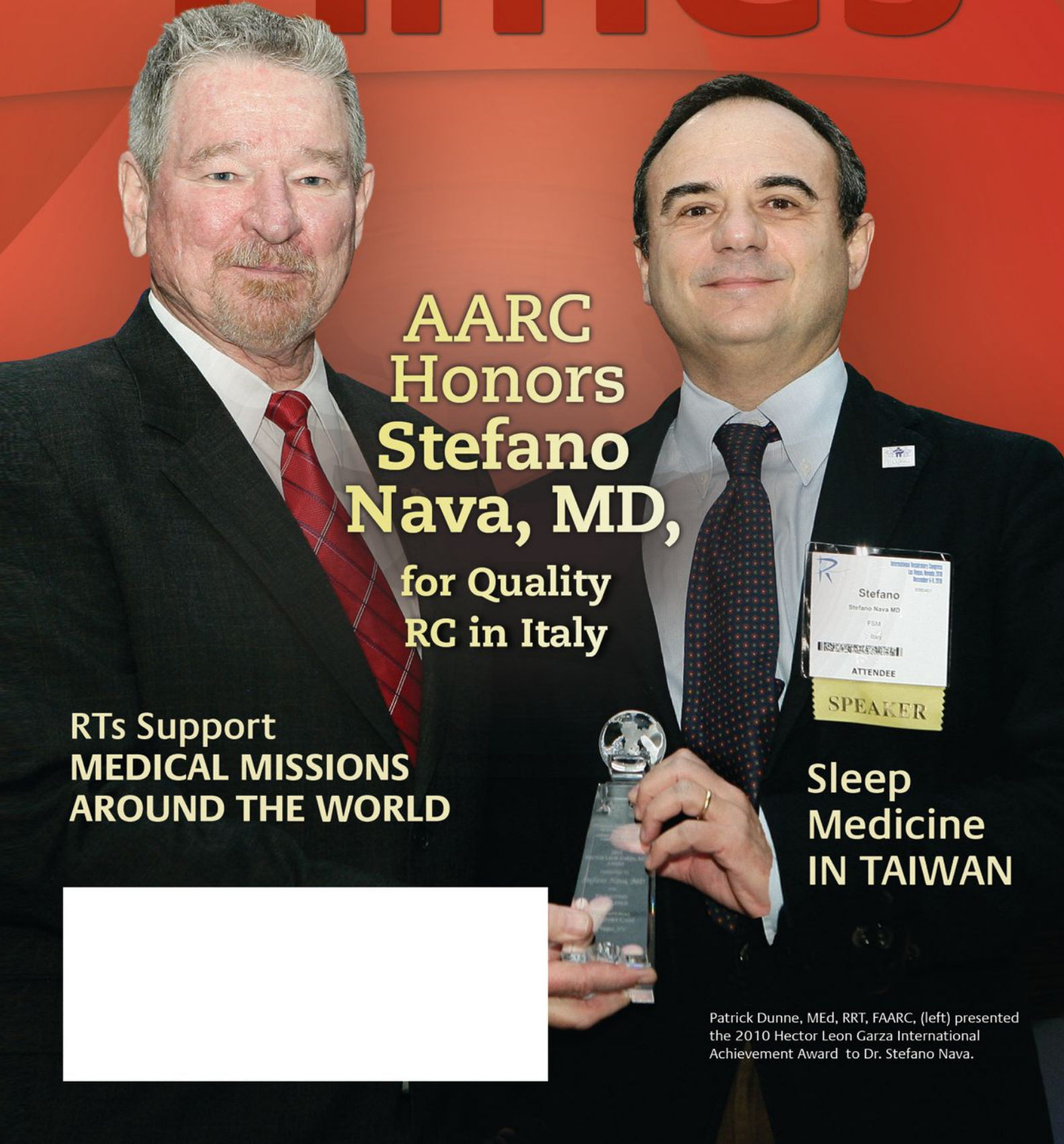




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Patrick Dunne, MEd, RRT, FAARC, (left) presented the 2010 Hector Leon Garza International Achievement Award to Dr. Stefano Nava.

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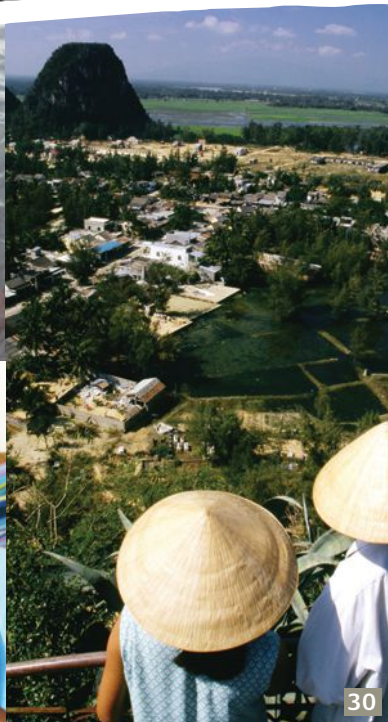
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AARC Vision/Mission Statement: The American Association for Respiratory Care (AARC) will continue to be the leading national and international professional association for respiratory care. The AARC will encourage and promote professional excellence, 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 AARC members online at www.aarc.org/members_area/resources/strategic.asp.

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Mechanical Ventilation in China: A Look at 90 Hospitals Shows Care Varies Across the Country

by Hui-Qing Ge, MS, RT

Advanced life support techniques, especially positive pressure ventilation, inspired the development of critical care medicine in Europe and North America in the 1950s. In mainland China, however, critical care medicine was not introduced into clinical care until the early 1980s. Now, after almost 30 years of effort, it has finally been recognized as a specialty.¹ Meanwhile, respiratory care in mainland China is just beginning; most hospitals still do not have respiratory care employees on staff. Because of these differences, the management of mechanical ventilation can vary in different areas of the country. In order to find out how widespread mechanical ventilation use is in mainland China, we decided to conduct a survey of hospitals in our country.

About the survey

The questionnaire was designed by Yuehua Yuan, Peifeng Xu, and myself and included questions related to hospital hierarchy, ICU beds, ICU ventilators, and similar factors, along with questions covering mechanical ventilation management. Specifically, we inquired about the hospitals' use of artificial airways, mode selection, graphics, subglottic suction, and weaning methods. We also asked about the involvement of RTs.

The questionnaire went out to 110 hospitals in the Beijing, Jiangsu, Shanghai, Sichuan, Hunan, Zhejiang, Yunnan, and Guangdong provinces in central and eastern China. About 70% of the respondents came from the Zhejiang, Shanghai, and Beijing provinces, where the economy is growing rapidly.

Hospital classification in mainland China is based on hospital functions, facilities, technology, and other indi-

cators of hospital qualification assessment. According to the "hospital classification management standard," each level is divided into three categories (A, B, and C), with 3A being the top level. Our overall response rate was about 82% (90 out of 110), and the response units included 35 hospitals with the rank of 3A, 20 with the rank of 3B, 18 with the rank of 2A, and 17 with the rank of 2B.

Results showed the average number of ICU beds was not significantly different among the hospitals, coming in at about 24. The ICUs in 3A hospitals, however, did have more ventilators, about 16 versus about 10 for the other hospitals in the survey. The average ICU length of stay was about 14 days, and the average duration of mechanical ventilation was about 10 days. Respiratory therapists were present in only 17.8% of the hospitals, and 82% of those hospitals had fewer than three RTs on staff. Nearly three-quarters of these therapists were working in 3A hospitals.

As for the type of ventilators being used, the survey found 30% were Evitas and 27.8% were PB 840s. Other brands included the SERVO-i at 16.7%, the Raphael at 4%, and the Bird at 3%.

Artificial airway

The first choice of artificial airway for the delivery of mechanical ventilation varied among the hospitals. Respondents noted that about 80% of endotracheal tubes are inserted through the mouth under anesthesia, while the orotrach and non-anesthesia method is used in about 14.3% of patients. Nasotrach and anesthesia is used in 2.5%, and nasotrach and non-anesthesia is used in 2.5%.

In patients who had undergone a tracheostomy, the procedure was performed at a median of nine days after

about the author...



Hui-Qing Ge is vice director, clinical educator, in the respiratory care department at Sir Run Run Shaw Hospital, College of Medicine, Zhejiang University in Hangzhou, Zhejiang, China.

intubation across all of the hospitals. However, the frequency of tracheostomy varied significantly depending on the patient's underlying condition and the time from initiation of mechanical ventilation. Over the initial one-week period, a tracheostomy was performed more frequently in patients with neuromuscular disease (35.7%), especially craniocerebral trauma, than in those with COPD or acute respiratory failure (10.2%). After the third week, the proportion of patients with a tracheostomy did not differ among the diagnostic categories.

Seventy-three percent of the humidification for mechanical ventilation used by the hospitals in our survey was heated humidification, although 18% of hospitals were using a heat and moisture exchanger (HME). Nine percent were using both methods, with the choice dependent on the duration of mechanical ventilation. In patients who require mechanical ventilation less than 24 hours, only 7.5% of the ICUs reported using HME rather than heated humidification.

Subglottic suction, which is one of the methods to prevent ventilator-associated pneumonia, is attracting the attention of clinicians.²⁻⁴ Twenty-one percent of the ICUs in our survey were using subglottic suction in tracheostomy tubes and 13% in endotracheal tubes; 16.7% were using subglottic suction in both tubes. Thirty-one percent had never used subglottic suction for patients with artificial airways.

About 48% were using cuff air pressure measurement every day, but 38.9% of the ICUs had never measured cuff air pressure.

Mechanical ventilation management

Of the total group of ventilator-supported patients, 61% received assist/control (A/C) ventilation, and this was the most common mode of ventilation in the Beijing, Shanghai, and Zhejiang provinces. About 39% of the overall group were ventilated with synchronized intermittent mandatory ventilation (SIMV), pressure support (PS), or a combination of the two. The use of SIMV on its own was infrequent in all hospitals.

The pressure-control ventilation A/C mode was preferred over the volume-control ventilation A/C mode, 34.4% versus 17.7%, because of better patient-ventilator synchrony. About 32% of the ICUs chose dual modes. The mode listed by physicians corresponded with the mode most frequently employed in a given hospital. Results also showed about 11% of physicians have tried using airway pressure release ventilation and bilevel modes for acute respiratory distress syndrome patients.

Only 23.3% of the respondents observed all the graphics (including three curves and two loops), and the pre-

ferred waveforms were flow-time and pressure-time curves and P-V loops. Fifty-four percent of the clinical practitioners were using just one or two of the waveforms, and 3% had never used them.

Use of noninvasive ventilation (NIV) is increasing widely in critical care units, with the preferred indications being COPD, acute cardiogenic pulmonary edema, and obstructive sleep apnea syndrome. Nineteen percent of physicians selected NIV as a weaning method for specific patients.

During mechanical ventilation, about three-quarters of physicians were selecting an MDI to deliver the bronchodilator to the patients. Interestingly, Grade 3A hospitals were more likely to choose an MDI than the other hospitals in the survey.

When respiratory therapists are not available, ventilator maintenance in most of the hospitals is usually undertaken by nurses. The clinical engineering department is in charge of repairing ventilators. Around 80% of the clinical practitioners did the short self test (SST) (or extended self test) for the ventilators after ventilator circuit change-outs, but about 20% of hospitals generally did not do an SST.

In general, the preferred methods for weaning were PS (65.6% of the respondents) and SIMV with PS (21% of the respondents). Spontaneous breathing trials were being used by 27.8% of the ICUs to assess weaning patients every day. No significant difference was seen among hospitals in different provinces or with different grades. As noted earlier, 19% of physicians selected NIV as a weaning method for specific patients, with 73% using it for COPD patients and 27% using it for other diseases, including neuromuscular disease and hypoxemic respiratory failure.





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Work in progress

The Chinese Society of Critical Care Medicine drew up a guideline on mechanical ventilation in 2006 and a guideline on mechanical ventilation in COPD patients in 2007. But as the data from our survey shows, mechanical ventilation and artificial airway management are still irregularly applied in some medical institutions, and respiratory therapists are present in only a few ICUs.

Our findings on mechanical ventilation and the use of respiratory therapists are not surprising as, overall, critical care medicine in mainland China is still in a phase of development. The lack of a nationally accredited critical care training program, including mechanical ventilation management training, is believed to be a major obstacle for improving professional education in mainland China. Part of the problem lies in the inequality of regional development across our nation.⁵ Since 70% of our survey respondents came from areas of the country where the economy is flourishing, further studies are needed to involve the other regions and thus fully assess the requirements for training of clinicians using mechanical ventilation. Further development of the respiratory care profession in our country is also a way to improve the quality of patient care. ■

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Sleep Medicine in Taiwan: Status and Perspectives

by Liang-wen Hang, MD

The development of sleep medicine in Taiwan has been relatively short and similar to that in the United States. The first clinical practice of sleep medicine was in Mackay Memorial Hospital in 1990. As a result of efforts by the American Academy of Sleep Medicine (AASM), the American Medical Association recognized sleep medicine as a specialty in 1996.

The sleep association medicine specialty certification will be initiated in 2012 by the accreditation committee of the Taiwan Society of Sleep Medicine (TSSM), the first sleep medicine organization in Taiwan since 2002. In the beginning, there were 273 members consisting of physicians, technicians, psychologists, and researchers. Today, the TSSM has over 600 members in 30 different specialties and is a fast-growing professional organization promoting the specialty of sleep medicine.

TSSM's role in the sleep profession

TSSM has defined its role in professional education, training, and research. The major advances of sleep medicine have led to the formation of professional and patient-focused sleep centers to train physicians and technicians in sleep medicine and to set up an accreditation process for specialty certification. Taiwanese technicians have experienced difficulty in getting the Registered Polysomnographic Technologist (RPSGT) certification, mainly due to the language barrier. The TSSM has been awarded for technician certification accreditation since 2006. Candidates must fulfill the accreditation requirements of a 40-hour education course and clinical experience of scoring for a minimum of 100 cases within a one-year period.

Currently more than 150 examinees have been awarded the designation of qualified sleep technician. Most are nurse practitioners, medical technologists, and respiratory care practitioners.

Sleep center accreditation

The criteria for sleep center accreditation are adapted to the standards of the AASM. More than half of the established sleep centers have been accredited since 2009. Certificates of qualified sleep specialties will be granted in January 2012.

about the author...



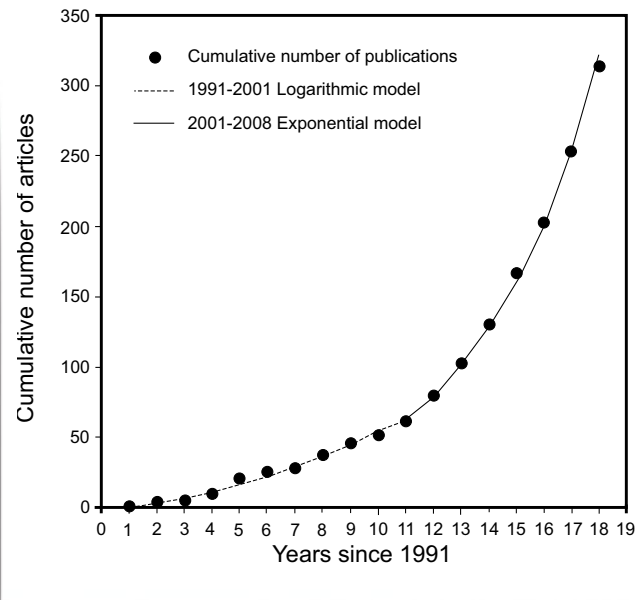
Liang-wen Hang, MD, is president of the Taiwan Society of Sleep Medicine and is chief of respiratory therapy in the College of Health Care at China Medical University. He is also chief of the sleep medicine center at China Medical University Hospital in Taichung, Taiwan.

Sleep disorder prevalence

Sleep disorder centers in Taiwan are based on the all-night polysomnographic recording, and most sleep disorders of patients are breathing related. The majority of published articles have focused on prevalence studies and surgery practices of sleep-related breathing disorders. Similar to the results of most other Western countries, obtained were several common features:

- Patients with snoring problems accounted for 51.9%, in which 60.8% were males and 42.5% females.¹
- The prevalence of witnessed apnea during sleep was 3.4% in males and 1.9% in females, giving an average of 2.6%.²
- More female patients had snoring and witnessed apnea as compared to males ($p < 0.05$).
- Prevalence of comorbid hypertension, cardiovascular disease, diabetes mellitus, arthritis, and backache was higher in the patients

Figure 1. The three priority subject categories based on SCI in 2008 were neurosciences, clinical neurology, and otorhinolaryngology.



Academic research

The TSSM plays important roles in education, training, and academic research. Research in sleep medicine has been ongoing for more than 20 years in Taiwan. We conducted a systematic review by collecting and extracting data from the Science Citation Index (SCI) online version from 1991–2008 (see Figure 1). Articles with “sleep” as a part of the title, abstract, or key words reported the following parameters — trends of publication output, journal pattern, publication, and authorship by Taiwan practitioners — and were collected for analyzing the roles of TSSM in sleep medicine research.

The research yielded a total number of 314 articles, all written in English, from which most were cooperative studies (19%) with related faculties in the United States. The number of published articles has risen substantially since the TSSM began (see Figure 2).

Sleep an emerging field in Taiwan

Sleep medicine is an emerging field with a wide spectrum of interests and resources in Taiwan. Aside from following the system developed in the United States, we have made progress in facilitating the development of sleep science and sleep organizations. The collective efforts of TSSM have culminated in a significant con-

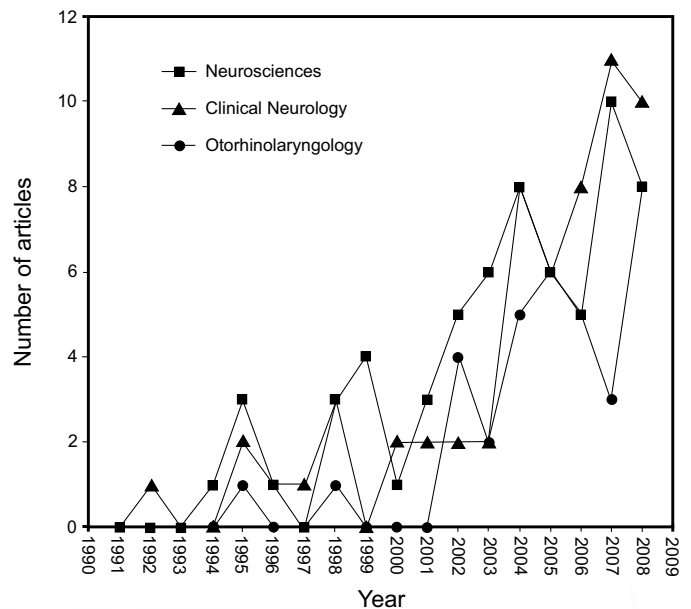
who snored or had witnessed apnea than those without these illnesses ($p < 0.05$).

