able to remedy the problem.

OB/GYN surgeons routinely ordered boots (intermittent pneumatic compression devices) as their preferred DVT prophylaxis for their high-risk surgical patients who had gynecological malignancies, but the hospital’s clinical support system regularly failed to provide the devices.

In sheer frustration and because they were concerned advocates for their patients, the surgeons resorted to hoarding the pumps in their offices and lockers when they knew they would be operating the next day on a patient who was at risk for developing a venous thrombosis.

Using the continuous quality improvement model, a team facilitator worked with a broad-based team to identify why calf compression boots were not available to all patients for whom they were ordered. She applied group dynamics principles, basic statistics, data collection, and good communication skills to solve a problem that stemmed from a conflict between physicians who wanted to give their patients the best care available and a hospital system that was not set up to reliably supply IPC boots to patients.

She identified her quality indicator thus: all surgical patients for whom boots are ordered receive them postoperatively. To achieve that goal, she began by meeting with and listening to all of the people involved with the process of delivering the devices.

The Problem
When Meg took on the newly created role of quality manager in an East Coast teaching hospital, she had 15 years of clinical experience in the same facility. Nurses and doctors knew her and respected her ability to solve problems.

To her, then, it was no surprise that a group of OB/GYN physicians asked her to help solve a clinical problem: an audit showed that only half of the patients who had gynecological malignancies received the compression boots ordered for them as prophylaxis against DVT. The same audit showed that surgeons were ordering boots for more than 90 percent of these patients. Why, they asked, were these orders going unfilled?

Meg began the process with an advantage: the medical staff knew the value of using prophylaxis in preventing deep vein thrombosis and pulmonary embolism. The OB/GYN group that cared for the numerous patients who had malignancies and who came to the hospital for operations wanted their patients to receive prophylaxis for DVT. The surgeons, too, were upset that their orders were not being followed.
The Process

The belief in the value of prophylaxis is key to implementing a change in the way physicians practice medicine. At this hospital, means for DVT/PE prevention and treatment were well known. Local QA data and the literature both documented the need and effectiveness of prophylaxis in preventing DVT/PE. Research showed the hospital would save money each time a DVT was prevented. Preventing DVT also decreased the likelihood of the post-phlebitic syndrome, a condition that may not be clinically evident until five to ten years after an acute episode of DVT.

“Success was built into this from the start,” Meg said. “Physicians really wanted to solve the problem. They felt unfairly blamed for the problem since they wanted the boots and pumps for their patients. We had the physician buy-in that is so crucial to the problem-solving process. Without that buy-in, you can plan on a difficult and frustrating effort to implement changes.”

Meg first met with the researcher who had headed up the local QA audit. Together they decided to track the supply route, speak with clinicians who used the IPC devices, and review the usage logs in the vascular laboratory, the hub of IPC device distribution throughout the hospital.

Meg also convened a team of people who represented hospital labs, nursing, surgery, resource management, administration, and outside vendors. She knew that an understanding of the distribution process was crucial to solving the availability problem and needed to hear from each representative who had firsthand knowledge of a piece of that process. No one person was familiar with the overall process, and all felt they were doing their jobs well. They were. The problem was that each division was not meeting the needs of the system.

Use data to document the need for change

To visualize the distribution system, Meg created a flow chart. She said that graphics, such as flow charts, are better tools than written descriptions to help people to understand the problem and to see how their pieces fit within a whole process.

Don’t let lack of technology hinder you. You don’t need computers. You can draw a story board or flow charts on paper.
said membership flexibility is another key to a successful team. By giving people a role in solving the problem, but not requiring that they all attend every meeting, she communicated a message that members’ views and ideas were valuable and that their time was respected.

Team meetings were held weekly in the early part of the study, and less frequently as tasks were accomplished. Midway through the problem-solving process, the team needed to meet only monthly. During the second year, the team met as needed. Throughout, Meg kept all members informed of decisions, discussions, and findings. She used electronic mail, telephone calls, and ad hoc hallway meetings to make sure that everyone was informed of each step toward resolution.

