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INSIDE

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International visionaries chart brave new world by drafting ethical principles

Multidisciplinary group defines ethical guidelines for everyday problems

No doubt Washington, Franklin, and Jefferson had a monumental task before them when they set out to draft a document establishing an independent nation. And while the times and context have changed drastically, the task set before an international group of leaders from several fields is no less monumental in scope.

Called the Tavistock Group — taken from the location of the group's first meeting in Tavistock Square, London — 15 leaders from four nations met in February 1998 and drafted what could become the foundation for an industrywide code of ethical principles for all nations. The group represents the divergent views of the health care field, including medicine, nursing, health care management, higher education, ethics, law, and philosophy. **(For a list of participants, see the box, p. 27.)**

Called a "Shared Statement of Ethical Principles for Those Who Shape and Give Health Care," the initial statement was published in the Jan. 19, 1999 issue of *Annals of Internal Medicine*.[1] The authors are currently seeking comments and suggested revisions as well as ideas for implementation

EXECUTIVE SUMMARY

The Tavistock Group, a multidisciplinary group of international leaders named after the square where they met in London last year, published a draft document in the Jan. 19 issue of *Annals of Internal Medicine*.

The document, called a Shared Statement of Ethical Principles for Those Who Shape and Give Health Care, could become the foundation for an industrywide code of ethical principles for all nations.

While most health organizations have existing codes of ethics, they are separate and discipline-based and can divide the health care system, say the authors of the document.

The Tavistock group also points out that the framing and interpretation of the principles may differ from nation to nation, due to history, social circumstances, and economics, but they hope that universal principles will emerge as guides to behavior throughout the world.

CME questions

1. The Tavistock Group devised a draft of ethical principles meant for everyone involved in the health care delivery system, according to Donald Berwick, MD, president of the Institute for Healthcare Improvement, because:
   - **A.** Discipline-specific organizations do not have codes of their own.
   - **B.** Separate, discipline-based codes of ethics can divide the health care system.
   - **C.** A unifying code of ethics will nullify the need for health care system-based codes of ethics.
   - **D.** All of the above.
2. While the Tavistock Group hopes that each profession will add its own discipline-specific principles to the document, it also hopes that:
   - **A.** Adaptations or revisions will be approved through the Tavistock Group.
   - **B.** The statement will be incorporated into every organizational code of ethics.
   - **C.** No group will reject a unifying document that works across boundaries.
   - **D.** All of the above.
3. A study yet to be published in the *New England Journal of Medicine*, but approved for early release, reveals that cesarean deliveries from HIV-infected mothers cut the maternal-fetal risk of HIV transmission by half, according to Duane Alexander, MD, director of the National Institute for Child Health and Human Development. The finding is important because:
   - **A.** The finding can prevent needless suffering and loss of life.
   - **B.** Hospitalization costs will dramatically increase for high-risk deliveries.
   - **C.** Patient demand for cesarean deliveries will increase.
   - **D.** All of the above.
4. Lack of informed consent to a cesarean delivery likely will not arise for ethics committees, according to Rosalind Elkman Ladd, a professor of medical ethics in the department of philosophy at Wheaton College in Norton, MA, because:
   - **A.** Several states have existing laws predicating actions to be taken by HIV-infected expectant mothers.
   - **B.** HIV-infected expectant mothers are usually competent and able to make decisions.
   - **C.** Physicians will have to be informed of the medical and ethical risks to the patient and the fetus.
   - **D.** All of the above.

from individuals and health organizations worldwide. **(To find out how to comment, see the editor's note at the end of the article.)**

The Tavistock group developed the statement with the intent — after international interdisciplinary dialogue — of having a concrete and useful document affecting daily decisions of health care organizations, caregivers, insurers, employers, governments, and the public.

While most health organizations have existing codes of ethics, these "separate, discipline-based codes of ethics can divide the health care system," notes **Donald Berwick**, MD, president of the Institute for Healthcare Improvement (IHI) in Boston. The IHI, along with the *British Medical Journal* in London, and Brigham & Women's Hospital in Boston are collaborators on the document.

"Modern health care is a system of dependencies which badly needs shared ethical principles to bring all players into a more consistent moral framework," adds Berwick. The draft document, however, is not meant to be as restrictive as an organization-specific code of ethics, the authors point out. "The draft came to be a basic and generic statement of ethical principles rather than a code," the authors write.

