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Incomplete, inaccurate documenting impedes monitoring of performance

Emphasis on reimbursement may have resulted in loss of quality focus

While often perceived as the purview of physicians and coders, the complete and accurate documentation of medical records is an essential element of the performance improvement process, and it's not all about numbers. After all, an inaccurate or nonspecific diagnosis can negatively impact treatment and outcome. Erroneous severity data can significantly affect benchmarking studies. And of course, inaccurate coding can result in a lower reimbursement than the amount to which you are entitled.

"Complete and accurate documentation for billing purposes has been the focus over the last few years," asserts **Patrice L. Spath** of Brown Spath Associates in Forest Grove, OR. "Because the information that goes into the clinical/financial database has so much impact on what we are paid, we tend to forget the original intent: to measure and monitor our performance."

From a financial standpoint, she notes, if a physician documents that a patient came in with chest pain but doesn't indicate what might have caused the pain, then the resulting reimbursement may be lower than if the diagnosis had been better defined. "If it's esophageal reflux, for example, the reimbursement will be greater than what it might be just for chest pain," she explains.

Key Points

- Poorly worded reports can impact benchmarking studies, compliance monitoring.
- Education and a no-nonsense attitude can engender greater physician cooperation.
- Concurrent coding is a potential solution, but it's not without its problems.

"As a quality manager, I may be tempted to say that's not my problem — that it's up to the doc and the coder," Spath continues. "But when I get back my comparative data from benchmarking studies, if I'm involved in ORYX, where chest pain is used as a denominator and the record shows that more of our patients with chest pains stay longer than expected, then it is my problem. And I end up having to go back to each of those individual medical records and find out what additional things might have been going on with those patients to cause them to look like each other."

"This could have been avoided if the doctor had been more specific in his coding," she points out.

Deborah Hale, CCS, president of Administrative Consultant Service Inc. in Shawnee, OK, emphatically agrees. "Coding has a major impact on the performance improvement processes," she asserts. "Process improvement looks to improve the management of patients with a particular diagnosis, but if that diagnosis is not properly reported, you may be acting on bad data."

Getting into bad habits

Part of the problem is simply the development of bad habits, Spath says. "Accurate coding used to be the crux of our data collection prior to DRGs, but with coding related so much to payment now, we have forgotten its importance to our databases," she claims.

"Some of it is habit," she continues. "Prior to 1980, we weren't using the information in our databases to do a lot of performance management activity, and we weren't conducting a lot of hospital-to-hospital comparisons. So since our databases were not getting used for anything significant, we were not as careful to be specific. Coders developed bad habits; they basically coded what was on the face sheet of the medical record. And for the doctors, it was a lot easier to write 'chest pain' than something more specific."

Problems also arise because staff do not have the information or the results from the retests prior to the patient being discharged. "Let's say a patient was admitted with a 'fever of unknown origin,'" Spath says. "If the patient is discharged with that diagnosis then, depending on the studies, it could be a week or two to get back the test results. In our rush to want to code these charts and submit the bill for payment, we may not want to wait those two weeks before sending in the bill."

Finally, she says, many physicians don't appreciate the ramifications of their documentation, and their impact on financial and database accuracy.

Focusing on the docs

Clearly, physicians hold the key to improving the coding process. How can quality managers gain their support and cooperation?

One way is through education, Spath suggests. "Help the physicians understand the ramifications of their actions," she advises. "Give them some examples. Tell them, 'If you put chest pain on the chart, we get $1,800; if you put angina, we get $2,100.' Since this is now the way we get paid, it's affecting them as well as the hospital."

You also should point out how coding can affect the way your hospital looks in comparative reports, she says. "Doctors may tend to say it's the coders who aren't doing things right, but when you go to the medical records, you might find it's the doctor who didn't document properly," Spath says.

"You may have to do some studies to show it's a failure to completely document. For example, with severity adjustment data, our patients could look like they aren't as sick as they really are because of the failure to accurately document comorbidities," she adds.

"I think sometimes physicians don't document accurately because we haven't shown as an organization that we are totally serious with it," offers **Vicki Searcy,** who heads Searcy Resource Group, LLC, in Laguna Beach, CA. "People respond when you set rules and show you will follow

COMING IN FUTURE MONTHS

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- Cooling vest helps MS patients improve strength and balance
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- Growing acceptance of alternative medicine, and its impact on QI
- The ultrasound trade-off: Can boost in energy output lead to lung damage?

through and not knuckle under because of other factors."

Sometimes that can require an extraordinary commitment, Searcy admits. "For example, you may require certain documentation in the records before a patient can go to surgery. If an organization has the fortitude to do so, [it] can stop the procedure before it starts if [it has] to," she says. "This can cause mayhem in the OR, but my experience is that you just have to set the stage with a few instances, and then the word gets around that you're serious."

