

ARIN

# Vision

## Incoming President's Message



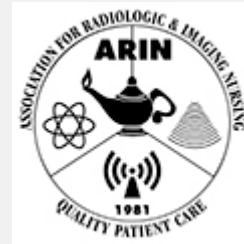
*2014 Presidential Address*

I would like to start by thanking the membership for their confidence in me to offer me this position.

It has been a tradition with each incoming president to fashion a motto or theme for their presidency. As you know, "Bridge to the Future" was Beth's motto for San Diego. This summer, as I thought of my motto, I experienced one of those unique life experiences: my son's wedding and a close friend's funeral in the same weekend. On the surface, these events seem dissimilar and unconnected. However, when you look closer, you see that each one has a range of dates. A beginning and ending separated by a hyphen. The most important point is the hyphen. It represents what my friend did in life and what my son will do in his marriage.

The presidency I just started has a similar hyphen: March 2014-March 2015. One year from now I will deliver a report on my hyphen, which leads to my motto: "Go forth and lead."

Imaging nurses are uniquely poised for this task. We are a little-known resource. Most of the practice areas we work in do not know we exist, yet we care for patients from birth to death, outpatient to intensive care unit, pediatric to adult, and intervene on the fly in many cases. Interestingly enough, I received an e-mail from work prior to stepping up to the podium asking if we have nurses in imaging. I am proud to share with them that imaging nurses are probably the best-prepared nurses in the entire system due to the wide variety of patients we take care of each day. Brenda Boone and Joanna Po stated, "use your voice." Imaging nurses need to educate the floor nurses on what we do. They need to sit on committees that mold



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nursing policies for imaging. They should share these policies with their patients. Imaging nurses need to be part of their patients' metrics.

It is important to realize that imaging nurses generate income. As a colleague of mine noted, "floor nurses lose money while imaging nurses make money." We generate income through sedation and participation in procedures. We are a prime driver in patient satisfaction. As we heard during this convention, payment from CMS is driven by this metric. These realities place our group in a powerful position in healthcare.

Finally, imaging nurses touch and influence patients. I read an article that estimated 70% of all hospitalized patients touch imaging. I have interviewed nurses from the ICU who are proud of their ability to touch two patients a day, eight patients a week. I share with them that if they work for me, they can reach 30 patients today through pre-procedure phone calls, IR procedures, and follow-up phone calls. Individually, you are one of the greatest influences in the whole hospital. I marvel when I attend the ANA conventions; imaging nurses are the only group that touches all other groups: OR, ED, ICU, Ortho, Oncology, and Psych. We interact with ICU through trauma, ED with brain attacks, Ortho and Psych with vascular access. Our potential is vast.

Change is coming. The tenets I have pointed out become huge as we look at the Affordable Care Act. We need to come together to confront these changes. The Chinese have a saying: How do you move a mountain? The answer is one pebble at a time. Each one of us can make an impact. Your voice can lead the change—one conversation, one meeting, one pebble at a time.

From the previous presentations in the business meeting and the information we have shared, "the bridge" has been built for you. ARIN has provided the tools. One year from now, Mary Sousa will stand here to make her speech. My term will end and have a hyphen. You will know my hyphen from the business meeting and I will ask you yours. What did you do with your hyphen this year? The future is bright. The time is now to "Go forth and lead."

Thank you.

Sincerely,



Greg Laukhuf, RN-BC, ND, CRN, NE-BC  
2014 ARIN President

[Bare News for Radiology](#)

[RNCB Announces Newly Certified and Recertified Radiology Nurses](#)

[ARIN Welcomes New Members](#)

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2014-2015**

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**ARIN NATIONAL OFFICE**

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## Immediate Past President's Outgoing Message



I stood here one year ago and spoke to you on the subject of communication and collaboration as the bridge to the future. So much has occurred and changed in a year. In the healthcare arena, imaging services across the nation were hit with a 20% decrease in reimbursement for their services. Their reimbursement is correlated to the quality of care they provide. It is always a patient's choice to undergo an examination and to choose a facility for the exam. We, as imaging nurses, must be the patient's advocate and

ensure quality patient care is provided. ARIN's mission is *"Providing Radiology Nurses with the knowledge and resources to deliver safe and quality patient care in the imaging environment."*

How are we doing this? Over the last year, the ARIN Board of Directors has been diligently laying the groundwork to build the bridge that will move ARIN into the future healthcare arena. We have done this through communication and collaboration. We have embraced and driven change through all aspects of the organization. This has been a year of resounding progress.

The ARIN Board has been evaluating how we communicate who we are to our members and other organizations. During the strategic planning session, we looked at using social media to collaborate with our members, as well as other organizations. A survey has been developed to find out what social media platforms our members use. Tools are being developed that imaging nurses can use in their employment to become a source of imaging expertise and that provide the means to communicate this knowledge. Within the next year, the Board will be evaluating how it can become involved in the political arena. This information will be disbursed to ARIN members so that we, collectively, may also have a voice.

ARIN is now managed by Professional Management Associates (PMA)—a new collaboration. The Board met with a consultant in November to develop a 3-year strategic plan in line with the new ARIN vision to provide for the growth of the organization. We have reorganized and streamlined the Board and the organization to prepare for our journey. The Strategic Partnership Brochure and program was developed and distributed to potential sponsors. We are investigating a means to incorporate our chapter members into the national organization with a goal of cohesiveness and strength. The plan is to collaborate with other organizations to broaden our horizons and enhance ARIN. We have collaborated with AVIR to provide you with an exciting day of joint education. Other examples of collaboration within ARIN are:

- Kathy Scheffer is working with the American Society of Perianesthesia Nurses (ASPAN) to update joint clinical practice

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### **ARIN Core Purpose**

To foster the growth of nurses who advance the standard of care in the Imaging environment.

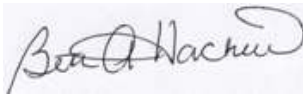
guidelines

- Angela Kanan has accepted a 1-year appointment to the Association of periOperative Registered Nurses' (AORN) Educational Committee to assist in developing competencies for the OR hybrid room

There are many additional opportunities for collaboration within the organization, as well as with other organizations.

The bridge has been built; now we need to walk across it. Let's join hands and move forward. Imaging nursing needs to be united to flourish in this healthcare environment. Please join me in making this organization strong.

Thank you for letting me have the honor to serve you.



