AMERICAN HEALTH CONSULTANTS

HOSPITAL CASE MANAGEMENT™

the monthly update on hospital-based care planning and critical paths

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OIG work plan puts spotlight on discharge and transfer patterns

Responsibility for proper documentation falling on case managers

The Health and Human Services Office of Inspector General's (OIG) newly released work plan for FY 2002 signals that the fraud enforcement agency will focus much of its attention in the coming year on discharge and transfer patterns at acute care facilities.

Robert Homchick, JD, a partner with the law firm Davis Wright Tremaine in Seattle, says that transfers and discharges are a predominant theme throughout the new work plan. Not only are areas such as one-day stays targeted for scrutiny, but so are transfers within related parts of the system, such as transfers from an acute care hospital to a rehab hospital or a skilled nursing facility, he points out.

Case managers have different responsibilities at different hospitals, says **Deborah Hale**, CCS, president of Administrative Consultant Service Inc. in Shawnee, OK. But typically, case managers are responsible for at least overseeing the discharge planning activity.

The OIG's work plan and a recent Centers for Medicare and Medicaid Services (CMS) transmittal have made it clear that the OIG and the U.S. Department of Justice intend to identify hospitals that inaccurately report discharge disposition codes, Hale says. "It is very important that their documentation is very clear about the level of care to which the patient is being transferred," she cautions.

Physicians seldom provide as much detail about the types of services for which the patient is being referred, Hale says. Instead, the case manager's documentation typically is relied upon. "We deal

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with this on a daily basis when we perform audits," she asserts.

According to Hale, the problem has its roots in several areas. When CMS changed the definition of a transfer in 1998, it reduced the DRG payment for the short-stay admissions for 10 DRGs, she explains. In addition, a number of hospitals have been targeted for inappropriately reporting transfers to other acute care facilities as discharges to home in order to collect the full DRG.

In a study by Health Economics Research Inc., the original discharge disposition code accuracy rate of 74% prior to the change in transfer definition has improved to 79% in 1999, but that still falls short of expectations, according to Hale. As a result, CMS is pressuring fiscal intermediaries to identify claims that were inappropriately paid as discharges rather than transfers, and to aggressively seek to recoup those funds, she says.

Typically, it is the coders' responsibility to determine the discharge disposition code, Hale says. Often, however, coders are unable to determine where the patient went at the time of discharge because the case management planning is not specific enough to indicate whether a patient was discharged to a skilled facility vs. an intermediate care facility nursing home.

"Those are the two most difficult to pick out," says Hale. "But the difference there is the difference between the full DRG or the reduced DRG."

Case managers also are held accountable for discharges to home health when those services are received within three days of discharge. "It is very difficult to determine in some instances if they were referred to home health," says Hale. In some cases, patients may not receive a referral for home health services, only to have family members determine those services are needed. The original publication of the transfer definition change makes it very clear that it is the hospital's responsibility, she says.

One area that the OIG is targeting is one-day hospital stays. The OIG says it plans to evaluate controls designed to ensure the reasonableness of Medicare payments for beneficiaries discharged after only one day in the hospital.

It notes that recent data show that 10% of all Medicare patients are admitted the following day and says it plans to concentrate on the ability of hospitals to detect and deny inappropriate payments for one-day stays.

Hale says this poses a major problem for hospitals already struggling over whether to admit a patient to observation status or to admit him or her to inpatient status, even though it may only take one day to provide the necessary care.

"There is a lot of confusion among hospitals about which one is the appropriate level of care," she says.

Caught between two rules

On the one hand, Hale says, CMS's payment error prevention program (PEPP) scrutinizes the medical necessity of a one-day stay. However, the outpatient prospective payment system (OPPS) does not include a separate payment for observation status. As a result, if the hospital does not admit patients who require just one day of care, there is no payment aside from the patient's diagnostic tests, emergency department (ED), or ambulatory surgery services.

"Hospitals are caught between the new rules for OPPS and the PEPP program focused on one-day stays," she asserts. "It's a Catch-22." That situation should be eased somewhat in January, because the OPPS proposed rules provide for a separate payment for observation for congestive heart failure, asthma, and chest pain, she adds.

However, that will still leave hospitals with a dilemma, attempting to determine where the risk is greatest. "It generally falls to case managers to help physicians make those judgement calls," Hale says.

According to **Beverly Cunningham**, MS, RN, president of Case Management Consultants in Toledo, OH, the solution to that dilemma is for case managers to review the history for one-day stays in order to determine if patients met the requisite criteria. If the documentation shows that on admission the patient met the requisite criteria but that his or her clinical course changed after

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being discharged to the home, there should be no problem, she says.

A five-hospital system Cunningham was affiliated with addressed this problem by examining individual cases and uncovered several scenarios that followed that pattern.

For example, a patient comes in suffering from pain and dehydration associated with a kidney stone and requires an IV and pain medication. Clinicians initially may believe the patient will be in the hospital overnight with a study the next day, followed by an intervention to dissolve kidney stones. In some cases, however, the patient may pass the stone and be released the same day. "If the documentation supports those facts, it will not present a problem," Cunningham says.

Often, however, there is no case manager at the point of entry in the system to help monitor that type of situation, and hospitals run into trouble. "The OIG is collecting literally millions of dollars for this," she asserts.

A point-of-entry case manager in the ED or elsewhere in the system can help to determine the appropriate status and avoid that type of problem.

The OIG also plans to look at the extent to which Medicare beneficiaries receive acute care and post-acute care through sequential stays in different settings, such as skilled nursing facilities, long-term care facilities, and PPS-exempt units. It notes that inpatient services may be denied based on peer review organization review for patients admitted unnecessarily for one stay or multiple stays.

"Case managers must have an awareness of the criteria for transferring the patient," Cunningham says. But they also must have a good relationship with parties accepting those patients and communicate with them effectively. "That puts the burden of responsibility on case managers to know their patients," she asserts.

According to Cunningham, that requires more than just a chart review. It requires a visual assessment of the patient or direct communication with him or her. Problems arise when case managers "manage by the charts," she says. "Case managers perform many useful functions, but they are challenged by their case load and the lack of focus they are sometimes given."

According to Cunningham, even transfers to psychiatric units in the same integrated system can pose problems.

"It goes back to documentation to support what is taking place." And responsibility for ensuring proper documentation increasingly is falling on case managers, she explains. "It is not that they must do the documentation, but they must be sure that it supports the transition from area to area in the continuum of care."

The OIG also plans to scrutinize hospital discharges and subsequent readmissions through a series of reviews that will examine Medicare claims for beneficiaries who were discharged and shortly thereafter readmitted to the same or another acute care PPS hospital.

At one hospital system that Cunningham was affiliated with, the hospital looked at readmissions for the same diagnosis. One such review turned up a readmission for a patient who refused to go to a nursing home, only to return to the ED a week later.

While there is no way to prevent every such case, case managers can take certain steps, such as ensuring that a family conference takes place. Likewise, patients may not be receiving the necessary education, she says.

"When we find that we get readmissions for the same diagnosis, it behooves us to start studying why those readmissions occurred," Cunningham concludes.

"Is it because the patients can't afford their medications? Is it because we did not give them proper education? Did they meet discharge criteria? Those are the kinds of things that as case managers we have to look at when we see readmissions," she adds. ■

Bioterrorism threat is new health care challenge

Does our health system lack capacity to respond?

By all accounts, New York City medical and public health personnel responded admirably in the face of the Sept. 11 attack on the World Trade Center. But since the number of deaths dwarfed the number of injuries, the strain created by that disaster may pale in comparison to the stress that would result from a major bioterrorist event.

While some people believe that the health care delivery system will be able to cope in the event of a large-scale bioterrorist attack, **Dennis O'Leary**, president of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) recently

warned Congress that the health care delivery system currently lacks that capacity.

"All health care is local," O'Leary said, and that maxim ultimately applies to emergency management. He said local readiness planning will have to be scaled and tailored to fit the characteristics and capabilities of individual communities.

