

# HOSPITAL PEER REVIEW®

Quality Improvement  
Utilization Review  
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Reimbursement  
Accreditation  
PRO Compliance

## INSIDE

### More Coverage of the Y2K Problem

- **HCFA not ready:** GAO says situation looks grim . . . . . 70
- **Final option can help in a crunch:** Software gets you running in 60 days . . . . . 72
- **Medical equipment may fail:** Contingency procedures can stave off disaster . . . . . 73

- **Awards tap best and brightest:** Winners use strategic plans . . . . . 75
- **How team makes decisions:** Hard numbers and consumers' opinions count . . . . . 77
- **Where do good outcomes come from?** A close look at one report and its accuracy . . . . . 78
- **HEDIS 2000:** Latest measures spotlight chronic care . . . . . 79

### *The Quality-Co\$t Connection*

- **Concurrent vs. retrospective data collection:** Should data be gathered pre- or post-discharge? . . . . . 80

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(pages 69-84)

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## JCAHO surveys stress Y2K solutions

*Millennium mishaps can cause sentinel events*

**D**wain Shaw, director of information services and Year 2000 project director at the Medical College of Georgia in Augusta, and **Wendy Walschlager**, RN, director of Health Information at Good Samaritan Hospital in Downers Grove, IL, agree that Joint Commission surveys are focusing strongly this year on year 2000 (Y2K) compliance. Quality professionals have to make sure there are teams in place, that information is being aggregated, and that everyone is up to snuff on progress and process. Walschlager suggests you include some performance measures related to Y2K issues, perhaps on safety-critical equipment such as EKG monitors. She says to anticipate some risk management interaction on the quality end to make sure there's a plan in place if some of the equipment fails come Jan. 1. "Y2K is a global problem," she says. (See last month's issue of *Hospital Peer Review* for coverage of quality assurance's role in Y2K compliance.)

"Involve everyone in Y2K," says Shaw, a Joint Commission faculty member who has been lecturing on Y2K issues around the country. "Otherwise, you're not going to be successful. Y2K reaches out and touches everyone." He says the Joint Commission's main interest in Y2K issues is the extent to which millennium-related problems can cause sentinel events. "If something that we're aware of causes a sentinel event, it impacts Joint Commission standards in any of three areas — leadership, quality of care, or information management," he says.

### *Surveyors examine integrity of patient information*

In 1998, surveyors asked about Y2K, but it was not high on their priority list. This year, however, surveyors have been trained to look for evidence of strong leadership involvement in Y2K and evidence that preparations have taken place. "They are a little more aggressive this year," says Shaw. "Surveyors are looking at supply inventories and how you're preparing for your high-demand commodities, particularly life-saving drugs. From the standpoint of information management, God help you if any portion of a patient's record or other information pertaining to a patient is lost."

He points out that of course the Joint Commission is interested in obvious events, like the power going out, but sentinel events can be caused by unnoticed factors. "The things you don't think of are going to cause the sentinel event," he says. "If, for example, you think an application is going to give good data output, and it doesn't, and a drug dosage is in error — that can cause a sentinel event. Every device that produces information needs to be manually checked before patients are affected come New Year's Eve."

*Hospital Peer Review* asked Walschlager if quality professionals at a hospital that was surveyed in 1998 should be concerned about Joint Commission interest in Y2K matters when surveyors return in a couple of years. "Yes," she answers, "because not everything is going to be fixed overnight." The quality process looks at mission-critical compliance first and then at subsequent compliance. "Y2K is an ongoing issue. The Joint Commission will not be so intensely involved a few years down the road; its interest will not be from the perspective of your meeting your mission-criticals, but from the perspective of cleaning up the odds and ends. Surveyors will be asking questions like, 'Do you have a plan that reflects that cleaning up, and was the plan you implemented successful?'" ■

## HCFA *may* not be ready, but half its users are not

*Medicare claims required to have 8-digit dates*

Medicare could fall prey to the year 2000 (Y2K) computer bug, according to the latest news from congressional auditors. To help spur clinicians and other health care providers to get their systems ready, the Health Care Financing Administration (HCFA) on April 5 stopped accepting electronic Medicare claims that do not include full 8-digit dates.

As recently as March, **Joel Willemsen** of the General Accounting Office (GAO) told lawmakers HCFA was nowhere near ready for the millennium problem. "There is a high probability that there will be some system failures," Willemsen said. He said Medicaid also was at risk because some state agencies were falling behind in computer systems

upgrades. For you, that means billions of dollars in Medicare and Medicaid benefits could be delayed, miscalculated, or unpaid.

HCFA administrator **Nancy-Ann DeParle** says GAO is overstating the risks and that fixing HCFA's computer systems is her top priority. She says progress is being made and that many critical systems are already prepared for Y2K.

More than 150 different computer systems are used in administering the Medicare program, and the agency expects to process more than one billion claims and pay \$288 billion in benefits annually by 2000.

In late March, HCFA reported that as of Feb. 28, 1999, all of its internal systems were certified as compliant. The agency also says all Medicare contractors will be Y2K-compliant before this summer.

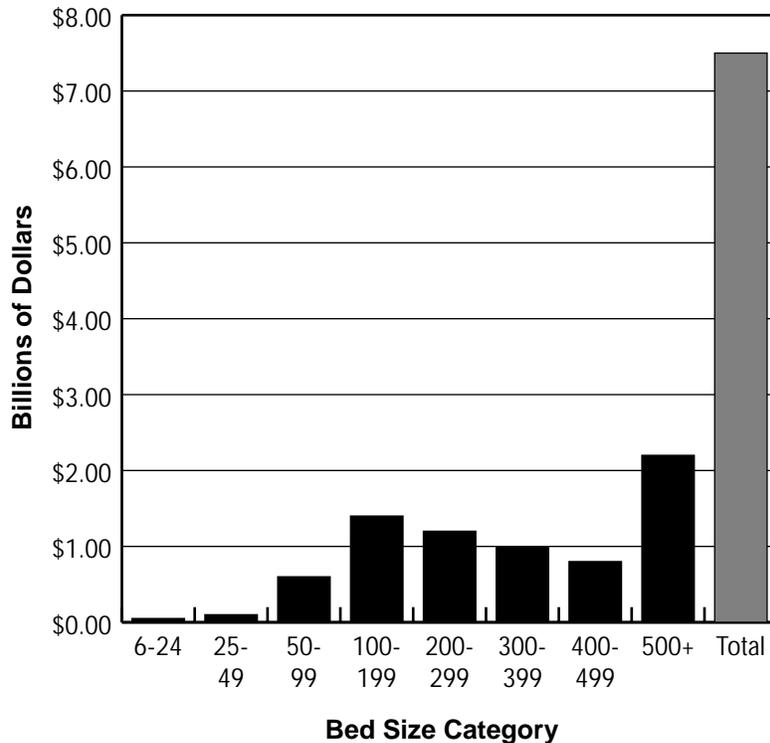
According to a survey released in late March by Health and Human Services Inspector General June Gibbs Brown, only about half of Medicare providers are Y2K-compliant. The survey of 5,000 doctors, hospitals, nursing homes, home health agencies, and durable medical equipment providers did reveal, however, that more than 90% of hospitals and 70% to 84% of other provider groups responding to the survey believe their billing systems will be Y2K-compliant by year-end. Survey responses were received from 49% of hospitals, 41% of nursing facilities, 27% of home health agencies, 26% of medical equipment providers, and 22% of physicians.

