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AARC Strategic Plan

AARC Vision/Mission Statement: The American Association for Respiratory Care (AARC) will continue to be the leading national and international professional association for respiratory care. The AARC will encourage and promote professional excellence, advance the science and practice of respiratory care, and serve as an advocate for patients, their families, the public, the profession, and the respiratory therapist.

AARC Strategic Objectives

- Validate the science of respiratory care and the value of the respiratory therapist (RT) in providing respiratory care by supporting, conducting, and publishing research information.
- Promote respiratory therapists as the best providers of respiratory care by assuring that the science that clarifies the value and role of the RT is provided to those stakeholders whose decisions and actions need to be guided by that information.
- Promote respiratory therapists and the American Association for Respiratory Care by developing and implementing promotion and marketing campaigns targeted to unique audiences.
- Assure the Association has the resources to meet the needs of its members and that the AARC has the needed financial, volunteer, and staff resources needed to accomplish the implementation of the strategic plan of the Association.

The complete version of the Association's Strategic Plan is available to Association members online at www.aarc.org/members_area/resources/strategic.asp.

Editor
Marsha Cathcart

Managing Editor
Thomas Kallstrom, MBA, RRT, FAARC

Assistant Editor
Karen Singleterry

Contributors
Debbie Bunch
Sheila Henegar

Art Director
Donna Knauf

Graphic Designers
Jeanette Chawdhury
Lisa Dudley
Kelly Piotrowski

Consultant
Sherry Milligan

Director, Advertising Sales
Tim Goldsbury
Goldsbury@aarc.org

Advertising Account Manager
Anna Blydenstein
anna@aarc.org

Advertising Rates and Media Information
Contact: Goldsbury@aarc.org
Tim Goldsbury, 725 N. Highway A1A, Ste. C-106, Jupiter, FL 33477
Voice (561) 745-6793
Fax (561) 745-6795

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Irving TX 75063 c/o Beth Binkley
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Fax (972) 484-2720

Director of Business Development
Dale L. Griffiths

Publisher
Sam P. Giordano

Printed in USA

Meet the AARC Staff

Debbie Bunch
Writer
AARC Times
debbunch@aol.com

Erica Coleman
Accounts Payable
coleman@aarc.org

Bob Lyons
Accounting Manager
lyons@aarc.org

Linda Drewello
Accounting
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[1] Shah N et al. *Anesthesiology*. 2006;105:A929. * Some 2011 Radical-7 features not FDA 510(k) cleared.

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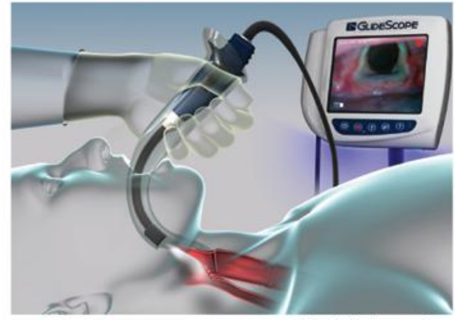

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Identification and Management of the Atypical Sleep Patient

by Shahid M. Ahsan, MD, FACP, FCCP, and Adil Ghafoor

The function of sleep remains one of the greatest biological mysteries of all time. Sleep deprivation studies have shown that sleep is necessary for survival. Sleep deprivation not only causes sleepiness, but it also affects performance, vigilance, attention, concentration, and memory. Research has shown that lack of appropriate sleep even affects immunity. Sleep deprivation, excessive daytime sleepiness (EDS), or insomnia in patients with sleep-disordered breathing can affect multiple organ systems.[1]

Approximately 50–70 million Americans suffer from various conditions that prevent them from attaining adequate restful sleep, known as sleep disorders.[2] Commonly observed sleep disorders include insomnia, obstructive sleep apnea syndrome (OSAS), restless leg syndrome, and narcolepsy — all having classifiable symptoms causing sleep deprivation.[3] Not all sleep disorders are typical in presentation. Atypical presentation may be discovered through sleep evaluations and treated by targeting physical conditions inducing inadequate sleep.[4]

Atypical presentation of sleep disorders

Studies are demonstrating more familiar behavioral conditions that induce abnormalities in macro- and microstructures of sleep. Autism has been observed to be a significant cause of sleep deprivation. Studies comparing adults with autism spectrum disorder (ASD) phenotype to adults without ASD have confirmed autism's contribution to relative disturbances in sleep structure. Measurement of various sleep factors shows that adults with ASD have lower sleep efficiency, more frequent nocturnal awakenings, longer sleep latencies, decreased non-REM sleep and slow-wave sleep, and less rapid-eye movement during REM sleep. These abnormalities in sleep structure can contribute to loss of restful sleep, causing fatigue and affecting functionality of adults with ASD during the daytime. Further investigation is required to determine a relationship between autism in children and their sleep architecture. Behavioral treatments through individual counseling are commonly conducted for patients with ASD, especially children.[5]

Obstructive sleep apnea syndrome can be associated with a series of daytime and nighttime signs and symptoms that may not be obvious during an initial evaluation. The daytime symptoms include EDS so severe that school authorities suggest medical consultation, and abnormal daytime behavior ranging from aggressiveness and hyperactivity to pathologic shyness and social withdrawal. Children may exhibit more subtle symptoms, including inattention, daytime fatigue, learning problems, morning headaches, frequent upper airway infections, failure to thrive, and obesity. Nocturnal symptoms seen at all ages include difficulty breathing while asleep, heavy snoring, apneic episodes, restless sleep, nocturnal sweating, nightmares, and slow wave sleep parasomnia (i.e., sleep terror or confusional arousals). Absence of normal growth or failure to thrive can be seen at most ages. Adenotonsillar hypertrophy is commonly observed in children, and treatment with adenoidectomy may alleviate OSAS. Some children may have craniofacial abnormalities causing OSAS.[6]

Symptoms of attention deficit hyperactivity disorder (ADHD) have been positively associated with sleep-

about the author…

Shahid M. Ahsan, MD, FACP, FCCP, is a clinical assistant professor of medicine at Indiana University School of Medicine in West Lafayette, IN. Adil Ghafoor is a premedical student at Purdue University in West Lafayette, IN.

disordered breathing in children. Chervin et al showed that children diagnosed with ADHD had a threefold increase in snoring compared with controls.[7]

The association between seizures during sleep and violence has long been debated. It is plain that, on occasion, seizures may result in violent, murderous, or injurious behaviors.[8] Of particular note is the frantic and elaborate nocturnal motor activity that may result from seizures originating in the orbital, mesial, or prefrontal region of the brain. Episodic nocturnal wanderings, a condition clinically indistinguishable from other forms of sleep-related motor activity such as complex sleepwalking but that is responsive to anticonvulsant therapy, has also been described.[9] Aggression and violence may be seen pre-ictally, ictally, and postictally. As with disorders of arousal, OSA may masquerade as nocturnal seizures. The patient may benefit from neurological evaluation in these cases.[10]

Daytime symptoms of OSAS in children include excessive daytime sleepiness, abnormal behavior ranging from aggressiveness and hyperactivity, to pathologic shyness and social withdrawal.

Anxiety-related sleep disorders are also demonstrating causation of sleep deprivation.[11] The panic attacks can be diagnosed as panic disorder, which is characterized by daytime attacks associated with spontaneous feelings of intense anxiety.[12] Nocturnal arousals in these patients typically occur within the first third of a patient's sleeping period, yet the case studied showed arousals during a later time period in the patient's sleep. The patient's left hemispheric EEG showed abnormalities, possibly caused by left hemispheric atrophy, which may contribute to dysfunction in specific areas in the brain involving sleep and emotion. Management and treatment of patients of similar scenarios include administering anticonvulsants or anti-anxiety medicines.

Abnormal sleep behavior or sleep parasomnias

Sleep-related eating disorders are common in women between the ages of 20–30 and consist of recurrent episodes of involuntary eating and drinking during partial arousals from sleep. Sometimes the patient displays strange eating behavior (e.g., consumption of inedible or toxic substances such as frozen pizza, raw bacon, and cat food). The episodes cause sleep disruption with weight gain; occasionally injury has been reported. The condition can be either idiopathic or comorbid with other sleep disorders (e.g., sleepwalking, restless leg syndrome/periodic limb movements in sleep, OSAS, narcolepsy, irregular sleep-wake circadian rhythm disorder) and with use of medications such as triazolam, zolpidem, and other psychotropic agents.

Bruxism, or teeth grinding, often presents between ages 10–20, but it may persist throughout life, often leading to secondary problems such as temporomandibular joint dysfunction. Both diurnal and nocturnal bruxism may be also associated with various movement and degenerative disorders such as oromandibular dystonia and Huntington's disease. It is also commonly noted in children with mental retardation or cerebral palsy. Nocturnal bruxism is noted most prominently during Stages 1 and 2 non-rapid eye movement (NREM) sleep and REM sleep. The episode is characterized by stereotypical tooth grinding and is precipitated by anxiety, stress, and dental disease. Patients may benefit from dental guard appliances.

Hypertension,[13] congestive heart failure, stroke, coronary artery disease,[14-16] and atrial fibrillation[17] are the leading causes of mortality in the elderly population strongly associated or caused by OSAS. Since patients may not commonly report disturbed sleep to their physicians, the focus of evaluation remains on diseases other than OSA. Clinicians should think of OSA when evaluating patients with the above disorders. This may be an atypical presentation of OSAS. Treatment with continuous positive airway pressure or other methods may stabilize or alleviate these disorders.

Sleep evaluations needed

Formal sleep evaluations can help to diagnose causes of sleep deprivation in individuals with

symptoms of a sleep disorder with atypical presentation. Whether a patient has disturbed sleep, EDS, or lack of sleep at night (insomnia) depends on causes or conditions from which sleep deprivation originate. Sleep evaluations are helpful, preliminary tools in indicating a direction for treatment of atypical sleep patients.[4] ■

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Am I Covered?

by Anthony L. DeWitt, JD, RRT, FAARC

One of the most common questions asked by readers is whether it is advisable to have personal malpractice insurance. The availability of such insurance is one of the many benefits of AARC membership, and the cost is both reasonable and affordable. The question for many is, "do I really need it?" I'll let you decide.

Insurance is a contract

Insurance policies are contracts. Every insurance contract has a "declarations page" that establishes, among other things, who the "named insured" is. The named insured is the entity that is protected by the insurance. If you are not a named insured, the policy does not provide protection to you.

Every hospital has both a primary malpractice policy (designed to cover liability between $1 and about $3 million) and an umbrella policy meant to cover exposures greater than the primary policy. The "named insured" on most hospital liability policies reads like this: "XYZ Hospital and its officers and directors." Importantly, the policy does not say "its employees." Hospital officers are corporate officers duly appointed by the corporation (i.e., vice president, president, etc.). Directors are those individuals currently serving on the board of directors. If the hospital, or its officers or directors are sued, the insurance policy protects them.

Vicarious liability

A hospital, of course, acts through its employees. When an employee commits a negligent act, the employee has personal liability to the patient. But under the law of *respondeat superior*, the hospital is also accountable for the negligent acts of its employees. This is also called vicarious liability. In most cases the plaintiff sues the hospital because the hospital is more likely to have assets than the employee, and the hospital's policy provides coverage to the corporation for the negligent acts of its employees. But if the patient sued only the employee and did not sue the hospital, the hospital's insurer would provide no coverage to the employee. While this is rare, it can and does happen, particularly where the patient has a personal grudge or doesn't use a lawyer.

Then there are the issues of indemnity and contribution. Indemnity provides that where a master pays for the wrongs of his servant under *respondeat superior*, the servant must indemnify (or repay) the master. Most hospital insurance policies provide for the insurer to seek indemnity from any liable employee. Thus, if the hospital pays $300,000 to settle a claim arising from the negligence of a therapist, the insurance company can sue the therapist for indemnity to recover what it paid. Again, while rare, this does occur.

Contribution is a separate doctrine and arises where, for example, the physician and not the hospital is sued for negligence. Suppose the physician settles a claim for $300,000 and alleges that had the therapist communicated the blood gas values to him, the harm would not have ensued. He can sue the therapist for contribution and force him to pay all or a part of the amount he paid in settlement. Contribution rules vary by state. But again, if a therapist was sued individually for contribution, the hospital's policy would not protect him.

about the author...

Anthony L. DeWitt, JD, RRT, FAARC, is an attorney and a partner in the firm Bartimus, Frickleton, Robertson & Gorny, PC, and resides in Jefferson City, MO. He has also authored two books and numerous legal journal articles. This article is not a substitute for legal advice.

Bad advice

Often a well-meaning but poorly informed hospital administrator will tell employees that they do not need their own insurance policy because the hospital policy

protects them. This is inaccurate because the hospital's policy only protects the named insured, and the hospital cannot expand the coverage on its own to include its employees. What the hospital really means when it gives this advice is that the hospital is covered for the therapist's negligent acts.

What that means is that the hospital's lawyer is not your lawyer. If you ask that lawyer whom he represents and he is honest, he will tell you that he represents the hospital. He may provide you with legal advice and may help defend your case; but he is duty-bound to protect the hospital, not you.

Insurance provides counsel

Most people think of malpractice insurance as a fund of money to cover any judgment, but it is far more than that. Insurance provides legal representation in two separate instances:

- When a claim is made regarding negligence
- When the state board investigates a licensure issue.

Without malpractice insurance, even a successful defense of a claim could cost $80,000 in legal fees. In one case a nurse paid more than $35,000 over three years to lawyers to defend his license against the state board. Malpractice insurance essentially means you get protection from the costs associated with defending your reputation. Having a lawyer who is loyal solely to you is important because sometimes there are conflicts that arise in a case that disadvantage individual employees.

For example, where a nurse fails to restrain a patient known to be prone to extubation, and a therapist is required to do an emergency reintubation because of this, the therapist's defense might require pointing the finger at the nurse. To the hospital lawyer, this is of no consequence because the hospital is going to be liable no matter which of the workers is at fault. But to the therapist, who would have to report any settlement to the National Practitioner Data Bank, who is at fault is very important. While a hospital lawyer might try to avoid this conflict in order to protect the hospital, the therapist's lawyer would be honor bound to defend his client zealously. This is, in my view, the best reason to have malpractice insurance. Every therapist has worked with a nurse or other practitioner whom they did not view as completely competent. You should not be forced to partner in a lawsuit with someone you may not trust.

Sometimes therapists will ask if having a policy of insurance makes it more likely they will get sued. If there was some way for lawyers to find out whether you have insurance, that might be the case. But there is no central registry of therapists who have insurance, and insurance companies will rarely confirm coverage exists. The only way a lawyer finds out is if they ask during a deposition, and by that time it is often too late to sue the therapist individually. ■

While a hospital lawyer will first protect the hospital, a therapist's lawyer is honor bound to defend his client zealously. This is the best reason to have malpractice insurance.

Predictions for 2011

by Cheryl West, MHA, Miriam O'Day, and Anne Marie Hummel

State respiratory care issues

In 2011, state governments will continue to struggle to balance their budgets with less revenue while the demands for state services increase. With this as a backdrop, state legislatures, most of which came back into session in January, must again deal with providing more with less. This is the similar hand that has been dealt to the state governments over the last two years. The states will no doubt respond as they have over the last two years: implementing a variety of cost-saving measures ranging from cutting back on state services (including traditional Medicaid), possibly requiring mandatory state employee furlough days, increasing tuition at state colleges, and raising all manner of fees and taxes.

Specifically for the respiratory therapy profession, do not be surprised to see an increase in your state respiratory therapy licensure fees, something that has already occurred in several states over the last two years. Fee increases certainly won't be exclusive to the respiratory therapy profession; no doubt most licensed professions will be affected. The key is to make sure what is being proposed is fair and equitable. That will require continuous monitoring of rule or law changes that are being proposed either by the state legislature or through the respiratory therapy licensing boards or committees.

Assuming this new U.S. Congress does not repeal all of the provisions of the Patient Protection and Affordable Care Act (i.e., the health care reform law), there should be money coming into the states to fund new programs enacted under the health reform law, provisions that actually had nothing to do with "health and/or insurance reform" but which specifically addressed state Medicaid programs. For example, most Medicaid programs have in the past only paid for smoking-cessation *drugs* for pregnant women. The new law requires state Medicaid programs to cover both smoking-cessation drugs and *counseling* for pregnant women, a potential opportunity for respiratory therapists to provide these services. The health reform law also created and will fund a variety of new Medicaid demonstration programs. For example, the law creates a *health home provider* demonstration program that will provide services for those with certain chronic diseases, and the law specifically includes asthma as one of the qualifying chronic conditions. Grants will also be made available to states for a new program called "Incentives for Prevention of Chronic Diseases in Medicaid." While details are not available yet, this new program certainly is one worth watching by the respiratory therapy profession.

Assuming these provisions created under the health care reform law stay intact, over the next several years as new Medicaid programs and demonstration projects go "live," state respiratory societies and individual RTs should closely watch the rollout of these new initiatives as there certainly will be potential for respiratory therapists to participate.

The challenges to the profession on the state level will be there as well. The profession and your state society must continue to monitor legislation and regulations being proposed — not just for the respiratory therapy profession but also for other professions and occupations that cross over with aspects of respiratory care. Health care is a big tent that covers many professionals, providers, services and procedures — there is room in the tent for everyone. But what you do not want to find out after the fact, either through a law or a regulation, is that the profession of respiratory therapy has been legally "escorted" out of the tent and will be, by law, prevented from continuing to provide the services you have always been legally able to provide. Vigilance and cooperation is necessary to ensure that this does not happen.

While there will always be challenges, there will also be opportunities for the respiratory therapist. These new

about the authors...

Cheryl West, MHA, serves as director of government affairs for the AARC. Miriam O'Day serves as director of legislative affairs for the AARC; and Anne Marie Hummel is the AARC's director of regulatory affairs in Washington, DC.

Medicaid demonstration and grant programs are but one example where the respiratory therapy profession can position itself to participate in areas where they have not been able to do so previously. This is one of the critical reasons for a state respiratory society to make sure their government or legislative committees are well organized. We encourage all RTs to become involved with your state society because the stronger a state society is, the greater the impact the respiratory therapy profession can have at the state level.

Federal legislative issues

As you know, the midterm congressional elections ushered in big changes in Washington, DC. Divided government has now returned to Washington after two years of purely Democratic control. The Republicans are now the majority in the House of Representatives and gained a number of seats in the Senate, which remains controlled by Democrats. Speaker of the House John Boehner (R-OH) has a full legislative agenda, including bringing down the debt by addressing contentious issues such as Medicare, Social Security, and defense spending, while also focusing on stimulating the sluggish economy.

The AARC will continue to push our legislative agenda with the new Congress. The AARC's Government Affairs staff has already been making courtesy calls on new members of Congress and new committee staff. It's important early on in the legislative session to ensure the respiratory agenda is put on the members' radar screens. The same can be said for state respiratory societies. We urge all societies to contact their new members of Congress — House and Senate — at their local "home" office. They can't help us if they don't know we exist. This early contact with members will help your state Political Advocacy Contact Team (PACT) members as they head to Washington, DC, in early March for the AARC's 11th annual "Hill Lobby Day." You can find your state respiratory therapist PACT representatives at www.aarc.org/advocacy/pact/pact_leaders.asp.

Key to our legislative agenda is to continue pushing Congress to enact the Medicare Respiratory Therapy Part B Initiative. We came close to having this important bill passed last year during the health care reform debate, and we'll continue our efforts to enact this important patient access bill. We have a bit more of a challenge this year as our champion and primary sponsor of the Senate version of our bill, Sen. Blanche Lincoln (D-AR) lost her seat to Republican Congressman John Boozman. Since our bills will have to be reintroduced in the new Congress, we expect to make a technical change in the language to add "in the physician's practice" so it is very clear to the Congressional Budget Office as to the scope of the benefit if and when they are asked to come up with a new cost estimate.

We will also keep a close eye on other legislative initiatives that we expect will be reintroduced in the new Congress, such as repeal of Medicare's competitive bidding program, repeal of the 36-month rental cap on home oxygen equipment, and changes in supervision requirements for pulmonary and cardiac rehabilitation. Some of the sponsors of these bills also lost in the midterm elections, so the process will start again to find new sponsors to reintroduce the bills.

AARC is a long-time partner of the U.S. COPD Coalition. In 2010, the Coalition developed draft language for a bill that would designate a COPD program at the Centers for Disease Control and Prevention in their chronic disease division. The legislative language also includes provisions that address the need for a comprehensive response to COPD across all federal agencies. The Coalition is now actively seeking House and Senate members to sponsor and introduce the bill.

Federal regulatory issues

Respiratory therapists play a large role in the care provided to the approximately 47 million Medicare beneficiaries in this country. Given the fact that this number will rise to almost 62 million over the next decade as baby boomers age into the program, it's no surprise that the AARC's Government Affairs team pays particular attention to policies, both national and local, that impact this segment of the nation's population.

Annual Medicare Payment Updates: As most of you know, each year the Centers for Medicare and Medicaid Services (CMS) publishes calendar-year payment updates to (among other providers and facilities): the physician fee schedule, the hospital inpatient, and the hospital outpatient prospective payment systems (PPS). It is within these regulations where most of the issues impacting RTs can be found. For example, the provisions to implement the new pulmonary rehabilitation benefit were contained in the annual updates to the physician fee schedule and the hospital outpatient PPS. The changes to the Hospital Conditions of Participation on who can order respiratory care services were contained in the annual hospital inpatient PPS update.

While 2010 was a busy year on the regulatory side, we most likely will see less action in 2011 that has a direct impact on respiratory therapists. We do not anticipate any big issues next year coming out of the Medicare inpatient hospital regulations. And now that the Medicare

pulmonary rehabilitation benefit has a year under its belt, future changes to the program outside of the annual physician and hospital outpatient payment updates should be minimal. One area that we will monitor — and one that we expect to see some changes in — is the level of supervision of outpatient therapeutic services, including those performed in critical access hospitals. CMS has already made some concessions to the hospital industry by removing references to a physical boundary (e.g., a provider-based department) under its new definition of "direct supervision." We expect to see Medicare regulations in 2011 that will take the supervision level one step further by creating a process whereby an independent technical advisory committee will assess the clinically appropriate supervision level for any given outpatient service. Such a change could mean some services could be lowered to "general supervision," whereby the physician would not need to be physically present and immediately available when the service is being performed.

Local Coverage Determinations: Medicare contractors are always updating, revising, or adding new local coverage determinations (LCDs) throughout the year. AARC will keep an eye out for any local policies of interest to the respiratory therapy profession. Thus far, only one Part A/B Medicare Administrative Contractor (i.e., Trailblazer) has issued an LCD with respect to the new pulmonary rehabilitation benefit. We could see other contractors use it as a model for future LCDs.

Fraud and Abuse: We expect to see a lot of activity with respect to Medicare fraud and abuse in the coming year as there are a number of audit contractors that have been hired by CMS to conduct pre- and post-payment reviews to ensure that proper Medicare payments are made. The home medical equipment (HME) industry is expected to be hardest hit by these activities as more stringent enrollment rules and standards emerge and CMS continues to crack down on documentation requirements for covered services.

Competitive Bidding: As noted in the January year-end wrap-up article, Medicare's controversial competitive bidding program became effective at the beginning of 2011. It's anyone's guess as to what will happen to the program over the course of the year, especially as affected Medicare beneficiaries come to grips with the change in how they receive their durable medical equipment, including oxygen and oxygen equipment. The HME industry continues to assess the flaws in the program, and once implementation takes hold they will pay particular attention to issues that may impact patient access. AARC expects to keep close tabs on the situation as well. Expansion of the program to other states is supposed to be launched in 2011, but as of this writing it is unclear when or if it will move forward.

Tobacco Regulations: The U.S. Food and Drug Administration continues to carry out its authority to regulate the sale, distribution, and marketing of tobacco products, especially to youths, with the focus of its regulations aimed at manufacturers of tobacco products. Health and Human Services Secretary Kathleen Sebelius announced new tobacco prevention efforts in November 2010 as the Administration continues its work to dramatically reduce tobacco use, which is the leading cause of preventable death. Since CMS has now extended Medicare coverage of smoking-cessation counseling to include beneficiaries who have not been diagnosed with or do not have symptoms associated with use of tobacco products, we expect no further action on this topic from the Medicare program. But, as noted above, activities in this area will pick up on the Medicaid side. These combined efforts can mean increased activities for RTs who are part of these beneficial programs.

Health Care Reform: It would be nice to have a crystal ball to know how RTs will be impacted by health care reform in the coming year. A lot is at stake now that the midterm elections are over and the possibility of either repeal of the law or major revisions to it take the headlines. Of course, any major changes will take time to be worked out. In the interim, provisions of the new law are being implemented, especially with respect to the Medicare program. A new CMS Council on Technology and Innovation, responsible for improving health care quality and efficiency by testing new payment and service delivery models as a way of reducing health care costs has already been established. Regulations to expand a value-based purchasing program as a means to enhance quality outcomes could also be implemented. Tracking readmission rates for certain high-volume or high-cost conditions is scheduled to take effect in 2012. To meet that deadline, new regulations that set up financial incentives for hospitals as a way of encouraging them to undertake the necessary steps to reduce preventable readmissions could be proposed and/or finalized this year (2011). Respiratory therapists may likely play a role in these activities as they relate to chronic conditions.

Overall, as quality of care and reducing health care costs become more prevalent in federal regulatory actions, we see increased opportunities for respiratory therapists to be included in the mix of health care professionals who will play an instrumental role in the success of these activities.

AARC's Government Affairs staff will continue to monitor, assess, and respond to state and federal legislation and regulation on behalf of you our members and the patients whom we serve. ■

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Respiratory Therapists Should Be THE Experts in VAP Prevention: Making the Case!

by Patrick J. Dunne, MEd, RRT, FAARC

In the October 2010 issue of *AARC Times* there is an excellent article on ventilator-associated pneumonia, or VAP, the widely used acronym for this serious iatrogenic complication.[1] The article effectively showed how VAP is, in fact, part of a much larger nationwide initiative — a concerted effort to reduce the incidence of all health care-associated infections (HAIs) in our nation's hospitals. It is now widely accepted (no longer estimated) that HAIs claim approximately 100,000 American lives each year; and according to the U.S. Department of Health and Human Services, HAIs add a staggering $28–$33 billion to the nation's annual health care expenditures.

