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# Hospital Patient Safety News

A NEWSLETTER FOR HOSPITAL STAFF PARTICIPATING IN IPRO'S PATIENT SAFETY INITIATIVE

SPRING 2011

IPRO

Improving Healthcare for the Common Good®

Welcome to the Spring 2011 issue of IPRO's *Hospital Patient Safety News.* In this issue we present updates on the Centers for Medicare & Medicaid Services (CMS) 9th Scope of Work (SOW) Patient Safety Initiative Projects, upcoming events, articles of interest and educational resources. If you have a best practice, tools, or resources that you would like for us to feature in a future issue, please forward the information to Gloria Stone at gstone@nyqio.sdps.org.

If you have colleagues that you believe should be receiving this newsletter, they can request their own subscription by sending an e-mail to Gloria Stone at gstone@nyqio.sdps.org.

## IPRO's Patient Safety Initiative Projects

**MRSA Project:**
Reducing rates of healthcare-associated Methicillin-resistant *Staphylococcus aureus* (MRSA) infections;

**Surgical Care Improvement/Heart Failure (HF) Project (SCIP):** Improving inpatient surgical safety and heart failure treatment; and

**Medication Safety:** Reducing the prevalence of prescribing potentially inappropriate drugs with anticholinergic properties to seniors and improving the quality of warfarin management.

## Contents



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# MRSA Project

## Evaluating Hospital Environmental Cleanliness

Evidence shows transmission of HAIs is related to contamination of high-touch surfaces and equipment, e.g., patient bed rails, bed controls, tray tables, telephones, and bathroom handrails. As a result, many hospitals optimize thorough cleaning of all surfaces in their terminal room cleaning program once a patient has been discharged or transferred. For information on evaluating environmental cleanliness:

- Visit the Centers for Disease Control and Prevention website for healthcare environmental infection control guidelines, including cleaning options, checklists for monitoring terminal cleaning, and guidelines for disinfection and sterilization in healthcare facilities. www.cdc.gov/HAI/toolkits/Evaluating-Environmental-Cleaning.html.
- Read the *American Journal of Infection Control* (supplemental 1 June 2010 issue) article, "Evaluating hygienic cleaning in health care settings: What you do not know can harm your patients," which clarifies the differences between measuring cleanliness versus cleaning practices; describes and analyzes conventional and enhanced monitoring programs; addresses the critical aspects of evaluating disinfection hygiene in light of guidelines and standards; analyzes current hygienic practice monitoring tools; and recommends elements that should be included in an enhanced monitoring program. http://download.journals.elsevierhealth.com/pdfs/journals/0196-6553/PIIS0196655310004062.pdf.

## Bath Basins

In a study conducted by Dr. Keith Kaye (Wayne State University, Detroit, MI) and colleagues at 53 US and Canadian hospitals, a damp swab culture found MRSA, Vancomycin-resistant Enterococcus, and gram-negative bacilli in bath basins that appeared clean to the naked eye. Of the 576 basins tested, 63.3% were found to be contaminated. Visit www.medscape.com/viewarticle/736132?src=mp&spon=24 to read the complete study results.

## Upcoming Program Alert:

The monthly MRSA WebEx is scheduled for Wednesday May 11, 2011 at 2:00PM. Join us for **How One Health System is Engaging Their Staff in Patient Safety.** More information to be posted on the MRSA JENY thread: http://jeny.ipro.org/showthread.php?p=12626#post12626.

webex™

## Coming Soon

### The CMS 10th Scope of Work (SOW) Patient Safety Initiative Projects.

# Zero Healthcare-Associated Infections (HAIs)

## HAIs Attack an Organization's Bottom Line

HAIs impact over two million patients every year and contribute to nearly 100,000 deaths. In addition to the devastating human toll, HAIs contribute to increased hospital costs through longer patient stays, additional complications, and death. One study found HAIs reduced overall net patient margins by more than $5,000/infected patient; another found that a specific HAI could result in an average expense of around $27,000/patient.

