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## Hospitals Reduce Harm While Focusing on Fewer Metrics

**M**etrics can pile up until they become overwhelming to clinicians and administrators alike, with their usefulness lost in the process. The solution may be to strategically reduce the number of routinely reportable metrics to only those most appropriate and valuable.

Indiana University Health in Indianapolis has found that reducing the number of reportable metrics not only alleviates a lot of workload, but also improves the quality of care. Preventable harm incidents and inpatient infection rates fell significantly after IU Health reduced the number of quality metrics tracked by front-line staff and physicians from 199 to just 10.

Total harm events throughout the 15-hospital system fell from 120 per

month to fewer than 80 over a two-year period. Infections were reduced by half.

Cutting the list down so sharply allowed personnel to focus on the measures that matter the most, says **Jonathan Gottlieb**, MD, executive vice president and chief medical officer of IU

Health. Clinicians had felt overburdened with collecting data and reporting metrics, he says. Gottlieb realized when he joined the IU Health system three years ago that it had become overburdened with metrics.

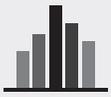
“There was a formal expectation of combining hundreds of metrics into an

index and then tracking

that index. It became obvious to us that though we do need to follow dozens and dozens of metrics, we also need to focus on the most important ones,” he says. “Otherwise, you just get swamped.”

**REDUCING THE NUMBER OF METRICS NOT ONLY ALLEVIATES A LOT OF WORKLOAD, BUT ALSO IMPROVES QUALITY OF CARE.**

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# HOSPITAL PEER REVIEW

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Rather than the administration dictating where the focus should be, IU Health enlisted front-line staff to identify the quality metrics they thought would be most important. They were asked to try to limit their choices to the top 10 or 12 quality metrics that determined quality of care and to disregard how they affected reimbursement under any pay-for-performance reimbursement program. The goal was to ensure quality of care rather than to improve revenue, Gottlieb explains.

Their choices were presented to the IU Health quality council, made up of about 70 members from throughout the system.

“The ones they picked were very consistent, thank goodness, with most of the pay-for-performance metrics,” Gottlieb says. “With minimal editing, the council came up with a list of the top 10 metrics they thought would be important to ensuring quality of care, no matter what.”

## Teams Tackle Individual Metrics

IU Health asked physician and nursing leaders throughout the system to each adopt one of the metrics and put together a multidisciplinary team that could spend a few months studying the evidence and their own experience to identify gaps in how IU Health was performing on the metric and where they thought it should be.

The teams studied specific issues such as central line infections, looking for potential gaps in everything from determining the need for a central line and the equipment used to procedures for inserting and maintaining the catheter. The central line infection team ended up training almost 200 physicians

with a standardized four-hour course on how to insert the catheter using evidence-based techniques. Incoming residents and fellows must undergo the same training.

Several hundred nurses underwent training on how to maintain the catheter and IU Health standardized the type of catheter used throughout the system. The electronic medical record also was changed to include a daily prompt for physicians either to enter a valid reason for keeping the catheter or to remove it.

Those team assessments were provided to the quality council, which presented C-suite leaders with a plan for reducing the number of metrics routinely reported and improving performance on the most important ones.

“This became a rallying point for the leadership. The hospital presidents, chief financial officers, and operating officers all jumped on board and said this was a helpful plan and they could see what metrics we should collectively focus on,” Gottlieb says. “They were happy to see that there was a lot of consistency with the pay-for-performance metrics, but mostly this seemed to be the right thing to do for our patients.”

These are the 10 systemwide metrics currently tracked by IU Health:

- *Clostridium difficile* infection;
- central line-associated bloodstream infection;
- catheter-associated urinary tract infection;
- medication error with harm;
- falls with injury;
- hospital-acquired pressure injury;
- serious reportable events;
- potentially preventable mortality;
- surgical site infection — colon surgery;

- surgical site infection — hysterectomy.

The two surgical site infection metrics will be dropped in 2018 because their numbers have been reduced so much that there is little room for additional improvement. They will be replaced with two other metrics, which have yet to be chosen.

The common theme in the top 10 list is preventable harm, Gottlieb notes. Five are hospital-acquired infections, and the rest are similarly preventable.

## Other Metrics Still Used

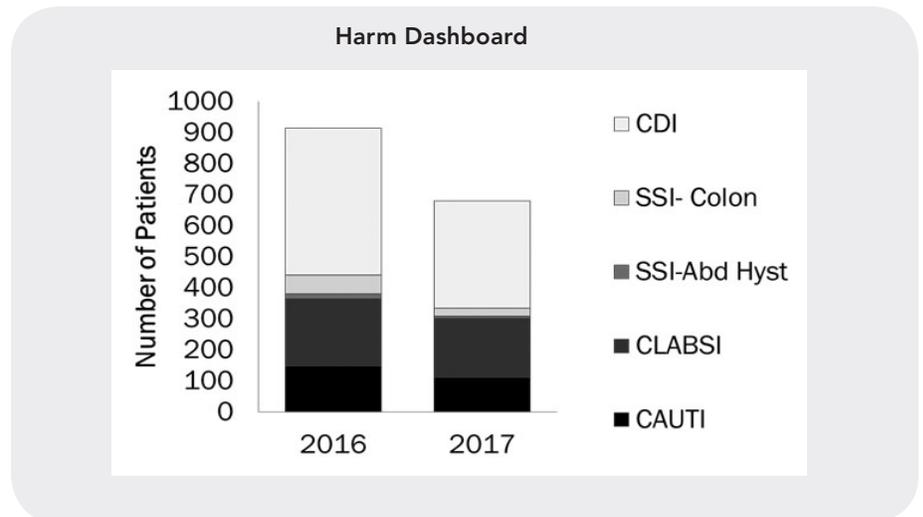
IU Health did not simply dispose of 189 metrics it had been tracking. The system still tracks 199 metrics, but the difference now is that not every clinician or care team is involved with all of them. The top 10 metrics are monitored and reported by all care teams, but the other metrics are still used when they are relevant to a particular patient, care team, unit, or hospital.

