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Deborah M. Flores

Barbara Hofmaier is the senior managing editor for the *Journal for Healthcare Quality (JHQ)*. She taught English at Quinnipiac College and the University of New Haven (in Connecticut) before moving to Yale University Press, where she worked as editorial assistant, assistant to the director, and then manuscript editor. At the Park Ridge Center for Health, Faith, and Ethics (Chicago, IL), she served as associate editor of the quarterly journal *Second Opinion* and as publications coordinator. She then worked as an editor for two nonprofit organizations before moving to her current position with *JHQ*.

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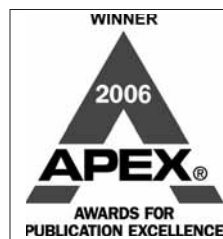
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In-Hospital Glycemic Control: Impact of a Hospital-Wide Multidisciplinary Intervention

Renu Joshi, Amy Helmuth, Susan Palmer, Nirmal Joshi

The benefits of glycemic control in ambulatory patients are well recognized (Krinsley, 1993). Growing evidence suggests that hyperglycemia in hospitalized patients is also associated with short-term adverse outcomes (Capes, Hunt, Malmberg, & Gerstein, 2000; Umpierrez et al., 2002). Improved control of blood glucose levels in inpatients may therefore improve several outcome measures and average length of stay (ALOS) in the hospital (Furnary et al., 2003; Krinsley, 2004; Malmberg, Norhammer, Wedel, & Ryden, 1999; van den Berghe et al., 2001). The American College of Endocrinology (ACE) recently summarized the existing evidence on blood glucose control in a position statement (ACE Task Force on Inpatient Diabetes and Metabolic Control, 2003). Knowing the benefits that blood glucose control can have in hospitalized patients, we must ensure that methods for controlling blood glucose are implemented throughout the general hospital population. One method for maintaining blood glucose control is the use of insulin protocols. The published data on the practical applications and resulting benefits of these protocols are available predominantly for selected subpopulations of hospitalized patients, such as patients in an intensive care unit (Krinsley, 2004; van den Berghe et al.), patients in the postoperative phase of coronary artery bypass grafting (Furnary et al.), and patients in a university hospital. All of these settings are relatively controlled environments, which theoretically makes the implementation of protocols easier to achieve. This study presents observations on a large cohort of all hospitalized patients with diabetes in a community hospital system. The open medical staff (i.e., physicians who practiced independently at the hospital but were not employed by the hospital) used a multidisciplinary intervention strategy that included preprinted insulin administration protocols. This study sought to measure the impact this intervention had on several important outcome measures.

Abstract: A focused multidisciplinary intervention involving staff and physician education and the use of preprinted insulin administration protocols was initiated at a 634-bed community-based hospital system. For more than 3 years, 23,455 patients with a secondary diagnosis of diabetes were monitored for glycemic control and average length of stay (ALOS) in the hospital. The use of insulin protocols achieved a high compliance rate (>84%) within 3 months of implementation. The average inpatient blood glucose decreased from 196 mg/dl to 171 mg/dl ($p < .001$), and the ALOS decreased from 6.2 days to 5.5 days. Annual institutional savings were estimated at \$840,000. In addition, the rate of hypoglycemia remained low at <2%. In conclusion, insulin protocols were well accepted, safe, and highly effective in decreasing blood glucose and ALOS and were associated with substantial financial savings.

Methods

Description of Study Intervention

The study was conducted in a 634-bed community-based teaching healthcare system, which has two acute-care community teaching hospitals (a 416-bed inner-city facility and a 148-bed suburban facility). Approximately 30% of all patients admitted to the system had a secondary diagnosis of diabetes (i.e., diabetes was not the reason for admission but was noted as a comorbid condition at the time of discharge). In February 2002 an institution-wide diabetes clinical initiative was launched to improve inpatient glycemic control. Clinical protocols for the inpatient management of diabetes were developed by a clinical endocrinologist and further refined by a multidisciplinary group of representatives from the medical, surgical, pharmacy, and nursing disciplines. Two key elements of these protocols were preprinted order sets for intravenous insulin administration (**Figure 1**) and subcutaneous insulin administration (**Figure 2**). These order sets were unique because they based insulin administration not only on blood glucose values but also

