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INSIDE

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Special Report: Stress and burnout in the ICU

Managers hold key to curbing stress and reducing burnout in the ICU

Simple programs, creative caring work best with staff

Despite years of concern, stress and burnout in critical care nursing are on the rise. While hospitals could do more to address nurse complaints, nurse managers are in the best position to create internal peer support programs, experts say.

In 1996, a British nursing journal declared something that every critical care nurse in the United States already knew: ICU nurses across America were stressed out. The article, authored by a group of U.S. critical care nurses in the upper Midwest, looked at factors that contributed to workplace stress in neonatal intensive care units (NICUs).

What was surprising about the report wasn't that ICUs were stressful places, but what nurses perceived to be the biggest stress factors in their work lives. "Floating out of the unit for a shift to another [unit] was perceived as very stressful," according to the article published in the *British Journal of Nursing.*

On a less acute level, dealing with pressures from management was

EXECUTIVE SUMMARY

Evidence grows that nurses in high-stress jobs are suffering burnout in larger numbers than ever before, while few department heads look to hospitals for effective support programs. Experts now say nurse managers hold the key to addressing stress factors and nurse burnout via efforts such as internal peer support programs. They advise that:

- Programs should be kept simple and nurse-focused.
- Early detection of problems with staff can occur during meetings or evaluations.
- Encouraging nurses to express their feelings and pursue outside interests can improve their outlook.
- Active participation by managers on the floor inspires unity and motivates staff.

considered another big stress factor.[1] "Things haven't changed for the better," says **Vicki W. Downey**, RN, PhD, associate professor of nursing at the University of Northern Colorado in Greeley, one of the report's authors.

What has changed is the working environment. ICU nurses today face more stress than ever, Downey says. Nurses are being used as floaters to other units more often, and a work force shortage in trained nurses is making matters worse.

Managed care is only part of it, Downey says. The other part is that hospitals in general could do more to address the needs of overworked, burned-out nurses, and they aren't doing so mainly because of overriding cost concerns.

Hospitals slow to respond to nurses' needs

Support activities such as more time off, stress reduction inservices, and caring, compassionate shows of support by management are usually undertaken within the units themselves, if at all. According to nurses contacted by *Critical Care Management,* while most hospitals operate internal infection control and employee safety programs, most pay little attention to nurse burnout.

According to the Chicago-based American Hospital Association, nurse support programs exist at many hospitals, but are difficult to number or describe because they can take different forms. They can range from informal activities within employee relations or human resources to specific departments with their own management and staff.

But veteran ICU nurses see things differently. Judging a hospital's nursing support program isn't difficult to do because most hospitals don't have any formal program in place, according to **Maureen Harvey**, RN, MPH, CCRN, a principal of Consultants in Critical Care, a Lake Tahoe, NV, nursing adviser. **(See related article on p. 88.)**

But many ICUs don't fare any better, says Harvey. Managers often don't have time to give their staff the attention they need over work-related problems.

If your hospital is among those that have a dedicated employee health program willing to help nurses with burnout and stress, you're probably lucky. If not, you may want to consider developing an internal stress diversion program, which isn't expensive but does take some management involvement, Harvey says.

Common Stress Factors of ICU Nurses

- **Patient acuity**
- **Staffing shortages**
- **Management pressures**
- **Highly technical environment**
- **Patients' Death**
- **Patient family needs**
- **Crisis decision making**
- **Fatigue**
- **Low pay**
- **Nurse's job satisfaction**
- **Lack of authority**
- **Inconsistent scheduling**
- **Changing workloads and responsibilities**

Source: Vicki W. Downey, RN, PhD, University of Northern Colorado, Greeley.

Following are several easy-to-implement suggestions that emphasize fundamentals:

• **Keep support services simple and focused on nurses.** In 1990, a group of nurses who formed the Consensus Conference on Fostering a More Humane Critical Care adopted several recommendations to address burnout. Chief among them was the formation of peer support groups within the unit.

These were nurses who volunteer for training as peer counselors to assist each other with workplace stress factors, says **Diane Kennedy**, RN, MN, CCRN, clinical assistant professor of nursing at the University of Kansas Medical Center in Kansas City, MO.

However, to be effective, the activity must be voluntary, and the peer support leaders must not be in a supervisory role at the hospital, Kennedy cautions. The support must be free of coercion or inhibition.