- Narcolepsy is relatively low (1 in 600,000 population) compared to other Asian areas such as Korea³ (with cataplexy, 1 in 6,000 population) and Hong-Kong⁴ (1 in 3,000 population).
- Continuous positive airway pressure (CPAP) remains the gold standard for the treatment of obstructive sleep apnea (OSA). There is poor CPAP compliance; 30% of patients with OSA on CPAP was observed in Taiwan,⁵ which is significantly lower than Western countries of 60 to 70%.⁶

Associated psychological factors relating to sleep deprivation include less perceived severity of disease, less health value, and less “self-efficacy” not only from education but also the culture.

In Taiwan, CPAP therapy is an out-of-pocket expense without reimbursement. Economic issues are the major factor, which is similar to other Asian areas except Japan. Therefore, important achievements for TSSM in the future will be to educate and negotiate with the National Health Insurance Bureau (NHIB).

Figure 2. Rapid growth of research publications in otorhinolaryngology was the major disparity between Taiwan and other countries.



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1 ASA Standards for Basic Anesthetic Monitoring, Committee of Origin: Standards and Practice Parameters (Approved by the ASA House of Delegates on October 21, 1986, and last amended on October 20, 2010 with an effective date of July 1, 2011) - Viewed 3-21-11 at www.asahq.org/Standards%20Guidelines%20Stmts/Basic%20Anesthetic%20Monitoring%202011.aspx

2 Stoelting R and Overdyk F. Anesthesia Patient Safety Foundation, Conclusions and Recommendations from June 08, 2011 Conference on Electronic Monitoring Strategies to Detect Drug-Induced Postoperative Respiratory Depression. Accessed August 25, 2011 at <http://www.apsf.org/announcements.php?id=7>.

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tribution to professional education, services, and qualifications in sleep medicine and clinical practices.

The prevalence of sleep-related breathing disorders shows no significant difference compared to other countries, although some variations do exist. OSA is associated with many significant comorbidities and long-term morbidity. Active treatment with CPAP in the majority of patients with OSA is effective and warranted; however, poor compliance or CPAP refusal necessitates that we must make more efforts to solve the problem.

The cost of CPAP treatment, which is not reimbursed by NHIB, is likely to be the key issue in promoting CPAP compliance. The continuation of studies evaluating the cost-effectiveness of CPAP to support decision making of both the authorities (NHIB) and the patients is, therefore, indispensable in Taiwan. ■

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Quality Is the Name of the Game

by Anne Marie Hummel

Have you noticed any increased activity in your hospital about the importance of quality measures? Do you know that hospitals can receive incentive payments from Medicare if they report certain quality measures? Or maybe you're a respiratory therapist working in a physician's office. Physicians are part of the quality incentive program as well. Have you heard the term "value-based purchasing," or do you know anything about Accountable Care Organizations? What are quality measures anyway, and how can RTs be active participants? Hopefully, you will get some answers as you read on.

What are quality measures, and why are they important?

Quality measures are tools that help the Centers for Medicare and Medicaid Services (CMS) quantify health outcomes, patient perceptions of the care they are receiving, and systems that are designed to provide high-quality health care that meet certain goals such as effective, safe, efficient, patient-centered, equitable, and timely care. They also provide incentives for hospitals that can result in additional Medicare payments.

Quality measures are not new. In fact, hospitals have been reporting quality measures for a number of years. Much of the data that is collected has been converted into what is called the "Hospital Compare" website for Medicare beneficiaries. It allows patients to see how well hospitals in their area compare with other hospitals throughout the United States based on the reporting of certain quality measures.

Tracking the mortality and readmission rates for pneumonia are two respiratory illness measures that CMS now reports on. You might want to check out how

well your hospital is doing compared to others. For example, if you go to the Medicare.gov website (www.medicare.gov) and enter the zip code, it will bring up hospitals within a certain mile radius of where you live or work. You can compare three hospitals at a time based on general information, a medical condition, or a surgical procedure. The information you receive will tell you if those hospitals are better, no different than, or worse than the U.S. national rate. Also, patients weigh in on issues related to communications, pain management, medicine communication, discharge information, and whether they would recommend the hospital to others.

Effective Jan. 1, 2012, one quality measure CMS is no longer going to require hospitals to report is tobacco-cessation counseling. The reasons are twofold: one is to reduce the hospital reporting burden, and the other is that hospital performance has been uniformly high nationwide with little variability among hospitals (topped out). However, this does not preclude hospitals from continuing to improve their own performance on the measure.

CMS has proposed (but is not yet requiring) adding two new measures for hospital reporting that relate to COPD. The measures involve 30-day mortality and readmission rates for a cohort of patients hospitalized for an acute exacerbation of COPD based on a principal discharge diagnosis of COPD or a principal discharge diagnosis of respiratory failure with a secondary discharge diagnosis of COPD.

Respiratory therapists from the COPD Foundation and AARC were part of the technical panel of experts who reviewed the proposed measures and made recommendations to CMS. One of those recommendations included

about the author...



Anne Marie Hummel is the AARC's director of regulatory affairs in Washington, DC.

adding a measure for chronic obstructive asthma since it is often difficult for physicians to differentiate between asthma and COPD. Yale New Haven Health Services Corporation/Center for Outcomes Research and Evaluation is currently reviewing the recommendations and public comments. We will expect to see data on these COPD measures added to the Hospital Compare website sometime in the future.

This will be an excellent opportunity for RTs to help their hospitals get good reports, especially with reducing hospital readmissions. On several occasions, AARC has informed various components within CMS about the value RTs can bring to these initiatives, especially

since a recent study showed that a simple disease management program conducted by a respiratory therapy case manager reduced hospital readmissions by a statistically significant 41%.

Value-based purchasing will impact acute care hospitals

You may be thinking that value-based purchasing has something to do with cost-effective hospital purchases like equipment and medical devices, but the term can be misleading. It is really about the federal government wanting to be a prudent purchaser of health care services or getting the “biggest bang for their buck.”

Value-based purchasing is one of several programs required by the Accountable Care Act. It is designed to promote higher quality care for Medicare beneficiaries. In the end, instead of being paid based on the volume of services they provide, hospitals will be paid for providing care that rewards better value, patient outcomes, and innovations. It is primarily a quality incentive program built around the hospital quality reporting infrastructure discussed above. Pneumonia will be one of the performance measures upon which hospitals will be graded, together with measures associated with acute myocardial infarction, heart failure, health care-associated infections, and certain surgeries.

The program does not begin until fiscal year 2013 (or Oct. 1, 2012), but CMS has already issued final rules and laid out the “ins and outs” of how the program will work and the formula they will use to measure performance. Think of it as a hospital report card. Hospitals will be evaluated on two scores: one for achievement in how well they do compared to other hospitals across the country and one for internal improvement within their

own system. Both of these scores are evaluated against a baseline period of July 1, 2011 to March 31, 2012.

The formula for scoring is somewhat complicated; but in the end, 70% of the score will be for achievement of clinical measures with 30% awarded for patient experience. Among the experiences patients will be asked to evaluate are hospital staff responsiveness and medicine communication, so there are opportunities for respiratory therapists to ensure that

the care they give their patients receives high marks, especially when it comes to educating and teaching patients on the proper techniques for using MDI devices, nebulizers, etc.

More than 3,000 hospitals will be impacted by value-based

purchasing, so your hospital is most likely among those that will be part of the new reward program. RTs are encouraged to do your part in helping your hospitals meet their goals.

Starting in 2012, new groups of quality measures have been added to the Physician Quality Reporting System. Two of these include measures for COPD and sleep apnea; asthma is already included. CMS is also thinking about adding value-based modifiers to physician services as incentives to improve patient care and has asked the public to weigh in on the issue. If that happens, it can well position RTs in physicians’ offices, especially if our Medicare Respiratory Therapy Initiative legislation is enacted.

Accountable Care Organizations focus on coordinating care

By now you have probably heard the term “Accountable Care Organization” (ACO). But what is it exactly?

In a nutshell, ACOs create incentives for teams of physicians, hospitals, and other health care providers to work together to treat an individual patient (e.g., fee-for-service Medicare beneficiaries) across care settings in order to improve care through seamless coordination. This is especially important since it is estimated that more than half of Medicare beneficiaries have five or more chronic conditions treated by multiple physicians, resulting in fragmented care.

Also referred to as the “Medicare Shared Savings” program, ACOs will receive higher payments from Medicare if they lower their health care costs while at the same time meet certain quality performance standards and put patients first. The ACOs are held “accountable” for any losses they incur if it turns out they don’t save the

If you read anything these days about health care, you’ll pick up on a recurring theme: better health, better care, lower costs.

program money. It largely depends on the amount of risk they are willing to take based on models that CMS has established.

How do RTs fit in?

A couple of the quality measures that CMS finalized recently relate to COPD and smoking cessation, with the most important one aimed at reducing hospital admissions. We know that an effective disease management program with respiratory therapists at the helm can make a huge difference. How big a role you can play will most likely evolve over time, as with any new program it takes time to get things started. This is especially true since CMS is allowing applications for an April 1, 2012, or July 1, 2012, start date with a three-year termination period.

The ACOs' performance will be measured against the following key areas:

- Patient/caregiver experience of care
- Care coordination/Patient safety
- Preventive health
- At-risk population/frail elderly health.

CMS started out proposing 65 quality measures for these four categories but narrowed it down to 33 in the final rule based on many comments they received about the burden and complexity of the original program design. While COPD quality measures (including spirometry evaluation, smoking cessation, and bronchodilator therapy) were among the proposed measures for the at-risk population, CMS has decided not to include them at this time in order to offer a simpler and more streamlined set of quality performance standards so as to encourage ACO participation.

That doesn't mean CMS does not think COPD is important. It does, and it has included a measure under the care coordination domain that is outcome focused and aims to measure timely and effective care for managing COPD patients that results in fewer hospital admissions. While CMS admits that tobacco use is especially harmful to patients with COPD, it also did not finalize the smoking-cessation counseling quality measure specifically for COPD but rather kept it as a measure for all patients, including those with COPD.

In the end, CMS selected final measures with a predominantly ambulatory care focus as a starting point. In the future, however, we can expect to see revisions to the measures as well as new ones to reflect changes in practice and quality of care improvement. The creation of ACOs is entirely voluntary on both the part of the

providers as well as the patients, so how successful ACOs will be in the long term is a question that remains to be answered.

AARC joins the Partnership for Patients initiative

Quality also includes patient safety. Another new initiative at CMS is the Partnership for Patients. Its goals are to decrease preventable hospital-acquired conditions by 40% and reduce preventable complications during the transition from one care setting to another so that hospital readmissions would be reduced by 20%, both by the end of 2013. Ventilator-associated pneumonia is one of the areas of focus. Several thousand hospitals together with other care providers, patient advocacy groups, employers, and health plans have taken the pledge.

AARC has pledged to support the goals and is committed to build on work already underway that achieves safe, high-quality care. If you did not read the AARC October 19 Web article "[AARC Pledges To Improve Patient Safety](#)," we ask that you take the pledge with us now to:

- Work to redesign activities across clinical settings to reduce harm, reduce preventable readmissions, and improve care transitions.
- Engage with patients and families to implement practices that foster more patient-centered care that improves safety, communication, and care coordination.
- Learn from and share with others your experience with making care safer and more coordinated.

Additional information is available at www.healthcare.gov/compare/partnership-for-patients/safety/index.html.

Respiratory therapists have the expertise to assist physicians and hospital staff to determine the clinical needs of their patients and to educate patients on disease management. When patients are properly treated, health care quality is enhanced and unnecessary services or hospitalizations can be avoided. If you read anything these days about health care, you'll pick up on a recurring theme: better health, better care, lower costs. You can help your provider meet or exceed quality goals, so talk with your department head now to see how you can play an active role. ■



Criminal Liability

by Anthony L. DeWitt, JD, RRT, FAARC

It is very rare for a health care provider to find himself involved in a criminal trial for care rendered at the bedside. The recent trial of Dr. Conrad Murray in Michael Jackson's death illustrates the kinds of risks and behaviors that can result in criminal liability for health care practitioners. The lessons from the trial should not be ignored.

As I have written before, the things that get professionals in trouble with their professional boards tend to be the things that get them in trouble with law enforcement. Most commonly, those things are the abuse of drugs, the abuse of alcohol, domestic violence, and theft. It is rare (although not unheard of) for a professional board or a law enforcement agency to base a criminal case on gross negligence. Gross negligence is the conscious and voluntary failure to use reasonable care, but it does not end there. It must also be foreseeable that the failure to use due care will result in grave harm to the patient. Gross negligence is an extreme form of negligence.

The difference between gross negligence and garden-variety negligence can be seen in the respiratory care context in this manner. During an exceptionally busy night, a therapist might not be able to complete ventilator checks every two hours. If a therapist made a choice to go to his meal break instead of completing a ventilator check, and three hours elapsed in between checks, the failure to complete the check as required by hospital policy would be negligent. If the therapist noted the error, filled out an incident report, and no harm came to any patient, the negligence would be an issue of concern for the department's overall performance, but it would not be gross negligence.

Suppose, however, that the ICU therapist has a substance abuse problem. He routinely abuses meperidine

prior to and during his shift. As a result, his ventilator checks amount to little more than copying the line above for six hours straight. Then, at 2:00 a.m. the therapist falls asleep because of his drug usage; and a mucous plug, which would have been detected if ventilator checks had been properly done, results in the death of the patient. Both criteria are met for gross negligence here. The negligence is extreme because it involves the use of drugs while performing patient care, and the risk of grave harm is present because we're talking about life support equipment. This is a case of gross negligence, which could result in criminal liability.

In spite of the state having the ability to prosecute for acts of extreme negligence, prosecution for criminal negligence is very rare against health care providers. In researching the issue, I was able to find only two cases in the past 50 years when a physician or other health care provider was charged and convicted of negligent homicide or manslaughter relating to grossly negligent medical treatment. Oddly enough, both cases involved pulmonary medicine.

Case 1

In 1965, two chiropractors in Florida were charged and convicted of manslaughter through culpable negligence in that they treated a case of active tuberculosis with a vegetarian diet. The Florida Court of Appeals said:

"There was testimony that the treatment given to Molina was not approved medical treatment for one with active tuberculosis, and that had he been treated by approved medical methods and given available drugs his disease could have been arrested or controlled. From the evidence the jury could, and no doubt did, conclude that the treatment afforded by the appellants advanced

about the author...



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rather than retarded the patient's tuberculosis infection and caused his death, and that their method of treatment of this tuberculosis patient amounted to culpable negligence as it has been defined in the decisions of the Supreme Court of this State." — *Gian-Cursio v. State*, 180 So. 2d 396 (1965)

The Court of Appeals affirmed the conviction of the two physicians.

Case 2


In *State v. Warden*, 813 P.2d 1146 (Utah 1991), a physician was convicted by a jury of negligent homicide in the death of an infant born prematurely with respiratory distress syndrome. The physician had no malpractice insurance or hospital privileges and, as a result, only delivered infants at home. After delivering a premature infant at home, Warden positioned the baby to mask the grunting and retractions and told the parents that hospitalization was unnecessary because the grunting sounds were "normal in premature infants." Warden left the house 40 minutes after birth, telling the grandmother to "watch the baby" but providing no specific advice about what to watch for. Then, during the night, the child turned a deeper shade of blue, and the mother called Warden to come attend the infant. Warden lived about six blocks from the family. He never came. A pastor and a pediatrician did come to the home, and they found the baby near death. Shortly thereafter, the infant died after emergency transfer to a local hospital.

At trial, physicians testified that the standard of care required hospitalization in an ICU and that had the infant been hospitalized and cared for properly, he would have survived. The jury convicted the doctor, but the Utah Court of Appeals reversed the conviction, finding insufficient evidence of gross negligence to support the conviction. The state appealed to the Supreme Court. In reinstating the conviction, the Utah Supreme Court said:

"At this point, it is important to note that criminal negligence differs substantially from ordinary civil negligence. Indeed, this court has stated that evidence of civil negligence is insufficient to convict a person of negligent homicide. In situations where it is alleged that a medical doctor was negligent in the treatment of a patient, that doctor may be held civilly liable if the evidence establishes that it is more likely than not that the doctor's treatment fell below the appropriate standard of care. In contrast, a doctor may be held criminally liable only when the evidence establishes beyond a reasonable doubt that the doctor's treatment created a substantial and unjustifiable risk that the patient would die, that the doctor should have but failed to perceive this risk, and that the risk is of such a nature

and degree that the failure to perceive it constitutes a gross deviation from the standard of care. Given the high showing required for negligent homicide, doctors' negligence in the treatment of patients will rarely precipitate criminal liability. It is also true, however, that if doctors act with criminal negligence, they should not escape criminal liability merely because the negligence occurred in a professional setting."

For most therapists, there is little if any risk that they will ever be prosecuted for criminal negligence because normally the traits and behaviors that establish criminal negligence are never tolerated in a hospital setting. Good managers identify non-performing personnel and terminate them. But it is important to remember, particularly where the issues relate specifically to things like the consumption of alcohol and the ingestion of drugs, that criminal liability not only strips you of a license, it lands you in a state prison with very bad people. Criminal negligence is real, and the consequences of a conviction extend far past the normal prison sentence of four to five years. ■



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Plans Change in a Snap

by Janelle Gardiner, MS, RRT

What began as a study-abroad trip to Ghana late last spring turned out to be quite different than what I had come to expect from my five previous visits to the country.

Our group from Weber State University in Ogden, UT, had just arrived in the inland city of Kumasi two days prior. Due to the weekend, it was our first opportunity to really get to work. I joined one of the groups and headed to a school to make a donation of much-needed school supplies. We entered one of the classrooms. I knew one of the little girls in the class and called her forward so I could greet her. I crouched down to give her a hug. She came running at me. With my feet on uneven ground, she knocked me off balance and my ankle twisted underneath me. I heard and felt both my tibia and fibula snap. Thus began an adventure I never could have anticipated.