Medicare's no-pay policy

It should come as no surprise that the majority of these increased costs are due largely to the added care required when a patient contracts an HAI, and the offsetting reimbursement from third-party payers. However, this all changed in October 2008 when the Centers for Medicare and Medicaid Services (CMS) announced it would no longer reimburse hospitals for the costs associated with the added care for Medicare beneficiaries acquiring one of the top three HAIs. This so-called "no pay" policy in essence now forces hospitals to shoulder the entire brunt of additional costs when a patient contracts one of the three HAIs.

Two of the top three no-pay HAIs are classified as device-related: central line-associated bloodstream infections and catheter-associated urinary tract infections. The third, surgical site infections, is classified as procedure related. Of note is that the fourth leading cause of HAIs is another device-related problem, our profession's newest nemesis, VAP. As the *AARC Times* article points out, VAP has not yet been added to the no-pay list, but it is no longer a question of "if" but "when." Furthermore, history has repeatedly shown that whatever direction CMS takes — especially in matters of reimbursement and payment policy — other health care payors, private and governmental alike, soon follow. Given the enormous adverse financial impact soon to be associated with each case of VAP, respiratory therapists will have another unique opportunity to demonstrate that, in addition to providing quality patient care, we can also be a highly valued resource to the hospital body politic in this era of health care transformation. But to be successful, we will need to become much more aware of the larger issue of HAIs and more visible in our respective institution's VAP prevention practices.

Since that article was written and published, other events continue to reinforce even more just how huge the issue of HAIs has become. Notwithstanding the billions of dollars a year in unnecessary (and largely *preventable*) costs, HAIs have become a rallying point for the entire patient safety/provider accountability debate. The Centers for Disease Control and Prevention (CDC) waded into the foray a few years back by establishing the National Healthcare Safety Network (NHSN). The NHSN was originally formed as a voluntary, Internet-based surveillance system to collect data to permit valid estimation of the magnitude of adverse events. However, at this writing, 27 states have passed laws mandating the reporting of HAIs, with the remaining states sure to follow. What began as a voluntary undertaking is steadily becoming a required practice for all

about the author…

Patrick J. Dunne, MEd, RRT, FAARC, is president of HealthCare Productions Inc. in Fullerton, CA. He is also a trustee of the American Respiratory Care Foundation and an AARC representative to the International Council for Respiratory Care.

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hospitals, no doubt much to the chagrin of many hospital administrations.

This shift in purpose is due in large part to the efforts of the Safe Patient Project, a new Consumers Union campaign aimed at reducing medical harm by raising public awareness and requiring public disclosure of hospital infection rates at the state level (www.safepatientproject.org/about.html). The premise of the Safe Patient Project, which explains why there is such a groundswell of grassroots support at the state level, is that consumers have the right to know how well their local hospitals fare in providing care that is both safe and effective. However, now that NHSN provides the vehicle for such reporting, one can only assume that sooner or later CMS will integrate such reporting data into its own Quality Measurement Reporting Requirements.

Since The Joint Commission evaluates most CMS patient-related initiatives at the institutional level, respiratory care departments may eventually be held accountable during accreditational visits for sustained adherence to infection prevention practices as pertains to our defined scope of patient care. That means, for better or worse, VAP prevention efforts may eventually become our sole responsibility, notwithstanding the fact that multiple providers often come into contact with our at-risk ventilator patients, often without our direct knowledge. Moreover, some of the accepted elements of the VAP bundle, such as performance of periodic oral hygiene or maintaining head-of-the-bed elevation, are typically the purview of nursing. Evidence has demonstrated unequivocally that to successfully prevent VAP, sustained adherence to all elements of the VAP bundle is required 100% of the time; however, such adherence may not always happen when certain elements are left to other care providers, in spite of all good intentions.

VAP prevention efforts may eventually become our sole responsibility, notwithstanding the fact that multiple providers often come into contact with our at-risk ventilator patients, often without our direct knowledge.

A formidable challenge

Being held responsible for something over which we have limited control is indeed troubling and presents a formidable challenge. Nonetheless, we have no choice, and we have a lot of work to do in a relatively short amount of time. For example, in a recent AARC survey on the subject, only 28% of responding managers indicated that their hospital's RC department was responsible for the VAP prevention program. In the same survey, 15% of responding clinicians indicated they were unsure of who was responsible for their hospital's VAP prevention program.

So, given the potential adverse impact even a single case of VAP will eventually have on any hospital, these numbers raise a red flag. I therefore make the case that RTs should become THE recognized VAP experts in their respective institutions. In fact, I'll even go a step further and state that RTs *must* become the leaders of each hospital's VAP prevention efforts, and this should happen sooner rather than later. Thus, at a minimum, every RT should know with 100% certainty where ultimate responsibility lies for the VAP prevention program in their respective institution. Further, all RC departments should be highly visible in their institution's VAP prevention program — if not chairing the initiative then, at the very least, co-chairing.

What has separated VAP from other HAIs (and a primary reason for its temporary exclusion from the no-pay list) is that making the diagnosis of VAP is considered to be less objective, frequently relying on clinical judgment alone. However, it won't be too long before the uncertainty of making an accurate diagnosis of VAP will be addressed with published guidelines that will blend clinical criteria with laboratory and radiographic evidence. As such, the practice of using the less-onerous diagnostic term "respiratory infection" will no longer suffice, especially when, in fact, there may be a full-blown episode of VAP.

The above-referenced AARC VAP survey revealed that in many institutions, the VAP prevention program is the responsibility of nursing, an infection control committee, a medical staff committee, or some other non-RT entity. Clearly the best approach would be to have the RC department responsible for the entire VAP prevention program in all settings where mechanical ventilation is provided. However, it is a fact that institutional policies (and perhaps more often, internal politics) dictate where ultimate responsibility for VAP prevention will reside, and it may not be directly the purview of the RC department for many different reasons. Nonetheless, RC departments can easily argue why they should be at least sharing leadership responsibility. In a sense, VAP prevention is nothing more than an extension of our preeminent position as advocates for lung-protective ventilation in acute lung injury.

It is essential that RTs be actively involved at all levels and clearly visible on a 24/7 basis whenever mechan-

ical ventilation is provided via an endotracheal tube. Perhaps more importantly, when a case of VAP is detected, RTs must seize the opportunity to immediately improve efforts to prevent additional cases of VAP, regardless of who dropped their vigilance or the reasons that not all elements of the VAP prevention bundle were consistently attained. In the words of Peter Pronovost, MD, PhD, a critical care specialist and a leading patient-safety researcher at Johns Hopkins School of Medicine, "collaboration rather than competition should be the hallmark of HAI elimination efforts."

An excellent new resource is a White Paper titled "Moving Toward Elimination of Healthcare-associated Infections: A Call to Action," published this past November in the journal *Infection Control and Hospital Epidemiology*.[2] Another important resource would be a copy of what many consider to be the gold standard for VAP prevention: The Society for Healthcare Epidemiology of America's (SHEA) 2008 guidelines for VAP prevention entitled "Strategies to Prevent Ventilator-associated Pneumonia in Acute Care Hospitals."[3] Copies of both can be downloaded at no cost by visiting the SHEA website (www.SHEA-online.org).

As the title of the White Paper suggests, a goal (and challenge) is being set for the eventual elimination of all HAIs, based upon the assumption that HAIs are largely preventable, especially when proven strategies are implemented and sustained on a 24/7 basis. Central to the argument is that in the past concerted efforts directed at other infectious diseases (e.g., polio, tuberculosis, syphilis), have resulted in significant success, and there is no reason to doubt equally compelling results can be achieved with HAIs.

The VAP strategies document also includes a discussion of the issues that must be addressed when multiple providers are involved, directly or indirectly, in the care of ventilator patients. No doubt this applies to anyone who even touches a ventilator patient, the ventilator circuit, or even the ventilator. While most assume this to mean nursing personnel and/or physicians, I would add to the list all visitors, laboratory/radiology/rehabilitation

(continued on page 94)

Is Your Company Listed in the AARC Online Buyer's Guide for Respiratory Care?

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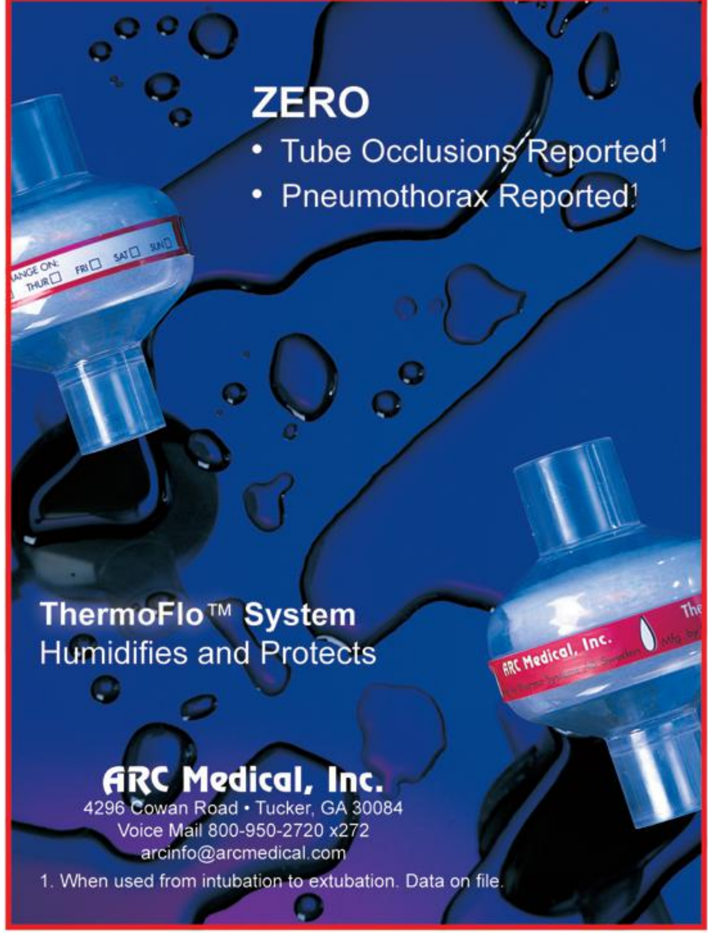

Caring for the Pulmonary Patient with Dementia

Caring for aging pulmonary patients is a complicated and costly task. But what happens when these patients also suffer from Alzheimer's disease or another form of dementia?

In a recent report, the Alzheimer's Association notes that nearly 10% of Medicare beneficiaries have some form of dementia and that average annual costs of care for these patients (not counting long-term care, which Medicare does not pay for) nearly triple, from $4,454 to $13,207.[1] Comorbid conditions understandably add to the problem and, unfortunately, are all too common among these patients. According to the report, 95% of all dementia patients suffer from one or more comorbid conditions.

When the problem is COPD

The Alzheimer's Association estimates COPD affects about 17% of people with the condition, and this chronic lung disease is common in other people with dementia as well. Caring for these patients is clearly a challenge for respiratory therapists and will require a greater understanding of how COPD affects cognition. Several studies from the medical literature shed some light on the process.

In a study that appeared in the April 2010 issue of the *European Respiratory Journal*, British researchers reviewed the scientific literature on COPD and cognitive dysfunction, looking specifically at the mechanisms of injury and dysfunction to the brain, methods used to evaluate cognition, and evidence on the nature and level of cognitive impairment in COPD.[2] They came up with seven key findings that can help care for these patients:

1. There may be a pattern of cognitive dysfunction specific to COPD.
2. Cognitive function is only mildly impaired in patients without hypoxemia.
3. The incidence of cognitive dysfunction is higher in hypoxemia.
4. Hypoxemia, hypercapnia, smoking, and comorbidities (e.g., vascular disease) are unlikely to account for all of the cognitive dysfunction seen in COPD.
5. There is weak or no association between cognitive function and mood, fatigue, or health status.
6. Cognitive dysfunction may be associated with increased mortality and disability.
7. There is limited evidence for a significant effect of treatment on cognitive function.

Another study out of Austria compared 60 COPD patients with 60 healthy controls to see how COPD might be affecting cognition.[3] All underwent the Attention Network Test to evaluate tonic and phasic alertness, orienting, and executive attention, along with the Standard Progressive Matrices and the Verbal and Nonverbal Learning Test to assess for logical thinking and learning, respectively. In a regression analysis, the researchers found significant correlations for age and blood carbon dioxide levels in reaction time, along with a correlation between age and orienting, and between age and blood carbon dioxide values and performance in logical thinking. The report was published in the Jan. 2010 edition of *Respiratory Medicine*.

Italian investigators provided provocative evidence that cognitive functioning in COPD could be linked to medication adherence in a 1997 issue of CHEST.[4] In this case, researchers evaluated overall cognition and verbal memory in 42 ambulatory COPD patients with hypoxemia and hypercarbia, 27 normal subjects of comparable age and educational level, 31 patients with Alzheimer's disease, and 26 older normal subjects. They found verbal memory declined in parallel with overall cognitive function in people with COPD and attributed the decline to an impairment of both active recall and passive recognition of learned material. Since poor adherence to the medication regimen was significantly associated with an abnormal delayed recall score, they believe medication adherence could be playing a role in the process.

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When the problem is sleep apnea

Of course, COPD patients aren't the only pulmonary patients affected by Alzheimer's disease or other forms of dementia. In fact, these conditions may be even more prevalent in people with sleep apnea. Two studies in the *Journal of the American Geriatric Society* found a strong correlation.

According to University of California, San Diego researchers who studied 235 nursing home patients in the early 1990s, 70% of the patients had five or more respiratory disturbances per hour of sleep, and 96% of that group showed signs of dementia.[5] In patients without depression, severe sleep apnea and severe dementia appeared to go hand-in-hand. A 2010 study based on 151 geriatric patients in Norway and another 420 taking part in an aging study at the Mayo Clinic found 71% of subjects with dementia had sleep disturbances.[6] Patients diagnosed with Lewy body dementias were more likely to suffer from sleep disturbances than those diagnosed with Alzheimer's disease.

The good news for these patients is that treatment with continuous positive airway pressure (CPAP) can help. Again, much of the research is coming from the University of California, San Diego. In one study published in a 2008 edition of the *Journal of the American Geriatrics Society*, investigators compared 52 men and women with mild-to-moderate Alzheimer's disease and obstructive sleep apnea (OSA) who were randomized to receive six weeks of therapeutic CPAP versus three weeks of placebo CPAP followed by three weeks of therapeutic CPAP.[7] A complete neuropsychological test battery was administered before treatment, at three weeks, and at six weeks. While no significant improvements in cognition were seen in the therapeutic CPAP patients versus placebo CPAP patients at three weeks, significant improvements in cognition were noted in both groups when pre- and post-treatment neuropsychological test scores were compared after three weeks of therapeutic CPAP.

In a second study, researchers looked at the long-term effects of CPAP treatment in 10 Alzheimer's patients with OSA who had previously participated in a randomized clinical trial for CPAP and Alzheimer's disease.[8] Five of the patients continued with CPAP following the trial, while five did not. The mean use of sustained treatment was 13.3 months. People who continued to use CPAP demonstrated less cognitive decline and had a significant improvement in subjective sleep quality. Depressive symptoms and daytime somnolence also stabilized, and sleep was better among the caregivers of those who continued with CPAP as well. The study appeared in a 2009 edition of the *Journal of Clinical Sleep Medicine*.

Seeking solutions

In the first nationally representative, population-based study of dementia in America, U.S. researchers publishing in a 2007 edition of *Neuroepidemiology* estimated about 3.4 million Americans age 71 and older suffered from dementia in 2002, and about 2.4 million suffered from Alzheimer's disease.[9] Dementia prevalence increased as people got older, climbing from 5% of those between the ages of 71 and 79 to 37.4% of those age 90 or older. As the nation continues to age, the absolute numbers of people with Alzheimer's disease and other forms of dementia is certain to grow, and many of them will be suffering from pulmonary-related comorbidities.

In its report on Alzheimer's disease, comorbidities, and the Medicare system, the Alzheimer's Association calls for a targeted care coordination benefit for beneficiaries with complex chronic conditions, a limited home visit benefit for beneficiaries in that group deemed at risk for an acute care crisis, and an affordable prescription drug benefit combined with effective medication management to prevent over- or under-utilization of drugs and adverse drug interactions.[1] With the right disease management skills, respiratory therapists can be poised to play a key role in delivering these much needed services to dementia patients with pulmonary problems. ■

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A Salute to our 2011 Corporate Partners

Since 1947, the AARC has been leading the effort to advance the respiratory care profession and promote quality respiratory health care. Working with our 50 state organizations, we have successfully advocated for the profession at the federal, state and local level.

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As health care budgets shrink and patient care becomes increasingly complex, our mutual challenges become greater. The synergy of the corporate partner concept is an effective way to address those needs utilizing our combined skills and resources.

The Commission on Accreditation of Medical Transport Services

by Steven E. Sittig, RRT-NPS, C-NPT, FAARC

The American Association for Respiratory Care has representatives appointed to many organizations in which they share common goals. The Commission on Accreditation of Medical Transport Services (CAMTS) is one of these organizations. CAMTS is a peer-review organization dedicated to improving patient care and transport safety by providing a dynamic accreditation process through the development of standards, education, and services to fulfill this vision. CAMTS was initially formed in the late 1980s in response to ever-increasing air medical accidents. This new agency began to develop standards to help programs improve safety and the care they provide to their patients. The inaugural meeting of CAMTS was held on July 13, 1990, in Kansas City, MO.

The AARC's first representative to the CAMTS Board of Directors was Cathy Peterson, RRT. She developed the first computerized application tool, which has evolved over the years from her basic design. CAMTS membership now includes 20 member organizations that meet three times a year to deliberate transport programs which have applied for accreditation and to conduct normal business. Board members are busy prereviewing programs' information prior to sending out site surveyors to physically examine such items as training records, policies, and procedures to ensure they comply with the CAMTS standards.

In addition to a respiratory therapist representative on the CAMTS board, there are two RTs who are site surveyors for CAMTS. They are past board member Jerry Focht, RRT, and Sheila Calvert, RRT.

about the author...

Steven E. Sittig, RRT-NPS, C-NPT, FAARC, is a pediatric clinical transport specialist at Mayo Clinic in Rochester, MN. He also serves the AARC as chair of both the Surface to Air Transport Section and the Disaster Response Roundtable and is the AARC representative to the CAMTS board of directors.

What is the benefit of the AARC's liaison with CAMTS?

There are many RTs who are on transport teams across the country. The need for safety both for the patient and the transport team members are common goals of both organizations. Representation on the board also helps represent and promote the profession. The 20 board members' common vision is to ensure that the patient is transported safely and by trained, competent staff.

As of Oct. 9, 2010, there are 151 CAMTS accredited programs, including six international programs. In addition to accrediting transport programs, CAMTS is offering educational programs on safety and Just Culture. The phrase "just culture" was popularized in the patient safety lexicon by a report by JT Reason that outlined principles for achieving a culture in which frontline personnel feel comfortable disclosing errors — including their own — while maintaining professional accountability.

When the CAMTS board meets, all deliberations on accreditation are completed under strict rules; and any board member, who may have a conflict of interest such as working for a program applying for accreditation, leaves the room so as not to bias any accreditation decision.

During this past meeting in Ft. Lauderdale just prior to the Air Medical Transport Conference, the CAMTS board approved and released the eighth edition of the CAMTS standards. In this latest edition, transport RTs are now listed with advanced credentials including RRT, NPS and C-NPT similar to other transport professionals. Our representation is also an important help to the board

AARC representatives to the CAMTS board include (from left) Jerry Focht, RRT; Cathy Peterson, RRT, and Steven Sittig, RRT-NPS, C-NPT, FAARC. Not shown is Thomas Cahill, BA, RRT, RPFT.

when considering mechanical ventilators, neonatal/ pediatric issues, and oxygen concerns.

Last year the board met in Dallas, TX, and I invited AARC Executive Director Sam Giordano, MBA, RRT, FAARC, to stop in to meet the board. Sam did come to meet the entire board, and I am proud to say he has been the only executive director of any sponsoring organization to attend a CAMTS board meeting. He says, "It was a very interesting visit. I was impressed with the thoroughness of the reports. The board makes every effort to assure avoidance of potential conflicts of interest. What impressed me most was the appreciation they have for respiratory therapists and the AARC."

Linking with the FAA and NTSB

In addition to accrediting transport programs, CAMTS may also work with the Federal Aviation Administration and the National Transportation Safety Board on matters related to medical transport. One can see how important the relationship between the AARC and CAMTS is for the safety of RTs who are members of transport programs, but also for the safety as well as the level of care for patients transported across the country.

Additional information on the CAMTS organization and a list of all member associations can be obtained on the CAMTS website: www.camts.org. ■

Let's Get Coordinated

by Sam P. Giordano, MBA, RRT, FAARC

Last December the Centers for Disease Control and Prevention (CDC) through its National Center for Health Statistics (NCHS) issued a report entitled "Deaths: Preliminary Data for 2008." The report identifies COPD as the third leading cause of death and states that mortality rates result from chronic lower respiratory diseases: which we know as chronic bronchitis, bronchiectasis, and emphysema. According to the report, these deaths increased by 7.8%, which moves COPD to number three among chronic disease mortality rates.[1] Previous reports identified stroke as the number three cause; it is now receding to number four since deaths due to stroke fell by 3.8%.

I know I'm preaching to the choir when I say we as individuals of the health care system and the public in general must do more to prevent COPD as well as provide more effective care for the over 20 million persons with COPD who are both diagnosed and undiagnosed. Now bear in mind these numbers are preliminary; however, COPD has never reached this infamous milestone in prior reports issued by the CDC.

We've stressed the need to screen our national population for the disease by targeting those 35 and older and utilizing the population screener. We will continue this effort relentlessly.

COPD coordinators

In recent years, treatment options have expanded for those who have been diagnosed: running the gamut from pulmonary rehabilitation, expanded medication options, a wider variety of aerosol delivery devices, and more sophisticated oxygen delivery systems that allow our patients to live a more active life. All of these things are magnificent; but in all too many instances, we've failed to achieve the synergy of coordinating these resources and coupling that coordination with a more empowered COPD patient through education. Treating lung disease is what we do, but we can improve if we look at some of the other diseases. We may learn some valuable lessons. Let's consider stroke, for instance. It's not uncommon to have a stroke coordinator in many acute care facilities. I can't say the decrease in stroke mortality is due to the coordinator, but I dare say the coordinator has contributed to the lower death rate.

Isn't it time for us to establish COPD coordinators in all of our acute care facilities? We've heard throughout our careers of the disappointment, illness, and death that results from ineffective care, noncompliance with evidence-based guidelines, and lack of proper coordination and follow-up of the wide variety of resources that must be put in place in order to effectively serve our COPD patients. You treat patients, resolve exacerbations, and do your best to position your patients to succeed post discharge. But close coordination of resources with a heavy dose of patient education that allows them to more effectively manage their disease to avoid exacerbations is often lacking. Your expertise represents a confluence of skills:

- You understand oxygen therapy and its impact on patients, but you also understand the devices available to deliver the therapy.
- You understand medical management of our patients, but you also understand the nuances of drug delivery via aerosol devices.
- You're aware of the importance and value of pulmonary rehabilitation, but you also will work to

about the author...

Sam P. Giordano, MBA, RRT, FAARC, serves as AARC executive director. He can be reached at (972) 243-2272 or giordano@aarc.org.

educate patients so they are able to continue their conditioning an ward off exacerbations long after the rehabilitation program has run its course.

Change the future

How many patients with COPD would not experience at least two exacerbations a year? How many patients with COPD would be able to live an active life with a much higher respiratory quality of life if their care were fully coordinated? And, yes, how many patients would be alive today if all the tools, resources, and interventions we use are fully understood by our patients who can be adequately followed post discharge through physician practices?

We can't revise history, but we can certainly learn from it. I say, if you're willing to step up and be a COPD coordinator, many of our patients will benefit. We can't change history, but we sure can change the future. Now that COPD is the third leading cause of death in our country, let's work to ensure that it goes no higher first, and then that it goes much lower. We can do this if we're willing to step up. Indeed, we must do this for our patients. ■

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The RT's Role as Chronic Disease Manager

by Timothy R. Myers, BS, RRT-NPS

The U.S. health care system is seriously flawed in its approach to health care management and reimbursement as it is designed to provide acute care rather than to prevent or manage chronic disease. In this country, health care delivery currently costs approximately 17% of the Gross National Product and is estimated to be approaching $2 trillion per year, making American health care the seventh largest economic undertaking in the world. With the U.S. population projected to grow an additional 20% by 2025, it is imperative that the country shift management strategies and its health care dollars from acute disorders treatment to chronic disease and disability.

Chronic respiratory conditions

More than 22 million U.S. citizens are estimated to have asthma, and an additional 16–20 million have either been diagnosed or will be diagnosed with COPD. Most health care experts agree that current and future challenges posed by these two chronic conditions create a basic need for concerted action as both significantly contribute to the economic burden associated with long-term medical management and disability-related costs.

Two of the top 10 diagnoses for patients hospitalized in the United States today are chronic respiratory diseases: asthma and COPD. Asthma is a chronic inflammatory disorder of the airways that is characterized by intermittent airflow obstruction and bronchial hyperreactivity. COPD is an umbrella term, internationally adopted in the early 1960s to describe a group of conditions that may be better known by the public as chronic bronchitis or emphysema.