Additional survey findings revealed that less than 20% of respondents had tested data flow between their systems and those of their vendors, and less than half the respondents have developed a contingency plan in the event of a Y2K-related system failure.

Concerned that HCFA's vulnerabilities could spawn a rash of Medicare fraud, Sen. **Chuck Grassley** (R-IA), chairman of the Senate Special Committee on Aging, wrote in a letter to Finance Committee chairman Bill Roth (R-DE) that the Y2K problem will increase opportunities for foul play. "What better timing for a provider intent on gaming the system than when Medicare computers are in disarray?" If computers fail, fraudulent claims could go undetected. On the flip side, proper claims could be misidentified as fraudulent.

Experts at the Healthcare Information and Management Systems Society's annual conference in Atlanta in late February warned that physicians and health care institutions in general

## Y2K Compliance Expenditures by Bed Size Category



Smaller hospitals (those under 200 beds), many with higher Medicare populations, will spend close to \$2.3 billion on Y2K fixes. 251 larger hospitals with more than 500 beds will spend \$2.2 billion to fix the Y2K problem. 2,296 hospitals, with fewer than 100 beds, will spend close to \$1 billion, an average of \$436,000 each. Hospitals between 100 and 300 beds will spend approximately \$2.5 billion, an average of \$1.2 million. 557 hospitals with 300-500 beds will spend \$1.9 billion, or \$3.4 million each.

Source: American Hospital Association. Year 2000 Compliance Costs Survey results. Chicago; 1999.

are way behind other industries and have no idea what may hit them on Jan. 1. **Sharon R. Klein**, a health care attorney with Dechert Price & Rhoades in Philadelphia, said 30% of the industry has no formal Y2K plans and 90% of physicians are still wondering what to do. About 64% of hospitals have no plans to test their Y2K fixes before the crunch date, reported **Robert A. Rankin**, Washington correspondent for the *Philadelphia Inquirer*.

While most industries are spending 5% to 8% of operating revenue on fixing Y2K problems, the health care industry overall is spending only 2%, noted Klein. However, the American Hospital Association in Chicago reported recently that spending to become Y2K-compliant represents about 6.9% of the average hospital's operating budget and 32% of its capital budget.

Klein said the health care industry is unique in that, unlike other industries, it cannot fully shut down to test entire systems. "We not only have to worry about the hospital functioning, but we will also get the casualties that follow from the year 2000, such as transportation accidents because of signaling problems."

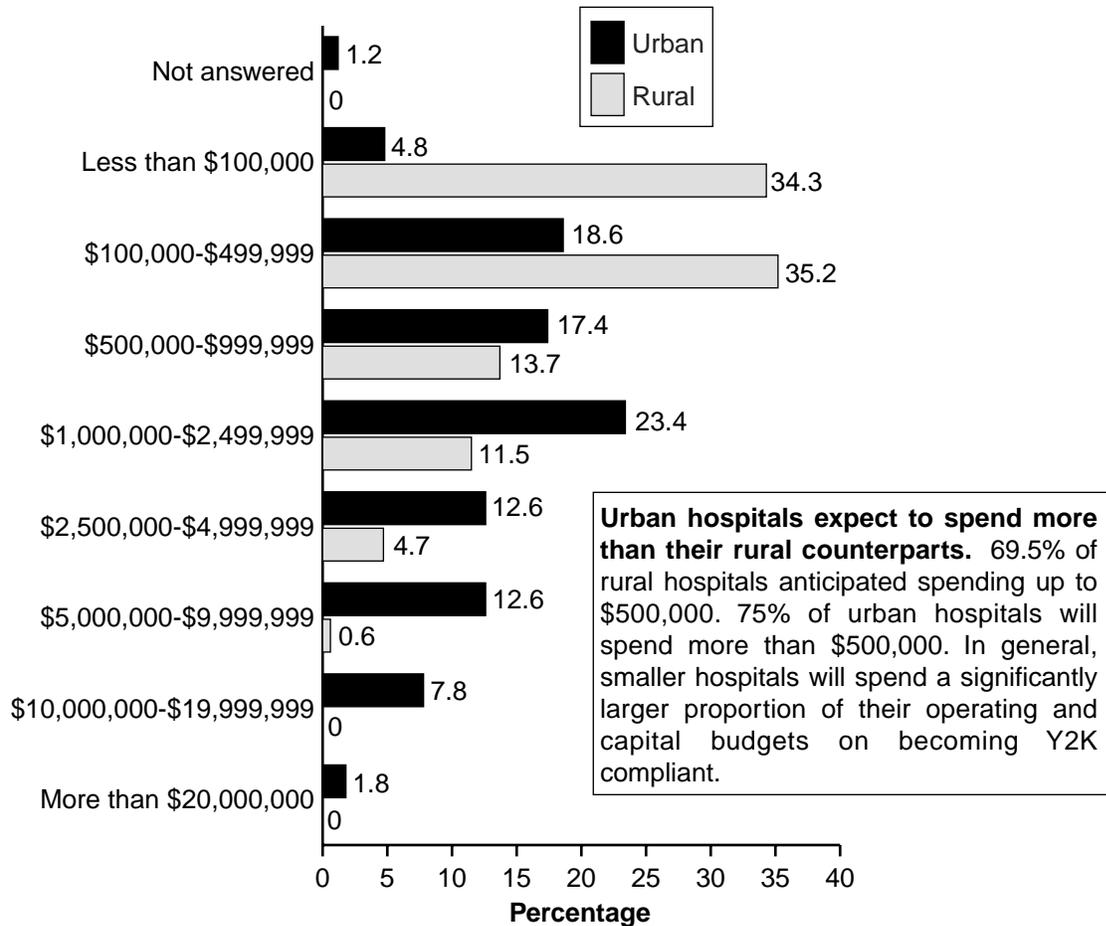
**Fred Brown**, chairman of the AHA, says hospitals will spend up to \$8.2 billion on Y2K issues. His data come from a recent survey of 2,000 community hospitals. The survey compiled these average figures for Y2K compliance spending by size of hospital:

- 100 beds or less (more than half of all hospitals), \$436,000 each;
- 100 - 300 beds, \$1.2 million each;
- 300 - 500 beds, \$3.4 million each;
- 500 or more beds, \$8.6 million each.