A recent decision by CMS to stop payment for the treatment of patients with certain preventable conditions will add even more to an organization's financial burden.

Progressive leaders across the country are proving that establishing aggressive goals and setting their targets at "zero HAIs" improve patient safety and reduce costs. Learn the steps successful organizations have taken to reduce and eliminate HAIs and combat the problem of HAIs affecting a hospital's bottom line by visiting www.apic.org/Content/NavigationMenu/PracticeGuidance/PayItForward/HFMJan2009WaryeandGranatoTargetZeroHospitalAcquiredInfections.pdf.

The Association for Professionals in Infection Control and Epidemiology, Inc. (APIC) provides resources to help target zero HAIs. To help your organization target zero, APIC has created a comprehensive set of resources featuring webinars, conferences and practical tools, which are available by visiting http://www.apic.org/AM/Template.cfm?Section=Targeting_Zero2&Template=/CM/HTMLDisplay.cfm&ContentID=15850.

# SCIP Project

## Sustaining Improvement

Achieving better care by implementing quality improvement initiatives is only reaching half of your patient safety goal—the other half is sustaining those safety "gains." Developed by the Institute for Healthcare Improvement, in collaboration with the Robert Wood Johnson Foundation, Transforming Care at the Bedside,* outlines the key components to sustaining gains by spreading effective and proven practices across an entire hospital or health system, and making these new behaviors a permanent part of the way the organization does business.

This four-part how-to guide is available at www.ihi.org/IHI/Topics/MedicalSurgicalCare/MedicalSurgicalCareGeneral/Tools/TCABHowToGuideSpreadingInnovations.htm.


*Schall MW, Chappell C, Nielsen GA, et al. Transforming Care at the Bedside How-to Guide: Spreading Innovations to Improve Care on Medical and Surgical Units. Cambridge, MA: Institute for Healthcare Improvement; 2008. Available at www.IHI.org.

### CMS National Patient Safety Initiative: Sustaining Improvement

In a recent presentation by Dr. Dale W. Bratzler, President and CEO of Oklahoma Foundation for Medical Quality, describes the Institute for Healthcare Improvement model for sustainability and discusses ways an organization can enhance its improvement system and activities. Also reviewed are the results of a study conducted by The Commonwealth Fund, which found the following to be key principles to sustainability: the importance of leadership and teams, PDSA process for testing changes, service delivery model, coaching, actual resources, monitoring, and creating a culture of an improvement. Dr. Bratzler's presentation can be accessed by visiting: www.ofmq.com/Websites/ofmq/Images/PS%20QIOSC/QIO%20Only/NQIL%206/NQIL%20Bratzler%20082510%20(1).pptx.

### Other Sustainability Resources

A collection of presentations, tools, videos and publications related to sustainability is available at: https://qualitynet.org/dcs/ContentServer?c=OtherResource&pagename=Medqic%2FOtherResource%2FOtherResourcesTemplate&cid=1228764384397.

## Patient Safety: Role of the Patient and Family

### Forget Me Not Seeds for Safety

The Arizona Hospital and Healthcare Association has been "planting seeds for safety" through the Forget Me Not patient safety program, which engages hospital caregivers, as well as patients and their families, in activities that create a safer hospital for all.


The hospital uses Forget Me Not seed packets to help healthcare professionals integrate safety strategies into their daily interactions with patients and their families. Each seed packet includes an insert card (the seed) that highlights one of 12 safety challenges, outlines a strategy to address the particular safety challenge and describes the role of the patient/family in the safety-related matter. To learn more about this program and how you might implement it in your facility visit www.azhha.org/patient_safety/patients_role.aspx

### Safe Practices for Better Healthcare - 2010 Update

Improving healthcare safety saves lives and helps to reduce avoidable complications. One way to demonstrate commitment to decreasing healthcare errors and improving safety is to implement evidence-based safe practices.