"Sometimes you can’t get people together no matter how committed they are," she said. “It’s important to meet regularly, if only briefly, to keep the energy level up, and to stay connected. It’s also important that the core group, the working committee, meet regularly to monitor progress. Many tasks can be done outside of team meetings, but the team meetings are needed to keep commitment high and to share information that shows progress is happening.”

Meg discovered two prime reasons why pumps were not available:
(1) physicians were hiding compression pumps in their OR lockers and offices just to make sure the pumps would be available for their patients after surgery and 
(2) pumps were not available when the vascular lab was closed nights, holidays, and weekends.

The physicians were forthcoming about the hoarding. “They weren’t trying to keep a secret,” Meg said. “They wanted the boots for their patients.” Rather than chance that a surgical patient would not receive a pump postoperatively, the physicians had improvised a way to guarantee availability, but had unintentionally made the problem of availability worse.

Meg saw no value in blaming the hoarders or in trying to change their behavior. She and her team rightfully decided that if they could increase the availability of pumps and boots, that the issue of hoarding would disappear.

Meg shifted her focus to data collection. She discovered that 32 pumps were available, far fewer than needed for the number of patients at risk of developing DVT. She documented that both cancer and surgical patients used boots most.

The other issue, the lack of availability of boots and pumps on weekends, evenings and holidays, was also an issue that was costing the hospital money. Clinicians, she discovered, had resorted to renting pumps when the lab was closed.
“The doctors and nurses were frustrated because they couldn’t get boots when they needed them, and the vascular lab was frustrated because clinicians were not cooperating by returning the devices when patients were done with them,”
Meg said. “Communication was poor.”

The Solution
The cross-department team decided on a temporary solution while they worked on one for the long-term. The nursing department set up a round-the-clock rental system. “At this point, an administrator from facilities management was brought onto the team,” Meg said. Through brainstorming techniques, the team created a list of priorities they wanted included in a changed distribution process: patient satisfaction, pump availability and access, and cost conscious use of resources.

The administrator persuaded the hospital’s fiscal department to release money to buy 25 pumps. When the team had reviewed the costs associated with renting devices and buying new equipment, the members had stumbled on two serendipitous findings: the hospital was paying more than necessary for boot sleeves, and some pump charges to patients were overlooked. The administrator negotiated a better deal with another boot sleeve vendor, and the fiscal department redesigned the charging system. In the end, the team documented that these changes saved the hospital $60,000 yearly while simultaneously almost doubling the number of pumps available for patients.

Another serendipitous finding that had an influence on boot and pump availability came from an analysis of the demand side of the distribution process. The team discovered that physicians were ordering boots for some patients who were at low risk of developing venous thromboembolism, and who, instead, would be effectively served by using gradient elastic stockings to prevent DVT. The team’s researcher devised another flow chart to determine which patients should receive boots because of their level of risk for developing DVT.

Meg’s final step in the process was to find out whether the changes made any difference. She collected data through nursing GRASP sheets and the vascular lab log, and, with her team, tracked who had the pumps, how long the devices stayed on patients, and which patients developed DVT.

After the first quarter of tracking gynecology/oncology patients, she documented that

- every patient for whom boots were ordered received them, and
- the number of boots ordered doubled.

At the end of a year of tracking this small population (range 33 to 66 patients each quarter), the DVT in-hospital rate dropped to 0%.
Lessons Learned

- Meg said cooperation and communication among team members were the most significant reasons for the team's success, but what she hadn't realized at the start was how important it would be to assign responsibility for implementing changes. Were she to repeat this study, she said she would have assigned duties to various team members rather than assuming the full burden for ensuring that changes were made.

- Another issue that surfaced was the issue of territoriality - departments were reluctant to relinquish control over their parts of the distribution process. Key to breaking that barrier was showing members both the overall process and their departmental role in making pumps available. With a less committed team and less committed departments, Meg said hospital administration might have had to issue a directive for change, an action that is less effective at maintaining change than the cooperative effort that keeps DVT rates low in this hospital.

- Team members also experienced discomfort in the beginning when they brought recommended changes to their individual departments. The changes were not always welcomed with open arms. The cohesion and trust that team members shared served as a buffer while individuals persevered in their efforts to better this delivery system.

- Meg also believes the change might have happened more quickly in a setting that had several years experience with implementing changes. She said it is less important what problem-solving technique is used than that some technique is used.