In general, smaller hospitals will spend a significantly larger proportion of their operating and capital budgets on Y2K compliance. Most of the expenses of all facilities come from capital expenditures — modifying or replacing hardware. The rest represents operational and consulting expenditures.

Urban hospitals, according to the survey, expect to spend more in absolute terms than their rural counterparts. About 70% of rural facilities anticipate spending up to \$500,000, while three-fourths of urban facilities will spend more than that figure. According to 1998 AHA statistics, 56.6% of U.S. hospitals are urban and 43.4% are rural.

## Y2K Compliance Expenditures by Location



Source: American Hospital Association. Year 2000 Compliance Costs Survey results. Chicago; 1999.

The Y2K problem exists in lines of software code that use two digits to represent years. To conserve memory in the early years of computer technology — when data storage space was at a premium — programmers used two digits rather than four to express years, such as “99” for the year 1999. Computers that are not Y2K-compliant will assume that dates occurring after Dec. 31 still use the prefix 19, leading software programs to read 00 as 1900 instead of 2000. That defect could cause computers to crash or spew out incorrect data.

**Keith Mallon**, head of the Y2K compliance project for McKessonHBOC, a medical software company in Atlanta, estimates that the hourly rate charged by programmers who know the computer language needed to correct Y2K problems “has risen to \$85 an hour, from just \$65 less than 18 months ago.” ■

## Zero-hour plan can help in a crunch

*Epic's Y2KZip gets you running in 60 days*

If your vendor will take too long to upgrade your scheduling and billing system, you might want to check out a system like Y2KZip, a new software package from Epic Systems Corp. in Madison, WI.

Y2KZip implements scheduling and billing systems for organizations that have to replace non-compliant systems. The software can compress the time required to implement scheduling and billing to as little as 60 days for organizations of 85 physicians or more. A typical vendor requires six months to upgrade an installed system, and may be unable to take on any additional projects in time to begin scheduling patients into the year 2000. Should that

happen, you'll be scrambling to find vendors to replace your noncompliant systems — and you may find those vendors are backlogged as well.

Working closely with one large organization, Epic was able to completely roll out a practice management system that served 250 providers at 40 sites in 77 days. The lowest pricing for two required applications is \$450,000. Epic can be reached at (608) 271-9000; fax: (608) 271-7237; Web site: [www.epicsys.com](http://www.epicsys.com). Contact the Healthcare Information Management Systems Society in Chicago at (312) 664-4467 for a list of other vendors that offer this kind of solution. Or visit the HIMSS Web site at [www.himss.org](http://www.himss.org). ■

## Medical equipment may fail if Y2K-susceptible

*Contingency procedures can keep disaster at bay*

Rural and inner-city hospitals are at special risk for year 2000 (Y2K) glitches because they often have fewer resources available to address problems. If your hospital is in this position, experts suggest you put contingency plans in place. This can range from taking equipment out of use until you can fix it to adding validation steps to an automated process. For example, a patient monitoring device may be found to have computation problems that cause errors in condition reporting. An emergency plan may limit use of that device to non-life-threatening coverage. You might have nursing personnel take manual blood pressures every two hours to validate device readings. Affix Y2K tags to devices that specify usage limitations, and educate all staff on contingency procedures.

Equipment that is Y2K-susceptible can be categorized by patient risk levels:

- *High-risk* equipment is used for life support, resuscitation, or critical monitoring and is likely to seriously harm a patient if it fails. In this category are dialysis units, fetal monitors, ventilators, and defibrillators.

- *Medium-risk* equipment could have a significant impact on patient care if it fails, but its failure does not pose immediate harm. In this category are ultrasound scanners, blood gas/pH analyzers, apheresis units, and flow cytometers.

- *Low-risk* equipment has no impact on patient safety. Diathermy units and fax machines fall into this category.

Medical equipment-related problems might be fixed by changing the operating hours of affected departments. For example, if one catheterization lab becomes noncompliant and a radiology department normally relies on three catheterization labs, close down the inoperative cath lab and extend the hours of operation of the remaining two labs. Compensate for this adjustment by tightening patient scheduling.

You cannot rely solely on medical device manufacturers to certify products as Y2K-compliant. According to **Alan H. Magazine**, president of the Health Industry Manufacturers Association in Washington, DC, the Y2K problem is extremely complex for the device industry because of the nature and wide diversity of products manufactured — from monitoring equipment and medical information systems to laboratory instruments and pacemakers. Each company has different problems, and in the majority of cases, solutions developed by one company do not apply to others. Equipment companies take this issue very seriously, Magazine states.

ECRI's Web site, [www.ecriy2k.org](http://www.ecriy2k.org), contains information about a medical device database against which you can compare your device inventory. The "Knowledgebase" categorizes all devices by risk level so you can determine the risk each device poses. For more information, call (610) 825-6000, ext. 5273.

At the beginning of this year, the Food and Drug Administration (FDA) warned hospitals and practitioners that the date bugs expected to produce problems on Jan. 1, 2000, were affecting some medical devices a year early. Early programmers never considered that their handiwork would still be used at the turn of the century, and some used the characters "99" to indicate undated items or data file endings.

This unwelcome news first came via messages posted on an Internet listserv warning that 15 instruments from seven manufacturers were not able to accommodate the transition from Dec. 31, 1998, to Jan. 1, 1999. The FDA contacted the device makers, and two verified that their equipment might experience some impairment of function on 1/1/1999. The others reported that their devices should experience no difficulty in this transition, but may have problems moving from 1999 to 2000.