The Safe Practices for Better Healthcare - 2010 Update presents 34 practices shown to reduce adverse healthcare events. Healthcare providers can assess the degree to which safe practices have been implemented in their settings and the degree to which the practices provide tangible evidence of patient safety improvement and increased patient satisfaction and loyalty. Download the abridged report from the National Quality Forum (NQF) www.qualityforum.org/Publications/2010/04/Safe_Practices_for_Better_Healthcare_-_2010_Update.aspx. A full report is free to NQF members.

### Engaging, Activating and Partnering with Your Organization's Board

Board members have the power to make a positive impact on patient safety. You can learn how to work with your hospital's board on providing resources and driving safety efforts by viewing the *Engaging, Activating, and Partnering with Hospital Boards* webinar at www.safetyleaders.org/webinars/cmsSeriesOverview.jsp?step=1#tabs.

In the March 2011 issue of the *Journal of Patient Safety,* Charles R. Denham, MD encourages organizations to accelerate improvement in patient safety by focusing on leadership, safer practices, and the adoption of new technologies. To read the complete editorial, visit www.safetyleaders.org/pdf/Denham_LearnGlobalAct_LocalAndBeVocal_JPSv7(1)Mar2011pp1_4_LTR.pdf.

## Condition "H"—The Josie King Story

Research has shown that poor communication among patients, their family members/caregivers, and providers contributes to inadequate or inappropriate care, and fatal errors. As a result, organizations are constantly working on new ways to meet the needs of patients, family members and caregivers through better communications—answering questions and addressing concerns.

In March 2001 Josie King, an 18-month-old girl, died because of medical errors while receiving care at John's Hopkins Children's Center in Baltimore, MD. Her mother, Sorrel King, feels that "no one listened" to her, and that her daughter would be alive today if there was better communication between her family and the hospital staff.

Mrs. King turned her grief into action by establishing the Josie King Foundation, which works to create a culture of patient safety through better communication.

In 2005, she worked closely with the University of Pittsburgh Medical Center, Shadyside, PA, on their implementation of The Josie King Call Line—Condition H (the H stands for help). Condition H gives family members an outlet to call—that leads to an immediate response and assessment by the appropriate team—if they feel their loved one is not receiving appropriate medical care. For more detailed information, visit www.nursingcenter.com/library/JournalArticle.asp?Article_ID=675469 from the *American Journal of Nursing*.

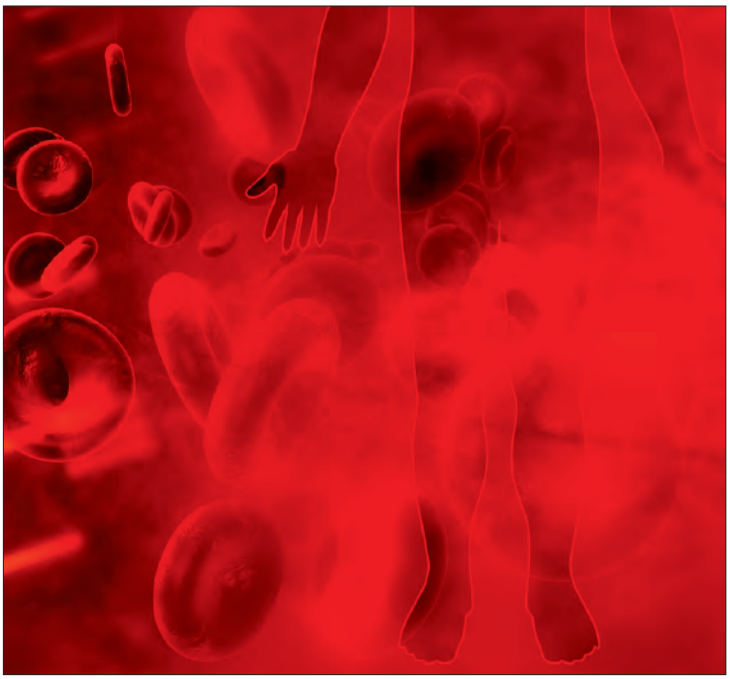
IPRO recently hosted the webinar, *Help! Condition H,* during which St. Joseph Hospital (Orange, CA) shared their Condition H implementation journey. To listen to the recording, visit http://jeny.ipro.org/showthread.php?t=5106.

