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INSIDE

Just how wrong are you?

Why you should know more about diagnostic errors

No one would argue that physicians and other providers always get it right. But there can be a variety of reasons for getting a patient diagnosis wrong. For example, patients may not report all their symptoms clearly, or symptoms may not conform to what is considered the norm. Diagnostic equipment may not be sensitive enough to catch an illness or injury initially. The patient may delay treatment — or the busy-ness of the hospital or doctor could delay treatment.

But none of these reasons, as well as others, such as physician fatigue, equipment failures, or miscommunication among providers, obviates the fact that there has been a diagnostic error, and these sometimes result in injury or death. Some estimates put the annual number of such misdiagnoses, missed diagnoses, and over-diagnoses as high as 12 million in outpatient clinics alone, according to **Hardeep Singh**, MD, PhD, a patient safety researcher at the Veterans Affairs Center for Innovations in Quality, Effectiveness and Safety at the Michael E. DeBakey VA Medical Center and Baylor College of Medicine in Houston.

> SOME ESTIMATES PUT THE ANNUAL NUMBER OF SUCH MISDIAGNOSES, MISSED DIAGNOSES, AND OVER-DIAGNOSES AS HIGH AS 12 MILLION IN OUTPATIENT CLINICS ALONE....

A study from just over 20 years ago using autopsies found that as many as 40% of patients had misdiagnoses resulting in death,[1] and a little more than a decade ago, that as many as 80,000 people a year died from misdiagnosis. Recent data suggest the main areas of misdiagnosis are related to pulmonary embolism, drug overdoses or adverse reactions,

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lung cancer, colorectal cancer, acute coronary syndrome, breast cancer, and stroke.[2]

Singh is one of the pre-eminent researchers on the issue of diagnostic errors and believes that whatever the reason behind the errors, we will never get a handle on the problem and truly begin to correct it until we start to measure it.

But that's a difficult undertaking. Almost any paper on the topic includes some of the issues that make measurement difficult. *(For a reading list, see box page 28.)* Singh and his colleague Dean Sittig list some of them in their most recent paper[3]: diagnosis is not necessarily something that happens in a moment, but over time, as increasing information comes in. Autopsies, which are a great way to determine if there was a mistake in a diagnosis, are done with decreasing frequency. And some of the best methods of counting — observational prospective studies — are expensive, while retrospective studies based on chart reviews or administrative data are imperfect at best and can be misleading at worst. Regardless, none of these are systematically done for the purpose of looking at diagnostic errors.

One reason is that no one requires that this be done, says **Mark Graber**, MD, FACP, president of the Society to Improve Diagnosis in Medicine (SIDM) based in Austin, TX, and a senior fellow at the scientific research and consulting organization, RTI International. "If physicians wanted to report this stuff, then incident reporting would be a good way to measure," he says. It would be easy, rote, cheap. But they do not want to. Graber says that, partly, it is because providers do not like to think they are wrong.

Tools that might make reporting easy do not exist, Graber says. The IHI Global Trigger Tool, used for reporting adverse events, is used to capture errors of commission — things that happen — he says, while a diagnostic error is an error based on something that didn't happen, or didn't happen in time. That's hard to capture with a trigger.

Asking patients is another way to get at the data, because past experience has shown they are usually happy to talk to someone and tell them, a day or so after release, if they are doing well. "But that's not enough time usually, even after discharge from the ED, to ask if we got it right," Graber says. "However, patients are a great resource, and are willing to disclose safety concerns. Generally, they are pretty accurate, too."

The striking thing about patient reporting of diagnostic mistakes is that multiple studies show few of the things patients identify as problems are issues that can be picked up through normal detection in a hospital, such as medication errors, he says.

At facilities with a great safety culture with a non-punitive and collaborative atmosphere, Graber says it is possible to get good information on diagnostic errors. As an example, he talks about one medium-sized hospital where hospitalists were asked to report any diagnostic errors they came across. He says after six months, they had 36 to study. "Doctors run into these on a regular basis, and if you encourage them to talk to each other about them, and your system is not punitive about them, they will."