The two products with verified problems work properly in direct use, so immediate patient care is not affected. They do present a potential for confusion and incorrect records, however. Their

problems relate to their ability to display, print, or store the correct time and date of operation.

One product, the **Hewlett-Packard 43100A/43200A external defibrillator**, will defibrillate properly but will print out “set clock” rather than the month, day, hour, and minute on the paper event record. On trying to reset the clock, the CRT will display a 1985 date. The manufacturer advises it should be reset to 1998 — not 1999 — after which the unit will work properly for the year 1999 because the event record only prints the month and day and does not print the year. At the end of 1999 it will need to be reset again, from 1998 to 2000, after which it should work properly.

The second product, **Invivo Research’s Millennia 3500 multiparameter patient monitor**, has a potential New Year’s Eve problem on every year including 1998 and 1999. For products manufactured before December 1998, if the display clock is tested or reset as the year turns over, the display and internal clocks become compatible until the product is powered down and restarted. The display clock and paper record then might show different times and dates. The manufacturer advises the problem will not occur if the clock is neither tested nor reset on Dec. 31 or Jan. 1. Invivo is making available a software upgrade to fix the problem. This system has been sold since June 1996 and more than 2,000 are installed worldwide.

Other devices may exist with similar but unidentified “year 1999” problems. Pay attention to date displays and printouts and permanent records and date-recording features of all medical devices this year, as well as other possible date-related problems that may manifest in unexpected ways.

At the same time, states the FDA, be wary of messages posted on the Internet concerning transition problems. The fact that someone reports problems does not mean the problem has been confirmed. Consult the FDA’s Web site, [www.fda.gov](http://www.fda.gov), for product information and links to manufacturers’ Web sites as a first step for further information. If you have a specific question about a product, contact its manufacturer for specific technical information. If you become aware of a date-related problem, notify the manufacturer and report the malfunction to MedWatch, the voluntary program for reporting problems to FDA, at (800) 332-1088; fax: (800) 332-0178.

[Editor’s note: Hewlett-Packard’s Web site is located at [www.hp.com](http://www.hp.com). Invivo Research can be contacted at (407) 275-3220.] ■

## Y2K reference resource available

With the year 2000 (Y2K) deadline fast approaching, hospitals, other health care providers, and the medical device industry are scrambling to complete a process that in many cases was started too late. What may have once been a logistical issue is burgeoning into an overwhelming problem, compounded by scarcity of time, rising costs, and a lack of programming resources and expertise.

The health care industry has found itself under increased pressure as the realization dawns that it is behind the curve in preparing for Y2K. According to a recent Modern Healthcare/PricewaterhouseCoopers survey, the biggest worry among 69% of health care providers is that patients will be “affected due to faulty monitoring gear,” followed by concern over “inaccurate lab tests and pharmacy orders” (36%), problems with patient records (34%), and worries about billing and paychecks.

Jan. 1, 2000, is not a moving target. Your computer systems, medical devices, and suppliers either can handle the date change, maintaining business as usual, or they can’t — in which case your entire organization may face serious problems.

As the Y2K issue grows ever more pressing, American Health Consultants has published the *Hospital Manager’s Y2K Crisis Manual*, a compilation of resources for nontechnical hospital managers. This 150-page reference book includes information in everyday language on the problems your facility faces, the potential fixes, and the possible consequences, including:

- Will your computers and software work in 2000?
- What does Y2K mean for patient care?
- What will happen to your medical devices?
- How can you make sure your vendors are Y2K-compliant?
- Are you at legal risk due to Y2K?
- Are you prepared if Y2K delays HCFA payments?

To receive the *Hospital Manager’s Y2K Crisis Manual*, call American Health Consultants customer service at (800) 688-2421, or visit AHC’s Web site at [www.ahcpub.com](http://www.ahcpub.com). ■

# Awards tap the best and the brightest

*How to be a winner: Try using strategic plans*

Two hospitals were awarded prestigious Mercury Awards toward the end of last year, and quality professionals closely associated with each facility's efforts agreed to share with *Hospital Peer Review* how they did it. All agree that whatever strides their facilities have made over the year were aimed at improved patient care, not at jockeying for the award, but they say getting the recognition doesn't hurt. The common denominator of their advice: Have strategic plans, and follow through on them.

The University of California at Los Angeles (UCLA) Medical Center received a 100.0 rank in the Mercury Award's "overall facility" category. (See chart at right showing UCLA's other awards.) Lee Hilborne, MD, MPH, director of quality management services at the medical center, says that for several years his facility has had a major strategic plan to identify key areas where the facility needs to concentrate its quality improvement efforts. "The three service lines that the Mercury Award committee focused on — cardiovascular services, orthopedics, and oncology — were areas that we had identified for improvement," he says. "For example, we had just improved length of stay in our cardiovascular services when the group looked at those numbers." Many of the surrounding hospitals refer their most difficult cardiac patients to UCLA, so the center's cardiovascular service is an area of continual focus.

"We're an internally driven organization," he explains. "We didn't gear our efforts to this award, but it's gratifying to see that when external benchmarking data are analyzed, they show that we do well."

"Any facility's challenge today is to attract and retain well-trained professionals," says Heidi Crooks, RN, assistant director of patient care services at UCLA. "Our people have to be competent to face the dual challenges of the increasing acuity of patients and shortened lengths of stay. Any award UCLA receives makes it more attractive to professionals to join a highly rated institution."

A number of years back, UCLA participated in a study — called the Quality Measurement

## Los Angeles-area Mercury Awards

### Overall

UCLA Medical Center  
Cedars-Sinai Medical Center  
Long Beach Memorial Medical Center  
Providence St. Joseph Medical Center

### Cardiology

Cedars-Sinai Medical Center  
UCLA Medical Center  
Torrance Memorial Medical Center

### Oncology

UCLA Medical Center  
Long Beach Memorial Medical Center  
St John's Hospital

### Orthopedics

Cedars-Sinai Medical Center  
Long Beach Memorial Medical Center  
St John's Hospital  
UCLA Medical Center

Management Initiative — that worked with academic medical center consortia. The initiative looked at quality and other variables related to cardiovascular surgery and identified areas of opportunity for improvement. When the team looked at UCLA's myocardial infarction mortality rates and realized they were somewhat high (12% to 15%), one of UCLA's cardiologists assembled a team to work with the emergency department physicians. They brought the rate down to 4% — well under the national average.