• **Develop a method for early detection of stress.** Managers can play a key role in working with staff to identify early signs of burnout or stress, says **Carma Twete-Hanson**, RN, MS, manager of the NICU and pediatric unit at Altru Health System in Grand Forks, ND. Twete-Hanson helped develop a successful support program at her hospital that involves preventative care. **(See charts, above and on p. 87, for a list of known**

Stress-Related Symptoms

Self-reported frequency following an NICU death

Symptom	Mean Score*
Loss of interest in physical exercise	1.55
Chronic fatigue	1.36
Headaches	1.34
Irritability	1.29
Overcritical	1.22
Increase susceptibility to illness	0.76
Frequent somatic complaints	0.75
Conflict-laden dreams	0.73
Prone to accidents	0.64
Rigid with others	0.64
Withdrawn	0.61
Increased use of sick days	0.27

***Note: 2.0 = highest frequency; 0.0 score = lowest frequency**

Source: Downey V, Bengiamin MA, Heuer L, et al. Dying babies and associated stress in NICU nurses. Neo Netw 1995; 14:41-45.

stress factors and a list of symptoms that affect nurses.)

During regular evaluations or promotional interviews, you can ask nurses how they feel about their work and what they would change if they could, Twete-Hanson says. The questions should be framed in a collegial, non-authoritarian manner. "The goal is to create an environment for expressing positive and negative feelings, which allows for self-discovery," Kennedy says.

• **Give staff a creative outlet for their feelings.** Presentations of poetry, a short skit, or a monologue during a peer support meeting can stimulate discussion that may lead to problem resolutions, says Kennedy. These expressions foster a sense of shared experience and a "sensitivity to self and others," she adds.

But to do this, nurses and managers should work collaboratively. The process can begin by allowing staff nurses to be represented at administrative meetings where they can share the nurses' views and position on issues.

• **Rotate nurses to other assignments for training.** "People need a break from the ICU sometimes," says Twete-Hanson. At her facility, about 75% of the NICU nurses have been cross-trained in pediatrics. "The cross-training takes the nurse away from the usual surroundings, introduces her or him to a new environment, and creates learning opportunities in something new and valuable," she adds.

However, the rotation doesn't mean the nurse is used as a floater or an on-call nurse. And the cross-training must be done in something the nurse already knows. "The purpose of the training is to teach the nurse new skills within her own areas of expertise. But it also acts as a stress reducer," Twete-Hanson indicates.

• **Encourage and support continuing education.** Many nurses would be pleased to find their employers receptive to higher education. Downey recalls one hospital that gave nurses incentives to act as mentors and preceptors to younger, newer nurses to prevent stress and burnout.

Nurses who volunteered for these duties were able to earn points, which enabled them at year's end to attend conferences paid for by the hospital. Others facilities openly encourage nurses to seek graduate degrees and allow them time off to pursue course work, Downey says.

Being there helps, too

• **Increase your presence and availability.** Something as simple as spending more time with staff members on the floor, joining them on rounds occasionally, being available at certain times to answer questions, or troubleshoot problems can help foster teamwork and support, says Twete-Hanson.

Attend debriefings and staff meetings in the wake of a patient's death or a difficult confrontation with an angry family member. The unit manager's presence at these seminal events demonstrates that the nurses aren't going through the difficult experience alone, Twete-Hanson adds.

Whether the administration takes a direct hand or simply gives tacit approval to these measures doesn't matter, says Twete-Hanson. Before anything can work, managers must elicit the hospital's support in some way when administering a stress reduction program.

"Administrators must be committed to a supportive, protective, and corrective environment," Kennedy says.

Reference

1. Heuer L, Benjamin M, Downey VW, et al. Neonatal intensive care nurse stressors: an American study. *Br J Nurs* 1996; 5:1,126-1,130. ■

ICU nurses get help from 'above' to get over crises

Support program helps nurses after patient death

Whenever a death occurs in the neonatal ICU of Altru Health System in Grand Forks, ND, a chaplain stands by to visit the unit. The chaplain isn't called for by the baby's family, but is asked to meet with some of the nurses who are often grief-stricken and visibly depressed.

"It's especially hard on the nurses if the baby was well-liked or the death was a tough one," says nurse manager **Carma Twete-Hanson**, RN, MS, who oversees a 56-member staff.

The chaplain visits are only one of a handful of procedures designed by administrators to alleviate the hardship of ICU work at Altru Health, a not-for-profit hospital that serves a relatively small North Dakota community.