Key Words

diabetes
glucose control

Figure 1. Preprinted Intravenous Insulin Administration Protocol

LEVEL OF INTENSITY (LOI)

(Please complete a Level of Intensity Order Form for any LOI II-V)

ALLERGIES: _____

Recommended Regimens (Choose One):

- Regimen 1:** For patients with good glycemic control (HbA_{1c} <7.5 on oral medications and total insulin use <30 units prior to admission) or thin elderly patients, those with chronic renal failure, or those with newly diagnosed diabetes
- Regimen 2:** For patients with HbA_{1c} >7.5 on oral medications, insulin dose >30 units prior to admission, average/overweight patients, coronary artery bypass grafting patients, intensive care unit patients, or patients on steroids
- Regimen 3:** For patients not controlled with Regimens 1 and 2

Blood Glucose	Regimen 1	Regimen 2	Regimen 3	Other
<70	Notify physician, discontinue drip, and follow hypoglycemia guidelines.	Notify physician, discontinue drip, and follow hypoglycemia guidelines.	Notify physician, discontinue drip, and follow hypoglycemia guidelines.	Notify physician, discontinue drip, and follow hypoglycemia guidelines.
70–100		1 unit/hr	2 units/hr	
101–120	0.5 units/hr	2.5 units/hr	4 units/hr	
121–150	1 unit/hr	4 units/hr	6 units/hr	
151–200	1.5 units/hr	6 units/hr	8 units/hr	
201–250	2 units/hr	8 units/hr	11 units/hr	
251–300	3 units/hr	9 units/hr	12 units/hr	
301–350	4 units/hr	12 units/hr	15 units/hr	
351–400	5 units/hr	14 units/hr	18 units/hr	
>400	7 units/hr	15 units/hr Notify physician.	20 units/hr Notify physician.	Notify physician.

1. STAT blood glucose by lab before initiation of insulin drip protocol. All other blood glucose levels to be done by glucose meter.
2. Maintenance IV _____ at _____ ml/hr.
3. Prepare insulin infusion by adding 100 units regular insulin to 100 ml of normal saline solution, which is equivalent to 1 unit/ml. Run 50 ml of the mixture through the IV tubing.
4. Start insulin infusion according to ordered regimen.
5. Check blood glucose every hour until two consecutive readings are between 80 and 120. When two consecutive blood glucose levels are between 80 and 120, check blood glucose every 2 hours.
6. Check blood glucose every 30 minutes while titrating epinephrine.
7. After each blood glucose reading, adjust the infusion rate according to the ordered regimen.
8. If the patient's blood glucose level is >120 for 2 **hours** and has increased in the past hour, advance to the next higher regimen.
9. If the patient's blood glucose level is <80 for 2 **hours**, move to the next lower regimen.
10. If blood glucose is >120 on Regimen 3 for 2 **hours** and is increasing, increase drip rate by 3 units, call attending physician, and consider endocrinology consult.
11. After any change, check the blood glucose level every hour until two consecutive blood glucose readings are between 80 and 120 and then check blood glucose every 2 hours.
12. Notify physician of blood glucose levels >400 or <70.
13. When patient has been on infusion for 48 hours and can tolerate oral fluids, notify physician to obtain an order to switch to subcutaneous insulin according to sliding scale guidelines or consider endocrinology consult.

Physician Signature: _____

Date: _____

Figure 2. Preprinted Subcutaneous Insulin Administration Protocol

LEVEL OF INTENSITY (LOI)

(Please complete a Level of Intensity Order Form for any LOI II-V)

ALLERGIES: _____

Routine Daily Orders: Current medical practice recommends all patients on supplemental insulin should receive routine daily insulin or oral medication. If the patient does not have an existing routine daily insulin or oral medication order, please order one when you start the sliding scale. If a patient is on basal insulin, add the sliding scale coverage to basal insulin daily.

Routine Daily Insulin Orders: Routine insulin includes Lantus, Neutral Protamine Hagedorn, 70/30, 75/25, Regular, and Novolog. See Practice Guideline.

None

Oral Medication Orders:

None

Supplemental Insulin Coverage: (Note: The same type of insulin ordered for routine coverage should be ordered for supplemental insulin.)

1. Type of insulin—(If not checked, call physician):

Novolog subcutaneously (preferred): Give when patient begins to eat meal.