Generally, though, even at the best hospital, keeping track of the diagnostic mistakes is not part of

the way things are done, he says, and "there are still many doctors who think they do not have any errors at all."

Any fear about their own performance is misplaced, Graber says, as research shows the majority of mistakes are system errors that can be fixed. He gives a hypothetical example of a patient who shows up with a chest nodule that needs to be biopsied. There are many steps between the determination of the need for a biopsy and the final date — pre-operative testing, getting approval from the payer, making sure the procedure doesn't conflict with the patient's daughter's wedding or the surgeon's vacation. By the time the biopsy is done, 10 months later, the mass has metastasized.

With the knowledge that the system was taking too long for relatively simple procedures, streamlining is possible. "With coordination, and someone owning the process of shepherding the patient from one stage to the other, it can all happen in 2 weeks."

Another example of a system error is physicians being unsure of what test to order, and thus either over-ordering tests, or not getting the right one. "There are thousands of possible tests, and they do not always know who to call in the lab to ask what might be appropriate." Something as simple as having a liaison person designated to answer physician questions about appropriate testing could help ensure patients get the right tests at the right time, says Graber.

When you start to explain the realities of diagnostic error to providers, and show them the data that increasingly backs up the assertion that it is a real problem, they start to get it, Graber notes. "If you can show them information about the things that underlie diagnoses and the predictable ways we can stray, they find it interesting and understandable."

Defining an error has been another hurdle. Singh has written about the topic before and has a paper under revision that looks at the complexity of the issue. Along with that, there are no standardized measures. But he is working on that, too, and with Sittig has developed the Safer Dx Framework in the hopes that it will advance the cause of creating a uniform method of measuring misdiagnosis.[4] Basically, they have tried to account for the various moving parts of medicine, the fact that there can be multiple settings involved, and the various stakeholder outcomes.

> "GENERALLY... EVEN AT THE BEST HOSPITAL, KEEPING TRACK OF THE DIAGNOSTIC MISTAKES IS NOT PART OF THE WAY THINGS ARE DONE," HE SAYS...

In time, Singh believes there will be a framework or process that a majority of people will agree upon and payers, regulators, and accreditors will demand that this data be collected and analyzed in some way.

"Initially, we will have to study the harm and learn from the error," he says. In the eight years he has worked on the topic, he has seen cases where patients have come to the doctor in an outpatient setting and then ended up in a hospital 10 days or two weeks later. "What errors were made? What was missed on that first visit?" In many cases, data gathering during the history is a problem, or there are misses during the physical exam.

Like Graber, he can also note examples of delays in diagnosis that led to more serious staging of cancers that can lead to more arduous treatments (with their own side effects) or even death. At the VA, researchers found almost 30% of cancer cases had opportunities for earlier diagnosis, Singh says. So now they code every abnormal lung X-ray and ensure that there is a follow-up appointment or repeat X-ray within 30 days. If the patient doesn't show, he or she will get a call. The coding is all done electronically.

The VA did an analysis of all peer reviewed data and marked diagnostic issues and found that only 15-17% of the things that were reviewed related to diagnostic issues. But that kind of notice doesn't involve learning from the data, he says. "Which is a shame. If you have that data and you are collecting it, you should categorize it and do something with it." Singh thinks peer review should be "transformed so that there is more information on the sharp end of medicine, the point of care. Peer review can be that. We can collect that kind of comprehensive information."

There are things you can do now, before it becomes mandatory, and they are things that both Graber and Singh think you should do, whether it is currently incentivized or not. "There is no measure, so there is no incentive," Singh says. But that is changing.

In the meantime, here are some suggestions:

• **Use what you have.** You can use your electronic health record program to flag certain patients. If there is someone who should be followed up with and is not, make sure that patient is flagged, Singh says. While particularly useful for outpatients, it can be used with inpatients who are awaiting test results, too, or patients who have to come back to the hospital for some sort of follow-up care.

• **Monitor testing follow-up.** Graber says knowing how well your physicians do in quickly following up on vital tests is a good gauge for knowing how well they are doing at timely diagnosis. Not every disease moves slowly. Sometimes, an hour's delay can make a big difference.