"The improvements we made as a result of the efforts of that initiative continue today," says Hilborne. "We integrated the improvements we made into practice. That study showed us that process improvement efforts can really pay off. They pay off in terms of patient outcomes, and patients who are treated more efficiently leave the hospital sooner, their care costs are less, long-term morbidity is decreased, and so on." Improving quality also has proven beneficial in terms of expanding UCLA's market share. "When the managed care plans see that we can take care of patients better and cheaper, they send cases to us," says Hilborne.

UCLA's kidney transplant program also has had success in shortening LOS and improving outcomes, both immediate and long-term. "We

looked at our time between taking the kidney and transplant and set out to cut that down considerably from 28 to 17 hours,” says Hilborne. “At the same time, graft rejection was cut from 30% to 15%. And graft survival — avoiding the need for re-transplant — went up by 2% to 3%. All that meant cost savings of \$750,000.”

### ***A serendipitous visit by JCAHO ‘didn’t hurt’***

Does the Joint Commission give consideration to hospitals’ achievement awards? No — well, maybe a little. Crooks at UCLA says, “I doubt that the Joint Commission analyzes any outside agencies’ review of quality.”

But **Elizabeth Evins**, RN, JD, says, “It was serendipitous that we received the Mercury award on the week before the Joint Commission came for its survey.” She is vice president of quality improvement services at Anne Arundel Medical Center (AAMC), a 291-bed acute care facility in Annapolis, MD, and another Mercury winner. “In both our leadership interview and our performance improvement interview, we were able to talk about the award, and they did indicate they were quite impressed that we had achieved it. They asked a lot of questions about it.” Those two interviews are the point in any survey when the Joint Commission learns basic information about an organization and how it sets its priorities.

“I don’t think the fact that we got an award made our surveyors look specifically at our cardiology, orthopedic, or oncology programs, however,” Evins says, “nor did they avoid those programs. The fact that we got high rankings on those programs from Mercury did not mean that we were not surveyed on them.” Instead, she indicated, the surveyors looked at those services the same way they looked at all the other services at AAMC.

“It did not affect the way the surveyor looked at our institution. But it didn’t hurt,” she says. “It was a way for them to see that we are a quality organization and that others beside them are interested in our performance.” Even so, the Joint Commission gave Anne Arundel a score of 93 with a few “Type 1 recommendations,” that is, significant issues or deficiencies that will need to be corrected before accreditation can be issued.

How can you help your facility get an award like these quality pros did? Evins’ advice: “Have strategic goals, and measure your progress toward those goals.”

## **Baltimore-area Mercury Awards**

### **Overall**

Anne Arundel Medical Center  
Johns Hopkins University  
Greater Baltimore Medical Center

### **Cardiology**

Anne Arundel Medical Center  
Sinai Hospital of Baltimore  
North Arundel Hospital

### **Oncology**

Johns Hopkins University  
Anne Arundel Medical Center  
Greater Baltimore Medical Center

### **Orthopedics**

St. Joseph Medical Center  
Union Memorial Hospital  
Good Samaritan Hospital of Maryland  
Anne Arundel Medical Center

“Take advantage of opportunities as they arrive in support of your goals,” she continues. “As an example, when we have an opportunity to credential a physician with a particular type of expertise that brings value to one of our organization’s goals for improving access to services and patient care, we do it. It isn’t always planned, but when we have an opportunity to link new technology, expertise, and other performance measures with a pre-existing strategic goal, we try to take advantage of it.”

Each of the 23 hospitals in the Baltimore market was rated by the Mercury committee on the basis of eight statistical measures that evaluated various aspects of quality and care. **(See article on p. 77 describing those eight indexes.)**

AAMC was recognized as best in the area for overall quality and care, No. 1 in cardiology, No. 2 in oncology, and No. 4 in orthopedics. **(See chart above listing Baltimore-area awards.)**

“With respect to cardiology,” says Evins, “we set out a number of years ago to have a future-oriented cardiovascular program.” The medical center does no cardiac surgery, but takes care of hundreds of chest pain patients each year. For those patients, a team developed a four-stage triage and treatment protocol for the quick identification of heart attack. The facility’s catheterization and electrophysiology

labs came about as a result of performance goals set by Evins' team.

In addition to gaining attention for the Mercury award, AAMC's cancer program has won approval by the Commission on Cancer of the American College of Surgeons, an honor only one-fifth of American hospitals has received. The program includes inpatient and outpatient centers for radiation therapy, a breast center, and an active community education program. AAMC's orthopedic program offers services from minimally invasive arthroscopy to joint replacement.

"We have an ongoing long-term and short-term performance improvement philosophy," Evins says, "and that is driven by our strategic plan. We set goals each year, one of which is to provide superior patient care." Under that goal umbrella are several smaller objectives that are "as measurable as possible," Evins says.

Clinical initiatives aspire to meet the facility's internal benchmarks as well as external ones such as those put forth by the Maryland Quality Indicator Project and the IMSysystem quality project of the Joint Commission on Accreditation of Healthcare Organizations in Oakbrook Terrace, IL. "The benchmarks give us a concept of our own ongoing performance," she says. "In addition, we use them as guidance for goals to set for next year." ■

## How one award team makes its decisions

### *Hard numbers and consumers' opinions count*

The Mercury Award is just one of many honors bestowed on hospitals that display outstanding performance over the year. America's Health Network (AHN) partnered with the Health Care Information Association (HCIA) to develop the 1998 Mercury criteria. The team measured and compared the performance of hospitals nationwide on the basis of what consumers value most in their hospital care.

While other "Top Hospitals" lists — such as "America's Best Hospitals" published by *U.S. News & World Report* and the list compiled by J.D. Power — rely on the opinions of samples of physicians and other health care workers, AHN/HCIA's study is statistically driven. It looks at

financial indicators, clinical information, and consumer indices. (See related article on "America's Best Hospitals" report, p. 78.)

Elizabeth Evins, RN, JD, vice president of quality improvement services at award-winning Anne Arundel Medical Center in Baltimore, says HCIA and the award committee developed the rankings on her facility by reviewing and analyzing objective measures of her facility's performance in the context of demographics. It also looked at other factors such as staffing and community perception. HCIA uses data from the Medicare Provider Analysis and Review Files (MedPAR) for its assessments, along with data from other sources. Lee Hilborne, MD, MPH, director of quality management services at UCLA, another award winner, says MedPAR is generally a fair representation of a facility's outcomes because the data include the main diagnoses and major complications and comorbidities.