The result is a set of five major ethical principles that govern health care systems. The group's intention is that each profession will add its own discipline-specific principles to the existing document, but that "none will reject or contradict a set of shared principles that could unify our actions and help everyone to work across disciplinary boundaries."

The Tavistock group also points out that the framing and interpretation of the principles may differ from nation to nation, due to history, social circumstances, and economics, but they hope that universal principles will emerge as guides to behavior throughout the world.

Problems identify principles

When drafting the document, the Tavistock group identified problems within the existing health care delivery system, which helped them develop the five principles at the core of the document. The problems identified by the group include:

- The new capabilities and demands of health care dispose providers and members of society to consume resources at an increasing rate.
- The financial pressures on health care delivery

have increased, placing the cost of many acute illnesses and long-term care beyond the reach of most individuals. Financing for these services is therefore provided largely through private or public insurance or public assistance.

• Limited resources require decisions about who will have access to care and the extent of their coverage.

• The complexity and cost of health care delivery systems may set up a tension between what is good for society as a whole and what is best for the individual patient.

• Flaws in the health care delivery system sometimes translate into bad outcomes or bad experiences for the persons served and for the population as a whole. Hence, those working in health care delivery may sometimes be faced with situations in which it may seem that the best course is to manipulate the flawed system for the benefit of a specific patient or segment of the population, rather than to work to improve the delivery of care for all. Such manipulation produces more flaws, and the downward spiral continues.

Five areas of interest

The Tavistock group's five ethical principles are:

1. Health care is a human right.

2. The care of individuals is at the center of health care delivery but must be viewed and practiced within the overall context of continuing work to generate the greatest possible health gains for groups and populations.

3. The responsibilities of the health care delivery system include the prevention of illness and the alleviation of disability.

4. Cooperation with each other and those served is imperative for those working within the health care delivery system.

5. All individuals and groups involved in health care, whether they provide access or services, have the continuing responsibility to help improve its quality.

Additionally, the Tavistock group identified the various groups who could benefit from a universal set of health care ethical principles. Those groups are:

• people who work in health care delivery systems — to guide decisions about specific situations or interactions with individual patients;

• health care organizations — to fulfill their missions in a way that is consistent with their ethical responsibilities, including responsibility to the good of society as a whole;

• insurers, employers, and governments — to ensure that their policies support and are coordinated with effective and efficient health care delivery systems;

• the public — to understand how the health care system should work when there are problems and conflicts within it.

Funding for the group's work comes from the American Academy of Arts and Sciences in Cambridge, MA, and the Institute for Healthcare Improvement in Boston. Subsequent funding was provided by The Robert Wood Johnson Foundation in Princeton, NJ, and the W.K. Kellogg Foundation in Battle Creek, MI.

Tavistock Group Participants

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Richard Norling, Premier Inc., San Diego;
Sr. Mary Roch Rocklage, Sisters of Mercy Health System, St. Louis;
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SOURCES

For more information about the Tavistock group and the Shared Statement of Ethical Principles for Those Who Shape and Give Health Care: A Working Draft of the Tavistock Group, contact:

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(Editor's note: The Tavistock Group welcomes feedback and comments from readers in all nations and disciplines. Comments can be sent via U.S. postal service or e-mail to the attention of Penny Janeway, Initiatives for Children, Academy of Arts and Sciences, Norton's Woods, 136 Irving St., Cambridge, MA 02138-1996. E-mail: penny@amacad.org.)

Reference

1. Smith R, Hiatt H, Berwick D, et al. A shared statement of ethical principles for those who shape and give health care: A working draft from the Tavistock group. *Ann Intern Med* 1999; 130:143-147. ■

We want to hear from you too!

We want to know what comments and suggestions you'll be sending to the Tavistock group. Please send copies of your comments and suggestions regarding the draft Shared Statement of Ethical Principles to the editors of *Medical Ethics Advisor*. In turn, we'll compile your thoughts and let readers know what their peers are thinking regarding a universal code of ethical principles for the health care delivery system.

Send your comments and suggestions to Kevin New, Managing Editor, American Health Consultants, P.O. Box 740056, Atlanta, GA 30374. E-mail: kevin.new@medec.com. ■

Who has more rights: Unborn child or mother?