Novolin R (Human Regular) subcutaneously: Give 30 minutes prior to meal.

2. Regimen: (Note: Bedtime dose is ordered unless crossed off by the physician.)

Glucose Level	<input type="checkbox"/> Low Dose (for thin elderly, chronic renal failure, and newly diagnosed diabetics)	<input type="checkbox"/> Usual Dose (for most patients)	<input type="checkbox"/> High Dose (for overweight, severe infections, steroids, surgery especially transplant and CT)	<input type="checkbox"/> Very High Dose (for patients not responding to the High Dose Regimen)	<input type="checkbox"/> Bedtime Dose (for all patients on any regimen to cover blood glucose levels from 9 PM to 12 MN)
<60	Notify physician and follow hypoglycemia guidelines.	Notify physician and follow hypoglycemia guidelines.	Notify physician and follow hypoglycemia guidelines.	Notify physician and follow hypoglycemia guidelines.	Notify physician and follow hypoglycemia guidelines.
60–150	0 units	0 units	0 units	0 units	0 units
151–200	1 units	4 units	5 units	6 units	0 units
201–250	3 units	7 units	10 units	12 units	0 units
251–300	5 units	9 units	14 units	15 units	2 units
301–350	7 units	12 units	17 units	20 units	4 units
351–400	9 units	15 units	20 units	24 units	6 units
>400	12 units and call physician.	Call physician.	Call physician.	Call physician.	Call physician.

3. Check capillary blood glucose:

Every 6 hours (recommended if NPO >24 hours)

30 minutes before meals and before bedtime snack

4. Notify physician to change according to the following guidelines:

a. If a patient is on sliding scale only and glucose >150 two times in 24 hours and if all readings have been >100, advance to next high dose regimen.

b. If glucose is between 60 and 100 twice in 24 hours, decrease to next lower dose regimen.

Physician Signature: _____

Date: _____

Key. CT = cardiothoracic; NPO = nothing by mouth (nil per os).

on patient variables such as insulin requirement before hospital admission, body weight, severity of clinical illnesses known to affect blood sugar control (e.g., sepsis, use of steroids), presence of renal failure, and level of glycosylated hemoglobin when admitted to the hospital. The insulin drips were primarily designed for the critical care units; the subcutaneous protocols were used throughout the hospital. Two stakeholder groups were crucial to the process of successfully implementing the protocols: physicians and nurses. An endocrinologist-led educational effort was directed toward these two groups, and a full-time diabetes nurse educator was hired to facilitate the use of the protocols and assist with education efforts. In the case of physicians, frequent educational discussions were held in their outpatient private practice offices. This allowed one-on-one interaction between the physicians and the endocrinologist, who could directly answer questions relating to both content and logistics. The main content area discussed during these meetings was the appropriate use of insulin protocols, including the critical importance of using basal insulin. In addition, extensive physician-led education of nursing staff was undertaken.

Outcome Measures

The following outcome measures were evaluated (at baseline and periodically during the study period) in all hospitalized patients with a secondary diagnosis of diabetes: average blood glucose (evaluated every month), ALOS (evaluated every 3 months), and potential institutional financial savings (evaluated every 3 months). Compliance in using the preprinted protocols was measured at 3 months after the start of the intervention and periodically thereafter. In addition, the frequency of hypoglycemia (defined as a blood glucose reading <50 mg/dl) was monitored after the protocols were initiated through a review of blood glucose data and monthly incident reports.

Data Collection

Trained personnel extracted data from computer-based patient records. Blood glucose values were collected from computer-based nursing documentation records and laboratory records, and compliance was measured using pharmacy records (orders using protocols that were submitted to the pharmacy). In addition, a random sample of 60 charts taken from

selected patient groups (intensive care unit patients, patients who had undergone a transplant, and patients who had recently undergone coronary artery bypass grafting) were reviewed by physicians and nurses. Chart reviews were conducted to ensure compliance and appropriate use of protocols. Statistical significance was ascertained using the chi-square test; a p value of <.05 was considered significant.

The following study criteria were used for data collection. Any nondiabetic patient who received insulin while in the hospital but who was not diagnosed with diabetes at discharge was excluded. Medical and surgical services were defined by the assigned service at discharge. All patients whose primary cause for admission was diabetes were excluded from the study.