No 9-1-1 here

The first thing I realized after experiencing the snap was that you do not call 9-1-1 in a foreign country. Of course, because of my previous trips, I had thought about this before; but you realize it with a lot more impact when it's you in need of medical attention. I did get some help from those I was traveling with, who splinted the breaks and got me to an emergency room. Fortunately, a familiar face greeted me there. Richard is an ICU nurse whom I knew from previous trips. He just happened to be working in the emergency room that day.

An ER physician from the University of Utah, Dr. Bradley Dreifuss, was also working there that day. It is amazing how much comfort can be found in people you know and trust. I suspect I got special treatment as I am

quite sure they moved me ahead of other patients waiting for care. I felt grateful and guilty all at the same time.

The x-rays confirmed my suspicions — a fracture of the medial malleolus of the tibia and a spiral fracture of the fibula. I was in shock and was not thinking very clearly. I had not really been able to process what I should do next. So with the help of Dr. Dreifuss, I determined I should fly back to Utah and have surgery.

about the author...



Janelle Gardiner, MS, RRT, is an assistant professor in the respiratory care program at Weber State University in Ogden, UT.

She has been on numerous medical missions to Ghana and plans to return soon to continue her work.

Here we go again

I had to make a short flight to the Ghanaian capital of Accra to be able to get a flight back to the United States. The following day, I made the flight into New York. It's a long flight anyway, but I expected it to be awful with a broken ankle. Thanks to a good friend and fellow AARC member, Amber Galer, BS, RRT, who cut her trip short to accompany me home, the flight went remarkably well. She did a great job taking care of me.

We were able to make our way off the international flight and through customs. It was nice to be back on U.S. soil, but I wanted to be home so badly. Unfortunately, that took a bit longer than I thought it would due to a fall I took in the jetway getting onto the flight back to Salt Lake City. Because of the fall, the airline would not allow me to fly. Instead I was taken directly to an emergency room in New York.

Experiencing health care from the patient's perspective is truly eye opening. I realized from my experiences in New York that it really does take only one person to make a difference. I had some good experiences and some that were not so good.



Janelle Gardiner receives special care from the Komfo Anokye Trauma Center admission team.

Luckily, Gordon, one of the nursing assistants, was quick to help me and get me what I needed. The orthopedic resident, Patrick, was knowledgeable as well. He was careful to educate me and keep me informed on what was happening next. I was in the emergency room for almost 11 hours before they determined I did not have any blood clots and was cleared to fly again. Because of the fall, the resident had to remove the splint that was placed in Ghana, reduce my ankle, and splint it again. He was professional and made the difference in my ER visit.



The splint team gets ready to tackle the breaks.

Lessons learned

Due to a significant amount of swelling, I was home for almost a week before having surgery. The surgery was successful, and I felt I was recovering quite well until I discovered a DVT on post-op Day 3. That led to another set of adventures I was not planning on. Again, this allowed me to meet health care professionals who made a difference in my care.

Through all of it, I have been blessed. I have become increasingly appreciative of emergency response systems; good pain medications; knowledgeable, skilled, and friendly health care workers (nurses, assistants, physicians, x-ray technicians, clerks, phlebotomists, and physical therapists); modern technology; modern medicine; modern transportation; good friends; amazing family; and many, many answered prayers.

I have also learned so many things. I have learned a lot about myself and about those who care about me. I have learned to have more patience. I have learned that having hope and finding the power of positive thinking can get you through a lot of difficult days. Finally, I have learned that I have the opportunity in my work as a respiratory therapist to be the one who makes the difference in the life of another. ■



Improving the Quality of Decision Making

by Sam P. Giordano, MBA, RRT, FAARC

As we move toward closing this year and preparing for next year, this is a great time to reflect on how we can improve our value to our employers and, of course, our patients. We know the value of protocols; the scientific literature contains many examples related to how protocols, administered by health care professionals such as you, improve the quality and timeliness of clinical decision making. This is an important drumbeat that we must continue to sound since not every hospital orders respiratory care by protocol. As we move into the future and are more fully invested in health care reform, we will be challenged time and again to decrease unnecessary care, improve care quality, and prepare patients with chronic lung diseases to improve their respiratory quality of life by empowering them to more effectively manage their health status. I think it's safe to say this will be a perennial mandate from now "until the cows come home," as we used to say.

The foregoing will help us manage down demand and, therefore, costs of health care resources without compromising the quality of care our patients require. This is certainly the largest cost component of our health care system. There are additional opportunities for us to improve our value by improving our quality of decision making when it comes to utilization of equipment and supplies necessary to provide top-notch care.

Acquisition costs

As the Affordable Care Act comes online in the next few years, it's important to remember that one of the ways Congress adopted to pay for the act will be to levy additional taxes on pharmaceuticals, supplies, and med-

ical devices. It won't take long for health care finance gurus to target acquisition costs for these products for budgetary reduction. This will mean that decisions that were once thought of as routine in terms of resource acquisition, will receive increasing scrutiny before the purchasing decision is made.

As many of us have heard, "there must be a pony in there someplace." The reality is that there is indeed one in there for us. One of the prime attributes of respiratory therapists, and others with special knowledge in respiratory care, is that we understand that technology and clinical respiratory care go hand in glove. We rely heavily on technology. It's incorporated into virtually all modalities. So, it's a big part of the cost of respiratory care.

Experts, such as you, who know the difference between the variety of clinical interventions and their clinical impact should also consider more robust objective methods of non-personnel resource acquisition. Many of our colleagues pose research questions and conduct formal or informal research regarding the value and performance of pharmaceuticals, supplies, and devices.

While it's true that the majority of clinical research focuses on patient care, we should also apply the need for and value recognition of research in your clinical environments to help guide and improve the quality of this decision-making niche.

The AARC works with many partners in industry as well as other organizations within our community. These collaborative efforts are multi-faceted. However, our stakeholders agree that the requirement for objective evidence will continue to grow if we are to continue to utilize current technology and position our profession to make a business case as well as a clinical case for

about the author...



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expenditures necessary to assure that regardless of budgetary cuts, patients' clinical needs are met.

We are working on templates that can help you design relatively simple studies so that you can do the research yourself. Expert opinions are always good, but the business side of our health care system will demand more than opinions. It will want proof that whatever non-personnel resources we purchase are not only good for the patients but are also a proven expenditure by the organization.

In respiratory care, as in all other aspects in medicine, there's no end to controversies. As an example, many support the use of high-flow heated humidification while others may think it's an unnecessary expenditure that hasn't proven itself yet. Why not? Develop a research project to prove to yourself and your decision makers (if it's necessary) what the benefits are in terms of clinical and economic outcomes. This is just one example of what will be a new era for many of us.

Researchers needed

We want to develop templates that can serve as a guide to you when you undertake such research efforts.

You are well positioned to take the lead in such endeavors and are encouraged to follow through. In doing so, you reinforce your value to the system and to your patients. You also improve the quality of resource acquisition decision making while documenting a hybrid approach to patient care that includes, first and foremost, positive clinical outcomes but also supports expenditures required to apply available clinical technology in your institution.

In order to encourage research, AARC organized a Research Roundtable about a year or so ago, and several members participate; but the responsibility for conducting research, especially when it comes to purchasing decisions, must be borne by all of us and inculcated into our respective organizational cultures.

We will provide more information regarding the previously mentioned templates as we move forward next year. Be on the lookout! This is an opportunity to once again build your value while looking out for the best interest of both our patients and employers. ■



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2010 Héctor León Garza Award Winner Credited with Helping To Introduce NIV to the World

Stefano Nava, MD, traces his use of noninvasive ventilation back to the 1980s

Noninvasive ventilation (NIV) is increasingly being used to assist with weaning and/or to avoid intubation altogether in patients with respiratory conditions. The groundbreaking work done by last year's winner of the AARC's Héctor León Garza, MD International Achievement Award is a big part of the reason why. In the following interview, Stefano Nava, MD, talks about his long career in respiratory medicine and what led him to begin using NIV with his patients nearly three decades ago.

AARC Times: How did you first become interested in respiratory medicine, and why did you decide to make it your specialty?

Dr. Nava: Like most of my colleagues, I became interested in respiratory medicine by chance. Actually, during my third year at the university, I had many problems in understanding the physiology of breathing. Terms like compliance, resistance, work of breath-

ing, and transpulmonary pressure were difficult for me to understand; and they all sounded very far from "the real patient."

During the last two years of medical school, I just wanted to better understand what all these mysterious words meant. Immediately, I became fascinated by reading and hearing an explanation of the chest x-ray — at that time a non-CT scan — done by attending physicians. I was amazed that they could see in a film something that I would never guess was there. Step-by-step I started to study, to observe what the others were doing, to learn the "body language" of our patients, and to try to understand their needs. Indeed, the environment was very friendly, and my colleagues and all the staff very kind — and why not say it — sometimes funny as well. So one day I said to myself, "I am here to stay."



Patrick Dunne (left), MEd, RRT, FAARC, presents the Héctor León Garza award to Stefano Nava, MD.

AARC Times: You recently joined the Policlinico S. Orsola-Malpighi/University of Bologna after many years at Pavia University. Why did you make the change?

Dr. Nava: My life is very often “on the move.” I like to travel and meet new people; so I thought, why not change my job to get new stimuli? This is quite an unusual practice for Italians, who are more likely to stay in the same place all their lives. But after turning 50, you have, in my view, two options — one, reach a plateau of your professional life, or two, make a big change. Waking up every morning knowing what the rest of the day will look like is not for me.

AARC Times: You have conducted many studies over the years on mechanical ventilation and, most particularly, on NIV. What have you learned from these studies, and how has this knowledge helped change the way respiratory professionals treat their patients both in your own country and around the world?

Dr. Nava: In Italy we started to use NIV in the late 1980s. I was working in those days in a rehabilitation center in a small hospital out in the hills. Along with my good friend, Dr. Nicolino Ambrosino, I became interested in NIV mainly because, working in a respiratory ward every day, we faced patients with acute respiratory failure who had only two options —

either intubation, which we were not allowed to manage in that unit, or oxygen therapy.

So we both said to each other, why don't we try something different? Being one of the first pioneers in this technique, I have to say that NIV really changed the practice of medicine since later it became the first-line intervention for several pathologies like COPD exacerbation, cardiogenic pulmonary edema, and pneumonia in immunocompromized patients.

The application that I feel is "our creature," however, is the use of NIV in the weaning process of hypercapnic patients who were previously intubated. We published the first randomized controlled trial, which was confirmed later by several other investigations. So I am very proud to think that every time someone is extubated and placed on NIV, a small merit is also mine.

AARC Times: Some of your studies have been published in the AARC's science journal, *RESPIRATORY CARE*, and you also sit on the Journal's editorial board. How do think the journal has evolved over the past decade, and how is its influence on respiratory care research around the world growing?

Dr. Nava: It is very difficult to answer this question because it is easy to be biased by the fact that I am on the editorial board, and I am a friend of Editor in Chief Dr. Dean Hess (PhD, RRT, FAARC). But that said, I think that the journal has tremendously increased its popularity and scientific weight in the last few years, thanks also to the previous editor and now editor emeritus, Dr. David Pierson (MD, FAARC).

There are three things that I like the most about *RESPIRATORY CARE*. The first is that it is not a journal restricted to medical doctors but open to all the professionals involved in the pulmonary and critical care world. This is very important when you think that the care of the patient is not a "solo" procedure, but teamwork. Second, I like the educational aspects, since there are many well-done reviews and proceedings from very up-to-date meetings and consensus conferences. Third, I consider that, right now *RESPIRATORY CARE* is the journal of mechanical ventilation, and it was about time for it.

AARC Times: Tell us a little about the Italian model of respiratory care and how it compares and contrasts with the model of care we have in the United States.

Dr. Nava: Having worked for awhile in the United States, I have to tell you that the differences are mainly "formal." The life expectancy in the United States and in Italy are very similar — it's actually better in Italy — so that patients are very likely to receive similar care. However, we work in a totally socialized health care system, so that everyone is entitled to

receive care and treatment, including drugs and hospitalization, for free. I am a strong believer in the idea that everyone should get the best health care irrespective of economical status and legal status (i.e., illegal immigrants). In addition, we are less keen to apply fixed protocols, maybe because we are Latin, or maybe because there is always a little bit of art in medicine that we should not remove.

AARC Times: Do you believe respiratory therapists will ever play a major role in the Italian health care system?

Dr. Nava: This is a difficult question. Actually, the major problem lies with the university system. Most of the educational tracks are run by physical medicine doctors who not only do not believe in the scientific strength of what respiratory therapists have done elsewhere but, most importantly, they do not even want to learn the "lesson from the United States" that RTs and physiotherapists are different entities.

To be honest, there are a few spots where some of us are working together (i.e., physiotherapists and medical doctors) to try to build up specialized teams that we call the "respiratory physiotherapists." This is thanks to the Italian Association of Therapists for Respiratory Failure (ARIR, or Associazione Riabilitatori dell'Insufficienza Respiratoria). I want here to also recognize the work and the skill of my previous respiratory therapists, with whom I shared the experience of working together as a real team when I worked in Pavia. Their names are Giancarlo, Serena Sr., Serena Jr., and Manuela.

AARC Times: Last year you received the Héctor León Garza award at the AARC Congress. What did it mean to you to receive this prestigious international award?

Dr. Nava: As I said during the small talk I gave when I received the award, it was like receiving the Oscar. I was first very proud, happy, and thankful to all the people who chose me. Once more, a person alone is nothing if not supported by teamwork. I worked very hard in the last 30 years, I spent nights awake to care for patients or to write papers; but I received a lot, too, first, from my patients — there is nothing better than a warm "thank you" from a smiling human being. Second, I have had the chance to travel all over the world, learning about different health care systems and life attitudes, and especially meeting people, some of whom also became good friends.

Of course, there was a price to pay, which was spending almost half of my life far from home. This means that I am really grateful to the one person who was willing over all these years to stand by me and my lifestyle, and therefore had the "guts" to marry me. Thanks Anna Maria! ■

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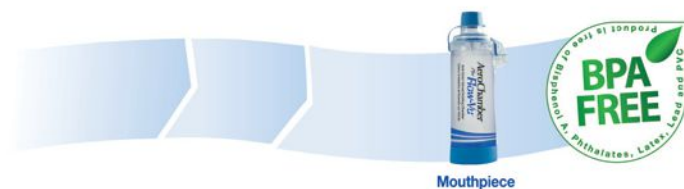
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AARC International Fellows Make “a Baker’s

by John D. Hiser, MEd, RRT, FAARC



Dozen”

The International Fellowship Committee met this summer to perform the difficult task of selecting international fellows and city hosts for this year’s visit to the United States. This time we also reviewed at length our mission, goals, selection process, and how to identify success.

EDITOR’S NOTE

Our editors thank *AARC Times* Guest Editor John D. Hiser for his special contributions to our December international issue.

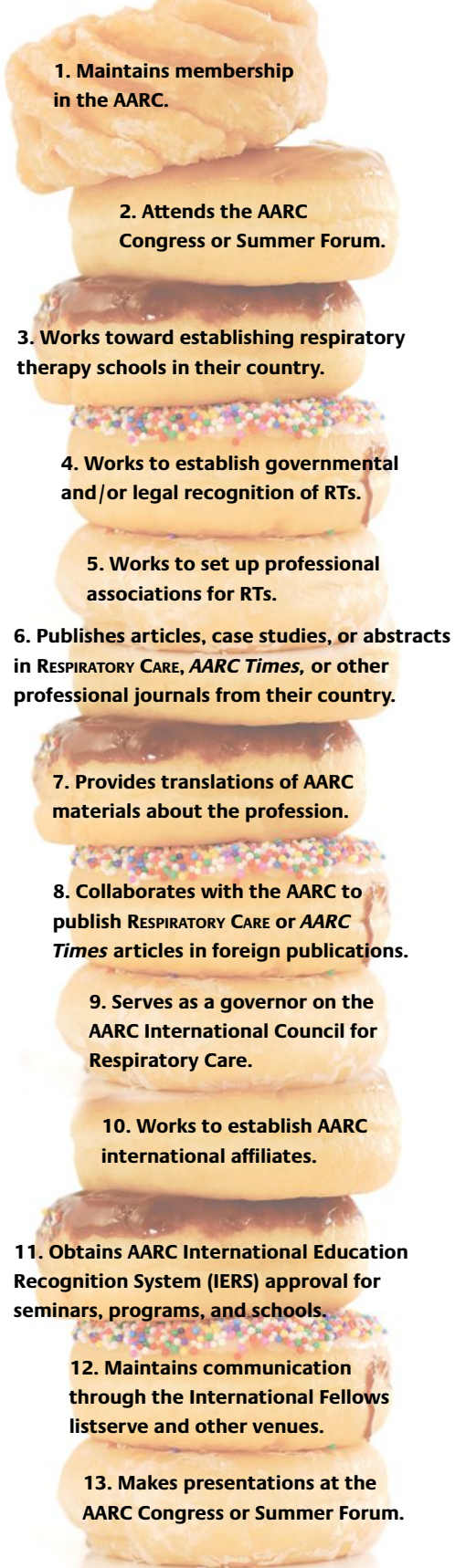
It was felt that over the years we’ve done a good job of identifying examples of international fellows who have helped achieve the goals of the International Fellowship Program. However, we also believe that most of the information collected over the past 21 years has been primarily anecdotal in nature. Based on this, our committee decided to begin collecting and documenting data from all of our past and future fellows to help us identify success in the program and plan for the future. Based upon committee work that was completed prior to that meeting, we listed a “Baker’s Dozen” list of desired attributes that we feel exemplify the

ABOUT THE AUTHOR

John D. Hiser, MEd, RRT, FAARC, currently chairs the AARC International Committee and served as president of the AARC in 2005. He directs the respiratory care educational program at Tarrant County College, Center for Health Care Professions in Fort Worth, TX.



The Baker's Dozen



1. Maintains membership in the AARC.

2. Attends the AARC Congress or Summer Forum.

3. Works toward establishing respiratory therapy schools in their country.

4. Works to establish governmental and/or legal recognition of RTs.

5. Works to set up professional associations for RTs.

6. Publishes articles, case studies, or abstracts in RESPIRATORY CARE, AARC Times, or other professional journals from their country.