More Tips

- Focus on how the change will mean better care for patients.
- Communicate, communicate, communicate.
- Be familiar with group dynamics. It's common for a group to go through a stage in which members jockey for power or wonder why they ever got involved with each other. Some group workers call it the storming stage. And, while it might feel uncomfortable, most groups at this stage are quite productive and well on their way to accomplishing their goals.
- Use the scientific literature to back up your recommendations.
- Look at a system-wide solution.
Building on Existing Systems

This is a story of how a community hospital’s clinical management team used a pharmacist-generated reminder system to accommodate physicians’ preferences for receiving information. The team had created a critical care pathway to manage patients who seemed to be at high-risk for developing DVT, yet a significant number of these patients were readmitted to the hospital within one to six months of discharge with full-blown cases of DVT. Somewhere in the carefully designed system was a crack.

Physicians were used to having other patient care providers document patient needs in the medical record, but they were also aware of the medico-legal ramifications should they, in their best clinical judgment about a particular patient’s needs, disagree with hospital-generated standard recommendations. They wanted a system that would heighten awareness about individual patients who might benefit from prophylaxis, but they also wanted to retain control of the decision about which prophylaxis best suited a patient. And they wanted a system that was flexible enough to change as evidence-based practice recommendations evolved.

Using local consensus guidelines, pharmacists identified patients at risk for developing venous thromboembolism. They devised a three-tiered system in which pharmacists, in cooperation with surgeons, could choose a method for reminding physicians about the drugs that might be appropriate. The physician could decide the pharmacist would 1) write the orders, 2) recommend medications, or 3) not be involved. The decision for the pharmacist’s level of participation was controlled by the attending physician.

Tip
Piggyback your changes onto systems that are working well within your hospital.

Risk factors assessed
- history of DVT or PE
- varicose veins
- age older than 40
- operation more than 30 minutes
- paraplegia or quadriplegia
- spine fracture
- malignancy (all kinds)
- more than 3 days bedrest (indicated on orders)
- estrogen use (birth control pills and hormone replacement)
- pregnancy
- burns
- hypercoaguable state
- congestive heart failure
- pelvic fracture
- obesity (more than 20% above ideal body weight)

The Problem
Pam, a clinical resource coordinator, worked in a community medical center that participated in a state-wide, professional review organization study of the amount and appropriateness of prophylaxis given to patients at risk for venous thromboembolic disease. During the first study, her hospital used 15 DVT risk factors (see sidebar) to assess whether the right patients were receiving the right level of protection.

The findings from this data gathering phase were brought to the Clinical Research Management Steering Committee, a group that helps to identify and prioritize projects at the system
level. The committee is composed of physicians, service directors, and department heads. Two of those physicians, Drs. Dominick and Stein had a particular interest in DVT.

“What intrigued Drs. Dominick and Stein, and what triggered a follow-up study, was the observation that about 5 percent of the patients who had surgery were readmitted within 30 to 180 days with DVT,” Pam said. “Dr. Dominick had worked with the general surgeons and had done a lot of work with variations in practice. He knew that there was a tremendous variation in the prophylaxis used by physicians, and, so, decided to focus on surgical patients who were at high-risk for developing venous thromboembolism.” A high-risk patient was defined as someone who had major surgery and at least two other risk factors, such as being at least 40 years old, staying in bed for at least three days, anticipated immobility longer than three days, or anticipated limited mobility after discharge.

“Nothing happens around here without support; these two doctors had both the support of administration and the respect of their colleagues. They were personally interested in DVT, in risk management, and in the question of how long prophylaxis should be given. A focus on better DVT prophylaxis was an easy project to undertake given their individual motivation and the support from the hospital system.”

The Process
Drs. Stein and Dominick reviewed 120 records of patients who were discharged from January to September 1996 and who had undergone one of three types of operation: major abdominal surgery, vascular surgery involving the legs, or bilateral knee replacement. They had a staff of three people who helped track variance data, did chart review, and scheduled talks for medical grand rounds on the importance of DVT prophylaxis.