Elective C-sections cut HIV risk by half

In an unusual move, editors of the *New England Journal of Medicine* approved the early release of an article detailing research by the National Institute of Child Health and Human Development (NICHD) in Bethesda, MD. The NICHD indicates pre-labor cesarean sections in HIV-positive women can significantly reduce the risk of transmission of the HIV virus to the baby.

Although not scheduled for publication in the journal until April, editors said that the study's findings were so compelling, they made the article available on their Web site (www.nejm.org) on Jan. 28.

"This finding can prevent needless suffering and loss of life," NICHD Director **Duane Alexander**, MD, advised in a National Institutes of Health news release regarding the study. "A C-section presents risks to the mother, so each case must be evaluated individually — but this fact is striking — C-sections cut mother-to-child HIV transmission by at least 50%." **(See related story on findings of the NICHD study, p. 29.)**

The finding also adds some urgency to the debate over balancing the rights of pregnant women with the health needs of their unborn children, and hospital ethics committees and administrators may soon find themselves facing these issues head-to-head, experts predict.

"This is perhaps a special case of all the other issues about maternal-fetal conflict," says **Rosalind Elkman Ladd**, a professor of medical ethics in the Department of Philosophy at Wheaton College in Norton, MA, and a member of two hospital ethics committees. "I think the question will be, if many doctors adopt this information, is whether it will be totally elective on the mother's part or will there be some formal or informal effort at coercion."

Several states have already established regulatory measures that compel expectant mothers to take certain action on behalf of their fetuses, and it is not unrealistic to expect that some people may argue that HIV-positive women should be compelled to undergo cesareans if they become pregnant and choose to carry the child to term, Ladd adds.

"There is a very strong state interest in having

healthy babies," she says. "Some may argue that it is within the right of the state to say, 'When you make the decision to carry the child to term, you have the obligation — and we are going to impose the obligation — to submit to a cesarean, even against your will, if it is felt that it is vital to the interests of the baby.'"

Aside from the ethical debate, most hospitals will have to consider issues of ensuring informed consent and advising physicians on the legal and ethical implications of the medical counseling they give their HIV-positive pregnant patients.

Ladd is aware of several instances when ethics committees were faced with an obstetrician who advised a C-section for medical reasons for a mother who refused to submit to the procedure.

"In a lot of cases you have physicians who are very focused on saving lives, saving these babies," she notes. "You have to clarify the issues for them. One, that they can't perform a surgical procedure on an adult, competent person without her consent."

Ladd doubts that the issue of lack of informed consent will come up with any HIV cases.

"These are very competent individuals who are able to make these decisions," she adds. "You might have a case of someone who just had extremely unrealistic beliefs about how the virus was transmitted. You could make the argument that the person was out of touch with reality and incapable of making that decision for herself, but I don't think that would happen often."

What physicians may tell their patients may be another issue that will come up. "What do you do in a case like this [where a patient is reluctant to

Results of NICHD meta-analysis

The National Institute of Child Health and Human Development (NICHD) researchers performed a meta-analysis of patients in 15 prospective cohort studies.

The analysis included 8,533 mother-child pairs from five European studies and 10 North American studies.

According to results published in the article on the *New England Journal of Medicine* Web site, following adjustments made for antiretroviral therapy, maternal stage of disease, and infant birthweight, the likelihood of vertical transmission of HIV-1 was reduced by 50% with elective cesarean when compared with other modes of delivery.

Elective cesareans were defined as those performed before onset of labor and rupture of membranes. The likelihood of transmission was reduced by approximately 87% with both elective cesarean section and receipt of antiretroviral therapy during the prenatal, intrapartum, and neonatal periods, as compared with other modes of delivery and the absence of therapy.

The mothers included in the study were divided into four groups:

- those who had elective cesarean section;
- those who had a cesarean after rupture of the membranes and / or after labor began;
- those who delivered vaginally with assistance from forceps or vacuum suction;
- those who delivered vaginally with neither.

The main analysis compared the likelihood of HIV infection among 857 children whose mothers delivered by cesarean section to that of 7,676 children delivered using other methods.

Of the 5,944 mothers who did not receive antiretroviral therapy during pregnancy and / or labor and whose children did not receive these drugs, 10.4% of the mothers who had a cesarean transmitted the virus to their infants, compared to 19% of the mothers who had their babies using other forms of delivery.