Nurses participate in prayer sessions

When called, the chaplain meets in a special room with a group of nurses. The debriefing is voluntary, but certain rules prevail. The participants must express what they're feeling, how they are dealing with the loss of the child, and how the experience was for them. They are supposed to avoid technical discussions or the medical facts surrounding the death.

"The meetings last from one to two hours, but are designed to allow the clinicians to purge themselves of the experience," says Twete-Hanson.

Most nurses are much better after the debriefings and are able to get back to work a lot faster than otherwise, says Twete-Hanson. **(See chart, below, for a list of personal reactions by nurses after an infant's death.)**

On more difficult cases, the chaplain holds prayer sessions in the hospital's chapel. Physicians, nursing supervisors, and anesthesia personnel are also invited. Participants do readings and hold conversations about the patient, "in order to put the experience to rest," Twete-Hanson says.

When necessary, do an inservice

Occasionally, unit members hold a formal inservice to discuss a difficult experience. Recently, nurses had to confront a six-year-old patient's out-of-control father who verbally attacked one of the nurses.

The parent went on a tirade, accusing the nursing staff of thinking he was guilty of abusing his child. The child was badly beaten up and on the verge of death. The father later admitted in court that he abused his son.

Nurses met with each other and other hospital staff to analyze the situation so they could separate their feelings about the event from their professional lives. "They talk about burnout a lot," Twete-Hanson notes. ■

Personal Reactions to Baby's Death

Feeling	Perceived level of stress	
	Mean	N
Helplessness	2.71	56
Intense sorrow	2.61	51
Depressed	2.34	56
Saddened	2.33	57
Angry	2.32	55
Despair	2.18	54
Discouraged	2.14	57
Hopeless	2.10	51
Alone	1.82	45
Grim	1.71	49
Relieved	1.61	56

Note: 0 score = not stressful; 4 = very stressful
N = sample size (59 total)

Source: Downey V, Benjamin, MA, Heuer L, et al. Dying babies and associated stress in NICU nurses. *New Netw* 1995; 14:41-45.

Motivational tips work, but require commitment

Supervisor's style determines results

Volumes of research have been published in recent years offering motivational tips that promise they can boost quality of care and bedside productivity. But can these ideas work for nurses in critical care?

Yes, says **Maureen Harvey**, RN, MPH, CCRN, a consultant in Lake Tahoe, NV, who advises ICU managers on nursing effectiveness.

They may seem like useless homilies, but concepts such as nurse empowerment, accountability, encouragement, and management support can work, but often don't due to problems with individual management styles. In critical care, administrators and senior managers often don't spend sufficient time with nurses at the bedside, Harvey says.

Although managers are quite capable and experienced as leaders and clinicians, they often get out of touch with what is affecting rank-and-file nurses on the job, Harvey says. "The best-run hospitals actually put into action what they say about nurse empowerment," adds Harvey, a 33-year ICU veteran.

Best nursing may be invisible

Managers can easily motivate their nurses but often don't. They focus instead on mistakes and shortcomings, she adds. This is a natural tendency, but one that hurts employee morale and erodes productivity. It arises from what Harvey calls the "invisible nursing effect."

Once they advance beyond the bedside, many managers forget that the best nursing isn't always visible. "The better a nurse is, the less we tend to see things go wrong. Everything is as it should be," Harvey notes. For this reason, department heads should take note and give praise when things are running correctly as often as commenting when they are going badly.

"Managers need to put their ears to the ground. That's how you motivate," Harvey says.

Autocratic management style passé

Research increasingly supports this view. "A [distant] autocratic management style propels action primarily through fear," says researcher **Linda Rennick Breisch**, RN, MPA, a manager at Penn State Geisinger Health System in Hershey, PA. "The 'my way or the highway' approach, while effective in the short-run, isn't a long-term solution."

"The 'my way or the highway' approach, while effective in the short-run, isn't a long-term solution."

For managers, motivating nurses rather than ordering them to perform effectively involves meeting a higher need that employees have for fulfillment and satisfaction. "Staff members want to feel a commitment to their jobs," Breisch says. Managers must find ways to make that happen. Head nurses can begin doing this by:

- **creating a trusting work environment where ideas flow freely between staff and managers;**
- **encouraging nurses to ask questions and share experiences;**
- **giving timely, honest feedback about job performance;**
- **enabling self-teaching through posters, lectures, and self-learning packets;**
- **expressing clear expectations of staff members;**
- **letting staff know you appreciate their good work;**
- **helping individuals with problems;**
- **practicing effective, confident decision making;**
- **illustrating to staff how their efforts fit in with the organization's goals.**[1]

"Nurses have been in a bad mood for a long time," says Harvey. "Hospitals have to recognize that the better we treat our RNs, the better they will be with patients, and the better will be our outcomes, which in the long-run saves money."