7. Provides translations of AARC materials about the profession.

8. Collaborates with the AARC to publish RESPIRATORY CARE or AARC Times articles in foreign publications.

9. Serves as a governor on the AARC International Council for Respiratory Care.

10. Works to establish AARC international affiliates.

11. Obtains AARC International Education Recognition System (IERS) approval for seminars, programs, and schools.

12. Maintains communication through the International Fellows listserve and other venues.

13. Makes presentations at the AARC Congress or Summer Forum.

types of successful activities we hope to see international fellows display when we invite them to participate in the program. These attributes are listed at left.

Many of our past fellows have come very close to achieving all 13 of these goals.

Since 2006, the American Respiratory Care Foundation has honored five of our international colleagues with the prestigious Héctor León Garza MD International Achievement Award, which recognizes respiratory therapists, physicians, and other health care providers who have profoundly impacted the development of international respiratory care. Recipients have included Héctor León Garza, MD, FAARC (Mexico–2005); Hassan Alorainy, BS, RRT, FAARC (Saudi Arabia–2006); Sergio Zuffo, PT (Italy–2007); Gustavo Olguín, MHA, PT, RRT (Argentina–2008); Kazunao Watanabe, MD (Japan–2009); and Stefano Nava, MD (Italy–2010).

The International Council for Respiratory Care has long recognized Toshihiko Koga, MD, FAARC, a past fellow and ICRC governor from Japan, for his professional and humanitarian contributions to the development of respiratory care around the world. In 2006 the Council established the Koga Medal to honor those who have followed in his path. Recipients have included Toshihiko Koga, MD, FAARC (Japan–2006, presented posthumously); Michael Amato, MBA (USA–2007); Chia-Chen Chu, MS, SRRT, FAARC (Taiwan–2008); Derek Glinsman, RRT, FAARC (USA–2009); Gary Smith,

BS, FAARC (USA–2010); and Patrick Dunne, MEd, RRT, FAARC (USA–2011).

All of these individuals have been past international fellows, governors of the ICRC, or members of the International Committee. They are the shining stars who help symbolize the success of our international efforts. Many more have been recognized over the years in numerous articles published in *AARC Times*. However, there are many more who have not been recognized, and that is what we hope will come to light once the committee completes the process of developing a tool that can be used to document all of the many successes of our International Fellowship Program participants.

Accompanying this article are pictures of 13 past fellows who have achieved at least one of the 13 attributes we feel help document success. All of those pictured have achieved several of the listed attributes; but that's another story for another time, so please stay tuned.

This issue of the magazine includes several articles about how respiratory care is practiced in different parts of the world, medical mission trips taken by many of our U.S. AARC members, and as usual, stories that demonstrate the success of the Association's international efforts to bring people together and improve respiratory care around the world. I hope you enjoy this issue as much as our honored authors and *AARC Times* editors and staff have enjoyed bringing it to press. ■

International Fellows Make a Difference



United Arab Emirates
 Noel Tiburcio, MBA RRT-NPS
 Abu Dhabi, United Arab Emirates
 Year of fellowship: 2009
 Helped establish the Emirates' Association for Respiratory Care Practitioners as an international affiliate of the AARC.



Norway
 Heidi Markussen, RN
 Bergen, Norway
 Year of fellowship: 2008
 Presented an OPEN FORUM abstract at the 2009 AARC Congress.



Panamá
 Briseida Delgado, BS, MS, CRTT
 Republic of Panamá
 Year of fellowship: 1998
 Worked to get special governmental legislation that legitimizes the role of the respiratory therapist and the profession in Panamá.



India
 Vijai Kumar, MD
 Hyderabad, India
 Year of fellowship: 1992
 Started the first respiratory therapy training program in India.



Taiwan
 Chin-Jung Liu, MS, RRT
 Taichung City, Taiwan
 Year of fellowship: 2006
 Worked with a team of other international fellows from Taiwan and China to translate the first and second editions of "A Guide to Aerosol Delivery Devices."



Saudi Arabia
 Mohammed Al Ahmari, MSc, BSRC, RRT
 Dhahran, Saudi Arabia
 Year of fellowship: 2005
 Has attended all AARC Congresses since his fellowship.



Korea
 Kook-Hyun Lee, MD, PhD
 Seoul, Korea
 Year of fellowship: 2001
 ICRC governor for Korea.



China
 Yue-hua Yuan, BS, RT
 Hangzhou, China
 Year of fellowship: 2009
 Authored "Respiratory Care in Mainland China" published in December 2009 AARC Times.



China
 Xiang Yu Zhang, MD, FCCP
 Shanghai, People's Republic of China
 Year of fellowship: 1998
 Obtained AARC International Education Recognition System (IERS) approval for educational seminars in his country.



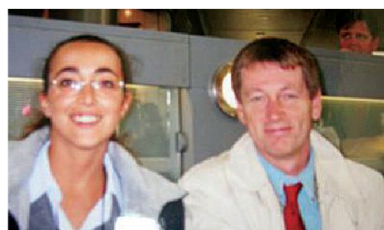
Chile
 Jose Landeros, PT, CRT
 Santiago, Chile
 Year of fellowship: 2007
 Maintains regular communication through the AARC International Fellows List Serve and other venues.



Argentina
 Gustavo A. Olguín, MHA, PT, RRT, CPFT
 Buenos Aires, Argentina
 Year of fellowship: 1997
 AARC member since 2004 and Héctor León Garza Award recipient in 2009.



Japan
 Tetsuo Miyagawa, PhD, RRT, RPT, RCET
 Tokyo, Japan
 Year of fellowship: 1990
 Collaborates with the AARC to publish RESPIRATORY CARE and AARC Times articles in Japanese publications.



Italy
 Pamela Frigerio, PT, ARIR
 Cantu, Italy
 Year of fellowship: 2000

France
 Philippe Joud, PT
 Lyon, France
 Year of fellowship: 2000
 Collaborated to establish the European Respiratory Care Association (ERCA).

by Le Thi Tuyet Lan, MD, PhD

Building a Network of Asthma and COPD Outpatient Care Units in Vietnam

Vietnam is about 35% larger than the United Kingdom, with a current population of more than 87 million. About 61% of the population is working age. Vietnam is the second fastest growing country in the region, its population growing at 1.3% per year. About a third of all individuals are under the age of 15.

Our country joined the World Trade Organization (WHO) in January 2007, and since then WHO statistics have shown that the burden of respiratory disease in Vietnam is great.

More than 56% of all adult males were smokers in 2002. The expense of treating smoking has amounted to \$512.5 million in recent years. The

cost of treatment for smoking-related diseases was \$77.5 million in 2005 alone (Vinacosts 2005).

Air pollution is a problem due to construction (in the process of urbanization) and the enormous number of moto bicycles. The concentration of pollutants (PM₁₀, PM_{3,5}, lead, NO₂, ozone, SO₂, CO, toluen, and benzen) exceeds the Vietnamese pollution standard level by 1.5 to 3 times according to the Environmental Protection Agency based in Ho Chi Minh City.

Also, more than 75% of the Vietnamese people are peasants and many of them use biomass fuel in a tiny kitchen without a chimney.

Tuberculosis

Vietnam is also among the 22 countries with the highest prevalence of tuberculosis (TB). About 30% of all patients of all ages here have an infectious disease of the respiratory tract. In recent years, TB has been aggravated by HIV/AIDS.

The national system of TB control in Vietnam is well established and works effectively. Vietnam recently launched a program to treat multi-drug-resistant TB. We have a good acute respiratory infections program, and the H1N1 and H5N5 influenza strains are still active in Vietnam.

Non-communicable diseases

In regard to non-communicable respiratory diseases, about half of the population has allergic rhinitis. In asthmatic patients, it is even higher (up to 80%). Workers often get this disease, especially in the factories producing export products.



About the Author

Le Thi Tuyet Lan, MD, PhD, is chairwoman of the Hochiminh City Respiratory Society and head of the Respiratory Care Center at UMC, University of Medicine and Pharmacy in Hochiminh City, Vietnam. Dr. Le was an AARC International Fellow in 2000.



The prevalence of asthma in adults is 5%, and in children it is 10%. But the publication of the International Study of Asthma and Allergies in Childhood (ISAAC) study of 2004 showed that the wheezing prevalence of 12–13 year-old children in Hochiminh City is 27.1% — the highest in Asia.

The COPD Research Group of the Asia Pacific Society of Respiratory Care (APSR) notes that the prevalence of COPD in Vietnam is 6.7% — the highest of the region. Occupational lung diseases that are recognized by the Vietnamese government are still limited. The prevalence of chronic bronchitis is 25–35% in workers.

Silicosis is the most frequent occupational lung disease of the Vietnamese people. Byssinosis (brown lung disease), asbestosis (mesothelioma), and occupational asthma are also prevalent.

The high temperature, high humidity of a tropical country, high prevalence of smoking, and severe air pollution in a low socio-economic level population all result in a heavy respiratory diseases burden in Vietnam, and it has continued to increase each year.

Because we have to place importance on treating contagious diseases and life-threatening illnesses caused by infectious diseases, the non-communicable diseases — especially chronic respiratory diseases such as asthma and COPD — have not been adequately managed in Vietnam. The patients usually receive treatment during an exacerbation but are left without follow-up, leading to the overuse of systemic corticosteroids.

What We Have Learned

The lessons that we have learned in the process of building up a network of ACOCUs in Vietnam are:

- 1 **A core group**, preferably from a medical school that has a university medical center, is essential.
- 2 **Spirometry, GINA, GOLD, and ARIA are cornerstones** for ACOCU success.
- 3 **Good relationships** with mass media are very important to increase awareness of the community.
- 4 **Training, research, and helping build up** other ACOCUs are helpful activities for others and for the team itself.
- 5 **Our mastering of English** to participate in international activities in respiratory care is obligatory.
- 6 **Trying to influence the policy makers** to have favorable decisions for respiratory care is very important.
- 7 **We should cooperate with the WHO** non-communicable program to get its invaluable support.
- 8 **ACOCU is sustainable and expandable** as it meets the needs of any community.





The high temperature, high humidity of a tropical country, high prevalence of smoking, and severe air pollution in a low socio-economic level population all result in a heavy respiratory diseases burden in Vietnam.

Building a special outpatient network

The first step to help solve these problems was to open the University of Medicine and Pharmacy Asthma and COPD Care Unit in Hochiminh City. This was the first Asthma and COPD Outpatient Care Unit (ACOCU) established in a university medical center. The center offers special care to these patients, adhering to the Global Initiative for Asthma (GINA) and Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines.

The second step was to increase awareness in the community about asthma, COPD, spirometry, and how the GINA and GOLD guidelines can improve patient care. Because this is a new strategy and much needed by the population, the mass media outlets spread the news very effectively throughout the country, especially by television. We have also held community-oriented events, such as COPD day, asthma day, and non-smoking day, which have been organized regularly every year for the past 10 years. People in the COPD and asthma patient clubs are warm hearted, which fosters the participation of more patients. The patients in these groups help our health care practitioners better care for people with these conditions. As the number of patients increases steadily, the core group accumulates more and more experiences to share.

The third step has included many activities, such as lectures on asthma and COPD management and the im-

portance of adhering to the GINA and GOLD guidelines. Special emphasis is put on teaching spirometry. One important success of the ACOCU program is the cooperation of WHO in organizing and funding the spirometry workshop and their support of ACOCU. Two-week workshops on asthma and COPD outpatient care in the community help other doctors and technicians build up their local ACOCUs. We have organized 38 workshops, provided training for 45 provinces that include 495 doctors and 55 technicians and 279 nurses for 178 medical settlements. ACOCUs have been established in 22 provinces, mainly in the Mekong Delta. In Hochiminh City and Dong Thap, ACOCUs exist even in the district level. Many studies on asthma and COPD have been funded by national and international grants from the university, Provincial Department of Health, Provincial Department of Science and Technology, and the Ministry of Health (MOH). Thirteen people have defended their master's degree and two PhDs have defended their thesis successfully, based on the 33,000 patient computer file copies of the UMC ACOCU.

The fourth step has been to join in international educational activities. Our team always looks for opportunities to attend international conferences. The leaders of the team actively participate in conferences of the AARC, GOLD, GINA, Global Alliance Against Chronic Respiratory Diseases, International Primary Care Respiratory Group,

American Thoracic Society, APSR, European Respiratory Society, ARIA, IUATD, ICC, and the Asian Advisory Board on Respiratory Diseases. Cooperation with other medical schools, such as Shiga, Mayo Clinic, and Washington University, is highly appreciated.

After 10 years of continuous effort and wide recognition in the community, we have reached the fifth step: influencing the policy makers in Vietnam's health care system. The leader of the team is a member of MOH and committed to preparing our national guidelines for asthma and COPD. We continuously persuade the insurance industry here to include the control drugs for asthma and COPD on the insurance list because we recognize these diseases as the chronic ones. With the help of WHO, we are now trying to introduce the program of non-communicable diseases down at the ward (commune) level.

The sixth step has been an expansion of the kinds of respiratory disease we can treat. Our team has branched out from asthma and COPD to help people with related respiratory diseases, such as sleep breathing disorders, pulmonary arterial hypertension, and allergic rhinitis. We plan to apply to PAL to include tuberculosis and even other important non-communicable diseases such as sleep disorders and chronic occupational lung diseases. Suppressing occupational diseases continues to be difficult as long as poor economic conditions exist in Vietnam. ■

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23 Days in Ghana

by Karen Schell, MHSc, RRT-NPS, RPFT



Ghana is located along the southern coast of the West African region and is bordered by the Ivory Coast, Togo, and Burkina Faso. It is classified as an impoverished third-world country with a population of more than 25 million.

The health status of the Ghana population presents many challenges, including competency of health care workers, equipment and supply shortages, standardized practices, poor coordination of the health care delivery system, weak referral systems, and low patient access to care.

The purpose of this trip was to provide humanitarian aid and a medical mission to Ghana by working beside and under the leadership of Lisa Trujillo, MS, RRT, founder and CEO of Charity Beyond Borders. Through Weber State University (Trujillo's employer) and Charity Beyond Borders, people have an opportunity to participate in humanitarian and health missions that cover most of the country of Ghana.

Trujillo is also the respiratory care program director for the Weber State University Ghana Study Abroad Program, begun in 2005, in which she has been taking students and health care professionals to Ghana since 2006. Trujillo is a leading researcher in the study of the effects of breathing problems related to the burning of e-waste in trash dumps, coal burners used for cooking, and dust along the undeveloped roads in Ghana.

Over our 23-day stay in Ghana, we served communities ranging from remote rural areas to heavily populated urban areas. Our diverse group of 23 people consisted of health care providers, educators, geography students, mechanical engineers, and college freshmen. Community health education, free clinics, pulmonary function testing for research, clinical practice and education, and hands-on hospital experiences took place in rural and urban hospitals, elementary and vocational schools, rural outpatient clinics, and community centers.

The population's access to health care is varied among cultural, social, and geographical areas. Members of the public received education, instruction, and clinical assessment during their scheduled interaction. The main objective was to focus on individuals in their life setting and travel throughout the country providing services to meet their needs. We learned about cultural, economic, and environmental aspects of third-world country health care by participating in rural clinics and hospitals, and providing education development for a variety of health care workers. Missionaries gained an understanding of environmental effects on the health of Ghanaians by meeting the public and participating in pulmonary function research.



Lisa Trujillo

Visiting a third-world country presents an opportunity to develop skills in leadership, teaching, troubleshooting, and equipment while learning about cultural differences among the population. We learned to be resourceful in providing care with limited personnel, equipment, and supplies. We also learned how to develop and prioritize skills and utilize equipment while thinking “outside of the box” in circumstances that require innovation to meet the needs of the population.

Educating and developing health care workers and programs helps prepare individuals for opportunities to improve their performance and train providers to benefit the communities in which they live. Assessing the needs of the communities served will help in the planning and organization of future humanitarian and health missions. Over the last six years, the organization has:

- Distributed 3,200 eyeglasses
- Performed 730 pulmonary function tests
- Screened 200 people for sickle cell disease
- Performed 4,200 basic health care assessments
- Provided 1,200 people with oral health education
- Educated and trained 2,400 health care providers in neonatal resuscitation, BLS, mechanical ventilation, and infection control and prevention
- Educated the 800 members of a community about disease and health, including: HIV/AIDS, infant and maternal health, recognizing signs and symptoms of an ill child, basic CPR, exercise, and basic nutrition
- Shipped three 20-foot cargo containers and one 40-foot cargo container
- Shipped an ambulance to be used as a mobile clinic.

In addition, the organization has procured donations of:

- Elementary education reading programs, including math, science, health, English, and reading for grades K–6

- 700 refurbished library books
- 1,200 textbooks on nursing, respiratory care, radiation technology, clinical lab sciences, emergency care and rescue, health administration, and dental hygiene (to stock a nursing and allied health college library)
- Adult and infant CPR manikins
- Hundreds of neonatal resuscitation supplies, bag-valve-mask resuscitators, ventilator circuits, cannulas, suction equipment, and endotracheal tubes
- Wheel chairs, crutches, and hospital beds.

All in all, the estimated value of supplies and equipment (including the ambulance) procured since 2006 totals \$750,000. The number of people who have traveled to Ghana includes about 85, and several have returned for second, third, and fourth missions.

For many of us participating in these medical missions to Ghana, it has been a life-changing experience. We will return to Ghana next April in hopes of developing education in respiratory therapy. ■



Karen Schell, MHSc, RRT-NPS, RPFT, is director of cardiopulmonary services at Newman Regional Health, in Emporia, KS.



Adventure in Brazil

by James L. Hulse, PhD, RRT-NPS, RPFT

For many years I prayed to God to help me finish my PhD so I could teach and help people in other countries. In July of 2009, I successfully defended my dissertation. By the fall of 2009, I was looking for an international service opportunity.

If you look for mission opportunities, you are not likely to find a church or a nonprofit nongovernmental organization asking for a respiratory therapist. I went to the student missions website of my alma mater, Loma Linda University, and read about the short-term mission opportunities, when one caught my attention. The question was: "Got a Week?" It was a mission on the Amazon River in Brazil. Here was a trip in which students live on a boat on the Amazon River and visit villages where they provide dental and medical care. I wanted to do it. My wife Linda and daughter Lisa (both nurses) said they would join me, and we started the preparatory work of getting a visa and immunizations and planning the trip. I decided to bring along a pulse oximeter, stethoscope, blood pressure cuffs, peak flow meter, and an educational display of the effects of smoking on various organs of the body. Before long, we were arriving in Manaus, Brazil.