"That's how they made the assessment that we have sicker patients," he says. "Our case mix index is high, hovering between 1.8 and 1.9, the average being 1. That means our patients have a higher level of comorbidity than those of other facilities." But Hilborne says he has a bit of a problem with data based on coding. "There's an assumption that everyone codes the same, and that's not true." (See an upcoming issue of *Hospital Peer Review* for an article on the accuracy of data gathered by quality professionals.)

The Mercury Award goes to top-rated hospitals in four categories: overall facility, cardiovascular services, orthopedics, and oncology. The three service lines are defined by diagnosis-related group (DRG). Twenty markets are selected, and between seven and 12 hospitals are typically recognized in a given market. Acute care hospitals that have more than 30 Medicare patients in at least two of the three service lines are included in the study. A hospital with fewer than 30 cases within a service line does not receive a rating for that service line.

"We have focus groups during which we ask consumers, 'What is the most important issue to you when you select a hospital?' That's how we came up with our three consumer indices — quality, patient care, and market reputation," says J. Tod Fetherling, the president of America's Health Network, based in Orlando, FL. Within the quality index, the award team looks at two-year trends in morbidity and mortality, complication rates, and lengths of stay (LOS) as follows:

— **Two-Year Mortality Index** measures actual deaths compared with expected deaths over a two-year period. Expected deaths are the number of deaths that would be predicted given the severity of each patient entering the hospital. For example, a hospital treating more severely ill patients would be expected to have more deaths. While all hospitals have mortalities, this measure can show where mortalities occurred but were not expected considering the patient's condition. The lower the Mortality Index, the greater the survival rate of the patients in the hospital. A two-year average is used to avoid judgments based on short-term statistical anomalies.

— **Two-Year Complications Index** measures the actual complications compared with the expected complications over a two-year period. The expected complications are the number of complications that would be predicted given the severity of each patient entering the hospital. Like mortality, a hospital treating more complex patients would be expected to incur more complications. While all hospitals have complications, this measure can show where complications occurred but were not expected considering the patient's conditions.

— **Severity-Adjusted Average LOS** allows for comparison of a hospital's average inpatient LOS when compared to that of other hospitals in a market. This measure eliminates differences due to the varying severity of patients at each hospital within a market, allowing for a more meaningful comparison. A lower Severity-Adjusted LOS generally indicates more efficient consumption of hospital resources and reduced risk to patients.

Three measures are used in determining the patient service index:

— **Staffing Ratio** compares a hospital's staffing level to other hospitals in the market. It measures the labor necessary to provide a patient day of hospital care and is calculated by dividing the average number of full-time equivalent employees by the number of inpatients occupying beds and outpatient visits in a hospital on any given day. Focus groups revealed that consumers perceive that more staffing is desirable because it results in better patient service. Balanced with other factors such as efficiency, this measure helps gauge the availability of staff for patient care, considering the hospital's workload.

— **Efficiency** compares a hospital's costs per discharge to those of other hospitals in the market. Costs are severity-adjusted to factor out differences attributable to the varying severity of

## Where do good outcomes come from?

*A close look at one report and its accuracy*

“America's Best Hospitals” is an influential list published annually by *U.S. News & World Report* that assesses the quality of hospitals. But do patients admitted to hospitals ranked as tops in cardiology have lower short-term mortality from acute myocardial infarction (AMI) than those admitted to other hospitals, or can differences in mortality be explained by differing use of recommended therapies?

Using data from the Cooperative Cardiovascular Project, Yale University School of Medicine researchers looked at the progress of about 150,000 Medicare beneficiaries with AMI.<sup>1</sup> They examined the care and outcomes of patients admitted to three types of hospitals: those ranked high in cardiology; those not in the top rank but which had on-site facilities for cardiac catheterization, coronary angioplasty, and bypass surgery; and those not similarly equipped.

The researchers compared these items:

- 30-day mortality;
- rates of use of aspirin, beta-blockers, and reperfusion;
- relation of differences in rates of therapy to short-term mortality.

Admission to a top-ranked hospital was associated with lower adjusted 30-day mortality. Among patients without contraindications to therapy, top-ranked hospitals had significantly higher rates of use of aspirin and beta-blockers but lower rates of reperfusion therapy. The survival advantage associated with admission to top-ranked hospitals was less strong after adjustment for factors including the use of aspirin and beta-blockers. The researchers concluded that a substantial portion of the survival advantage may be associated with those high-ranked hospitals' greater rates of aspirin use and beta-blocker therapy.

### Reference

1. Chen J, Radford MJ, Wang Y, et al. Do “America's Best Hospitals” perform better for acute myocardial infarction? *N Engl J Med* 1999; 340:286-292. ■

patients. In conjunction with other factors such as the level of staffing, this measure helps determine whether a hospital is getting the best results for the costs it is incurring.

— **Breadth of Services** measures the number of services provided by each hospital — coverage of DRGs that have at least five Medicare cases. For the three service lines studied by the Mercury Award Committee — cardiology, oncology, and orthopedics — breadth of services is measured by counting the number of DRGs that have more than 10 cases.

The market reputation index assesses drawing power (how well a facility draws patients from outside its metropolitan statistical area) and market share (the percentage of patients treated by an institution).

— **Drawing Power** measures the hospital's ability to attract patients from outside its market. The award study calculated drawing power by dividing a hospital's number of admissions from outside its area by the total number of admissions in its area. A high Drawing Power percentage suggests that doctors from outside the area are willing to refer patients to the hospital and that patients are willing to travel a significant distance to be treated there.

— **Market Share** is calculated by dividing total admissions in the market by the hospital's admissions.

### *Hospitals play on an even field*

Data are severity-adjusted so small and large hospitals play on an even field. HCIA uses MedPAR data, Medicare's Standard Analytical File, and Medicare Cost Reports. For each hospital, a score for each index in each of the service lines is calculated. Hospitals end up with a maximum of 12 individual scores.