Searcy says that probably the most effective strategy she has employed with physicians was peer pressure. "What we used to do was fill out our delinquency or deficiency counts quite regularly, and they were posted in a place the docs often went, like the surgery lounge or the dictating area," she recalls. "The docs didn't like other docs knowing they were on the list."

The bottom line, Searcy says, is that physicians are extremely busy, and they will respond to the point of greatest pressure. "The key is to set the standards of what is required and what will happen if it's not there — and stick to it. Otherwise, the whole thing is a sham."

Is concurrent coding the answer?

One process that has been implemented by a number of facilities in order to ensure more accurate records is concurrent coding. But the jury is still out on the process.

"A lot of people are moving toward concurrent documentation improvement, with case managers or health information management professionals responsible for reviewing charts while the patient is still in the hospital," Spath observes.

"They encourage physicians, either verbally or through written notes, to document more specifically. Often doctors will say something like, 'Patient has renal insufficiency.' That's a relatively nonspecific comment. Ideally, they should document chronic renal failure if, in fact, the patient has it; it's a codable diagnosis. Being more specific may impact the severity score of that patient as well as impacting payment," Spath explains.

The aforementioned health care professionals can pick up these kinds of opportunities, she says. "They may write, 'Doctor, what is causing these chest pains? If you know, please document.' Docs are like you and I; once they write something, they don't want to look at it again. Once the discharge summary is dictated, it is out of their brain, and they may react with hostility [when asked to revisit it]. That's why some people have moved to more concurrent coding review," Spath notes.

"The organizations where they stay on top of this issue are those where they have people regularly reviewing the charts concurrently," Searcy adds. "They may be case managers or utilization review people."

Concurrent review has significant import from a QI perspective, she adds. "If the information is not there on a concurrent basis, it doesn't provide the information that other caregivers need to adequately take care of the patient.

"Another factor is the impact on being able to appropriately code and bill for the patient. Finally, there is the issue of compliance," Searcy says.

Despite its obvious benefits, concurrent coding in and of itself will not solve the problem, Hale insists. "For concurrent coding to work, you need the philosophy of the institution to change," she says. "Without that change, concurrent coding is not effective."

That philosophical change requires a goal adjustment, she explains. "Your overriding goal should not be having the chart coded at the time of discharge, but rather having the information necessary to code at the time of discharge.

"You do need a concurrent process," she continues. "The reason concurrent coding hasn't worked in the past is that the goal was to have the record coded at the time of discharge. You had to re-code so many times it was not time-efficient. We now approach the issue from this perspective: know what DRG we're in and what we need in some key DRGs, and focus on documentation.

Need More Information?

For more information on coding procedures, contact:

- **Patrice L. Spath**, Brown Spath Associates, P.O. Box 721, Forest Grove, OR 97116. Telephone: (503) 357-9185. E-mail: Patrice@brownspath.com.
- **Deborah Hale**, CCS, Administrative Consultant Service Inc., P.O. Box 3368, Shawnee, OK 74802. Telephone: (405) 878-0118. Fax: (405) 878-0411. E-mail: dhale@ acsteam.net.
- **Vicki Searcy**, Searcy Resource Group, LLC, 220 Cypress Drive, Laguna Beach, CA 92651. Telephone: (949) 376-1811. E-mail: vsearcy@ aol.com.

You still have what you need at the end of the process, but you record everything one time, rather than multiple times." **(For a detailed look at this new process, see story, below.)**

For this process to work, Hale explains, physicians have to understand why they need to participate. "Otherwise they just see it as an added aggravation." ■

Link documentation improvement with PI

As a certified coding specialist (CCS), **Deborah Hale** regards the impact of proper documentation with the keen eye of an expert. Using that specialized experience, she and her team at Administrative Consultant Services Inc. in Shawnee, OK, have developed a unique approach to documentation improvement.

"We have begun to tie documentation improvement into case management or performance improvement," she explains. "We start by using data to identify the hospital's greatest documentation improvement needs as they relate to clinical and financial outcomes."

Hale identifies these key steps in her process:

1. Analyze your data to find out what DRGs have the greatest opportunity for improvement in physician documentation.

2. Review the records to confirm documentation needs.

3. Present your findings and the proposed solution to the medical staff.

4. Implement a concurrent process to prompt the physicians for the documentation needs you have identified.

"This can either be done by a concurrent coder reviewing the record to see if the terminology used is specific enough to code accurately or whether important documentation has been left out, or by using tools to prompt the physician," she notes. "It could be a sticker on the chart; it could be a form; or more effectively, it could be a very direct communication with that physician." Hale says she has used both coders and case managers in this capacity.

Most critical, of course, is obtaining physician buy-in. "Physicians need to know why they should pay more attention to coding," she says. "If all they perceive is someone being cutesy, they won't have anything to do with it. If they understand the motivation behind it, they react."

This system works, Hale asserts, "because physicians are very data-driven; they care about report cards."