Data Analysis

During the study period, blood glucose values for all patients with a secondary diagnosis of diabetes were recorded and analyzed. The average blood glucose value for each year of the study period was calculated. The average blood glucose for the preimplementation year was compared to the average blood glucose for each subsequent year using a paired t test. With the use of the paired t test, the average glucose level before the protocols were implemented was compared to the average blood glucose in the final year of the study. Average blood glucose levels for surgical and medical service patients were also calculated and compared using the paired t test. The same test was used to compare the ALOS for each year and also the ALOS for patients on the medical and surgical services before and after the implementation of the protocols.

Results

During the study period (June 2002–April 2005), 100,000 patients were admitted to the healthcare system. Of these, 23,455 patients with a secondary diagnosis of diabetes admitted to the hospital were included in the observational study. The preprinted order sets accomplished a compliance rate of close to 100% for intravenous insulin protocols and 84% for the subcutaneous insulin protocol within 3 months of implementation (**Figure 3**). A high degree of compliance (>95%) was maintained throughout the observation period for both protocols. The average inpatient

blood glucose for patients with a secondary diagnosis of diabetes decreased from 196 mg/dl before the implementation of the intervention to 171 mg/dl in 2005 ($p \leq .001$) (Figure 4). The decline in blood glucose was greater among patients with diabetes on the surgical services than among those on the medical services (Figure 5).

During the study period a significant decrease in ALOS was observed for all patients with diabetes (6.2 days to 5.5 days, $p \leq .001$). During the same period the length of stay in nondiabetics decreased only from 4.7 days to 4.4 days (Figure 6). The drop in ALOS seemed to occur mostly among surgical patients with diabetes, from 6.8 days to 5.6 days (Figure 7). Although medical patients also demonstrated a decrease in ALOS (from 5.7 days to 5.5 days), it was not found to be statistically significant ($p = .09$). This decrease in ALOS was associated with an estimated annual institutional financial savings of \$840,000. This estimate is based on a management model that uses the assumption that eliminating 1 day from the ALOS saves the institution \$207 per patient (for an average decline of 0.7 days, savings amount to \$144.90 per patient). For 5,800 patients, that savings totals \$840,000. The incidence of hypoglycemia remained very low (<2%) and fairly constant (Figure 8). No serious episode of hypoglycemia (i.e., one causing

convulsions or mortality) occurred during this period.

It was also observed that the mortality rate for patients with diabetes declined from 3.01% before the study to 1.22% in 2005. During the same period the overall mortality rate remained relatively unchanged (2.36% to 2.06%). During the study period, the physician medical staff remained stable.

Discussion

This study demonstrates for the first time that a multidisciplinary intervention using insulin administration protocols can be successfully implemented in a large community hospital setting. The intervention was highly effective in an institution-wide lowering of average blood glucose, with levels approaching the desired goals set by the ACE (fasting blood glucose <110 mg/dl, and postprandial blood glucose <180 mg/dl). The intervention was also associated with a decline in ALOS among patients with diabetes. It is reasonable to conclude that there was a cause-and-effect relationship between this decline and the decline in blood glucose because no significant decline in ALOS occurred among nondiabetic patients during the same period. The decrease in ALOS among surgical patients (and among medical patients to a lesser extent) appears to be related to glycemic control. Indeed, intravenous

Figure 3. Compliance with Insulin Protocols (All Physicians)