"In several markets, there are hospitals that do extremely well across the board in different product line categories. Examples are Massachusetts General Hospital in Boston, Presbyterian-St. Luke's Hospital in Denver, and UCLA," says Fetherling. "If a hospital is indexed 00.0, that does not necessarily mean it is a bad hospital." Hospitals are ranked according to statistical areas. The award team creates a midpoint, and if a hospital is ranked 100, it is the farthest away from the midpoint on the positive side. If a hospital is indexed 00.0, it is the farthest away from the midpoint on the negative side. That 00.0 hospital might compete well if it were located in another geographic area. ■

## HEDIS 2000: New measures spotlight chronic care

*Asthma, heart disease, chlamydia among latest adds*

The National Committee for Quality Assurance (NCQA) in Washington, DC, recently completed a review of a draft for HEDIS (Health Plan Employer Data and Information Set) 2000, the latest update to the performance measurement tool used by more than 90% of the nation's health plans. New measures were added to HEDIS 2000 covering heart disease, asthma, chlamydia, and menopause counseling. By design, the new measures will help focus the health care community's efforts where they can do the most good — on conditions for which effective treatments exist but have been underused.

"HEDIS 2000 will show us how well health plans are caring for some of their sickest members," said NCQA president **Margaret E. O'Kane** in a statement. The sixth iteration of the standards, HEDIS has evolved from process measures focused on prevention to process and outcome measures on prevention, and acute and chronic care.

The tools will now measure the spectrum of care, from prevention to acute care to management of chronic illness, with the following measures:

- an outcome measure of the percent of health plan members with diagnosed hypertension whose blood pressure is controlled to 140/90 or better;
- a process measure of the percent of high-risk asthmatic health plan members receiving anti-inflammatory medications;
- an outcome measure of the percent of high-risk asthmatics who visit a hospital emergency department;
- a process measure of the percent of sexually active young women who are screened for chlamydia;
- a three-part measure of management of menopausal women — whether women receive counseling, the scope of the counseling, and whether the counseling was personalized.

Two other measures regarding cholesterol management after an acute cardiac event and comprehensive care of diabetes will also be fully phased in as part of HEDIS 2000. "Cholesterol Management After an Acute Cardiac Event" assesses whether health plan members suffering heart attacks have had their low-density lipoprotein (LDL) level screened and whether it is under

control. This year, plans will report on the screening aspect of the measure, and in 2000 they will also report on the measure's control aspect. "Comprehensive Diabetes Care" looks at blood sugar testing and control; cholesterol screening and control; eye exams; and monitoring for kidney disease. In 1999, this measure is voluntary; in 2000, it becomes mandatory.

The comment period on the HEDIS 2000 draft has ended, and final HEDIS 2000 technical specifications will be available in June. ■



## Debate: Retrospective vs. concurrent data collection

*Should data be gathered pre- or post-discharge?*

By **Patrice Spath**, ART  
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Over the past years, quality management professionals have debated the advantages of concurrent vs. retrospective data collection. Concurrent collection is an activity that occurs while the patient is hospitalized or undergoing active treatment, while retrospective collection occurs after the patient has left the facility. The choice between the two is not easily made. Should 100% of data be gathered while the patient is hospitalized or undergoing active treatment? Is retrospective data collection more efficient? Should some data elements be collected concurrently and others retrospectively?

In the past, many hospitals chose to integrate performance measurement data collection activities with the job of the utilization review or case management staff. This decision was made in hopes of minimizing staffing requirements, enhancing productivity, and ensuring timely intervention when utilization or quality problems were identified. The greatest benefit of concurrent data collection is the ability to initiate interventions when problems are identified. Concurrent

interventional opportunities range from early identification of problems, which allows referrals to physician advisors and department chairmen, to improvements in documentation for utilization review and coding purposes.

Secondary benefits of concurrent review include:

- timeliness of feedback to medical staff departments;
- reduction of retrospective record review;
- ability to obtain a working DRG for billing purposes.

As hospitals gain more experience in the use of integrated and concurrent data collection systems, some are refining their original decision because of the shortcomings of concurrent data gathering. Many have decreased or eliminated concurrent data gathering in favor of retrospective collection of information.

First, many organizations have found that concurrent intervention is possible but not feasible because medical staff leaders fail to cooperate. Physicians often are reluctant to intervene during the episode of care. Information must be provided after the fact to medical staff committees; only then will some action be taken. Other drawbacks include an inability to access records easily while patients are in the hospital, a shortage of work space at the nursing units, and a lack of information available in the medical record while the patient is still hospitalized, such as incomplete test results and missing pathology reports. Reviewers can miss the total picture when reviews are done concurrently.

### ***Concurrent reviews usually more costly***

In addition, concurrent review of patient records often is more costly than retrospective review in terms of staff time. Charts must be handled more than once to obtain the same amount of data that could have been obtained in one pass-through of the chart after discharge. Most organizations find that concurrent review must be supplemented by retrospective review to ensure a complete data set for performance measurement purposes.

Is concurrent review a reasonable choice for collection of performance measurement data, or do its drawbacks outweigh its benefits? In general, if performance measurement data are not analyzed until after the patient is discharged, concurrent collection may prove to be more problematic than advantageous. Users should determine

## Concurrent Data Collection Form

Patient Name: \_\_\_\_\_

Surgery Date: \_\_\_\_\_

Visit Date: \_\_\_\_\_

Type of Surgery: \_\_\_\_\_

**Clinical Findings** *(Check all that apply)*

- healing without infection
- abscess (not suture-related)
- clear wound drainage
- dehiscence
- erythema
- fever (>38° C or 100.4°F)
- pain/tenderness at wound site
- routine post-op follow-up care
- purulent drainage (not suture-related)
- swelling

**Clinical Diagnosis** *(Check all that apply)*

- healing without infection
- fat necrosis
- seroma/hematoma
- wound infection

**Disposition**

- admitted to hospital
- antibiotics initiated
- continue observation
- wound reopened

their commitment to immediate intervention opportunities. If you cannot get medical staff and administrative support for concurrent problem solving, the identification of quality problems while the patient is hospitalized may prove to be a fruitless and frustrating activity.

The general trend seems to be toward using a blended — that is, both concurrent and retrospective — data-gathering system. In those organizations where medical staff leaders, physician advisors, or risk managers are willing to intervene immediately when quality problems are discovered, it is worthwhile to identify untoward events concurrently.

Concurrent data collection also enhances infection control and case management referrals when necessary. If data gathering can be incorporated into the process of care — pathway variance reporting, routine patient care activities, and so on — then concurrent collection can be more cost-effective. However, some data elements are more efficiently gathered after the patient's discharge. This is especially true of outcome data that usually require a completed medical record as the information source.