The results of the review confirmed their suspicion: prophylaxis, either recommended or prescribed, was not tracked in the critical pathway the clinical management team had developed to manage high-risk patients. With the clinical management team, Drs. Dominick and Stein created a tracking form that collected four elements:

- a. a patient’s risk factors for DVT
- b. whether prophylaxis was given when a patient’s history indicated cancer
- c. whether prophylaxis was given when a patient’s history indicated surgery within six weeks of the current admission
- d. and whether no prophylaxis was given for (b) or (c).

Staff were able to track and collate statistics on the four elements through the hospital’s database management system (MIDAS), a system that also allows a quality assurance manager to ask whether and when a patient had an operation done at the hospital. While the database system isn’t as usable as staff would like,
it does allow staff to compile basic information. As a follow-up to the question of adequate DVT prophylaxis use, hospital administration decided to replace its database management system with another that will make it easier for quality managers to analyze data for other quality of care studies.

The Solution

“Prophylaxis is a lot less controversial with DVT than with some other conditions,” Pam said. “There’s ample literature documenting the need for prophylaxis. It was less a matter of persuading physicians to use it than it was of finding a way to remind them of which patients are at risk. While physicians are still unclear about the real danger of some risk factors cited in the literature, such as congestive heart failure and estrogen use, they are comfortable that prophylaxis is warranted for most of the reported risk factors.”

“One thing that was critical to increasing prophylaxis use was a shift from a QA stance to one of performance improvement,” Pam said. “We had to move away from the idea that some bad apple was to blame for a failure in patient care to the idea that we need to remove impediments that prevent improvement. We needed to switch emphasis from the individual to the system.”

The process of change began with education. Posters were displayed at grand rounds and on the patient floors. Nursing and pharmacy personnel were recruited to identify patients’ risk factors and to remind physicians of the need for prophylaxis. The tracking form was approved by the medical staff and was included with the critical care pathway in the patient’s floor chart.

The staff also built on a system that “a few brave pharmacists” began 15 years earlier. Several clinical pharmacists had worked with receptive physicians to begin a team approach to ordering medication. “Back then, the hospital didn’t mandate that physicians use the pharmacy service,” Pam said. “Through time, we evolved a system in which physicians decide what level of pharmacist involvement they want. They could ask the pharmacist to write all the orders, to recommend medication, or to stay away from involvement with their patients. Depending on what a physician wants, the order is either written in the chart or written on a “chart note” that does not become permanent part of the medical record. We have the reminder system in place for patients who have other conditions. It wasn’t a matter of adding the reminder system to the DVT protocol, but of making sure that DVT risk was included in the list of conditions that the pharmacists and nurses monitor.

Though a physician chooses not to involve a pharmacist in prevention of DVT, a pharmacist still has a legal responsibility to notify a physician of all possible drug treatments, Pam said. “But that case just hasn’t happened in this hospital. Because of the longevity of the reminder system here, physicians are generally very receptive to the recommendations of the clinical pharmacists. They see each other as part of a team caring for a patient,” she said.

“At our hospital, the pharmacists are assigned to the nursing units. Staff know that the pharmacist’s job is to look for drug reactions and to recommend treatments.
They see such team work as a good way to ensure quality care. The more systematic you are, the less likely a patient will fall through the cracks.”

Their efforts paid off. Prophylaxis use increased from 50% to 85% for patients at risk of developing DVT.

**Lessons Learned**

- “The biggest barrier we found to change is the database system,” Pam said. “We don’t have the data systems in place to collect and give information to physicians that they want. You have to look at what you have in place and do the best you can with what you’ve got.”

- Time is always an issue. Staff don’t have time to start something brand new, but if you can point to the medical literature and use existing data collection tools, you’ll stand a good chance of making changes. As a quality manager, you need to invest your time in producing good data and in making recommendations drawn from a consensus opinion of the experts involved in delivering care to your patients.

- One of the things that helped make this project a success was that it was a spin-off of a much larger project to look at practices. Asking questions about whether prophylaxis was given for DVT was almost a ‘no brainer’ in that context. Good rapport between the pharmacists and the physicians was key to implementing change.

**Tip**

Remember that collegiality and respect among members with different clinical skills can mean the difference between a project that works and one that fails.
Using Clinical Research to Promote Quality Improvement

This is the story of the power of one person to influence change by conducting a clinical trial in his hospital, which established a need for prevention of DVT in high-risk medical patients. The setting is a large teaching hospital in which the culture is both competitive and research-based. In a culture that encourages clinical research trials, evidence from a well-designed local trial is an effective method of changing physician behavior.