“Our hospitals that do cardiac surgery participate in a lot of benchmarking around cardiology, but everyone else doesn’t have those metrics because they are not relevant and would take focus from what does matter to their patients,” Gottlieb says.

“But when someone has cardiac surgery, we also don’t want them to get a central line infection. So that’s the kind of thing that is in the top 10 because it can apply to such a wide range of patients and settings.”

IU Health reports the performance on each of the 10 metrics for the system as a whole and for every hospital with a “harm dashboard.”

The harm dashboard for the IU system’s five infection-related metrics is shown in the figure above.



The new system addressed the metrics creep that can affect any hospital or health system, Gottlieb says. No one starts out thinking staff should be responsible for 199 metrics, but hospital leadership keep adding a few here and there over time because each one is valid in its own right. After a while, clinicians and quality professionals are bogged down with a huge number of metrics and no one wants to take responsibility for saying which ones should be scrapped.

“It was tough for people to figure out what to do with their limited time and resources,” Gottlieb says. “We had put all these metrics out there and made them responsible for them, but everything seemed to have the same level of importance. It was a required metric and you were going to be held accountable for it, but there were so many that people got frustrated and that undermined the effort to get them invested in improvement.”

There were many stakeholders involved in all of those metrics, and no one wanted “their” metric to be abandoned or reduced in prominence. Resistance from those stakeholders was expected, and IU Health overcame it by appealing to their sense of professionalism, Gottlieb says.

“We acknowledged that we all

come to work to help patients and not to harm them, yet we know that preventable harm does occur in our health system. We asked them to support us in focusing on preventing that harm to patients rather than narrowly looking at the so-called quality metrics they found important,” he says. “Everyone agreed protecting patients surpassed any other concerns, so it tapped into their compassion and professionalism. It was a good place to start.”

It also was important to emphasize that IU Health was not abandoning the metrics that did not make the top 10. The health system sent the message that the change was all about prioritizing metrics rather than eliminating some.

## Dashboard Reflects Patients

IU Health also changed how the metrics are figured into the harm dashboard that illustrates performance on the prioritized metrics. Previously, the overwhelming amount of data had to be massaged so much that the resulting index had little meaning to the people it was supposed to motivate for improvement, Gottlieb says.

“We decided to make the metric

the number of people who were impacted,” he says. “Suddenly, they could see this as the number of patients — actual people affected by this preventable harm, rather than some arbitrary index derived from a lot of meaningless numbers.”

The health system initially set a target of reducing preventable harm by 13%, then pushed that to 16% for the next two years.

From 2015 to 2016, IU Health saw a reduction of 26%, which meant

200 fewer patients experienced a preventable injury.

IU Health tied the incentive compensation of every leader at the health system to local and system aggregate performance of the 10 metrics, Gottlieb explains.

“Suddenly, the CFO of the system was a little more interested in how we were doing in preventing urinary tract infections, not just for himself but for everyone who worked for him,” he says.

“Every month, people couldn’t wait to get that scorecard in their email to see how we were doing. It sent the message that we were all on the same page. We weren’t being told to do one thing, but being rewarded for something else.” ■

## SOURCE

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# Data Analytics and AI Help Improve Patient Care

There is increasing buzz around advanced analytics and artificial intelligence (AI) in healthcare, with data analysis becoming critical in addressing quality of care and efficiency within a hospital. A network of hospitals, clinics, and home care services in Iowa, Illinois, and Wisconsin has improved clinical effectiveness, care quality, and patient experience by looking at risk analytics and applying the findings to patient care.

UnityPoint Health, based in West Des Moines, IA, uses advanced analysis to model solutions that address issues such as length of stay, readmissions, and no-shows, says **Betsy McVay**, vice president and chief analytics officer at UnityPoint Health, a 30,000-employee healthcare system.

McVay leads a team of 60 people involved in data analytics, including everyone from the highly technical side to clinicians. The team has influenced quality of care in a number of ways: One UnityPoint hospital reduced readmissions by 40% using a data analytics solution that includes descriptive and predictive capabilities, and

the analytics team contributed to reducing sepsis events that saved 50 lives from June to October 2017.

Data applications also have contributed to saving \$60 million through operational improvements.