Beth Ann Hackett, MSN, APRN-BC, CRN  
Immediate Past President, ARIN Board of Directors

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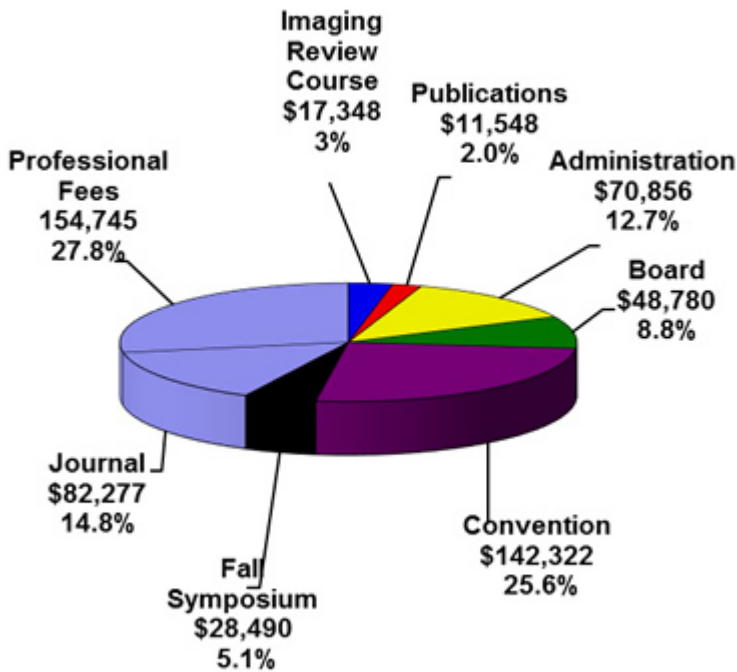
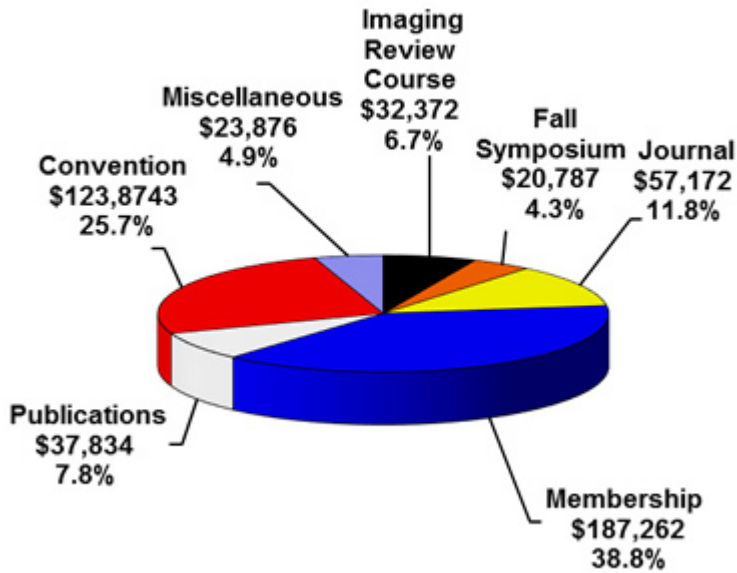
## Spring Treasurer's Report 2014

ARIN's financial health remains positive as the Strategic Plan for 2014-2016 continues to unfold. In spring 2013, the Board of Directors began plans for building new processes and structures that allow for streamlined services and increased membership participation in the work of our organization. The focus of ARIN remains: standards, membership, practice, and excellence.

The changes that will be seen include improved and increased use of technology for membership interface and educational program services, increased opportunities for engagement of members through increased collaboration, and increased partnerships with professional and industry colleagues.

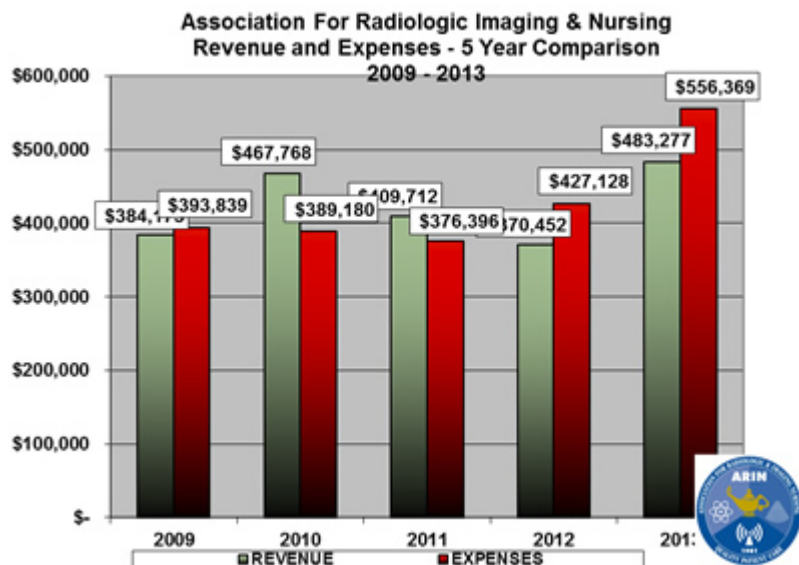
To protect ARIN's resources, we have budgeted conservatively to minimize risk. A decision was made at the Strategic Planning Session in November to promote educational programs through the annual convention, Imaging Nurse Review course, and increased webinars, as well as exploring development of CEU articles in the *Journal of Radiology Nursing*. The Fall Symposium has experienced a significant loss in 5 out of 6 events and is being discontinued.

The Board of Directors is working closely with Professional Management Associates (PMA) to maintain fiscal responsibility and accountability. Associated expenses related to transitioning to PMA as our association management company have included some single-episode expenses, including contract negotiation, legal services, and new website development. The Board and Treasurer closely monitor predicted and actual income and expenses.



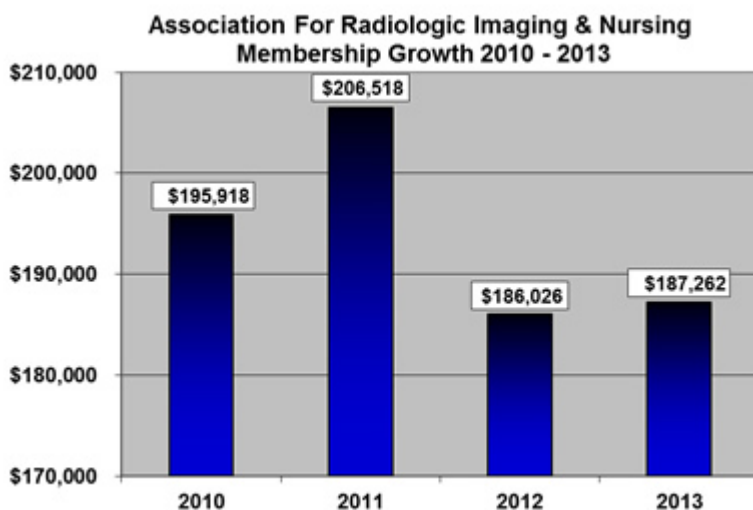
Educational programs remain a top priority, as well as publications that serve membership needs, such as the *Journal of Radiology Nursing*. The 3rd

edition *Core Curriculum* is in print. The Imaging Nurse Review Course has expanded the number of presentations and will continue to evolve as practice and technologies evolve. A robust webinar calendar is underway.