Among mother-child pairs receiving antiretroviral therapy during the prenatal, intrapartum, and neonatal periods, rates of vertical transmission were 2.0% among the 196 mothers who underwent elective cesarean section and 7.3% among the 1,255 mothers with other modes of delivery.

Eligible studies were prospective cohort studies that included at least 100 mother-child pairs, that had data on the mode of delivery and the children's infection status, and that were conducted in regions where HIV-1-infected women are advised not to breast-feed. Studies written in English were identified by computerized searches of the medical literature with the use of the Internet medical library Medline and through discussions with colleagues. ■

Source: New England Journal of Medicine, Boston; and National Institutes of Health, Bethesda, MD.

have the procedure]?" questions Ladd. "How much pressure are you allowed to put on somebody? Could you go to a court for an order, the way you can in some other medical emergencies when people make decisions for their children?"

There is not much law in this area, Ladd adds, so ethics committees can only be aware of laws and regulations in their state and make the physicians aware of all of the options and obligations.

Although the research presented by the NICHD may be compelling, that does not necessarily mean it will change medical practice right away, says **John Larsen**, MD, professor and chairman of the department of OB/GYN at George Washington University Medical Center in Washington, DC.

"I don't think the United States will suddenly change overnight and we will start sectioning everyone who is HIV-positive," he says. "There will be some serious discussions, and some women, certainly, will get C-sections. But, there remains the question of what are the associated risk factors that can be separated out into whether you are doing more harm or less harm?"

For example, Larsen notes, women who contracted HIV through intravenous drug use may have damage to their veins that make them poor surgical candidates. Among HIV-positive pregnant women are also a disproportionately high number of individuals who are noncompliant with drug therapy and likely to have a resistance and high viral load that might also preclude surgery, he adds.

Examining how many of these women were included in the studies evaluated by the meta-analysis will be of interest to many obstetricians, suggests Larsen. In addition, many experts are waiting for more information on the impact of long-term antiretroviral drugs on maternal-fetal transmission of the virus.

"All of this information [the use of new drugs and elective cesarean] is very cutting-edge," he states.

SOURCES

For more information regarding maternal-fetal HIV transmission risk, contact:

Rosalind Elkman Ladd, Wheaton College, Department of Philosophy, 25 E. Main St., Norton, MA 02766.

John Larsen, MD, Department of OB/GYN, George Washington University Medical Center, Office of Public Relations, 1001 22nd St. NW, Suite 820, Washington, DC 20037.

Previous European studies have indicated a possible benefit of elective cesarean and he has used this information when counseling patients, he says. "This will probably be more information, more news that people can work with." ■

Fertility success increases, says CDC

Fertility-enhanced births — those incorporating assisted reproductive technology (ART) — increased 25% nationwide in one year, according to the Atlanta-based Centers for Disease Control and Prevention (CDC).

The increase, CDC officials speculate, could be attributed to better reporting of ART. The ART report does not include the use of fertility drugs, however. "It's premature to draw too many conclusions about a trend between last year and this year," says **Lynne Wilcox**, MD, director of the CDC's division of reproductive health.

The 1996 *Assisted Reproductive Technology Success Rates* report, based on pregnancies begun as late as December 1996, was published in conjunction with the American Society for Reproductive Medicine (ASRM), its affiliate, the Society for Assisted Reproductive Technology in Birmingham, AL, and the national infertility patient advocacy group RESOLVE, located in Somerville, MA.

Knowing what is included in the report and how your fertility center compares is important because the information was released to the public, which is a requirement of the Fertility Clinic Success Rate and Certification Act of 1992.

While the report does not rank or grade clinics because some specialize in more difficult fertility cases with lower success rates, it does include other data. The "take-home baby rate," for example, is included from the responses of 300 fertility clinics, as is the multiple-birth rate, and the number of embryos each clinic used.

The information regarding clinic success rates should not be a sole factor for patients when choosing a fertility clinic, experts say. This is an important report that is the only one of its kind in the medical field. But it's just one tool that can be used by patients to make decisions about their treatment

SOURCES

For more information regarding the 1996 *Assisted Reproductive Technology Success Rates* report, contact:

Society for Reproductive Medicine, 1209 Montgomery Highway, Birmingham, AL 35216-2809. Telephone: (205) 978-5000, Fax: (205) 978-5005, E-mail: asrm@ asrm.org. World Wide Web: http://www.asrm.org.