It was exciting to be on a boat with medical students, dental students, public health students, nursing students, occupational therapy students, pharmacy students, and physical therapy students. All were sleeping in hammocks on the top deck. Since we were on a boat, the trip organizers could make sure that we had access to clean food and sanitary conditions.

Our boat navigated through the night — not up the Amazon River but up the Rio Negros, a large tributary of the Amazon — and stopped at the first village, which had a small building that we were able to use for a clinic. On one side were the dental students and the oral surgeon, and the other side had three examining rooms and an area set up as a pharmacy. My wife, daughter, and I each took a room with two medical students, and the patients

came for services. Each room had a student who spoke Spanish. The language of Brazil is Portuguese, but Spanish provided an elementary level of communication.

We performed basic vital signs and physical assessments and determined the chief complaint. Required prescriptions were requested from an accompanying Brazilian physician. Mostly we provided primary care. A diagnosis of worms was common. Even in the Amazon jungle, there were a number of individuals who were smokers, and I was always ready to show these people the health effects of smoking and strongly recommended "no fumar." I did identify a small girl with a likely diagnosis of tuberculosis, and we had a patient with filariasis.

Besides caring for the wonderful Brazilians, we were able to swim with pink river dolphins and see exotic birds and monkeys. I even saw a sloth.

We had joined a dedicated group of Brazilian physicians and other missionaries we greatly admire. They offered their kindness and friendship not only to their patients but to us as well.





Dr. James Hulse



I had an interesting experience when I tried to leave Brazil. Just before going to the plane, I was stopped and asked about the contents of my luggage. I tried to list items I thought they were wondering about, knowing I had some sugar in my luggage that might look like a suspicious drug. Finally, they asked if they could bring me the luggage for me to open. As soon as I saw the item, I immediately knew what the problem was — it was the display of the health effects of smoking. This display contains three-dimensional presentations of various organs of the body: the heart, the lungs, the bladder, and a hand. Evidently, when this item was scanned it appeared that I was transporting human body parts from Brazil in my luggage. At least five airport security personnel were there to watch me open it. When I opened the case, I immediately began my line about “no fumar,” and they waved me on. ■

James L. Hulse, PhD, RRT-NPS, RPFT, is director of respiratory care at the Oregon Institute of Technology in Klamath Falls, OR.



Medical Mission in Bolivia

by Stan Holland, MS, RRT

I have taken four trips to Santa Cruz, Bolivia, on surgical mission trips through the Mission of Hope-Bolivia. Typical missions include hernia repairs, gallbladder removal, and other related surgeries. A normal day starts at 6 a.m. and ends at 8 p.m. Within a five-day period, 60–65 operations are performed. Patients have to wait for one to two years to have an operation.

I work in the recovery room. The critical skills include fundamental physical assessment, communication, airway assurance, and the use of basic oxygen delivery devices. The ability to be flexible and creative proves to be rewarding every year.

Safety practices are equally important, and we check armbands because patient names are often very similar. We verify medications because they are written in Bolivian, and communication is enhanced with translators. Yet, non-verbal creativity is welcome; for example, a grimace means “I am in pain and need pain medications,” and a smile means “my pain is controlled and I do not need medications.”

Mission of Hope-Bolivia is based in Santa Cruz, a city of more than a million people. Most live in extreme poverty and cannot afford even the most basic medical care. Children are dying for lack of simple antibiotics. Our goal is to bring hope and healing by providing them with quality medical care at no charge.

Mission of Hope-Bolivia is currently operating a free outpatient clinic in Santa Cruz that is centrally located on the bus lines, which is the main mode of public transportation. We are currently serving about 500 patients every week, providing them exams, lab work, and medicine.

My next medical mission will be in Honduras with the Friends of Barnabas Foundation (FOBF). Each year, FOBF sends 11 mountain medical mission teams to Honduras. FOBF staff members select communities in need and travel to clinic sites weeks ahead of the team to notify community leaders of their services and the date of the team’s arrival.

The teams travel throughout the impoverished areas of central Honduras and serve 1,500–2,000 people in their traveling clinics each month to provide primary and preventive health care. The majority of the patients have never seen a health care provider. Each team is comprised of four to five medical professionals, two or three Spanish speakers, and the remaining team members have a heart for serving their fellow man. These teams work side by side with FOBF staff members in Honduras.

Medical missions change lives and offer hope. On one of our missions, we restored a man’s voice. He had been in a car accident two years earlier, and his larynx was broken. We removed a laryngeal stent and created a speaking valve. On the last day we were there, he returned with his mother and daughter to say “thank you.” ■



Stan Holland, MS, RRT, is bio-director of Rockingham Memorial Hospital in Harrisburg, VA. He has been a member of the Respiratory Care Advisory Board of the Virginia Board of Medicine since 2008.

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Medical Mission in the Dominican Republic

by Scott N. Simms, BHA, RRT



A young patient holds an AARC teddy bear that Scott Simms had received while attending leadership training in Dallas, TX.

I was invited on a medical mission trip to the Dominican Republic by a fellow church member this past summer, and it has left me with a greater appreciation for the role a respiratory therapist can play in an international clinical setting. Originally placed on the construction crew, my designation as a team member was soon changed to the medical squad once my medical background became known.

The primary members of this mission team were from the Alabama region and were hit hard by the recent tornadoes that decimated large areas in the southeastern states. This reduced the usual mission team of about 40 members down to 26. The normal medical team of three to four doctors and an equal amount of nurses was whittled down to one doctor, one nurse, and me. My trepidation of being in a foreign country (this being my first international mission trip) was now augmented by being placed in an advanced role of clinical importance. Even though my background as an RRT covered ER, ICU, neonatal ICU, and cardiovascular ICU exposures, as well as all manner of outpatient settings, I had never treated patients in an outdoor setting or a non-acute care setting such as this.

I planned as best I could with my 30 years of respiratory care background and went over my “what if” situations while preparing my gear. My medical duffle bag held all the usual respiratory paraphernalia, along with donated items from my hospital, Palmetto Health Richland in Columbia, SC. Along with toys, hygiene bags, sanitation wipes, hand gel, bug spray, and a dose of heavy prayers, I was soon on my way to Santiago, Dominican Republic.

We arrived on a Saturday and prepared for our first day of clinic that Sunday morning in a poor neighborhood on the outskirts of Santiago. These open-air settings, under a thatch hut in the village square, held the medical, dental, pharmaceutical, and vision clinics for any individual needing our services. The people were already lined up and waiting for us when our bus arrived, as the word had already spread about our clinic coming to them.

The typical day started with a group breakfast at our hotel, boarding and loading the bus by 8 a.m., and arriving at the clinic site by 9 a.m. After a quick set-up of blood pressure cuffs, ear thermometers, otoscopes, and stethoscopes, we began seeing patients, with our final count exceeding well over 700 for the six days. The pace was hectic at times, with my triage roles morphing into a physician assistant. Quickly, I became affectionately known to the staff and translators as “Doctor Scott.” Although this title usually is quickly corrected in the States, the translation of “respiratory therapist” was not easily understood by the translators or patients.

I quickly learned how to be a good investigative clinician, with the translation sometimes going from English to Spanish to Creole and then back again to me. This gave me a better appreciation for the typical general practitioner back in the United States who bemoans the fact that they cannot spend more time with their patients. A warm smile, soothing tone, and gentle laugh put at ease even the most tense patient as I slowly engaged each person in a search for answers to their complaints. I’m sure frustration, misunderstanding, and irritability existed; but almost every one of the locals we treated appreciated how we treated their needs.

Diagnosing and sending our recommended treatment options to the pharmacist became more fluid as each



patient described their health concerns. Common flu, hypertension, scabies, cuts, fungal rashes, diabetes, sexually transmitted diseases, and urinary tract infections were intermingled with a need for soap, toothpaste, multivitamins, or just a reassurance that what they had was not that bad. Each patient filled out a sheet in Spanish (with subtitled English) to describe their health care needs. At the bottom was an area for diagnosis and treatment options; this was passed along to the pharmacist, who would dispense the appropriate medications and dosage with instructions on correct administration of the drugs.

I did encounter a few respiratory-compromised patients in need, so the peak flow meters I brought along came in handy for the asthmatics. I did not see much in the way of COPD, but a lot of those we saw could not afford to smoke, anyway. I soon became more comfortable with writing for treatment options while counseling the patient on healthy living choices, disease-prevention techniques, and general advice for improving their health.

We were fortunate to have a local doctor volunteer his time for one day. A Santiago University medical student also sporadically assisted us when he could get time off from school. Under the other doctor's general supervision, we teamed up to help as many people as possible; but there was always a line of those still waiting to be seen when we reluctantly closed up our clinic about 6 p.m. After a quick meal and devotional at a local church, we would go over the day's

events and brainstorm on how to improve upon the next day's clinic. We climbed into bed completely exhausted around 10 p.m., with the alarm clock awakening us at 6 a.m. to start the whole process over again.

Our biggest scares came when a full-term young mother had contractions and an older woman had an apparent myocardial ischemic event. Both were quickly sent by taxi to the nearest medical center. Diabetic ulcers, worms, swallowed coins, and abscessed insect bites rounded out the unusual aspect of general conditions requiring treatment. In addition to the medical unit, our team also consisted of dental care, ophthalmologic services, an evangelical group, and our construction crew. Teeth were pulled, glasses fitted, souls were saved, and we even had time to build a house for a lucky family.

I have come away from this experience a better person with great appreciation for our homeland as well as for the resilient spirit of the less fortunate people of the Dominican Republic. My clinical background as a respiratory therapist has enabled me not only to contribute my skills but also to serve my fellow humans with the dignity and respect they deserve, no matter what their socioeconomic background is. I hope to return again to make a difference along with my fellow practitioners on a medical mission trip. ■



Scott N. Simms, BHA, RRT, works in the pulmonary rehabilitation department at Palmetto Health Richland in Columbia, SC. He is the immediate past president of the South Carolina Society for Respiratory Care.



Industry Watch

Invacare donates equipment through The Peace Project

Invacare Corporation is donating equipment and parts to The Peace Project to support their Operation Rise initiative. The program started on World Peace Day last September with the presentation of crutches and mobility devices to more than 10,000 people in Sierra Leone who had lost limbs to war or polio. “At the core of Invacare is our belief in the importance of having the means to live life to the fullest,” says Carl Will, senior vice president, global commercial operations at Invacare. “We are proud to assist The Peace Project with Operation Rise and to help those suffering due to war and disease regain their access and mobility.”

BI IPF drug performs well in study

Boehringer Ingelheim’s investigational tyrosine kinase inhibitor BIBF 1120 demonstrated a positive trend in reducing lung function decline in patients with idiopathic pulmonary fibrosis, according to a Phase II clinical trial published in the *New*

England Journal of Medicine. Results showed patients treated with 150 mg of BIBF 1120 twice daily demonstrated a 68% reduction in the rate of FVC decline compared to placebo. They also had a lower incidence of acute exacerbations. A small decrease in quality of life impairment was also seen.



Swiss air rescue service chooses Hamilton ventilator

Switzerland-based Rega has become the first air rescue service in the world to equip their fleet of air ambulances with Hamilton Medical’s new advanced mobile intensive care ventilator, the HAMILTON-T1. The decision to partner with Hamilton Medical was based on the ability of the HAMILTON-T1 to deliver an ICU ventilation solution in a transportable platform that’s

appropriate for all patients.

Pulmatrix presents preclinical data at ERS

Data from two pre-clinical studies of its inhaled clinical drug candidate, PUR118, were presented at the European Respiratory Society Annual Congress held in Amsterdam last September, according to Pulmatrix. The oral and poster presentations highlighted the potential of PUR118 as an effective treatment for acute exacerbations of the lung associated with COPD, asthma, cystic fibrosis, and serious respiratory infections. PUR118 is currently in Phase 1b human clinical trials for COPD.

AHRQ promotes patient-clinician communication

The Agency for Healthcare Research and Quality has launched an initiative with the Ad Council to encourage clinicians and patients to engage in effective communication to ensure safer care and better health outcomes. The initiative features new public service ads with the

message that a simple question/answer can reveal as much important information as a medical test. “We know that when patients and clinicians communicate well, care is better. But in today’s fast-paced health care system, good communication isn’t always the norm,” says AHRQ Director Carolyn M. Clancy, MD. “This campaign reminds us all that effective communication between patients and their health care team is important and that it is possible — even when time is limited.”

United States eases the way for startup companies

President Barack Obama recently announced an initiative designed to help startup companies bring new medical products to market. The effort will, in part, reduce both the cost and paperwork requirements for startup companies to obtain an exclusive option agreement to license the extensive patents and patent applications from the intramural research laboratories at both the NIH and the FDA and is

part of the president's Startup America Initiative.

Cornerstone Therapeutics appoints new president

Cornerstone Therapeutics Inc. has appointed Kenneth McBean as president. McBean will report directly to Craig Collard, who will continue to lead Cornerstone as its chairman and CEO. "Ken's experience in specialty markets, and his proven track record, will enhance our ability to grow our core products and to acquire and commercialize new products as we strive to become a leader in the respiratory and hospital markets," Collard noted. McBean was previously vice president and general manager of specialty pharmaceuticals at Covidien.

Philips, Aerogen collaborate on NIV drug delivery system

Royal Philips Electronics and Aerogen are collaborating on the development of the NIVO Nebulizing System, a new drug delivery system designed for use with patients receiving noninvasive ventilation. The system utilizes Philips Respironics Nebulizing elbows and AF531 mask to deliver aerosol therapy to patients using the Aerogen nebulizer, which is based on vibrating mesh plate technology.

The NIVO product is the first customized nebulizer enabling targeted drug delivery through an NIV system.

Johns Hopkins to coordinate pneumonia study

A new study being coordinated by the International Vaccine Access Center at the Johns Hopkins Bloomberg School of Public Health will systematically look at current and likely future causes of childhood pneumonia in some of the world's hardest hit populations. The Pneumonia Etiology Research for Child Health study, or PERCH, is a collaboration between five African and two Asian research sites and aims to enroll more than 12,000 children in seven different countries. As such, it will be the largest, multi-country study of its kind in over 20 years. The study is being funded by a grant from the Bill & Melinda Gates Foundation.

Smoke-free workplace initiative begins

Mayo Clinic, American Cancer Society, Global Business Coalition on Health, Johnson & Johnson, Campaign for Tobacco-Free Kids, and the Department of Health & Human Services are joining forces to develop a Global Smoke-Free Worksite Challenge to expand the number of employ-

ees across all sectors who are able to work in a smoke-free environment. The partnership is comprised of private sector companies, non-governmental organizations, and governments that are committed to making their own work-sites 100% smoke-free and helping other companies and organizations do the same.

Theratechnologies launches Phase II study of tesamorelin

Theratechnologies Inc. has initiated the patient screening process of its multi-center, double-blind, randomized, placebo-controlled Phase II clinical trial investigating tesamorelin for the treatment of muscle wasting in patients suffering from COPD. The study will examine the safety and efficacy of a daily administration of either a 2 mg or 3 mg dose of a new formulation of tesamorelin for a period of 26 weeks. The primary endpoint is an increase in lean body mass as measured by dual-emission x-ray absorptiometry. The study will also assess the effect of tesamorelin on patient functionality and quality of life.

Oculus Innovative Sciences acquires rights to ETT

Oculus Innovative Sciences Inc. has licensed the exclusive global rights to a unique endotracheal

tube from the National Institutes of Health.

The patented ETT represents a potential breakthrough technology in mitigating ventilator-associated pneumonia by uniquely integrating an endotracheal tube cuff to seal the airway with a system that provides for continuous aspiration of subglottic secretions, along with a secondary lumen that continually introduces a liquid cleansing formulation, according to the company. "This is a perfect example of growing the use of our Microcyn Technology via technologies that are not only compatible but are significantly improved as a result of this integration," says Hoji Alimi, founder and CEO of Oculus.

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



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

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RC Currents

IN THE NEWS

► AARC Election Results Announced

AARC President Karen Stewart, MSc, RRT, FAARC, recently announced the results of this year's AARC elections. The president-elect is George Gaebler, MEd, RRT, FAARC; and the two incoming directors-at-large are Lynda Goodfellow, EdD, RRT, FAARC; and Doug McIntyre, MS, RRT, FAARC.

They will be joining these officers and directors: Susan Rinaldo-Gallo, MEd, RRT, FAARC (vice president of internal affairs); Linda Van Scoder, EdD, RRT, FAARC (secretary-treasurer); Timothy Myers, BSRT, RRT-NPS (past president); Bill Cohagan, BA, RRT, FAARC (Management Section); Joe Sorbello, MEd, RRT (Education Section); Keith Lamb, RRT (Adult Acute Care Section); Mike Runge, BS, RRT, FAARC (Sleep Section); Greg Spratt, CRT, CPFT (Home Care Section); Cynthia White, BA, RRT-NPS, FAARC (Neonatal Section); and at-large directors Fred Hill, MA, RRT-NPS; Denise Johnson, MA, RRT; Camden McLaughlin, BS, RRT, FAARC; and Frank Salvatore, MBA, RRT, FAARC.

Three AARC specialty sections also held elections for their leaders: Continuing Care/Rehabilitation Section, Gerilynn Connors, BS, RRT, FAARC; Long-Term Care Section, Lorraine Bertuola, BA, RRT; and Surface and Air Transport Section, Billy L. Hutchison, BA, RRT-NPS. ■



George Gaebler, MEd, RRT, FAARC

Request for Lecture Proposals for AARC Congress 2012

The AARC invites you to submit proposals for individual lectures or symposia at AARC Congress 2012 and also to submit abstracts from original studies for presentation during its OPEN FORUM.

Individuals, groups, institutions, or companies may submit proposals with interest in the practice of cardiorespiratory care. This is your opportunity to present educational content to your peers. If you believe you're a content expert or possess unique knowledge in adult acute care, management, neonatal/pediatrics, home care, sleep, education, continuing care/long-term care, diagnostics, surface/air transport, or any other aspect of respiratory care, then this is your opportunity to showcase your knowledge on a national stage.

The deadline to submit proposals for lectures/symposia for presentation at AARC Congress 2012, Nov. 10–13, in New Orleans, LA, is Dec. 14 at <http://aarc2012.abstractcentral.com/>.