When physicians see that their cost, length of stay, and mortality rate are higher than would be expected for urinary tract infection, for example, their normal response is to say their patients are sicker, Hale notes. "Our response is, 'Perhaps, they are, but the documentation does not reflect that.' When we show them our data, they realize that they are not documenting in a manner that will get them credit for the appropriate severity of illness for their patient. The coder may have actually coded correctly, but the doctor may not have used the right terminology."

Examining the data

Hale and her staff examine the specific DRGs and compare those DRGs with their higher-weighted pair in state and national claims data. "We look at average length of stay, cost, and mortality rates for those DRGs so we can identify the DRGs in which we are most likely to be under-reporting severity of illness — and thus being underpaid as well — and focus on those DRGs," Hale explains.

If a hospital was assigning DRG 320 (urinary tract infection) at a much greater frequency than 416 (septicemia), and its mortality rate was higher than expected, that would suggest the doctors were perhaps using terminology such as urosepsis (which codes to urinary tract infection alone) rather than the more accurate terminology, generalized septicemia (416), which merits a higher payment, she says. "So based upon that data, we would audit the 320 records to determine, if in fact, this low-weighted DRG was incorrectly assigned based on the clinical evidence in the record," she concludes.

In a proactive effort to ensure more accurate coding, Administrative Consultant Services provides detailed query forms to prompt the physicians for complete and accurate information. These forms include clinical criteria for validating specific diagnoses and information on distinguishing between different diagnoses. **(See sample form, p. 113.)**

The consulting firm has an impressive track record that seems to validate this approach. At

(Continued on page 114)

Patient ID_____ Discharge Date_____

Urosepsis/Septicemia

Date: _____ To: Dr. _____ From: _____

Re: _____ MR#: _____
Patient

Dates of Service: _____

To protect data and coding accuracy for the diagnoses of urosepsis/septicemia, further information is required.
Is your diagnosis of urosepsis intended to mean:

___ "**GENERAL SEPSIS OR SEPTICEMIA** caused by leakage of urine or toxic urine by-products into the general vascular circulation. Negative or inconclusive blood cultures do not preclude a diagnosis of septicemia in patients with clinical evidence of the condition." OR

___ **UROSEPSIS,** which is defined as "urine contaminated by bacteria, bacterial by-products, or other toxic material but without other findings."
(Reference: *Coding Clinic*, First Quarter, 1988, p. 5.)

The record includes blood cultures positive for _____. Was this the type of septicemia treated?

Please document your response in the medical record. This form is not a permanent part of the medical record.

CRITERIA FOR VALIDATING SEPTICEMIA
Septicemia/sepsis involves clinical evidence of infection and evidence of systemic response to infection. Systemic response is generally manifested by a variety of clinical signs and symptoms including, but not limited to:

CHECK ALL THAT APPLY:

___ Temperature > 100.4 F (38 C) or < 96.8 F (36 C)
___ WBC > 12,000 uL or < 4,000 uL or > 10% immature neutrophils (bands)
___ Heart rate > 90 beats per minute
___ Respiratory rate > 20 breaths per minute or pCO_2 < 32 mm Hg
___ Acute mental status change
___ Physician documentation of decreased urinary output/oliguria
___ Hypotension (systolic BP < 90 mm Hg or a > 40 mm Hg drop from BP on admission in the absence of other causes for hypotension)
___ Physician documentation of increased anion gap
___ Arterial pH > 7.35 (metabolic acidosis)
___ Elevated blood lactate levels

WERE BLOOD CULTURES POSITIVE? YES ____* NO ____ Organism _____

1. Is the septicemia diagnosis clearly substantiated (through physician documentation, clinical indications, positive blood culture, etc.)? YES___ NO___
   Note: Septicemia may be documented without a positive blood culture, but there should be clear documentation that the disease state is consistent with sepsis. **(See above.)**

2. Did the attending physician document urosepsis as the final principal diagnosis?
   YES ___ NO___ If yes, the correct ICD-9-CM code is 599.0.

3. What did the physician document in the medical record as the cause of the septicemia (i.e., specific bacteria, organism?
   _____

4. Does physician documentation indicate that the septicemia is due to an internal device, implant, or catheter?
   (If yes, the correct code is from the ICD-9-CM 996 category.)

If septicemia is not substantiated in the medical record, please specify the reason for:
Admission and treatment _____ DRG _____
(*Exception: The following organisms may be contaminants when isolated from a single culture: corynebacteria, Propionibacteria, Bacillus species, diphtheroids, coagulase-negative Staphylococcus aureus.)