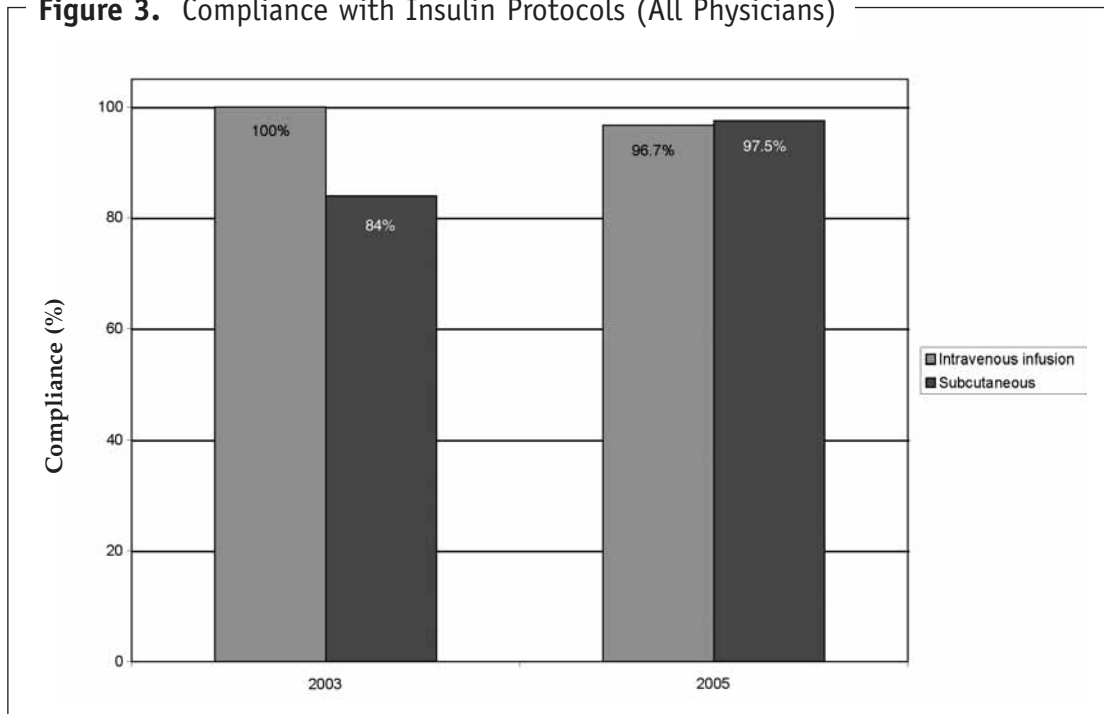


Figure 4. Glycemic Control

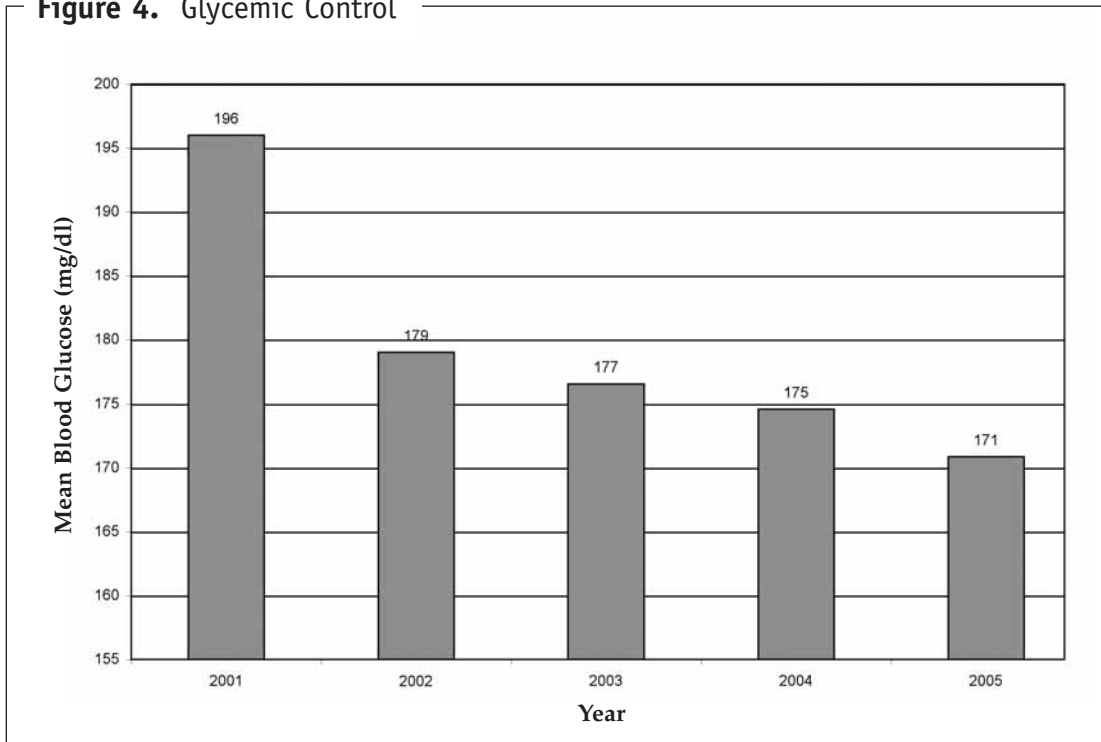
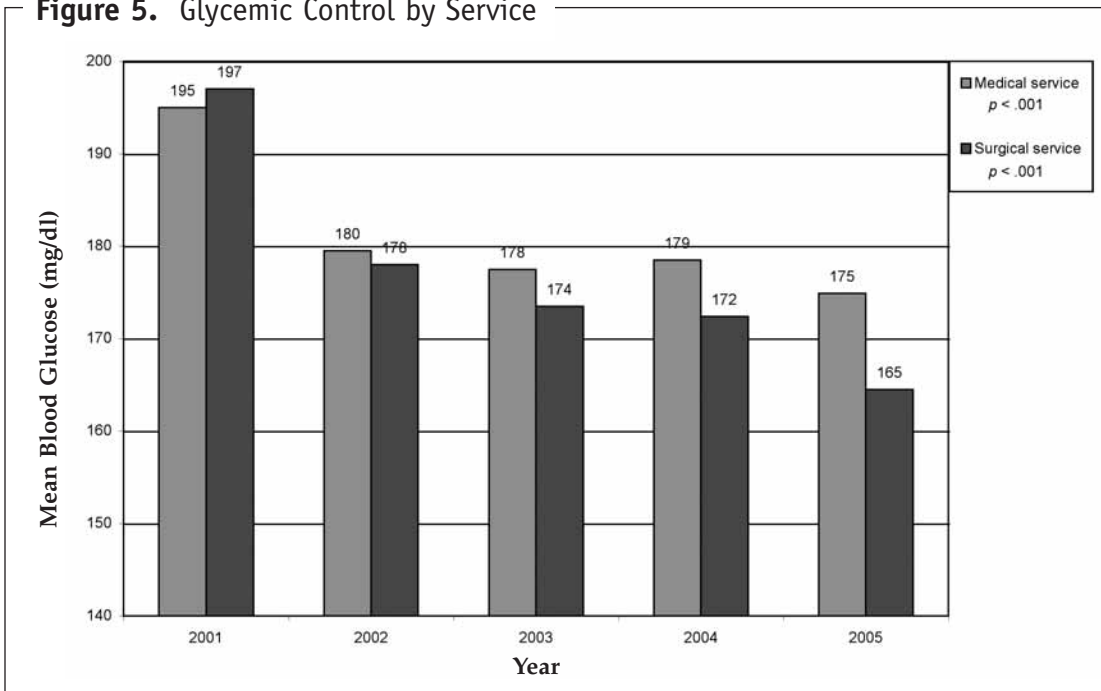


Figure 5. Glycemic Control by Service



insulin protocols were more frequently used in surgical patients, which might explain the lower blood glucose in such patients.

Previous studies have demonstrated a decrease in ALOS and a decline in blood glucose in specific hospitalized populations following the initiation of insulin protocols (Furnary et al., 2003). Other

studies have reported results from interventions that have shown regulated blood glucose levels in controlled environments, such as critical care units in academic and nonacademic settings (Krinsley, 2004; van den Berghe et al., 2001). However, this is the first study to demonstrate a hospital-wide improvement of ALOS after this