For some time, the Joint Commission has required accredited health care organizations to meet established emergency preparedness standards. Recently, however, the Joint Commission's accreditation standards were modified in three respects. First, JCAHO shifted the focus of the standards from emergency preparedness to emergency management, with health care organizations expected to address four specific phases of disaster planning: mitigation, preparedness, response, and recovery.

The new emergency preparedness standards, which became effective in January 2001, also require accredited organizations to take an "all-hazards approach" to planning, which means that organizations must develop emergency management plans that contain a chain-of-command approach that is common to all hazards.

The last new requirement is involvement in at least one annual communitywide practice drill by those health care organizations whose all-hazard risk assessment identifies credible community threats. "Drills also can be extremely instructive," O'Leary said. Even though hospitals will be considered the first place to go when people are severely ill, in the face of a biological disaster, it may not pay to admit everyone who arrives at the hospital's doors.

For example, if individuals are infected with a virulent pathogen, they risk infecting physicians, nurses, and other staff and curtailing the availability of critical medical personnel, he added. It may be preferable to keep the hospital free from contamination by setting up off-campus isolation units and treatment modalities that are overseen by properly protected staff.

Moreover, in the face of a biological threat, if everyone were accepted into the hospital for evaluation, there is a real risk of overwhelming facility capabilities. "Experience with drills has shown us that even the largest hospitals would be unable to handle the onslaught of people who are concerned that they may have the dreaded agent," O'Leary explained. "This raises the real potential need for off-site evaluation and triage of individuals in a fashion different from the usual conduct of emergency services." ■

CM plays a critical role in disaster planning

Spend time identifying potential resources

At Elkhart (IN) General Hospital, case managers play a critical role in the facility's disaster plan, according to **Shelby Morse**, RN, director of case management.

Elkhart has a specific set of steps used to notify its support structure throughout the community in order to make room for the actual victims of the disaster who require hospitalization, she says.

To date, Elkhart only has experienced a few minor disasters. In those instances, Morse says, the key to success is being able to mobilize resources very quickly. "That's the key." The other key ingredient is establishing good relations with the community so it understands the hospital.

According to Morse, community resources should include religious and community services capable of supplying funding, clothing, or other necessities in time of crises. For example, she says, a nearby explosion at a plant in the community once resulted in a clothing shortage due to chemical exposure. "We were able to have some of those facilities rally and support us," she reports.

Knowledge of the nursing home community and the number of beds likely to be available also is important in order to move patients into those settings, says **Patrice Spath**, president of Brown-Spath & Associates in Forest Grove, OR. In addition, hospitals must know how to access Red Cross resources, she adds.

In the event of an external disaster, Elkhart uses a call tree that includes the entire case management department as well as the nursing administration. That call tree usually can be completed within 10 minutes of the time the call is originated. "We've got a number of branches on the call tree," Morse explains. "If it is off-hours, all those personnel would be expected to come in."

Morse says the next step is to set up a discharge area. At the outset, Elkhart would begin making calls to the facilities in the area to inform them of the hospital's needs. In fact, that process would begin while patients still are getting their initial triage.

That process would include only certain staff, however, with the remaining staff left to go out on the units and evaluate patients for potential discharges and then coordinate and facilitate

Disaster Planning Resources

In the wake of recent events, many hospitals are reevaluating their security, disaster, and bioterrorism response plans. According to Patrice Spath, president of Brown-Spath & Associates in Forest Grove, OR, there are two separate types of disasters that hospitals must prepare for. "If the hospital itself has a disaster, generally the disaster plan will indicate where people need to go," she says. "Everybody has his or her own job to do in the hospital disaster plan."

Then there are disasters that do not directly affect hospitals where they must gear up to treat victims.

Here are several examples of policies and procedures available on the Internet that Spath says may be of interest to case managers:

- ✔ **Bioterrorism Readiness Plan: A Template for HealthCare Facilities** — www.hospitalsoup.com/policydetails2.asp?PolicyID=7734171
- ✔ **Hazard Vulnerability Analysis** — www.hospitalsoup.com/policydetails2.asp?offset=10&PolicyID=7734128
- ✔ **Hospital Security Policy** — www.hospitalsoup.com/policydetails2.asp?offset=10&PolicyID=7734151
- ✔ **Internal Disaster Plan Master Document** — www.hospitalsoup.com/policydetails2.asp?offset=10&PolicyID=7734162
- ✔ **The Utah University Hospitals & Clinics Safety Manual** — security and hazardous surveillance policies and procedures can be found on line — www.med.utah.edu/safety/safmanual.htm
- ✔ **The Duke University Medical Center Safety Manual** is available — www.safety.duke.edu/SafetyManuals/University/index.htm
- ✔ **University of Michigan Hospitals Disaster Program** material — www.med.umich.edu/em/disaster/disindex.htm

those discharges with physicians and families. Where discharge is not possible, patients would be moved to a lower level wherever feasible. "That is fairly standard disaster response from a case management side," she says.

According to Morse, Elkhart previously held unannounced drills; however, word often leaked out and not everybody would participate. Now the hospital uses announced drills instead. "What we've found is that we have much better participation," she says. That offers a much better opportunity to review with staff what their actual responsibilities are, where they are supposed to be, and what they should be looking for.

"That has been much more successful," she says. "The reality of a real disaster is that it's probably going to unfold over a period of time." ■

Certification among case managers on the upswing

CMAC adds two avenues to eligibility

The Credentialing Advisory Board (CAB) for the Case Management Administrators Certification (CMAC) recently announced two new avenues to CMAC examination eligibility. That marks the latest step in a trend toward increased certification among case managers that many say can pay significant dividends for case managers and case management programs alike.

The two new routes to certification rolled out by CMAC, which is sponsored by The Center for Case Management in South Natick, MA, are designed specifically to certify case managers as administrators:

- C SWCM (Certified Social Work Case Manager) and CASWCM (Certified Advanced Social Work Case Manager) from the National Association of Social Workers in Washington, DC;
- RN, C (Modular Certification in Nursing Case Management) from the American Nurses Credentialing Center, also in Washington, DC.

"This is a unique certification designed for professionals who administer case management programs," says **Maureen McKenna**, RN, LSW, director of care management at Lifespan/Physicians PSO in Providence, RI. She says the exam is designed to determine how current administrators are in health care trends and case management. It also assesses how well they interpret data and their ability to use those data to demonstrate the impact of their programs, especially patient outcomes, she adds.

The majority of case managers are nurses, notes **Shawna Cates**, ACSW, LSW, CMAC, MBA,

associate consultant at The Center for Case Management.

"As a social worker, the administrator credential is a key step for identifying the leadership role that social workers can assume," she asserts. It also underscores that social work is a viable profession to become a case management leader or administrator, Cates adds.

The majority of case managers are not currently certified, but a number of organizations now offer certification for basic knowledge for people who practice case management, and the trend is growing. "Certification is often the next career step for many case management professionals," says **Karen Zander**, principal and co-owner of The Center for Case Management.

She says the professional certification program, established in 1998, which focuses on the principles of leadership and management, continues to gain broad appeal.

That process comes with its own set of challenges, however. "The definition for case management is so varied from organization to organization that you would even have a tough time figuring out a denominator," says McKenna. "Some programs may be called utilization review but, in fact, are case management." Care management and care coordination are other terms sometimes used, she adds.

"If you look at the services they actually provide, they are providing case management in many instances," McKenna contends. She says consumers must be able to ask questions about what services are being provided, and national certification facilitates that by giving them a benchmark.

The importance of certification for case managers also is being recognized by payers. "The fact that this now ties into payers is very important," Cates says. "That leverages the role of the case management administrator and opens the eyes of hospital executives who don't always know what the role and function of case management should be."

According to **Guy D'Andrea**, senior vice president of the Utilization Review Accreditation Commission (URAC) in Washington, DC, that organization now routinely certifies case management programs for hospitals and insurance companies. For example, he says, Blue Cross plans have been requested by the federal employee programs they cover that all the programs be certified by URAC for case management.

While URAC's program certification for case management has been in place for two years, D'Andrea reports that based on the number of companies that have applied so far this year, there has been a real surge in interest among payers.