### Membership Services

In review of ARIN's income and expenses, we are at projected target for income and expense in most areas. Membership has experienced some losses. Association membership trends across most associations in the US have experienced this same trend. During the Strategic Planning Session in November, significant time was devoted to identifying ways to strengthen services and benefits to members.



As your outgoing Treasurer, I want to thank the members who so willingly give their time to creating and producing the programs and services that

members value. Without your contributions, our organization would not exist. We are a volunteer organization. Thank you to all of our members—whether new, seasoned, or in-between—for your support through active membership. Your membership dollars are important to all of our programs and products. Please take some time to reflect upon your professional practice and the importance of programs that provide ongoing education, certification, and professional growth. What would you like to see more of? Are there tools that you would like to share with your ARIN peers?

The relevance of our professional association, ARIN, depends upon your active involvement. ARIN belongs to all of its members. You are the future of ARIN; we each make it relevant. Maintaining financial health and ensuring our future depends upon our ACTIVE and COLLABORATIVE EFFORTS. If you belong to a local chapter, thank you for contributing to education and networking at the local level. Many of us began our association with ARIN through a local chapter. If you know local members and colleagues who are not members of ARIN, please encourage them to join. It is through the financial and active support of members that ARIN is able to provide valued services to you, our valued member.

In closing, it has been an honor to serve as your ARIN Treasurer, and I welcome Chris Keough, BSN, CRN, as the 2014-2016 Treasurer.

Brenda Wickersham MAV, RN, CRN  
Immediate Past Treasurer, 2012-2014, ARIN Board of Directors

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## Association of Radiologic & Imaging Nursing Call for Volunteers 2014



*Join us in shaping the future of ARIN!*

The goals and objectives of the Association for Radiologic & Imaging Nursing (ARIN) are achieved largely through the work of committees. Members volunteer their expertise, time, and talent to these committees and are the driving force behind ARIN activities. Together, members of the Board, along with committee members, identify the changing needs and priorities of ARIN and our professional community.

Committee members meet regularly via conference call to determine how these needs can be met through program development or service delivery. Periodic reports are made to the Board and the membership detailing each respective committee's activities.

All ARIN committees depend on the creative talents and resources of member participants. We welcome and encourage your participation. To learn more about a committee of interest, see the list below or visit the [ARIN website](#). To join a committee, e-mail the National Office so that we can pass your information along to the committee: [info@arinursing.org](mailto:info@arinursing.org)

**Committees and Task Forces:**

Leadership Development Committee  
Program Planning Committee  
Education Small Task Forces (ex: writing CEUs)  
Chapters Committee  
Position Statements/Clinical Practice Guidelines Task Force  
Orientation/Competency Task Force  
Website Committee  
Webinar Committee  
Presenting a Webinar  
Public Policy Representation  
Writing for Vision Newsletter

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## **Did You Know? *Core Curriculum* News**

The *Core Curriculum*, 3rd Edition, is ARIN's largest publication to date. One hundred eighteen (118) people were involved, and 105 contributors saw the project through from start to completion. A variety of specialties contributed immensely to this project, including law, nursing, pharmacy, physics, radiology technology, and radiology.

As you can see in the figures, there were 29 states with at least one author, section editor, or peer reviewer (see Figure 1). Twenty-four (24) states had at least one author (see Figure 2). Sixteen (16) states had at least one section editor (see Figure 3) and 15 states had at least one peer reviewer (see Figure 4).



**Twenty-Nine States with at Least One Author,  
Section Editor, or Peer Reviewer**



Fig. 1

**Twenty-Four States with at Least One Author**

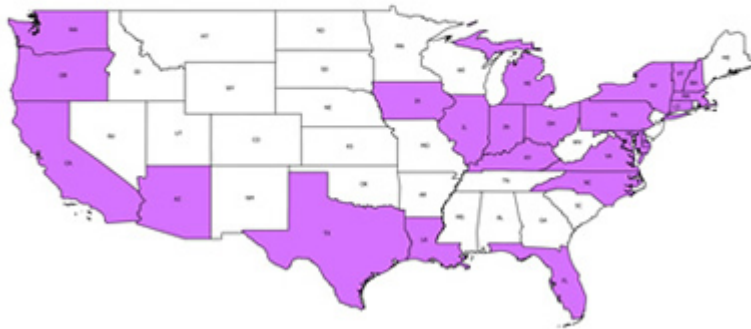


Fig. 2

### Sixteen States with at Least One Section Editor

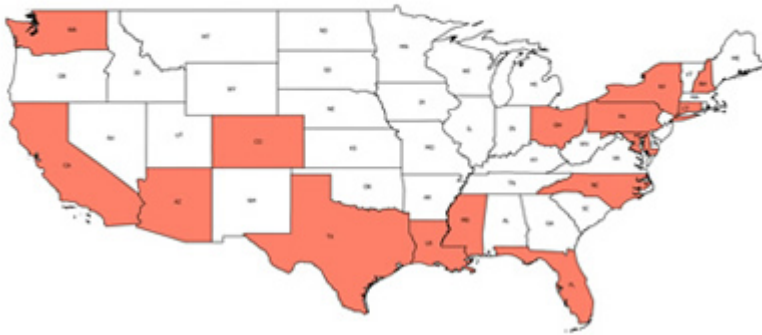


Fig. 3

### Fifteen States with at Least One Peer Reviewer



Fig. 4

The first Core was published in 1999 with the assistance of a scholarship from the Association for Medical Imaging Management (AHRA) and contained 18 chapters, 317 pages, and no index. The 3rd edition contains 30 chapters (9 new chapters and new sections added to existing chapters) and an index, and totals more than 1,025 pages (see Figure 5).

## Growth of Core Editions

Edition of the Core	Year Published	Editor(s)	Number of Chapters	Number of Pages
1 <sup>st</sup> (AHRA sponsorship)	1999	Morgan & Nunnelee	18	317; no index; soft bound
2nd	2008	Sasso	23	678; with index; spiral bound
3rd	2014	Gross	30 (9 new chapters; other new sections added to existing chapters)	1025+; with index; soft bound Page size increased

Fig. 5

In the 3rd edition you will find a master glossary at the end of the book. All chapter review questions have been assembled in a separate section at the end.

You can place an order by logging into the [ARIN Action Site](#) and selecting "Purchase Resource Books" under the PURCHASE header on the left side of the page.

Thank you to all of the contributors!

Kathleen Gross, MSN, RN-BC, CRN  
*Core Curriculum* Editor

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## Abstract Submissions Open



**2015 Spring Convention  
Call for Abstracts Now Open!  
Join us in Atlanta, GA  
March 1<sup>st</sup>-4<sup>th</sup>, 2015**

The ARIN Annual Convention is held in conjunction with the Society of Interventional Radiology (SIR) and the Association of Vascular and Interventional Radiographers (AVIR), which makes this the premier event to attend each spring! ARIN's Core Purpose is to foster the growth of nurses who advance the standard of care in the imaging environment. In order to

help nurses advance, we need to hear from you on what will help you grow personally in your profession.