Considered by many to be the premier event at the AARC Congress, the OPEN FORUM is your opportunity to gain national and international recognition for your research in cardiorespiratory care by submitting an original abstract for presentation at the Congress and having it published in RESPIRATORY CARE. The deadline to submit abstracts for the OPEN FORUM is June 1, 2012. ■

COPD Readmissions Impacted by Comorbidities, Disparities

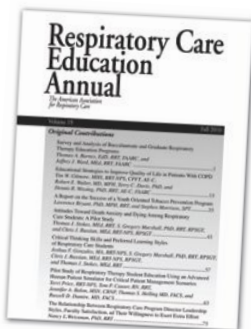
The federal government's new Hospital Readmissions Reduction Program will eventually result in lower payments for hospitals with higher than expected readmission rates for certain chronic conditions. New statistics from the Agency for Healthcare Research and Quality show why COPD is likely to be named as one of those conditions — and how comorbidities and health care disparities figure into the mix. According to data collected on patients who were hospitalized for COPD in 15 states during 2008:

- About 7% of patients were readmitted within 30 days principally for COPD, but 21% were readmitted for any health condition.
- There were 190,700 initial hospital admissions specifically to treat COPD at an average cost of \$7,100. The average readmission cost principally for COPD was 18% higher, at \$8,400 per stay. However, all-cause readmissions were about 50% more expensive than the initial stay, at \$11,100.
- Readmissions were 22% higher among patients from the poorest communities than among those from the highest income areas.
- Readmissions were about 13% higher among male patients compared to females.
- Readmissions within 30 days were 30% higher among blacks than Hispanics or Asians and Pacific Islanders, and about 9% higher than among whites. ■

Respiratory Care Education Annual Call for Papers

The AARC will publish Volume 21 of the *Respiratory Care Education Annual* in the summer of 2012. 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 interpretive 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 **must** follow the guidelines in the "Uniform Requirements for Manuscripts Submitted to Biomedical Journals," 5th 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@lshusc.edu or (318) 573-9788. Electronic copies of completed manuscripts should be sent to Bill Dubbs at dubbs@aarc.org. The deadline is Feb. 29, 2012. ■



► Strange But True...

Water with Milk: Canadian researchers at McMaster University find milk is better at rehydrating youngsters who have engaged in physical activity than water or the typical sports drinks offered to kids during athletic events.

Slimming Spuds? According to Pennsylvania researchers from the University of Scranton, overweight and obese people with high blood pressure who ate three servings of potatoes a day ended up with a reduction in blood pressure similar to that seen with the consumption of oatmeal, and without gaining weight. One caveat though: These potatoes were cooked without oil in a microwave oven and served au naturel (i.e., no butter, catsup, or sour cream).

Rosy Glow: British scientists have developed a surgical gel that not only kills 80% of bacteria when applied to a wound but also glows pink under ultraviolet light to reveal exactly where infections are located.

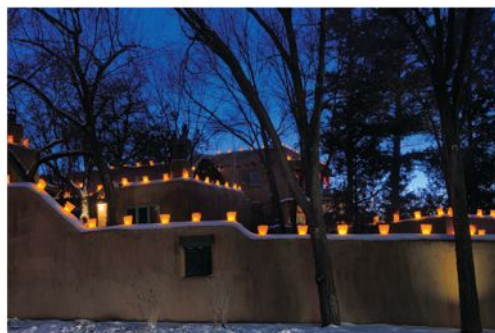
Going Bananas: A study conducted by British researchers at Imperial College of London among 2,640 children between the ages of five and 10 found those who ate bananas were 34% less likely to encounter breathing problems like wheezing. Drinking apple juice resulted in a 47% reduction.



Practice What You Preach: Health care professionals don't seem to be following their own advice about the value of primary care. According to a new Thomson Reuters survey, hospital employees use 8.6% more hospital care for the treatment of chronic conditions than other people and visit the emergency department 22% more often. Conversely, they're significantly less likely to visit their physicians for care or be treated in an ambulatory care setting.

Nowhere To Hide: The Chronic Collaborative Care Network is currently designing a device that could be attached to a smart phone to track texts and phone calls about health issues. The network believes the system could be especially beneficial in helping teens keep on track with care plans for conditions like Crohn's disease. ■

Education Section Calling for Abstracts for Santa Fe, NM, Summer Meetings



The 2012 AARC Summer Forum, scheduled for July 13–15 in Santa Fe, NM, offers an excellent opportunity for participants to share their scholarly activities with education colleagues through a research abstract. The submission deadline is March 15, 2012. 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: MDeSilva@massasoit.mass.edu, (508) 922-2996. ■

DRIVE4COPD’s 24M Monument Drives Home the COPD Message

The DRIVE4COPD campaign has been raising awareness of COPD for over a year, and the AARC has been on board every step of the way. Last October, AARC COO and Associate Executive Director Thomas Kallstrom, MBA, RRT, FAARC, continued the mission by addressing a “VIP” crowd gathered for the unveiling of **24M: The DRIVE4COPD Monument** at the State Fair of Texas in Dallas. He also introduced the monument’s sculptor, renowned international artist Michael Kalish, to the audience.

“Since February 2010, AARC has been a part of DRIVE4COPD, working to raise awareness of chronic obstructive pulmonary disease,” said Kallstrom. “Michael is helping expand DRIVE4COPD into a new area by raising awareness through his art.”

The title of the piece, **24M: The DRIVE4COPD Monument**, suggests it is intended to represent the 24 million Americans thought to be suffering from COPD, half of whom are currently undiagnosed. At the unveiling, *AARC Times* talked with Kalish about the monument and how he got involved in the DRIVE4COPD campaign.

“I knew nothing about COPD a year and a half ago,” he explained. “Then, when I first starting hearing the stats that 24 million people may be affected, it really stopped me in my tracks. How could it be that I didn’t know about this, and my friends and my family don’t know about it? So, I thought, ‘How can I put a face to that?’”

Kalish’s works of art have been featured everywhere from the *New York Times* to *Sports Illustrated* and hang in the homes



24M: The DRIVE4COPD Monument was recently set up in Dallas just outside the Cotton Bowl during the State Fair of Texas.

of musicians, world leaders, actors, and professional athletes. He says he spent an entire year on the project, which borrows from his signature use of license plates to create art. He came up with the large-scale pinwheel design because the icon of the DRIVE4COPD awareness campaign is the pinwheel.

“This is a great icon that symbolizes breath,” Kalish said. “Sometimes the most beautiful things in art are the simplest. I wanted to take it and blow it up, then start wrapping license plates, my medium, on top of it.”

Each of the 24 pinwheels in the design consists of 2,400 license plates, with the number of plates used from each state reflecting the percentage of that state’s population thought to have COPD. When viewed from the air, the entire creation forms the map of the United States. “DRIVE4COPD ambassadors Patty Loveless and Danica Patrick dedicated license plates to 24M in honor of loved ones they lost to COPD,” noted the sculptor. “I spent quite a bit of time with Danica talking about it.”

The monument debuted in New York City in September, then made its way to Dallas for its second outing. “You know, I think I like being here, walking through it, showing it to people, and explaining it just as much as I liked creating it,” Kalish said. “To be out in a public art space like this and interact with people whom this is very meaningful to, is really nice.”

At the monument events throughout the country, volunteers are ready to explain the purpose of the exhibit, educate people about COPD, and ask them to



Renowned international artist Michael Kalish (pictured) says he likes walking through the monument, showing it to people, and explaining its meaning to the public.

take the campaign's five-question population screener to see if they are at risk for the condition. "People are walking up, touching it, and asking why there are these giant pinwheels with license plates everywhere. It's like peeling an onion, there are a lot of layers to it," said Kalish. "When they come over, we explain COPD and have them take the screener. That's what it's all about." People can also take the screener at DRIVE4COPD.com.

When asked if he had a special message for respiratory therapists about the DRIVE campaign, he said, "Keep educating people on what COPD is. It's chronic bronchitis and emphysema, and it's a widespread breathing disorder."

Michael Kalish says he's been amazed at how the monument has gotten the conversation about COPD going, and that's been true not just at the exhibitions but in his own life as well. "When we unveiled 24M in New York, collectors and friends I've known for 25 years came up to me and said, 'This is amazing. You know, I have COPD,'" he said. "And I didn't know, I didn't know anything about it. People are just quiet about this kind of thing and are not going to talk about it. It's become really personal to me that way."

When the monument left Texas it was slated to travel to Florida and California as well — two more states that, along with New York and Texas, have the highest prevalence of COPD in the United States. "To have something modular like this in the campaign that we can set up in different cities around the country is so cool," said Kalish. "It takes on different meaning in each environment."

The sculptor's hope is that people who see the monument will go home and tell their friends and family about it, encourage them to take the screener, and eventually the pinwheel will become a symbol for COPD that everyone will readily recognize. "If I can help people lead a better life — my art can enable that — that's really cool," he said. "So, I feel very lucky to be a part of this."

To see a video of Michael Kalish creating the 24M Monument, log on to www.drive4copd.com/missing-millions/24m.aspx and click on "Watch a Video." ■



CBS News/Dallas interviews AARC COO Tom Kallstrom at the State Fair of Texas.

► Transitions

Lynda T. Goodfellow, EdD, RRT, FAARC, has been named associate dean for academic affairs at the newly created, standalone Byrdine F. Lewis School of Nursing and Health Professions at Georgia State University in Atlanta. Previously, the Byrdine F. Lewis School of Nursing and the School of Health Professions were housed as separate entities within the College of Health and Human Sciences. (Photo 1)



Braden W. Eves, RRT, RPFT, died in September. Eves was most recently the COPD coordinator for the Fort Drum Regional Health Planning Organization in New York and had a long history of involvement with the New York State Society for Respiratory Care (NYSSRC), where he served as president of the CNY Chapter from 1996–1998 and as a member of the NYSSRC board of directors during the same time period. Eves had been a prominent member of the respiratory care community in the North Country of New York State for decades, serving in both acute care and home care settings. He is survived by his wife, Judy Hunter-Eves, CRT, also a longtime AARC member and RT director at the River Hospital in Alexandria Bay.

Mitchella Ann Eickholt, RRT, passed away in September. She was an RT at Memorial Healthcare of Owosso in Owosso, MI, and is remembered fondly by her colleagues there.

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

Read the Rest of the Story at AARC.org

- HME industry asks CMS to revise ABN policy for CPAP — www.aarc.org/headlines/11/10/abn_policy.cfm
- AARC pledges to improve patient safety — www.aarc.org/headlines/11/10/patient_safety.cfm
- Respiratory therapists weigh in on clinical alarms — www.aarc.org/headlines/11/10/alarms.cfm

Industry Profile: Tri-anim Health Services, Inc.

In the following interview, Tri-anim President Stephen Lacke fills us in on his company and how he sees the future unfolding.

AARC Times: How long has your company been in business, and what services do you provide?

Lacke: Tri-anim Health Services, Inc. has been servicing our hospital customers in the respiratory, NICU, PICU, critical care, emergency, and anesthesia departments for over 30 years. We are a specialty sales, marketing, and distribution company focused on representing technology that addresses a full range of patients requiring medication delivery, oxygen therapy, and noninvasive ventilation (NIV). Members of our consultative sales force typically have over 15 years of experience servicing respiratory, and more than two-thirds are former respiratory therapists. We represent a full range of products from market-leading companies like Philips, Smiths Medical, Vapotherm, Monaghan Medical, and Aerogen, as well as emerging companies like ACSI, SouthMedic, Ventlab, Precision Medical, B&B Medical, Maxtec, Nonin, Flexicare, and Salter Labs.

We treat babies in the NICU through adults in critical care who need support on various forms of medication delivery, oxygen therapy, CPAP, NIV, and ventila-

Tri-anim President
Stephen Lacke



tion. We provide the CEU training, inservicing, sales support, dedicated customer service, and distribution for over 200 manufacturers.

AARC Times: What projects or new features are you working on for the future?

Lacke: We collaborate with most of our supplier partners, along with members of the RC customer community, on their future product development initiatives in the areas of medication delivery, oxygen therapy, ventilation technologies, and patient interfaces. Tri-anim Health Services is in a unique position to attract and represent the full continuum of products treating respiratory patients, from modest support through critical life-saving support. Tri-anim works with respiratory therapists and leading manufacturers, along with our clinical sales and marketing organization, to form a perfect three-way partnership to bring new technology to market. We then provide the critical training to ensure the product and protocols deliver on the therapy the patients require.

AARC Times: How do your products improve patient care, and how does this impact the respiratory therapist?

Lacke: Tri-anim is fortunate to represent a full portfolio of products that have a positive impact on patient care and respiratory therapist success. As an example, we help to reduce patient length of stay in the NICU and adult ICU with Philip's NIV therapy and Vapotherm's high-flow therapy, which facilitate the successful weaning of patients from ventilators, prevent patients from being placed on ventilators, and help to arrest acute respiratory conditions. These technologies also help to reduce the risk of ventilator-associated pneumonia because patients who receive them avoid longer stays on the ventilator.

Our medication delivery technologies from Monaghan Medical and Aerogen reduce treatment times and allow for a much higher drug deposition to improve outcomes while avoiding RT exposure to secondary medication aerosol. These technolo-

gies also help avoid recidivism and re-intubation rates. Tri-anim has many more technologies that impact care in the NICU, PICU, emergency, and anesthesia departments as well.

AARC Times: How has having respiratory therapists on staff impacted your product line?

Lacke: Their clinical knowledge and patient insights are extremely valuable in servicing our customers with a consultative approach and in working with our manufacturers to best communicate and train our customers on their clinical technology. Finally, partnering with respiratory therapists on new product innovation has yielded advanced products with better functionality to meet the ever-changing patient requirements.

AARC Times: How do you expect the economy and health care reform to affect how you develop new respiratory care technology over the next two years?

Lacke: There clearly will be pressure on the amount of investment for future technology. We need to ensure we collaborate with the RT community and the AARC on clinical and cost-effective justification of advanced technology. We need not only to address the clinical effectiveness of the technology but how our technology improves outcomes and total patient costs.

AARC Times: Where do you see the respiratory device industry heading?

Lacke: We continue to believe the respiratory device industry will be a steady growth area in health care. The aging population and chronic diseases such as COPD and asthma, along with comorbidities like diabetes and vascular and heart disease, will require technology and highly trained respiratory therapists to meet the challenge. We can do this together! ■

Common Antibiotic May Reduce COPD Exacerbations

University of Alabama at Birmingham researchers who compared 570 COPD patients who received the antibiotic azithromycin daily for a year in addition to their usual care with 572 COPD patients who received usual care without azithromycin find significantly fewer acute COPD exacerbations in those who took the antibiotic, 1.48 over the 12-month period versus 1.83. “Exacerbations account for a significant part of the COPD health burden,” study author Mark T. Dransfield, MD, was quoted as saying. “These promising results with azithromycin may help us reduce that burden and improve the lives of patients at risk of these acute attacks.” The research appeared in the Aug. 25 edition of the *New England Journal of Medicine*. ■



COPD: Ultimate Destination for One in Four

The federal government’s latest ranking of the most common causes of death boosts COPD from the No. 4 position to No. 3. Now Canadian researchers find many more people are likely to develop COPD over the course of their lifetimes than previously thought as well.

According to the investigators, who looked at health data on 13 million people age 35–80, one out of every four people is likely to develop the condition. To put it in perspective, the average 35-year-old woman has more than triple the risk of ending up with COPD as breast cancer. The average 35-year-old man is over three times as likely to develop the chronic lung condition as prostate cancer.

The report was published in a recent issue of *The Lancet*. ■



“Go Orange”

In answer to the CDC’s call to increase public awareness of COPD, the U.S. COPD Coalition (USCC) recently announced their resolution to “Go Orange” for COPD Awareness. It was unveiled at a congressional briefing by John W. Walsh, vice chairman of the USCC and president and co-founder of the COPD Foundation on Capitol Hill.

Speakers included Sen. Mike Crapo, senate co-chair of the Congressional COPD Caucus; James P. Kiley, PhD, director of the NHLBI’s Division of Lung Disease; James D. Crapo, MD, pulmonologist and professor of medicine at National Jewish Health and the University of Colorado, Denver; and Danica Patrick, a DRIVE4COPD celebrity ambassador. ■

Interservice RT Program Graduates First Class

by Harry Román, MA, RRT

The first graduation of the Interservice Respiratory Therapy Program (IRTP) took place last July at the Medical Education & Training Campus at Fort Sam Houston in San Antonio, TX. Twenty-two Army and Navy graduates received an associate's degree in applied science in respiratory care from Thomas Edison State College, becoming the first enlisted military personnel to receive a degree upon completion of training.

The IRTP grew out of the 68VMOS/8541NEC Respiratory Specialist Course, which was established in 1975. The new program was developed in response to changing accreditation requirements, as well as the evolving role of the RT spurred by advances in technology and increased responsibilities. The IRTP, which has received a "Letter of Review" by the Commission on Accreditation for Respiratory Care, received the designation of advanced-level respiratory therapy program in July of 2010, entitling its graduates to challenge the national registry exam for respiratory therapy.

Our top priority is to provide the very best respiratory care training possible to men and women of the Army and Navy because we understand all too well the importance of their duties and responsibilities once they graduate from our program. To this end, we have spared no expense in acquiring state-of-the-art equipment and facilities.

Our lab consists of eight ICU rooms, each equipped with computerized high-fidelity patient simulators, piped-in air, oxygen and suction, numerous ventila-



Graduates of the new Army and Navy RT program pose for a class picture.

tors of various makes, EKG machines, non-invasive bi-level positive pressure machines, and everything else that an RT might want or need in an ICU. We have a NICU with radiant warmers, conventional and high-frequency ventilators, and NCPAP units, as well as a variety of oxygen administration devices. We also have two complete pulmonary function labs with body boxes and numerous portable PFT units.

Our first class of graduates endured a rigorous curriculum that included 320 hours of general education classes taught by faculty from Thomas Edison State College, 160 hours of basic medical education, and 640 hours of intense respiratory anatomy and physiology, medical gas therapy, airway management, pulmonary function studies, mechanical ventilation, and pulmonary pathophysiology. From there, they were immersed in the clinical setting at Brooke Army Medical Center for another 16 weeks, performing respiratory therapy procedures in the adult and neonatal ICUs, medical and surgical wards, pulmonary function laboratory, and burn unit.

At the end of their clinical phase, students challenged the national certification exam and earned the Certified Respiratory Therapist credential, making them immediately able to sit for the Registered Respiratory Therapist credential as well.