Both of these diseases run the risk of being underdiagnosed. Individuals who are at significant risk for developing lung diseases fall within a broad range. Those who are at lowest risk (or potentially undiagnosed) present as either well and not currently exposed to the triggers or do not have the underlying genetic and other factors known to cause lung disease. Those in the middle layer are individuals who are exposed to the agents that cause lung disease or have the other underlying factors that can cause lung disease but are not experiencing any symptoms. People at greatest risk are those who are exposed to the agents or have the underlying inherent factors that cause lung disease and are experiencing symptoms, but they have not yet been seen by a health care professional and thus are undiagnosed.

about the author…

Timothy R. Myers, BS, RRT-NPS, is director of the Woman's & Children's Respiratory Care and Procedural Services & Pediatric Heart Center at Rainbow Babies & Children's Hospital, and assistant professor of pediatrics at Case Western Reserve University in Cleveland, OH. He is also the AARC past president.

A shift in management strategies from acute to chronic

In order to move away from the current "reactionary" models of care, it will be critical for health care to develop an organized, proactive, multidisciplinary approach to managing chronic respiratory diseases that includes both chronic and acute care. One should be able to assume that such a structured approach to managing chronic respiratory disease (CRD) would produce some of the benefits previously seen in other chronic conditions, such as diabetes and heart failure. The core values of those chronic care models were developed and designed to ensure that people are managed in an anticipatory "preventive" manner and are educated with appropriate skills and expertise to co-manage their conditions. Disease management can be defined as a systematic, population-based approach to identify patients at risk,

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intervene with specific programs, and measure outcomes.[1] Early onset of disease management of CRD symptoms will, over time, enable the natural history of the disease in these populations to be changed and a preventive and more holistic approach to care to be taken.

A chronic disease care model developed by Wagner identified four essential elements in a structured disease management model that should be expected to deliver major impact on quality, effectiveness, and efficiency of care:[2]

- Evidence-based support for decision-making
- Use of clinical guidelines
- Promotion of self-management
- Comprehensive system to support clinical management.

Evidence has found that the presence of at least two of these components is associated with improvement in outcomes, particularly with respect to unscheduled care.[2] A key factor is that the development of evidenced-based guidelines for both asthma and COPD are attainable.

> It is critical for health care to develop an organized, proactive, multidisciplinary approach to managing chronic respiratory diseases that includes both chronic and acute care.

Optimal disease management of respiratory diseases requires a partnership between the person with CRD and the health care professional associated with regular review, adherence and compliance to treatment, good communication, and exchange of information. In order for the objectives of early identification and prevention to be met successfully, the contributions of a wide range of participants in health and social care need to be delivered in a coordinated way. The central aim is for patients with chronic respiratory diseases to interact productively with health and social care professionals and that patients be seen as partners in managing their own condition. While health and social care professionals have access to up-to-date information, decision support, and the resources needed to deliver high-quality care, patients should also have the information, skills, and confidence needed to make decisions about their health in order to better manage their condition and be motivated to do so.

Patients with CRD should have their treatment optimized to control and/or minimize symptoms and ensure that they can play an active part in everyday life. Ensuring optimal care and treatment are provided at the right time requires CRD to be managed within a similar approach that embraces all elements of pharmacological and non-pharmacological treatment according to published guidelines.

Disease management programs

There is a cadre of mounting evidence that early identification of these respiratory conditions combined with effective treatment and intervention benefits people and lightens the burden of their care. Success in delivery is dependent on the use of appropriate preventive strategies and on integrated services planned and delivered around individual needs — from maintaining health and well being, to diagnosis, and eventually to end of life.

Various disease management projects have shown the ability to provide significant savings in medical claims expenses for patients with chronic diseases. Over the past few decades the ability to properly evaluate disease management program results has been fairly challenging. Medical cost savings from disease management programs must be critically evaluated using a "pre-post" design. This analytic design allows one to aggregate cost changes over time in a population and then to confidently answer critical questions about "what happened?" This prospective, analytical design is consistent with guidelines and recommendations from the industry trade organization, the Disease Management Association of America (DMAA), now called the Care Continuum Alliance.[3,4]

In addition to the globally recognizable measurements that concentrate on treatment, management, and financial outcomes, is the need to also direct focus on patient-specific outcomes. Patient-reported outcome measures are a vital necessity to measure the impact of diseases or conditions on individuals since they are measures of an individual's health-related quality of life. They frequently are comprised of short, self-completed questionnaires that measure health-related quality of life at a single point in time, using items that have been validated as important to those people who suffer with the diseases or conditions in question.

Why is disease management important to the RT?

There is a considerable scope for improving the quality of care and support in CRD within this overarching

chronic disease management framework. Its introduction will rely on the efforts of various agencies and health care providers alike. However, at present, comprehensive guidance on disease management services for people with CRD does not exist — nor are the number of diagnostic, assessment, treatment, monitoring, or personal self-management plans routinely used to help people manage their conditions.

In the AARC's "2015 and Beyond" project, an essential skill set of the future respiratory therapist is to grasp the knowledge, skills, and attributes of disease management.[5] This is not a new concept, as it has been described in peer-reviewed literature in the distant and recent past.[1,6]

Good clinical leadership will also be needed to ensure uptake across care sectors and agencies and to reduce duplication in care provision. Respiratory therapists are in the only profession that receives specialized dedicated education and training on the diagnosis, management, and education of patients with respiratory diseases. This positions RTs at the front of the disease management line for patients with CRD. It is time for the respiratory therapist to rise to the disease management challenge for patients with chronic respiratory diseases. ■

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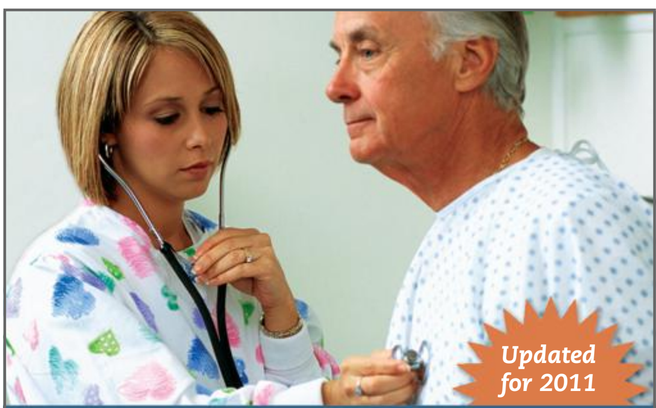

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Treatment Options for the Alpha-1 Patient

by Robert A. Sandhaus, MD, PhD, FCCP

Alpha-1 antitrypsin deficiency (alpha-1) is the major identified genetic cause of chronic obstructive pulmonary disease (COPD) in the United States, and undiagnosed alpha-1 accounts for about 1% of those diagnosed with COPD.[1] It is a hereditary condition that can result in destructive lung and liver disease. The gene for the protein alpha-1 antitrypsin (AAT) is on chromosome 14, and individuals inherit one allele of this gene from each parent. Two abnormal alleles lead to a severe deficiency of AAT protein in plasma. This plasma deficiency can lead to breakdown of lung connective tissue by the body's own white blood cells, producing emphysema, chronic bronchitis, and/or bronchiectasis. The liver is the major site of synthesis of the AAT protein; and in the most common form of alpha-1, the plasma deficiency is due to misfolding and aggregation of AAT within liver cells, preventing the protein's transport from the liver to the blood.[2] In some individuals, this aggregated AAT protein can lead to liver injury and scarring, otherwise known as cirrhosis.

While alpha-1 is an important cause of COPD, it is important to recognize that individuals with alpha-1 may never display disease of any sort during their lives. The number of individuals with alpha-1 who remain healthy is not known since the most common reason people are tested for alpha-1 is the presence of unexplained lung or liver disease. Based on somewhat limited data, it is estimated that there are more than 100,000 individuals with severe alpha-1 (two abnormal genes for AAT) in the United States[3] and a similar number in Europe. In the United States, less than 10,000 of these individuals have been identified.

about the author...

Robert A. Sandhaus, MD, PhD, FCCP, is the clinical director of the Alpha-1 Foundation and the medical director and executive vice president of AlphaNet in Miami, FL. He is also the professor of medicine and director of the alpha-1 program at National Jewish Health, Denver, CO.

Diagnosis

Treatment of alpha-1 depends, first and foremost, on accurate diagnosis. When alpha-1 was first described in 1963,[4] it was identified as causing early onset emphysema among family members. Thus, most current health care professions are under the impression that testing for alpha-1 should be limited to young adults with family history of emphysema. Unfortunately, this approach has led to the dramatic underdiagnosis of alpha-1.[5,6] We now know that alpha-1 can lead to the development of emphysema in adults of virtually any age and that individuals with alpha-1 can present with chronic bronchitis or bronchiectasis as the predominant lung disease. Since some individuals with severe alpha-1 can remain healthy through most of their lives and then develop liver or lung disease, testing of family members is recommended for this genetic condition so that routine monitoring can be provided and risk factors can be avoided in those affected.

So who should be tested? One could argue that everyone should be tested for alpha-1 once in their lives and, in fact, work is moving forward to consider adding alpha-1 to the newborn screening panels in several states. For now, we tend to rely on "targeted detection." Targeted detection refers to testing individuals in a target population likely to be affected by alpha-1. This has led to the recommendation that all individuals with a diagnosis of COPD be tested for alpha-1. After an individual is identified with alpha-1, testing of immediate family members is recommended.

There are a variety of testing methods available to identify individuals with alpha-1. Most hospital labs are

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able to perform a quantitative plasma or serum level of AAT protein. This is a relatively inexpensive method for identifying severely deficient individuals. Even more cost effective can be the use of free test kits provided by various companies and organizations with an interest in identifying those with alpha-1. These free test kits require only a few drops of blood from a finger stick to perform a genotype and level. The downside is that results might not be available for several weeks. There is also a confidential research and home testing program funded by the Alpha-1 Foundation (www.alphaone.org) that allows individuals to stick their own fingers and send their dried blood spots to the Medical University of South Carolina for testing.

A recent study, funded by the Alpha-1 Foundation and the AARC, used respiratory therapists and pulmonary function technicians working in academic pulmonary physiology laboratories to identify, consent, enroll, and test individuals for alpha-1 whose pulmonary function testing met Global Initiative for Chronic Obstructive Lung Disease (GOLD) criteria for COPD. This study was extremely successful, enrolled over 3,400 patients in a matter of months, and confirmed the prevalence of undiagnosed alpha-1 in this population. The Alpha-1 Foundation has also initiated a family testing program that provides information to family members of those diagnosed with alpha-1 along with a mechanism for facilitating the testing of family members.

> It is estimated that there are more than 100,000 individuals with severe alpha-1 in the United States, but less than 10,000 have been identified.

Family-based genetic counseling can be extremely helpful in putting in perspective the risks for family members of newly diagnosed patients. Family testing often identifies a number of relatives who are carriers of a single abnormal allele for the alpha-1 gene, along with a normal allele. The risks to these carriers are still being studied, but the best evidence to date is that individuals who carry a single abnormal allele have a much lower risk of lung and liver disease than severe alpha-1 patients, although the risks may be slightly higher than for people with two normal alleles.[7]

Treatment of lung disease due to alpha-1

The treatment of lung disease due to alpha-1 is based on the usual treatments of COPD related to cigarette smoking. This means that the initial treatment is the removal of environmental risk factors, most importantly avoidance of tobacco smoke by cigarette smoking cessation. In alpha-1 related COPD, secondhand cigarette smoke and occupational dust and fume exposures appear to be significant risk factors, as well.[8] Preventive therapy with vaccination against pneumococcal infection and influenza is recommended. In addition, because of the risk of liver disease, it is often recommended that all individuals with alpha-1 be immunized against hepatitis A and B.

Respiratory medications are the same as those used in more usual smoking-related COPD, although it should be noted that most clinical trials leading to the approval of medications for the treatment of COPD excluded patients with alpha-1. The presumption, in the absence of direct evidence, is that these drugs will have the same effects in alpha-1 related COPD as in usual COPD. As in usual COPD, the primary use of chronic bronchodilator and inhaled steroid therapy is the prevention of exacerbations, although many with alpha-1 COPD do have a reversible component to their airway obstruction (as do many usual COPD patients). Similarly, the benefits of pulmonary rehabilitation are presumed to carry over from usual COPD to alpha-1 related COPD.

Many individuals with COPD due to alpha-1 require supplemental oxygen. This is because most alpha-1 patients have significant lung destruction by the time they are diagnosed. Another variation of usual therapy is that it is generally recommended that exacerbations be treated early and aggressively with antibiotics.[1] The rationale for this recommendation is that since white blood cells are called into the lungs in response to infection and white blood cells contain the connective tissue-degrading enzymes that cause the lung destruction in alpha-1, it is reasonable to limit the severity and duration of infection in the lungs as much as possible.

There is one aspect to the treatment of alpha-1 related COPD that is unique to this genetic condition: administration of augmentation therapy. Augmentation therapy refers to increasing the amount of circulating AAT protein by intravenous administration of purified human AAT protein from healthy donor plasma.[9] There are four such products currently on the market in the United States. Each of these products is administered in a similar manner at a dose of 60 mg/kg body weight each week. Augmentation therapy should only be used to treat individuals with documented alpha-1 and emphysema. The goal of this therapy is to reduce or prevent further

decline in lung function.[10,11] Lung tissue already lost to emphysema is lost forever (or at least until a lung growth stimulating therapeutic is devised).

More screening needed

The treatment of lung disease due to alpha-1 depends on our understanding of the treatment of usual COPD with additions that are unique to those with alpha-1. At the present time, the unique treatment is augmentation therapy, which supplements the body's meager supply of AAT protein through the intravenous administration of purified AAT. Additionally, aggressive management of exacerbations and monitoring for other manifestations of alpha-1 such as liver disease are important in this patient population. Finally, more must be done to detect those with this common genetic disorder in the general population. ■

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Making the Right Thing the Easy Thing To Do

by Carolyn M. Clancy, MD

EDITOR'S NOTE: Agency for Healthcare Research and Quality Director Dr. Carolyn Clancy delivered an inspirational keynote address at the 56th AARC International Respiratory Congress in Las Vegas, NV, in December. The following synopsis of her presentation speaks volumes about AHRQ's dedication to improving patient safety and quality — and the important role Dr. Clancy believes respiratory therapists can play.

"When we looked across our database of over 800 funded projects, we found very few on respiratory conditions, and none were submitted by respiratory therapists. So, I'm thinking that we can't hear you now, and maybe we should be hearing from all of you much more often."

– Carolyn M. Clancy, MD

As an advocate for patients and families, the public, and the profession of respiratory care, the American Association for Respiratory Care is consistently on the cutting edge in achieving its mission to educate and promote lung care initiatives. Of course, all of us tend to work within our own confines — all with the best of intentions — to figure out how we can make the health care where we're working better for patients. But none of us can do this alone. So, it's really a pleasure and honor for me to be here today to talk to you about a number of issues, not the least of which are the roles that can emerge as we begin to transform our health care system into one that meets the needs of the 21st century — a system that's focused on patients and where you, as providers, have all the information you need exactly when you need it.

Patient-centered outcomes research

All of us know that this is deeply personal for the people we serve. My father died fairly recently of a respiratory condition, so I have some very recent experience with the great work that all of you do and the difficult challenges you face. Dad encountered all of the usual issues that come with his condition. He was 82 and he had severe emphysema. He was on home oxygen. He was constantly thinking that if he worked really hard, he wouldn't need that oxygen anymore. So he would test himself. He'd remove his oxygen and watch the color of his hands. When they turned blue again, then he knew it was time to put the oxygen back on.

I'm sure that all of you deal with personal idiosyncrasies like this all the time. And you're to be commended for the role you play to deliver the best possible care for every patient. At the Agency for Healthcare Research and Quality (AHRQ), our mission is to support independent research that's informed by the needs of the people providing and receiving care so that people all across the country can make a wide range of informed choices and, hopefully, we can build a system that makes the right thing the easy thing to do. In many ways, we are at the epicenter of the activity being generated by language about patient-centered outcomes research — also known as comparative effectiveness research — included in both the Recovery Act of 2009 and the Affordable Care Act signed into law last March.

Patient-centered outcomes research compares the effectiveness of different ways to treat an illness or condition. For many situations in modern medicine — diagnosis, treatment, ongoing management, and so forth — we have two or more options. What we don't have is a good source of comparative information that helps us apply all of this fabulous knowledge with more precision to the care of individual patients. Getting there requires rigorous evaluations and studies of multiple approaches to

treatments, which can include drugs, devices, tests, surgery, or ways to deliver health care.

AHRQ is the first agency to have a legislatively mandated center for conducting patient-centered outcomes research. Since 2005, we have received about $129 million from Congress for this kind of work and have published more than 50 different types of products. Some of these are research reviews for clinicians.

A big project we are funding that just got off the ground is looking at the effectiveness of long-acting beta agonists in patients who tend to have a higher risk of side effects. We're trying to figure out more effective strategies for those patients. The Recovery Act included $1.1 billion for comparative effectiveness, or patient-centered outcomes research, so there's a lot of really good news coming, both from the National Institutes of Health (NIH) and from other parts of the government.

The Affordable Care Act

This past March, the Affordable Care Act became law. In terms of patient-centered outcomes research, the law builds on the work started by the Recovery Act. Specifically, there will be a new Center for Innovations run by Medicare and Medicaid, where we're going to test practical applications of better ways to provide care. There are also provisions that strongly encourage various agencies in the federal government to work together on quality and provisions built around developing better quality measures, getting smarter about data collection and public reporting, and linking quality of care with efforts to reduce and ultimately eliminate disparities in care associated with patient characteristics.

There is even a provision addressing the need for a "science of improvement" — ways to translate science to the benefit of the patient — because right now we pump out a lot of information and assume that it magically trickles down in precisely the right way for each individual receiving care. The problem is, it's not working so well. The law also established the Patient-centered Outcomes Research Institute. This is a private sector institute that will be working very closely with my agency and NIH. It's funded by a combination of public and private sector funds. Of the 21 people on the board of governors, most are there because they represent patients' needs, specific health care professionals, those who pay for care, and others. This is really a new idea that's also called "stakeholder governance."

Another key component in the law is the National Health Care Quality Strategy. How many of you have perused websites looking for information that you needed on quality of care? It would be hard to imagine that "strategy" has been a key idea behind many of these incredibly well-intentioned efforts.

The idea is to have a strategy that begins to integrate and align the efforts of the federal government, the states, and all of these private sector initiatives. Some of you may be working in hospitals right now that are being required to report on the same condition with slightly

different specifications. I'm sorry, but this is not helping us keep our eyes on the ball. This is all about just chasing measurement and record keeping. We can do a whole lot better than that. That's why I'm so excited about the strategies, so we can make it easy for people to do the right thing.

Leveraging the best evidence

The one home run that I can point to in health care is the Michigan Keystone Project. This project was funded by AHRQ and conducted by a team from Johns Hopkins led by Peter J. Pronovost, MD. They tested it at home first, then they went to the state of Michigan where they worked in very strong partnership with the Michigan Blue Cross Blue Shield Association and the Michigan Hospital Association. They used a fairly simple tool, the checklist, to reduce the occurrence of, and mortality from, serious bloodstream infections associated with central lines in ICU patients. The genius of this checklist was that it was pretty adaptable. So, small rural hospitals could use it as well as ICUs at the University of Michigan.

Now, long after the grant ended, they have sustained the dramatic improvements in care that resulted from their efforts. But we need a lot more projects like this one to improve health care quality. Donald M. Berwick, MD, MPP, who's now running the Centers for Medicare and Medicaid Services, once said, "In the end, only those who provide care can improve that care." That's why, when I say that we're very serious about providing you with the best possible information, I mean it from the bottom of my heart because all of this has to take place at the front lines of care. It's about leveraging the best possible evidence and information at the bedside and making sure patients understand what they need to do to control their conditions after they've been discharged or when they're on to the next phase of disease.

We've all seen uncertainty in the eyes of people who are dealing with respiratory illness, whether it's the patient or a family member. My stepmother was nothing short of fantastic in caring for my dad. She made it possible for him to continue living at home. Last June she went to visit her daughter, who lives in Washington state, for two weeks; so Dad went to stay with my sister. I had been trying to educate my siblings about chronic illness and what was going on with our father, but they were not listening to a word. So I talked to a physician friend who said, "don't call your sister till day two," which is what I did. What was she the most freaked out about? The oxygen, right? Once they got it home and could get it working, she was fine. But that initial encounter can be pretty traumatic for everyone.

It's extremely important for respiratory therapists to become more engaged in coming up with strategies to improve the patient's experience. It's very likely that plans, programs, and approaches you currently use would be helpful to colleagues in other settings and geographic locations — if they know about them. But when it comes to figuring out what works, the only thing we

know for sure is that there's no real way to know for sure unless we're actually measuring and checking our progress.

Early in my career I was working in Richmond, VA, juggling teaching, research, seeing patients, and being medical director at a primary care clinic where the vast majority of patients were uninsured. Our aspirations and intentions were beyond magnificent. Our delivery of care was not. We had very few resources. Most of the physicians didn't really understand where most of the people in our clinic lived in any sense of the word. And a third of the patients came from rural areas. So the idea of making an appointment or follow-up diagnostic test didn't have a lot of meaning. Patients came in when they could get a ride.

Interestingly enough, we also had a home care team, and I occasionally went out with them to make visits. I'll never forget the gentleman on oxygen who had a "no smoking" sign outside his house that was misspelled. It very quickly dawned on me that it didn't really matter that the "m" was missing in "smoking" or that this was not a terribly elegant sign. It worked. No one with a lit match was going to go through his door. It's these unique kinds of experiences that cause us to become interested in creating policies and practices that create consistency and quality of care.

Research project proposals needed

Patient-centered outcomes research is currently getting a lot of attention. But it's only one of the topics that my agency is engaged in. We have funding for a variety of research projects. So, the possibilities, for those of you who are interested, range from small conference grants for training and education to studying the effectiveness of treatments for complex patients or creating and evaluating different applications of health information technology. All of the projects that we have funded are on our website (www.AHRQ.gov), but when we looked across our database of over 800 projects, we found very few on respiratory conditions, and none were submitted by respiratory therapists.

The Institute of Medicine released a top 100 list of priorities for comparative effectiveness research about a year and a half ago. Again, respiratory conditions were not very prominent on that list.

So, I'm thinking that we can't hear you now, and maybe we should be hearing from all of you much more often. Because I would guess that each of you could put together your own list of research questions and projects that you'd like to see. For example, I can't help but think about all the people out there who don't know how to use their inhalers. Or how many don't have asthma management plans. When we report on this in our quality report, 50% is about the high water mark. We can do a whole lot better than this.

I'm sure that many of you have used the National Guideline Clearinghouse, which has no less than 250 guidelines related to respiratory conditions. The clearinghouse is also on the AHRQ website at www.guideline.gov. The American Association for Respiratory Care maintains four guidelines in the database, and there is a variety of quality measures in a related clearinghouse.

More work from AHRQ

One of the big issues confronting health care right now is hospital discharges. We all know how this plays out: It's time for the patient to go home. The people who are picking him up were told to get there at 8 in the morning and it's now going on 11:30 and they're getting really impatient and threatening to sign out against medical advice. Not exactly the perfect setting for having a calm, thoughtful conversation about what to do once you go home. So we funded a project at Boston Medical Center called the Reengineered Hospital Discharge Project, or Project RED, for short. It uses a virtual nurse, or avatar, named Louise, who takes the patient through 11 reinforcing steps that are shown to improve the discharge process and decrease readmissions.

We also have a DVD to help health care professionals who are not respiratory care specialists provide care during a mass casualty. This project, which was produced for us by a team from Denver Health, is called the Cross Training Respiratory Extenders for Medical Emergencies project, or Project XTREME, for short. There are six training modules that cover topics like infection control, respiratory care terms and definitions, manual ventilation, and mechanical ventilation.

One older study that I also want to mention is the National Emphysema Treatment Trial. Back in the mid-1990s, the Medicare program noticed that a lot more people were having lung volume reduction surgery. The tough part was that some patients did dramatically, unbelievably better. They went from being virtually bed-chair-bound, and tethered to oxygen, to running around town, golfing, and so forth, which was fantastic. But it was really hard to predict who was likely to have that kind of response. So we suggested a randomized trial. The study compared patients who received maximal medical therapy, including the best, state-of-the-art pulmonary rehabilitation, versus maximal medical therapy plus lung volume reduction surgery.

Two interesting things happened. One was, within the first year or two of patient enrollments, there was a group

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This presentation will review the history of the use of checklists and other standardized procedures to improve outcomes in various industries and discuss how they are being adopted for use in healthcare to reduce errors and improve patient safety.

Minimizing VAP in 2011– How Respiratory Therapists Can Contribute
Marcos I. Restrepo, MD
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of high-risk patients who were actually likely to die faster with surgery. So the eligibility criteria for the trials had to be changed. The other thing that we learned from almost all of the sites was that many patients had never had pulmonary rehabilitation like they were getting now. Some of them felt so good that when it came time to be randomized, they said, "Are you kidding me, I feel great, I'm out of here." So again, it's a reminder about the gap between our aspirations and what happens for patients every day.

Two important things

Ultimately, this is all about trying to provide the best possible care to patients wherever they show up, and it's about making sure they're armed with information and tools to avoid a return trip. So information is important. But I've learned two things in my own career that I think are even more important. The first is the importance of read back. Early on in my career I was seeing patients at the free clinic a couple of nights a month. One night I heard the pharmacist next door instructing a patient about the medicines he needed. Then I heard him say something I'd never said to a patient and I'd never heard a medical doctor say — "tell me what you heard." I didn't know the name for this, but I knew it was incredibly important. Nothing could be more important than "tell me what you heard."

The second important thing is information is helpful but not the end game. What matters is if patients believe that what they do makes a difference. Like the no smoking sign that was misspelled. That patient knew what to do — so what if he misspelled it?

Making a difference

In closing, I have some ideas that I think might benefit you, your patients, and possibly the health care system overall. First, I think all of us need to be even more proactive than we already are. In the current environment, the people at the bedside are the ones who can move the needle significantly by leveraging and applying the best possible evidence-based medicine more effectively. Secondly, this means that you need to speak up and ask questions. If you think an order is unnecessary, you should find the evidence that supports your recommendation and let the team know that there are alternatives. If you don't have the research you need, or if you have an idea for a project that would help you serve the patients better, check the AHRQ website and see if you can find an opportunity to help get it done — or if you're not comfortable doing a project yourself, let us know about the idea and we'll try to get it done.