We welcome abstracts for presentations and posters from radiologic and imaging nurses and others on topics in clinical practice, education, administration, research, patient education, informatics, and consultation in all practice areas.

The focus of these presentations should be innovative and practical approaches that can be used in a variety of settings related to radiological care. By presenting at the convention, you will elevate your exposure as a speaker and as a recognized expert in the profession.

Submit your abstract for review:

<https://www.surveymonkey.com/s/2015Abstracts>

**Deadline for submission: June 20, 2014**

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## **New Joint Commission Standards Effective July 2014**

The Joint Commission has recently approved new diagnostic imaging standard changes that will be implemented in two phases. The first phase for Diagnostic Imaging Services Joint Commission standards will be implemented, effective July 1, 2014. The first phase encompasses quality and safety issues for services in the following modalities: computed tomography (CT), nuclear medicine, positron emission tomography (PET), and magnetic resonance imaging (MRI). The second phase of standard changes will focus on fluoroscopy, minimum qualifications for clinicians who perform imaging exams, and cone beam CT. These standards cover the areas of Environment of Care (EC), Human Resources (HR), Medical Staff (MS), Provision of Care (PC), and Performance Improvement (PI).

More specifically, the first phase will include the following requirements for CT:

1. Documentation of radiation dose in the patient's clinical record
2. The interpretive reports of diagnostic CT studies should include the volume computed tomography dose index (CTDIvol) or dose length product (DLP) radiation dose; this should be recorded in either the patient's interpretive report or included on the protocol page
3. Follow industry standards of practice for dose reduction
4. Review imaging protocols periodically for adherence to industry standards

In the MRI environment, the focus is management of MRI safety risks to

include:

1. The management of the patient's anxiety, emotional distress, urgent or emergent medical care during scanning, as well as acoustic noise
2. Managing access of restricted areas to everyone not trained in MRI, and making sure that these restricted areas are controlled by and under the direct supervision of MRI-trained staff
3. Posting signage at the entrance with warnings about hazards of MRI suite
4. The collection of information on MRI adverse events to include data on patient burns, incidents in which ferromagnetic items entered the MRI scanner room, screening oversights when ferromagnetic objects were permitted into the scan room, and injuries that resulted from such incidents

In Nuclear Medicine:

1. There must be verification of doses for any isotopes administered. Imaging Departments are required to develop a QC plan for all modalities to include the frequency of evaluations.
2. There must be annual medical physicist evaluations of CT, PET, nuclear camera, and MRI scanners
3. All new equipment installations require a medical physicist to design and provide post-installation testing of ionizing radiation shielding
4. Medical physicist records of educational/credential requirements. Departments must be maintained for those serving CT scanners.
5. Departments are to keep staff ionizing exposure as low as reasonably achievable (ALARA) and review exposure at least quarterly
6. Collection of data on incidents where pre-identified radiation dose limits have been exceeded

Additionally, standards including ongoing annual safety training for CT and MRI technologists must be implemented. Imaging Departments are also required to meet the needs of the pediatric population through imaging protocols and considering patient size or body habitus when establishing imaging protocols. By July 1, 2015, technologists performing CT exams will need to be registered and certified by ARRT or NMTCB. The revisions incorporate recommendations from diagnostic imaging experts, professional associations, and accredited organizations on topic areas that must be evaluated to ensure the safe delivery of diagnostic imaging services. These rigorous imaging standards address overall patient safety oversight of imaging services, staff competency, radiation safety procedures, equipment maintenance and quality control. It is expected that most hospitals are already in compliance with these standards and that these elements are already part of existing best practices.

Beth Ann Hackett, MSN, APRN-BC, CRN  
Immediate Past President, ARIN Board of Directors

## How do Advanced Technologies in Vascular Access Impact Healthcare Economics in the Hospital Setting?

Authors: *Tim Smith, BSN, RN, CRNI, VA-BC; Tracey Campbell, RN, VA-BC; Shannon Heringhaus, VA-BC; and Nancy Holt, MT(HEW), MLT(ASCP), VA-BC*

The last few years in healthcare have included several new economic changes that not only impact patient outcomes, but the bottom line of the hospital system. The Patient Protection and Affordable Care Act (ACA) was signed March 23, 2010; this law resulted in Hospital Value-Based Purchasing (VBP), which is a Centers for Medicare & Medicaid Services (CMS) initiative that rewards acute care hospitals with incentive payments for improved quality of care for Medicare patients. This new methodology for reimbursement impacts how hospitals evaluate and invest in new technologies, as providers will be held accountable for quality of care and associated costs. This article focuses on how implementing innovative Vascular Access Technologies can have a direct and positive impact on patient care and the bottom line of hospitals.

At the beginning of each fiscal year, participating hospitals currently have a percentage (1.25% in 2014) withheld from reimbursements on Medicare-Based Diagnosis Groups (MS-DRG), potentially equating to an immediate reimbursement loss of millions of dollars (variables include hospital revenue and payer mix). There are several metrics to which participating hospitals are measured that determines how much of the withheld 1.25% can be earned back. The ability to earn dollars back is based upon both Improvements (how does current performance on metrics compare to previous performance) as well as Achievement (current performance versus other hospitals). One significant hospital challenge remains in vascular access, where at least 90% of patients admitted to hospitals have some kind of vascular access intervention and 50% of the Penalty Hospital-Acquired Conditions (HACs) contained in VBP are related to vascular access. Two specific metrics have the most impact: central line-associated bloodstream infection (CLABSI) and Efficiency (2015). CLABSIs affect patient care, as there are currently about 80,000 cases each year, accounting for up to \$57,000 per instance that is not reimbursed. (O'Grady et al., 2011; Hollenbeck, 2011). Efficiency measures in 2015 will impact Medicare spending per beneficiary and will incentivize providers to spend less per care episode. All of these numbers and potential losses can be staggering, as well as intimidating. Vascular access manufacturers have been anticipating these changes, resulting in innovative technologies that can directly improve patient care and performance in VBP metrics.

One such innovation is Tip Location for Central Venous Catheter Insertion. Historically, Peripherally Inserted Central Venous Catheters (PICCs) and percutaneous Central Venous Access Devices (CVADs) have been placed at

the bedside without visual guidance, using landmark technique, or in radiology with the assistance of fluoroscopy. Landmark technique alone has shown to be inadequate in placing the tip of the line in the recommended location—the distal third of the superior vena cava (SVC) to the caval atrial junction (CAJ) (Hostetter, 2010; Schummer, 2004). Verification of tip location at the bedside has proven to be tenuous at best, as chest X-ray can be subject to parallax and technique issues that decrease the accuracy of the final reading and subsequent catheter location (Hostetter, 2010; Schummer, 2004). Often, the tip cannot be visualized, which then requires multiple X-rays to verify tip placement, delaying treatment and increasing radiation exposure to the patient. Placing lines under fluoroscopy, although extremely accurate, has proven to be expensive and inefficient, and exposes patients to larger doses of medical radiation.