When possible, get direct caregivers involved in documenting the outcome information necessary for performance measurement activities. Shown on this page is a checklist that can be placed on the front of all postoperative patients' charts when they return to the surgical clinic for

their first follow-up visit. **(See checklist, above.)** The attending physician or clinic staff is responsible for completing the questions. Following the patient's clinic visit, the form is sent to the hospital's quality management department. This process encourages the clinic staff to be involved in identifying surgical site infections, reducing the need for retrospective chart review by quality staff.

Rather than using retrospective data collection only as a backup for missed or incomplete concurrent review, identify those data items that will be gathered concurrently and those that are collected retrospectively. Once medical staff have set quality goals or objectives and selected performance measures, the quality management department can define data elements necessary to create those measures. In addition, quality staff must identify the data elements necessary to support measures for the ORYX project.

Once all the necessary data elements are identified, determine the most appropriate source for each item. The hospital's information management plan can be used by the quality management department to see where data might be available, thus reducing duplication. Next, select the best time to gather each data element.

If some of the data elements are to be gathered retrospectively, then the individuals who will be responsible for gathering the information must be identified. If your organization wishes to centralize data collection activities, then the

quality management department may choose to retain both concurrent and retrospective data acquisition responsibilities. By limiting the function of data collection, staff performing the activity can become more proficient.

However, don't overlook the expertise of the health information management staff. The professionals responsible for diagnosis and procedure coding have the skills necessary for gathering data elements from patient records. They are a logical choice for performance measurement data collection if sufficient coding staff are available. Coders are generally paid less per hour than case managers. Therefore, it may be more cost-effective to use coding staff for retrospective data collection rather than asking higher-paid case managers to spend their time collecting data concurrently. Save concurrent data gathering for those data elements that must be collected concurrently because interventions will take place during the delivery of care — untoward events or inappropriate care that requires immediate action. If data are needed only for retrospective analysis of performance patterns, this information may just as easily be collected retrospectively. ■

## Organ allocation rules put geography ahead of need

*Congress blocks DHHS order for new strategy*

The Department of Health and Human Services (DHHS) recently released a report showing wide disparities in the length of time patients wait for organ transplants in different geographic areas of the United States. Some adjustments to organ allocation policies have been made, but fundamental improvements still are needed to ensure fair treatment.

Progress toward improvements was impeded in mid-March when Congress blocked an order

from DHHS Secretary **Donna E. Shalala** to devise a new allocation strategy. Transplant centers had lobbied against any change, fearing that new rules may reduce their supply of organs.

Because of present allocation rules that put geography ahead of medical need, a patient who urgently needs an organ may be unable to obtain it, even when it becomes available in the neighboring city or state. For the largest category of patients, waiting times range from 46 days in Iowa to 721 days in western Pennsylvania. In addition, the median waiting time for liver transplant patients with similar medical status is 439 days in the Baltimore area, compared with 147 days in nearby Washington, DC. For patients with blood type O, representing about 47% of all liver transplant patients, the median waiting time is 511 days in New York City and 56 days in bordering northern New Jersey. Iowa has the shortest waiting time among all 66 organ procurement areas — 46 days. Compare that with neighboring Nebraska at 596 days.

### ***Report highlights need for policy improvement***

“This report contains some of the strongest evidence yet that our nation's organ transplantation system needs improvement,” Shalala commented. “Organs donated for transplantation should go to patients on the basis of medical criteria, not geography.” New policies that were set to take effect on Oct. 21 would help assure that organs go to patients with the greatest medical need, in accordance with sound medical judgment and effective use of the organs. The current allocation rules require organs to be used in the local area where they have been procured, a primary cause of the disparity in waiting times for organs in different parts of the nation.

Significant differences also exist in organ recovery activity, with some procurement organizations reporting significantly higher rates than others. The DHHS took action last year to require hospitals to report virtually all deaths to their

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local organ procurement organizations, thus providing more opportunity for organizations to contact the families of potential donors and increase organ donation nationwide.

The 2,400-page report was produced by the United Network for Organ Sharing (UNOS), a private, nonprofit organization based in Richmond, VA, that distributes donated organs. An executive summary can be accessed from UNOS's Web site, [www.unos.org](http://www.unos.org). The report can be ordered from UNOS at (804) 330-8541. ■

## NEWS BRIEFS

### Antiseptic on catheters lowers infection risk

Researchers report that impregnating catheters with chlorhexidine and silver sulfadiazine significantly reduces the risk of bloodstream infection and bacterial colonization associated with central venous catheters.<sup>1</sup>

The team assessed the efficacy of central venous catheters impregnated with the antiseptics and reports the procedure reduces the risk of bloodstream infection by approximately 44% and the risk of catheter bacterial colonization by 56%.

In a related study, another group of researchers found that impregnating catheters with minocycline and rifampin prevents even more infections than those impregnated with chlorhexidine and silver sulfadiazine.<sup>2</sup> After culturing the tips and subcutaneous segments of 738 catheters — 356 with the minocycline-rifampin mix and 382 with the chlorhexidine-silver sulfadiazine mix — they found that the former were a third as likely to be colonized and one-twelfth as likely to have caused blood infections.

Several methods have been used to prevent catheter-related infections, including aseptic insertion techniques and proper catheter care, but silver-coated catheter cuffs have produced mixed results. Despite these precautions, central venous catheters remain a significant source of nosocomial infections. Although antibiotic-coated

catheters show clinical promise, the technical requirements for coating the catheter and antibiotic resistance concerns may limit their widespread use, the researchers said. However, in high-risk patients requiring short-term catheterization, the technique may provide a strategy for decreasing overall incidence and cost of catheter-related infections.

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## Clinical trials on the Web

For patients who live in small rural towns and are stricken with rare ailments, the best way to get expert care is often to enroll in clinical trials of experimental treatments or drugs. But eligible patients often have trouble finding out about such trials.

Last year, the National Institutes of Health in Bethesda, MD, created an on-line listing of experimental studies sponsored by government and private industry. AIDS patients have benefited from a listing like that for some time, and it has worked well. Many AIDS patients have been able to locate state-of-the-art — usually free — treatments. Now patients with heart disease, cervical cancer, or fibromyalgia will have the opportunity to see information on research into treatment of their diseases. The agency currently has searchable databases covering federally funded research into cancer, eye maladies, and rare diseases at [www.nih.gov/health/trials/index.htm](http://www.nih.gov/health/trials/index.htm) and expects to have a more complete catalog by summer. ■



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