Your involvement and vigilance as respiratory therapists — professionals on the front lines of care — will be so important in ensuring that we all make the most of the resources and tools we currently have to make the system better. Together we can make a dramatic difference in the lives of our patients and begin to close the gap we confront all too often between what we aspire to for our patients and what actually happens in everyday life because of the systems that we're trapped in today. Again, in the end, only those who provide care can improve that care. ■

Every year the American Respiratory Care Foundation (ARCF) joins with sponsors from the health industry to award up to $29,000 to respiratory therapists and physicians through its education recognition, fellowships, grants and awards programs.

Award Programs

For more information, or to apply for one of these awards, contact the ARCF Executive Office, 9425 N. MacArthur Blvd., Suite 100, Irving, TX 75063-4706, (972) 243.2272, fax (972) 484-2720, e-mail arcf@aarc.org.

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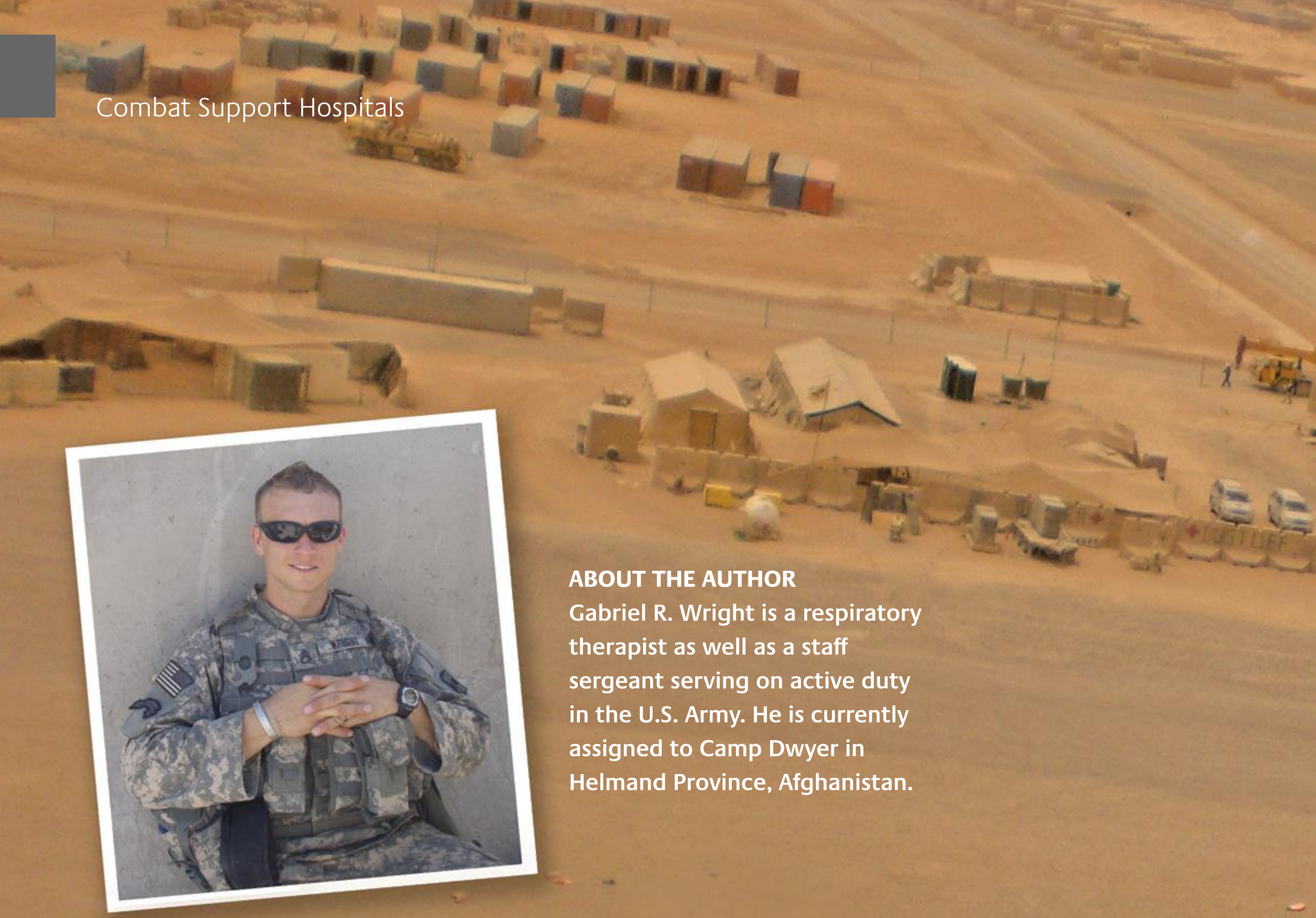


ABOUT THE AUTHOR
Gabriel R. Wright is a respiratory therapist as well as a staff sergeant serving on active duty in the U.S. Army. He is currently assigned to Camp Dwyer in Helmand Province, Afghanistan.

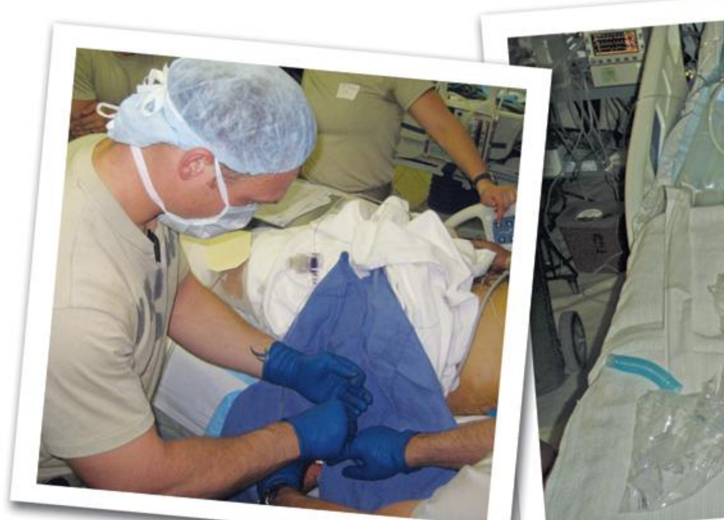
As an active duty respiratory therapist for the past five years in the U.S. Army, I have served in a variety of settings — from stateside medical treatment facilities to overseas battlefield austere conditions. I have worked in the burn ICU at the Institute of Surgical Research Burn Center at Fort Sam Houston, TX, and performed aeromedical evacuations on a Special Medical Augmentation Response Team–Burn (SMART-B) for over three years.

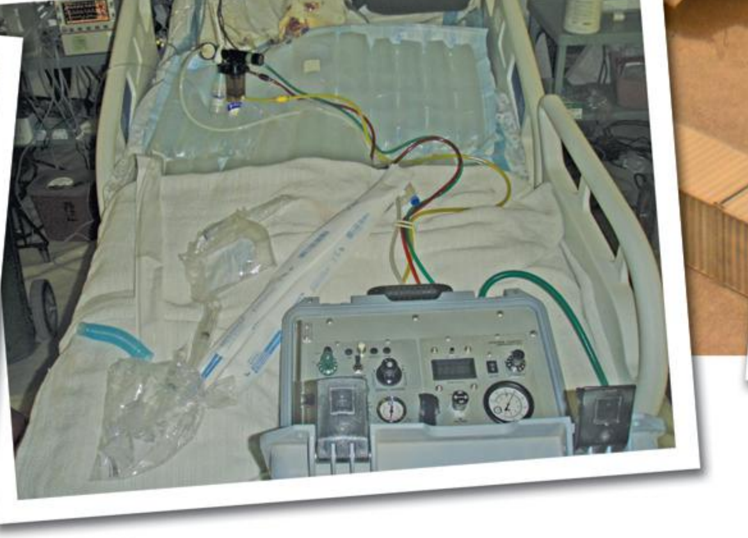
RESPIRATORY AUSTERE

by Gabriel R. Wright, CRT, SSG

THERAPY IN ENVIRONMENTS

I am currently deployed to Afghanistan in support of Operation Enduring Freedom with the 31st Combat Support Hospital (CSH) along with four other active duty RTs. Our respiratory therapy department is responsible for supporting all respiratory-related care to a 42-bed inpatient Role 3 CSH (which provides advanced medical, surgical, and trauma care, similar to a civilian trauma center). We are also responsible for supporting a six-bed trauma emergency treatment room and occasionally a ventilator for one of three operating room suites. Combined, we have 30 years of experience among the five of us, ranging from adult, pediatric, burn, and neonatal care. Additionally, we have accumulated 12 years of flight status ranging from rotary wing (helicopter) to fixed-wing (airplane) assets.





Current ventilator capabilities

Currently the mission of the 31st CSH Role 3 at Camp Dwyer, which is located in Afghanistan's Southern Helmand Province, is to support the U.S. Marine Corps in current military operations by providing far-forward medical care on the battlefield. The ICU is a 12-bed unit with 12 Impact Eagle 754 ventilators and four in reserve. Each bed must be equipped with a ventilator in case of a mass-casualty situation, which may present itself at any moment. This provides us with the ability to care for all intubated patients that present to the CSH.

During the initial hospital construction, the respiratory therapy department received eight Pulmonetic Systems LTV 1000s; we have since switched to using the LTV as our primary ventilator of choice. During a mass-casualty scenario, we are able to use additional ventilators/equipment from the U.S. Air Force Patient Movement Item System (PMI). This PMI equipment is stored within our facility to support injured coalition troops for inflight care. We have recently requested the order of six Dräger Evita XLs, which will give us additional options and modes of ventilation for higher acuity patients who may present with ventilation and/or oxygenation difficulty (including those suffering from lung contusions, major thoracic surgery, crush injuries, and severe trauma to the lungs).

In comparing the two types of ventilators, it has been our experience that the LTV has been the most versatile. The Impact 754 has the capability to easily maneuver intubated patients within the facility with options such as assist control, synchronized intermittent mandatory ventilation, or continuous positive airway pressure. The LTVs

provide the same settings as the Impact 754 but with the additional options of pressure-controlled ventilation, pressure-support ventilation, and noninvasive capabilities. Our department has used every mode of ventilation in the ICU available to us in the treatment of 122 ventilated patients since the initial operating date of the CSH in June of 2010. The CSH respiratory therapists are the sole operators of ICU ventilators.

Blood gas sampling

Within our department, we are able to analyze blood gas samples with Abbott Point of Care's i-STAT Blood Analysis System using various cartridges and adjusting ventilator settings accordingly. Due to the austere conditions of deployment, environmental conditions play a role in the instrument's proper operation. During the summer months in southern Afghanistan, the temperature can reach as high as 130° F. In our tent environment, our ICU ward is generally 20° cooler than the outside temperature, requiring the i-STATs to be closely monitored to maintain adequate operating temperature range. The devices are charged during the night when it is cooler and are frequently stored in the overhead air-conditioned tubing during the day. If the i-STATs become unreliable due to the heat, we have the additional option of using our laboratory department to run the sample. So far, we have been able to safely and accurately analyze every blood gas sample obtained.

Portable oxygen generation systems

Currently, we use two portable oxygen systems to maintain an adequate supply of medical grade oxygen to our patients throughout the CSH. The first is O_2N_2 SITE Gas Systems' Portable Oxygen Generation System (POGS), which provides U.S. Pharmacological (USP) 93% oxygen purity +/- 3%. The compressor portion of the system is located outside the tent beyond patient care, while the POGS itself is collocated in the ICU. Air is moved through the compressor to the POGS where nitrogen and other trace gases are filtered out by a sieve tank. POGS allows the RTs to connect lines directly from the system to one or more ventilators, attach flowmeters, or refill D, E, and H tanks. POGS has the additional capability to deliver medical grade air if needed. Currently, we have four POGS, two for each ICU unit, that are used in conjunction with bedside H tanks. Again, temperature plays a large factor with the POGS compressors. We generally try to utilize the systems during the cooler hours of the night and switch over to H tanks during the day to avoid overheating the compressors.

Another system in use is PCI's Expeditionary Deployable Oxygen Concentration System (EDOCS), which mirrors the functions of the POGS but on a larger scale. It fills tanks faster and provides 120 L/min flow whereas the POGS generates only 33 L/min. The EDOCS can produce the equivalent of 800 H tanks in three months, eliminating the need to resupply the CSH with outside resources. Our daily consumption rate for oxygen has been four H tanks per day and 360 tanks every three months, depending on the patient workload.

Patients

Our primary mission for this deployment is to provide medical care as far forward on the battlefield as possible for Marines, soldiers, and numerous other coalition forces in the southern region of Afghanistan. We have also provided care to Department of Defense personnel, Afghan National Army, Afghan National Police, contractors, local population, and enemy prisoners of war. The care plan for our deployed American and coalition forces is to stabilize and prepare for movement to a facility of higher care. Injured patients on the battlefield or within villages are brought to us by medical evacuation teams on rotary wing (and occasionally fixed-wing) aircraft. American forces who require higher levels of care are evacuated on fixed-wing aircraft by the Air Force Critical Care Transport Team (CCATT). CCATT is an Air Force team consisting of a physician, nurse, and RT that cares for patients throughout the flight. Once loaded onto the aircraft, patients may head to numerous facilities in Afghanistan prior to their final flight out of the country headed to Landstuhl Regional Medical Center in Germany. Landstuhl provides a higher level of care the patient needs until they are stable; lastly, they will be transported stateside for continued definitive care. Local forces, Afghan National Forces, and the local populace are kept with the CSH until the patient is ready for discharge or until a local hospital accepts responsibility to care for them. There are limited options for injured Afghan soldiers and local nationals. Many of the facilities do not have adequate space, supplies, or resources to support these patients.

The Portable Oxygen Generation System filters nitrogen and other trace gases from room air and connects to ventilators, flowmeters, and D, E, and H tanks.

Injuries encountered within the CSH are like those the Army has witnessed for decades — from penetrating gunshot wounds to the more severe blast injuries. Improvised explosive devices (IEDs) inflict some of the most catastrophic and horrific injuries one could imagine on the human body, and no person is immune from the constant danger. Soldiers, local nationals, and children are all affected in some devastating ways. Other traumas witnessed include routine injuries such as snake bites, motor vehicle accidents, and knife injuries. Regardless of their nationality, prisoner status, or age, it is with great honor and pride that we care for these patients as equals and provide them the best medical care possible. As health care professionals, we believe in providing world-class medical care to all who come through the doors of the 31st Combat Support Hospital. ■

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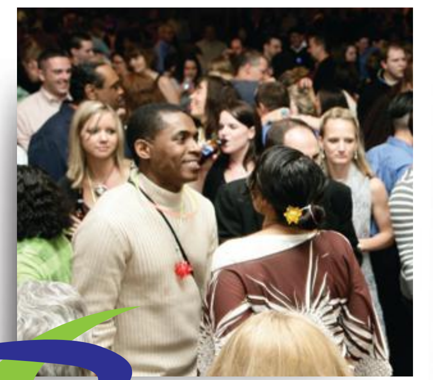


Dr. David Pierson

AARC International Respiratory Congress: a Great Return on Investment

Photos by Lennie Sirmopoulos, Convention Photography

Egan Lecturer Dr. Robert Kacmarek

For more AARC Congress news, visit our website at www.aarc.org/education/meetings

Attendees of the recent AARC Congress took home a wealth of information they could put to use in their hospitals and other facilities

2010 was a challenging year for the health care industry, as hospitals and other facilities continued to struggle with the economic downturn while ramping up efforts to prepare for changes coming their way due to the passage of the Patient Protection and Affordable Care Act back in March. Respiratory therapists who attended the 56th International Respiratory Congress in Las Vegas in December found themselves immersed in lectures and presentations aimed at bringing them up to speed on all the latest developments.

The significance of the AARC Congress was evident in the number of RTs and other health professionals who traveled to Vegas for the sessions. Attendance was one of the strongest we've seen in years, reflecting the commitment health care organizations have to educating their RC managers, educators, and frontline clinicians on everything from cutting-edge new technology and patient management strategies to bread-and-butter topics like mechanical ventilation, aerosol therapy, pulmonary function testing, home oxygen, and more.

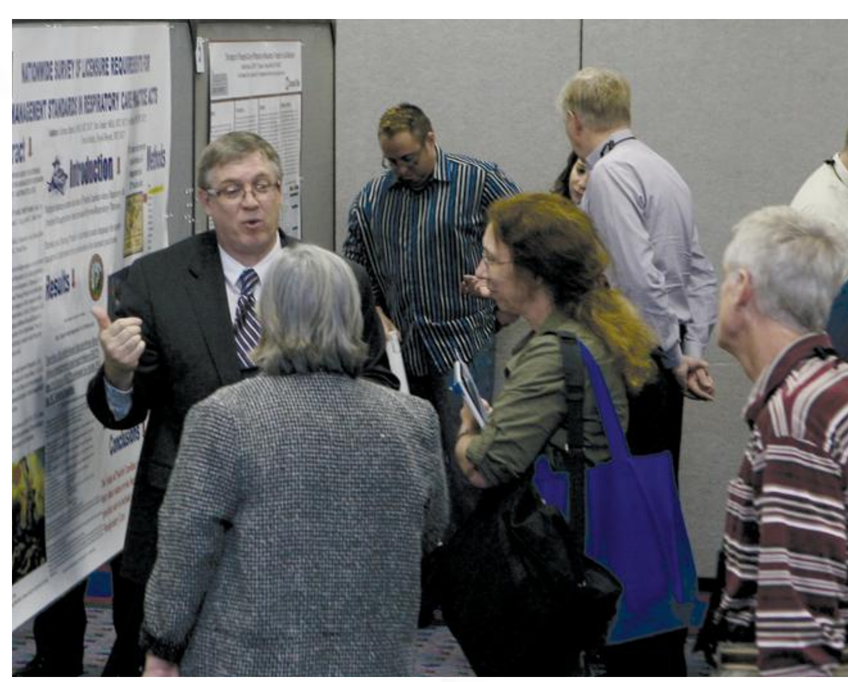
"The 2010 program was designed to provide attendees with hands-on information they could put to work in their own facilities," said 2010 Program Committee Chair Michael A. Gentile, RRT, FAARC. "With more than 250 sessions on current topics in respiratory care, Congress attendees were able to enhance their knowledge in areas that will truly make a difference in their organizations back home."

The quality of the faculty added to the value. Attendees heard from some of the leading experts in respiratory care from here in the United States and around the world, and the 170+ speakers made themselves available after the sessions as well, giving Congress attendees the opportunity to tap into some of the brightest minds in the business. The more than 300 original research projects presented in the 17 Open Forums delivered great ideas that have worked in other places and sparked new ideas for future study, and the three-day AARC Exhibit Hall capped off the event, with displays from all the leading companies in the industry.

Highlights from the 2010 Congress appear on the following pages. Take a look and we think you'll agree — the 56th Congress was packed with the kind of information and events that continue to make this meeting the best return on investment of any respiratory care meeting all year. ■

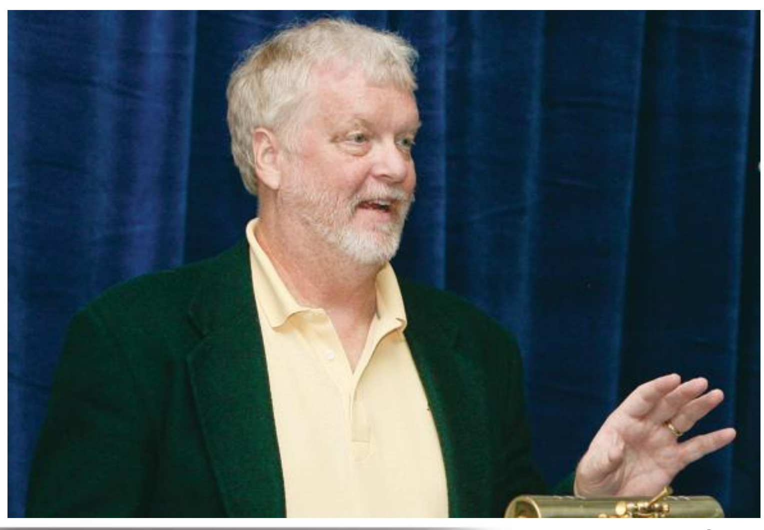
A Broad-based Education

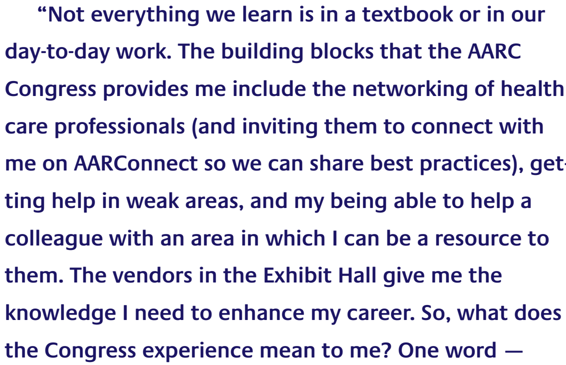
Adapting to the changing health care environment requires a broad education in new ways of providing care, new ways of delivering services, and new ways of thinking about the role of the respiratory therapist in the health care system. The AARC Congress provided a great overview of the latest techniques and strategies, and gave everyone a chance to think outside the box about how they will fit into the new paradigm being created by health care reform. Here are a few of the highlights:



- Ken Tegtmeyer, MD, tackled the tricky question of whether the arterial PCO_2 really makes a difference in the care of patients with acute lung injury, zeroing in on a review of the medical literature on permissive hypercapnia and how it can be best applied at the bedside.
- Bruce K. Rubin, MD, MEngr, FAARC, and Brian K. Walsh, RRT-NPS, RPFT, FAARC, debated the appropriate clearance method for children whose airways are plugged with mucus, looking at new mucolytics on the market plus the dramatic rise in the number of secretion devices available to address the problem.
- Ruben D. Restrepo, MD, RRT, FAARC, updated attendees on the activities of the Clinical Practice Guidelines (CPG) Committee, including an overview of the CPGs published in 2010.
- Stephen I. Rennard, MD — author of the famous "chicken soup study" published in a 2000 edition of CHEST — addressed COPD heterogeneity in the Phil Kittredge Memorial Lecture, explaining new research on specific phenotypes and the role they are likely to play in classifying patients into distinct prognostic and therapeutic subgroups in the future.
- Neil MacIntyre, MD, FAARC, took on the topic of invasive mechanical ventilation, emphasizing both the life-saving aspects of this technology and the need for more research to provide this support with less risk for lung injury, less need for sedation, less risk of infection, and lower costs.
- Douglas Laher, MBA, RRT, and Naresh A. Dewan, MD, addressed ways to stop the revolving door for COPD, with Laher looking at the business side of the equation and Dr. Dewan sharing results from a VA study that found a disease management program utilizing RTs as case managers resulted in a 41% decrease in hospital admissions and emergency department visits.
- A number of leading physicians and RTs took the podium to debate the best ways to provide lung-protective ventilation, looking at airway pressure release ventilation,

Dr. Stephen I. Rennard, Phil Kittredge Memorial Lecturer


Steven Nelson



"Not everything we learn is in a textbook or in our day-to-day work. The building blocks that the AARC Congress provides me include the networking of health care professionals (and inviting them to connect with me on AARConnect so we can share best practices), getting help in weak areas, and my being able to help a colleague with an area in which I can be a resource to them. The vendors in the Exhibit Hall give me the knowledge I need to enhance my career. So, what does the Congress experience mean to me? One word — priceless!"

– Michael Nibert, BSRT, RRT, Nibert Consulting, College Station, TX

the role of higher PEEP in managing ALI-ARDS, setting PEEP using esophageal pressure measurements, and high-frequency oscillatory ventilation.

■ David A. Gourley, MHA, RRT, FAARC, and Timothy W. Buckley, RRT, FAARC, examined risk reduction strategies for the home care RT, delving into common safety risks, emergency preparedness, and what to do when patients won't cooperate with patient safety instructions.

■ Representatives of the Committee on Accreditation for Respiratory Care brought educators up-to-speed on the more perplexing components of the new accreditation standards, providing everyone with a better understanding of the new standards and their impact on programs and future graduates.

■ David Pierson, MD, FAARC, Charles G. Durbin, Jr., MD, FAARC, and David M. Wheeler, RRT-NPS, covered the latest evidence-based thinking on key modalities in respiratory care and how "knowledge translation" is essential to putting them to work at the bedside.

■ Respiratory Care editors shared their take on the most important papers published in the journal last year and also provided an update on the recent Journal Conferences on "Patient-Ventilatory Interactions" and "Neonatal/Pediatric Respiratory Care."

Anthony DeWitt, JD

■ Steven Nelson, MS, RRT, FAARC, filled everyone in on the impact that the Mobile Spirometry Unit — a COPD Foundation program that utilized AARC members to provide testing and device and medication instruction at health fairs and other events across the country — has had on COPD detection.

■ Attorney Anthony DeWitt, JD, RRT, FAARC, drew on his background as a respiratory therapist to address the hidden traps in the law and procedural landmines RTs can face if they are brought up on a disciplinary charge by their state respiratory care board.

■ The New Horizons Symposium covered acute respiratory distress syndrome, with leading physicians and RTs addressing areas ranging from preventing ARDS to pediatric ARDS.

■ Randal S. Blank, MD, PhD, and Charles G. Durbin, Jr., MD, FAARC, delivered take-home information about one-lung ventilation and why RTs need to be well versed in this less frequent, yet vital, ventilation strategy.

■ Shawna Strickland, PhD, RRT-NPS, AE-C, reviewed the current literature on the use of noninvasive ventilation at the end of life, with a special emphasis on the ethical issues that invariably come up in these situations.

■ Sairam Parthasarathy, MD, outlined the key factors involved in sleep-disordered breathing in congestive heart failure patients and explained how the condition can be treated and why it is important for respiratory therapists to help identify patients who could benefit from therapy.