Centers for Disease Control and Prevention, attn: Lisa Swenarski de Herrera. Telephone: (770) 488-5328. The report also is available at the CDC s site on the World Wide Web: www.cdc.gov/nccdphp/drh/art96/

RESOLVE, 1310 Broadway, Somerville MA 02144. Telephone: (617) 623-0744. E-mail: resolveinc@ aol.com. World Wide Web: http://www.resolve.org.

and expected outcome, notes **J. Benjamin Younger**, MD, executive director of ASRM.

"This report represents an alliance between the government, the medical professional, and the consumer and is truly unique. However, it is only one piece of information that patients can utilize in making a decision about where to get their treatment. The report should not be used to compare one program to another and should not be used as a ranking because patient medical characteristics and treatment approaches vary from clinic to clinic," states **David Adamson**, MD, president of ASRM affiliate group the Society for Assisted Reproductive Technology. ■

End-of-life innovations to be honored

Annual award offers $25,000 prize

Innovative programs — from hospitals, hospices, long-term care facilities, or at a patient's home — will be honored with a $25,000 award beginning next year.

The announcement for the new award, initiated by the Chicago-based American Hospital Association (AHA), was met with congratulatory remarks by former First Lady **Rosalynn Carter** at the AHA's annual membership meeting. The award is co-sponsored by the Chicago-based American Medical Association, the Arlington, VA-based National Hospice Organization, and the American Association of Homes and Services for the Aging in Washington, DC.

"It seems so many people in their last days of their lives die alone in the hospital. People should be able to die comfortably and without pain. I hope this award will focus attention on dying, which should be embraced as a natural event," commented Carter after the award was announced.

Carter is honorary chair of the Princeton, NJ-based Robert Wood Johnson Foundation's Last Acts Campaign, which is a coalition of more than 295 organizations aimed at improving the quality of care for dying patients in the United States. The Robert Wood Johnson Foundation will fund the annual award, which will be presented to up to three exemplary programs.

Called the Circle of Life: Celebrating Innovation in End-of-Life Care, the award will be given to programs that are linked to direct patient care by providers, and all applicants will be encouraged to provide letters from other local community organizations and providers indicating communitywide approaches to delivering service. A selection committee, which has yet to be chosen, will consist of physicians, chaplains, and other caregivers familiar with end-of-life issues.

The selection committee will examine features such as whether the program:

- respects patient goals and preferences;
- provides comprehensive care;
- acknowledges and addresses the family or caregivers' concerns and needs;
- builds systems and mechanisms of support to continue the program for future patients and caregivers.

"Innovative programs must start being highlighted because there is so little recognition of efforts to provide excellent care for the dying," says **Christine Cassel**, MD, a palliative care specialist at Mount Sinai Medical Center in New York City. Cassel also chaired the committee of end-of-life experts that developed the award structure and criteria.

"We need to face the reality that health professionals do not spend enough time easing death for the hopelessly ill because many of their institutions place too low a priority on these services," adds Cassel.

The application process begins this month. Information about the award and application instructions are available on the AHA Web site (www.aha.org), that also will provide links to the co-sponsoring organization Web sites. ■

National group calls for restraint reforms

Psych facilities are focus of remedies

In a move to stem a tide of death resulting from the inappropriate use of physical restraints in psychiatric facilities, the National Alliance for the Mentally Ill (NAMI) is calling for an immediate federal investigation into the problem.

A 50-state survey conducted by a Hartford, CT, newspaper revealed that at least 140 deaths in the past decade were connected to the use of physical restraints or the practice of seclusion. The report also suggested that the actual number of deaths is many times higher because many go unreported. Between 50 and 150 such deaths occur every year, according to a separate statistical estimate conducted by the Harvard Center for Risk Analysis.

To remedy the situation, NAMI recommends the following steps:

- Independent, third-party entities should conduct thorough and immediate investigations into all deaths and serious injuries that occur during psychiatric treatment. The entities should be vested with the authority to recommend and institute changes and practices to prevent future abuses.
- The Department of Justice and Department of Health and Human Services should launch a thorough investigation to determine the magnitude of abusive and harmful seclusion and restraint practices in psychiatric treatment facilities and programs nationwide.
- National standards on the appropriate use of restraints representing best clinical practices should be developed and enforced by the Health Care Financing Administration, and commercial insurance payers should adopt the standards.
- States should adopt laws authorizing the establishment of third-party, independent monitoring groups to conduct unannounced inspections of psychiatric facilities.
- States should allocate funds for training individuals who work with psychiatric patients on the appropriate use of restraints. ■

IV insulin involved in many medication errors

A clear head, a few rules can prevent blunders

A study run recently by the Institute for Safe Medication Practices revealed that 11% of serious medication errors involve insulin misadministration.[1] Errors occur when an overdose is given or when insulin is mistakenly administered in place of other medications.