• **Look again.** Consider doing a chart review of all your chest X-rays, says Graber. It can give you an idea of how many are misread. From there, you can look at some of the potential reasons — there is a lot of emerging literature in the area of misread radiographs — and begin to address them.

• **Open up.** Encourage open discussion among clinical staff, and if possible create a reporting program, says Graber. If you can find a physician champion, you might be able to create a good project around the issue and set up a framework for diagnostic error measurement that will work for you in the future, when no doubt, you will be required by outside forces to know more about it than you do now.

"For now, this is not about how many you have, but looking to see what is there and figuring out why they occur," Graber says.

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It is time to start walking the talk of transparency, experts say

Sharing brings safety, according to new report

The first reports of hospitals talking to patients about mistakes brought gasps and headshakes through the healthcare world. Maybe they could do it at another facility, they said, but not here. Risk managers shook in their boots, malpractice lawyers salivated at the thought of physicians admitting guilt. But behind the notion of transparency was the idea that you can't learn from mistakes — nor can the wider medical world — if you are not open about them. Other areas of transparency that have been touted as helpful — such as openness between hospitals — were likewise met with distrust. The word proprietary was bandied about. And could providers and frontline staff be transparent with each other? Could they be free to speak up when they felt it was in the patient's interest? In many hospitals, the answer was "no." And sharing quality data with the public? Well, they couldn't possibly understand it.

But over the years, the fears about openness have been challenged. Litigation at those open hospitals has actually decreased in many cases. Hospitals are increasingly willing to share data, tools, and success stories that help to improve patient safety and quality. And those who care for patients feel freer to talk about patient care with each other, to speak up when they think something is wrong, and to report errors without fear. Lastly, while there is still a question about whether quality improves through public reporting, there is ample proof that reporting of quality data has spurred hospitals to act to improve specific quality indicators, and that those indicators have improved in the last 15 years.

Still, what has happened so far is not enough, some experts say. The National Patient Safety Foundation released a report in January through the Lucien Leape Institute that goes through some of the things it says healthcare organizations, providers, policy-makers, and other stakeholders can and should be doing to create a more transparent, and thus safer, healthcare system.

The report goes through each of the four domains of transparency — patient/clinician; clinician/clinician; organization/organization; and organization/public — and looks at the benefits and barriers to achieving greater openness. For example, looking at clinicians, the report notes that they can share best practices and reduce redundant testing (and thus risk and cost to patients). Among the barriers to such sharing? They may not know how to do thorough root cause analyses and often want their discussions on mistakes to be held in a protected and safe environment, and they are fighting against a culture where errors are equivalent to shame and the rule has always been to protect colleagues.

Many of the ideas to help organizations move toward transparency that are in the report have been seen before, says **Bob Wachter**, MD, chief of hospital medicine and chief of the medical service at UC San Francisco Medical Center and one of the chairmen of the group of stakeholders who developed the report. He says that what is new and important is that the foundation is "putting its weight so strongly behind this idea. And linking the different pieces together. That's novel."

The Lucien Leape Institute has, in the past, put forth reports that have influenced "agenda setting and put issues in front of the public pretty effectively," Wachter says, and he hopes this will be the same. "We are 15 years into the patient safety movement, and a lot hasn't worked as well as we thought it would. Computers, changes in the payment system, medication reconciliation — we have tried them all and they have worked, but not as well as we hoped. But transparency? That has worked better than we would have thought."

Of the 39 recommendations in the report (some are divided into multiple parts) — items such as ensuring disclosure of all financial conflicts of interest, prioritizing transparency, safety, and continuous learning, and ensuring data such as claims and patient reported outcomes, are accessible to all patients — most are not done, says Wachter. "Given that, I have to guess they do not believe in the veracity of the model. The fear is understandable, and part is the inter-relationships between these things."

He explains that during the roundtable discussions to create the report, they talked about how

public advocacy groups angle for complete openness, but that makes other stakeholders clam up, because they sometimes want to have frank discussions without every ear listening. "There is a tension between those things. But I think we make clear in the report that the real life experience is less scary and works better. There are still tensions that have to be worked through, but the message is that it can be done."