Technologies that have been developed to reduce gross malposition of PICCs include the Sherlock™ from Bard Access Systems and the Navigator™ from CORPAK MedSystems. These systems greatly improved bedside PICC team success rates in reaching the SVC, as they provide the inserter with directional guidance for catheter location, but have several limitations. Each placement still requires final confirmation of the tip location with a chest X-ray or fluoroscopy, and both have caution statements when an implanted cardiac device is present.

New technologies with Food and Drug Administration 510(k) clearance premarket notification for new devices that allow the FDA to determine whether the device is equivalent to a device currently marketed (U.S. FDA, 2014), to replace chest X-ray and confirm final tip location eliminate the issues described above. Currently in the United States there are two tip location systems with 510(k) clearance to replace the confirmatory chest X-ray. Trade names for these devices are the Bard Sherlock 3CG™ and the ARROW® VPS™ Device. The Bard system is a combination of the magnetic Sherlock (directional tool) and ECG to verify PICC tip placement in the proper location. ECG has been utilized in Europe for central line tip placement for two decades, specifically using the p-wave to estimate catheter tip proximity to the right atrium. The ARROW® VPS™ utilizes a combination of ECG and Intravascular Doppler (which measures internal directional blood flow) to verify tip position of both PICC and CVADs in the distal third of the SVC to the CAJ. The importance of precise and accurate tip location is critical as catheter tip location can affect patient outcomes. In a study conducted by Cadman et al., it was determined tips residing in the proximal SVC were sixteen times more likely to develop venous thrombosis compared to those in the distal SVC (Cadman, 2004). Devices such as those mentioned above deliver catheter tips to the distal third of SVC, thus providing optimal tip placement for best catheter clinical outcomes. Both systems improve facilities' time to therapy, which can increase patient satisfaction, reduce length of stay, improve outcomes with the initiation of the prescribed therapy in a timely fashion, and help the facility reduce the medical radiation exposure to their clientele and staff. All of these metrics are vital to long-term success of the organization as the new healthcare economic environment forces cost reduction and higher quality of care (O'Grady et al., 2011).

While tip location is important for the reasons discussed above, central line-associated bloodstream infections are the most serious and costly of health

care-associated infections. Costs of CRBSI in ICUs average from about \$33,000 to \$75,000 (Hollenbeck, 2011), thus hospitals are taking steps to protect patients and decrease costs. Central Venous Catheters impregnated with antimicrobial properties have been shown to decrease microorganism adhesion and biofilm formation. The CDC guidelines recommend the use of the Cook Spectrum® catheter (Minocycline/Rifampin) or the ARROW® CVC with ARROWg+ard® Technology (Chlorhexidine/Silver Sulfadiazine) as a CDC 1A recommendation, where education and infection prevention related to CRBSI have failed to reduce the number of line infections (O'Grady et al., 2011). The Centers for Disease Control defines 1A recommendation (highest possible) as "strongly recommended for implementation and supported by well-designed experimental, clinical, or epidemiologic studies" (O'Grady et al., 2011; U.S. FDA, 2014). Both technologies have been proven effective against reducing CLABSIs.

Additionally, technology is also available on PICCs to help combat PICC-related bloodstream infections, occlusion, and fibrin sheath formation. The Cook Spectrum PICC is an antibiotic-coated catheter providing protection against gram-positive and gram-negative bacteria. The ARROW® PICC with Chlorag+ard® Technology is a powerful antimicrobial and anti-thrombogenic catheter impregnated with chlorhexidine diacetate. It is proven effective against gram-positive, gram-negative, and fungal pathogens for true broad spectrum protection. Chlorag+ard® Technology has a proven 99.99% (4-log) reduction in colonization for at least 30 days (Ryder). In a white paper titled, "Catheter-Related Infection and Thrombosis: A Proven Relationship. A Review of Innovative PICC Technology to Reduce Catheter-Related Infection and Thrombosis", the ARROW® PICC with Chlorag+ard® Technology delivered an 88% reduction in bloodstream infections in a preliminary report at a major southern California medical center. The ARROW® PICC with Chlorag+ard® Technology is the first and only catheter on the market providing both antimicrobial and antithrombogenic protection.

Antithrombogenic technology is especially important as another common complication in vascular access is fibrin sheath formation leading to occlusion or thrombosis. Currently, there are two catheters on the market with antithrombogenic claims. The BioFlo PICC® with Endexo Technology by Angiodynamics is an anti-adherent technology. Endexo is a non-eluding polymer that is blended into the catheter. The BioFlo PICC® claims an 87% reduction in thrombus accumulation on the catheter surface for up to 2 hours in vitro blood flow loop model (Lareau).

The ARROW® PICC with Chlorag+ard® PICC Technology has antimicrobial and antithrombogenic claims. In addition to antimicrobial protection Chlorag+ard® Technology also possess an antithrombogenic effect. The Chlorag+ard® Technology delays the blood clotting response, and reduces thrombus accumulation on the catheter surface due to the thrombin inhibition. Research has shown a 61% reduction in thrombus accumulation on catheter surfaces after 30 days in an in-vivo intravascular model. Further, when challenged with infection, Chlorag+ard® Technology delivers with 92% reduction in thrombus accumulation on catheter surfaces after 30 days (Ryder, n.d.).

When considering products utilized within your institution, it is imperative to



think about the patient as well as prevention of detrimental side effects. With the economic model shifting from pay for service to quality of care, investing in evidence-based technologies that can improve patient outcomes and also protect the bottom line is critical. Utilizing the aforementioned technological advances will create efficiencies in care, improved outcomes, and a healthier bottom line.

#### **Financial/Non-Financial Disclosures**

Chlorhexidine and Silver Sulfadiazine Central Venous Catheters are manufactured by Teleflex®. The development and testing of the Arrow PICC with Chlorag+ard™ Technology is manufactured by Teleflex®. The authors are employed by Teleflex®

#### **Correspondence**

For all authors to Arrow Vascular 2400 Bernville Rd. Reading, PA 19605 or via e-mail at: [firstname.lastname@teleflex.com](mailto:firstname.lastname@teleflex.com)

#### **References**

Cadman, A., Lawrance, J. A. L., Fitzsimmons, L., Spencer-Shaw, A., & Swindell, R. (2004). To clot or not to clot? That is the question in central venous catheters. *Clinical Radiology*, 59(4), 349-355.

Hollenbeck, C. S. (2011). The cost of catheter-related bloodstream infections: Implications for the value of prevention. *The Art and Science of Infusion Nursing*, 34(5), 309-313.

O'Grady, N. P., Alexander, M., Burns, L. A., Dellinger, E. P., Garland, J., Heard, S. O., . . . the Healthcare Infection Control Practices Advisory Committee (HICPAC). (2011). *2011 Guidelines for the Prevention of Intravascular Catheter-Related Infections*. Centers for Disease Control and Prevention. Retrieved from <http://www.cdc.gov/hicpac/bsi/bsi-guidelines-2011.html>

Lareau, R. F. (n.d.). A New Option for Short or Long Term Peripheral Access to the Central Nervous System. AVA 2012 Scientific Meeting.