You might think addressing DVT prevention through a system-wide intervention would be easier in this type of facility, but in many cases it isn't. With a large organization and a large patient population with a host of serious illnesses, prevention of DVT must compete with all other illnesses for a finite amount of physician attention and system resources. An advocate for DVT prevention needs to function as a local champion to raise awareness about this important health concern.

In this particular system, the researcher decided to use a bottoms-up, two-pronged, strategy to heighten awareness and change practices. He used the hospital's research culture and himself as a frontline champion to 1) persuade colleagues to use prophylaxis to prevent DVT and 2) persuade administrators to support practice protocols that target a broader at-risk population than surgical patients.

The Problem
At this large, academically oriented hospital, physicians are well aware of the scientific literature that documents the frequency of DVT in surgical patients, and they routinely provide adequate prophylactic measures to postoperative patients.

However, Dr. Silverberg suspected that some at-risk groups of medical patients were not adequately served. His clinical experience suggested to him that DVT was a persistent problem among medical ICU patients and among a number of other high-risk medical patients who did not have the more widely recognized surgical risk factors for venous thromboembolism.

Dr. Silverberg gathered data in an observational study to document a need to revise prevention protocols. The study goal was to identify the characteristics of those patients who developed DVT and to document what, if any, preventive modalities were used. Neither a multidisciplinary team nor a hospital administration committee was needed to identify quality indicators.

Study #1
Dr. Silverberg suspected that severely ill medical patients are at a risk of developing DVT or PE similar to surgical patients for whom the evidence of the need for prophylaxis is well documented. With his clinical team, composed of two nurses, a data abstractor, and a secretary, he requested and received funds to support this study from a manufacturer of compression boots.
One of the most difficult issues the clinical team faced was a personal one: how to compassionately ask family members to allow their very ill, and sometimes nonresponsive, loved one to participate in a research study.

"The key here is that we all believed in the importance of identifying patients who might be at high risk of thrombosis, but for whom adequate scientific data did not yet exist about the usefulness of prophylaxis," Susan, the head study nurse said. "We suspected that immobility, increasing age, and some medical conditions put these ICU patients at elevated risk, but we couldn't point to a definitive study."

Susan said it was important to communicate to both families and the Medical ICU staff that the team was concerned about the effect of DVT and PE risk on patient care, and that they were not out simply to gather data because of their own scientific curiosity. "We had to go in with confidence and honesty, and had to communicate kindness and concern for the patient's welfare," she said.

Another key to going forward with the study was the cooperation of the Medical ICU staff. "We were very careful not to interfere with the routine functioning of the unit," Susan said. "We knew the nurses were interested in the question, but that they were also protective of the patients in their care. We involved them in this study from the beginning, asked them for their ideas, and found out when the best times were to do ultrasounds to scan for the presence of DVT. The last thing an ICU nurse wants is some researcher coming in to rip off a dressing she's just changed. It also doesn't hurt to bring the staff pizza once in a while."

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Treat each of your team members with respect, civility, and flexibility. The practice of those values will carry over to your dealings with staff and patients.
The Solution
The results of the ultrasound tests were compared with the schedule of prophylaxis. In 22 of 33 patients in whom DVT was detected, prophylaxis had been delayed for three days after ICU admission. Prophylaxis was never ordered for some of these patients. In many cases, Dr. Silverberg determined that prophylaxis, although given, was probably inadequate (based on type, dose and duration) to protect against clot formation. The team also discovered that some of the patients who developed DVT had few of the traditionally recognized risk factors for venous thromboembolism.

Through grand rounds and personal conversations, Dr. Silverberg reported the study's findings to the Medical ICU staff. Because of the staff's involvement in the design and conduct of the study, their interest in the findings was high. Prophylaxis administration, which had already begun to increase because of the awareness raised while the study was under way, further increased when the findings were reported.

Dr. Silverberg recommended to his colleagues that prophylaxis be given to all Medical ICU patients for whom it was not contraindicated. His recommendation was adopted.