Wachter also says there is a level of improvement fatigue among stakeholders. "In the current environment, you can't say you aren't going to work on sepsis or readmissions. You can't shift your attention away from those things. But we want to let people know that this is not just another individual initiative."

Rather, he says, it is an overarching philosophy, an enabler of many other things. "What is clear to us is that when organizations choose to or are forced to be more open, that's an enabler for other positive activities."

There are examples in the report of organizations that have experienced this transformation — from the University of Michigan Health System's apology and disclosure program to inform patients about errors in care to Ohio's children's hospitals, which have embraced transparency in all four domains.

The examples should prove that transparency doesn't have to be the work of Sisyphus, he says. Rather it can free things up and motivate an organization. In his forthcoming book on medicine in the computer age, *The Digital Doctor*, Wachter writes about a mistake caused in part by a computer system that gave a 40-times overdose of antibiotics to a patient. "We did the committee meetings, the root cause of why and how, and we tried to figure out how to make sure it would never happen again," he says. "But we also decided to be open about it. The drama of this particular case got people thinking about their work. Every resident knew the story and behavior changed because of it. It changed more than if we had just tweaked a couple of policies."

HE HOPES THE REPORT WILL "GIVE ORGANIZATIONS COURAGE" WHILE ACKNOWLEDGING THERE ARE SOME PRACTICAL DIFFICULTIES IN GETTING FROM HERE TO THERE.

A lot of stuff happens in hospitals, Wachter says, and usually if it spreads through the gossip grapevine, it does so in whispers and contains a lot of misinformation, he says. "It is not aired in productive ways. New policies seem trivial, or people aren't aware of them, or if they are implemented, why. The openness, the story behind the change, well that makes it real."

He hopes the report will "give organizations courage" while acknowledging there are some practical difficulties in getting from here to there. "But know that this works pretty well among those who have tried." He suggests starting by looking for ways in your own particular domain to be more open. "Are you disseminating all the information you could and you should? Are you doing it effectively?" Root cause analyses, for example, often do not get to clinicians, who could get real value out of them.

It doesn't mean you send everything to everyone and it all ends up on the hospital Twitter feed, Wachter says. "But on balance, do more, not less. Publicly report the things that will help people make good decisions."

The default setting is to hide, he says, and do just what is demanded by the Centers for Medicare & Medicaid Services or The Joint Commission and nothing more. "Ask if there is more you can do. Do you tilt to open or closed? If it is to closed, move the needle the other way."

As you do this, make sure you include adequate support for your people, he says, such as residents on night shift. You can't ask them to report errors if you do not provide them with help after they have made a mistake.

"This is not expensive," Wachter says. "Put the data out there and performance improves. You can see it from the places already doing this. They are the bright rays of light."

The entire report can be found at https://npsf.site-ym.com/?shiningalight.

For more information on this topic, contact Robert Wachter, MD, Chief of Hospital Medicine, Chief of Medical Service, UC San Francisco Medical Center. Email: Robert.Wachter@ucsf.edu ■

10 tech issues to consider, according to ECRI

C-Suite Watch List includes robots, "middleware"

When the Ebola outbreak hit the news last summer, the experts at ECRI Institute, a Pennsylvania-based patient safety organization and recently re-designated Evidence Based Practice Center, were already thinking about how to protect patients from infection. They sat down last summer to start thinking about the Top 10 C-Suite Watch List. Among the items they were looking at was disinfection robots to help prevent hospital-acquired infections. The item ended up number one on the list, says **Robert Maliff**, director of the applied solutions group at the institute. While it likely would have made the list, he says the Ebola outbreak probably pushed it to the top. "There was a huge spike in interest," he says.

There are multiple kinds of robots — ultraviolet light and hydrogen peroxide vaporization, but they are expensive — $30,000 to $125,000 per unit — and ECRI recommends doing a trial before committing to purchase, and using them in the most important places to prevent infection, such as the ICU. Staff also need to remember that they do not mean regular infection prevention techniques and cleaning can slacken. "They do not replace infection control, but are in addition to excellent practices already in place," Maliff says.