Visit The Josie King Foundation's website at www.josieking.org. There you'll find a wealth of patient safety information, nursing staff and health educator tools, and information on establishing an organizational patient/family rapid response team. They even developed a Patient Journal resource application for patients and families to use managing their health care information. It is designed to record important medical information, maintain a permanent medical record and even share information with doctors via e-mail.

## Venous Thromboembolism (VTE) Prevention

Every year more than two million Americans suffer from VTE with over half occurring while in the hospital or 30 days post hospitalization. This is an avoidable problem. There are safe, effective, and cost-effective pharmacologic methods to prevent VTE but, unfortunately, they are underutilized.

Preventing hospital-acquired VTE can be complex and education alone is not the answer. Read about the collaborative endeavors used by more than 150 medical centers to help prevent *VTE: Designing and implementing effective venous thromboembolism prevention protocols: lessons from collaborative efforts,* written by Dr. Greg Maynard and Dr. Jason Stein, is available at www.springerlink.com/content/lw843378273ugx7u/fulltext.pdf.



You can also view P*reventing Hospital-Acquired Venous Thromboembolism: A Guide for Effective Quality Improvement,* which was prepared under a grant from the Agency of Healthcare Research and Quality (AHRQ) and is available at http://ahrq.hhs.gov/qual/vtguide. This guide assists quality improvement practitioners in leading an effort to improve VTE prevention.

# Medication Safety Project

## Taking a Look at Warfarin Safety and Antibiotic Use

The benefits of warfarin are clear and well established. Dramatically improved clinical outcomes with anticoagulation therapy have been demonstrated in numerous patient groups. The appropriate use of warfarin results in a 70% reduction in prevalence of proximal venous thrombosis and a 60% reduction in deep venous thrombosis prevalence in patients following hip surgery. A 68% reduction in annual stroke rates and a 33% decrease in all-cause mortality is realized in patients with atrial fibrillation.[1,2] Despite the abundant proof of clinical efficacy, warfarin is often responsible for serious and life-threatening adverse drug events (Table 1).

**Table 1. Impact of Warfarin Adverse Events**[3,4,5]

- Among the top 5 drugs contributing to emergency department visits
- Among the top 2 drugs causing hospitalization
- Major hemorrhage is experienced by 2.8 to 8.1% of warfarin users per year
- 13% of warfarin-related bleeding events result in fatality

Maintenance of each patient's international normalized ratio (INR) value within the target range (2.0–3.0 for most conditions) is the key to attaining warfarin efficacy while minimizing the risk of toxicity. Bleeding risk rises steeply as the INR increases above 5.0 and the frequency of major bleeding doubles when the target INR is greater than 3.0 compared to that of 2.0–3.0.[6] The risk of intra-cerebral hemorrhage doubles for each additional INR unit over 2.0.[7] Despite the known risks associated with warfarin use, anticoagulation management has been found to be suboptimal in many practice settings; in community hospitals the INR is out of range approximately 47% of the time.[8] Warfarin works primarily by interfering with the production of vitamin K—dependent clotting factors II, VII, IX and X and because these factors differ greatly in length of effect, the onset and duration of anticoagulation induced by warfarin is nonlinear and difficult to predict. Additionally, warfarin response shows genetic variability and has a narrow therapeutic margin which is easily altered by dietary changes, vitamin K consumption and drug-drug interactions.[9] Antibiotic and warfarin drug interactions are one of the most problematic and medical literature is replete with reports of significantly altered INRs and adverse events. Antibiotics may affect warfarin via alteration of the hepatic metabolism of warfarin and antibiotic-induced reduction of vitamin K production by intestinal flora. INR derangement can also be caused by fever and infections.[10] Patients may receive short courses of antibiotics with or without the direct knowledge or involvement of the provider responsible for managing their warfarin. The resulting drug interaction can then induce substantial changes in warfarin activity that may occur in time periods between routinely scheduled INR tests, contributing to preventable adverse events. Systemic improvements are needed to assure that patients who require concomitant warfarin and antibiotics receive the additional monitoring necessary to maintain the INR within the therapeutic range. A review of the available literature has identified 57 anti-infective agents that are known or suspected to interact with warfarin. Table 2 lists those antibiotics whereby major adverse consequences are probable when combined with warfarin.