[For more information about credentialing, contact:

• ***National Association of Social Workers**, Washington, DC. Telephone: (800) 638-8799. Web site: www.naswdc.org.*

• ***American Nurses Credentialing Center**, Washington, DC. Telephone: (800) 284-2378. Web site: ana.org/ancc.]* ■

GUEST COLUMN

Formalize planning for continuum of care

Identify gaps and develop solutions

By **Patrice Spath**, RHIT
Brown-Spath & Associates
Forest Grove, OR

Health care organizations now are recognizing the clinical and economic value of continuum-of-care planning. The goal is to ensure access to health care services at all levels of intensity. This can be accomplished only through efficiencies in clinical process and effective management of resources. To ensure patients are cared for in the most appropriate, least-restrictive environment, a variety of treatment and service options must be available.

This includes providers' facilities as well as family and community support systems. While not all people in your community will need access to every service, all necessary patient care options must be present and coordinated. A community-based continuum-of-care planning process, ideally led by the hospital, is key to the success of patient care coordination. Through the development of a continuum-of-care plan, caregivers in all settings will be better able to meet the specific needs of patients. The plan includes action steps that encourage better resource utilization and

(Continued on page 189)

CRITICAL PATH NETWORK™

ACI: Update protocols or risk poor outcomes

New approaches will ID more patients with MI

A patient comes to the emergency department (ED) with moderate chest pain and is discharged with a diagnosis of indigestion. Hours later, the patient dies of an undiscovered acute myocardial infarction (AMI).

Does this sound like your worst nightmare? Between 2% and 4% of ED patients who actually have an AMI are mistakenly sent home, warns **Katherine A. Littrell**, PhD, RN, project manager for the National Registry of Myocardial Infarction at Genentech, based in South San Francisco, CA.[1]

A new report from the Bethesda, MD-based National Heart Attack Alert Program (NHAAP), *Evaluation of Technologies for Identifying Acute Cardiac Ischemia [ACI] in Emergency Departments*, will help to ensure that patients don't fall through the cracks, says Littrell.

There is a danger of misdiagnosis because ACI patients often have confusing and misleading symptoms, such as a normal or nondiagnostic 12-lead electrocardiogram (ECG), no chest pain or shortness of breath, and initially normal cardiac marker profiles, adds Littrell.

Update your protocols

Even though typical symptoms are often absent, these patients may actually have unstable angina, non-ST-segment elevation myocardial infarction, or ST-segment elevation myocardial infarction, she explains.

"These new recommendations will help you identify more patients with [ACI]," Littrell points out.

Use the report to update your protocols immediately, urges **Julie Bracken**, RN, MS, CEN, director of nursing education for the ED at Cook County Hospital in Chicago and the Des Plaines, IL-based Emergency Nurses Association representative to the NHAAP.

"ED nurses need to adapt their clinical approach to diagnostic technologies based on the updated technology report," Bracken insists.

You play an important role in influencing which diagnostic technologies are given to each specific patient presenting with actual or potential ACI, says Bracken.

"In this cost-conscious health care environment, guides to help direct proven technologies to diagnose difficult patients and expedite appropriate care are valued," she says.

Collaboration with physicians is important

Collaborate with physicians constantly to determine the best clinical approach for care, based on an individual patient's response to technology, she advises.

Here are key recommendations of the report:

• **Administer serial ECGs to patients with nondiagnostic 12-lead ECGs and symptoms of ACI.**

A single ECG is not enough to rule in or rule out ACI, says Littrell.

Instead, patients with symptoms of ACI should receive serial ECGs or continuous ST-segment monitoring after arriving at the hospital, she advises. Research shows that 6.7% of these patients developed ST-segment elevation after their arrival, in a median time of 63 minutes, she notes.

"It appears that ST-segments are unstable in those early hours," says Littrell. "So serial ECGs

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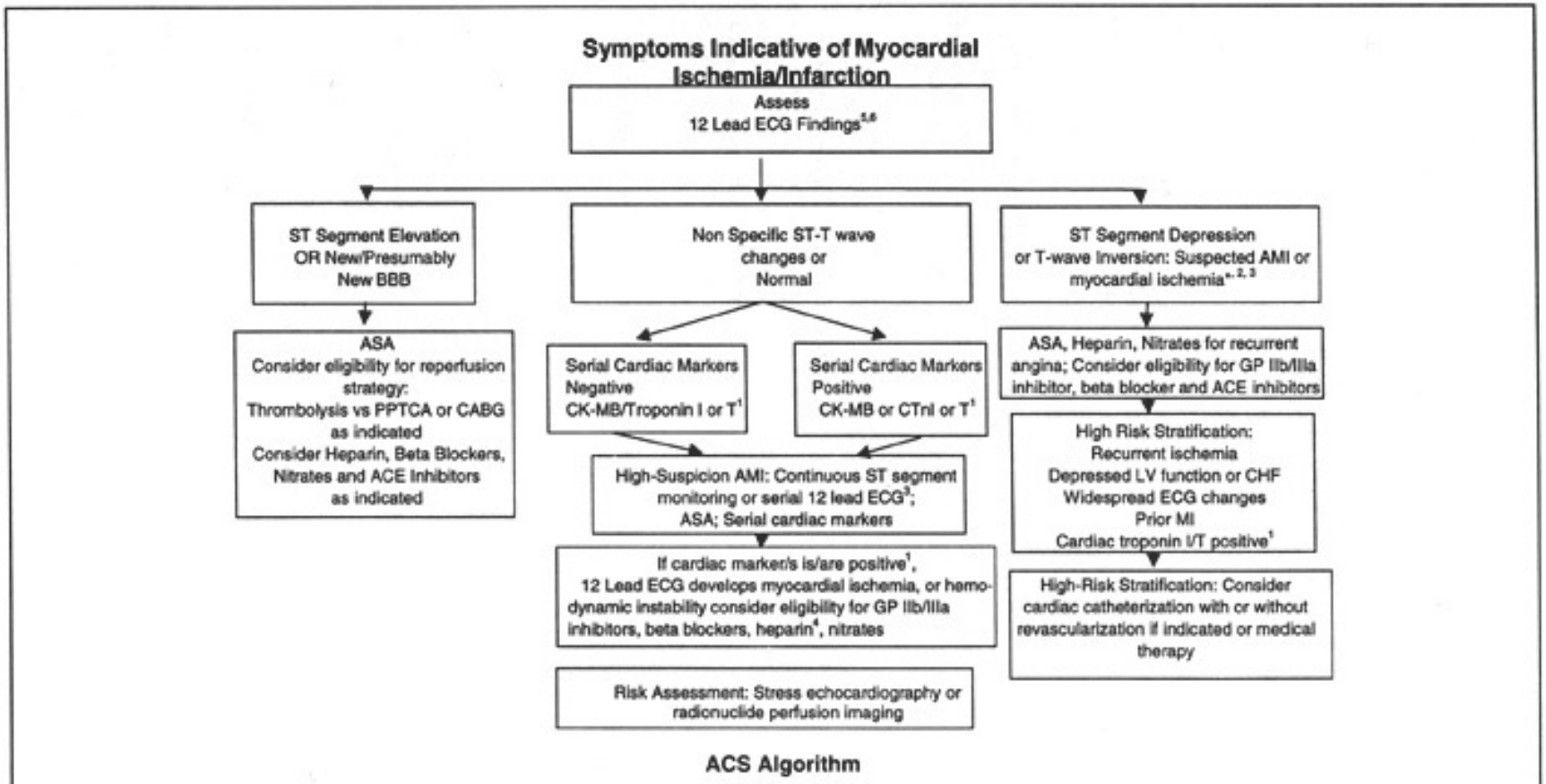

ACS Algorithm

1. Troponin I/T levels have both been useful in identification of patients at increased risk of early mortality and infarction/reinfarction.
2. ST-segment depression, T-wave inversion, transient ST-segment elevation, and other high-risk characteristics (i.e. ongoing ischemia, PCI, etc.) have been used as a criteria for determining eligibility for the GP IIb/IIIa inhibitors. GP IIb/IIIa inhibitors are given in conjunction with heparin and ASA.
3. If ST-segment elevation of 1 mm in 2 or more contiguous leads develops during evaluation, consider eligibility for reperfusion strategy and move to the ST-segment elevation/New/Presumably new BBB algorithm.
4. LMWH may be useful for patients at high risk for early cardiovascular events when presenting with UA or NSTEMI.
5. All patients should receive immediate assessment of vital signs, oxygen saturation, cardiac marker levels, electrolyte and coagulation studies, and a brief targeted history and physical examination. A 12-lead ECG and IV access should be rapidly obtained.
6. See Guidelines 2000 for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care in *Circulation* (2000; 102:178-179) and the ACC/AHA Guidelines for the Management of Patients with Unstable Angina and NSTEMI in *JACC* (2000; 36:970-1062) for further detailed discussions.