As I noted earlier, the Army and Navy respiratory therapy program has been

around since 1975. Students admitted into the program come from backgrounds as wide and as varied as the locations in which they will serve or return to once their training ends and their careers begin. Army students are a mix of active duty and reservists, while all of the Navy students are active duty.

Upon graduation, all of the active duty soldiers and sailors are immediately assigned to duty stations around the world, from Washington State to Washington DC, from Hawaii to Guam, from Germany to Spain, and many places in between. While many reservists return to their home states, a good number of them have deployed with their units to Iraq and Afghanistan in support of the global war on terror. There, they have served admirably as RTs, saving lives and caring for the wounded under the most difficult conditions imaginable. When they go back to work at their hometown hospitals, code blues and stat ABGs don't faze them anymore.

Our graduates have represented us well throughout the years. Now, through the establishment of the IRTP, we have renewed our commitment to our soldiers and sailors by accepting the challenges of new accrediting standards and increased professionalism and responsibilities. One need only observe the graduates of our first class to know that the reputation of the program is in safe hands. ■

Harry Román is the program director of the Interservice Respiratory Therapy Program at Ft. Sam Houston in San Antonio, TX.

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Thank You, 2011 AARC Times Article Reviewers

The *AARC Times* staff offers our heartfelt thanks to the people who reviewed the clinical articles in our publication throughout this year. We couldn't have done it without you. Your special expertise and dedication to the respiratory care profession were critical to our ability to publish informative clinical articles for the respiratory care professional. Thank you, reviewers!

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New Members

Welcome to the AARC

U.S. Members

A

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Ambrose, William, Cottdale, Al*
Baxter, Janise, Birmingham, Al
Brand, Katie, Birmingham, Al
Butler, Shea, Birmingham, Al
Buze, Addie, Columbia, Al*
Cane, Gwendolyn, Birmingham, Al
Chapuis, Stephanie, Mobile, Al*
Clements, Connie, Southside, Al*
Clements, Lesley, Eufaula, Al*
Coleman, Gamara, Birmingham, Al
Coosaboon, Heather, Birmingham, Al
Davis, Mishawn, Birmingham, Al
Flood, Cheyenne, Birmingham, Al
Foster, Danielle, Birmingham, Al
Goggins, Julia, Birmingham, Al
Hall, Jessica, Birmingham, Al
Hall, Ronald, Foley, Al*
Hare, Karl, Birmingham, Al
Harrison, Caletheia, Birmingham, Al
Hughes, Krystal, Birmingham, Al
Hundley, Brittney, Birmingham, Al
Iwuaba, Chinazor, Birmingham, Al
Jabour, Austin, Birmingham, Al
Jones, Brittany, Birmingham, Al
Leberte, Sandra, Birmingham, Al
Lewis, Adrian, Birmingham, Al
Looney, Keaura, Birmingham, Al
Lovell, Kit, Birmingham, Al
Maciel, Beatriz, Birmingham, Al
McDaniel, Deborah, Decatur, Al*
Nguyen, Tuan, Birmingham, Al
Oden, Mikayla, Birmingham, Al
Pennington, Kelsey, Birmingham, Al
Renda, Tammy, Birmingham, Al
Richardson, Shavonne, Birmingham, Al
Rylant, Patrick, Birmingham, Al*
Sealey, Kimberly, Ralph, Al*
Stinson, Melanie, Birmingham, Al
Strate, Susan, Harvest, Al*
Sullivan, Charryse, Birmingham, Al
Swanger, Frances, Gordo, Al*
Thomas, Mari, Pelham, Al*
Tindal, Rebecca, Greenville, Al*
Unlap, Jordan, Birmingham, Al
Uzoh, Michelle, Birmingham, Al
Wallace, Roshedah, Birmingham, Al
Watson, Caleb, Birmingham, Al
White, Lashaydra, Birmingham, Al
Wilson, Pierre, Birmingham, Al
Woods, Danielle, Birmingham, Al
Yeager, Caitlin, Birmingham, Al

Baugh, Julia, Little Rock, Ar*

Betts, Maria, Pea Ridge, Ar
Bright, Shannon, Fayetteville, Ar
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Gee, Scott, Little Rock, Ar*
Gibbs, Amy, Ward, Ar*
Grant, Sydney, Glenwood, Ar
Jenkins, Stephanie, Pine Bluff, Ar
Jordan, Jalynn, Bella Vista, Ar*
Millican, Fred, Fort Smith, Ar*
Morehead, Kevin, Rosston, Ar
Nguyen, Dao, Fayetteville, Ar
Pennick, Rhonda, Hot Springs, Ar*
Thao, Linda, Lincoln, Ar

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Cosa, Tobit, Goodyear, Az*
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Fadl, Iman, Phoenix, Az
Gonzalez, Manuela, Chandler, Az
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Hansen, Justin, Lake Havasu City, Az*
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Johnson, Adam, Prescott, Az
Johnson, Herman, Tucson, Az
Johnson, Nicole, Prescott, Az
Knowles, Roberta, Peoria, Az
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Mayhew, Marty, Tucson, Az
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Vollin, Marcia, Phoenix, Az
Walker, Perry, Scottsdale, Az
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Anderson, Ron, Garden Grove, Ca*

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Bennett, Robert, San Jose, Ca*
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Cummins, Linda, Pueblo, Co
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Kerch, Diana, Howard, Co
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Belmo, Javier, Miami, Fl*
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Garcia, Jackeline, Boynton Beach, Fl
Gill, Tabitha, Largo, Fl
Gonzalez Sanchez, Gina, Riverview, Fl
Gonzalez, Nora, Tampa, Fl
Gordon, Tamioka, West Palm Beach, Fl
Gorman, Donna, Plant City, Fl
Hair, Amanda, Orlando, Fl*
Hanson, Vernisa, Palm Beach Gardens, Fl
Harrison, Jislayne, Tampa, Fl
Hichborn, Chad, Brandon, Fl
Hilaire, Bob, Tampa, Fl
Hodges, Christine, Palm Harbor, Fl*
Howard, Jennifer, Boca Raton, Fl
Howard, Rebecca, Plantation, Fl
Jackson, Kurchelle, Miramar, Fl
Jamison, Ashley, Miami, Fl
Jannat, Abu, North Palm Beach, Fl
Jenkins, Cameron, Tallahassee, Fl
Jimmy, Stevens, Coral Springs, Fl
Jones, Raymond, Wellington, Fl
Joseph, Noah, Leesburg, Fl*
Kastrenakes, Karen, Land O Lakes, Fl*
Kelsey, Tiffany, Lake Worth, Fl
Lachman, Mervin, Clearwater, Fl
Larsen, Kae, Jacksonville, Fl*
Leazenby, Mary, Port Charlotte, Fl*
Litschauer, Stacey, Jupiter, Fl
Lyman, Iciara, Tallahassee, Fl
Macharaga, Wilfred, Newberry, Fl*
Martinez, Juan, Miami, Fl*
Martini, Kathy, Clearwater, Fl*
Meikle, Desreen, Boynton Beach, Fl
Meyer, Mark, Delray Beach, Fl
Milhomme, Widlune, Tallahassee, Fl
Mills, Charles, Tampa, Fl
Moore, Cathy, Tampa, Fl*
Morales, Maggie, Seminole, Fl
Nicholas, Andrew, Tallahassee, Fl
Nicolas, Yvis, Tallahassee, Fl
Notman, Sara, Royal Palm Beach, Fl
Orozco, Ivis, Miami, Fl*
Palmer, Alexandria, Pensacola, Fl
Parchment, Bradwell, West Palm Beach, Fl
Patel, Brijal, Fort Myers, Fl*
Pierre, Mahana, Tallahassee, Fl
Prophete, Kehatilde, Jupiter, Fl
Puerto, Pamela, Lake Worth, Fl
Quinn, McKinsey, Valrico, Fl
Quistad, Laureen, Tampa, Fl*
Rake, Elizabeth, Tampa, Fl
Reed, Shantel, Daytona Bch, Fl
Reynolds, Sherica, Tallahassee, Fl
Ritzenthaler, Tiana, Lutz, Fl
Roberts, Calvin, Miami, Fl
Rubin, Darren, Wesley Chapel, Fl
Sampedro, Rosa, Miami, Fl*
Sanchez, Richard, Miramar, Fl*
Sanders, Jessica, Gainesville, Fl*
Schaffren, Celeste, Sarasota, Fl
Scott, Ramone, Tallahassee, Fl
Seckley, Lisa, Land O Lakes, Fl

Shelton, Jacqueline, Cooper City, Fl
 Sisco, Michele, Winter Park, Fl
 Smith, Karen, Tampa, Fl
 Steen, Elizabeth, Navarre, Fl*
 Succuer, Franklin, Tampa, Fl
 Tibby, Mary, St Petersburg, Fl*
 Tran, Kath, Pinellas Park, Fl
 Turner, Jasmine, Orlando, Fl
 Urbina, Signe, Miami, Fl
 Viciere, Vanessa, Palm Beach Gardens, Fl
 Ward, Keante, Tallahassee, Fl
 Warhurst, Kelly, Loxahatchee, Fl
 Washington, Camille, Tallahassee, Fl
 White, Mary, Fernandina Beach, Fl
 Williams, Sabrina, Lake Wales, Fl
 Willoughby, Susan, Ocala, Fl*
 Wilson, Brenda, Land O Lakes, Fl*
 Wilson, Latecia, Orlando, Fl

G

Avant, Keith, Lithonia, Ga*
 Bongiovanni, Russ, Marietta, Ga*
 Bush, Cassandra, Hephzibah, Ga*
 Conklin, Steven, Acworth, Ga*
 Crumley, Kathy, Rossville, Ga*
 Davis, Davetta, Fort Valley, Ga*
 Fraiz, Fabian, Buford, Ga*
 Green, Michelle, Ellenwood, Ga*
 Hastings, Bill, Woodstock, Ga*
 Hill, Aurora, Roswell, Ga
 Hooks, Rodney, Waycross, Ga
 James, Cornell, Atlanta, Ga*
 Jessop, Kevin, Marietta, Ga*
 Lockwood, Wade, Cartersville, Ga*
 Moore, Roy, Grayson, Ga*
 Morency, Dotty, Douglasville, Ga*
 Murray, Brent, Atlanta, Ga*
 Smith, John, Sharpsburg, Ga*
 Stracke, Kimberly, Leesburg, Ga*

H

Burlison, Melissa, Waianae, Hi
 Ganzler, Erin, Wahiawa, Hi*
 Judy Ann, Baoit, Ewa Beach, Hi
 Lee, Diane, Pearl City, Hi
 Liang, Ka Yi, Honolulu, Hi
 Mullen, Joshua, Mililani, Hi
 Poling, Jennifer, Honolulu, Hi
 Ramiro, Malia, Kaneohe, Hi
 Stricker, Ikaika, Honolulu, Hi

I

Dueker, Tara, North Liberty, Ia
 Endahl, Eric, Iowa City, Ia*
 Fiser, Amy, Marion, Ia
 Vinson, Jasmine, Altoona, Ia*

Ball, Greg, Twin Falls, Id*
 Parsons, James, Moscow, Id*
 Spurgeon, Randy, New Plymouth, Id*

Abuisba, Ammar, Lombard, Il
 Anderson, Allison, Chicago, Il
 Brahmhatt, Hemali, Crystal Lake, Il
 Cantrall Thomas, Rita, Rockford, Il
 Colleran, Leah, Palatine, Il*
 Daum, Ferrara, Crystal Lake, Il
 Dexter, Amanda, Tinley Park, Il
 Dietz, Jessica, Crystal Lake, Il
 Ellens, Troy, Chicago, Il
 Gittings, Shelly, Stronghurst, Il*
 Grant, Amy, Chicago, Il

Gullikson, Troy, Machesney Park, Il*
 Hahn, Brian, Metamora, Il*
 Haugen, Kaitlin, Elk Grove Village, Il
 Hays, Becky, Columbia, Il*
 Hudson, Jeremy, Aurora, Il*
 Kevorkian, Jillian, La Grange Park, Il
 Lamorena, Emilee, Morton Grove, Il
 Lovrich, Margaret, Midlothian, Il*
 Lutz, Amanda, Oak Park, Il
 McCaw, Monte, Poplar Grove, Il*
 Melson, Shannon, Maywood, Il
 Minyo, Liezel, Oak Lawn, Il*
 Orr, Mary, Yorkville, Il
 Patel, Snehal, Des Plaines, Il
 Prince, Clamika, Broadview, Il
 Rodriguez, Debra, Grantville, Il*
 Rodriguez, Vanessa, Chicago, Il*
 Roskos, Drew, Oak Forest, Il*
 Sargent, Elisa, Winnebago, Il*
 Sharif, Abdurahman, Glen Ellyn, Il
 Shelton, Rahkal, Chicago, Il*
 Speckan, Katie, Vernon Hills, Il
 Stefanska, Monika, Chicago, Il
 Sulaiman, Adewunmi, Chicago, Il
 Young, Christina, Wheaton, Il*
 Zhodi, Parviz, Lake Zurich, Il

Albitz, Robert, South Bend, In
 Almojaibel, Abdullah, Indianapolis, In
 Baker, Shazia, Thorntown, In*
 Bangert, Suzanne, West Lafayette, In*
 Birkey, Bonnie, Middlebury, In
 Blacketter, Erin, South Bend, In
 Bowers, Dwight, Goshen, In
 Brewer, Brittany, North Judson, In
 Bryant, Kimberly, Mishawaka, In
 Chandler, Cara, Fishers, In
 Chawo, Nsanachione, South Bend, In
 Cox, Jannlie, Cloverdale, In
 Ealy, Aimee, Bargersville, In*
 Eguasa-Omoruyi, Eseosa, Hammond, In
 England, Ross, Indianapolis, In*
 Fey, Derek, South Bend, In
 Fisher, Edward, Elkhart, In
 Fu, Yi, South Bend, In
 Haarer, Timothy, Goshen, In
 Handley, Amanda, Mishawaka, In
 Hicks, Megan, Carmel, In
 Holderread, Stacy, Elkhart, In
 Huffman, Marcus, Bedford, In*
 Lambdin, Sara, Bristol, In
 Larrew, Melissa, New Carlisle, In
 Malott, Jessica, Quincy, In
 Markand, Rajesh, Camby, In
 Mills, Lori, South Bend, In
 Murray, Amanda, Mishawaka, In
 Nicely, Kendra, Elkhart, In
 Phipps, Jessica, Elkhart, In
 Reaves, Alicia, Elkhart, In
 Roe, Kala, Topeka, In
 Saros, Jacqueline, Mishawaka, In
 Schock, Kimberly, Osceola, In
 Stahly, Sandy, South Bend, In
 Strauch, Gina, Rolling Prairie, In
 Timmins, Antony, Goshen, In
 Turner, Staci, Carmel, In
 Wekony, Thomas, South Bend, In
 Zimmer, Teneen, Elkhart, In

K

Alhubechy, Atheer, Pratt, Ks*
 Caraway, Shera, Olathe, Ks*
 Dobbie, Rosemary, Harveyville, Ks*
 Findley, Tiffany, Salina, Ks*
 Henry, Allison, Wichita, Ks*

Keyser, Gaylene, Galena, Ks*
 McMillin, David, Topeka, Ks
 Mead, Matt, Abilene, Ks*
 Phoenix, Donna, Wichita, Ks
 Wassenberg, Irene, Marysville, Ks*
 Watson, Charles, Kansas City, Ks
 Whitaker Holscher, Deborah, Paola, Ks*
 Wolf, Jordan, Bennington, Ks*

Barrett, Michele, Somerset, Ky*
 Baxter, Martin, Nicholasville, Ky*
 Buccola, Valerie, Louisville, Ky*
 King, William, Harold, Ky*
 Murphy, Dawn, Louisville, Ky*
 Rigel, Vanessa, Oak Grove, Ky
 Thompson, Mark, Lawrenceburg, Ky*

L

Berthelot, Lacy, Prairieville, La*
 Bongiovanni, Judith, Baton Rouge, La
 Burnham, Jerry, Arcadia, La
 Cobb, Rebecca, Shreveport, La
 Crowell, Jonathon, Tickfaw, La
 Duncan, Diane, New Orleans, La*
 Dupree, Sean, Walker, La*
 Hughes, John, Bossier City, La
 O'Daniel, Melissa, Prairieville, La
 Robichaux, Roxanne, Lockport, La*
 Savoie, Michelle, Baton Rouge, La
 Young, Katherine, Houghton, La
 Young, Melissa, Minden, La

M

Boisselle, Holly, Merrimac, Ma*
 Brock, Heidi, Bridgewater, Ma*
 Cato, Michele, Foxboro, Ma*
 DeJesus, Jhovanny, Lynn, Ma*
 Govoni, Mike, Springfield, Ma*
 Gramazio, Kathleen, Brockton, Ma*
 Jacobs, Kara, Amesbury, Ma*
 Jacobs, Kimberly, Hopkinton, Ma*
 Jendrock, Sheryl, Chelmsford, Ma*
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 Manzone, Tracey, New Bedford, Ma*
 McCollam, Mavis, Cambridge, Ma*
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 Pruitt, Kayla, Springfield, Ma*
 Roy, Holly, Adams, Ma*
 Roy, Robert, Linwood, Ma*
 Vandecarr, David, Waltham, Ma

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 Blake, Myrna, Ellicott City, Md*
 Bromley, Jaime, Salisburg, Md
 Bucher, Jamie, Waldorf, Md*
 Burns, Liana, Landover, Md
 Doukoure, Audrey, Germantown, Md
 Iden, Tesa, Hancock, Md
 Joiner, Patricia, Easton, Md*
 Lindenmeyer, Robert, Timonium, Md*
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 Nguti, Charles, Hyattsville, Md*
 Sherman, Latrina, Owings Mills, Md*
 Wierzbicki, David, Cumberland, Md*
 Young, Lillian, Upper Marlboro, Md*

Blondin, Michael, York Beach, Me
 Green, David, Portland, Me

Beckman, Lindsay, Oakley, Mi
 Bonk, Jane, Saginaw, Mi*
 Campbell, Nichole, Flint, Mi
 Crunden, Melanie, Davison, Mi
 Dalrymple, Jennifer, Plainwell, Mi*