Second on the list was 3-D printing. Eventually, perhaps hospitals will print body parts, but for now, there is uncertainty about FDA regulation, he says. Now, they can be used for surgical planning and for simulations of complex surgeries. "It is not something that every hospital will have, but the price will fall over the years. For now, it may be better to take a regional approach to this."

Middleware came in at number three. Traditionally thought of as personal devices in healthcare (PDAs, tablets), it is actually any piece of software that facilitates communication between other programs. ECRI thinks that middleware may be a way to help with the issue of alarm management by gathering information on alarms, prioritizing them, and determining when to escalate. Costs can be more than $100,000 to create a middleware system for alarm management.

Do you need a post-discharge clinic? It is a topic that's on a lot of hospital radars, and ECRI spotted the trend and put it fourth on its list. The idea is that by having a clinic in the hospital, you can capture some of the potential bounce-back patients before they end up in the ED as an unplanned readmission. Patients can't always get to their own physician in a timely manner, or they do not have one. With readmission penalties increasing this year, the idea is not far-fetched, and the report gives some examples of hospitals that have made it work.

Google Glass, at least in a hospital setting, might have some uses, Maliff says, explaining the fifth item on the list. In training, education, and proctoring, there could be benefits. Hospitals may want to wait to see what apps are developed before investing. In time, there may be ways that the specs can be used instead of monitors.

Hospitals that have bariatric surgery offerings might consider some of the new anti-obesity devices that are available, the sixth item. Some are closer to FDA approval than others. Regardless, though, Maliff notes that unless insurers opt to cover them, they won't take off.

At number seven: Do adolescents and young adults need a special cancer center? If you are a children's hospital, should you consider it? If you are a general hospital should you? We know that the human body doesn't fully mature until it is 25, which is a good argument from a quality perspective for keeping adolescent and young adult care with the kids. But even older younger people — those who are up to about 30 — seem to want a different style of care than their older counterparts, says Maliff, and given the emphasis put on patient satisfaction, it might be a good idea to consider those needs. "They want different amenities, like Wi-Fi everywhere, and some treatment protocols may be different for this age group," he says. But cancer is largely a disease of the aged, so unless you live in a large metropolitan area, Maliff says chances are your hospital may find it difficult to find a big enough population to create such a specialty center.

The eighth place on the list went to a surprise and slightly gross entrant: fecal transplants to treat *C. difficile* and other gut ailments. "The fecal microbiota transplantation surprised people," Maliff says. "It has been around for a while but made the list because it is starting to expand to other disorders and is changing its mode

of administration. There is a lot of research going on."

The FDA is expected to issue some guidance on the topic this year. So far, payers are covering only for the *C. diff* treatment, not the treatments for ulcerative colitis, Crohn's disease, and other disorders that are currently being researched.

The penultimate entry, artificial pancreas systems, is of great interest because of the epidemic of diabetes in the United States. This is largely a patient management issue.

Lastly, telehealth made the list. The experts gathered to come up with the list noted that the American Medical Association released a set of guiding principles related to telehealth in 2014, and organizations such as Microsoft and Google are involved. "Is there enough business interest and success stories out there that we have reached the tipping point?" he asked. "Every hospital better have an adoption strategy or you will be locked out. This is a way for you to manage patients, keep track of them, and keep them from unplanned returns. It is a big word that means a lot of things."

A link to the report can be found on the ECRI website at http://www.ecri.org.

Next up, the organization will be releasing its Top 10 patient safety list this spring.

For more information on this topic, contact Robert Maliff, Director, Applied Solutions Group, ECRI Institute, Plymouth Meeting, PA. Telephone: (610) 825-6000. ■

Why are your surgical patients coming back?

It happens after discharge, study says

A study out in the February 3 issue of the *Journal of the American Medical Association* found that patients who are readmitted to the hospital after surgery are almost always coming back due to post-discharge complications rather than something that happened during their care in the hospital.