* For patients in this arm of the algorithm, monitor serial cardiac markers, serial ECG, or continuous 12-lead ECG monitoring.

Source: Katherine A. Littrell, PhD, RN, South San Francisco, CA.

are essential for patients with evolving ST-segment elevations," she emphasizes.[2]

• **Use specific diagnostic tests only after general tests fail to diagnose ACI.**

Broad use of such technologies as ECG and the Acute Ischemia Time-Insensitive Predictive Instrument (ACI-TIPI) for initial evaluation of all patients presenting with signs and symptoms of ACI is indicated, says Bracken.

"The results of these tests rule in the more high-risk cases for care," she adds.

For more challenging cases, you may need to use other testing to further evaluate ACI, says Bracken. To stay current with the report's recommendations, change your protocols to include additional testing only after initial history, physical examination, and resting ECG fail to diagnose ACI, says Bracken.

These tests may include echocardiography, a diagnostic ultrasound examination of the heart; sestamibi perfusion imaging, a scan to trace cardiac blood flow, and stress ECG, says **Mary M. Hand**, MSPH, RN, coordinator of the NHAAP.

For example, after the ECG and ACI-TIPI, high-risk patients may need no further testing before you decide to admit them, says Hand.

"For those in the middle range of risk, serial ECG monitoring, serial cardiac enzyme measurements, or both might be appropriate for triage," she adds.

For low-risk patients, use nuclide perfusion scans to confirm that it's safe to send the patient home, says Hand.

Tests such as cardiac ultrasonography or radionuclide myocardial perfusion imaging are recommended only for patients whose diagnoses are not apparent after the initial history, physical examination, and resting ECG, she notes.

Assessing low- to moderate-risk groups

• **Use echocardiograms or nuclear imaging to assess low- to moderate-risk groups of patients for ACI.**

The report concluded that echocardiography and sestamibi perfusion imaging were useful in diagnosing ACI, says Littrell.

"The echocardiogram or the sestamibi scan may be part of your protocols for patients in low- to moderate-risk groups for ACI," she adds.

"This includes patients with a normal or nonspecific ECG whose cardiac markers are not abnormal, and patients without a previous history of AMI," she adds.

• **Use out-of-hospital ECGs.**

The report recommends the use of prehospital ECGs, says Littrell.

"These are excellent for early diagnosis of AMI," she explains.

"This can save time and improve short-term mortality." This recommendation mirrors the new guidelines from the Dallas-based American Heart Association, she adds.[3]

Hand points to research showing that prehospital 12-lead ECGs have been shown to reduce the mean time to thrombolysis by 33 minutes and reduce short-term overall mortality.[4]

Your protocols should include rapid interpretation of prehospital ECGs, says Littrell. "Ideally, ECGs should be transmitted to the ED so the diagnosis is confirmed prior to patient arrival," she adds.

• **Do biomarkers serially.**

A single measurement of biomarkers at presentation to the ED is not accurate for diagnosing MI, although most biomarkers have high specificity, says Hand.

"Serial measurements can greatly increase the sensitivity for AMI while maintaining their excellent specificity," she says.

Biomarkers are effective in diagnosing AMI if done serially, says Littrell.

"The use of biomarkers to diagnose [ACI] in the ED is an area of frustration for many people," she notes.

Biomarkers such as troponin will identify cell death, but they do not identify patients with ACI without myocardial cell death, she explains.

"They also do not provide us with knowledge of the mechanism of myocardial cell death, such as pulmonary embolism or congestive heart failure," adds Littrell.

When you look at a biomarker, you need to take into consideration the timing of the event, says Littrell.

"You need to have an idea of when the ischemia actually began to know the sensitivity and specificity of these markers," she explains. Always look at markers within the time frame of the patient's event, says Littrell.

"Myoglobin elevates within one to three hours, whereas CK-MB and troponin may take four to seven hours to become abnormally elevated," she explains.

Instead of doing just one biomarker, you should do follow-ups, she stresses. "If you have a patient with an AMI who arrives in the ED one to two hours after onset of symptoms, the troponin

level probably still will be normal," she notes. "So if you depend on that alone, you could actually miss an AMI diagnosis."

Don't use cardiac markers for patients with unstable angina, says Littrell. "In this group, markers alone will significantly underdiagnose the patient," she adds.

[For more information about treating acute cardiac ischemia in the ED, contact:

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The complete report Evaluation of Technologies for Identifying Acute Cardiac Ischemia in Emergency Departments *is available on the Agency for Healthcare Research and Quality web site (www.ahrq.gov). Click on "Evidence-based Practice." Under "Evidence Reports," click on "Acute Cardiac Ischemia in Emergency Departments." The full report and an executive summary can be downloaded at no charge. One free copy of the report (01-E006) is available from:*

• ***AHRQ Publications Clearinghouse**, P.O. Box 8547, Silver Spring, MD 20907-8547. Telephone: (800) 358-9295. E-mail: ahrqpubs@ahrq.gov.]*

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4. Ornato JP, Selker HP, Zalenski RJ. Overview: Diagnosing acute cardiac ischemia in the emergency department. A report from the National Heart Attack Alert Program. *Ann Emerg Med* 2001; 37:450-452. ■

BASIC EMTALA: What EVERY Medical Professional Should Know

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▼ Did you know that your institution must have board approval for anyone other than a physician to perform an MSE (including nurses in OB who perform an exam, confer with a physician over the phone, and then release the patient)?

▼ Did you know that people presenting to an ED only for collection of forensic evidence do not trigger EMTALA?

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At the conclusion of this teleconference, participants will be able to list ways in which they can help their hospital comply with EMTALA.

AMBULATORY CARE
QUARTERLY

Report gives 'benchmark' for ED disaster training

In light of the recent terrorist attacks on New York City and Washington, DC, the critical question arises: Are you adequately trained for a disaster? It's not a simple question to answer, but now you have a measuring stick to assess how well you are prepared.

A new report from the Dallas-based American College of Emergency Physicians (ACEP) and the U.S. Department of Health and Human Services (HHS) Office of Emergency Preparedness gives you a "benchmark" to prepare for nuclear, biological, and chemical (NBC) incidents with specific training objectives.

Disaster training

The report recommended that training start in nursing school and provide an overview of nursing roles in a disaster, says **Bettina Stopford**, RN, chair of the national Weapons of Mass Destruction (WMD) work group for the Des Plaines, IL-based Emergency Nurses Association and chief nurse for the Denver-based U.S. Public Health Service's Central U.S. National Medical Response Team for WMD.

The report gives you specific guidelines for what your disaster training should include, she says.

Stopford recommends the following to comply with the recommendations of the report:

• Have an active plan in place in advance to mitigate the long-term effects of a large-scale disaster.

• Ensure that ED staff education has a functional component.

• Give nurses hands-on training with appropriate personal protective equipment.

• Make sure participants experience the role changes or expanded roles required in a disaster.

• Include a role review, incident management system review, and a brief tabletop-type exercise for orientation.

• Provide nurses with a brief annual review, along with the two disaster drills required by the Joint Commission on Accreditation of Healthcare Organizations. "This can be tagged onto the infection control and safety training review which is required annually," Stopford suggests.