**Table 2. Warfarin-Antibiotic Combinations with High Probability of Adverse Effects**[11]

| Medication Class | Specific Medications |
|---|---|
| Anti-anaerobe/ antiprotozoal | metronidazole |
| Antifungals | fluconazole, itraconazole, miconazole, voriconazole |
| Cephalosporins | cefamandole, cefazolin, cefotetan, cefoxitin, ceftriaxone |
| Fluoroquinolones | ciprofloxacin,levofloxacin |
| Macrolides | erythromycin, azithromycin, clarithromycin |
| Penicillins | ampicillin, oxacillin, penicillin G, piperacillin, ticarcillin |
| Sulfonamides | sulfamethoxazole |

The goal of IPRO's Safe-Warfarin Antibiotic Testing (SWAT) Project, is for every warfarin user to have their INR tested within three to seven days of antibiotic initiation to prevent adverse drug events. More information can be found at: http://jeny.ipro.org/forumdisplay.php?f=164.

Footnotes follow on next page.

1 Lieberman JR, Hsu WK. Prevention of venous thromboembolic disease after total hip and knee arthroplasty. *J Bone Joint Surg Am.* Sep 2005;87(9):2097-2112.

2 Singer DE, Albers GW, Dalen JE, et al. Antithrombotic therapy in atrial fibrillation: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines (8th Edition). *Chest.* Jun 2008;133(6 Suppl):546S-592S.

3 Budnitz DS, Pollock DA, Weidenbach KN, Mendelsohn AB, Schroeder TJ, Annest JL. National surveillance of emergency department visits for outpatient adverse drug events. Jama. Oct 18 2006;296(15):1858-1866.

4 Ansell J, Hirsh J, Poller L, Bussey H, Jacobson A, Hylek E. The pharmacology and management of the vitamin K antagonists: the Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy. Chest. Sep 2004;126(3 Suppl):204S-233S.

5 Linkins LA, Choi PT, Douketis JD. Clinical impact of bleeding in patients taking oral anticoagulant therapy for venous thromboembolism: a meta-analysis. *Ann Intern Med.* Dec 2 2003;139(11):893-900.

6 Schulman S, Beyth RJ, Kearon C, Levine MN. Hemorrhagic complications of anticoagulant and thrombolytic treatment: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines (8th Edition). Chest. Jun 2008;133(6 Suppl):257S-298S.

7 Schulman, 2008

8 Gaughan GL, Dolan C, Wilk-Rivard E. Improving management of atrial fibrillation and anticoagulation in a community hospital. *Jt Comm J Qual Improv.* 2000;26(1):18-28.