“A big lesson for us was the value in looking at the people we already had in place and their skill sets, and then seeing how we could retool and retrain as necessary. About four and a half years ago when we started on this journey, we were trying very hard to stay out of the descriptive reporting world and wanted to be in the high-level, advanced, predictive area as quickly as possible,” she says. “Our business was all over the place in terms of our understanding of analytics and what they needed to drive improvement, so it was important for us to bring in things like EPIC clarity reporting because until we created credibility in that space, we were going to have a problem bringing people along with us to something more advanced.”

Rather than the data analytics team determining what is important and sending their analyses downstream, they first try to identify challenges and then serve those needs.

## Let Clinicians Guide the Work

The data analytics team always tries to partner with a business or clinical leader in the space to be analyzed, McVay says, asking them what the hurdles are and what keeps them from being able to reach their quality goals. Once her team understands that, they can start to look at how they can assist with data and analysis.

Coordinating care and controlling costs are top priorities because UnityPoint is part of a Next Generation Accountable Care Organization, notes **Christopher Hill**, DO, emergency medicine medical director.

“Along with that, we want to ensure that we are always increasing quality and decreasing variation in the care we provide. The challenge, of course, is how you use the plethora of clinical, demographic, and other data to get to that point of influencing patient care decisions at the point of care,” Hill says. “You really have to have best practices, actionable clinical analytics, and

the adoption of that data into your care system. The key in many ways is transparency of front-line data delivery to promote healthy comparisons and competitions, using the data to identify the highest-level priorities.”

The most improvement usually comes when clinicians find a way to take high-level data and apply it to very specific processes, Hill notes. For example, the analytics team at UnityPoint health helped identify a hospital in Peoria, IL, as the top performer on patient safety measures and isolate the key factors that led to those good metrics. One of the top factors was a just culture, one in which near misses were reported freely.

## Don't Overload With Data

The analytics team also tries to provide the level and amount of data required for success — which doesn't always mean providing a constant stream of the most sophisticated data.

“If providing a descriptive report two times a year is the solution for this group of people or this issue, that's OK. We don't need to create something that is more advanced or more robust,” McVay says. “We think of ourselves as an enabling partner bringing a huge skill set, but without our business and clinical leaders helping us understand what they need, we won't be able to drive improvement effectively.”

UnityPoint has a large team and more resources for AI and advanced analytics than most healthcare systems or hospitals, but McVay says some of the same approaches can still be useful on a smaller scale and with fewer resources.

“Using data and information to drive improvement doesn't have to mean leveraging AI or something highly advanced and cutting-edge. Sometimes it means creating transparency with the tools and information available to you,” she says. “The first step is to determine what tools and information are available to people, if they're using them, and if not, why not. Is it because they don't know it's there, or they don't trust it?”

McVay also emphasizes that no matter the size of the organization, it is critical for the people performing the analysis to get close to the clinicians who can identify the challenges. That can be even more critical when resources are scarce because they must be spent where they can produce the most improvement in quality, she says.

“Being able to focus and not try to solve every problem for everyone is a huge priority in a small facility. You have to know where you can do the most good with the people and resources you have, and you'll only understand that from talking to the people you're trying to help,” she says.

## Use Vendors Wisely

Vendors can address many of the issues you may not be able to address in-house, McVay says. Their offerings may not be a perfect solution, but it often is practical to take advantage of the data analysis a vendor can provide rather than nibbling around the edges of several issues when one could focus internal efforts on the few he or she can truly affect.

“Even at UnityPoint Health, we are very purposeful about looking at what our vendors are investing in and whether a solution they have will

get us 80% of the way to where we want to be. If so, is that good enough now so we can use our resources in a different space?” McVay says. “None of us have unlimited resources, organizational capacity, or willingness to take on more and more projects.”

A finite number of clinicians means predictive modeling is most useful for managing or prioritizing workflows, says **Benjamin Cleveland**, a data scientist at UnityPoint who builds some of the internal solutions and works with vendors. The modeling helps ensure UnityPoint deploys staff to the patients who need the most help, and enables the patients to choose the most effective care, he says.

All patients in UnityPoint hospitals are managed with analytic models that provide individualized risk assessments, Cleveland says. Those models not only improve the care of individual patients, but also produce more meaningful metrics for the hospitals, the health system, and population health initiatives, he says.

“Each patient is unique and brings a lot of variety to the table, so we use modeling techniques to control for a lot of variation within a patient's case, and once you control for those variables whatever metrics you're tracking tend to be much more clear,” he says.

## Readmissions Heat Map Developed

One component is UnityPoint's “heat map,” a data analytics model that illustrates not just a patient's overall risk of readmission in the 30 days after discharge, but also the varying risk on each of those 30 days. The data analysis revealed that the risk of readmission varied greatly

from day to day and patient to patient. Some were more likely to be readmitted early in the 30 days, and some were more at risk later in that period.

That data were used to create a map showing “heat zones” in the 30-day period, and clinicians could then use that map to more effectively provide the interventions that might avoid the readmission, Cleveland says.

An individualized heat map is created for each patient, showing the days on which readmission is most likely.

The health system also addressed costly no-shows, combining those data with the readmissions heat map to help clinicians factor in the likelihood that a discharged patient is not actually going to go to a scheduled follow-up visit with a primary care physician.