■ Daniel Grady, MEd, RRT, FAARC, reviewed the steps involved in inventing, analyzing, developing, and protecting new product ideas and also explained how to approach manufacturers with new concepts. ■

Zenith Awards Recognize Top Performing Companies

The AARC Zenith Award, which recognizes respiratory care manufacturers, service organizations, and supply companies for their quality, accessibility, responsiveness, service, truth in advertising, and support of the profession, went to these five companies this year: CareFusion, Covidien, Dräger, Kimberly-Clark, and Masimo. Company representatives accepted the awards during Congress opening ceremonies.

AARC Installs 2011 Officials

The Association's 2011 officials were installed during the AARC Annual Business Meeting on Tuesday. New Board members include Susan Rinaldo-Gallo, MEd, RRT, FAARC, vice president of internal affairs; George Gaebler, MSEd, RRT, FAARC, vice president of external affairs; Linda Van Scoder, EdD, RRT, FAARC, secretary-treasurer; and directors at large Fred Hill, Jr., MA, RRT; Denise Johnson, BS, RRT; and Camden McLaughlin, BS, RRT, FAARC.

These Specialty Sections also held elections for their chairs this year, and these individuals were elected: Keith Lamb, RRT, Adult Acute Care; Matthew O'Brien, BA, RRT, RPFT, Diagnostics; Joseph Sorbello, MSEd, RRT, Education; William Cohagen, BA, RRT, FAARC, Management; and Cynthia White, BA, RRT-NPS, AE-C, Neonatal-Pediatrics.

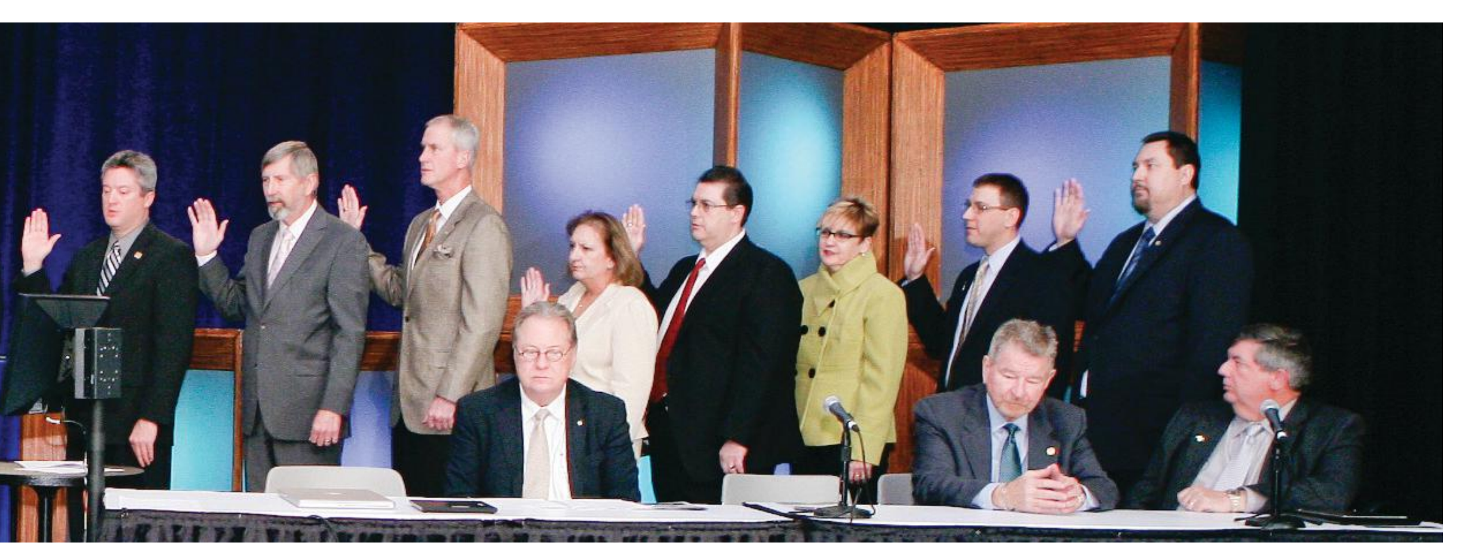
New House of Delegates officers include Billy M. Lamb, BS, RRT, FAARC, speaker; Karen Schell, MHS, RRT-NPS, RPFT, speaker-elect; Sheri Tooley, BSRT, RRT-NPS, CPFT, secretary; and William Pupanek, BA, RRT, treasurer.

Karen J. Stewart

President Stewart outlines 2011–2012 goals

AARC President Karen J. Stewart, MS, RRT, FAARC, gave her inaugural address to the membership at the annual business meeting on Dec. 7. She focused on her goals for the Association during 2011 and 2012:

1. Continue to promote the patient's and family's needs by being the advocate for those patients with respiratory disorders.
2. Promote patient access to respiratory therapists as medically necessary in all care settings through appropriate vehicles at local, regional, and national venues.
3. Increase and enhance activities to raise public awareness of respiratory therapists and their role in the treatment of respiratory disorders.
4. Continue to develop and execute strategies that will increase membership and participation in the AARC throughout the world.
5. Continue to advance the AARC's international respiratory care community presence through activities designed to address issues affecting educational, medical, and professional trends in the global respiratory care community and to advance RC advocacy for the patient.
6. Evaluate the transitional needs to meet the competencies necessary to develop the "Respiratory Therapist for 2015 and Beyond," based on the expected needs of respiratory care patients, our profession, and the evolving health care system.
7. Promote the access of high-quality continuing education so as to develop and enhance the skill base of current clinicians and meet the future needs of our profession.
8. Maintain and expand relevant communication and alliances with key allies and organizations within our communities of interest.
9. Expand efforts to obtain research funding. ■



2010 Award

The American Association for Respiratory Care, American Respiratory Care Foundation, National Board for Respiratory Care, and Committee on Accreditation for Respiratory Care recognized top performers for their contributions to the profession. Congratulations to:

- Jimmy A. Young Medal: Margaret F. Traband, MEd, RRT, FAARC
- Morton B. Duggan Jr. Memorial Education Recognition Award: Meredith G. Wood
- Jimmy A. Young Memorial Education Recognition Award: Sade Adepoju
- NBRC/AMP William W. Burgin Jr. MD Education Recognition Award: Josh Oye, RRT
- NBRC/AMP Robert M. Lawrence MD Education Recognition Award: Amber Lynn Galer, RRT
- William F. Miller MD Postgraduate Education Recognition Award: Mary P. Martinasek, MPH, RRT-NPS, RPFT
- NBRC/AMP Gareth B. Gish Memorial Postgraduate Education Recognition Award: Cynthia C. White, BA, RRT-NPS, AE-C
- Charles W. Serby COPD Research Fellowship: Brian W. Carlin, MD, FAARC, FCCP
- Monaghan/Trudell Fellowship for Aerosol Technique Development: Susan A. Roark, BS, RRT-NPS
- Philips Respironics Fellowship in Non-Invasive Respiratory Care: Jerry R. Lang, RRT
- Philips Respironics Fellowship in Mechanical Ventilation: Matthew Callaghan, MD
- CareFusion Fellowship for Neonatal and Pediatric Therapists: Cynthia C. White, RRT-NPS, AE-C
- Forrest M. Bird Lifetime Scientific Achievement Award: Ira M. Cheifetz, MD, FAARC

Sam Giordano and Margaret Traband

Dr. Ralph L. Kendall, Dr. David Bowton, and Dr. Michael Prewitt

Education Recognition Awardees: Meredith Wood, Josh Oye, Mary Martinasek, Amber Lynn Galer, Cynthia White, and Sade Adepoju

Winners

- Thomas L. Petty, MD, Invacare Award for Excellence in Home Respiratory Care: Louise Nett, RN, RRT, FAARC
- Ikaria Literary Award: Kathy L. Johnston, RRT; Khalid Aziz, MA, FRCPC, FRCPCH
- Dr. Allen DeVilbiss Literary Award: Ken Thigpen, BS, RRT, FAARC; Scott P. Davis, MD; Roberta Basol, RN, MA, NE-BC; Peggy Lange, RRT; Sanjeep S. Jain, MD; John D. Olsen, MD; Bernard R. Erickson, MD; Timothy N. Schuchard, MD; Tom P. Aufderheide, MD
- Albert H. Andrews Jr. MD Memorial Award (NBRC): Richard L. Sheldon, MD, FAARC
- Dr. Ralph L. Kendall Outstanding Site Visitor Award: Ralph L. Kendall, MD, FCCP; Michael Prewitt, PhD, RRT
- Héctor León Garza MD Achievement Award for Excellence in International Respiratory Care: Stefano Nava, MD

Cynthia C. White

Ken Thigpen

Dr. Stefano Nava

Dr. Richard L. Sheldon

Dr. Brian Carlin

Louise Nett

Dr. Ira M. Cheifetz

ARCF Fellowship Awardees: Jerry Lang, Susan Roark, Dr. Matthew Callaghan, and Cynthia White

2010 Award Winners
(Continued)

■ Zenith Awards: Care Fusion, Covidien, Dräger, Kimberly-Clark, Masimo.
■ Life Membership: William H. Dubbs, MEd, RRT, FAARC; Toni Rodriguez, MEd, RRT
■ Outstanding Affiliate Contributor: Donald Carden, BS, RRT, CPFT, Kansas
■ Delegate of the Year: Karen Schell, MHS, RRT-NPS, RPFT, Kansas
■ Summit Award: Michigan Society for Respiratory Care
■ International Fellows: Major Adil Al Otaibi, MSrc, RRT, Saudi Arabia; Guillermo C.C. Nogales, MD, Peru; Hui-Qing Ge, RT, BM, China; Micheline Gmeiner, MD, Austria ■

Karen Schell

Donald Carden

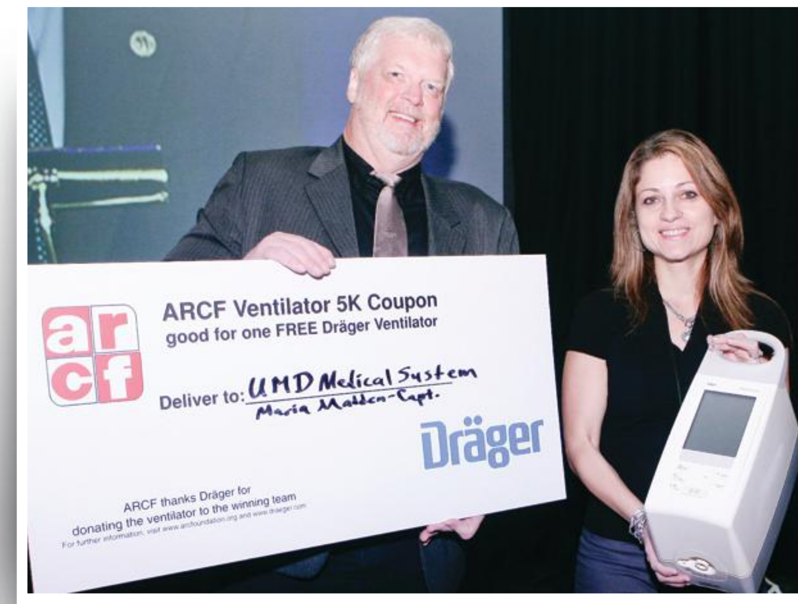
Specialty Practitioners of the Year:

Adult Acute Care
Daniel D. Rowley, RRT-NPS,RPFT, FAARC
Continuing Care and Rehabilitation
Sidnie Hess, RRT, AE-C
Diagnostics
Jo Ann Ikehara, RRT, CPFT (not pictured)
Education
Thomas A. Barnes, EdD, RRT, FAARC
Long-Term Care
Carrie Hylton, BSRT, CRT
Management
Ken Thigpen, BS, RRT, FAARC
Neonatal-Pediatric
Lee Williford, RRT
Sleep
Sheri Tooley Peters, RRT-NPS, AE-C
Surface and Air Transport
Tommy Warr, RRT-NPS, EMT-P

Summit Award: Michigan Society

AARC Fellows:

Patricia K. Blakely, RRT, FAARC
Edgar Delgado, RRT, FAARC (not pictured)
Gerilynn L. Connors, RRT, FAARC
Robert M. DiBlasi, RRT-NPS, FAARC
Donna D. Gardner, MSHP, RRT-NPS, FAARC
Mary K. Hart, RRT, AE-C, FAARC
Bradley A. Kuch, RRT-NPS, FAARC
Melvin G. Martin, MS, RRT, FAARC
Patricia M. Munzer, DHSc, RRT, FAARC
Scott Reistad, RRT, FAARC
Earnestine Thompson, MS, RRT, FAARC
Cynthia C. White, RRT-NPS, AE-C, FAARC
Gary Wickman, RRT, FAARC
Joseph Hylton, RRT-NPS, FAARC



University of Maryland Medical System Wins American Respiratory Care Foundation's 2010 Vent 5K

AARC members around the country hosted Ventilator 5K events in 2010, and the University of Maryland Medical System took home the top prize — a brand new ventilator donated by Dräger. You can see how their award-winning event played out in this video the group posted on YouTube: www.youtube.com/watch?v=YKtAul2_wM0.

AARC Salutes 2010 and 2011 Corporate Partners

AARC Corporate Partners work with the Association to advance the respiratory care profession and promote quality respiratory health care. The AARC thanks its Corporate Partners for 2010, CareFusion, Masimo, Covidien, Monaghan, Philips Respironics, Dräger, and GE Healthcare; and welcomes its 2011 Corporate Partners, CareFusion, Masimo, Covidien, Monaghan, Philips Respironics, Dräger, GE Healthcare, Maquet, Ikaria, Kimberly-Clark, and Tri-anim.

Strong International Presence at Congress

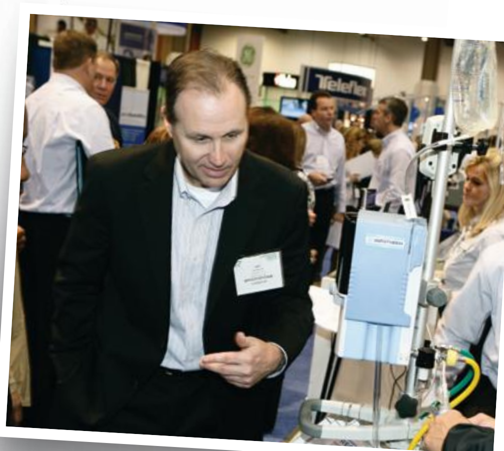
The Congress bills itself as an "international" meeting, and that moniker definitely fits. Last year the conference drew attendance from countries all around the globe, and some of the leading speakers were from other nations as well.

Chief among these international visitors were our latest international fellows (pictured on page 58). Fresh off of visits to respiratory care facilities in two cities each, these fellows had the chance to take part in all the Congress sessions and were also honored at a special reception along with the winners of the Héctor León Garza Award and the Koga Medal.

The International Council for Respiratory Care met on Dec. 8.

The AARC Exhibit Hall Had It All

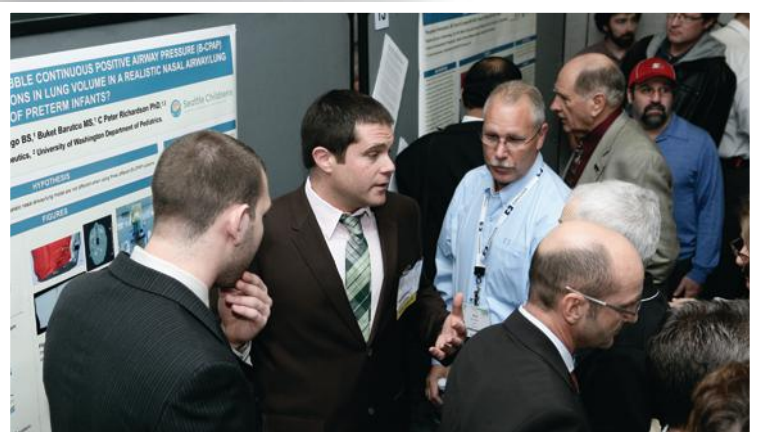
In addition to learning more about the latest developments in respiratory care in the lectures and symposiums, Congress attendees had the opportunity to get an up-close and personal look at cutting-edge respiratory equipment and technology in the Exhibit Hall. With booths representing all of the top companies in the profession, the hall was the place to see what's available from whom — and thanks to the Buying Show concept, which enables attendees to make deals right on the Exhibit Hall floor, and the RC Solutions Showcase, featuring short presentations by manufacturers, there was added value all around. ■



Open Forums: Presenting New Research in Respiratory Care

Fostering new ideas is a primary goal of the AARC Congress, and this year's 17 Open Forums delivered on that promise with more than 300 original research projects geared specifically to the hands-on problems faced by respiratory therapists in hospitals across the country and around the world. From a look at one hospital's experience with neurally adjusted ventilatory assist with severe obstructive physiology, to another's understanding of pulse oximetry evaluation in hypo-perfused ICU patients, to another's take on the financial impact spreadsheet for comparing the total cost of aerosol drug delivery systems, the forums drilled down to the topics RTs deal with every day on the job.

Attendees heard brief presentations on these topics from their colleagues and were also able to visit with the presenters after the sessions to pick their brains about how they could implement similar strategies in their own facilities. With forums devoted to every specialty area in the profession — from management and education to neonatal-pediatrics and sleep — there was something for everyone, and attendees who took advantage of these great sessions went a long way toward increasing their professional worth. ■



25+ years membership breakfast

"As a first-time AARC Congress attendee, I felt like a lit torch that was turned into a blazing forest fire! I was right at home. From the leadership speakers to the acute care sessions, I was impressed on how much knowledge I was able to absorb. There's nothing like receiving information straight from the horse's mouth."

– Ray Frausto, RRT-NPS, Presbyterian Intercommunity Hospital, Chino Hills, CA

Pre-Courses, Breakfast Symposia, Offer Extra Added Value

The four-day AARC Congress was packed with the kind of information RTs need to improve patient care and manage the bottom line back in their own facilities this year. But the value didn't end there — in fact, it began even before the Opening Ceremonies with two pre-Congress sessions designed to bring attendees up-to-date on two important topics in the profession.

Attendees registering for the Congress had the opportunity to participate in either an "Alpha-1 Antitrypsin Deficiency for the Respiratory Therapist" or "Current Issues in Mechanical Ventilation" course the day before the official session began. The former was presented in conjunction with the Alpha-1 Foundation and covered all the bases when it comes to the diagnosis, treatment, and ongoing management of this under-diagnosed, chronic lung condition. The latter presented the current concepts of mechanical ventilation for both pediatric and adult patients, zeroing in on state-of-the-art strategies and practical application of recent advances.

Photos by Beth Binkley

The added value continued during the AARC Congress itself, with several Breakfast Symposia aimed at delivering new information about key modalities in the profession. Sessions covered:

- Factors Influencing Ventilator Length of Stay, presented by Maquet
- Navigating the Respiratory Care Pyramid of Care, presented by Teleflex
- Implementing an AATD Testing Program: A Manual for Respiratory Laboratories, presented by Baxter
- Respiratory Challenges in the ICU, presented by Covidien
- Lung Expansion and Secretion Clearance, presented by Hill-Rom
- Practitioner's Edge — The Role of the Respiratory Therapist in the Management of Asthma, presented by Sunovion. ■

"I was a first-time presenter and attendee of the AARC Congress... and as nervous as I was, I presented two abstracts in the manager's forum on the first day. I enjoyed the experience immensely. Being at the AARC Congress really opened my eyes to respiratory care as a whole, not just my hospital or the other hospitals in the San Diego area, but to a global perspective. I have made it a goal to submit an abstract every year and present as much as possible. Respiratory care is what I love, and it was wonderful to see that many other people around the nation and world feel as passionate about it as I do."

- Trista Kallis, RRT, UCSD Thornton Hospital, LaJolla, CA

Attendees connected at the Cyber Cafe.

Interactive Sessions Get Audience in on the Act

In the Facebook and Twitter world we live in today, people expect not only to receive information but to give it as well, and the AARC Congress met those expectations with several sessions allowing for audience participation through the Association's new Audience Response System (ARS) technology. With remote controls in hand, each audience member in presentations dealing with clinical neonatal-pediatric cases, process improvement tools, and puzzling clinical scenarios had the chance to vote on topics or answer questions posed by the speaker, with the results displayed instantly on the screen for all to see.

"The ARS allows us to create an interactive learning environment, and it also helps confirm audience understanding of key presentation points," says 2010 Program Committee Chair Michael Gentile, RRT, FAARC. "Instead of just listening to a lecture, the audience gets to be part of the lecture." ■

AARC Booth Helps Members Get Connected

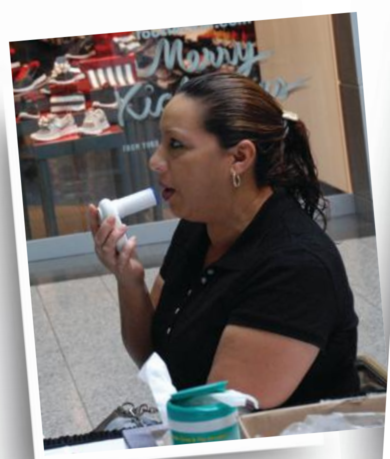
The AARC booth in the center of the Exhibit Hall is always a big hit, and the 2010 display was no exception. But visitors found more than just the usual array of information last year — they had the chance to "get connected" by participating in our Twitter Board and getting their pictures taken and uploaded onto the Association's new AARConnect social networking website.

Launched in mid-year, AARConnect is now home to all of the Association's discussion lists and has expanded the power of connectivity to allow member-created content such as blogs, communities, and more. Every AARC member has a "profile" on the site where he can share as much (or as little) information as he chooses, as well as manage all his incoming and outgoing e-mail, discussion lists, communities, libraries, and more. ■

Photos by Beth Binkley

Your Lung Health Program Gives Back to the Community

The AARC took the lung health message out of the convention center and out to the citizens of Las Vegas during the Congress, setting up free pulmonary function screenings and device and medication education stations at the Boulevard Mall. Volunteers who staffed the event reported packed crowds around the AARC display, as shoppers lined up to take the DRIVE4COPD population screener, have their lung function measured, and learn more about their asthma and COPD medications from qualified RTs. "We were pleased to be able to offer this great program to the Las Vegas community," says AARC COO Thomas Kallstrom, MBA, RRT, FAARC. ■

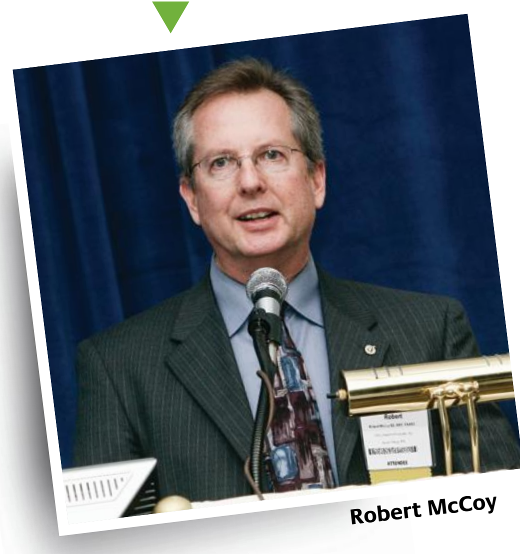


Honoring Dr. Tom Petty

When Thomas L. Petty, MD, FAARC, passed away in December of 2009, respiratory care lost a giant in the profession. Known far and wide as the father of long-term oxygen therapy, a pioneer in ARDS research, and founder of the first pulmonary rehabilitation program in the country, Dr. Petty was a true friend and supporter not just of respiratory care but, most importantly, of respiratory patients.

Congress attendees learned more about this legend during a special symposium featuring many of his friends and colleagues, who reminisced about his impact on COPD, ARDS, medical education, the respiratory care profession, and more.

"Dr. Petty's passion for people was his hallmark," says Robert McCoy, RRT, FAARC, one of the presenters during the session. "He had a contagious enthusiasm for everything he did, and it was always fun to be around him. His legacy will live on in all of us who knew him." ■



Robert McCoy

Congratulations to the 2010 Sputum Bowl Winners!

As they do every year, Congress attendees flocked to the Covidien Sputum Bowl competition, packing the aisles for the Finals Competition on Wednesday evening. Who came out on top in this national college bowl-type contest? Here are the 2010 winners:

National Sputum Bowl
First Place:
Colorado

Second Place:
Louisiana

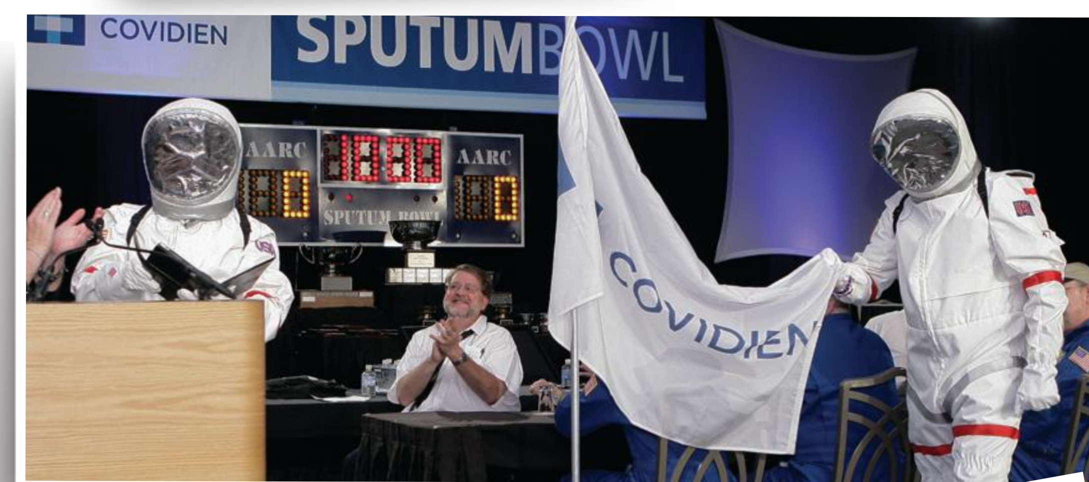
Third Place:
Michigan and Pennsylvania

Students Sputum Bowl
First Place:
California

Second Place:
Maryland-DC

Third Place:
Michigan and Ohio

Colorado won the National Finals.