9 Budnitz, 2006

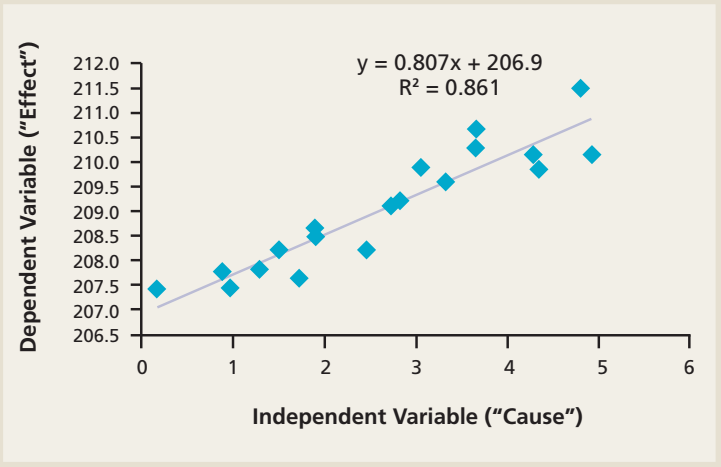
10 Cadiou G, Varin R, Levesque H, et al. Risk factors of vitamin K antagonist overcoagulation. A case-control study in unselected patients referred to an emergency department. *Thromb Haemost.* Oct 2008;100(4): 685-692.

11 Micromedex drug interactions . Tatro, D. (2007). Drug Interaction Facts. Drug Facts and Comparisons 4.0. Accessed Jan.30,2008


# Back to Basics Corner

## Scatter Diagram

A scatter diagram is a tool for analyzing relationships between two variables. One variable is plotted on the horizontal axis and the other is plotted on the vertical axis. The pattern of their intersecting points can graphically show relationship patterns. Most often a scatter diagram is used to prove or disprove cause-and-effect relationships. While the diagram shows relationships, it does not by itself prove that one variable causes the other. In addition to showing possible cause-and-effect relationships, a scatter diagram can show that two variables are from a common cause that is unknown or that one variable can be used as a surrogate for the other.




### Use a scatter diagram to:

- examine theories about cause-and-effect relationships and to search for root causes of an identified problem, and
- design a control system to ensure that gains from quality improvement efforts are maintained.

### To Construct a Scatter Diagram

1. Collect paired data with suspected relationship.
2. Plot the data. Convention dictates that the independent (cause) variable be placed on the X-axis and the dependent variable (effect) be placed on the Y-Axis.
3. Interpret the data using statistical software such as Excel. Statistical software can:
   a. Quantify the pattern and strength of the possible relationship by providing you with an R-Square value.
   b. Provide an equation to help predict possible effects under the same circumstances.


## Celebrate National Nurses Week May 6–12, 2011

Every year National Nurses Week begins on May 6th and ends on Florence Nightingale's birthday: May 12th. The American Nurses Association has chosen "Nurses Trusted to Care" as the 2011 theme, celebrating the value of nursing and the role nurses play in meeting the healthcare needs of their patients. For a information on the history of nursing and ideas on promoting National Nurses Week, visit www.nursingworld.org/FunctionalMenuCategories/MediaResources/NationalNursesWeek/MediaKit.aspx.

## Celebrate National Hospital Week May 8–14, 2011

The theme of National Hospital Week is "Celebrating Health, Hope and Healing." Hospitals are more than a place where people go to heal; they are an important part of the community fostering health and representing hope. Members of the hospital staff provide treatment and comfort to the sick and welcome new life into the community. Celebrate the people, facilities and technologies making healthcare possible in communities during National Hospital Week. Go to www.nationalhospitalweek.com/hospitalweek/planning-guide.pdf to view a planning guide for this important celebration.


## The Hospital Patient Safety Staff at IPRO

Karline Roberts, Director of Hospital Projects
kroberts@nyqio.sdps.org

Bill Gardiner, Senior Quality Improvement Specialist
wgardiner@nyqio.sdps.org

Darren Triller, Senior Director of Pharmacy
dtriller@nyqio.sdps.org

Esmeralda Braganca, Quality Improvement Specialist
ebraganca@nyqio.sdps.org

Chad Wagoner, Quality Improvement Specialist
cwagoner@nyqio.sdps.org

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