• Practice the following:

— safety / ED lockdown;

— staff recall lists;

— rapid triage such as Simple Triage and Rapid Treatment, developed by the Hoag Hospital in Newport Beach, CA, and the Newport Beach Fire Department for a multiple casualty incident;

— triage to other areas of the hospital;

— role identification;

— supplies;

— personal protective equipment;

— the incident management system such as Hospital Emergency Incident Command System, an emergency management system made up of positions on an organizational chart, developed by the San Mateo (CA) County Health Services Agency;

— communication, including broadcast, fax, and radios;

Report's Recommendations

- Develop a continuing education course covering the weapons of mass destruction (WMD) performance-level objectives for all emergency nurses.
- Use both self-study and instructor-led continuing education programs.
- Work with professional organizations to promote integration of the WMD content into established hospital training programs.

Source: American College of Emergency Physicians, Dallas, and Office of Emergency Preparedness. *Developing Objectives, Content, and Competencies for the Training of EMTs, Emergency Physicians, and Emergency Nurses to Care for Casualties Resulting from NBC Incidents*. Washington, DC.

— decontamination;
— active surveillance systems;
— contact with resources;
— integration with the community for resources.

• Hold an annual tabletop drill for managers and charge staff. "You need to see what kind of thinking needs to take place to best manage a disaster," says Stopford. "This should be followed up by a hands-on drill with mock victims."

[For more on the report, contact:
• ***Bettina Stopford**, RN, Denver Health Medical Center, 777 Dannock St., MC 8200, Denver, CO 80204. Telephone: (303) 436-3431. Fax: (303) 436-6828. E-mail: bettina.stopford@dhha.org.]* ■

Program slashes ED visits, admission rates

Education effort pays off

Since South Weymouth, MA-based Harbor Medical Associates (HMA) began its disease management program for congestive heart failure (CHF) patients, hospital admission rates and visits to the emergency department have decreased dramatically for the 3,000 Medicare risk patients in the program, says **Hilja Bilodeau,** RN, CCM, director of case management.

The disease management program is a partnership among the medical practice, CVS Health Connections, and Pfizer Health Solutions. Here's how the program works:

The physician practice's case management staff identified the initial patients for the program by examining ICD-9 codes. Subsequent patients have been identified by their primary care physician or the hospital staff.

Getting the patient in the program

If a patient is admitted to the hospital for the first time with a diagnosis of CHF, the case managers are notified immediately and are able to speak to the primary care physician and the family about putting the patient in the program.

"A lot of times we have the opportunity to interface with the family early on and establish expectations right away," Bilodeau says.

When the patients' physician approves their participation in the program, the staff invite them in for a 90-minute visit at the CVS center for wellness education, located in the same building as the medical group's main office.

They are assessed by the nurse practitioner, who collects baseline information on their health status. The nurse practitioner and pharmacist review the patient's medication and work with the physician office case manager to develop a care plan that is submitted to the physician for approval.

"We make sure the patients receive every opportunity they can for quality medical care and that they are getting everything that can be provided for them," she says.

The information is entered into Pfizer Health Solutions' Clinical Management System software, which tracks and analyzes the outcomes.

During the first visit, the nurse and pharmacist spend 45 minutes or more talking with the patients about their conditions, the medications they are taking, diet, exercise, and nutrition, as well as answering questions and concerns.

"Most patients have a lot of questions that they can't get answered in a 15-minute office visit," says **Nick Cleary**, MBA, chief operating officer at HMA.

On subsequent visits, patients go through an intensive educational program that typically lasts two to three months.

"There is a significant enhancement on the educational side, and we feel like we are moving the patients toward a joint compact of compliance, buy-in, and understanding," Cleary says.

Problems with compliance

Many patients with chronic diseases are not compliant. They don't follow their diet and don't exercise.

"This type of approach gets them owning what needs to be done and improving their health and lifestyles. And by having a better lifestyle, they are less likely to be hospitalized as often," Cleary says.

The aim of the center for wellness education is for the staff to spend as much time as necessary with the patients. For instance, if a diabetes patient has elevated blood sugar and needs to get it under control, he or she may come in several times in a week.

"The staff can spend a lot more time educating. A physician may not have 90 minutes to spend with a patient," Cleary says. ■

(Continued from page 182)

maximum self-sufficiency for patients.

Continuum-of-care planning provides health care organizations and community providers with an opportunity to step back, critically assess health service capacity, and develop solutions where gaps are identified. Providers can be proactive rather than reactive. Service or demographic changes in the community can be responded to more quickly (e.g., new drug therapies for people living with HIV/AIDS, which change the health care delivery models for this population).

Historically, health care services have been fragmented. Continuum-of-care planning helps providers identify ways of coordinating and linking resources to avoid duplication and facilitate seamless movement among care settings.

Communities can develop a common vision of the health care continuum and a set of common goals. Most importantly, continuum-of-care planning involves stakeholders in all settings and services with the goal of educating these stakeholders and getting them to become part of the solution.

The plan for patient care continuity in your community should address and deal with all people who may need health care services and involve the breadth of service options. Solutions to complex health care problems require carefully developed action plans with input from all stakeholders. The steps of continuum-of-care planning are listed below:

- Organize an annual continuum-of-care planning process.
- Collect needs data and inventory capacity.
- Determine and prioritize gaps in the continuum of care for patients.
- Develop short- and long-range strategies with action plans.
- Implement action plans for improving the continuum of care.

The steps in the planning process are described in greater detail below:

A core working group of stakeholders that represent all aspects of patient care services, including people representing the patient's viewpoint, should be selected. Be sure that the major players

Strategy Statement and Action Plan Worksheet

Strategy Statement: _____

_____

_____

Gaps to be Impacted	Description/Components of Strategy
_____	_____
_____	_____
_____	_____

Action Steps	Timeline	Outcomes
_____	_____	_____
_____	_____	_____
_____	_____	_____

Proposed Responsibilities	Lead
_____	_____
_____	_____
_____	_____

Resources Required for Implementation	Potential Barriers to Strategy
_____	_____
_____	_____
_____	_____

in the health care community are involved; don't overlook public and private support services.

It may be important to tie in with existing health care planning efforts at the local or state level. Start by helping the work group understand the concept of the patient care continuum. For example:

- What should the continuum of care system include?
- How should it operate?
- Whom should it serve?
- What relationships should exist?

From this understanding, the work group can develop a common vision of the ideal continuum of care and consider its desired outcomes. When embarking on a continuum-of-care planning process for the first time, it is particularly important for the core work group to communicate the continuum-of-care concept throughout the community. Create opportunities for providers and patients to look at the health care system as a whole and develop a common understanding of the gaps and a vision for what the ideal continuum would look like. Depending on the size and diversity of your community, this initial visioning process may be best accomplished through a single meeting with stakeholders or a series of smaller meetings.

The hospital can take the lead in organizing the continuum-of-care planning process in the community. The potential benefit of hospital leadership is that people may view the hospital as having the capacity to get tasks done and coordinate key links with health care resources. However, the hospital must be sensitive to concerns that the continuum-of-care process may be too directive, top-down driven, or not inclusive enough. It is important that whatever group leads the planning process be able to effectively recommend change and oversee continuity of care improvements.

CE questions

21. According to a study by Health Economics Research Inc., what was the discharge disposition code accuracy rate in 1999?
    A. 52%
    B. 61%
    C. 79%
    D. 98%

22. When did the Joint Commission on Accreditation of Healthcare Organization's new emergency preparedness standards become effective?
    A. February 1999
    B. March 2000
    C. October 2000
    D. January 2001

23. What organization sponsors the Case Management Administrators Certification?
    A. The Center for Case Management
    B. Case Management Society of America
    C. Commission for Case Manager Certification
    D. Utilization Review Accreditation Commission

24. List the first of five steps of continuum-of-care planning, according to Patrice Spath, RHIT.
    A. determine and prioritize gaps in the continuum of care for patients
    B. organize an annual continuum-of-care planning process
    C. collect needs data and inventory capacity
    D. develop short- and long-range strategies with action plans

Capacity assessment

Various data sources will be needed to identify critical gaps in the continuum of care. Start this process by asking people in the initial community meetings to provide firsthand experiences of where they've had problems providing patients with appropriate health care services. The information will be useful as you begin to identify methods and resources to more rigorously gather the data that is needed.