Student Sputum Bowl Champions: California

To the Lung and Back

Congress attendees probably didn't expect to see a Space Shuttle-like vehicle at the meeting, but that's what they found when they ran into the COPD Foundation's "COPD Shuttle: Journey to the Center of the Lung" attraction. Using the same technology you see in motion simulators at amusement parks, the COPD Shuttle provides a virtual ride through the human lungs, complete with the effects of environmental factors and genetics. The Foundation has been showing off the attraction at health fairs and other events around the country, and attendees at the Congress were excited to get a first-hand look.

U.S. COPD Coalition: A Meeting of the Minds

AARC leaders gathered with their colleagues from other groups and organizations on the first day of the Congress as the Association hosted the U.S. COPD Coalition business meeting in the Las Vegas Hilton. The four-hour meeting gave representatives the chance to discuss ways to raise awareness of COPD and work on a map to fill the gaps in scientific knowledge needed to address prevention, diagnosis, treatment, and management of the condition.

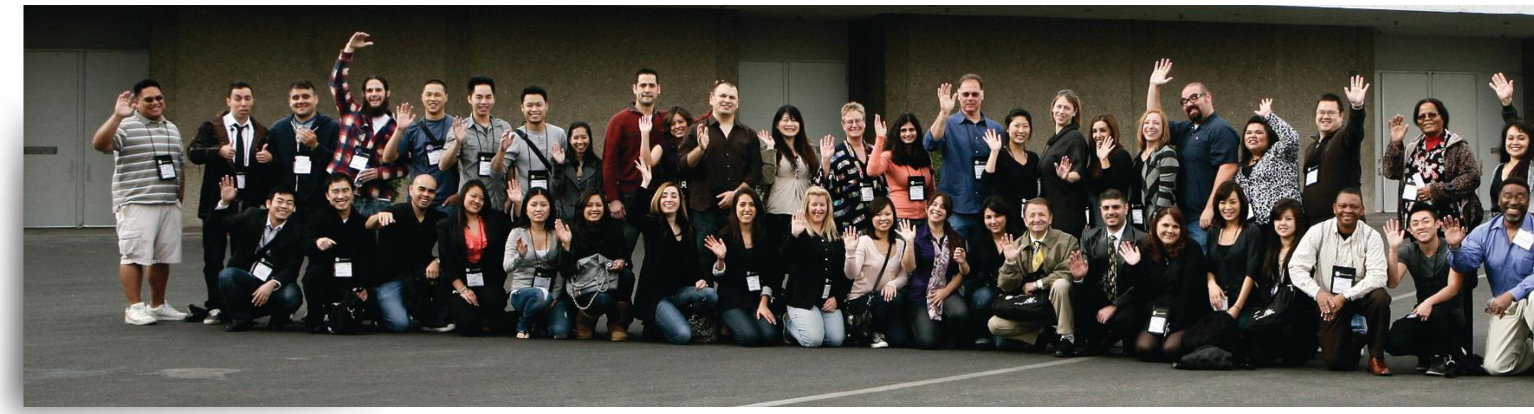
Founded in 2001, the U.S. COPD Coalition brings together patient foundations and organizations, health professional organizations, individuals, and government agencies to promote the interests of individuals affected by COPD, their family members, physicians, and scientists. The goal of the members/partners of the Coalition is to improve COPD patient needs with a keen eye to the future.

AARC Congress Provides 25+ CRCEs and IERS Accreditation

The respiratory therapists who came to the meeting with the hopes of earning continuing education credits for their state license weren't disappointed. The meeting was approved for 25+ CRCEs — more than enough, in most cases, to meet state licensure requirements for the whole year.

For the first time, the Congress was also accredited by the International Education Recognition System (IERS), ensuring quality content for attendees from around the world. "The International Council for Respiratory Care (ICRC), representing 29 nations, developed the International Education Recognition System to attest to the quality of program faculty and content for respiratory care seminars around the world. It is fitting that the AARC 56th International Congress, the largest RC meeting in the world, exceeded the IERS guidelines and achieved full approval," said ICRC President Jerome Sullivan, PhD, RRT, FAARC.

ICRC meeting



The Ultimate "Field Trip"

Mel Welch, MPH, RRT, has a saying he often uses with his students at Santa Monica College in Santa Monica, CA: "Treat respiratory therapy like a profession, and it will treat you like a professional." Over the years, he has believed one of the best ways to instill professionalism in students is to have them attend the AARC Congress. That's why he brought more than 75 student members of the AARC with him to the meeting in Las Vegas. All of the students came from the consortium program between East Los Angeles College and Santa Monica College.

"Seeing literally thousands of enthusiastic professionals leaves an imprint in their minds that truly can affect their vision of the future in their chosen career," said Welch. ■

Drive4COPD State Winners Announced

The DRIVE4COPD campaign kicked off in 2010 with the lofty goal of screening one million people for COPD using a simple, five-question population screener. As a key partner in the effort, the AARC turned to its membership for help, asking everyone to screen 10 people apiece. To make it interesting, the Association also sponsored a little friendly competition among the state societies to see which one could bring in the most screeners. West Virginia and Pennsylvania took top honors. They were rewarded for all their hard work when AARC COO Thomas Kallstrom, MBA, RRT, FAARC, revealed the winners during the Awards Ceremony. ■

Thank You, 2010 Congress Sponsors

The AARC Congress benefits every year from the generous support of those in the industry who help fund many of the programs, as well as everything from the Sputum Bowl to the printed version of the *Congress Gazette*. Thank you, 2010 sponsors!

- Dräger
- Covidien
- Tri-anim
- Ikaria
- Roche Diagnostics
- Teleflex
- Pharmaxis
- GEICO
- Monaghan
- GE Healthcare
- Kimberly-Clark
- Alpha-1 Foundation

Open Forum Abstracts Online Now, Lectures Available

If you had to miss this year's Congress, you can still catch up:

- All of the abstracts presented during the 2010 Open Forum — and dating back to 1995 — are available on www.rcjournal.com.
- Most of the lectures are available, as well, for download from the Sound Images website at www.siattend.com.

"Just got back from the 56th AARC Congress, and I feel recharged. I heard a lot of new ideas, as well as made several new connections to network with. This yearly trip is always good for the soul, and I hope that those of you who were there got recharged, as well."

– Bill Cohagen, BA, RRT, FAARC, Cancer Treatment Centers of America, Phoenix, AZ

AARC Congress Heads to Tampa in 2011

The 2010 Congress has only been over for a couple of months, but the AARC Program Committee is already busy planning the 2011 meeting in Tampa, FL, to be held Nov. 5–8, (Saturday –Tuesday). 2011 Program Committee Chair Cheryl Hoerr, MBA, RRT, FAARC, notes that if you're wondering how you can get your next meeting attendance covered by your organization, turn to the article on page 72 in this issue for some great tips from RTs who are frequent Congress attendees.

37th Donald F. Egan Memorial Lecture:

"The Mechanical Ventilator: Past, Present, and Future"

by Robert M. Kacmarek, PhD, RRT, FAARC, 2010 Egan Lecturer

This year's Egan Lecture reviewed the history of mechanical ventilators and covered not only their physical development but described the clinical decisions that have influenced changes in them. We took the listener from the initial mechanical ventilator to the sophisticated ventilators available today and speculated on the future developmental needs of the mechanical ventilator.

The mechanical ventilator is the single most identifiable piece of equipment or therapy that is associated with respiratory care. In fact, the continued development and refinement of the mechanical ventilator has been the basis for the development and refinement of the profession of respiratory therapy.

In the beginning, mechanical ventilators were very simple mechanical devices that essentially provided only controlled mechanical ventilation. Today's sophisticated microprocessor-controlled ventilators barely resemble their ancestors. The ventilator of today can provide virtually any mode of ventilation imaginable. It is able to monitor numerous functions of the patient and the ventilator itself, and its gas delivery systems are markedly improved over that of earlier generations of mechanical ventilators. However, there is still room for improvement.

The ventilator of the future needs to address a number of important issues. It will be capable of providing ventilation to patients of all ages equally as well and be capable of providing invasive and noninvasive ventilation with equal efficacy. It will provide decision support at all levels. When an alarm sounds, the ventilator will be able to define the poten-

"This year was my first AARC Congress. I had some pretty high expectations and was extremely excited for the opportunity to present an abstract at an OPEN FORUM. I walked away from the experience with the Congress way exceeding my expectations. I was truly impressed with the large variety of topics in the OPEN FORUMS. I went to six of the OPEN FORUMS and was truly motivated by the impressive work that was done by a wide variety of people. I left Las Vegas with a thirst for more and truly inspired to do more, taking home many great ideas… Some things sparked thoughts of how we can apply or adjust them for our facility. As a manager, I have shared my experiences with our staff, hoping that more people will take the opportunity to see what is being done outside of our four walls, as well as share what we do with the nation. I look forward to attending many more congresses in the future!"

– Garner G. Faulkner II, BSRC, RRT, UCSD Medical Center, San Diego, CA

tial causes of the alarm and outline steps that should be taken to correct them.

The ventilator of the future will not simply present line after line of unrelated data; instead, it will provide the clinician with information that can be used to improve the process of mechanical ventilation. If the airway pressure is slowly increasing over time and the compliance is slowly decreasing, the future ventilator will plot this data illustrating the detrimental trend and provide the potential actions needed to reverse or correct the trend. Emphasis during gas delivery will focus not just on lung protection but on patient-ventilator interaction. The ventilator on an ongoing basis will identify the level and type of asynchrony and automatically adjust gas delivery where possible to improve synchrony. Modes of ventilation will focus on improving synchrony, since we will increasingly discover that asynchrony has a markedly negative impact on patient outcomes.

The singular word that will be used to describe the ventilator of the future is smart!

Robert M. Kacmarek, PhD, RRT, FAARC, is director of respiratory services at Massachusetts General Hospital in Boston and a professor at Harvard Medical School.

We Invite You to the 2011 AARC Congress in Tampa

by Program Committee Chair Cheryl Hoerr, MBA, RRT, FAARC

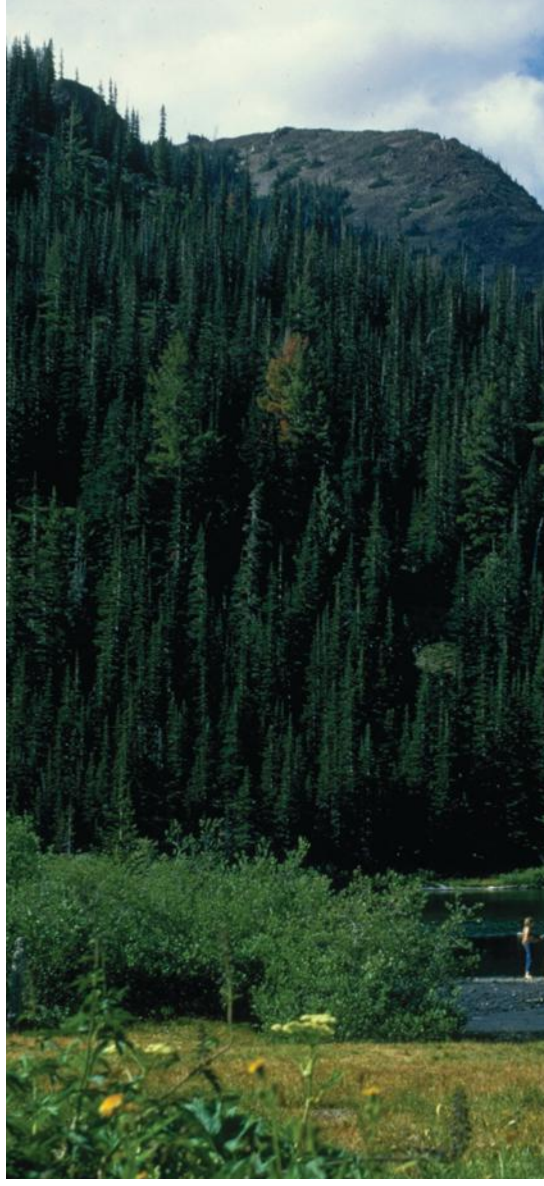
The 2010 Congress has just ended, but the AARC Program Committee is already planning the 2011 Congress to be presented in Tampa, FL, this Nov. 5–8 (Saturday–Tuesday). The Program Committee requested members' lecture proposals for Congress 2011 at the recent Congress and on AARC.org, and those proposals are now being considered at our program planning session this month.

This Congress was a huge success. Through the ideas obtained from members' feedback, the 2011 Congress in Tampa, FL, will be another great annual meeting. Attendees can expect relevant topics to address current health care issues. Employers who allocate resources for their staff to attend can expect another great return on their investment with clinicians and managers armed with information to impact clinical outcomes.

Be sure to plan early this year — so you will have already secured the funding — to attend the 2011 Congress in November and experience the thrill of learning more about and contributing to the respiratory care profession. ■

Why Now Is the Time To Plan Your Attendance

at the 2011 AARC Summer Meetings and International Respiratory Congress

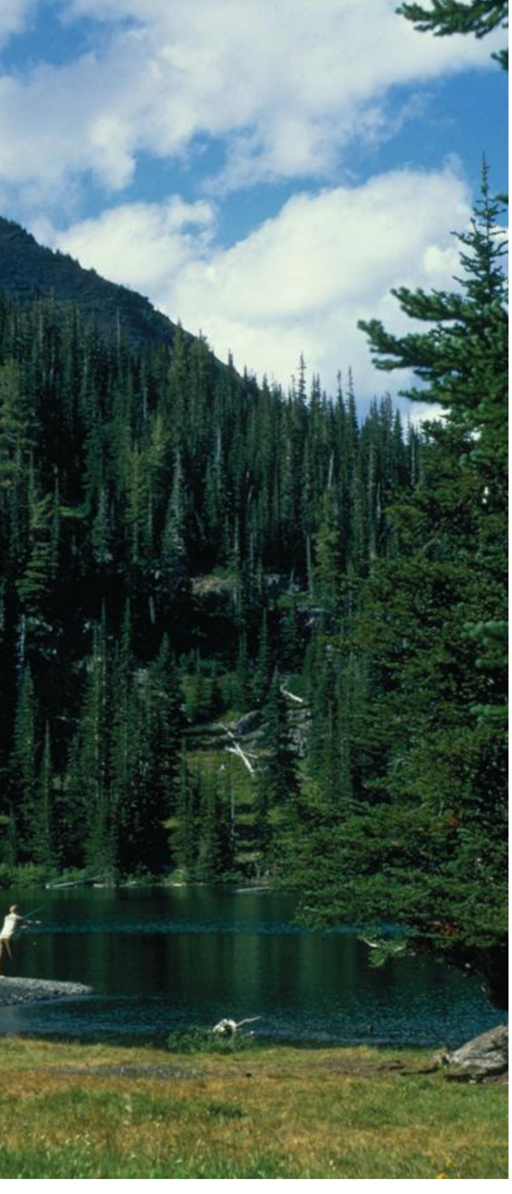


by Debbie Bunch

2011 promises to be a year of challenges for the health care system. The AARC meetings can help you meet those challenges head on — but first you have to get there. Four AARC members tell how they do it and why.

Turn to our 2010 AARC Congress coverage in this issue of *AARC Times* and you'll get a great idea of the events and activities that make the Congress the gold standard of respiratory care meetings. But understanding the value of the Congress — and our annual Summer Meetings (including the Summer Forum), which take place every summer and are especially geared to educators and managers in the profession — isn't the same as experiencing these meetings for yourself.

Why should you plan to attend, and how can you convince your facility to cover at least some of the cost of your trips? We asked three long-time attendees, plus this year's Program Committee chair, to explain what keeps them coming back to the meetings year after year and to share their strategies for funding.



Lynda T. Goodfellow, EdD, RRT, FAARC, associate professor and program director at Georgia State University in Atlanta, is also a regular at the Summer Meetings and says she's been to nearly every Congress held in the past 30 years. "I attend the Summer Forum because this meeting is geared to managers and educators. These two groups of respiratory therapists are really the leaders in our profession, and the networking is outstanding, generally due to the smaller number of attendees," says the AARC member.

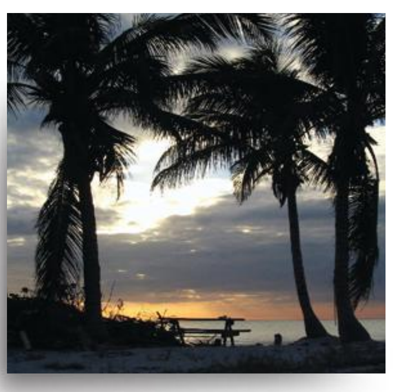
She sees the Congress as the place not only to learn more about her chosen specialty of education, but also to stay current in all the other areas of the profession. "This is the meeting where I can learn the latest and greatest in our profession in terms of technology, research, and industry. I also listen to and participate in as many Open Forum sessions as I possibly can because this gives me a sense of where the next changes in our profession will be coming from."

Natalie Napolitano, MPH, RRT-NPS, an RCP IV at Inova Fairfax Hospital and Inova Fairfax Hospital for Children in Falls Church, VA, attended her first Summer Meetings event this past year, but attends the Congress every year. "My top reasons for going are to see what everyone is doing in terms of research and to learn what's new in the profession, to network and see people I rarely get the opportunity to see during the year, and to earn CRCEs," says the AARC member. "I always come back from the Congress rejuvenated, with a list of ideas to implement."

Education, networking opportunities

"I have attended the Summer Forum since 1984 when I became the program director for the respiratory care program at Gwynedd Mercy College," says William F. Galvin, MSEd, RRT, FAARC, who still serves in that capacity at the Gwynedd Valley, PA, school today. "I attended my very first AARC Congress in 1977 when I took my oral registry exam and have consistently attended every one since about 1982." For him the meetings are about the educational opportunities for sure. But they're also about reconnecting with professional colleagues. "Many an evening we will sit around late into the night trying to 'solve the problems of the profession,'" says the AARC member. "We are able to discuss our common concerns; and on many occasions, these sessions have proven to be as helpful as the formal lectures attended throughout the day."

AARC Summer Meetings
Monday–Wednesday
July 18–20
Vail, CO



AARC International Respiratory Congress
Saturday–Tuesday
November 5–8
Tampa, FL

For more information about the AARC Meetings throughout 2011, log on to www.aarc.org/education/meetings/

Practical information

These AARC members will tell you that learning something that can then benefit their organizations is a key reason for attendance. Napolitano recalls the help she received when she was starting a new patient education program. "I attended a lecture on health literacy that helped me develop appropriate patient education materials for our patients as well as pass on the information to the therapists in the department so that they could change how they speak to and educate their patients."

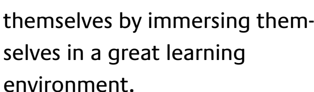
Galvin cites a lecture he heard from Sr. Madeleine, a pioneer in the TIPS Program (a train-the-trainer program), that provided him with a template for the clinical competency system he uses to this day. "I remember wrestling with trying to assure inter-rater reliability between five different clinical affiliates," he says. "All five had their own system and were quite successful in their own way but employed some unusual and nontraditional approaches. Sr. Madeleine provided the template of what we — and most others — use to address this issue."

Dr. Goodfellow says she's come home with a wealth of practical information over the years, particularly tips to help engage students through critical thinking in the classroom. "I have incorporated those strategies into my own teaching and have found them to be engaging and entertaining, too."

2011 meetings will deliver the goods

Cheryl A. Hoerr, MBA, RRT, FAARC, director of respiratory therapy and the sleep center at Phelps County Regional Medical Center in Rolla, MO, is this year's AARC Program Committee chair and says attendees at the 2011 meetings can be assured of learning more "take home" information they can put right to work in their facilities. "Health care reform is a moving target these days, and much uncertainty still remains regarding implementation and outcomes. The Program Committee is committed to being proactive in keeping our membership up to date on the changes that will potentially have the greatest impact on the services we provide," she says.

While it's still too early to predict what will end up on the final program, Hoerr says the pace of change in health care guarantees the need for continuing education, and respiratory therapists have an obligation to their patients to "continually improve and refresh their skills to provide the best care possible." She believes the AARC Congress provides a stellar opportunity for RTs to ensure quality of care for their patients and a bright future for



themselves by immersing themselves in a great learning environment.

"The AARC Congress gives therapists access to recognized experts in respiratory care and facilitates a vendor exhibit that allows therapists to conveniently evaluate multitudes of products," says the AARC member. "All of these opportunities combined in one place make the AARC Congress an efficient way to obtain important information on every aspect of the practice of respiratory care."

Certainly, the AARC Summer Meetings and International Respiratory Congress are the best places all year long for RTs to get up to speed on the latest developments in the profession and gather the tools they need to add value to their organizations back home. But getting to these meetings in what continues to be a sluggish economy is a challenge.

To Dr. Goodfellow, the surest path to meeting funding is through the presentation of an abstract at the Open Forum. "The best strategy is to submit your research or small study," she says. "If accepted for presentation, this brings attention to your facility in a positive way. Most bosses want to say to their boss that someone in their department did a small investigation and found a way to save the department money and now the data is being presented and published."

When Napolitano asks for funding, she cites the ability the Congress gives her to talk with people who have already developed some of the same projects and programs being considered at her facility. She also volunteers to share her

To see coverage of the recent 2010 AARC International Respiratory Congress, visit www.aarc.org or turn to the article in this issue.

William F. Galvin, MSEd, RRT, FAARC

Cheryl A. Hoerr, MBA, RRT, FAARC

Natalie Napolitano, MPH, RRT-NPS

Lynda T. Goodfellow, EdD, RRT, FAARC

new knowledge when she gets back. "The Congress has so much great information and a lot of people to talk with about pending or current projects," she says. "This all benefits the department and the patients we serve."

Galvin agrees that sharing information once you get back to work is a great way to let everyone in your organization know about the value of the AARC meetings. "I can honestly say that my colleagues will often stop me in the hall or shoot me an e-mail asking for information related to a session that I attended," he explains. Faculty members at his school also regularly share meeting information with the entire college community through conferences and a monthly correspondence posted on the college website, and he always discusses his attendance with his program faculty. "My institution sees the value in continuing education and provides support as best it can," notes Galvin. "But you need to demonstrate value."

"This is the meeting where I can learn the latest and greatest in our profession in terms of technology, research, and industry."

– Lynda T. Goodfellow

"The Congress has so much great information and a lot of people to talk with about pending or current projects. This all benefits the department and the patients we serve." – Natalie Napolitano

As incoming Program Committee chair, Cheryl Hoerr has given a lot of thought to how RTs can acquire funding for their meeting attendance and shares these tips that just about anyone can use to "sell" the meetings to their superiors:

- Make sure your administrator or manager knows that you consider these meetings critical to successfully accomplishing your departmental quality goals.
- Ensure your administrator understands the importance of evidence-based practice in respiratory care and give concrete examples of how the AARC Congress and Summer Meetings help. For example, talk about the opportunity the meetings and Open Forum give you to network with peers and discuss best practices.
- Tell them that new research is presented at the Congress and that you would like to take advantage of the opportunity to talk directly with the study investigators about questions you have.
- Point out that the vendor exhibits at the Congress will allow you to see, evaluate, and even purchase, show-priced equipment that will allow you and your colleagues to perform their jobs more efficiently and effectively.
- Show the 2010 AARC meeting programs to your administrator as an example of the types of topics and speakers that are featured at these meetings. Highlight the benefits of the information for your organization. Follow up with the 2011 programs when they become available to reinforce the value of this year's events.
- Offer to conduct a presentation upon your return to educate both the staff and your administrator about the improvements you can make as a result of the information you obtained at the meeting.
- Offer to pay for part of your trip as a way of demonstrating that you are willing to invest in your own development.
- Float the idea of taking a staff member with you as a way of improving employee engagement and enhancing employee development.
- If "the budget" is given as a reason for not allowing you to attend the Congress or Summer Meetings, ask if there are approved ways of raising funds for the trip outside of the budget process.

Do it today

As the comments from these long-time attendees illustrate, the AARC meetings deliver new and often cost-saving strategies to health care organizations. So, use this information to help you acquire approval for your attendance at the 2011 AARC Summer Meetings and International Respiratory Congress. ■

AARC Meetings: Where Continuing Education Meets a Little R&R

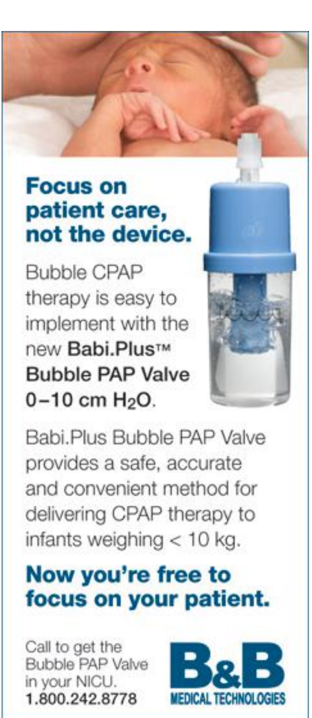
The AARC Summer Meetings and International Respiratory Congress are first and foremost about continuing education. In fact, most respiratory therapists can earn all of the CRCEs they need to maintain their state license to practice simply by attending one or more of these annual events. But they have some personal advantages as well. Every year, many attendees team up the meeting with a great vacation for their families.

"I always try to take a couple days before or after a meeting to explore the city that the meeting is in, if I have not been there before," says Natalie Napolitano, MPH, RRT-NPS. "In 2004, the Congress was in New Orleans, and I was able to go about five days ahead of time to see the city. I had never been there, and I am happy I was able to experience it before Hurricane Katrina struck in 2005."