The Institute presents the following cases that illustrate both types of incident. Ethics committees should be aware of potential cases that could evolve in their facilities.

Two of the cases involved dose misinterpretations when using the abbreviation "U" for "units." When a dietitian wrote an order to add "10U of regular insulin to each TPN bag," the pharmacist preparing the TPN misinterpreted the dose as 100 units. In a similar case, a new pharmacy technician entering orders misinterpreted a sliding scale when insulin was ordered using "U" for units. Although the pharmacist checking the technician's order entry did not detect the error, a nurse intercepted the tenfold overdose while reviewing the computer-generated report.

Two other events occurred when staff confused insulin with other products. In the first case, a verbal order to resume an insulin drip was transcribed incorrectly by a nurse as "resume heparin drip." A pharmacy technician entered the order and labeled a premixed heparin solution. The pharmacist caught the error when he noticed a flow rate of 1.5 units / hour and recognized the patient's name from a recent call for help calculating an insulin flow rate.

The other error resulted in significant patient harm when a double concentration of a critical care drug was ordered for a cardiac patient in ICU. A nurse called the pharmacy and inadvertently requested a double concentration of insulin. During order entry, the pharmacist failed to notice that diabetes was not listed as a patient diagnosis. Then, without seeing a copy of the order, he prepared and delivered the insulin infusion. While in ICU, he also did not obtain a copy of the order or review the patient's chart to verify hyperglycemia. When the nurse hung the insulin, a second nurse did not independently verify the drug, concentration,

infusion rate, and line attachment. No prominent cautionary labeling was present on the infusion to alert staff that it contained insulin. The double concentration of insulin was administered at the rate intended for the critical care drug. The patient suffered permanent CNS impairment.

Eliminate verbal orders

As a high-alert medication with serious risk of causing injury when errors occur, insulin requires special safety considerations, advises the Institute for Safe Medication Practices. The first two errors above are clear examples of the need to educate all practitioners, including dietitians and others who may communicate drug information, to always write out the word "units." The last two incidents demonstrate the likelihood of mentally confusing products that are routinely used, especially if both are measured in units, such as heparin and insulin.

The Institute recommends:

- Verbal orders should not be accepted for IV insulin. Instead, orders should be faxed when the prescriber is off-site. If no other alternative exists, emergency telephone orders should be accepted with a second person listening, transcribing the order directly onto an order form, and repeating it back for clarification.
- Using a concentration of 1 unit / mL can eliminate the need for most double concentrations, making such orders unusual and subject to scrutiny.
- Assure that all insulin infusions are prepared in the pharmacy.
- Insulin must never be dispensed or administered without an independent check using the actual order and verifying that the patient needs insulin or has hyperglycemia.
- Special auxiliary labeling, such as "CONTAINS INSULIN" should be available to alert staff to its presence in IV solutions.
- Educate patients and include them in a double-check system to detect errors.

ADEs are preventable

The direct cost of an inpatient adverse drug event (ADE) can range from $1,900 to $5,900.[2] ADEs can include wrong doses and wrong routes, missed allergies, and drug-on-drug interactions and are the most common cause of hospital injury. Yet many events are preventable. A recent study from a large tertiary care hospital in Boston showed how an internally developed computerized physician order entry system reduced medication errors by half.[3] The system provided physicians with a menu of medications, including default doses, and a range of potential doses for each medication. Relevant lab results were displayed at the time of ordering, monitoring suggestions were made, drug allergy checks were performed, and drug-on-drug interactions were displayed.