The study (which can be viewed online at http://jama.jamanetwork.com/article.aspx?articleid=2107788) used data from the National Surgical Quality Improvement Program (NSQIP) and looked at almost a half million cases from 2012 involving several kinds of surgery:

- bariatric surgery;
- colectomy or proctectomy;
- hysterectomy;
- total hip or knee replacement;
- ventral hernia repair;
- lower extremity vascular bypass.

It marks the first time a study has looked this in-depth at the reasons for unplanned readmission after surgery. The study mentions that the NSQIP data, which notes the specific reason for readmission, makes this level of study possible.

Of the cases, 5.7% resulted in a readmission, and just 2.3% of those patients returned to the hospital because of something that happened during their stay. The results for the various surgeries differed, with a low of 3.8% for hysterectomy and a high of almost 15% for lower extremity vascular bypass. Surgical-site infection was the most common reason for return for all the surgeries except bariatric procedures, ranging from 18.8% for total hip or knee, to 36.4% for lower extremity vascular bypass. For bariatric patients, ileus, or obstruction, was the most common cause of readmission, causing just under a quarter of the returns.

The researchers could find no relationship between the day of the return and the reason; however, there were some risk indicators. Patients with co-morbidities, those treated in academic hospitals, and those who were not discharged home were more likely to return to the hospital before 30 days were up.

Karl Bilimoria, MD, MS, a surgical oncologist at Northwestern Memorial Hospital in Chicago and one of the authors of the paper, says the last point highlights both a problem and an opportunity: The problem is that care at skilled nursing facilities may not be what it needs to be to prevent complications after discharge that result in returns to the hospital, at least partly as a result of poor communication. The opportunity is to improve communication with those facilities and help them improve care to benefit the patients.

Interestingly, patients who experienced a complication in the hospital and then had an unplanned readmission rarely came back for the same reason. For instance, only 3.3% of patients who were readmitted for surgical-site infections had such an infection during their initial hospitalization.

"I do not think most surgeons

would be surprised at this," says Bilimoria. "But it is important for us to study the reasons why our patients come back to the hospital."

Currently the Centers for Medicare & Medicaid Services requires hospitals to report information on readmissions for surgical patients who have had knee or hip replacement, but Bilimoria says other surgical procedures are going to follow. Getting a handle on the reasons behind complications for them is vital given the financial penalties that will likely be involved.

He and other surgeons bristle a bit at what they consider double jeopardy related to those penalties. Surgical-site infections are already penalized by payers. Now, if a patient comes back to the hospital because of one, it will be twice dinged: for the complication of the infection and the readmission, when the infection is not something in its control once the patient leaves the building.

In the study, the authors put it this way: "…because most readmissions were attributable to well-described postoperative complications, readmissions after surgery are mostly a proxy measure for post discharge complications and in effect penalize hospitals twice for postoperative complications (i.e., other pay-for-performance programs include postoperative complications such as SSI)."

Another concern the authors have is that efforts to tackle the two largest reasons for readmission — infection and obstruction — have not been hugely successful. To penalize hospitals for conditions that have been intractable may be counterproductive "because performance targets without accepted courses of intervention might be more prone to unintended or ineffective behaviors and consequences."

It makes Bilimoria wonder if readmission rates may be the wrong thing to focus on for surgical care quality indicators. In most patients with surgical complications, were it not for the surgery, the complication would never have occurred, Bilimoria explains. To a certain degree, many of these complications are expected. Or perhaps a better way to put it is that it is not really a complication, but more a part of the surgical procedure that surgeons have come to expect. They are not things that are exacerbated or created by poor care, but created by the very fact that any care was given, and to some degree, they will be extremely difficult to attack and perhaps impossible to completely eliminate.

For now, however, he understands it is what is being used, and for that reason, looking at the numbers, understanding them, and learning from them is vital.

Some of the other reasons for readmission can be more readily addressed. For example, bariatric patients had issues with vitamin deficiencies and colorectal surgical patients had issues with dehydration. Better patient education may address some of those issues. Another idea, says Bilimoria, is some sort of intermediate clinic for postsurgical patients after discharge that will more closely monitor them.