Reference

1. Breisch LR. Motivate! *Nurs Manage* 1999; 30:27-30. ■

Ask your staff to spend time with patient's family

Working with families makes nurse's job easier

When developing a standard care plan for patients, nurses should make special provisions for working with the patient's family. Working with relatives will improve the chances of a better, more predictable outcome for the patient.

It's also good common sense, says **Beverly Ann Leith**, RN, a staff nurse in the ICU at Montreal Neurological Hospital in Canada. A growing body of evidence points to the effectiveness of working with family members as part of a patient's treatment plan in critical care.

It may not seem important, but it can be, says Leith, who has studied incidents of family anxiety in ICU patients and determined that much of the anxiety is shared by both the patient and family member in the same way.

The reasons aren't exactly clear, says Leith. They are manifested, for example, in transfer anxiety, a common emotional instability shown by ICU patients regarding their future. Family members will demonstrate the same level of instability about the future destination of the patient.

Your nursing staff should work closely with the patient's loved ones as early as admission day to lessen the uncertainty and assure relatives of the patient's future well-being. "The family should understand that the ICU stay is only temporary, and the patient will be moved to another, equally capable nursing floor," Leith says.

Role of family in treatment now recognized

In recent years, there's been a growing movement by the nursing profession to provide more emotional support to families of critically ill patients. Most of the progress has been spearheaded by neonatal ICUs, but spread over the years to adult critical care.

"Clinicians are becoming acutely aware of the role that families play in the patients' progress," says Leith. But in a more practical sense, keeping relatives well-informed pays other dividends.

They tend to require less time and interrupt floor nurses less often when they know what is happening to the patient, says **Jane Stover Leske**, RN, PhD, associate professor of nursing at the University of Wisconsin / Milwaukee School of Nursing. Here are additional reasons for making the investment:

• **Prevents negative exchanges.** When family anxiety runs high, relatives may not be able to support the patient, especially during a negative change in the patient's condition. In those cases, the instability may transfer to the patient, making matters worse, says Leske.

Unmitigated family anxiety may also show in distrust of hospital staff, lack of cooperation, noncompliance with treatment regimen, anger, and even lawsuits, Leske adds. Whether the exchanges

Family Intervention Tips

Activity	Explanation
• Identify a family spokesperson early	Father, mother, older sibling
• Assign a primary nursing contact for the family	Nurse acts as liaison for unit
• Establish mechanism for family access to patient	Open visitations, specific rules, etc.
• Promote access to patient and ensure consistency	Encourage families to speak with nurses about unit rules and protocols
• Establish mechanism to contact family	Telephone numbers, pagers, etc.
• Provide information based on family needs	Videotapes, information booklets
• Ensure support services are available	Coordinate with social worker, chaplain
• Explain all procedures using understandable terms	Avoid clinical jargon in conversation
• Offer tour of the ICU	Get families familiar with surroundings
• Get family to participate in aspects of care	Activities of daily living, reading, etc.
• Include family in end-of-life planning	Prepare family for inevitable
• Provide comfortable environment	Waiting rooms, access to meals
• Establish system for daily communication	Telephone updates on changing condition

Source: Jane Stover Leske, RN, PhD, University of Wisconsin/Milwaukee School of Nursing.

are adverse or beneficial depends partially on the type of intervention provided by your staff.

• **Answers defined needs.** Leske's research suggests that following the impact of a critical illness, family members exhibit a well-defined, predictable set of needs. They include the need to: 1) receive assurance; 2) remain near the patient; 3) receive accurate, timely information; 4) be comfortable; and 5) have expert support at hand.

The need to remain near the patient reflects a basic desire to link and maintain familial relationships, says Leske. Meeting this need helps families stay close and give support to the patient, which can invariably have a positive influence on outcome.

Family helps smooth discharge

• **Helps shape discharge planning.** Due to cutbacks in health care funding, patients are being discharged sooner and often directly home from the ICU. Most unit managers know that preparing the patient for an eventual transfer to home or anywhere else should begin as early as possible, says Leith. As recently as a decade ago, critical care nurses gave discharge planning low priority. Some studies indicate that nursing workloads, increased paperwork, higher patient acuity, and inadequate staffing played a role in minimizing discharge planning in the ICU.