That can help the clinicians better intervene with those patients rather than simply scheduling the visit and hoping for the best, Cleveland says.

“To further inform that care coordination and the patient trajectory, on top of the heat map we overlay their follow-up appointment schedule within UnityPoint so that we can see all of their past and future appointments as well as the outcome of the appointments,” Cleveland says.

“So, if they missed the appointments those will show up in red. And for the future appointments, we have a risk model that depicts the likelihood of the patient showing up. That’s an example of integrating a lot of data from different sources and models into a dashboard that can be visually consumed quickly and effectively by our care coordinators.”

Hill says the heat map has completely changed how UnityPoint

conducts follow-up care after discharge. “The traditional model we used was, with not much success, based on standardizing follow-up care for patients of the same type,” he says.

“Every COPD patient was scheduled for follow-up visits at seven days and 24 days, using these blanket rules to guesstimate when we should be doing follow-up after hospitalization,” Hill adds.

## LOS, Sepsis Also Addressed

“We are seeing fantastic results using the heat map to reduce readmissions. I can’t stress enough what a game-changer that has been,” Hill says.

A length-of-stay model also improves discharge planning and resources by helping care teams predict how long a patient will be hospitalized. For example, advanced analytics also were used to develop a sepsis model that could identify when the medical record should trigger best practice alerts.

“The model allowed us to decrease our overall false positives and overutilization of tests on the wrong patients, while increasing the number of patients we’re including in our cohort appropriately. The model has a greater sensitivity and a sharply improved specificity over what we were doing before,” Hill says.

“But you also have to continue the machine learning approach and not just take a look at the past two years and then create the model you’re going to use for the next 10 years,” Hill adds. “Epidemiology changes and diseases in the community change, so you want to have ongoing learning in your systems and modify your processes appropriately.”

## Develop Trust in Analytics

One of the biggest surprises for McVay has been the amount of change management required to apply data analytics to quality improvement. She and her analytics team had to gain respect by listening to stakeholders and providing the solutions they needed, and she says they now have seats at any table when it comes to discussing organizational strategies.

That was not the case in the beginning, she says.

“We started with creating transparency around organizational key performance indicators. We have a toolkit that goes out monthly that includes the metrics our senior leadership has determined are most determinative of our success,” she says. “We push that out to almost 3,000 individuals. That transparency and consistent conversation about how we want to be a data-driven organization helps us be included in strategic and operational discussions, where we make sure the data is a part of that planning.” ■

## SOURCES

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# PA's Provide More Patient Contact, Reduce LOS, and Maintain Quality

Physician assistants (PAs) have helped one hospital improve care in its observation unit without increasing costs, partly by providing more contact with patients than physicians can. The hospital also has optimized its observation unit model.

Northwest Hospital, part of LifeBridge Health in Randallstown, MD, can employ nearly two PAs for the cost of a physician, so patients can be seen more frequently. They make up one of several strategies the hospital uses to make the observation unit as efficient as possible.

The PAs aim to “touch” patients in the unit every two to four hours, collect information quickly, and get more timely consults, says **Richard Rohrs**, PA-C, DFAAPA, SFHM, assistant vice president for provider operations at the hospital. He was the third PA to work at the hospital in 1977, soon after the PA concept emerged.

PAs have been used in the 1,200-bed LifeBridge system primarily in a hospitalist capacity, Rohrs explains. PAs also work in the ED, surgery, and in subspecialties. The LifeBridge system currently uses about 400 PAs, most of whom are employed by the hospitals.

LifeBridge uses a model that has PAs working closely with nurse practitioners, and they are particularly valuable in the ED and observation unit, Rohrs says.

The more frequent patient contact from PAs helps to keep patients moving along, he says. The average length of stay (LOS) is under 13 hours, and the conversion

rate is lower than average. Research has shown no statistical difference in mortality, readmissions, LOS, or consultant use when there was a higher ratio of PAs to physicians on the team, Rohrs notes.

“Emergency room and observation throughput is a big issue for all hospitals. About 90% of our patient admissions come through the emergency department, so as our emergency and observation services go, so goes our hospital in terms of things like patient experience and throughput,” he says.

The PAs’ effects on the observation unit are closely monitored with several metrics, says **Tracie Vock**, PA-C, director of APPs for Observation Medicine with US Acute Care Solutions, the PA staffing company that provides PAs for the hospital’s observation unit. Length of stay is a top metric, with the health system looking for an LOS of less than 20 hours, as well as conversion rates for moving patients from observation to inpatient status, where the goal is to be under 15%.

The 30-day readmission rate target is less than 5%, which is less than half of the national average of 12%, Vock notes.

Observation services, and the patient experience in them, have received more attention recently, Rohrs notes. The use of the PAs at Northwest Hospital helps the observation unit be as efficient as possible while still providing the highest level of care to patients, he says.

“There is a lot of pressure on hospitals to do this right. Patients aren’t always happy to

be in observation because, as an outpatient, there’s a higher charge, so we want to have the patients that go into observation to be the right ones,” Rohrs says. “We don’t want patients who will end up being admitted anyway to go to observation first, because that just delays the process and makes the patient unhappy for no reason.”