(Editor's note: For more information on the National Patient Safety Foundation, see its Web site http://www.npsf.org; E-mail: ismpinfo@ismp.org. Another source for insulin misadministration information is: Educating the healthcare community about safe medication practices. ISMP Medication Safety Alert! *Nov. 18, 1998;3(23).*

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1. Cohen MR, et al. Survey of hospital systems and common serious medication errors. *J Healthcare Risk Management* 1998; 18(1):16-27.
2. Raschke RA, Gollihare B, Wunderlich TA, et al. A computer alert system to prevent injury from adverse drug events: Development and evaluation in a community teaching hospital. *JAMA* 1998; 280:1,317-1,320.
3. Bates DW, Leape LL, Cullen DJ, et al. Effect of computerized physician order entry and a team intervention on prevention of serious medication errors. *JAMA* 1998; 280:1,311-1,316. ■

Objectives on life-support withdrawal are unreliable

Study offers no clear guidance on predicting costs

Objective methods to determine whether intensive care unit (ICU) patients whose outlook is futile should be kept alive and are worth the cost in hospital life support efforts may be misleading and should not be used by nurses or physicians as a guide. That's the verdict from researchers at the University of Vermont School of Medicine in Burlington.

In fact, existing objective measures for evaluating the cost-effectiveness of withdrawing life support are unreliable. Physicians may never have an objective means of making decisions

to withdraw life support from patients whose outcomes are deemed terminal during the hospitalization.[1]

Furthermore, even when accepted survival scoring systems such as the widely accepted APACHE III (Acute Physiology and Chronic Health Evaluation III) are used, the cost savings are likely to be quite small. Part of the reason is that decisions to withdraw life support involve a relatively small group of patients.

Another factor is that the results of systems such as APACHE III when used in calculating survival in terms of cost savings don't deviate much from results obtained when physicians use individual clinical judgments, according to researchers.

With the number of ICUs commonly grappling with whether to withdraw life support once physicians decide that further medical care is futile, clinicians have tried to rely on objective measures to justify their decisions.

Physicians: Don't rely on scoring systems

"If it is reasonable to withdraw support from patients who are extremely unlikely to benefit from ICU care, an objective means of identifying patients receiving medically futile care should be useful," according to **Laurent G. Glance**, MD, a University of Vermont anesthesiologist and study co-author.

But in a wide-ranging retrospective study of more than 4,000 noncardiac patients, a prognostic scoring system to predict the cost-effectiveness of withdrawing life support from relevant patients did not prove significantly valuable as an objective measure.

The study involved a nine-year review of patients at a surgical ICU who had a probability of death of greater than 90% within 48 hours of admission. The study used a mortality risk estimate taken from APACHE III scores.

Investigators constructed a model to compare the cost-effectiveness of two clinical strategies. One involved patients who were discharged, died, or had life support withdrawn based on subjective criteria. The second involved patients who were discharged, died, or had life-support withdrawn based on subjective criteria but also were predicted to have a greater than 90% risk of mortality within 48 hours using a predictive scoring system.

"The use of scoring systems to assist in the decision to discontinue critical care is extremely controversial," Glance and his colleagues write, "Although prognostic scoring systems would be expected to have advantages over clinical judgment, the explanatory power of APACHE III . . . is only slightly better than physician judgment."

Reference

1. Glance LG, Osler T, Shinozaki T. Intensive care unit prognostic scoring systems to predict death: a cost-effectiveness analysis. *Crit Care Med* 1998;26:1,842-1,849. ■

Receptors could boost transplant effectiveness

The identification of what scientists are calling a "homing" receptor could boost the effectiveness of transplants by guiding stem cells to bone marrow.

"In the future, this approach might improve the success of human bone marrow transplantation," says lead researcher **Tsvee Lapidot**, MD, of the Weizmann Institute of Science in Rehovot, Israel. The results of the study appear in the Feb. 5, 1999, issue of the journal *Science.*

During bone marrow transplantation, diseased marrow is destroyed and replaced with donated marrow containing stem cells. Stem cells have the

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ability to develop into healthy blood cells and are injected into the bloodstream of transplant patients with hopes of replenishing the marrow cavities of the patient's bones. Ethical issues remain largely unresolved regarding the collection and storage of stem cells.

Researchers sought to see if a specific receptor on the surface of stem cells acts as a homing device and naturally attracts the cell to marrow. The researchers found that, with human stem cells injected into mice, stem cells with CXCR4 receptors migrated successfully to marrow.

The CXCR4 receptor, in turn, appears to be attracted to SDF-1, which is a compound released by bone marrow cells. "We discovered that human stem cells are sort of like sailing boats," Lapidot explains. "A sailing boat will pick up the wind only if its sail is put up on the mast; similarly, stem cells will migrate to the bone marrow only if they display a specific receptor on their surface that allows them to pick up the signals from marrow cells."