Source: Administrative Consultant Services Inc., Shawnee, OK.

one hospital, the case mix index increased from 1.7042 to 1.8400, resulting in a $2 million annual increase in DRG reimbursement. At another, the average Medicare length of stay was decreased from 7.1 to 5.4, resulting in a cost savings of $750,000. At a third hospital, a reduced mortality ratio was documented in all product lines. ■

AHRQ unveils inpatient pediatric database

Covers 2,500 hospitals and nearly 2 million stays

The U.S. Agency for Healthcare Research and Quality (AHRQ), in Rockville, MD, has introduced the nation's first database on the hospital inpatient care of America's children.

The Kids' Inpatient Database (KID) was developed to make national and regional estimates of children's treatment, including surgery and other procedures, and for estimating treatment outcomes and hospital charges.

The database, drawn from about 1.9 million children's hospital inpatient stays at more than 2,500 hospitals across the United States in 1997, includes pediatric patients from birth through age 18. The large sample allows the analysis of hospital care and charges for common conditions in children, such as respiratory diseases and injuries, as well as rare conditions, such as congenital abnormalities. It also enhances researchers' ability to study infrequently used procedures, such as bone marrow biopsy and organ transplantation.

"The decision to assemble this database was made about 18 months ago," says **Anne Elixhauser,** PhD, senior research scientist with AHRQ and the project officer. It was assembled as part of the Health Care (Cost) and Utilization Project (HCUP), a partnership between the federal government, state data organizations, and hospital organizations.

Each state was responsible for assembling an all-payer discharge database from hospitals, including Medicare, Medicaid, privately insured, and uninsured patients.

"In the year 1997, we had 22 participating states; the KID program was completely voluntary," Elixhauser explains. "We then transformed all the data into a uniform format, since every state has a different way of doing things. This way, they can be used for cross-state analysis."

The current information represents about 60% of all pediatric hospital discharges in the United States. Elixhauser says she hopes that for the 2000 data year, she will have 80% of all discharges.

Key Points

- National and regional estimates are possible for surgery, treatment outcomes, and hospital charges.
- Database represents approximately 60% of all pediatric patients in the United States.
- Benchmarking is possible for lengths of stay and mortality rates for specific conditions.

More specific information needed

For many years now, a database has existed called the Nationwide Inpatient Sample, or NIS. "It's a huge sample of 1,000 hospitals and 7 million discharges every year," notes Elixhauser.

However, she says, AHRQ realized this database had its limitations. "We couldn't look at specific subpopulations in the detail we wanted, and children were one prime example," she explains. "If we wanted to look at something very rare, like certain childhood cancers, we could not do that using NIS. We realized, however, that we were able to go back to the state data and draw samples just of children. This was our first pilot project to see how it could work."

The database information is available in two formats: HCUPnet and KID. HCUPnet is available free of charge on the AHRQ web site: www.ahrq.gov. (Select HCUPnet, followed by "Start HCUP net," and then click on "Children's Hospital Stays Only.")

The KID database, which includes all of the information assembled, comes in ASCII format, and is readily translatable into many applications. The purchase price is $220 for a year's worth of data, but its use also requires statistical analysis software like SAS, SPSS, or STATA.

Although it is more limited than the KID database, there are a number of ways in which quality managers can make use of the free HCUP net, says Elixhauser. "For example, you can obtain simple descriptive statistics, like what the average charge is for hospitals to treat congenital cardiac anomalies, or how many kids had specific types of cancer, or what percentage of kids are uninsured."

"You can search for statistics that revolve around diagnoses or procedures. You can even

Need More Information?

For more information, contact:

❑ **Anne Elixhauser**, PhD, Senior Research Scientist, Agency for Healthcare Research and Quality, Rockville, MD. Telephone: (301) 594-6815. E-mail: hcup@ahrq.gov.

break it down by children's characteristics, like age groups or gender, or compare different types of hospitals. For example, you could look at the length of stay for certain conditions or charges or mortality rates." In addition, she says, you could research admissions for certain conditions, or identify cases with complication of procedures via ICD-9 codes.

"It is primarily valuable in getting overall statistics," she adds. "You could benchmark outcomes, such as mortality rates for specific conditions, or charges for specific procedures." The advantage of the KID database, she explains, is that it allows the ability to conduct more in-depth research and perform risk-adjustment activities.

Later this fall, the database will be expanded to include information on HCUP quality indicators. "We've got a contract with Stanford to develop indicators based on discharge data," Elixhauser reports. "They have given us the first couple of modules — mortality, volume of procedures, and utilization of procedures (appropriateness), including ambulatory care sensitive conditions. These quality indicators will provide additional benchmarks for quality managers." ■

High volume equals high survival rate

Greater percentage of lung cancer survivors cited

Practice may not make perfect in medicine, but conventional wisdom and a growing body of literature support the notion that facilities that perform a large volume of certain procedures will achieve better outcomes.

While previous studies had shown a correlation between hospital volume and positive outcomes for esophagectomy and pancreatectomy, as well as operations for breast cancer, colon cancer, and prostate cancer, there had been incomplete evidence of a similar association in the case of lung cancer surgery.