Hospitals also are incentivized to keep patients in observation for as little time as possible, just as they try to not keep patients admitted any longer than necessary, he notes. The PAs have protocols in place to help ensure the right patients are sent to the observation unit, as well as additional protocols to ensure patients don’t stay longer than necessary, all backed up by 24-hour access to physician support.

Northwest Hospital has a dedicated observation unit, which is becoming more common than in the past, Rohrs notes. When observation first emerged it was more of a patient status than a location, he says, and that is still true in some facilities. That can stand in the way of efficiency and patient satisfaction, he notes.

“You might have an inpatient unit with five observation patients on it, and your nurses had to switch from acting like an inpatient nurse to an outpatient nurse all the time. That’s a hard thing to do,” Rohrs says. “The first thing we did was to cohort the patient in a single unit, but we still had an issue because it was part of an inpatient unit, not in the emergency room. That led to patients feeling like they were inpatients, not emergency room

patients, so patients and families were thinking in terms of staying for days, not hours.”

That expectation by patients and families can affect the LOS, so Northwest Hospital made other changes, like altering the signage to say “outpatient observation” instead of simply “observation.”

“Sometimes it’s the message we deliver to the patient that can have a measurable effect, so we use scripting that this is a short-term stay unit and we’re doing our best to get them out as quickly as

possible without shortchanging their treatment,” Rohrs says.

The hospital also maintains high turnaround metrics for testing in the observation unit, treating them like tests from the ED rather than from an inpatient unit where the patient will still be around tomorrow if the lab needs to delay the results.

“A lot of this is about getting everyone in the same frame of mind about what observation is and isn’t,” Rohrs says. “That includes the patient, family, the clinicians,

and the rest of your hospital services.” ■

## SOURCES

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- **Tracie Vock**, PA-C, Director of APPs for Observation Medicine, US Acute Care Solutions, Canton, OH. Email: tvock@usacs.com.

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# Hospital Plays to Surgeons’ Competitive Nature to Raise Quality

Outcomes at Hoag Orthopedic Institute in Irvine, CA, already were good when quality leaders thought they might improve even more if they posed blinded and coded data on patient-reported outcomes for the surgeons to see how they fared in comparison with their peers.

Proving once again that doctors are a competitive bunch, the posted data prompted an improvement in both outcomes and treatment volumes. The hospital also began publishing an annual “outcomes report,” showcasing the high rankings the hospital and its surgeons achieved to further reinforce and educate on the high-quality care and culture of excellence.

Hoag Orthopedic Institute is the highest-volume orthopedic hospital in California and has one of the highest volumes in the United States, says Executive Medical Director **Alan Beyer**, MD. The hospital is partly physician-owned and opened seven years ago.

“We committed from the outset that we were going to collect functional patient outcomes data way before anybody started talking about

patient-reported outcomes, because our thinking was that the best way to measure your quality is to see how quickly the patient can get back to work and all the usual activities of life,” Beyer says. “The data isn’t important just so we can say 90% of our patients are satisfied. Anybody can say that. We use that data to drive clinical decisions.”

That means looking at each doctor’s patient-reported outcomes score along with traditional outcome scores for procedures such as knee and hip surgery, he says. If one surgeon is faring better than another, hospital leaders look to see what he or she is doing differently that might be adopted by everyone else, and those with low scores are counseled to identify the practice differences that are keeping them below par.

“Doctors, especially surgeons, have always tended to say their patients do the best. They’re confident in their work, and until you look at the numbers they’re not going to believe otherwise,” Beyer says. “When we can show them all total knee replacements and show where they fall on that scale, you can get their attention because it’s about

numbers and not just their impression of how well they’re doing.”

## Report Cards Twice Yearly

The hospital also provides a confidential report card to each surgeon twice a year. The report card has been enhanced over the years and currently includes data on everything from procedure volume complications to quality case reviews and medical record completion. (*See the example of fictitious surgeon “Dr. Who” on pages 22 and 23.*)

“These are metrics showing your cost of care, what you spent on implants, and what you spent on wasted implants — the numbers that determine your effectiveness and efficiency as a surgeon,” Beyer says. “It’s important to provide this information in a timely manner, because it’s no good to tell someone a year and a half ago you had a spike in infections. You have to tell them in real time because they’re probably not doing things the same way today as they did them a year or two ago.”

The report cards also show the aggregate numbers for the hospital,

so the physicians get a clear picture of how the facility overall is faring on readmissions, for example.

“Nobody wants to be on the bottom, with the worst readmission rate or spending the most on transplants. Once you show them the numbers, it doesn’t take much prodding to make them improve,” Beyer says. “Seeing the numbers is enough to make them want to change and get off the bottom of the list. Give them real data and let them use that to drive their clinical decision-making.”

Hoag Orthopedic Institute publishes its outcomes data annually, which shows improvements over several years in many categories. *(See the sidebar on this page for more on the hospital’s outcomes reports.)*

## Financial Ties Motivate Doctors

The fact that the hospital is partly owned by the physicians receiving those data means they have a direct financial interest in seeing improvement in not just their individual numbers, but also the hospital’s aggregate numbers. Beyer is not shy about pointing that out to the surgeons to further spur improvement.