Recent changes in viewpoint have raised new opportunities for families to play a vital role in helping nurses prepare patients more adequately for transfer or discharge, Leith adds.

• **Fits in with growing consumerism.** Patients are demanding more health care information, and providers are accommodating their wishes. Meanwhile, providers have shifted the focus of treatment away from the system to the patient. Patient-centered and focused care have assumed greater emphasis, says Leske.

In critical care, the shift has included families. Nurse managers are pivotal in ensuring that families and patients as a unit get the attention and support they need from the health care system, she adds. "Managers play a key role in creating the desired expectations in families of how well the unit will run and the effect it will have on the patient," Leske notes.

A couple of caveats are also appropriate. Honesty and consistency are paramount in working with families, Leith adds. Nurses frequently tell family members that the unit has an open visiting policy and then appear to reverse themselves when another nurse on duty restricts their schedule. This creates distrust, she says. **(See related article, below.)**

Furthermore, when assigning a liaison nurse to work closely with family members, it helps if the nurse has had previous training in family nursing. Some advanced practice nurses are good candidates for these responsibilities, says Leith.

They have the flexibility and time to devote to these duties, and their advanced training and education may give them a larger overview in meeting the family's needs. "Experienced clinical nurse specialists can play a vital role, especially at a time of crisis when the family begins to fall apart," Leith says. ■

Families are vital link to patient education

Two hospitals find easy steps to patient learning

Nurses at the Mayo Foundation Hospitals in Rochester, MN, have a daunting task in providing patient education to their charges. With eight ICUs to worry about and some 1,900 acute-care beds divided between two separate facilities, the task has gone beyond focusing solely on the patients.

"Early in the process [which began in 1996], we recognized a group that had a great deal of learning need," says **Laurie Vlasak**, RN, a patient education specialist at Mayo. "For many families, this was their first experience with critical care, and they were completely in the dark about it."

Simple tools fit most needs

The sheer size of the institution seemed intimidating to many relatives of patients. "We looked at a range of their learning needs simply by putting ourselves in their shoes," Vlasak adds. What resulted was a series of simple learning tools that answered most needs.

Patients and their families are now more receptive to nurses and accepting of care plans because they understand exactly what to expect and how it will be rendered, Vlasak says. In turn, the process of health care delivery has run smoother and with fewer delays.

The strategy began with determining the group's needs. In making a needs assessment,

Vlasak and her colleagues discovered fundamental concerns: What happens now? What should we expect? What will we see in the ICU? What are all the equipment and lights in the unit for? How long will our patient/relative be there? Where are the bathrooms and the waiting areas for family members? How will things turn out?

The concerns ran the gamut of obvious possibilities but were important to anyone new and unfamiliar with the health care system, Vlasak says.

First goal: Reduce fear, anxiety

When creating a learning program for patients and families, the first assumption to make is that everything about the hospital and the ICU is unusual and sometimes intimidating, says **Teresa Neuzil**, RN, CCRN, a staff nurse in the thoracic ICU at 1,100-bed Mayo Medical Center-St. Mary's Hospital. The facility is one of the two Mayo Foundation hospitals. The other is Rochester Methodist Hospital.

Both nurses worked on developing an education program for families of thoracic surgery patients. The program was similar to the one Vlasak helped design for other critical care units, but was more focused on thoracic surgery.

One of the primary objectives of both projects was to reduce fear and anxiety in both families and patients, Neuzil recalls. The following are key elements of each project:

• **Material aids.** Nurses felt that relatives should have something tangible that they could employ as a reference guide. After determining that the ICU's physical surroundings represented a big anxiety factor, Vlasak and her team developed an equipment booklet with photographs of heart monitors and mechanical ventilators.

The booklet also describes the equipment and its importance in patient care. In the thoracic surgery unit, a similar booklet formed part of an information packet that included an eight-minute videotape about the unit. It explained what occurs in general terms from admission to discharge or transfer, Neuzil states. "We filmed it in the unit, so it gives them a chance too see what that looks like," she says. The packet also contains booklets on pain management, other types of surgeries, and a map to the hospital. Families are able to take the packet home to study it and can bring it with them on future visits.

• **Set protocol.** By design, the learning process was begun at the point of admission or during the family's first encounter with the ICU, Vlasak explains. When visitors arrived at the unit and signed in, someone was always there to greet them with a caring, supportive attitude. Typical questions posed to the family included: "Are you OK?" "Do you know what to do?"