Now, a group of researchers from Sloan-Kettering Cancer Center in New York City have published their findings from a study that examined outcomes from resection for lung cancer. The study, which appeared in the July 19 issue of the *New England Journal of Medicine*, found the following:

- Five years after surgery, 44% of patients who underwent operations at the hospitals with the highest volume were alive, compared with 33% of those who underwent operations at hospitals with the lowest volume.
- Patients at the highest-volume hospitals also had lower rates of postoperative complications (20% vs. 44%) and lower 30-day mortality (3% vs. 6%) than those at the lowest-volume hospitals.

Patients selected from cancer registries

The patients studied were at least 65 and had received a diagnosis of stage I, II, or IIIA non-small cell lung cancer between 1985 and 1996, lived in one of the 10 study areas covered by the Surveillance, Epidemiology, and End Results (SEER) Cancer Registries, and underwent surgery at a hospital that participates in the Nationwide Inpatient Sample (2,118 patients and 76 hospitals).

The hospitals were characterized based on the number of lung cancer operations performed in 1997. In nearly half the hospitals (34 of 76), fewer than nine lung-cancer operations were performed in that year. By contrast, at 16 of the 76 hospitals, 20 to 66 procedures were performed in 1997, and at two hospitals, 67 to 100 were performed. Those facilities with the highest volume were generally teaching hospitals in urban areas.

The findings of the study underscore the importance of learning more about the connection between volume and outcomes, says lead author **Peter B. Bach,** MD, a pulmonary physician and epidemiologist at Sloan-Kettering.

Key Points

- High-volume hospitals also show more favorable statistics on post-op complications.
- Authors warn against assuming that all high-volume facilities offer better care.
- Health care professionals are urged to further examine rectifiable variations in care.

Need More Information?

For more information, contact:

❑ **Peter B. Bach**, MD, The Health Outcomes Research Group, Department of Epidemiology and Biostatistics, Memorial Sloan-Kettering Cancer Center, 1275 York Ave., Box 221, New York, NY 10021. Telephone: (212) 639-7515.

"Since approximately one in five patients diagnosed with lung cancer will have lung resection surgery, it is imperative to identify the possible reasons for the disparity and address it," he asserts.

So, is the answer as simple as it looks — that since larger volume hospitals do more of these procedures, they will have better outcomes? "No, I don't think so," says Bach. "Clearly there is an association between increased volume and better outcomes, but these are just aggregate findings. Some lower-volume hospitals may be among the best in the country, and some larger-volume facilities may not be."

There is the possibility, he concedes, that volume may actually reflect quality. "It's extremely unlikely, but we can't eliminate that possibility because some patients do go to specific hospitals because of the facility's reputation."

In the article itself, the co-authors were careful to avoid any sweeping conclusions. "Survival might be improved by identifying the variations in preoperative and intraoperative care that are responsible for the differences we found,"[1] they wrote.

While noting that some observers suggest limiting the performance of resections for lung cancer to centers with better outcomes, the authors resisted that recommendation.

"We hesitate to advocate this . . . approach for three reasons. First, shifting surgical patients to a few institutions with high volumes of procedures may have unintended effects on the quality of care both at those institutions, which would face substantial increases in the volume of patients, and at the institutions with low volumes, where the care of the remaining patients might suffer," the authors said.

"Second, increased volume and the teaching status of the hospital appear to be markers of improved outcome, but these characteristics do not, in isolation, identify individual high-quality hospitals. Finally, the association we observed between the volume of procedures and postoperative complications hints at the possibility that rectifiable variations in care may account for differences in outcome,"[1] they concluded.

Reference

1. Bach PB, Cramer LD, Schrag D, et al. The influence of hospital volume on survival after resection for lung cancer. *N Eng J Med* 2001; 345:181-188. ■

CT radiation dose cut; image quality still high

In some instances, it can be reduced by 50%

A new study shows that the radiation dose used in some chest CT examinations can be reduced by as much as 50% without jeopardizing the radiologist's ability to make a diagnosis. And while current standard dosages do not pose a major health threat, the lead author asserts, it's in the patient's best interest to get the doses as low as possible while still maintaining a quality image.

"Why seek to lower the radiation doses? Because currently, the risks are not zero," asserts **James G. Ravenel,** MD, assistant professor of radiology at the Medical University of South Carolina in Charleston. "The guiding principle in radiation always has been to get the dose as low as reasonably achievable."

Ravenel goes on to explain that there seemed to be a "hole" in the body of research dealing with CT scan radiation. "While we look at CT scans generally from an image quality perspective, there have been several studies that looked at the appropriate dose, but they did not address the question of how the image quality and dose interrelate," he says. "We wanted to find out: Can we lower the dose without lowering the image quality?"

Key Points

- Guiding principal should be to use the lowest radiation dose that is reasonably achievable.
- Cancer risks from current standard are approximately three patients in 10,000.
- Dosages and appropriate levels vary according to the procedure.