“There is no better long-term motivator than those bills with Benjamin Franklin on them. You can tell surgeons that if you take these steps, not only will our patients fare better and be happier, but our financial performance also will improve,” he says. “This is a long-term motivator, something a surgeon sees every quarter when they do their quarterly financials, so it has more impact than something like a one-time bonus.”

Physician ownership in the hospital is not the only path to that motivation, however. The CMS Comprehensive Care for Joint

# Hospital Satisfaction Data Affected by Noise

Hoag Orthopedic Institute in Irvine, CA, publishes its outcomes data every year at <http://bit.ly/2C8nI99>, reporting improvements in quality along with illustrations of how the hospital addresses deficiencies.

For instance, inpatient volume increased from 2,933 in 2011 to 4,662 in 2016, and the hospital now has the lowest readmission rate in the United States for hip and knee replacement, the second-lowest readmission rate in the country for all-cause hospitalizations, and the lowest readmission rate in California for all-cause hospitalizations.

Patient satisfaction data indicated in 2016 that 93% would “definitely recommend” the hospital to friends and family, but hospital leaders wanted to understand why the other 7% would not. They studied survey scores and comments, finding that a common complaint was the noise level at the hospital. Those findings are similar to conclusions in the national Hospital Consumer Assessment of Healthcare Providers and Systems, in which “quietness of hospital environment” consistently ranks as a top determinant of patient satisfaction.

A multidisciplinary team contacted discharged patients to ask about noise, and they identified equipment noise and staff conversations as the primary reasons for dissatisfaction. As a result, the hospital invested in equipment to allow remote monitoring of each patient room, which allowed it to minimize the use of alarms. The system also sends vital sign data to the nursing station, which eliminates much of the noisy machinery being wheeled into patient rooms.

“Immediately, scores rating the quietness of the environment increased at about the same rate that the complaints about noise declined,” the most recent report says. “HOI began to receive comments commending staff for providing a restful and quiet environment.”

In the first two months of 2016, 58% of patients said it was always quiet outside their rooms at night. In the last two months, that number increased to 71%. ■

Replacement (CJR) model can provide similar incentive, he notes, because it bundles payment and quality measurement for an episode of care associated with hip and knee replacements.

Hoag Orthopedic Institute maintains a separate profile for the CJR population and reports those data

to surgeons in a quarterly meeting. If surgeons do not attend the meeting, the data are mailed to them.

“The way the CJR program lets physicians share in a bonus if there are good results is a healthy trend. There is no better way to get surgeons to sign on board for a little more work or a change in how they do things than to tell them,

“There’s a little something in in this for you at the end of the day,” he says. “That’s a very strong motivator.”

The hospital also incentivizes surgeons by requiring them to adhere to certain policies and expectations if they want access to patients under a bundled payment contract, Beyer says. The hospital has many contracts with private payers that involve bundled payment for certain procedures, which leave the hospital on the hook for complications or readmissions in the first 90 days after care begins.

Surgeons who do not adhere to the hospital’s clinical pathways and guidelines for those procedures cannot

have access to those patients, Beyer says.

“Surgeons are always worried about the source of their patients, so you can motivate them by giving them unfettered access to the entire population of patients if they follow the bundled pathways and other guidelines that are important to you as an institution,” he says.

Whatever data you use, Beyer says it is crucial to avoid gaming of the system by the surgeons. Structure reporting and rewards so surgeons cannot manipulate the numbers by, for example, discharging patients before they are ready just to lower their length of stay numbers. “That will come back and bite

you because you’ll have readmissions if those patients are sent home too early,” he says. “So you have to put some thought into how the numbers are formulated and not leave an opening where a doctor can make one number look better because he or she benefits from that, but makes another worse and they don’t care because they have nothing at stake there.” ■

## SOURCE

- Alan Beyer, MD, Executive Medical Director, Hoag Orthopedic Institute, Irvine, CA. Email: abeyer@newportortho.com.

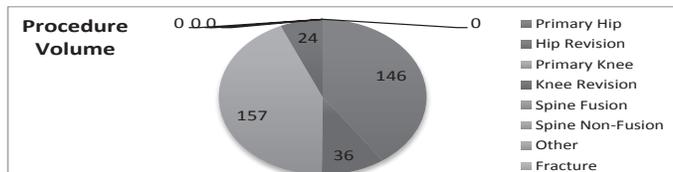
### Quality Physician Profile - Surgery

Provider 3242 **James Who, MD**  
Specialty: **Orthopedic Surgery**

Timeframe: January - December 2016

Procedure Volume (Inpatient & Outpatient)										Volume by Facility	
	Primary Hip	Hip Revision	Primary Knee	Knee Revision	Spine Fusion	Spine Non-Fusion	Other	Fracture	TOTAL	HOI	
<b>Physician</b>	<b>146</b>	<b>36</b>	<b>157</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>363</b>	HOI	363
HOI Aggreg	1,743	117	1,560	115	731	480	751	246	<b>5,803</b>	OSCOG	0
										MSSSC	8