An essential foundation of a continuum-of-care plan is an assessment of the extent and types of needs experienced by people who are seeking health care services in the community. There isn't one correct way to collect needs data, but the core work group, in cooperation with the broader community of providers and stakeholders, must decide on a methodology and identify the resources and systems necessary for carrying out data collection. You'll need to inventory the existing capacity available in the community to meet health care needs. This assessment should be conducted in the context of the continuum-of-care concept (i.e., acute care, skilled care, rehabilitative services, home health, outpatient care, community services, emergency care, transitional programs, assisted living,

and other health care services). The inventory provides the work group with an opportunity to look at existing capacity within the framework of the patient care continuum.

The approach used to inventory capacity will vary depending on the size and complexity of the health services system.

The hospital may want to take the lead in conducting an inventory and then present its findings to the work group for input and reality testing.

Gap analysis

The first step for determining gaps in the continuum of patient care is to quantify unmet needs. This involves a calculation between the estimated amount of need (based on the needs data collected) and the current capacity of the continuum of care. When completing the gap analysis, the work group will discuss issues such as:

- Are there major gaps in one or more types of health-related services?
- Are there length of stay or waiting list issues?
- What is preventing people from obtaining needed services?
- Are links in place for people in post-acute facilities for transitioning to home or residential care?

Determining gaps and their relative priority are fundamental steps in the continuum-of-care planning process. Decisions regarding the relative priority of gaps (i.e., low, medium, and high) are the basis for developing strategies to add new resources or strengthen existing resources to best assist people who need health care services. In order to help prioritize among the list of gaps, the core work group can use a set of qualitative criteria. Look at relative need among subpopulations (e.g., people with chronic conditions, terminal patients, high-risk pediatrics, etc.). Consider the vulnerability of the populations (e.g., age, diagnosis, financial resources, etc.). Decide whether the need for health care services is growing, and if so, how rapidly.

This analysis will help providers and key stakeholders agree on what problem areas need to be addressed first (i.e., whether a gap gets a low, medium, or high priority).

It is important to note that low priority does not mean that there is not an unmet health care need. Rather, it means that, relative to other unmet needs or gaps, it is less of a priority.

After determining and prioritizing gaps, strategy development and action planning begins. That can occur through the creation of subcommittees, each of which is responsible for developing strategy statements and preliminary action steps for resolving high-priority gaps. These subcommittees should be encouraged to enlist the expertise of other community members in the process of developing strategies.

Consider strategies that do not require additional resources but merely require changes in

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Editorial Questions

For questions or comments, call **Russ Underwood** at (404) 262-5521.

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policies, procedures, or reallocation of existing resources. Assess the availability of federal, state, local, and private resources that might be used to fund various initiatives.

To ensure that the continuum of care plan is outcome-oriented, each strategy should include action steps, point(s) of accountability, and a time frame. Identify which organization(s) are responsible for each "next step." The strategy statement and action plan worksheet can be useful for documenting subcommittee decisions. **(See box, p. 189.)** Once developed, strategies and action steps should be made available for community input and comment. Find how whether key stakeholders agree that the strategies are critical and the proposed actions feasible.

Improving the continuum of patient care in your community will require that responsibilities are clearly established and progress is monitored. If the hospital has taken the lead in the planning process, it will likely be hospital staff who are responsible for monitoring the implementation of the action steps. It is important to schedule regular meetings of the core work group meetings where progress on the plan's implementation is reported. Measures of success, based on the original continuum of care plan goals, are useful tools for evaluating goal attainment.

Continuum-of-care planning is critical

High-quality patient care is not merely health services provided over a defined time period, but rather a full and sustained continuum of care — promotion, prevention, interventions (minor to major) — leading to cure or maintenance at some level, regardless of an individual's age or condition. Interventions include primary and specialty medical care, a wide array of support services, rehabilitation services, and environmental structuring. An effective continuum of care promotes optimal personal autonomy, human dignity, and quality of life. Effective continuity of patient care in a community does not happen without significant planning and work by all care providers. Development and periodic updating of the community's continuum of care plan can help to assure that people needing health care services will get them.

[Editor's note: The newly released book, Measuring and Improving Continuity of Patient Care, *will help you take a critical look at how patients move through the systems of care in your organization. It will stimulate your thinking about the links among care components, patients, and families and help you identify how continuity of care can be optimized. For ordering information contact Brown-Spath & Associates at (503) 357-9185, or visit their web site at: http://www.brownspath.com.]* ■

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CE objectives

After reading each issue of *Hospital Case Management,* the nurse will be able to do the following:

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- describe how those issues affect patients, case managers, hospitals, or the health care industry in general;
- cite practical solutions to problems associated with the issue, based on independent recommendations from clinicians at individual institutions or other authorities. ■

BIOTERRORISM WATCH
Preparing for and responding to biological, chemical and natural disasters

Clinicians must be voice of reason, reassurance now that bioterrorism battle has been joined

The threat is real, but we are far from defenseless

A new era of bioterrorism has begun with the intentional anthrax scares that have left several people dead and many more exposed as this issue went to press.

But amid the shrill coverage of the widening anthrax investigations, the scramble for gas masks and the expected hoarding of Cipro, there must be a voice of calm and reason. That voice must be your own.

Infection control professionals, hospital epidemiologists, and other key clinicians involved in health care bioterrorism readiness and response must set the tone for a panicky public and an uneasy health care work force, emphasizes veteran epidemiologist **William Schaffner**, MD, chairman of preventive medicine at Vanderbilt University School of Medicine in Nashville.

"We have to re-instill a sense of confidence for people who work in the health care system," he says. "Start with the doctors. They are the ones who are going to be more panicked than the nurses."

Restoring calm to health care community

The current situation is reminiscent of the early stages of the HIV epidemic, when there was much anxiety about the communicability of the disease and whether even casual contact would spell a death sentence for health care workers.

In that chilling time of alarmist reactions and burning mattresses, Schaffner recalls that ICPs, epidemiologists, and other clinicians, stepped into the fray to provide calming confidence and accurate risk data.

"I'm beginning to think that we may be in a similar position now," he says. "We could have a very powerful educational and reassuring effect. Everybody's anxious about this, but I think we can diminish the level of anxiety," Schaffner adds.

Infection control methods in place

Health care workers must be educated about bioterrorism agents and provided reassurance that the patient isolation precautions developed by the Centers for Disease Control and Prevention (CDC) are extremely effective, urges Schaffner.[1]

"The barrier precautions are going to work for bioterrorism. Once you get to chemical [weapons] then you get into the whole 'moon suit' issue. But for bioterrorism, we don't need that," he says.

For example, systems of barrier precautions such as gloves, gowns, and masks to isolate patients infected with all manner of infectious diseases are already in place in virtually all U.S. hospitals.

"They work," he says. "Look, we all know pulmonary tuberculosis is communicable. I'm an infectious disease doctor, have been for 30 years. I've seen a lot of patients with tuberculosis, but I have also been meticulous about my use of [face masks and respirators]. My tuberculin test continues to be negative."

This supplement was prepared by Gary Evans, editor of *Hospital Infection Control.* Telephone: (706) 742-2515. E-mail: gary.evans@ahcpub.com.

A Bioterrorism Time Line

1155 Barbarossa uses the bodies of dead soldiers to poison the wells at the battle of Tortona.

1346 Mongols catapult corpses of plague victims into the city of Kaffa to infect the defenders.

1763 British commander Sir Jeffrey Amherst ordered the transfers of blankets used by British smallpox victims to Native American tribes, ostensibly as a gesture of goodwill, with the intention of inducing illness.

1970 The United States ends its programs of developing biological agents for use in warfare. The offensive use of such weapons was forbidden by U.S. policy under executive orders of President Richard Nixon.

1972 Soviet Union signs off on Biological and Toxin Weapons Convention, but continues a high-intensity program to develop and produce biological weapons at least through the early 1990s. Hundreds of tons of weaponized anthrax spores are stockpiled, along with dozens of tons of smallpox and plague. Many of these agents are reputed to have been specifically designed to be resistant to common antibiotics.