The purpose of these questions was to determine where relatives needed guidance, but they were also intended to build trust and reduce anxiety in the visitors, Vlasak notes. After being admitted to a waiting room, the family is shown a short video of the ICU, along with a sample of the equipment booklet with snapshots of the ICU itself. "Seeing the unit for the first time can be shocking to some people," she says.

• **Designated functions.** Key to the process was assigning one individual to be the primary contact person for the family. A staff nurse from the unit is considered the best choice over a social worker or other hospital employee because of the nurse's direct affiliation with the ICU and patient care, Vlasak indicates.

The same staff nurse would initiate the family's needs assessment and recommend the specific elements of the learning plan. The plan itself would include a discussion with the patient's physicians and nursing staff members and a tour of the ICU in some cases. "It doesn't help just to have a video or booklet without a specific implementation plan," Vlasak says.

• **Quick study.** In the thoracic surgery unit, family members and patients are given the learning tools the day prior to surgery. Due to the shortening length of time spent in hospitalization, patients have hardly any time at all to absorb the meaning of what is about to happen to them, says Neuzil.

An evening admission prior to the day of surgery was felt to be the best time to begin the learning process, Vlasak adds. At the same time, a nurse works with the patient and family members on key issues. The information includes an explanation of what is about to take place during surgery, details on preparation such as necessary pre-operative testing, and aspects of follow-up, the ICU stay, and discharge planning.

While the emphasis on patient learning is communication, teamwork also matters, says Vlasak. Learning can occur at every point of contact within the hospital from physicians to nurses to receptionists.

"Reminding your nursing staff that opportunities to teach patients and families can occur in anything, from a brief exchange of words to the touch of a comforting hand, can be a significant contribution to the process," Vlasak concludes. ■

Remind physicians about those admissions criteria

Criteria should reflect sound clinical principles

Are the written admissions criteria for your ICU patients getting dumped into the back seat whenever someone pulls rank on your nurses? Many RNs bristle and answer yes when physicians order a patient admitted and the patient clearly doesn't meet the official criteria.

Based on your staff's assessment, that same patient could be monitored just as safely on a regular medical-surgical floor. Yet, primary care physicians and even specialists, are apt to sometimes disregard the standards and arbitrarily order the admission, many nurses complain.

It doesn't happen all the time. But these orders seem to occur whenever the unit is experiencing a bed shortage and there's nothing that nurses can do about it, says **Pamela Hunt**, RN, MSN, director of surgery at Marion (IN) General Hospital.

Hunt advises that nurse managers support their staff and the unit's admission policy and persevere with physicians by sticking to the letter of the law. "Be courteous and professional, but use the published criteria as a backup when speaking with the provider," Hunt recommends.

APACHE can form basis for criteria

Many times, the physician's decision is based on mere convenience and not medical necessity, Hunt says. Stick to the facts and resort to the criteria as the basis for your convictions, she urges, and don't wait until there's a bed crunch to speak up.

Of course, the assumption made in these cases is that the nursing assessment has accurately determined that admitting the patient to the unit would constitute an inappropriate admission. For this reason, the admissions criteria have to be authoritative and based on sound principles.

But what should a good set of criteria be based on? How strong are they when stating your nurse's case with a provider?

Researchers have been asking the same question but for a different reason. They've been looking at better ways to evaluate ICU patients to predict mortality, length of stay, and resource utilization, especially with patients suffering multiple organ failure or following serious cardiac surgery.

The tool they have tested closely in research has been the Acute Physiology and Chronic Health Evaluation system, commonly known as APACHE. The tool was originally designed more than two decades ago at George Washington University in Washington, DC, to classify severity of diseases.

Now the company that developed subsequent generations APACHE II and III says the system can be dependably used to help develop intelligent admissions criteria. The system contains hundreds of thousands of pieces of medical data on acute and critical conditions broken down into specific characteristics.

Though not the only system available, it is one that has been used by researchers in critical care with consistency. For use in developing admissions criteria the tool can pinpoint specific issues such as diagnoses, outcomes, and mortality rates.

It can even help suggest length of stay and appropriate case management for transfer from the ICU for a range of critical cases, says **Alicia Saia**, a representative with APACHE Medical Systems, the McLean, VA, company that holds the copyright to APACHE II and III.

Tool has certain limitations

The tool has been used extensively to help determine outcomes, for example, in cardiac and other intensive surgical procedures. Although the APACHE will not tell you exactly whether a patient is appropriate for the ICU, it will provide severity-of-illness data that can be used by the medical staff in setting up minimal admission benchmarks.