Study #2
Dr. Silverberg next decided to try a more global approach to tackle the issue of who should receive prophylaxis. Rather than look at who was at risk, he and his clinical team decided to look hospital-wide at who developed DVT. Dr. Silverberg was aware that clinical trials of new treatments often excluded many patients who had DVT because of tight criteria that were applied to determine the efficacy of a new treatment.

"This is a study that could easily be done in a small hospital," Susan said. "It requires that a team coordinate its efforts with the lab or department that does the tests to determine if a patient has DVT. The study can either be done retrospectively or prospectively."

Meet at least weekly with your team and with the staff in the unit where you are doing the study. If you sense difficulties or problems with the conduct of a study, look at communication issues. We've learned that when we sense trouble, we're not communicating. Big egos don't help. You have to be fearless in your own commitment to growth and change.

The first step was to develop a data collection tool (general guidelines and a sample instrument are found in Chapter-5 of this manual). Among the variables collected were patient demographics (such as age, sex, medical history, and medications), risk factors (such as surgery, cancer, or history of DVT), prophylaxis given, treatment, diagnostic tests, and adverse outcomes relative to diagnosis or treatment.
Dr. Silverberg's study collected data on 150 consecutive patients at the time of diagnosis of DVT. Doing a prospective study meant the team members had to keep a flexible schedule. On some days, they were swamped with data collection; on other days, they had none. Because the team coordinated its efforts with the vascular lab, members were certain they were made aware of each patient who developed DVT during their study period.

Susan said such a study may be done retrospectively - if you can rely on your hospital's record-keeping to identify a sample of consecutive patients who develop DVT. For such a study, she would set aside two hours to order, collect, and abstract data on each patient.

The Solution
Dr. Silverberg and his team were surprised at the results of this study. Patients who had cancer or who had undergone surgery were represented far more often than patients in other high-risk groups. Through a grand-rounds presentation, he showed these data to his colleagues, and he recommended more vigorous prophylaxis and screening for patients who have cancer and who undergo an operation. These suggestions were adopted by a systems-level clinical team as standard protocol for the hospital.

Lessons Learned
- Getting a patient's informed consent to participate in a study, especially when the patient feels debilitated, can evoke conflicting feelings in the person trying to get consent. Susan recommends that you transmit your personal belief in the value and importance of a study to the patient, their family, and to the hospital staff. If you aren't sure that what you're doing is worthwhile, why should anyone else?
- Studies run most smoothly when tests are done and data collected at times most convenient for the frontline staff. Adapt your schedule to the routines of the unit where you want to gather information.
- Data collection took a lot longer than the team planned - about six months. This team kept in mind the goal of bettering patient care, and they supported each other at those times when they wondered whether the time invested was worth the pay-off.

More Tips
- You may think you have the most wonderful data collection tool ever designed, and you may, but it helps to test it out on a few charts before you begin your primary data collection. Researchers often find they want a few more, and often key, pieces of data than they chose in the first draft of a data collection tool.
- If you're near a graduate school or medical university, consider contacting their internship offices. Medical students and graduate students in the healthcare professions often are looking for projects or field work to meet course requirements. They may be available to help with data collection at no cost to you.
This is the story of how practicing orthopaedic surgeons, a managed care insurer, a regulatory agency, and a drug company representative collaborated to improve practices in the use of DVT prophylaxis.

The mission of the Professional Review Organization (PRO) is to ensure that Medicare patients, whose hospital care is paid with federal tax dollars, receive both appropriate and high quality healthcare. The orthopaedic surgeon’s view is focused on the individual patient. The managed care insurer looks for the best care possible for subscribers for the least amount of money. The drug company’s goal is to sell its product and to build its corporate image among health providers.

This story that follows shows both the limitations of internal hospital systems and a way to tap into outside resources to remove barriers to the use of DVT prophylaxis. This process begins with recognition of the capabilities and interests of people from different systems, and ends with a solution that meets the needs of each.

The Problem
The state’s PRO conducted a state-wide audit of the rate of pulmonary embolism among patients following orthopaedic surgery. The audit indicated that one hospital had a decidedly higher rate than others. Ironically, the medical director of the PRO was also a practicing orthopaedic surgeon at that hospital. No one was more surprised than Dr. Strictland when the study data showed a clear variation on his home turf.