Effective Dose and Radiation Risks for Chest CT Examinations

mAs	mSv	Cancer Fatality Estimate (per 10,000 scans)
280	6.0	3.0
220	4.7	2.4
160	3.4	1.7
120	2.6	1.3
80	1.7	0.9
40	0.9	0.4

Source: American Journal of Roentgenology, August 2001.

As the study notes, "The predominant risk to patients undergoing chest CT is the induction of cancer."[1] How high is the risk? "The risk from a typical chest CT scan can be compared with other everyday risks," the authors explain. "An effective does of 6 mSv is comparable to the risk of dying from lung cancer after smoking approximately 100 packs of cigarettes, or the risk of dying in an automobile when driving a distance of approximately 5,000 miles."[1]

The figure of 6 mSv, a dosage measure, correlates directly to the mAs factor, which represents the actual tube current. So, for example, an mAs of 280, the standard that had been used at Ravenel's facility, equates to 6 mSv, and an attendant fatality risk of three per 10,000 patients. **(For additional data on fatality risk, see chart, above.)**

One of the challenges in dealing with CT scans is that, unlike with X-rays, quality is not sacrificed when the dosage is increased. "In a normal chest X-ray, the more dosage you give, the blacker the image becomes," Ravenel explains.

So he and his team sought to achieve a delicate balance. "With a certain lower dosage, you will start to see a decrease in quality, essentially in noisy, or grainy images," he says. "We wanted to know how we could go down [and not sacrifice quality]."

Finding the right balance

In search of the minimum radiation dose that maintained good quality, the researchers seemed to determine that 160 mAs may be the magic number. "The constant error rate at $\geq$ 160 mAs implies that observers cannot differentiate between images generated at 160 mAs, 220 mAs, and 280 mAs. On the other hand, these data show that below 160 mAs, a monotonic reduction of the error rate is seen, implying that observers can differentiate between these images,"[1] they wrote. At 160 mAs, the cancer fatality estimate drops to 1.7 patients per 10,000, or nearly half the rate when the dosage is 280.

The authors cautioned that radiation is not a one-size-fits-all process. "Radiologists and other imaging professionals who are responsible for developing scanning protocols need to address the trade-off between patient dose and image quality for each diagnostic imaging study," they noted. "This balancing of dose and image quality should be performed explicitly to ensure that patient doses are kept as low as reasonably achievable. . . . Low-dose CT is being promoted for general screening applications, whereas high-dose CT may be appropriate for the detection of some subtle diseases."[1]

From the perspective of a quality manager, says Ravenel, "The major two factors are dose and image quality. In essence, what probably should be done is to ask their radiologists what the mAs is, and whether they believe they can reduce that dosage without decreasing their confidence in making interpretations."

Part of the answer may lie with the specific scanner you institution has, he says. "Ours is a [General Electric]; quality managers may have to get a feel for other companies' machines," he advises. We have moved on to work with others and have found similar dose reductions are possible."

Do his findings have implications for other areas of radiology? "Our study was specific for chest CT scans," he explains. "The same could probably be done with abdominal or head CT scans, but whether the magnitude would be the same remains to be seen."

Reference

1. Ravenel JG, Scalzetti EM, Huda W, Garrisi W. Radiation exposure and image quality in chest CT examinations. *AJR* 2001; 177:279-284. ■

Need More Information?

For more information, contact:

❑ **James G. Ravenel**, MD, Assistant Professor, Thoracic Imaging Dept. Radiology, Box 250322, Medical University of South Carolina, 169 Ashley Ave., Charleston, SC 29425. Telephone: (843) 792-4932. E-mail: ravenejg@musc.edu.

COOL AID method may limit stroke damage

Reduces reperfusion injury seen with thrombolysis

The use of clot-busting drugs after stroke has greatly improved outcomes for many patients. Paradoxically, however, these pharmaceuticals sometimes can lead to additional complications. The restoration of blood flow through thrombolytics can limit tissue damage if delivered within three hours of symptom onset, but that very restoration can cause more tissue damage known as reperfusion injury.

In an attempt to limit reperfusion injury while allowing patients to reap the benefits of thrombolytics, a research team at The Cleveland Clinic Foundation's Neurological Intensive Care Program conducted a pilot study that combined strategies to restore blood flow with hypothermia. Their new method, which they have dubbed COOL AID (COOLing for Acute Ischemic Brain Damage), was described in an article in the August 2001 issue of *Stroke*, published by the American Heart Association.

"The irony [of using clot-busting drugs] is that while restoration of blood flow is a prerequisite for recovery, sometimes this restoration, if it occurs into already damaged tissue, can paradoxically make things worse and thereby antagonize the benefit that the patient may have otherwise enjoyed," notes **Michael E. De Georgia,** MD, co-principal investigator and head of the Neurological Intensive Care Program at the Cleveland Clinic Foundation.