For example, APACHE III offers a range of mean arterial blood pressure readings and assigns a numerical weight to each reading. Each weight reflects a level of severity that is based on how the patient's blood pressure relates to 16 other physiologic indicators such as pulse rate and respiration.

The weights also reflect the presence of one or more of seven comorbid conditions, such as arrhythmia complicated by diabetes, that can influence a patient's immune status and short-term mortality risk in the ICU.

The APACHE then assigns a series of scores to the weights. An increasing APACHE III score (0-299) is associated with a higher risk of hospital mortality. The result is called the Acute Physiology Score (APS). If your patient's mean blood pressure reading falls within a certain range, the corresponding weights assigned by the tool will suggest a certain level of acuity.

The tool also can measure the type and amount of ICU care needed on a patient and assigns a one to four score based on the increasing level of complexity and effort for 80 diagnostic, monitoring, and therapeutic tasks commonly performed in an ICU blood gas monitoring and ventilator weaning.

In the past, these scores, known as the Therapeutic Intervention Scoring System (TISS), have been used to describe ICU services, evaluate nurse staffing needs, and measure cost and resource use in the unit.[1]

By using the APACHE scores as a guide, nurses and physicians can set up appropriate values in developing standard assessment criteria for their unit, says Saia. Much of the available data in performing these tasks can be obtained from a software program that APACHE Medical makes available to subscribers.

The database contains more than a half million pieces of patient information to enable clinicians to generate patient profiles based on age, sex, principal diagnosis and other complications. The profile can help complete the nursing assessment and determine whether a patient is right for an admission, Saia says.

"The tool is valuable as a collaborative criteria," says **Kathleen Rafferty**, RN, MS, cardiac ICU manager at St. Elizabeth's Medical Center in Boston. Rafferty's unit has incorporated certain APACHE III measures in developing its admissions criteria.

But Rafferty emphasizes that the tool should not form the central basis for nursing assessment. "It should be used with your nurses' own experience and judgment," she says.

APACHE III is not foolproof. In one study involving outcomes of surgical patients, the tool underestimated actual mortality rates in patients. And it isn't applicable for making predictions about individual patients, the study also noted.[2]

At Marion General, the nursing staff used a little creativity in developing their own admissions criteria. They concentrated their efforts on using the cache of rich patient data sets in the hospital's records, Hunt says. Clinicians reviewed the clinical data for information about the ICU's most common critical conditions and developed the findings into a best practice for each condition, Hunt recalls.

The unit keeps separate detailed criteria for a range of conditions, including shock, acute respiratory distress, and renal failure. Among the concerns listed in the criteria for hemorrhaging are: 1) active bleeding; 2) blood pressure of 90/60; and 3) urine output of less than 30 cc.

The point isn't to keep a set of published criteria on hand, Hunt says. It's to ensure that they are valid, reflect strong input by the medical staff, and are regularly used, she says.

"As acuity levels rise and beds start to go at a premium, strong admissions criteria that are signed and supported by the medical director will become increasingly important," Hunt concludes.

[Editor's note: For further information about the APACHE II and III systems, contact: Alicia Saia, marketing and product manager, APACHE Medical Systems, 1650 Tysons Blvd., Suite 300, McLean, VA 22102-3915. Telephone: (703) 847-1400. Fax: (703) 847-1401. E-mail: info@apa.com.]

References

1. Becker RB, Zimmerman JE, Knaus WA, et al. The use of APACHE III to evaluate ICU length of stay, resource use, and mortality after coronary artery by-pass surgery. *J Cardio Surg* 1995; 36:1-10.

2. Barie PS, Hydo LJ, Fischer E. Utility of illness severity scoring for prediction of prolonged surgical critical care. *J Trauma* 1996; 40:513-518. ■

ICU nurses rank high among RN substance users

Poll shows 6% to 8% of nurses use

Nurses who work in critical and emergency care are among the most likely in the profession to be at risk for using chemical substances to excess, according to a recent poll, and the trend is likely to continue.