1984 Members of the Rajneesh cult contaminated salad bars in Oregon with salmonella, resulting in the infection of 751 people. The Paris Police raided a residence suspected of being a safe house for the German Red Army Faction. During the search, they found documentation and a bathtub filled with flasks containing *Clostridium Botulinum.*

1990s Japan's Aum Shinrykyo cult plans attacks using biological agents, specifically, anthrax and botulinum toxin. While these biological attacks were not successful, cult members later implemented the release of sarin nerve gas in the Tokyo subway system.

1995 A U.S. microbiologist with right-wing ties orders bubonic plague cultures by mail. The ease with which he obtained these cultures prompts new legislation to ensure that biologic materials are destined for legitimate medical and scientific purposes.

1998 A variety of feigned exposures to anthrax spores occurred in several U.S. cities including Indianapolis, where a full-scale response by emergency services and public health occurred before the episode was found to be a hoax.

Sources

1. Stewart C. *Topics in Emergency Medicine: Biological Warfare. Preparing for the Unthinkable Emergency.* Atlanta: American Health Consultants; 2000.

2. Bosker G. Bioterrorism: An update for clinicians, pharmacists, and emergency management planners. *Emergency Medicine Reports* (in press) 2001. ■

And anthrax, of course, is not communicable from person to person, reminds Schaffner, who investigated a case of occupational anthrax in an animal-hide worker when he was a epidemiologist for the CDC in the late 1960s.

"The bacteria do not cause a conventional pneumonia," he says. "They replicate locally and then release toxins. Because the bacteria never replicate to very high numbers the person is not communicable. It is not so much an infection as it is an intoxication."

Inordinate fear of anthrax could cause another problem — hoarding and misuse of Ciprofloxacin and other antibiotics. That tactic eventually could contribute to emerging resistance in pathogens such as *Streptococcus pneumoniae,* Schaffner notes.

"It is one thing for a hospital and the health department to develop an inventory in the event of an emergency," he says. "I do not recommend that individuals do that. I'm quite concerned that with antibiotics in their medicine cabinets there will be a temptation to just use it now and again for inadequate reasons in inadequate doses. If there was a recipe for antibiotic resistance — that's it."

More terror than toll

While the anthrax mailing campaign now under way sends out another shock wave with every news report, the tactic will likely result in more terror than actual toll. The rapid administration of antibiotics has offset illness following exposures, the disease is not communicable from those actually infected, and everyone is now on high alert for suspicious mailings.

Indeed, if the wave of anthrax mailings continues, postal-treatment technologies may become a growth industry.

Regardless, anthrax is problematic as a bioweapon because only a certain micron size of the inhaled spore will lodge in the upper lungs where it can release its toxins, says **Allan J. Morrison Jr.**, MD, MSc, FACP, a bioterrorism expert and health care epidemiologist for the Inova Health System in Washington, DC.

"If it is too large, it won't go in," says Morrison, a former member of the U.S. Army Special Forces. "If it's too small, it goes in and moves about freely without ever lodging. This is not as easy as getting a culture, growing it in your home, and the next day having infectious microbes.

"The sizing, preparation, and ability to deliver such a weapon are extremely difficult," he adds.

The Aum Shinrykyo cult in Tokyo attempted at least eight releases of anthrax or botulism during 1990 to 1995 without getting any casualties, he recalls. **(See time line, p. 2.)** Variables such as humidity can come into play, clumping up spores even if they are perfectly sized for inhalation. Anthrax spores bound for human targets are also at the whims of ultraviolet light, rain, and wind dispersal patterns, Morrison says.

"It is a very hostile climate for microbes on planet earth." Morrison says. "The intent may be widespread, but the ability to deliver weapons grade agents is going to be restricted to a very small subgroup. And even among them, they still will require optimal climatic conditions to carry it out. There will be causalities, as in war, but the distinction here is that there has not been widespread infection."

While anthrax is the current weapon of choice, the direst scenarios usually turn to the most feared weapon in the potential arsenal of bioterrorism: smallpox.

"Invariably, I have seen smallpox described as 'highly infectious,'" Schaffner says. "It's not. That is erroneous." For example, during the global eradication efforts in the 1960s, African natives infected with smallpox were often found living with extended families in huts, he adds. "It would usually take two to three incubation periods for smallpox to move through an extended family."

"It doesn't happen all it once. This was a critical concept in the strategy to eradicate smallpox. If you could find smallpox, you could vaccinate around that case and prevent further transmission. If it had been a frighteningly [rapid] communicable disease, that strategy would never have worked," Schaffner explains.

In addition, some medical observers question the certitude of the general consensus that all those vaccinated decades ago are again susceptible to smallpox. They argue that those immunized during the eradication campaign may at least have some greater protection against fatal infection.[2]

Regardless, rather than dropping like flies, as many as 70% of those infected with smallpox actually survive and then have lifelong immunity.

While there are many other agents to discuss and prevention plans to outline in the weeks and months ahead, perhaps the greatest protective factor is the unprecedented level of awareness in the health care system. The world has changed so much since Sept. 11th that hospitals are probably more prepared for bioterrorism than they have ever been. Everywhere, lines of communication have been opened with health departments and affiliated clinics, emergency plans have been reviewed and hot-button phone numbers posted on the wall.

"We're on alert," says **Fran Slater**, RN, MBA, CIC, CPHQ administrative director of performance improvement at Methodist Hospital in Houston. "We are *all* on alert."

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2. Bosker G. Bioterrorism: An update for clinicians, pharmacists, and emergency management planners. *Emergency Medicine Reports* (in press) 2001. ■

Should clinicians get smallpox vaccinations?

Questions arise, stockpile expansion fast-tracked

The recent decision to accelerate production of a new smallpox vaccine is raising the complex question of whether health care workers — front-line soldiers in the war against bioterrorism — should be immunized against the disease.

As opposed to the current anthrax attacks, a biological release of smallpox would result in incoming patients with an infectious disease. Even health care workers directly exposed to anthrax could be treated with ciprofloxacin and several other antibiotics, so the anthrax vaccine is not a likely candidate for health care.

On the other hand, legitimate questions have been raised about whether health care workers will stay on the job during a smallpox outbreak unless they and their families are rapidly vaccinated. The only known stocks of smallpox virus are held by the United States and Russia, but many bioterrorism experts have warned for years that another nation or group might have secret stocks.

"I think if smallpox [vaccine] became available, we should definitely immunize all the health care workers," says **Martin Evans**, MD, hospital epidemiologist at the University of Kentucky Chandler Medical Center in Lexington. "A lot of people think [health care workers] ought to

be high on the list because they are part of the response team if there was an outbreak in the community. Not to sound self-serving, but I think we ought to immunize the medical community."

But the question currently is somewhat moot because the Centers for Disease Control and Prevention (CDC) is not wavering from its established policy of mobilizing the available vaccine only if smallpox is released. "I'm sure CDC wants to conserve its current stocks for dealing with an outbreak so it could immunize contacts," Evans says. "If [the agency has] already used [its stock] by immunizing all the health care workers in the country, then it won't be able to respond."

15 million doses stockpiled

Currently, there are some 15 million doses of the old smallpox vaccine available, according to Secretary of Health and Human Services **Tommy Thompson,** who recently announced plans to accelerate production of a new smallpox vaccine. Forty million new doses of vaccine are expected to be available by mid-to-late 2002, moving the project up considerably from its original completion date of 2004 or 2005.

The manufacturer of the new vaccine is Acambis Inc. (formerly OraVax) — based in Cambridge, UK, and Cambridge and Canton, MA. The new vaccine will be a purified derivative of the same strain of cowpox virus (vaccinia) that was used in the United States previously, because the old vaccine's efficacy was clearly demonstrated by direct exposures to those infected. While the method of immunization through scarification will be essentially the same, the new vaccine will be produced in a mammalian cell culture that contains no animal protein.