As a member of that hospital’s clinical staff, Strictland assumed that his colleagues would welcome the independent study and would be motivated to institute better prevention protocols once the data were presented to them. With the hospital’s quality improvement coordinator, he brought the findings to orthopaedic grand rounds and, as he tells the story, “was nearly thrown out of the room.”

“I was surprised at how adversarial that meeting was,” Strictland said. “I hadn’t taken into account the resentment that clinicians felt toward regulators. It didn’t matter that the PRO was trying to provide help in a collaborative way. My colleagues resented the intrusion from an outside group. I was viewed as collaborating with the enemy.”

The Process
Strictland decided that, despite the duplication of effort, an internal audit was essential if he ever was to persuade his colleagues of the validity of the PRO’s data.

He asked Mark Chang, RN, the quality improvement coordinator, to review the medical records of the orthopaedic patients who had developed DVT or PE during the past five years to find out whether and what kind of prophylaxis they had received after their operations.
“I looked at those who had an appropriate ICD-9-CM code and at the associated mortality data,” Mark said. “I looked through our computer system that links clinical and financial data. And I looked for complications that were coded, though most of the time, DVT is clinically silent and therefore overlooked as a complication in the hospital.”

Mark also looked at every possible antithrombotic method the orthopaedic surgeons could have chosen, regardless of whether the research confirmed that form of prophylaxis to be adequate for this patient population. He looked for aspirin, heparin, and elastic stockings. And he noted instances when no prophylaxis was given.

“The data were irrefutable,” Strictland said. “The hospital’s rate was higher than any other place in the state. And the reason why was obvious - at least to me. We had no standard protocol. The variation in the administration of anticoagulants was astounding. No two orthopaedic surgeons administered prophylaxis or treatment the same way. You didn’t have to be a rocket scientist to figure out that this much variation couldn’t be attributed to variations in what our patients needed.”

**The Solution**

Armed with internal data, Strictland and Chang attended a second grand rounds on the topic of anticoagulants. “After a few moments of tension, the mood changed,” Strictland said. “Mark had collated the data so that each orthopaedic surgeon had information about his or her own practice. I used overheads to illustrate the hospital-wide and state data. We drew on the literature and we showed them the variation in their practices compared with national and regional benchmarks. I knew we’d won them over when a couple of our in-house leaders said that even one PE was one too many.”

A second surprise was in store for Strictland. “We learn through various quality improvement theories that the people affected by a change in practice need to own the steps that change that practice,” he said. “But our orthopaedic surgeons didn’t want to come up with a protocol. They acknowledged they didn’t have the background to decide dose regimens and asked us to turf the problem to the internists.”

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**Tip**

If you know that a regulatory body will be studying your hospital’s practices as part of a regional or state audit, spend time with the departments likely to be affected by that audit’s results. Ask your physician staff to look at the criteria the regulatory body is using, and to recommend changes or fine-tuning before the study begins.

Tip: Present data that compares individual physician practice with hospital and state averages. And keep these data confidential. The point is to spark interest and not to point a finger.
Strictland, hospital administrators and quality improvement personnel met to hash out the details of a protocol. The internists, too, had recognized that extreme variation in practice was an issue for them.

“And then they tossed this hot potato to the clinical pharmacologists,” he said. It was the Pharmacy and Therapeutics Committee that developed a hospital-wide protocol. “We still needed to sort interpersonal issues,” Strictland said. “My guess is that we spent about 20 hours on those, but when we were done we had a protocol we agreed would be monitored by pharmacists and that had enough play in it to allow our doctors to make individual treatment decisions. Throughout, the staff had been adamant that they wouldn’t accept a protocol that smacked of ‘cookbook medicine.’ ”

The P&T Committee advertised the availability of pharmacists to consult with physicians when questions of DVT prevention or treatment arose. They also advertised that the consult would not cost any extra to the patient. “That was a big issue for our medical staff,” Strictland said. “In an era of managed care, they all are pretty sensitive to any change that might add a cost to a patient’s bill and thus trigger a response from a managed care insurer that the cost of their service is higher than other providers.”