Hostetter, R., Nakasawa, N., Tompkins, K., & Hill, B. (2010). Precision in central venous catheter tip placement: A review of the literature. *The Journal of the Association for Vascular Access*, 15(3), 112-125.

Ryder, M. A., Gunther, R. A., Breznock, E. M., James, G. A., deLancey Pulcini, E., & Bickle, L. (n.d.). The Effect of chlorhexidine antimicrobial coating on the reduction of intraluminal catheter biofilm formation in a clinically simulated ovine model (pilot study). Montana State University, Center for BioFilm Engineering.

Schummer, W., Herrman, S., Schummer, C., Funke, F., Steenbeck, J., Fuchs, J., Uhlig, T., Reinhart, K. (2003) Intra-atrial ECG is not a reliable method for positioning left internal jugular vein catheters. *British Journal of Anaesthesia*, 91(4), 481-486.

U. S. Food and Drug Administration. (2014). 510(k) clearances: Overview.

Retrieved April 21, 2014 from  
[www.fda.gov/medicaldevices/productsandmedicalprocedures/  
deviceapprovalsandclearances/510kclearances/default.htm](http://www.fda.gov/medicaldevices/productsandmedicalprocedures/deviceapprovalsandclearances/510kclearances/default.htm)

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## ARIN Webinars

ARIN offers live and on-demand webinars that you will not find elsewhere. ARIN-hosted webinars target topics for the Radiologic & Imaging professional and include Imaging Nurse Review Course webinars. To view the current offerings, visit the [online learning page of the ARIN website](#).

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## Bare News for Radiology

*What you really need to know!*



### [Infusion Nurses Society Releases New Position Paper](#)

The Infusion Nurses Society (INS) has released, "Recommendations for Improving Safety Practices with Short Peripheral Catheters" in the *Journal of Infusion Nursing*. The INS position paper recommends the use of "vein visualization technology as a routine strategy for patients with difficult or poor venous access" because it can "improve success rates, decrease unsuccessful insertion attempts, and improve patient satisfaction." Evidence-based practice cited by the task force recommends infrared vein visualization

with devices similar to Vein Viewer by Christie Medical Holdings, Inc. The recommendation emphasizes understanding pre-insertion, insertion, and post-insertion practices for improving safety. "Clinical studies have shown increases in both first stick success and patient satisfaction up to 100 percent with a reduction in PICC lines by greater than 30 percent."

### **[One in 25 Patients Gets Hospital Acquired Infection](#)**

A recent study published in the *New England Journal of Medicine* of 183 hospitals and 11,282 patients surveyed between May and September 2011, found that one in every 25 patients seeking hospital treatment acquired an infection. The research found that patients acquired 721,800 hospital infections in 2011, of which 75,000 patients died, according to the U.S. Centers for Disease Control and Prevention. The most commonly acquired infections were pneumonia and surgical-site infections, followed by *Clostridium difficile*, urinary tract infections, and infections of the bloodstream. The study highlighted that central line bloodstream infections declined 44 percent between 2008 and 2012, which was attributed to increased use of an insertion checklist required by hospitals.

### **[FDA Increases Drug Inspections Amid Global Supply Chain Concerns](#)**

The 2008 Heparin incident that resulted in death and injury to dozens of people prompted concerns about China's drug supply chain. Other Chinese quality control problems have emerged after the 2008 incident, causing the U.S. Food and Drug Administration (FDA) to increase its Chinese inspections to enhance the safety of the U.S. drug supply chain. Although the agency has received additional funding and legal authority for the effort, the process of adding inspectors and staff in China faces hurdles. The Chinese visa delay is an example of one hurdle. Thirty-three Chinese pharmaceutical manufacturing firms have been placed on an FDA import alert list to prevent their products and raw materials from entering the United States.

### **[Hospital Alarms Pose Patient Safety Risk](#)**

A University of Michigan and the VA Ann Arbor Healthcare System study published in the *Journal of the American Medical Association* reveals that hospital alarm fatigue could be a potential safety hazard to patients. Vineet Chopra, MBBS, Clinical Assistant Professor of Internal Medicine at U-M Medical School, states, "Alarms were first developed to help avoid complications among a small group of high-risk, critically ill patients. Because they have grown in popularity ... we have alarms for everything [which could lead to providers becoming] desensitized [and unable to] tell which alarms are important." The study suggests that hospitals need to examine the impact of each alarm and redesign those alarms to be more or less intrusive based on the patient safety potential of the event.

### **[Technology for Detecting Missile Launch Could Help ID Sepsis Earlier](#)**

Lockheed Martin researchers suggest that their missile launch detection formula could help detect sepsis 16 hours before current methods, using lab data and patient's vitals. The results of a 2013 pilot study at the University of Pennsylvania revealed a sepsis detection rate of 90 percent in 4,500 patients

using their technology. The defense contractor contends that its formulas reduce the rate of false alarms and increases detection rates. They believe the process could have applications in heart attacks, blood clots, or diabetes disease prediction.

### **[Checklist Reduces Central Line Infections](#)**

Researchers from Stanford and the Lucile Packard Children's Hospital recently published a study in *Pediatrics* concerning a computerized safety checklist that automatically populates information from patients' electronic medical records. This process was associated with a threefold drop in central line infection rates. The rates in the hospital's pediatric intensive care unit dropped from 2.6 to 0.7 per 1,000 days of central line use once the system was implemented. The checklist contains a dashboard-style interface enabling users to follow national guidelines for keeping central lines free of infection. Study author Deborah Franzon, MD, explains, "We improved compliance with best-care practices and pulled information that otherwise would have been difficult to look for. It reduced busywork and made it possible for the healthcare team to perform their jobs more efficiently and effectively." The initiative saved about \$260,000 per year in healthcare costs in the pediatric ICU.

### **[Smart Syringe Makes Syringes Safer](#)**

The World Health Organization (WHO) estimates that more than 1.3 million people die each year because of unsafe injection practices. A syringe that turns bright red after it has been used was recently developed. The ABC Syringe (A Behavior Changing Syringe) could reduce the number of unsafe injections in the developing world and save lives, says David Swann of Huddersfield University in the United Kingdom, who developed the idea. The syringe label absorbs carbon dioxide to produce a dramatic color change, switching from colorless to red in two minutes following the syringe's exposure to air. This gives practitioners enough time to provide an injection, says Swann. The World Health Organization (WHO) says more than 50 percent of all injections in developing nations involve used or unsterilized needles, and these injections cause more than 30 percent of all hepatitis A and B cases and 5 percent of all HIV cases.