"My family and I have used the Summer Forum as part of our vacation every summer," says William F. Galvin, MSEd, RRT, FAARC. "My kids grew up around a lot of my professional friends and still tell stories of their times swimming in the hotel pool at the Don CeSar, on the beach in Naples, and on the mountaintop in Vail. They have created wonderful memories for us." ■

Marketplace

Featuring information on products and equipment from manufacturers



Hemoglobin Monitoring

Masimo's breakthrough noninvasive and continuous hemoglobin (SpHb™) monitoring technology is the first to receive FDA 510(k) clearance. Available for widespread commercial adoption, SpHb is part of the Masimo Rainbow SET Pulse CO-Oximetry patient monitoring platform — the first upgradable technology platform capable of continuously and noninvasively measuring multiple blood constituents and helping to predict fluid responsiveness in patients previously requiring invasive procedures. www.masimo.com

Blom Tracheostomy Tube System is an innovative solution for the tracheostomized patient. Our Standard, Subglottic Suctioning, Speech and LPV Inner Cannulas are used with our Blom Tracheostomy Tube to provide better patient care.

- Subglottic Suctioning Cannula is a *Disposable Inner* Cannula for suctioning the secretions above the cuff of the Blom Trach Tube
- Blom Speech Cannula is designed to allow speech for ventilator patients that require a fully inflated cuff
- LPV™ (Low Profile Valve) allows non-vented patients to speak without the use of finger occlusion

Visit www.Pulmodyne.com for more information.

Automatic Oxygen Controller

The new Closed Loop Controller of Inspired Oxygen system, or "CLiO2™," from CareFusion noninvasively and continuously measures the oxygen level in a newborn's blood using Masimo SET® Measure-Through Motion and Low Perfusion pulse oximetry technology to provide accurate and reliable oxygen saturation measurements, even under challenging clinical conditions. The CLiO2 system processes blood oxygen saturation levels by a computer algorithm that then anticipates trends and modifies the amount of oxygen delivered. If necessary, adjustments can be made on a second-to-second basis. www.carefusion.com

Portable Life Support Ventilator

The Trilogy 202 portable life support ventilator from Philips Respironics is designed for use in subacute and transitional care settings and is both a volume-control and pressure-control ventilator for invasive and noninvasive ventilation. The versatile breath delivery and setup options help to free clinicians from burdensome equipment exchanges and provide greater continuity of care. The device also has a unique ability to compensate for leaks in both pressure and volume control modes. www.philips.com

▶ Press releases and photos on new products are welcome. Send to Marsha Cathcart, *AARC Times* editor, at cathcart@aarc.org.

Industry Watch

Stethoscope cover reduces HAIs

Richard H. Ma, MD, chair of the hospitalist department at Massachusetts-based Saints Medical Center, has received a patent for a lightweight plastic cover for stethoscopes that will dramatically reduce hospital-acquired infections (HAIs). Stethguard is a V-shaped clear plastic cover that protects the head of the stethoscope up to its neck, where most of the germs and bacteria are located. Saints Medical Center will be the first hospital in the country to put Stethguard into practice.

FDA recalls products for safety issues

The FDA has issued a Class 1 recall for Micromedics Inc.'s Surgical Sealant Dispenser, Nasal Septal Button, and Otological Ventilation Tubes, noting that these products are contained in sterile pouches that have weak or open seals. The problem could potentially lead to contamination of the products due to compromise in sterility. The products were distributed between Feb. 15, 2010, and Mar. 4, 2010. Customers are advised to contact the company's customer service to return any affected product for replacement at (800) 624-5662.

O2Delivery.net provides access to resources and services

A new website called O2Delivery.net is a directory service enabling oxygen-dependent patients and their caregivers to locate resources and services critical to their care whether they are at home or traveling. The website's comprehensive directory of oxygen providers is patient friendly, with large, easy-to-read fonts, a very simple search form, and geographical mapping display, according to the directory service. O2delivery.net also serves as a professional directory for oxygen providers, complete with geolocation markers, contact information, and clear door-to-door directions from any listing. International listings are expected to be available by this summer.

Dräger to donate used medical equipment

Draeger Medical Inc. has teamed up with the global humanitarian health care agency International Aid to donate used medical equipment to hospitals and clinics in developing countries. As part of the agreement, Draeger will donate previously used anesthesia machines, ventilators, infant warmers, and incubators to the organization, which will then collect and recondition these items and redistribute them to health care facilities in economically developing countries that have limited medical resources. International Aid will also provide education and product support to help local hospitals successfully deploy the donated equipment.

Masimo joins new CO awareness campaign

Masimo is joining the International Association of Fire Fighters and the International Association of Fire Chiefs in sponsoring "The Silent Killer" educational campaign to raise awareness of the duty-related dangers of carbon monoxide poisoning and to reduce the known risk factors that unnecessarily kill or injure fire fighters each year. The campaign includes a six-minute video that highlights the immediate, long-term health risks associated with CO exposure and the emotional impact these risks can have on fire fighters and their families. It also advocates for proper prevention strategies. The video can be viewed online at www.thesilentkiller.net, and DVDs will be widely distributed to fire departments throughout the world.

New drug to treat radiation exposure

Cleveland BioLabs Inc.'s CBLB502, a drug under development to treat exposure to radiation, has been granted Orphan Drug status by the FDA for prevention of death following a potentially lethal dose of total body irradiation during or after a radiation disaster. CBLB502 is a bioengineered derivative of a microbial protein that potentially reduces injury from acute stresses, such as radiation and chemotherapy, by mobilizing several natural cell protective mechanisms, including inhibition of programmed cell death, reduction of oxidative damage, and induction of regeneration-promoting cytokines.

Teva announces Phase III study results

According to Teva Pharmaceutical Industries Ltd., a Phase III study of QNAZE™ (beclomethasone dipropionate) HFA, a nasal aerosol corticosteroid in development for the treatment of seasonal allergic rhinitis, demonstrated that the drug delivered significantly greater symptom relief compared to placebo. The results, presented at the 2010 annual meeting of the American College of Allergy, Asthma & Immunology, showed that the non-aqueous formulation met all primary and secondary efficacy endpoints and that the product demonstrated safety similar to placebo. In addition to the Phase III SAR trial, Teva is also evaluating the safety and efficacy of QNAZE in the treatment of perennial allergic rhinitis.

Tomophase receives new patent

Tomophase Corporation, developer of the noninvasive Optical Coherence Tomography Imaging System and other devices, has received a new patent that describes a novel method for measuring blood in the lungs at two different wavelengths. Measuring blood at different spectral bands will allow optical differentiation of oxygenated and de-oxygenated blood. The new technology will be accomplished with the OCT Imaging System, which includes an imaging console and disposable, single-use, fiberoptic catheter. The company is currently pursuing FDA regulatory clearance for the technology.

Sepracor is now Sunovion Pharmaceuticals

Sepracor Inc. is now Sunovion Pharmaceuticals Inc. The name change occurred on approximately the one-year anniversary of the acquisition of Sepracor by Dainippon Sumitomo Pharma Co. Ltd., an Osaka, Japan-based pharmaceutical company. Sunovion spokesmen say that it integrates under one brand the distinct competencies of Sepracor and the former Dainippon Sumitomo Pharma America Inc., the two U.S. operations of DSP. "This is an exciting time for Sunovion Pharmaceuticals Inc., and we are poised to deliver on our vision to become a leading global pharmaceutical company known for scientifically advanced products that improve the lives of patients," Sunovion President and CEO Mark Iwicki was quoted as saying. "The meaning of Sunovion combines the strength of the sun with innovation and, for us, represents the start of a great new company."

Breathe Technologies welcomes Lawrence A. Mastrovich

The board of directors at Breathe Technologies, a manufacturer of devices for respiratory insufficiency, has appointed Lawrence A. Mastrovich as the new president and CEO. "Larry brings to us a phenomenal wealth of experience and strategic guidance," says Chairman John Miclot. "He has played a highly visible and instrumental role in building value within the home care industry, and we believe his expert insight will be paramount as the company approaches commercialization." Prior to joining Breathe, Mastrovich was president and CEO of Apria Healthcare. He also served as president and CEO of TechRx, a pharmacy technology company, from 2001 to 2002.

Talecris Biotherapeutics publishes combined studies

Talecris Biotherapeutics has announced the publication of combined data from two studies demonstrating that augmentation therapy with Alpha1-Proteinase Inhibitor (Human) significantly reduces lung tissue loss in patients with emphysema related to alpha-1 antitrypsin deficiency. The randomized, double-blind, placebo-controlled clinical trials investigated the effect of A1PI therapy on emphysema progression using change in lung density as a measure.

Although the two studies used different IV dosing regimens, they were comparable in treatment duration, patient characteristics, and the use of CT to study lung density. The similar characteristics of the studies allowed the pooling of the individual patient data, with results of the integrated analysis demonstrating a mean change in lung density from baseline to the final CT scan of -4.082 g/L for the treatment group and -6.379 g/L for the placebo group, a statistically significant difference of 2.297. The studies were published in the November issue of *Respiratory Research*.

Positive results reported for PAH drug

According to United Therapeutics Corporation and Lung Rx LLC, new data from clinical research on Adcirca® (tadalafil) Tablets in patients with pulmonary arterial hypertension was presented at the American College of Chest Physicians meeting. The presentations included long-term data from the pivotal PHIRST-1 trial and PHIRST-2 extension study. During the PHIRST-2 extension study, the ≥40 meter six-minute walk improvement milestone was maintained at 52 weeks in 79% of patients taking Adcirca who had reached the ≥40 meter improvement milestone by week 16.

Brief submissions and photos for this column may be sent to Marsha Cathcart, *AARC Times* editor, at cathcart@aarc.org. ■

RC Currents

IN THE NEWS

AARC Renews Commitment to COPD Awareness

The AARC renewed its commitment to raise awareness and promote early detection of COPD in the wake of news from the Centers for Disease Control and Prevention (CDC) that it is now the third leading cause of death in the United States.

Stroke dropped to the fourth leading cause of death, moving chronic lower respiratory diseases, including COPD, into the third position. Heart disease and cancer remain the No. 1 and 2 causes. Of the top three, COPD is the only disease that is increasing in prevalence rather than decreasing.

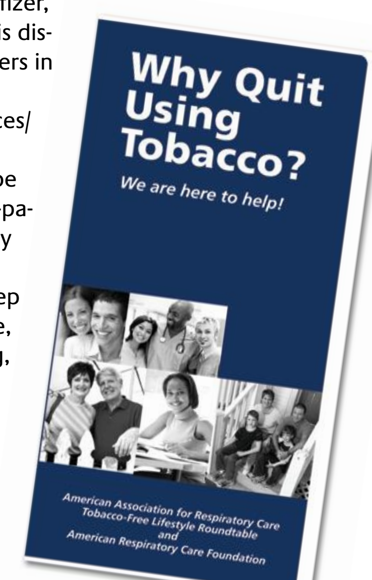
"This news just reinvigorates our efforts to educate the public about this largely preventable cause of death," says AARC President Karen Stewart, MSc, RRT, FAARC. "As respiratory therapists, we want to continue to push for early detection programs and then to educate COPD patients that it is possible to help them decrease and control symptoms."

The number of Americans with COPD is estimated at 24 million, but only half of them have been diagnosed with the disease. There is one death every four minutes, more than breast cancer and diabetes combined.

"It is disappointing that we have not made more progress, but this unfortunate shift in prevalence for lung disease may help focus more attention and resources on COPD," said Stewart. ■

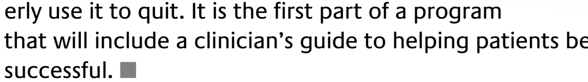
Help Your Patients Quit Smoking with New AARC Guide

Members of the AARC Tobacco-Free Lifestyle Roundtable have created a patient guide to tobacco cessation: "Why Quit Using Tobacco?" The American Respiratory Care Foundation, with the assistance of an unrestricted patient education grant from Pfizer, has published the booklet and is distributing it free to AARC members in the United States who order it online at www.aarc.org/resources/tobaccocessation/.



This booklet is intended to be used in the hospital to assist in-patient smokers to quit, but it may also be used on an outpatient basis. Contents include a 10-step plan for becoming tobacco-free, the top five reasons for quitting, understanding nicotine and its effects, and types of medications to help you quit.

It is not intended to be handed out at large events, since the recipient cannot receive the full benefit of being instructed on how to properly use it to quit. It is the first part of a program that will include a clinician's guide to helping patients be successful. ■



UMMC's First-ever Vent 5K Is a Winner

AARC members from the University of Maryland Medical Center (UMMC) decided to host an ARCF Ventilator 5K competition for the first time during National Respiratory Care Week this past October, thinking it would be a fun addition to their other RC Week activities.

Little did they know that just a couple of months later they'd be in the winner's circle at the AARC International Respiratory Congress in Las Vegas, accepting an oversized check from Dräger Medical Inc. for a brand new ventilator for winning the 2010 competition. Overall the UMMC Vent 5K raised $1,800, which, like all of the funds raised during Vent 5Ks this year, went to the American Respiratory Care Foundation to be allocated back to communities around the country to support local lung health programs.

Read the rest of the story at www.aarc.org/headlines/10/12/vent_5k/, where you can also watch a YouTube video of the competition and see photos of the event. ■

Respiratory Care Education Annual Call for Papers

The AARC will publish Volume 20 of the *Respiratory Care Education Annual* in the spring of 2011. This refereed journal is committed to providing a forum for research and theory in respiratory care education and is listed in the "Cumulative Index to Nursing and Allied Health Literature."

The AARC Education Section invites educators to submit papers for consideration. Preference will be given to papers that emphasize original research, applied research, or evaluation of an educational method. Other topics that may be considered include interpretative reviews of literature, educational case studies, and point-of-view essays. Submissions will be reviewed based on originality, significance and contribution, soundness of scholarship (design, instrumentation, data analysis) generalizability to the education community, and overall quality of the paper.

Papers should be approximately 6–10 pages in length and should follow the guidelines in the "Uniform Requirements for Manuscripts Submitted to Biomedical Journals," fifth edition (1997). These may be found at www.rcjournal.com/guidelines_for_authors/preparing_the_manuscript.cfm. Abstracts should not exceed 250 words. For more information, contact Dennis Wissing, PhD, RRT, FAARC, editor, at dwissi@lsuhsc.edu or (318) 573-9788. Completed manuscripts should be sent to Bill Dubbs at dubbs@aarc.org. Deadline is **Feb. 28, 2011.** ■

Respiratory Care Education Annual

The American Association for Respiratory Care

Volume 19 Fall 2010

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Journal Issues Call for Open Forum Abstracts

A simple and convenient way for you to submit abstracts online for the Respiratory Care Open Forum at the 2011 AARC International Respiratory Congress is at http://aarc2011.abstractcentral.com. Easy online instructions will guide you through properly submitting abstracts for Respiratory Care 2011 in Tampa, FL, Nov. 5–8 (Saturday–Thursday). The deadline for submitting Open Forum abstracts is **June 1**.

The Open Forum is your opportunity to gain national and international recognition for your work in cardiorespiratory care. Plus, accepted abstracts will be published in the October 2011 issue of Respiratory Care and will automatically be considered for research fellowships from the American Respiratory Care Foundation. ■

Education Section Calling for Abstracts for Vail, CO, Summer Meetings

The 2011 AARC Summer Forum, scheduled for July 18–20 (Monday–Wednesday) in Vail, CO, offers an excellent opportunity for participants to share their scholarly activities with education colleagues through a research abstract. The submission deadline is March 15, 2011. For more information, log on to www.aarc.org/resources/summer_forum/index.asp. To request a mentor, volunteer as a mentor, or for questions about the education research abstracts, contact: Weissman@palmbeachstate.edu, (561) 207-5068. ■

Second Program Receives the AARC's ASME Certification

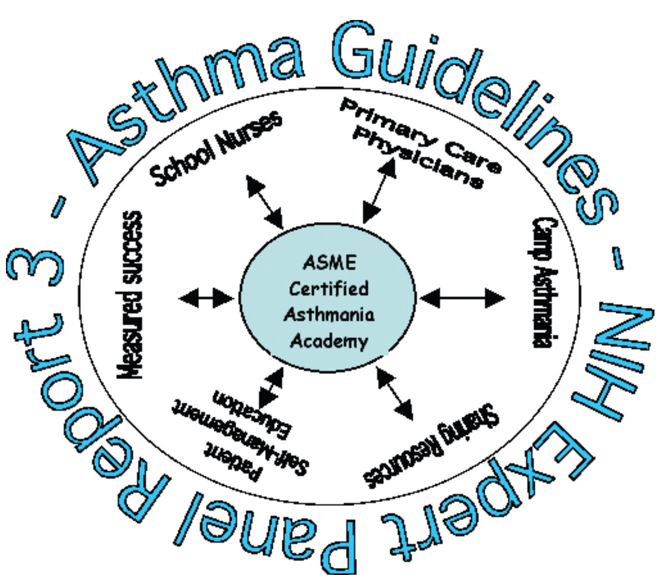
Paige Warren, RRT, CPFT, performs spirometry on six-year-old Caroline during her visit to the Asthmania Academy.

In February of 2009, the AARC launched an Asthma Self-Management Education (ASME) certification program aimed at helping respiratory therapists take advantage of CPT codes that can now be used to bill third-party payers for asthma self-management education by non-physician health care professionals operating a program that is certified by a professional organization.

That was perfect timing, as far as Michael Shoemaker, RRT-NPS, AE-C, and his colleagues at AnMed Health Women's and Children's Hospital in Anderson, SC, were concerned. They had been working on an outpatient asthma education program for pediatric patients in their community throughout 2008 and had just opened their doors in January of 2009.

"It just so happened that many of the standards that were important to the AARC were also important to Asthmania Academy and to AnMed Health," says the AARC member. "We both were focused on doing what is right for people with asthma." Shoemaker and his group decided to apply for the certification, and Asthmania Academy has now become the second program in the nation to receive it. (The AH! Asthma Health Program in Portland, ME, was the first.)

So, what does an ASME-certified program look like? The Asthmania Academy receives referrals from both the hospital and local physicians; and staff includes RRTs with the AE-C credential, plus an RRT who is also a CPFT, all of whom work closely with physicians to provide a comprehensive program. Kids come to the clinic for a 1.5–2 hour appointment during which time they undergo diagnostic testing and receive in-depth asthma education. Each child and family also receives an asthma action plan plus an assessment of goals and how to reach them. "Every patient leaves with e-mail/phone contact information to reach an asthma educator, and the patient's primary care provider always gets a report that includes an assessment of asthma severity or control, spirometry results, and EPR-3 Guideline-based recommendations for the patient," says Shoemaker.



Michael Shoemaker and his colleagues use this graphic to illustrate the fact that the Asthmania Academy is both based on national asthma guidelines and certified by the AARC's ASME certification program.

He and his colleagues are tracking outcomes too, looking specifically at pediatric ED and minor care visits, hospitalization rates, and length of stay (LOS) for patients who are hospitalized. Since the Asthmania Academy went into operation, pediatric visits to the ED and the minor care facility have declined, and benchmarking data indicates a downward trend in the hospitalization rate for pediatric asthma compared to all admissions. LOS also looks favorable. The range for average LOS during the reporting period for 2009 was 1.0–3.37 days at the benchmark facilities. AnMed Health's average LOS for pediatric asthma was 1.77.

Shoemaker and his colleagues believe their ASME certification will help their program improve even further on these outcomes by making it easier to partner with physicians in the community, and it will also assist with third-party reimbursement as more and more payers recognize the costs that can be saved by educating people in proper asthma management. "In a program like Asthmania Academy, where there is a big focus on partnering with physicians in the community to share the task of providing guideline-based care, ASME certification lends credibility," he says.

Shoemaker says getting reimbursement is only a matter of time because payers will realize the benefits from a program like his. "It is clear that payers — public or private — are spending an outrageous amount of money paying for their clients to visit the ED or to be hospitalized for asthma. It is a worthwhile investment if they can spend a little to have someone help the patient truly gain control of their asthma." ■

Nominate an AARC Member for "Success Stories" or "Interesting People"

Do you know an AARC member who would be a good choice for one of our "people" features in "RC Currents"? If so, provide this information to the editor at the address below: the member's name, job title, place of work, city, and state; why you think they should be featured; and their contact information. Send to: Editor Marsha Cathcart, cathcart@aarc.org with "Success Stories" in the subject line. ■

▶ Transitions

Beth Ann Zick, RRT, has been promoted to respiratory services director at Sauk Prairie Memorial Hospital & Clinics in Prairie du Sac, WI. In her new role she is responsible for the overall operation of both respiratory services and sleep studies. (Photo 1)

Daniel D. Rowley, RRT-NPS, RPFT, FAARC, has accepted a gubernatorial appointment to the Commonwealth of Virginia Board of Medicine's Respiratory Care Advisory Board. Rowley is the respiratory therapy supervisor at the University of Virginia Medical Center in Charlottesville. (Photo 2)

Anthony Alexander, BS, RRT, has been promoted to director of respiratory care services at Northeast Georgia Health System in Gainesville, where he will oversee the sleep lab, pulmonary rehabilitation, the pulmonary function testing lab, and the respiratory care department. An employee of the health system since 1998, he has recently led several highly successful Six Sigma performance improvement projects.

Ashly Skinner, BS, RRT, has joined Griffin Home Health Care in Charlotte, NC, as a respiratory therapist. A graduate of Edison State College in Florida and the State University of New York-Fredonia, Skinner brings a wealth of experience in hospital care to the position.

Melvin Welch, MPH, RRT, retired from his position as professor of respiratory care at Santa Monica City College in Santa Monica, CA, at the end of December. In addition to serving for 10 years in the AARC House of Delegates and for seven years in CoARC, including as chair of the committee the year the associate's degree was established as the minimum entry level for the profession, Welch is a well-known author of respiratory texts.

Shelley Kates-Wilson, CRT, passed away suddenly on Nov. 9. A longtime volunteer with the Maine Society for Respiratory Care (MSRC), she served as both president and treasurer, and at the time of her death was on the ballot for director at large on the 2011 MSRC Board of Directors. Kates-Wilson was also known in Maine for helping to coordinate a golf scramble every year to raise funds for RT scholarships, and the state society has voted to name the annual respiratory therapy scholarship in her honor. (Photo 3)

We welcome news about AARC members. Submit job changes, awards, and death notices online at www.AARC.org/transitions. ■

▶ Strange But True…

Skin Transfusion? Canadian researchers have successfully made human blood from human skin, a discovery they believe could one day make it possible for physicians to create a blood transfusion for a patient from a patch of his or her own skin. The process appears to work despite the age of the patient. (November issue of *Nature*)

Go for It: Food may taste better if you have to work hard to get it. That's the key finding from Johns Hopkins researchers who conducted a study in mice. When the mice had to press a lever multiple times to access a food, they later showed a preference for it — even if it was a low calorie, healthier option.

Breath Gives It Away: Protecting ports and ships from divers carrying explosives has been a problem for the military. Now researchers at Stevens Institute of Technology are using a diver's own breath to get the job done. Using what's known as "time-reversal acoustics" they've been able to detect a diver's breathing via sonar and then amplify it back on the diver, in effect turning the diver into a "self-disclosing acoustic beacon."

Learning Curve: Georgia Tech researchers are "teaching" medical websites to understand slang often used by consumers when searching for medical information on the Web. For example, the system is able to read the word "gunk" and know that the searcher is most likely seeking to find out about an unwanted "discharge." ■

COPD Patients May Be Missing a Quarter of Treatments

North Carolina researchers presenting at the recent CHEST conference report unacceptably high rates of missed nebulized medication doses among hospitalized COPD patients. They believe the problem could be solved by using RTs to oversee a protocol aimed at converting more patients to metered-dose inhalers (MDIs) with valved holding chambers (VHCs).

The study involved a retrospective chart review of all patients hospitalized with a COPD exacerbation at two academic health centers in 2007 and 2008. While 11,422 nebulized medication doses were scheduled for these patients, 2,775 (24.3%) were missed. The rate of missed treatments was 23% for nebulized albuterol, 26% for ipratropium, and 21.3% for the long-acting beta agonist arformoterol. Further analysis revealed that 81.1% of the patients could have been switched to an MDI with a VHC. ■

Contribute to Writer's Corner

AARC Times is currently considering brief stories from AARC members for publication in the Writer's Corner section of "RC Currents." Submissions should be under 500 words and contain a cover letter with the member number, contact information such as phone and fax numbers, and e-mail address. Send submissions to cathcart@aarc.org with "Writer's Corner" in the subject line. ■

RT Student Members: Send Us Your Stories and Editorials

AARC Times is always looking for good stories from AARC student members that relate special experiences and give the RT student perspective on the respiratory care profession they have chosen as a career. We have published the stories of several student members in *AARC Times* this year, and we continue to encourage you to share your experiences.

Have you volunteered at a summer asthma camp or helped organize the DRIVE4COPD program in your state? Have you advocated for respiratory therapy in your state capitol or on Capitol Hill? Maybe you and your RC student friends have collaborated to build a house with Habitat for Humanity. Perhaps you witnessed a lifesaving event outside the hospital setting or experienced something that took your breath away. Whatever the story, we would like to review it.

If you have a story to tell, please contact *AARC Times* Editor Marsha Cathcart at cathcart@aarc.org and include in the subject line, "Student Member Story." Be sure to give us your full name, AARC member number, a brief description of the story subject, and why you would like to have it published. Then attach a Word document of the story. We hope to hear from you soon! ■

Increased Staffing in the MICU Leads to Better Survival

Could more ICU patients be saved if staffing levels were increased? Yes, report University of Maryland researchers who compared mortality rates in one MICU two years before and two years after the facility transitioned from a 10-bed MICU to a 29-bed state-of-the-art facility with larger patient rooms. As part of the move, the MICU also adopted 24-hour critical care physician coverage, assigned clinical pharmacists to evaluate patients at the bedside on a daily basis, and added RTs to decrease the therapist-to-patient ratio from 1:24 to 1:10. Nursing staffing, which was already at a low 1:1.7, remained unchanged.