Concurrent with the work done in the P&T Committee, Mark worked with the area’s largest health maintenance organization (HMO) to create an outpatient anticoagulation clinic. “The HMO was very interested in the issue of prevention,” he said. “I went to a regional conference sponsored by the HMO to learn about anticoagulation clinics run by nurses and pharmacists. We learned that nurses and pharmacists can bill for services, and that charges from these groups are attractive to HMOs since they’re usually less than physician charges. Too, engaging nurses and pharmacists in the outpatient work meant the physicians’ time wouldn’t be taken up making sure that patients complied with the anticoagulation protocol after discharge from the hospital.”

A follow-up study showed the protocol had an effect. DVT and PE rates declined hospital-wide.

The follow-up study also pointed to a need to revisit the issue of appropriate prophylaxis. While inappropriate prophylactic agents were no longer routinely employed, some patients were not receiving the optimum agent for their level of DVT risk (see Chapter-2).

Strictland and Chang attended another grand rounds to talk about the appropriateness issue. “Just when you think you’ve covered everything, someone throws you a curve ball,” Strictland said. “The reason they weren’t providing what P & T had determined was the best agent was because the HMOs wouldn’t pay for the drug on an outpatient basis. Our cost-conscious docs were not going to saddle their patients with a drug charge when another agent they believed equally appropriate was available and, more important, would be paid for by a patient’s insurer.”

Chang contacted the representative for the drug company that made the agent. He reasoned that his couldn’t be the first hospital to have faced this issue, and that, since the drug company wanted to sell its product, that the representative could give him tips to help persuade the insurer to cover the outpatient charge.
And she did. Jane Johnson, the drug “rep,” talked with insurers, local rehabilitation hospitals and the owners of local pharmacies. By providing extensive documentation, she was able to persuade the HMOs to agree to cover the outpatient charge for this agent. Staff at the rehabilitation hospital were persuaded to stock the drug when Jane told them that their chief competitor in the area already provided this drug.

In some cases, she was able to persuade a pharmacy to stock the agent. Others refused. She brought the list of cooperating pharmacies and some patient education materials back to Chang. Chang worked with his hospital’s doctors and nurses to institute a system through which a patient’s healthcare team would advocate for the patient with their insurer and direct them to a local pharmacy that stocked the appropriate drugs.

While not perfect, this advocacy system was effective in making the agent available for the specific population of patients for whom it is most effective.

Lessons Learned

- As a quality improvement coordinator or physician, work with a regulatory body, such as a PRO, to gather data, but validate that data at your home hospital independently BEFORE you bring the data to the physicians who will be affected by practice changes. Strictland believes that bringing the information to physician department heads before delivering it at grand rounds will help to minimize politics and power plays.

- Looking at the process retrospectively, Strictland says that he should have involved the clinical pharmacists much earlier in protocol development. His quality improvement personnel could have begun meeting with pharmacy personnel concurrently with presenting data to the medical staff.

- Had he to do it again, Strictland also says he would have created a multidisciplinary team to look at the data before bringing information to any one department, especially one that might feel singled out for criticism.

Tip
If you believe that cost might be an issue in getting a pharmaceutical agent to a patient, and you’ve exhausted your system options for getting that agent in place, look into either the national indigent drug program or a drug company’s free drug program listed at the end of this section.
Indigent Drug Program
Directory of Indigent Programs
Pharmaceutical Research and Manufacturers Association
1100 15th Street NW, Washington DC 20005
(202) 835-3400
(800) 762-4636 (for a booklet)
Provides a list of drug companies and drugs that are provided free of cost under the indigent patient drug program.

Dupont Pharma, Inc.
Patient Assistance Line
(800) 474-2762
Coumadin®(warfarin sodium)

Organan, Inc.
Indigent Drug Program
(800) 631-1253
Orgaran®(danaparoid sodium)

Pharmacia & Upjohn, Inc.
Assistance Programs for Prescription Medications
(800) 242-7014
Fragmin®(dalteparin sodium)

Rhône-Poulenc Rorer
Indigent Drug Program
(610) 454-8000, ext. 2865
Lovenox®(enoxaparin sodium)

Wyeth-Ayerst Laboratories
Indigent Drug Program
(800) 934-5556 (press 3)
Normiflo®(ardeparin sodium)