### **[Lidocaine HCl Injection, USP, by Hospira Recall](#)**

[Posted 04/18/2014]

Hospira, Inc. will initiate a voluntary recall of one lot of 1% Lidocaine HCl Injection, USP, 10mg/mL, 30 mL single dose, Preservative-Free due to a confirmed customer report of orange and black particles of iron oxide in the solution and vial.

If the particulate passes through the IV catheter into the patient, it may result in local inflammation, and/or mechanical disruption of tissues or trigger an immune response to the particulate. This lot (Lot # 31-427-DK, Expiration Date 1JUL2015) was distributed nationwide to distributors/wholesalers, hospitals, and clinics from September-October 2013.

Areas with affected lots should stop use and quarantine the product. For

additional assistance, call Stericycle at (888) 835-2723. For medical inquiries, please contact Hospira Medical Communications at (800) 615-0187. Healthcare professionals and patients are encouraged to report adverse events or side effects related to the use of this product to the FDA's MedWatch Safety Information and Adverse Event Reporting Program: Forms may be found at: [www.fda.gov/MedWatch/report.htm](http://www.fda.gov/MedWatch/report.htm)

### **[Aspirin's Colon Cancer Protection Depends on DNA](#)**

April 23, 2014

Physicians have personalized cancer treatment, matching a tumor's genetics to the appropriate chemotherapy, and now may personalize the prevention also. "If you have low levels of (the enzyme), taking aspirin to reduce your colon cancer risk is probably not helping you," said Dr. Sanford Markowitz, professor of cancer genetics at Case Western Reserve School of Medicine in Cleveland and co-leader of the study. "But people with higher levels are getting a bang for the buck: The combination of high enzyme levels plus taking aspirin really seems to be the key to measurably reducing colon cancer risk." Half the U.S. population produces high levels of the enzyme in the colon, and half produces low levels. Neither blood nor genetic testing is reliable for the enzyme, Markowitz said, but its levels can be measured via colon biopsy, which can be done during a routine colonoscopy. Read more on [Reuters](#), [Yahoo News](#), and [Fox News](#).

### **[Covidien Recalls Embolization, Retrieval Devices](#)**

Covidien has voluntarily recalled lots of its **Pipeline Embolization Device** and **Alligator Retrieval Device**, according to the U.S. Food and Drug Administration (FDA). The issue is the potential for the polytetrafluoroethylene (PTFE) coating on the delivery wire to delaminate and detach. "Delamination of the PTFE coating could potentially lead to embolic occlusion in the cerebral vasculature, with the risk of stroke and/or death," the FDA MedWatch safety alert notes.

The Pipeline device is an endovascular treatment for adults with large or giant wide-necked intracranial aneurysms in the internal carotid artery segments. The Alligator device is used in the retrieval of foreign bodies in peripheral vasculature and neurovasculature. "Covidien learned of this issue through internal product testing," a statement from Covidien said. "The company has not received any reports of patient injuries to date related to this issue." A total of 32 Pipeline devices and 621 Alligator devices are affected by this recall, all manufactured and distributed from May 2013 to March 2014.

## **RNCB Announces Newly Certified and Recertified Radiology Nurses**

### CERTIFICATION

Certification is one of the most important decisions a nurse can make. Certified nurses are recognized by their peers and employers for having achieved a standard of competency in the nursing specialty. The Radiologic Nursing Certification Board, Inc. (RNCB) would like to congratulate the following nurses who passed the Radiology Nurse Certification exam on March 26, 2014 and met the requirements to obtain the Certified Radiology Nurse (CRN) credential.

Davis, Julie, Bermuda Dunes, CA  
Engelder, Sherry, Chico, CA  
Fassnacht, Lisa, Idaho Falls, ID  
Thompson, Charles, Baltimore, MD  
Wineland, Linda, Chico, CA

### RECERTIFICATION

The Radiologic Nursing Certification Board, Inc. (RNCB) works hard to maintain the standard of excellence among nurses who have made the commitment to set themselves apart as Certified Radiology Nurses by maintaining certification. The RNCB would like to congratulate the following 67 nurses who met the stringent standards to maintain their certification between January and May 2014.

Allan, David, San Carlos, CA  
Bae, Eun Kyung, Rochester, MN  
Ballesca, Ruby Rowena, Napa, CA  
Barber, Jeanne, Huntington Beach, CA  
Bashline, Sherry, Leesville, SC  
Black, Deborah, Westgrove, PA  
Blaskopf, Donna, Farmingville, NY  
Bohnenberger, Karen, Saugerties, NY  
Bontrager, Sherry, Nappanee, IN  
Burfield, Mindi, Apple Valley, CA  
Caballero, Myrna, Houston, TX  
Chai, Jenny, Kent WA  
Covington, Helen, West Milton, OH  
Cruz, Fe A, Sugarland, TX  
Deliman, Karen, Capistrano Beach, CA  
Elbert, Sherry Ann, The Woodlands, TX  
Eustace, Christine, Langhorne, PA  
Fitzgerald, Charlotte, Grayslake, IL  
Fong, Charlene, San Francisco, CA  
Greenlee, April, Clear Spring, MD  
Groves, Concetta, Martinsburg, WV

Hafner D'Agostin, Ingrid, Oakland, CA  
Hambro, David, Dalton MA  
Hansen, Tiffany, Midland, TX  
Jaker, Cynthia, Orange, CA  
Kohn, Barbara, Donnelsville, OH  
Kollar, Sheri, Tallmadge, OH  
Korynas, Barbara, Zephyrhills, FL  
Lassus, Debra, Brisbane, CA  
Laukhuf, Greg, Mentor, OH  
Lunz, Jennifer, Sherwood, OR  
McCauley, Chet, Costa Mesa, CA  
McFadden, Leslie, New York, NY  
McNamee, Peggy, Beaver creek, OH  
Mickiewicz, Beth, Sarasota, FL  
Misencik, Susan, New Brighton, PA  
Morella, Robert, Niagara Falls, NY  
Murphy, Theresa, Centereach, NY  
Nagle, Debra, Hollidaysburg, PA  
Norton, Francine, Joliet, IL  
O'Brien, Maureen, Fair Haven, NJ  
O'Grady, Ann, Glen Cove, NY  
Osantowski, Gary, Grandville, MI  
Paull, Wilma, Crab Orchard, KY  
Pook, Christopher, Racine, WI  
Price, Nicole, Leesburg, VA  
Prince, Jaylynn, West Milford, NY  
Rabelo, Michelle, Tampa, FL  
Rennau, Catherine, Oak Park, IL  
Reyes, Geneva, Newark, CA  
Rhodes, Susan, Clayton, NC  
Richmond, Jean, Kankakee, RI  
Ryan, Denise, Hellsborough, NJ  
Rydin, Julie, Woodlands, TX  
Salinas, Guadalupe, El Granada, CA  
Scheffer, Kathy, Tacoma, WA  
Sebek, Elizabeth, Gibsonia, PA  
Siclare, Nancy, Alt High, NJ  
Stanley, Jeanne Marie, Rochester, NH  
Strabel, Margaret, Middletown, NJ  
Tucker, Kim, Syracuse, IN  
Underwood, Judith, Temple, TX  
Van Pelt, Mary, Red Bank, NJ  
Wardrope, Ronald, Dundalk, MD  
Woods, Patricia, Manorville, NY  
Zona, Judy, Bay Shore, NY  
Zydorowicz, Kristine, Huntley, IL