Establishing the protocol

Patients were selected for the study based on six criteria:

- age greater than 18 years;
- middle cerebral artery territory ischemic stroke;
- National Institutes of Health stroke scale (NIHSS) score of greater than 15 at baseline;
- eligible for intravenous thrombolysis or intra-arterial thrombolysis / thrombectomy;
- significant neurological defect after thrombolytic therapy / thrombectomy (NIHSS score of greater than 8);
- initiation of moderate hypothermia within five hours of symptom onset.

Key Points

- Clot-busting drugs can sometimes induce post-stroke injury through increased blood flow.
- Patients are placed on cooling blankets for period of 11 hours to 42 hours.
- New technology will allow patients to be cooled "from the inside out."

To induce moderate hypothermia, the patients were placed on a cooling blanket. Ice water and whole body alcohol rubs were performed concurrently.

After the core temperature reached 34 degrees centigrade, they were sandwiched between two cooling blankets, and blanket water temperature was maintained at 32 degrees. Hypothermia was maintained for a range of 11 hours to 42 hours (which is a mean of almost 23 hours).

There were 10 patients in the study group, three of whom died. However, explains De Georgia, "these are patients who are really sick, with lots of medical problems." One patient had an aortic dissection, which De Georgia notes had nothing to do with the hypothermia. "Another had a bad disease, the mortality of which was 90%." A third died after discharge.

An aggressive approach

Reiterating that the patients selected had suffered severe strokes, De Georgia adds that "most of these patients don't get significantly better, even with thrombolysis. The best you end up with is an 8 (on the NIHSS scale), a moderate to severe outcome. We wanted to treat those patients for whom we had already gone all out, done the most that we could do, and based on the literature would still have a bad outcome, thus warranting an aggressive approach."

In light of the nature of those cases, the researchers concluded, "The results of the present study suggest that moderate hypothermia induced by surface cooling is technically feasible and safe for patients with acute ischemic strokes who are undergoing thrombolytic therapy.

"Limitations of this study, including small sample size, open design, and nonrandomized concurrent controls, preclude any conclusions about efficacy. However, all outcome trends favor hypothermia."[1]

De Georgia notes that standard hypothermia protocol has its limitations. To prevent shivering,

for example, all patients were endotracheally intubated, sedated, and pharmacologically paralyzed. "Intubation increases the risk of pneumonia and secretions," he explains.

However, he adds, "We are now into our next phase of research using different technology — a new endovascular approach."

This method, developed by Redwood City, CA-based Radiant Medical Inc., involves the use of a silk catheter that goes into the femoral vein and is in turn fed into the inferior vena cava. In essence, the patient is cooled "from the inside out."

"It's a closed system, using cold saline, at 4 degrees Celsius, that cools the blood that passes around it," De Georgia explains.

"The really 'cool' thing is that all our temperature sensors are on outside; the way you know you are cold is by skin sensors, mainly on the chest. We can put a warming blanket on the outside, and medicine into the vein to lower the shivering threshold," he adds. "We can do this down to the same core temperature, but the patient will be alert, awake, and comfortable — and the procedure is far less invasive. It's kind of like tricking the hypothalamus into thinking you are warm."

It's also a lot quicker. With the cases described in the *Stroke* paper, it took 3.5 hours to get to the target temperature; with this new method, it takes an average of 38 minutes.

"Hypothermia is probably the gold standard of neural protection, but its usage had been limited by surface cooling," notes De Georgia. "This should make a huge difference in patients with stroke."

The second phase, which will be used to determine the safety of the catheter, will involve 40 patients. "Then we'll do a larger efficacy study, of around 250 to 300 patients, with multiple centers around the world," he says.

Participating institutions include Massachusetts General and Brigham & Women's Hospital, both in Boston; The Mayo Clinic in Rochester, MN; the University of Pittsburgh; The University of Giessen in Germany; and Royal Melbourne Hospital In Australia, he explains.

"Ultimately, we'll expand to 35 centers around the world," De Georgia predicts.

Need More Information?

For more information, contact:

- **Michael E. De Georgia**, MD, Neurological Intensive Care Program, The Cleveland Clinic Foundation, 9500 Euclid Ave., Cleveland, OH 44195. Telephone: (216) 445-1626. E-mail: degeorm@ccf.org.
- **Derk W. Krieger**, MD, Section of Stroke and Neurological Care, Department of Neurology, Desk S-91, The Cleveland Clinic Foundation, 9500 Euclid Ave., Cleveland, OH 44195. E-mail: krieged@ccf.org.
- ***Stroke*** is available at www.strokeaha.org.