Nurse managers who are in charge of those

COMING IN FUTURE MONTHS

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Comparison of Substance Use Among RNs

		Marijuana/Cocaine		Prescription-type drugs		Cigarettes		Binge drinking	
Specialty	**n**	**%**	**OR***	**%**	**OR**	**%**	**OR**	**%**	**OR**
Adult ICU	486	6.2	2.6	7.2	1.4	16.1	1.5	22.2	1.7
Pediatric ICU	123	6.8	3.4	5.9	1.0	7.6	0.7	20.8	1.5
Emergency	198	7.3	3.5	7.8	1.3	18.0	1.7	24.5	1.9
Operating/ PACU**	406	4.6	2.4	7.3	1.4	12.0	1.1	16.5	1.6
Medical/ Surgical	723	3.0	1.7	7.9	1.6	16.5	1.5	14.9	1.2
Gerontology	352	1.4	1.2	4.7	1.0	18.2	1.9	11.3	1.3
Oncology	116	3.6	1.6	8.8	1.8	15.2	1.3	25.5	2.1
Administration	171	2.4	0.9	5.6	1.3	15.1	2.0	16.2	2.1
Total***	4438	3.6	N/A	6.6	N/A	14.4	N/A	16.0	N/A

*OR: odds ratio, or likelihood of substance use compared with other specialties (2.0=200% likelihood)
**PACU: post-anesthesia care unit
***Total: Includes 12 specialties surveyed

Source: Trinkoff AN, Storr CL. Substance use among nurses: differences between specialties. *Am J Public Health* 1998; 88:581-585.

nurses are being urged to discuss the problem of substance abuse with their staff and encourage them to seek treatment. They should also view state nursing organizations as a helpful resource.

It's quite likely, some health officials say, that certain members of your staff may have a substance use problem that includes frequent marijuana or cocaine use, a prescription-drug dependency, or regular binge drinking.

If ignored, the condition is likely to have serious consequences for both the nurses and patients under their care, according to poll researchers.[1]

"Based on estimates, we believe that 15% of nurses will have a drug problem at some point in their career," says **Valerie Murchake Wright**, RN, MLHR, alternative program coordinator with the Ohio Board of Nursing in Columbus.

The outlook may be shocking but not surprising, according to a study of substance use among registered nurses, which included the poll, released last year by the University of Maryland School of Nursing (UMSN) in Baltimore.

Substance use among nurses in all specialties is increasing. However, the amount of increase isn't certain, mainly because there have been few recent studies that track such figures, UMSN researchers asserted.

According to the American Nurses Association (ANA) in Chicago, between 6% and 8% of nurses have a drug or alcohol problem. Some 40,000 or more U.S. nurses are alcoholics, according to the UMSN research.

Nursing specialties more likely to be associated with substance use paralleled similar high substance use among physicians. The coincidence suggested that working conditions and access to substances may be partly responsible for the problem.

The UMSN study found that 32% of nurses in 12 specialties surveyed engaged in substance use on a regular basis. Binge drinking and cigarette smoking accounted for the largest percentage at 16% and 14%, respectively.

Oncology nurses, psychiatry, and emergency and adult critical care reported the highest prevalence for all substances surveyed at 42%, 40%, and 38%, respectively. Emergency and pediatric critical care nurses had the highest prevalence of marijuana and cocaine use at 7% followed by adult critical care nurses at 6%. **(The above chart shows a comparison among specialties.)**

Some experts say stressful working conditions may be responsible for these findings. "There is a strong connection between psychological trauma and substance abuse," says **Madeline Naegle**, RN PhD, an associate professor at the division of nursing at New York University in New York City and an adviser to the ANA on substance abuse.

Nurses, including their managers, should use the resources of the nursing specialty societies and state organizations for help in addressing the problem at their work site, Naegle urges.

Reference

1. Trinkoff AN, Storr CL. Substance use among nurses: differences between specialties. *Am J Public Health* 1998; 88:581-585. ■

Health care Y2K reference resource available

With the year 2000 deadline fast approaching, hospitals, other health care providers, and the medical device industry are scrambling to complete a process that in many cases was started too late.

What may have once been a logistical issue is burgeoning into an overwhelming problem, compounded by the scarcity of time, rising costs, and a lack of programming resources and expertise.

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- What will happen to your medical devices?
- How can you make sure your vendors are Y2K compliant?
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- Are you prepared if Y2K delays Health Care Financing Administration's payments?

The Hospital Manager's Y2K Crisis Manual is available now for $149. To order, contact American Health Consultants' customer service at (800) 688-2421 or go on-line at www.ahcpub.com. ■

CE objectives

After reading each issue of *Critical Care Management*, participants in the continuing education program should be able to:

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- cite practical solutions to problems that critical care/intensive care managers and administrators commonly encounter in their daily activities. ■

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