## ARIN Welcomes New Members

ARIN welcomes new members who joined in March - May, 2014. Below are their names, credentials (if provided), and locations:

Lisa St. Amand, RN, Hanover, NH  
Jill Powers, Willow Spring, NC  
Melinda Sinclair-Smith, RN, Idaho City, ID  
Janese Spatuzzi, Rochester, NY  
Kristi Garcia, BSN, RN, CEN, Littleton, CO  
Ana Maria Villasenor, RN, Salinas, CA  
Susan Shea, Waukesha, WI  
Vanessa Srein, Melbourne, FL  
Lora Olichwier, RN, Roanoke, VA  
Jason Pena, RN, Murrieta, CA  
Rhonda Bement, Cookeville, TN  
Wendy Kunstman, Interventional Radiology, Sheboygan, WI  
Glenn Serafica, BSN, RN, Bergenfield, NJ  
Janet Austin, RN, Gainesville, FL  
Timothy Savoia, Fresno, CA  
David Brimer, RN, Salisbury, MD  
Tracey Lombardi, RN, Coronado, CA  
Lauren Boyd, RN, Astoria, NY  
Eun Kyung Bae, RN, Rochester, MN  
Sandee Cysewski, Westminster, CO  
John Cunningham, ASN, Oakland, CA  
Nancy Pena, MSN, RN, CRN, Chula Vista, CA  
Akeita Streets, Manhattan, NY  
Leslie Bergstrom, RN, CAPA, Mesquite, TX  
Jaylynn Prince, BSN, RN, CRN, West Milford, NJ  
Gladys Marollano, RN, Dhahran, Saudi Arabia  
Elizabeth Avila, RN, Missouri City, TX  
Paula Gonzalez, RN, Pearland, TX  
Cynthia Shepard, RN, Coopersville, MI  
Jennie Tonnu, RN, Pearland, TX  
Maureen Cain, BSN, RN, CRN, Broken Bow, NE  
Dominique La Page, BSN, RN, CRN, Los Angeles, CA  
Claire Schafer, RN, Western Springs, IL  
Veronica Perry, Aliso Viejo, CA  
Gena DeRibeaux, RN, PALS, ACLS, BLS, Trumbull, CT  
Michelle Zotman, RN, San Francisco, CA  
Eileen Shaw, RN, CRN, Seabrook, MD  
Leah Alivio, BSN, RN, CEN, Huntington Station, NY  
Michelle Trigueros, RN, Clovis, CA  
Pamela Kimble, Houston, TX  
David Kauffman, RN, Elkins Park, PA  
Ireneo Jore, BSN, RN, New York, NY  
Laci Crowdis, Hahira, GA  
Kim Sandhofer, RN, Owatonna, MN  
Emily Squire, RN, Chapel Hill, NC



Kim Moroz, BSN, RN, CRN, Jackson, NJ  
Carol Wynn, RN, Wausau, WI  
Rebecca Caron, RN, Brookline, MA  
Gillian Evans, Houston, TX  
LaGaryion, Reed, RN, Houston, TX  
Matt Shields, RN, Santa Rosa, CA  
Judith Cressey, RN, Westbrook, ME  
Kenneth Daae, Fort Worth, TX  
Kathi Smith, RN, El Paso, TX  
Deborah Even, Iowa City, IA  
Noreen Fields, RN, Ashland, MA  
Michael Gillespie, RN, Nashua, NH  
Tami Podlasek, RN, Parrish, FL  
Jennifer Culross, RN, Lees Summit, MO  
Melanie Fry, BSN, RN, Minden, NV  
Jennifer Pedretti, Highlands Ranch, CO  
Erin McCaffrey, New York, NY  
Sara Johnson, RN, Trenton, MI  
Susan Donovan, RN, Gainesville, FL  
Melissa Batts, Elm City, NC  
Katherine Beitelshes, RN, Austin, TX  
Patricia Brown, APN, Winfield, IL  
Christine Root, BSN, RN, Ann Arbor, MI  
Rachel Fallon, Webster Groves, MO  
Kathleen Schaab, Hillsborough, NJ  
Fernandita Bragado, RN, Houston, TX  
Sue Newbrough, BSN, RN, N. Canton, OH  
Melvin Rojas, RN, Pearland, TX  
Dannette Speck, RN, Porterville, CA  
Jessica Block, Iowa City, IA  
Andrew Woloch, RN, South Lyon, MI  
Brenda Thompson, RN, Conyers, GA  
Julie Duff, BSN, RN, Scottsdale, AZ  
Sherri Eakin, Euless, TX  
Kymberli O'Grady, RN, Melbourne, FL  
Charlene Desimone, RN, Everett, MA  
Jonda Henderson, BSN, RN, Dexter, KY  
Kusalakumary Raveendran, New Hyde Park, NY  
Kenneth Barnett, RN, Meridian, ID  
Heidemarie Kulas, BSN, RN, Bellevue, NE  
Mistie Sullivan, Fisherville, KY  
Denise Stenger, RN, Clovis, CA  
Jolie Thompson, RN, Saint Petersburg, FL  
Gerilyn Rivos, RN, Hebron, CT  
Melanie Fulk, BSN, RN, Liberty Township, OH  
John Paolo Mendoza, Yonkers, NY  
Kathryn Craig, RN, CEN, CRN, Nixa, MO  
Catherine Blanco, RN, Bloomingdale, IL  
Donna Carey, RN, Pittsfield, MA  
Evelyn Padilla, Kent, WA  
Katrina Walker, RN, Corryton, TN  
Ikuko Day, RN, CRN, Tacoma, WA  
Jo Miser, RN, San Jose, CA  
Deanna Temple, RN, Roy, WA

Marion Foley, RN, Staten Island, NY  
Linda Dunne, Mauricetown, NJ  
Jeanine Rempe Thornton, Manhasset, NY  
Jamie Adams, RN, Camarillo, CA  
Keith Kohatsu, Asheville, NC  
Lisa Walker, BSRT, Phoenix, AZ  
Sonia Duffey, McAllen, TX  
Suzanne May, RN, Bethpage, NY  
Juanita Dietz, Graham, NC  
Judy Bauer, RN, Fort Collins, CO  
Theresa Drummond, BSN, RN, MM, Skokie, IL  
Jennifer Hale, RN, Portland, OR  
Sylvia Lasser, San Diego, CA  
Susan Lewis, RN, Shreveport, LA  
Laura Sequeira, RN, Puyallup, WA  
Lorie Shultz, Fort Wayne, IN  
Robin Robinson, Barefoot Bay, FL

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