New Members

Dillard, Najah, Mount Morris, Mi
 Dingman, Catherine, Holly, Mi*
 Edgar, Mark, Ithaca, Mi*
 Flowers, Lynne, Sterling Heights, Mi*
 Gilliam, John, Clio, Mi
 Green, Amanda, Flushing, Mi
 Handley, Leon, Flint, Mi
 Handley, Margaret, Flint, Mi
 Jones, Stephanie, Brighton, Mi
 Keppler, Teresa, Dexter, Mi*
 Latter, Sarah, Genesee, Mi
 Mladin, Cornelia, Ann Arbor, Mi*
 Moore, Melissa, Chesterfield, Mi*
 Myers, Jana, Burton, Mi
 Nelson, Amanda, Grand Blanc, Mi
 Nelson, Justin, Grant, Mi*
 Oberlee, Patricia, Commerce Township, Mi*
 Ouedraogo, Kierra, Flint, Mi
 Randolph, Tarnisha, Flint, Mi
 Roiter, Rosemary, Gaines, Mi
 Romanowski, Nichole, Flint, Mi
 Saunders, Rosa, Goodrich, Mi
 Schneider, Karen, Manchester, Mi*
 Scott, Yolanda, Flint, Mi
 Serratos, Angelita, Detroit, Mi
 Sisco, Tiffany, Flint, Mi
 Slocum, Ann, Dewitt, Mi*
 Smith, Tamara, Flint, Mi
 Tate, Cindy, Highland, Mi*
 Thomas, Tasha, Mount Morris, Mi
 Tulgestka, Maria, Alpena, Mi*
 Verdoux, Shea, Owosso, Mi
 Wendt, Marie, Grand Blanc, Mi
 Wiggins, Roderick, Flint, Mi

Sorenson, Kim, Saint Paul, Mn*

Agins, Nicholas, Saint Louis, Mo*
 Anderson, Loretta, Kansas City, Mo
 Anderson, Rhonda, Odessa, Mo
 Brown, Mary, Columbia, Mo*
 Church, Ashley, Ash Grove, Mo*
 Collins, Wilma, Joplin, Mo*
 Cox, Cheri, Kansas City, Mo*
 Dameron, Marci, Kansas City, Mo*
 Deer, Teresa, Fenton, Mo*
 Domachowski, Jason, Eureka, Mo*
 Finley, Betsy, Columbia, Mo*
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 Hicks, Charlie, Lees Summit, Mo*
 Hooker, Cherita, Kansas City, Mo
 Huffman, Gary, Saint Joseph, Mo*
 Meinert, Kerrie, Kansas City, Mo*
 Moss, Cynthia, Joplin, Mo*
 Murray, Jill, Kansas City, Mo*
 Rice, Ryan, Kansas City, Mo
 Rogers, Brandi, Belton, Mo
 Rogers, Roy, Zalma, Mo*
 Smith, Carmen, St Louis, Mo*
 Tokarchuk, Nadezhda, Ballwin, Mo*

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 Amacker, Melinda, Poplarville, Ms
 Edwards, Benny, Brandon, Ms
 Fells, Tacarra, Picayune, Ms
 Gardner, Lauren, Hattiesburg, Ms
 Gatlin, Kayla, Hattiesburg, Ms
 Helton, Billy, Petal, Ms
 Inmon, Stacey, Hattiesburg, Ms
 James, Brittany, Petal, Ms
 Kent, Brandi, Baldwin, Ms
 Moak, Brett, Columbia, Ms
 Rogers, Laura, Hattiesburg, Ms
 Taylor, Whitney, Picayune, Ms
 Tolar, Jana, Columbia, Ms

Waltman, Tonya, Saucier, Ms
 Wells, Ashley, Foxworth, Ms
 Wheat, Laura, Purvis, Ms
 Wheelless, Herman, Hattiesburg, Ms
 Williams, Kristina, Hattiesburg, Ms
 Wood, Samantha, Purvis, Ms

Anderson, Krystycka, Great Falls, Mt
 Becton, Stephanie, Great Falls, Mt
 Fertterer, Clancey, Belt, Mt
 Holdorf, Jessica, Great Falls, Mt
 Lawson, Tedi, Great Falls, Mt
 McSwain, Brandi, Great Falls, Mt
 O'Brien, Katherine, Conrad, Mt
 Valdez, Jordan, Great Falls, Mt



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 Bartle, Renee, Cary, NC*
 Battle, Catherine, Weddington, NC*
 Blackwell, Shannon, Browns Summit, NC*
 Burgess, Seth, Charlotte, NC*
 Coble, Donna, Graham, NC*
 Cook, Jennifer, Richlands, NC*
 Cullinan, Mary Ann, Greensboro, NC*
 Detterman, Fred, Wilmington, NC*
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 Gordon, Keisha, Roanoke Rapids, NC
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 Hall, Kara, Concord, NC*
 Hilliard, Pat, Thomasville, NC
 Howell, Rcp, James, Durham, NC*
 Hunt, Janel, Kernersville, NC
 Jallow, Ousman, Charlotte, NC*
 Jessup, Gerald, Oak Ridge, NC*
 Larrimore, Steffani, Wilmington, NC*
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 Long, Patricia, Trinity, NC*
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 McLaughlin, Blaise, Thomasville, NC*
 Miller, Ryan, Browns Summit, NC
 Moody, Philip, Pfafftown, NC*
 Napolis, Michael, Winston Salem, NC*
 Patel, Bindiya, Raleigh, NC
 Perdue, Amy, Reidsville, NC*
 Richardson, Sherri, Greensboro, NC
 Slonac, Robert, Wake Forest, NC*
 Smith, Robert, Maiden, NC*
 Tenneson, Annette, High Point, NC*
 Walton, Barbara, Durham, NC*
 Williams, Brittany, Albemarle, NC
 Williams, Kenneth, Carthage, NC*
 Williams, Kent, Hillsborough, NC*
 Witschey, Amy, Harrisburg, NC*

Avard, Timothy, Omaha, Ne*
 Holm, Tracy, Roca, Ne*

Kinchen, Roger, Windham, NH
 Labrecque, Jamie, Concord, NH*
 Weatherby, Judith, Epping, NH*

Ablett, Kaitlyn, Egg Harbor City, NJ
 Acosta, Jose, Hillside, NJ*
 Aponte, Reinaldo, Jackson, NJ
 Arango, Oscar, Rockaway, NJ*
 Aucello, Anthony, Merchantville, NJ
 Balnis, Richard, Dorothy, NJ*
 Barot, Khyati, Middletown, NJ
 Bassey, Okon, Egg Harbor Twp, NJ
 Baumhauer, Matthew, Riverton, NJ
 Bielicki, Daniel, Glassboro, NJ
 Boone, Valenskie, Willingboro, NJ
 Bostard, Kendra, Cape May Court House, NJ

Bottega, Justin, Old Bridge, NJ
 Boyle, Jason, Mine Hill, NJ
 Brady, Bethany, Monroe Township, NJ
 Cabey, Joseph, Toms River, NJ
 Carducci, Cain, Pennsauken, NJ
 Charles, Jeffrey, Maplewood, NJ
 Cherrington, Louise, Fair Haven, NJ
 Ciepiela, Elizabeth, Medford, NJ*
 Cole, Shane, Union, NJ*
 Conenna, Cristina, Vineland, NJ
 Corcoran, Christopher, Burlington, NJ
 Currier, Toni, Colts Neck, NJ
 Davis, Dorien, Clementon, NJ
 Decollibus, Maria, Marlboro, NJ
 Devivo, Erin, Ocean, NJ
 Domanski, Michelle, Blackwood, NJ
 Driscoll, Stephen, Toms River, NJ
 Edwards, Cindy, Sicklerville, NJ
 Ellis, Norris, Morganville, NJ
 Endrinal, Micheal, Oceanport, NJ
 Famuyiwa, Olufunmilayo, Somerset, NJ
 Ferraina, Ann, Runnemede, NJ
 Fiorello, Michael, Red Bank, NJ
 Fluhardy, Kristie, Cherry Hill, NJ
 Francia, John Paul, Sicklerville, NJ
 Garretson, Justina, Atco, NJ
 Greeley, Ashley, Middletown, NJ
 Grevu, Arber, Howell, NJ
 Hand, Nicholas, Garwood, NJ
 Hauger, Shannon, Williamstown, NJ
 Helfrey, William, Freehold, NJ*
 Howarth, Dean, Gibbsboro, NJ
 Hubmaster, Sandra, Eht, NJ*
 Ihnken, Nancy, Howell, NJ
 Keenan, Jacqueline, Matawan, NJ
 Kurzydowski, Patricia, Keyport, NJ
 Lane, Jr, David, Barrington, NJ
 Liggay, Rodolfo, Edison, NJ*
 Louis Jacques, Stanley, Jackson, NJ
 Macasadia, Dino, Red Bank, NJ
 Malia, Donna, Lumberton, NJ
 Martin, Laka, Belford, NJ
 Martin-Swain, Nicole, Pennsauken, NJ
 Matchett, Judy, Shamong, NJ*
 Mayada, Ahmed Fahmy, Princeton, NJ*
 McDevitt, Caitlin, West Deptford, NJ
 McEnroe, Elizabeth, Millington, NJ
 Merlin, Sarah, Ocean Gate, NJ
 Mitschele, Karen, Leonardo, NJ
 Mollano, Nicole, Middletown, NJ
 Negrón, Laurie, Pittsgrove, NJ
 O'Neal, Tania, Trenton, NJ
 Oreggio, Tinowa, North Plainfield, NJ*
 Osei Owusu, Justice, Freehold, NJ
 Owoiye, Adejoke, Piscataway, NJ
 Piscioti, Patricia, Toms River, NJ
 Pui Ming, Yip, Edison, NJ
 Reid, Bernadette, Jackson, NJ*
 Reyes, Angel, Franklinville, NJ
 Richmond, Tamara, Oakhurst, NJ
 Robinson, Muriel, Lindenwold, NJ
 Sakhan, Irina, Vineland, NJ
 Sherwood, Lisa, Riverdale, NJ*
 Silva, Christine, Howell, NJ*
 Smith, Melinda, Mullica Hill, NJ*
 Stanton, Kimberly, Haddon Heights, NJ
 Tayson, Josil, Neptune, NJ
 Tesfaye, Alemtehay, Freehold, NJ
 Tietz-Boker, Jakob, Bellmawr, NJ
 Ulerick, Alicia, Sewell, NJ
 Velasquez, Noemi, Vineland, NJ
 Walker, Derek, Egg Harbor Twp, NJ
 Walls, Bryonette, Asbury Park, NJ
 Weyant, Jane, West Milford, NJ*
 Wiczierzynski, Madalyn, Swedesboro, NJ*
 Yoder, Jr, William, Collingswood, NJ

Baldauf, Richard, Las Cruces, NM*
 Duarte, Rosa, Las Cruces, NM
 Garcia, Modesta, Las Cruces, NM
 Haynie, Lara, Farmington, NM*
 Hinojosa, Amanda, Las Cruces, NM
 Merryfield, Rick, Roswell, NM
 Montoya, Antoinette, Albuquerque, NM*
 Phan, Heather, Albuquerque, NM*
 Rhodes, Charles, Los Lunas, NM*
 Thompson, Diana, Las Cruces, NM
 Tully, Genevieve, Brimhall, NM*
 Zuniga, Jerry, Las Cruces, NM*

Bell, Andy, Las Vegas, Nv
 Brown, Jowanna, Las Vegas, Nv
 Capistrano, Marylyn, Las Vegas, Nv
 Clay Jr, Henry, Las Vegas, Nv
 Davis, Ron, Las Vegas, Nv*
 Dumadag, Kalan, Las Vegas, Nv*
 Eady, Klinton, North Las Vegas, Nv
 Falla, Jason, Las Vegas, Nv
 Fountain, Cassandra, Las Vegas, Nv
 Manalo, Gerard, Las Vegas, Nv
 Mata, Bryan, Las Vegas, Nv
 McPhail, Mary-Rose, Las Vegas, Nv
 Mitchell, Jacob, Las Vegas, Nv
 Morehouse, Alexander, Las Vegas, Nv*
 Murray, Wei, Las Vegas, Nv
 Obrador, Sherrylin, Las Vegas, Nv
 Otremba, Jennifer, Las Vegas, Nv
 Pagulayan, Dominique, Las Vegas, Nv
 Priest, Randall, Las Vegas, Nv
 Rogers, Kade, Las Vegas, Nv
 Smith Vi, Hearley, Las Vegas, Nv
 Studd, Kristi, Las Vegas, Nv
 Vega, Veronica, Las Vegas, Nv
 Villarico, John, Las Vegas, Nv
 Zaichick, Lee, Las Vegas, Nv

Abdallah, Hilmi, Cherry Valley, NY*
 Allen, Chelsea, Dexter, NY
 Allen, Stephen, Lacona, NY
 Anderson, Lapiane, Uniondale, NY
 Arcuri, Erin, Syracuse, NY
 Backus, Timothy, Rodman, NY
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 Bico, Elma, Utica, NY
 Bostaxidzic, Sanela, Utica, NY
 Brewster, Mamie, Arkport, NY*
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 Clarke, Rachael, Schenectady, NY*
 Coleman, Frances, Whitesboro, NY
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 Dack, Alexander, Ilion, NY
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 Delanovic, Jasna, Utica, NY
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 Esthappan, Simon, Staten Island, NY*
 Florez, Andrew, Holtsville, NY*
 Foley, Deborah, Liverpool, NY
 Gianotti, Carmlee, Utica, NY
 Guerriero, Miranda, Nesconset, NY
 Gurdo, Cabryn, Utica, NY
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 Hollis, Jacob, Watertown, NY
 Jordan, Laura, North Babylon, NY
 Klish, George, Penfield, NY*
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 Kraeger, Nicole, Utica, NY
 Kuehnle, Christopher, Little Falls, NY
 Lasher, Brittany, Fort Plain, NY
 Legerme, Steeve, Springfield Gardens, NY*
 Lew, Kimberly, Utica, NY
 Leyderman, Elina, Wantagh, NY*

Lihic, Irfan, Utica, NY*
 Lisi, John, Camillus, NY
 Long, Angelita, Oswego, NY
 Longtin, Bradley, Poland, NY
 Machicote, Joseph, Queens Village, NY*
 Masters, Kayla, Fabius, NY
 McCann, Michael, Pennellville, NY
 McCoy, Karen, Putnam Valley, NY*
 Mechan, Ryan, Utica, NY
 Milliner, Erica, Green Island, NY*
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 Neal, Kurk, Whitesboro, NY
 Ngo, Khoa, Syracuse, NY
 Nihalani, Mausam, Westbury, NY*
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 Oehler, Russell, Utica, NY
 Omondi, George, Yorkville, NY
 Princip, Miljenko, Utica, NY*
 Radionov, Andrey, Marcellus, NY
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 Rodriguez, Clara, Brooklyn, NY*
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 Shanturov, Dmitriy, Syracuse, NY
 Shirley, Louis, Baldwinsville, NY
 Silchuk, Miroslava, Frankfort, NY
 Smith, Clifton, Bronx, NY*
 Smith, Jessica, Rome, NY
 Souffrant, Emmanuel, Brooklyn, NY*
 Sullivan, Elizabeth, Utica, NY
 Tomb, Lori, Fayetteville, NY
 Trombetta, David, Saint Johnsville, NY
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 Veneck, Ryan, Rome, NY
 Vosswinkel, Regina, East Setauket, NY*
 Voytovich, Roman, Utica, NY
 Winkelman, Peter, Farmington, NY*
 Wixson, Michael, Liverpool, NY
 Wolfe, Robert, Byron, NY*
 Yager, Michelle, New Hartford, NY



Beckman, Brittany, Amelia, Oh
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 Bell, Michelle, Youngstown, Oh*
 Bucey, Rebecca, Brilliant, Oh*
 Carentz, Timothy, Mason, Oh*
 Christmas-Paine, Debbie, Warren, Oh*
 Cooley, William, West Portsmouth, Oh*
 Cunningham, Ada, Warrensville Heights, Oh*
 Dean, Roshell, Dayton, Oh*
 Defallo, Thomas, Steubenville, Oh*
 Gander, Albert, Cincinnati, Oh*
 Hern, Brad, Cincinnati, Oh*
 Lambert, Jill, Toledo, Oh*
 Powell, Bonnie, Austintown, Oh*
 Smiraldo, Joseph, Toledo, Oh
 Smith, Laura, Granville, Oh*
 Smith, Monica, Cincinnati, Oh*
 Szunyog, Philip, Strongsville, Oh*
 Till, Rebecca, Youngstown, Oh*
 Varkony, Steve, East Liverpool, Oh*
 Villard, Renee, Canton, Oh
 Yanez, Gabriella, Cincinnati, Oh*

Albright, Melanee, Tahlequah, Ok*
 Blevin, Jennifer, Oklahoma City, Ok
 Brooks, Amy, Oklahoma City, Ok
 Castle, Megan, Newcastle, Ok
 Chi, Kenny, Oklahoma City, Ok
 Fischer, Hannah, Yukon, Ok
 Franch, Amanda, Norman, Ok
 Gist, Lanora, Oklahoma City, Ok
 Harris, Neika, Oklahoma City, Ok

Hindman, Holly, Midwest City, Ok
 Kennard, Marlene, Broken Arrow, Ok*
 Liongco, Marissa, Yukon, Ok
 Loerts, Jamie, Tahlequah, Ok*
 Markus, Timothy, Tulsa, Ok*
 Mathew, Jibumon, Yukon, Ok
 Ngo, Loan, Oklahoma City, Ok
 Preciado, Carmen, Oklahoma City, Ok
 Roland, Shantee, Oklahoma City, Ok
 Sanchez, Misty, Oklahoma City, Ok
 Sanders, Bill, Oklahoma City, Ok
 Whittington, Anggela, Oklahoma City, Ok
 Wong, Ginmey, Oklahoma City, Ok
 Zarco, Phuong, Oklahoma City, Ok

Barbian, Renee, Portland, Or*
 Hawkins, Anna, Klamath Falls, Or*



Alexandre, Jean Ricot, Warminster, Pa
 Amon, Karen, Saint Thomas, Pa*
 Atkinson, Andrea, Belle Vernon, Pa*
 Bachman, Tyler, Lancaster, Pa*
 Bartlett, Joseph, Valencia, Pa*
 Beaupre, Jason, East Petersburg, Pa*
 Bechtel, Ryan, York, Pa
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For information on submitting calendar events, contact: Beth Binkley, AARC Times
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