The retrospective, observational study compared outcomes for 1,263 patients treated before the move with 2,424 patients admitted after the changes. In addition to higher survival rates, the changes in MICU staffing resulted in substantial decreases in daily doses of sedatives for patients receiving those medications, along with a smaller proportion of patients receiving mechanical breathing assistance for one or more days and a significant increase in ventilator-free days among those who required a ventilator.

Length of stay in the MICU did increase slightly after the changes, from a median 2.4 to 2.7 days, but there was no change in total hospital LOS. While the investigators could not ascertain what caused the longer stay, they suggest the reduction in deaths may have resulted in patients who would have previously died with a short length of stay are now surviving with a commensurately longer stay. MICU costs rose after the changes as well, from a median of $4,071.10 per patient admission to $6,232.20. Total per admission hospital variable costs also increased from a median of $11,819.90 to a median of $13,178.90.

"With improvements in the staffing model, we were able to implement major changes in clinical practice," says study author Carl Shanholtz, MD. "On the sedation front, for example, we increased the number of critical care physicians who know the need to reduce sedation, clinical pharmacists to create drug algorithms and protocols, respiratory therapists to help wean patients from ventilation, and coupled that with a great nursing staff and modern physical plant. A lot of folks can take credit for this important clinical care package." The study was published in a recent issue of *Critical Care Medicine*. ■

Cigarette Smoking, by the Numbers

A recent report from the Centers for Disease Control and Prevention highlights the latest statistics on cigarette smoking among U.S. adults age 18 and older:

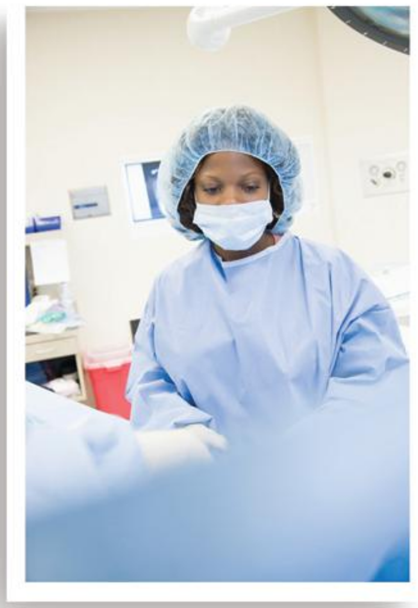
- In 2009, an estimated 20.6% (46.6 million) of U.S. adults were current cigarette smokers; of these, 78.1% (36.4 million) smoked every day, and 21.9% (10.2 million) smoked on some days.
- Prevalence of current smoking was higher among men (23.5%) than women (17.9%).
- Among racial/ethnic groups, Asians had the lowest prevalence (12.0%), and Hispanics had a lower prevalence of smoking (14.5%) than non-Hispanic blacks (21.3%) and non-Hispanic whites (22.1%).
- Adults reporting multiple races had the highest prevalence (29.5%), followed by American Indians/Alaska Natives (23.2%).
- Smoking prevalence was highest among adults who had obtained a General Education Development, or GED, certificate (49.1%) and generally declined with increasing education, being lowest among adults with a graduate degree (5.6%).
- The prevalence of current smoking was higher among adults living below the federal poverty level (31.1%) than among those at or above this level (19.4%).
- Smoking prevalence did not vary significantly for adults aged 18–24 years (21.8%), 25–44 years (24.0%), and 45–64 years (21.9%); it was lowest for adults aged 65 or older (9.5%).
- Regionally, smoking prevalence was higher in the Midwest (23.1%) and South (21.8%), and lowest in the West (16.4%).
- The proportion of U.S. adults who were current cigarette smokers was 20.9% in 2005 and 20.6% in 2009, indicating no significant difference in smoking rates over the period.
- No significant changes in current smoking prevalence for U.S. adults were observed during the five-year period overall and for each of the four regions: Northeast, Midwest, South, or West.
- By state, the prevalence of current smoking ranged from a low of 9.8% in Utah to a high of 25.6% in Kentucky and West Virginia.
- States with the highest prevalence of adult current smoking were clustered in the Midwest and Southeast regions.

The report was published in a recent issue of the CDC's *Morbidity and Mortality Weekly Report*. ■

Predicting Postop Pulmonary Complications

A new study out of Spain sheds light on common risk factors for postoperative pulmonary complications (PPCs). The investigators analyzed a random sample of more than 2,400 surgical patients from 59 participating clinics and hospitals, identifying seven independent risk factors for their predictive index: low preoperative arterial oxygen saturation, acute respiratory infection (including flu) during the previous month, age, preoperative anemia, upper-abdominal or intrathoracic surgery, current surgical duration of two more hours, and whether the surgery was an emergency.

The research also found smoking more than a pack a day for 40 years tripled the risk of PPCs and increased the risk of death by five times. The study appeared in the December issue of *Anesthesiology*. ■



CPR at Night May Result in Worse Outcomes

University of Pennsylvania researchers who studied 173 cardiac arrests that occurred in non-intensive care settings over the course of two years at three urban teaching hospitals found poorer outcomes for CPR during the night shift.

The investigators monitored resuscitation efforts via a device that tracks compression depth and rates during CPR and the duration of pauses during defibrillation attempts. Results showed that mean chest compression rate was lower during resuscitations that took place between 11 p.m. and 7 a.m., compared to those during the day — 102 compressions per minute, with rates varying between 86 and 118, versus 107, with variance between 100 and 114. Staff members also appeared to move slower when alternating between chest compressions and defibrillation during night resuscitations, stopping compressions for a mean of 15.8 seconds before shocking patients at night, versus 11.9 seconds during the day, and for 4.6 versus 2.8 seconds after shocking patients.

The authors suggest the variability in CPR quality between night and day may be due to fatigue, lower staffing levels, and lack of supervision from supervising physicians, who are less likely to be present during overnight resuscitations. However, they believe many of these issues could be resolved with interventions such as more widespread use of cardiac arrest simulated event drills, devices that monitor CPR quality and provide real-time feedback, staff debriefings following resuscitations, and more supervising physician involvement in cardiac arrest care.

The study was presented during the recent American Heart Association meeting. ■

Survey Says…

In the most comprehensive asthma survey conducted in the past 10 years, researchers found:

- 73% of patients experienced asthma symptoms or an asthma attack in the past 12 months.
- 63% are affected by asthma throughout the year.
- 41% believe their asthma interferes with their life.
- An average of one out of 10 school-aged children has asthma, and 13 million school days are missed each year.
- Asthma accounts for about 10.1 million missed work days for adults annually.
- About 70% of asthmatics also have allergies.

Authors of the Asthma Insight and Management Survey conclude that, "despite the availability of asthma management guidelines and effective asthma treatments, asthma care is inferior, underscoring the need for improved patient education and the use of written action plans." They presented their results at the recent meeting of the American College of Allergy, Asthma and Immunology. ■

Honoring Military RTs

If you are a respiratory therapist currently serving your country in the military, *AARC Times* would like to publish a story and photo about your service or deployment.

Please go online at www.AARC.org/go/mm where you will find an online form you can fill out to provide information about your deployment. You can also download your photo there.

Once we receive your information, we may use it to prepare an "RC Currents" story about your service in the military. The AARC honors those who serve, and we would like to share your story with your respiratory care colleagues here and abroad. ■

CF Drug Shows Promise

The investigational drug VX-770 appears to improve function of the CFTR gene responsible for cystic fibrosis. In a study involving 39 patients with the CFTR mutation, researchers found the drug led to improvements in lung function, nasal potential difference measurements, and sweat chloride levels.

"Patients with CF have a defective protein in chloride channels in lung cells that, in effect, causes a door to shut too tightly, ultimately leading to severe infections in the lung" study author Steven M. Rowe, MD, MSPH, from the University of Alabama at Birmingham, was quoted as saying. "The data suggest that the drug seems to improve the function of the protein, so that the door opens and closes more properly." The research was published in the Nov. 18 edition of the *New England Journal of Medicine*.

VX-770 is currently in Phase 3 clinical trials. Pending data from these studies, the developer plans to submit a new drug application to the FDA in the second half of 2011. ■

Highly Graphic Warnings Influence Intentions To Quit Smoking

Will the new and more graphic warnings scheduled to appear on cigarette packages this year really make smokers think twice about continuing to smoke? Researchers from the University of Arkansas, Villanova University, and Marquette University surveyed 511 adult smokers to help government officials better understand what types of pictorial warnings are most effective. They suggest the answer is yes — if the warnings are graphic enough. Their survey found highly graphic images, such as those showing severe mouth diseases featuring disfigured, blackened, and cancerous tissue, evoked fear about the consequences of smoking and influenced smokers' intentions to quit.

Participants in the survey viewed four different types of warnings. The first three included three levels of pictorial warnings — low graphic, moderate graphic, and highly graphic — along with a written message stating "Warning: Smoking Causes Mouth Diseases." The fourth warning consisted of the written message alone. The warnings covered approximately 40% of the cigarette package.

Both the moderate and highly graphic warning outperformed the written warning with an increased intention to quit, with the highly graphic warning being the most effective. The low graphic warning was not effective in strengthening smokers' intentions to quit when compared to the written warning alone. The study appeared in the fall issue of the *Journal of Public Policy & Marketing*. ■

New Members

Welcome to the AARC

U.S. Members

Pitts, Kim, Anchorage, Ak*

Blackmon, Kelly, Alabaster, Al*
Butler, Marcus, Montgomery, Al*
Fickbohm, John, Fultondale, Al*
Robbins, Michael, Gadsden, Al*
Watts, Hannah, Birmingham, Al*

Davis, Kimberley, North Little Rock, Ar*
Downs, Rachel, Texarkana, Ar*
Gaines, Deborah, Hot Springs Village, Ar*
Mitchell, Jessica, Alexander, Ar*

Anderson, Jennifer, Tucson, Az
Barron, Maria, Tucson, Az
Brewster, Staci, Tempe, Az*
Brink, Scott, Oro Valley, Az
Brito, Dolora, Tucson, Az
Brown, Alex, Tucson, Az
Clanton, Jessica, Phoenix, Az
Cornidez, Elia, Tucson, Az
Cota, Kimberlee, Oracle, Az
Davila, Abeny, Tucson, Az
Dean, Rosali, Tucson, Az
Dotson, Mary, Tombstone, Az
Drew, Paul, Vail, Az
Durbano, John, Glendale, Az*
Eidson, Amy, Buckeye, Az
Foley, Krista, Tucson, Az
Fox, Paula, Benson, Az
Furno, Christine, Buckeye, Az
Garcia, Rosalinda, Phoenix, Az
Garibay, Jr, Victor, Tucson, Az
Gonzalez, Ricardo, El Mirage, Az
Hamman, Kristin, Gilbert, Az*
Hentz, Gregory, Avondale, Az
Hunter, Joe, Phoenix, Az
Jazayeri, Jennifer, San Tan Valley, Az*
Larkin, Seth, Peoria, Az
Leahy, Jennifer, Glendale, Az
Lewis, Justin, Goodyear, Az
Lewis, Nicole, Glendale, Az
Li, Jie, Tucson, Az
Lopez, Luis, Avondale, Az
McMurry, John, Sahuarita, Az*
McShea, Zachary, Tucson, Az*
Messerschmidt, Eric, Tolleson, Az*
Montemayor, Nicole, Anthem, Az
Morales, Lindsay, Tucson, Az
Murillo, Monica, Phoenix, Az
Norzagaray, Marina, Tucson, Az
Olivas, Stephanie, Tucson, Az
Ortiz, Crystal, Tucson, Az
Palumbo, Jordan, Glendale, Az
Pongos, Melissa, Surprise, Az
Pratoomratana, Christina, Tucson, Az
Quintero, David, Tucson, Az
Ramirez, Cynthia, Buckeye, Az
Rowe, Alex, Tucson, Az
Samaniego, Armando, El Mirage, Az*
Trudeau, Amanda, Tucson, Az
Velasquez, Jenny, Surprise, Az
Vidal, Michael, Tucson, Az
Watson, Charnelle, Avondale, Az
White, Jacqueline, Glendale, Az
Williams, Leonard, Surprise, Az
Wilson, Roman, Phoenix, Az
Wise, Corintia, Phoenix, Az*
Youkhanna, Shatha, Avondale, Az

Aldaoud, Aysar, Victorville, Ca
Allen, David, Huntington Beach, Ca
Allison, Lea, Oakley, Ca
Alvarado, Alexis, Saugus, Ca*
Alvarez, Frank, North Hollywood, Ca
Ananina, Naira, Burbank, Ca
Anderson, Lucas, Vallejo, Ca*
Apsay, James, Northridge, Ca*
Arias, Lorena, Ontario, Ca
Atanacio, Marites, Folsom, Ca*
Avila, Vanessa, Chino Hills, Ca
Awad, Mayer, Huntington Beach, Ca
Bailey, Kristen, Playa Del Rey, Ca
Behen, Malia, Upland, Ca*
Bingham, Curtis, Manteca, Ca
Bose, Sherleen, Yucaipa, Ca
Boyle, Vicki, Riverside, Ca*
Buck, Tiffany, Mission Viejo, Ca*
Bui, Linhda, Canoga Park, Ca
Cabrillos, John, Burbank, Ca
Canlas, Kimberly Jean, Los Angeles, Ca*
Capraro, Ronda, Apple Valley, Ca*
Cardona III, Elmer, Glendale, Ca
Cervantes, Joy, Santee, Ca*
Contreras, Melanie, Fresno, Ca
Dailey, Ryan, Irvine, Ca*
De Los Santos, William, Walnut, Ca
Dissanayake, Tharanga, Chula Vista, Ca
Duong, Nho, Sacramento, Ca*
Enslow, Heather, Anaheim, Ca
Finley, Constance, Riverside, Ca
Floros, Michael, West Hills, Ca*
Flowers, Walt, Sacramento, Ca*
Fortuna, Jan, San Diego, Ca
Garcia, Samuel, El Cajon, Ca
Gatchalian, Sean, Long Beach, Ca
Gauthier, Hannah, Chula Vista, Ca
Getz, Gary, North Hollywood, Ca
Grasu, Marcela, Sherman Oaks, Ca
Grecia, Neil, Walnut, Ca
Guerrero, Daniel, La Mirada, Ca*
Guevarra, Joseph, Long Beach, Ca*
Gutierrez, Mayra, Pacoima, Ca
Hallmark, Joseph, Fresno, Ca*
Hayes, Robert, San Diego, Ca*
Herrian, Jasmine, Vallejo, Ca*
Hokenson, John, Chino, Ca*
Isaeff, Peter, Roseville, Ca
Jasumback, Danine, Redding, Ca*
Jocson, Alvin, Diamond Bar, Ca
Juarez, Jose, West Hills, Ca*
Karger, Farzad, Orange, Ca
Kaufer, Nicole, Placentia, Ca
Kelly, John, Mill Valley, Ca*
Khalifa, Abubakr, Lancaster, Ca*
Kim, Angie, Irvine, Ca
King, Nolan, Foothill Ranch, Ca
Knowles, Kristian, Bakersfield, Ca
Kramer, David, Modesto, Ca
Kwiatkowski, Keith, Los Angeles, Ca
La, Linh, Monterey Park, Ca
Lee, Shawn, Glendale, Ca
Lim, Kenneth, Paramount, Ca
Llorin, Fitz, Long Beach, Ca
Loeffler, Hongmei, Sherman Oaks, Ca
Lopez, Carlos, Los Angeles, Ca
Lopez, Luis F, San Francisco, Ca*
Madatian, Marieta, Canoga Park, Ca
Magbanua, Vally, Daly City, Ca*
Malson, Shane, Bakersfield, Ca
Manassian, Marylanni, Granada Hills, Ca*
Martinez, Juan, Hacienda Heights, Ca
Mejia, Bernard, Hesperia, Ca*
Mendoza, Christopher, Riverside, Ca
Morales, Sandra, Bellflower, Ca*
Mullen, Steven, Glendale, Ca
Nassar, Ermelinda, Redlands, Ca*
Nguyen, Long, San Jose, Ca*
Nguyen, Pat, Carlsbad, Ca
Nguyen, Thao, Chino, Ca
Olson, Paul, San Francisco, Ca*
Pacillo, Earnesto, Garden Grove, Ca
Page, Nicholas, Bakersfield, Ca*
Pan, Shaun, Anaheim, Ca
Paredes, Jasper, Porter Ranch, Ca
Pepa, Dianne, San Diego, Ca
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Phung, Ngoc Linh, Los Angeles, Ca
Poe, David, Torrance, Ca*
Price, Haemee, Baldwin Park, Ca
Ramirez, Alfredo, Canoga Park, Ca
Ramos, Morena, Reseda, Ca
Rodriguez, Michelle, Avalon, Ca
Ronquillo, Martin, Compton, Ca
Ross, Peggy, Magalia, Ca*
Roumeliotis, George, Upland, Ca
Sagucio, Mervyn, San Diego, Ca
Sahakian, Artin, Glendale, Ca
Serrano, Blas, Chatsworth, Ca
Sharapova, Yelena, Los Angeles, Ca*
Sharp, Ian, Ventura, Ca
Sikora, Wendy, Temecula, Ca*
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Simon, Vicki, Seaside, Ca*
Sison, Paolo, Los Angeles, Ca
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Ferede, Tibebu, Las Vegas, Nv
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Lawrence, Keisha, Las Vegas, Nv
Lewis, Patrick, North Las Vegas, Nv
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Mendoza, Emmanuel, Las Vegas, Nv
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Rossi, Carolyn, Las Vegas, Nv
Selma, Ariel, Las Vegas, Nv
Sims, Irish Hiloree, Las Vegas, Nv
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Bohrer, Jess, Butler, Pa*
Borck, Michael, Sinking Spring, Pa
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Barrera, Ariel, Corpus Christi, Tx
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Rozario, Milinda, Amarillo, Tx*
Sabuncu, Sefik, Corpus Christi, Tx
Salas, Adrianna, Corpus Christi, Tx
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POSITION: Clinical Operations Manager

Responsible for the management of respiratory therapy clinical/operational education, programming, and quality improvement initiatives. Supports the GRS area leadership team in the successful development and operation of respiratory therapy services.

RESPONSIBILITIES/ACCOUNTABILITIES:

1. Supports Area Directors and the business development department in labor contracts and fee-for-service contract development including assessment, pro forma development, business planning, and managing the start-up process.
2. Provides support for census development and account maintenance in cooperation with the Area Director and Program Manager.
3. Ensures compliance with GRS/RHS standards of practice by overseeing quality audits, improvement plans, and outcomes measures.
4. Ensures the successful implementation of clinical programs and education/training initiatives.
5. Performs other related duties as required.

For immediate consideration, please e-mail your resume to jason.jones@genesishcc.com or fax to 610.347.6261. For additional information, please call Jason H. Jones at 866.486.5852.

QUALIFICATIONS:
The Manager of Clinical Operations-RT must possess a minimum of an Associate's Degree in Respiratory Therapy along with a minimum of five years experience in respiratory, two of which have been in management and administration.

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RESPIRATORY THERAPY CLINICAL SPECIALIST

As a Respiratory Therapy Clinical Specialist you will be responsible for the overall coordination and delivery of respiratory care, provide educational development, student experiencial rotations, research, quality improvement and assurance. You will act as a liaison with medical staff and all other hospital staff. These specialists provide technical support for respiratory care and assist the Director and the clinical service leadership with staff development, quality management and performance improvement activities of the Respiratory Care Service.

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Join our award-winning team at University of Washington Medical Center (UWMC) in Seattle, WA. Among the top medical centers in the United States as rated by U.S. News & World Report 2010 "America's Best Hospitals", UWMC prides itself on compassionate patient care as well as its pioneering medical advances. UWMC is operated by the University of Washington (UW) and serves as a training site for UW's School of Medicine. The University of Washington is proud to be one of the nation's premier educational and research institutions. Our people are the most important asset in our pursuit of achieving excellence in education, research, and community service. Our staff not only enjoys outstanding benefits and professional growth opportunities, but also an environment noted for diversity, community involvement, intellectual excitement, artistic pursuits, and natural beauty.

UW Medical Center's Respiratory Care department has an outstanding opportunity for a full-time day shift Respiratory Care Specialist. The Respiratory Care Specialist will assume an active leadership role in the development, competencies, coordination of services and continuing quality improvement of Respiratory Care Services. Function competently as a Registered Respiratory Care Practitioner (RCP) in providing safe and therapeutic patient care and services under the general direction of the RCS department manager and medical director.

Some of the responsibilities include but are not limited to:

* Provide staff (RCPs, RNs, Residents) with education surrounding new equipment, guidelines and standards, as well as critical reviews of existing standards. Collect, evaluate and share associated feedback.
* Provide regular competency assessment and review high-risk or low frequency procedures
* Coordinate orientation of newly hired personnel and monitor progress
* Share expertise and information through formal and informal publication, presentation or community activities
* Conceive, develop, implement and follow through Respiratory Care patient-driven protocols
* Research, update and advance RCS guidelines for patient care as indicated by current scientific evidence
* Make independent and authoritative clinical decisions in complex clinical situations
* Identify patient care issues, act toward resolution and communicate issues to the service area manager
* Meet TJC mandatory education standards (e.g., fire, safety, workplace violence)

Requirements:
Education/Experience
* Completion of a respiratory care program approved by the State of Washington Dept of Health
* Three years of respiratory care therapy experience

Certification/Registration/Licensure
* Registered Respiratory Therapist (RRT)
* Maintain licensure as a Respiratory Care Practitioner (RCP) in the State of Washington

Skills or Special Abilities
* Registered respiratory care practitioner (RRT)
* 5 years of recent Adult Critical Care RCP experience
* 3 years of demonstrated leadership experience

Desired
* BA/BS in Respiratory Care or closely related field preferred
* Strong written and verbal communication skills
* Basic computer skills including: email, Windows Operating Systems, Microsoft Office System

To review a full job description, outstanding benefits, and to apply for this position, please visit www.washington.edu/jobs – click on "Staff Jobs", choose the "External Candidates" option and enter requisition #69983 in the "Req Search" field. For information, please contact: Kathleen Torchia, Healthcare Recruiter, UW Medicine Health System at 206-598-6504 or torchiak@uw.edu.

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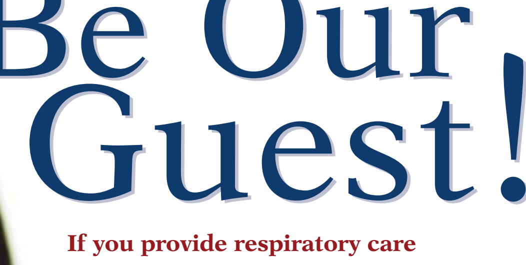
Ventilation for Life

(continued from page 19)

personnel, housekeeping, or even chaplains. Unfortunately, effective infection control practices do not allow for any exceptions at any time of the day or night.

Becoming THE experts in VAP prevention

To summarize, the evidence is well established that a full range of preventive interventions, when consistently applied, can lessen the occurrence of HAIs in general and VAP in particular. Given that the eventual elimination of all HAIs has now been set as a national patient safety goal, RTs have an opportunity to assume an important leadership role in helping their hospital employers tackle this formidable challenge. While VAP might be listed as the fourth leading cause of HAIs, VAP is the leading cause of death from an HAI. The VAP mortality rate is estimated to range between 24–50% of confirmed cases, and may go as high as 76% in certain high-risk patients, such as the elderly.[4] It is not only a potentially deadly complication, but an expensive one as well. It is estimated that a single case of VAP can increases hospital length of stay by as much as nine days and increase hospital costs by more than $40,000.[4] Is there any doubt then that RTs need to lead the parade and assume their rightful role as THE experts in VAP prevention? ■



If you provide respiratory care outside of the United States, and would like to share and expand your knowledge, please consider applying for our International Fellowship Program.

The **International Fellowship Program** is a sponsored activity of the American Respiratory Care Foundation (ARCF). Since 1990, health professionals from more than 50 countries have shared experiences, knowledge and developed lasting friendships through this exceptional program.

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For more information contact:

Kris Kuykendall

Email: kuykendall@aarc.org

Phone: 972-243-2272

REFERENCES

1. Bunch D. Ventilator-associated pneumonia. AARC Times 2010; 34(10):57-63.
2. Cardo D, Dennehy PH, Halverson P, et al. Moving toward elimination of healthcare-associated infections: A call to action. Infect Control Hosp Epidemiol 2010; 31(11):1101-1105.
3. Coffin SE, Klompas M, Classen D, et al. Strategies to prevent ventilator-associated pneumonia in acute care hospitals. Infect Control Hosp Epidemiol 2008; 10(Suppl.):S31-S40.
4. Kollef MH. What is ventilator-associated pneumonia and why is it important? Respir Care 2005; 50(6):714-724.

Calendar of Events

AARC & State Society Programs

March 28–29
Birmingham, AL
Alabama Society for Respiratory Care's Annual Conference and Exhibits
Contact www.alsrc.org

June 1–3
Oak Brook Terrace, IL
Illinois Society for Respiratory Care's 43rd Conference and Exposition
Contact www.isrc.org or Kelli DeBerry at (847) 981-3581 or deberryk@Alexian.net

July 18–20 (Monday–Wednesday)
Vail, CO
AARC Summer Forum
Contact AARC, (972) 243-2272, www.aarc.org/education/meetings

October 23–29
Respiratory Care Week
Contact AARC, (972) 243-2272, www.aarc.org

October 26
Lung Health Day
Contact AARC, (972) 243-2272, www.aarc.org

November 5–8
Tampa, FL
AARC International Respiratory Congress
Contact AARC, (972) 243-2272, www.aarc.org/education/meetings

Other Meetings

May 13–18
Denver, CO
American Thoracic Society International Conference
Contact ATS International Conference Department at (212) 315-8658 or conference@thoracic.org

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Submissions for the next available issue are due Feb. 24.

For information on submitting calendar events, contact: Beth Binkley, AARC Times 9425 N. MacArthur Blvd, Suite 100, Irving, TX 75063-4706 (972) 243-2272 Fax (972) 484-2720 E-mail binkley@aarc.org

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