Average Length of Stay (ALOS) - Inpatient & Outpatient										Other Volume	
	Primary Hip	Hip Revision	Primary Knee	Knee Revision	Spine Fusion	Spine Non-Fusion	Other	Fracture	TOTAL	Assist/Co-Surg	Consult
<b>Physician</b>	<b>2.00</b>	<b>3.50</b>	<b>2.74</b>	<b>3.15</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>2.60</b>	Assist/Co-Surg	5
HOI Aggreg	2.11	3.02	2.46	2.93	2.84	0.75	1.46	1.87	<b>2.09</b>	Consult	20

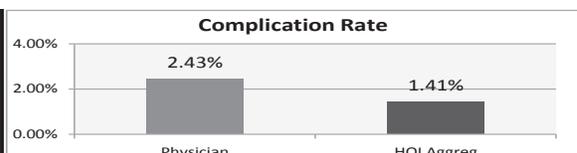


**Wasted Implant Cost**

Physician: \$25,000.00	
HOI Aggregate: \$128,455.63	
Hip	\$63,555.13
Knee	\$14,556.00
Spine	\$36,456.50
Shoulder	\$10,797.80
Foot	\$3,090.20
Wrist	\$0.00

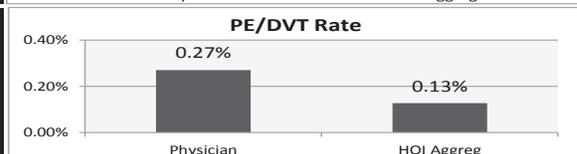
**Major Inpatient Complications (DNR SR.4)**

	# Comp.	Comp. Rate	Complication Acct. #
<b>Physician</b>	<b>9</b>	<b>2.43%</b>	82033627 (APF); 82030845 (APF); 82030672 (APF, ARF, PN); 82030580 (ARF); 82033206 (ARF, HF); 82030319 (HF)
HOI Aggreg	67	1.41%	



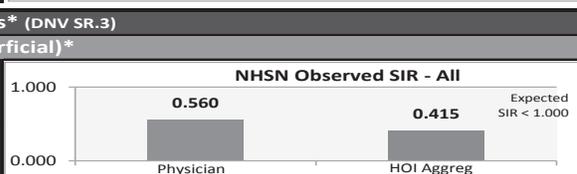
**PE/DVT (DNR SR.4)**

	# PE/DVT	PE/DVT Rate	Acct. #
<b>Physician</b>	<b>1</b>	<b>0.27%</b>	82033644 (PE)
HOI Aggreg	6	0.13%	



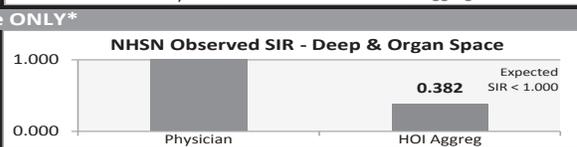
**Surgical Site Infections\* (DNR SR.3)**  
All (Includes Superficial)\*

	# SSI	NHSN Qualified Cases	Expected SIR	Observed SIR	Acct #
<b>Physician</b>	<b>2</b>	<b>338</b>	<b>3.572</b>	<b>0.560</b>	0
HOI Aggreg	19	4830	45.805	0.415	



**Deep/Organ Space ONLY\***

	# SSI	NHSN Qualified Cases	Expected SIR	Observed SIR	Acct #
<b>Physician</b>	<b>2</b>	<b>336</b>	<b>1.806</b>	<b>1.108</b>	0
HOI Aggreg	9	4475	23.561	0.382	



\*SSI SIR data is finalized 90 days following procedure

Elements not applicable to Surgery:

\*Anesthesia/Moderate Sedation Adverse Events



Quality Physician Profile - Surgery

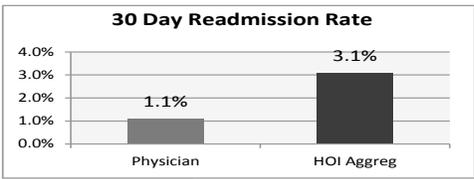
Provider 3242 James Who, MD  
Specialty: Orthopedic Surgery

Timeframe: January - December 2016

Transfers to higher level of care (MD as Surgeon) (DNV SR.8)			
	# Xfers	Xfer Rate	Acct. #
Physician	7	1.89%	0492170; 2320544; 2326477; 2334606; 2334618; 2253010; 2345608
HOI Aggreg	47	0.99%	

Length of Stay > 7 Days (DNV SR.8)		
	# Cases	Acct #
Physician	1	82030672
HOI Aggregate	21	

30 Day Readmissions* (DNV SR.6)			
	Total Readmits	Readmit Rate	Acct #
Physician	4	1.1%	2292123; 2244005; 2102539; 2322228
HOI Aggreg	147	3.1%	



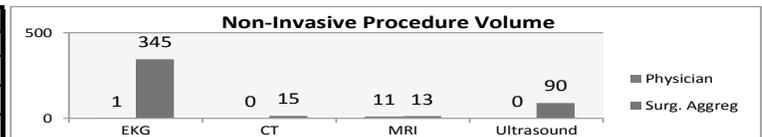
Readmissions by Type*		
	Surgical Readmit	Medical Readmit
Physician	1	3
HOI Aggreg	53	94