Reference

1. Krieger DW, De Georgia MA, Abou-Chebl A, et al. Cooling for acute ischemic brain damage (COOL AID) — An open pilot study of induced hypothermia in acute ischemic stroke. *Stroke* 2001; 32:1,847-1,854. ■

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Editor: **Steve Lewis**, (770) 442-9805, (wrdmanpr@bellsouth.net).
Vice President/Group Publisher: **Brenda Mooney**, (404) 262-5403, (brenda.mooney@ahcpub.com).
Editorial Group Head: **Coles McKagen**, (404) 262-5420, (coles.mckagen@ahcpub.com).
Managing Editor: **Russell Underwood**, (404) 262-5521, (russ.underwood@ahcpub.com).
Senior Production Editor: **Ann Duncan**.

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Editorial Questions

For questions or comments, call **Steve Lewis** at (770) 442-9805.

NEWS BRIEFS

Medicare increases inpatient payment rates

On July 31, the Centers for Medicare and Medicaid Services (CMS) announced that Medicare would increase its payment rates for inpatient hospital care by 2.75%. The increase for FY 2002 will affect about 4,800 acute care hospitals that are paid under Medicare's inpatient prospective payment system. The new rate, which reflects the law's requirements for updating Medicare payment rates, was published in a final rule in the Aug. 1 *Federal Register*.

Medicare law pegs the annual updates for acute care hospitals for FY 2002 to the estimated increase in the hospital marketbasket, the inflation rate for goods and services used by acute care hospitals, minus 0.55 percentage points. For FY 2002, the hospital marketbasket is projected to increase by 3.3%. The update is 2.75%. The final rule doesn't address provisions in the proposed rule dealing with expediting the incorporation of new medical services and technologies in the inpatient prospective payment system coding and payment methodology. ▼

Report: Mergers may save less than thought

A report commissioned by the Agency for Healthcare Research and Quality suggests that hospital mergers may produce fewer savings than previously estimated. The study, which appears in the July *Health Affairs*, traces changes in nearly 1,800 short-term hospitals from 1989 to 1997. Researchers compared merging hospitals in high HMO-penetration markets with their nonmerging rivals, and the merging hospitals' average cost savings was 2.3 percentage points. The average price growth was nearly identical to nonmerging competitors, the report said. In low HMO-penetration markets, mergers appear to produce greater cost and price savings for the hospitals. To read *Hospital Mergers and Savings for Consumers: Exploring New Evidence*, go to: www.healthaffairs.org. ▼

Lack of specialty care adds to diabetics' mortality

Lack of specialty care, particularly for minority patients, is a contributing factor to the continued increase in mortality for people with diabetes, according to the American Association for Clinical Endocrinologists (AACE).

"Patients with diabetes have special health needs, which they and their physicians need to address. Studies have shown that patients who receive care from endocrinologists have better health outcomes," says **Rhoda H. Cobin**, MD, president of AACE.

Cobin cited statistics from the Centers for Disease Control and Prevention that show deaths from diabetes and complications continue to increase.

Many patients are not even aware that there are diabetes specialists, Cobin says.

"Minority patients — who are disproportionately impacted by diabetes — are the least likely to seek or have access to specialty care," she adds. ■

Documentation
FAX-BACK SURVEY

Supplement to: *Case Management Advisor, Complementary Therapies in Chronic Care, Contraceptive Technology Update, ED Management, ED Nursing, Hospital Access Management, Healthcare Benchmarks, Hospital Case Management, Hospital Employee Health, Hospital Home Health, Hospital Infection Control, Hospital Payment & Information Management, Hospital Peer Review, Healthcare Risk Management, Medical Ethics Advisor, Occupational Health Management, Patient Education Management, QI/TQM, Rehab Continuum Report, Same-Day Surgery*

Instructions: Please answer all questions completely and accurately.

Nearly every profession involves paperwork, but in health care, the need for thorough and accurate documentation is especially great. After all, poorly documented care can result in claims denials, lawsuits, and even criminal investigations. We'd like to hear your thoughts on why appropriate documentation is important in your work.

Do you think of documentation primarily as an issue of **(please circle only one item)**:

A. Coding
B. Outcomes measurement
C. JCAHO or other accreditation
D. Federal or state regulatory requirements
E. Other (please list) _____

On a scale of 1 to 5, please rate the following considerations by their relevance to you professionally:
(1 = extremely relevant to me; 5 = not relevant to me at all.)

__ Poor documentation could lead to legal or regulatory consequences.
__ Poor documentation could be an obstacle to accreditation for my department/facility.
__ Poor documentation could cost my facility money because of claims denials.
__ Accurate documentation is necessary to ensure proper care for patients along the continuum of care.
__ Accurate documentation is necessary to prove my/my department's effectiveness to administrators.
__ Accurate documentation helps me to identify critical needs in my department.
__ Accurate documentation is required to fulfill managed care contracts.

In your own words, why is documentation important in your work?

_____

_____

What sort of information or advice would help you better deal with your documentation responsibilities?

_____

_____

What is your title? _____

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