For more information on this topic, contact Karl Bilimoria, MD, MS, Surgical Oncologist, Northwestern Memorial Hospital, Chicago, IL. Email: k-bilimoria@northwestern.edu. ■

Breaking bad habits, forming good ones

Hospital hand-washing campaign cleans up

It is been a dozen years since **Rekha Murthy**, MD, FRCP(C), FACP, FIDSA, FSHEA, medical director for the epidemiology department at Cedars-Sinai Hospital in Los Angeles, really started working hard to make good hand hygiene a habit for everyone at the hospital. In the intervening years, the hospital has gone from having hand-washing rates in the 70s to consistently over 95%.

At a 950-bed hospital, that is an accomplishment: It is akin to turning a large ship around. A ship with many captains, all of whom thought they had really clean hands.

The big breakthrough came when the Centers for Disease Control and Prevention endorsed the use of alcohol hand rubs in 2002. In Cedars-Sinai, all rooms are private, and using the bathroom sink was often inconvenient or seen as an intrusion, says Murthy. Unit sinks were down the hall, so between each patient visit, a provider or nurse would theoretically have to go back and forth to wash his or her hands. "It was cumbersome."

The alcohol gel meant that

they could — and did — install dispensers at every doorway. But convenience wasn't enough. Murthy says they had to look at other barriers and how to help make it routine. "Think about seatbelts," she says. Initially, they were in cars, but people didn't use them very often. There were ad campaigns. But until car makers started adding alarms and making passive restraint systems such as automatic shoulder harnesses, there wasn't a lot of uptake. With the changes, people had to work harder to *not* put them on. Now it is a habit for most people. She wanted to do the same thing with hand-washing. "What did we need to do to make it possible, probable that they would do what we wanted them to do."

The alcohol was the catalyst. Next was getting people to use it. That meant creating a policy, educating people about it, monitoring it and measuring success, and providing feedback.

The policy was that everyone who entered a patient room, regardless of what they did in that room, was to use the gel when they entered and gel when they left. "Gel in, gel out," she says. They told everyone they would audit performance on this policy and give unit-specific data out to everyone.

There quickly developed a sense of competition between physicians, nurses, and environmental services. The latter got better the fastest and stayed the best. The doctors? They were the worst.

The problem was they were only hitting about 80% overall. That wasn't good enough, she says. They did a pilot program that involved coaching between the offending party and his or her supervisor. The first time someone was observed by the auditor, the noncompliant person's name was given to his or her supervisor. They were told that it was an expectation the needed to be met, and that next time, there would be consequences, such as a class, and the consequences would be noted in the person's evaluation if necessary.

Physicians had a similar experience. They were told if they were caught not doing what they should be doing, they would get a letter that outlined the policy and noted that they were being informed of it. If there was a second offense, the department chair would send them to a 45-minute class taught by one of Murthy's nurses that included online elements, a test, and then post-test discussion. The data about which physicians are not compliant with the policy is sent on to the medical executive committee. "It provides a level of accountability," she says."

SOME OF THE PHYSICIANS BECAME INSTANT CONVERTS, MURTHY SAYS. MOST LEFT THE CLASSES WITH NEW KNOWLEDGE.

Some of the physicians became instant converts, Murthy says. Most left the classes with new knowledge. And while there have been a few repeat offenders, the fact that they have their names posted at committee meetings is embarrassing enough that the number of physicians who have had three offenses has been vanishingly small. For those, Murthy says they are asked why they can't follow the policy. "We make it about how we can help them comply, about what the barrier is, not that they are a bad person." It hasn't happened in ages, though, she says.

She went further with the doctors, too, spending one meeting culturing the hands of every physician, letting the germs grow, and then posting pictures of what exactly they were carrying around with them when they weren't freshly washed or gelled. "They were all horrified," Murthy says.

It was interesting as she went through the process to hear the reasons why people said they didn't wash their hands. Some reasons were system problems — such as supplies not being filled or dispensers being broken. But most were personal barriers. Murthy says if a person wasn't sick, they figured it didn't matter. "They might say, 'Oh, my patients never get sick,'" she says, failing to note that they were in a hospital where everyone around them was sick.