Readmission Breakdown*			
# Joint	# Spine	# SSI	# Acute Care
4	0	N/A	0
112	34	N/A	36

Blood Transfusion Documentation (DNV SR.1)			
	Total RBC	Outside Parameter	Compliance Rate
Physician	35	0	100.0%
HOI Aggreg.	293	8	97.3%
Acct #	82030319		

Post-Op Pain Mgmt. (DNV SR.2) Narcan Usage Outside PACU			
	# Cases	Narcan Rate	Acct #
Physician	0	0.00%	0
HOI Aggregate	8	0.14%	

Non-Invasive Procedures/Interventions (SR.7)				
	EKG	CT	MRI	Ultrasound
Physician	1	0	11	0
Surg. Aggreg	345	15	13	90
Overall HOI	582	47	17	124



Quality Case Reviews (DNV SR.9)			
	# QEC Reviewed Cases	# No Referral	MD Review Reason
Physician	5	N/A	Trend (Documentation x3, SSIx2)
HOI Aggreg	164	47	
Acct #	2296572; 608663; 2284433; 2301299; 2243999		

Medical Record Completion (DNV SR.10)							
	ChartMaxx Deficiencies					Operative Report Compliance	
	Assigned	Completed	Delinquent	Avg. Days to Complete	Days Suspended	Compliance	Late Dictation
Physician	494	494	70	4.4	0	97.8%	8
HOI Aggreg	13,993	13,988	2,838	9.0	911	92.9%	412



## CMS Describes Measures Considered for 2018

CMS has issued a list of 32 measures it is considering for 2018 that could drive quality improvement in various healthcare settings.

CMS publishes an annual list of quality and cost measures it is considering for inclusion in Medicare quality reporting and value-based purchasing programs, working with the National Quality Forum (NQF) to obtain feedback. **Kate Goodrich**, MD, MHS, director of the Center for Clinical Standards & Quality and

CMS Chief Medical Officer, released the Measures under Consideration (MUC) list for 2018.

“CMS is considering new measures to help quantify healthcare outcomes and track the effectiveness, safety, and patient-centeredness of the care provided. At the same time, CMS is taking a new approach to coordinated implementation of meaningful quality measures focused on the most critical, highly impactful areas for improvement while reducing the burden of quality reporting on

all providers so they can spend more time with their patients,” Goodrich says. “In addition to other factors, CMS evaluated the measures on the MUC list to ensure that measures considered for adoption in a CMS program through rulemaking are necessary, focus on clearly defined, meaningful measure priority areas that safeguard public health, and improve patient outcomes.”

CMS considered 184 measures and narrowed the list to 32 measures focusing on CMS efforts that



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can help healthcare organizations achieve “high-quality healthcare and meaningful outcomes for patients, while minimizing burden,” Goodrich says. About 40% of the measures are outcomes measures, and there are eight episode-based cost measures.

These are a few of the measures:

• **MUC17-139: Continuity of pharmacotherapy for opioid use disorder.** Percentage of adults with pharmacotherapy for opioid use disorder who undergo at least 180 days of continuous treatment.

• **MUC17-168: Average change in functional status following lumbar spine fusion surgery.** For patients age 18 and older undergoing lumbar spine fusion surgery, the

average change from preoperative functional status to one year (nine to 15 months) postoperative functional status using the Oswestry Disability Index (ODI version 2.1a) patient-reported outcome tool.

• **MUC17-169: Average change in functional status following total knee replacement surgery.** For patients age 18 and older undergoing total knee replacement surgery, the average change from preoperative functional status to one year (nine to 15 months) postoperative functional status using the Oxford Knee Score (OKS) patient-reported outcome tool.

The full list of measures under consideration is available online at: <http://bit.ly/2qgbnu5>. ■

## Barcode Medication Errors Reported for Analysis

The Pennsylvania Patient Safety Authority (PPSA) is citing an increase in healthcare facilities reporting patient safety events associated with barcode medication administration (BCMA).

Pennsylvania healthcare facilities increasingly have reported patient safety events associated with BCMA, a technology used to prevent medication-administration errors, says **Ellen S. Deutsch**, MD, medical director for the Pennsylvania Patient Safety Authority.

Of the 1,309 events related to BCMA processes that occurred from 2005 through 2016, 453 were “near misses” and 857 reached the patient, including six that resulted in patient harm and one resulting in a patient’s death.

“The likelihood of the right patient, receiving the right medication, at the right dose, at the right time

increases when barcode medication administration processes have been properly vetted for deficiencies,” Deutsch said recently in a statement announcing the data.

PPSA identified a statewide increase of near-miss BCMA events over the 12-year period, occurring at each point of the medication management process. Most involved administering medication, and others involved dispensing, prescribing, and transcribing errors.

The PPSA analysis has identified what appeared to be intentional barcode scans of the wrong patient, apparently the result of workarounds that staff employed to pursue better efficiency. Difficulty accessing records also resulted in wrong-patient selections, and lack of internet connectivity led to additional staff workarounds. ■

## COMING IN FUTURE MONTHS

- Link between employee, patient satisfaction
- Success with population health initiatives
- Improving engagement levels among caregivers
- Implementing age-friendly initiatives