Acambis stated on its web site that it would have no other comment on the project other than to confirm it has "accelerated" its production plans. But when the project was first announced in 2000, company officials said they had the ability to scale up production well beyond the requested 40 million doses. They were even scouting for other global markets. That means the capability to produce smallpox vaccine in abundance is on the horizon, and the question of immunizing health care workers will invariably arise. *Bioterrorism Watch* was unable to get a CDC response on the question as this issue went to press, but CDC director **Jeffrey Koplan**, MD, MPH, outlined the agency's position in an Oct. 2, 2001 Health Alert posted on a CDC web site.

"Smallpox vaccination is not recommended and, as you know, the vaccine is not available to health providers or the public," Koplan said. "In the absence of a confirmed case of smallpox anywhere in the world, there is no need to be vaccinated against smallpox. There also can be severe side effects to the smallpox vaccine, which is another reason we do not recommend vaccination. In the event of an outbreak, the CDC has clear guidelines to swiftly provide vaccine to people exposed to this disease. The vaccine is securely stored for use in the case of an outbreak."

One factor in favor of the CDC's position to rapidly deploy the vaccine — rather than do widespread vaccinations — is that immunization should still be effective several days after a smallpox exposure. In the smallpox global eradication campaign, epidemiologists found they could give vaccine two to three days after an exposure and still protect against the disease. Even at four and five days out, immunization might prevent death. Still, though the new vaccine will be improved in many ways, the hazards and risk factors of introducing cowpox into the human body are expected to be roughly the same as those documented with the old vaccine.

"We are looking at probably about one death per million primary vaccinations," says **D.A. Henderson**, MD, director of the Center for Civilian Biodefense Studies at Johns Hopkins University in Baltimore. "We are looking at one in 300,000 developing post-vaccinal encephalitis — an inflammation of the brain, which occasionally is fatal and sometimes can leave people permanently impaired."

Based on those estimates, if the new stockpile of 40 million doses is eventually rolled out, approximately 40 of those immunized will die, and another 133 will develop encephalitis. In addition to those severe outcomes, the arm lesion created during inoculation can be very large and painful, serving as a reservoir to self-inoculate the eyes or even infect immune-compromised patients.

The downside is real, but as more vaccine becomes available immunization will certainly be discussed at hospitals in previously targeted areas such as New York City and Washington, DC. If they are not immunized in advance, health care workers are going to want vaccine very quickly if they are expected to take care of smallpox patients, says **Allan J. Morrison Jr.**, MD, MSc, FACP, health care epidemiologist for the Inova Health System in Washington, DC. "Forget about smallpox patients. We're talking about taking care of any patients." ■

Continuing Education Test Questions for *Hospital Case Management*
July – December 2001

JULY

1. Which of the following organizations did not participate in developing the Coordinated Performance Measurement for the Management of Adult Diabetes?
   A. American Medical Association
   B. American Nurses Association
   C. Joint Commission on Accreditation of Healthcare Organizations
   D. National Committee for Quality Assurance

2. Name the group at Deborah Heart and Lung Center in Mills, NJ, tasked with designing root-cause analyses for high-volume/high-risk occurrences.
   A. Incident Report Subcommittee
   B. Adverse Drug Event Steering Group
   C. Peer Review Committee
   D. Ad Hoc Committee

3. In a five-year study of pneumonia patients conducted by Intermountain Health Care in Salt Lake City, what was the overall mortality percentage?
   A. 2.4%
   B. 5.7%
   C. 6.3%
   D. 8.9%

4. List the number of new cancer cases per year at the Regional Cancer Center in Waukesha, WI.
   A. 600 to 699
   B. 700 to 799
   C 800 to 899
   D. 900 to 1,000

AUGUST

5. The internal privacy assessment tool created at General Health System in Baton Rouge, LA, is comprised of how many questions?
   A. 12
   B. 102
   C. 52
   D. 92

6. According to year 2000 data from the American Association of Neurological Surgeons (AANS), what percentage of U.S. trauma centers have fully adopted the 1995 AANS guidelines for managing traumatic brain injury?
   A. 20%
   B. 27%
   C. 30%
   D. 73%

7. Which of the following tactics can be effective in improving physician involvement in case management and quality efforts?
   A. getting intervention/support from the facility's chief medical officer
   B. providing physicians with informative performance data
   C. creating legal financial incentives
   D. all of the above

8. An EKG generates an APC payment of $18. Of that, how much must the patient pay?
   A. $2
   B. $8
   C. $16
   D. $18

SEPTEMBER

9. At The Ohio State University Health System, the professionals who are responsible for coordinating patients' hospitalization from pre-admission planning through post-discharge follow-up are called what?
   A. resource utilization managers
   B. patient care resource managers
   C. continuum care managers
   D. none of the above

10. According to David Nelson, MD, associate professor of medicine at the University of Florida College of Medicine, hepatitis C accounts for what percentage of all liver disease in the United States?
    A. 10%
    B. 25%
    C. 40%
    D. 55%

11. According to Patrice Spath, RHIT, which of the following issues should be considered when identifying the specific interests of stakeholders in a decision or action?
    A. the benefits to the stakeholder
    B. the changes that the decision or action might cause the stakeholder to make
    C. the activities that might cause damage or conflict for the stakeholder
    D. all of the above

12. According to a report from the Agency for Healthcare Research and Quality, an audit of Medicaid charts in Connecticut revealed that only 50% of patients presenting with an acute myocardial infarction received aspirin and beta-blockers on the day of admission.
    A. true
    B. false

OCTOBER

13. According to Maria Hill, RN, MS, CMAC, senior consultant with The Center for Case Management in South Natick, MA, within 12 to 24 hours of a stroke patient presenting to the ED, which of the following should occur?
    A. The patient is evaluated by a speech pathologist.
    B. A plan for communication and nutrition is established.
    C. The patient's blood pressure parameters are set and blood pressure is managed within this range.
    D. all of the above

14. According to Maria Hill, RN, MS, CMAC, stroke patients should be assessed by a social worker within how many hours of admittance to the hospital?
    A. 1 hour
    B. 6 hours
    C. 12 hours
    D. 24 hours

15. In a pilot project on diabetes initiated by Lovelace Clinic Foundation and Lovelace Health System's case management department, what percentage of diabetes patients showed some decrease in hemoglobin A_{1c}?
    A. 70%
    B. 56%
    C. 35%
    D. 23%

16. List one sample question used at Community Hospitals in Indianapolis, when interviewing potential applicants for a case management position.
    A. What did you like least about your previous employer?
    B. How do you define a difficult manager?
    C. Have you ever been convicted of a crime?
    D. None of the above

NOVEMBER

17. At Vanderbilt University Medical in Nashville, TN, the standard for discharge planning is for all patients to be screened and a plan developed with how many hours of admission?
    A. 24
    B. 36
    C. 48
    D. 72

18. Which of the following is not one of the three reasons for variation among physicians' practice patterns for the same type of patient, according to Stefani Daniels, RN, MSHA, managing partner of Phoenix Medical Management?
    A. financial
    B. where the physician went to school
    C. how many years the physician has been practicing
    D. where the physician did his or her residency

19. According to Stefani Daniels, despite the impact of managed care, what percentage of admissions come from direct physician referrals?
    A. 45%
    B. 60%
    C. 75%
    D. 90%

20. At Rex Hospital in Raleigh, NC, hospitalist physicians were rotated to provide how many hours of coverage per day?
    A. six
    B. 12
    C. 18
    D. 24

DECEMBER

21. According to a study by Health Economics Research Inc., what was the discharge disposition code accuracy rate in 1999?
    A. 52%
    B. 61%
    C. 79%
    D. 98%

22. When did the Joint Commission's new emergency preparedness standards become effective?
    A. February 1999
    B. March 2000
    C. October 2000
    D. January 2001

23. What organization sponsors the Case Management Administrators Certification?
    A. The Center for Case Management
    B. Case Management Society of America
    C. Commission for Case Manager Certification
    D. Utilization Review Accreditation Commission

24. List the first of five steps of continuum-of-care planning, according to Patrice Spath, RHIT.
    A. determine and prioritize gaps in the continuum of care for patients
    B. organize an annual continuum-of-care planning process
    C. collect needs data and inventory capacity
    D. develop short- and long-range strategies with action plans

Continuing Education Test Answers for *Hospital Case Management*
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