A lot of people said that they had too much stuff in their hands to wash, so they put a table near the gel dispensers where anyone can put their things (often themselves very germy) down to gel in or out. Others complained of skin sensitivity or of dryness as a result of all the hand-washing. The hospital has lotion dispensers spread around the facility and also has staff available to help troubleshoot specific skin problems that gel users may have.

"You can see the difference just walking down the hall," Murthy

says. "Ten years ago, I would watch people go through their day and see the lapses. Now, I see people stop at the dispenser and pump as they go into the room and do the same as they leave. It is what we strive for. It has become our culture, and that's the tipping point for sustainability. We got to the point where it has become as thought-free as seatbelts."

She continues to push the issue. She shares data with everyone, and not just about compliance. Infection outcomes seem to be impacted by the improved efforts, so she shares those numbers, too. There are extremely low rates for hospital-acquired resistant bacteria in the facility, such as MRSA, for example.

New transplant program physician leaders have been pleasantly surprised at how well patients do at Cedars-Sinai, Murthy says, and how few infections they get. She thinks that's related to the hand-washing, too. "It is hard to untangle from other efforts, but I think there is a link."

And saying so to staff resonates as much as pictures of what is growing on the doctors' hands, she says. "They didn't used to think it mattered, but the power of the anecdote about the patient who got well faster means something."

The marketing doesn't stop, all these years on, says Murthy. There are screen savers and posters everywhere, including in every elevator. Their message? "Germs are like opinions. Everyone has them. So please clean your hands."

For more information on this topic, contact Rekha Murthy, MD, FRCP(C), FACP, FIDSA, FSHEA, Medical Director, Hospital Epidemiology Department, Cedars-Sinai Hospital, Los Angeles, CA. Telephone: (310) 423-5574. ■

Study relates slowing cost boost to quality site

Hospital Compare may give payers leverage

While there is debate about whether publicly reporting quality data has an impact on how the public purchases healthcare or even on patient outcomes — despite showing improving metrics — there is now evidence that it is having an impact on the cost of at least two procedures. The January issue of *Health Affairs*[1] reports that since the inception of the Centers for Medicare & Medicaid Services' Hospital Compare site, prices for two heart operations — coronary artery bypass graft (CABG) and percutaneous coronary intervention (PCI) — have increased at slower rates than they did previously.

The researchers looked at rates between 2005 and 2010, straddling the 2007 start date for Hospital Compare. They used states that had implemented their own reporting systems before Hospital Compare was up and running as a control group. The annual rates of increase were 3.9% after Hospital Compare for CABG, versus 10.6% before, and 4.4% for PCI compared to 8.7%.

The theory is that insurers were able to use the site as leverage when negotiating prices. ■

REFERENCE

1. Dor A, Encinosa WE, Carey K. Medicare's Hospital Compare quality reports appear to have slowed price increases for two major procedures. *Health Aff* January 2015 vol. 34 no. 1 71-77

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CNE QUESTIONS

1. According to recent studies, up to how many deaths may be related to diagnostic errors?

a. 40%
b. 12 million
c. 80,000
d. 17-20%

2. The domains of transparency include which of the following:

a. Patient/Public
b. Organization/Regulatory
c. Clinician/Clinician
d. Government/Public

3. Which one of the ECRI watch list items was a surprise to its creators?

a. Fecal microbiota transplantation
b. Infection control robots
c. Youth and young adult cancer centers
d. New bariatric surgical options

4. According to a study in the Feb. 3, 2015 issue of *The Journal of the American Medical Association*, what was the most common cause of readmissions for bariatric patients?

a. Obstruction
b. Bleeding
c. Surgical-site infection
d. Heart attack

CNE OBJECTIVES

Upon completion of this educational activity, participants should be able to:

1. Identify a particular clinical, legal, or educational issue related to quality improvement and performance outcomes.
2. Describe how clinical, legal, or educational issues related to quality improvement and performance outcomes affect nurses, health care workers, hospitals, or the health care industry in general.
3. Cite solutions to the problems associated with quality improvement and performance outcomes based on guidelines from relevant authorities and/or independent recommendations from clinicians at individual institutions.