Lapidot estimates that 10% of stem cells are naturally equipped with the CXCR4 receptor, but that all stem cells have the potential to grow the receptor. He points out his own research team's success at growing receptors. Researchers cultured stem cells in the laboratory with natural growth factors and boosted the CXCR4-bearing cells to more than 90%. ▼

Elderly rarely die at home, study finds

Half of elderly patients receiving long-term home care die in the hospital, according to a report in the January issue of the *Journal of the American Geriatrics Society*.

In fact, only one out of five elderly patients die at home, according to researchers. Researchers point out that they were "unable to obtain the patient and family preferences for site of death," in order to determine if dying at home was a planned event for the study participants.

Characteristics of those more likely to die at home included:

- being female;
- being severely dependent functionally;
- experiencing mental deterioration;
- having illnesses, such as cancer, chronic lung disease, or coronary artery disease.

Researchers studied 620 patients over age 65 who died within a year of being admitted to a community long-term care program during 1989 and 1990. Overall, 49% died in the hospital, 21% at home, 20% in a nursing home, and 7% in an inpatient hospice. ▼

Be truthful to kids about HIV

Children and teens infected with the HIV virus should be told by their physician and parents, according to a recently published policy statement.

The Chicago-based American Academy of Pediatrics recommended to its 55,000 members in January to be frank toward HIV-infected children. The policy statement was published in the January

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1999 issue of the association's journal *Pediatrics.*

The policy recommends that physicians work with parents to convince them that their child should know the truth about their HIV status. The policy does not, however, suggest that physicians tell the child against the parents' objections unless the patient is a sexually active teen.

The organization previously has not taken a position on the issue but decided to because the problem is becoming more serious. Children are becoming infected with HIV, and they are living longer, the policy points out.

While only preliminary research has been conducted on the effects of telling youngsters about their condition, an initial study shows that disclosing the information may be beneficial. Youngsters who are told have higher self-esteem and parents who are candid with children are less likely to be depressed. ■

• **Kennedy Institute of Ethics Advanced Bioethics Course "Issues in Ethics Committees."** March 5-7, 1999. Contact: Conference coordinator, Kennedy Institute of Ethics, Box 571212, Georgetown University, Washington, DC 20057. Telephone: (202) 687-5477. Fax: (202) 687-8089. E-mail: KICOURSE@gunet.georgetown.edu. World Wide Web: http:/ /guweb.georgetown.edu/kennedy.

• **Addressing the Medical, Legal, and Ethical Dilemmas in Modern Health Care. 39th Annual Conference of the American College of Legal Medicine**. March 11-13, 1999. New Orleans. Contact: American College of Legal Medicine, 611 E. Wells St., Milwaukee, WI. Telephone: (414) 276-1881. Fax: (414) 276-2349. E-mail: info@aclm.org. World Wide Web: www.aclm.org.

• **Talking Ourselves to Death: Narratives and Caregiving at the End of Life.** June 22-27, 1999. The Center for Literature, Medicine, and the Health Care Professions, Hiram, OH. Contact: Carol Donley, Center for Literature, Medicine, and the Health Care Professions, Hiram College, Hiram, OH 44234. Telephone: (330) 569-5449. Fax: (330) 569-5380. E-mail: Donleycc@hiram. edu.

• **Summer Seminar in Health Care Ethics.** Aug. 2-6, 1999. University of Washington, Seattle. The one-week seminar provides an intensive introduction to the concepts, methods, and literature of health care ethics. It is directed to — and registration limited to — physicians, nurses, social workers, chaplains, teachers, and others involved in the care of patients or the education of providers. A detailed brochure with application form will be available in March 1999. Contact: Marilyn J. Barnard, program coordinator, Medical History & Ethics, Box 357120, School of Medicine, University of Washington, Seattle, WA 98195-7120. Telephone: (206) 616-1864. Fax: (206) 685-7515. E-mail: mbarnard@u.washington.edu.

• **American Society of Bioethics and Humanities Annual Meeting.** Oct. 27-31, 1999. Philadelphia, PA. Contact: American Society of Bioethics and Humanities (ASBH), 4700 W. Lake Ave., Glenview, IL 60025-1485. Telephone: (847) 375-4745. Fax: (847) 375-3777. World Wide Web: http:/ /www.asbh.org. ■