Figure 6. Overall Length of Stay

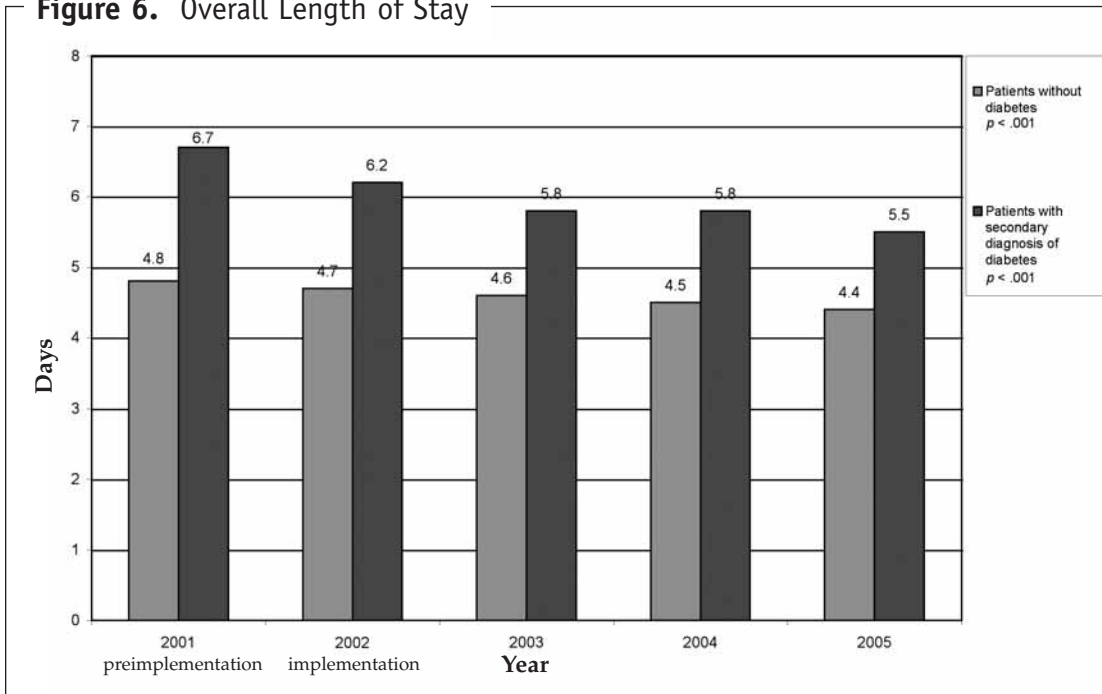
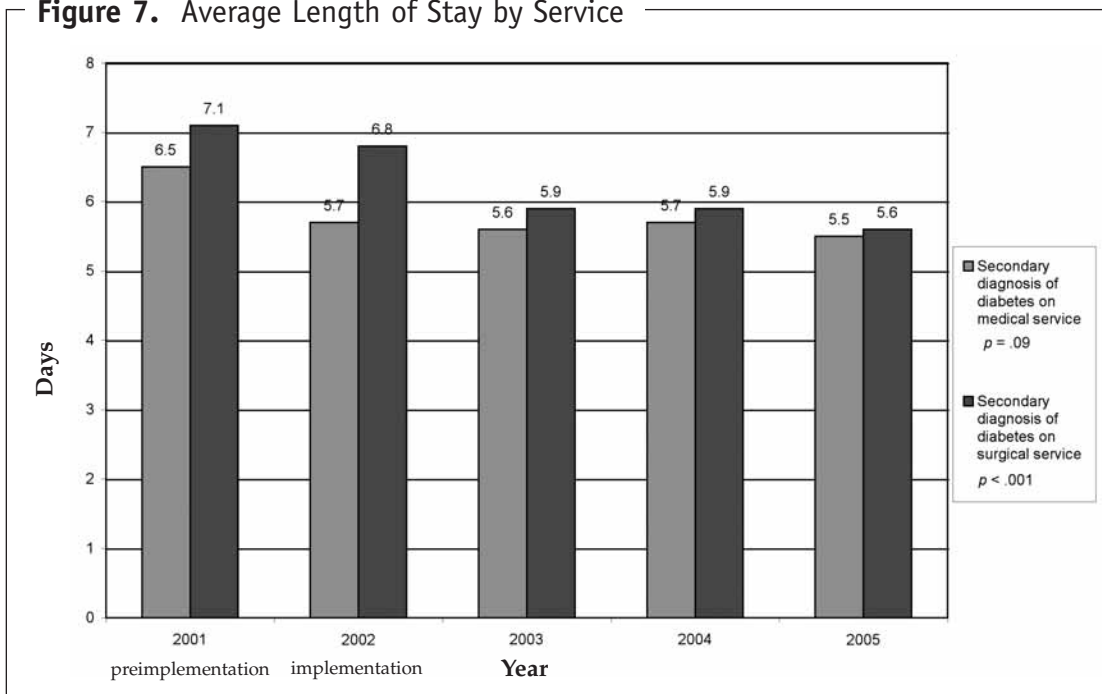


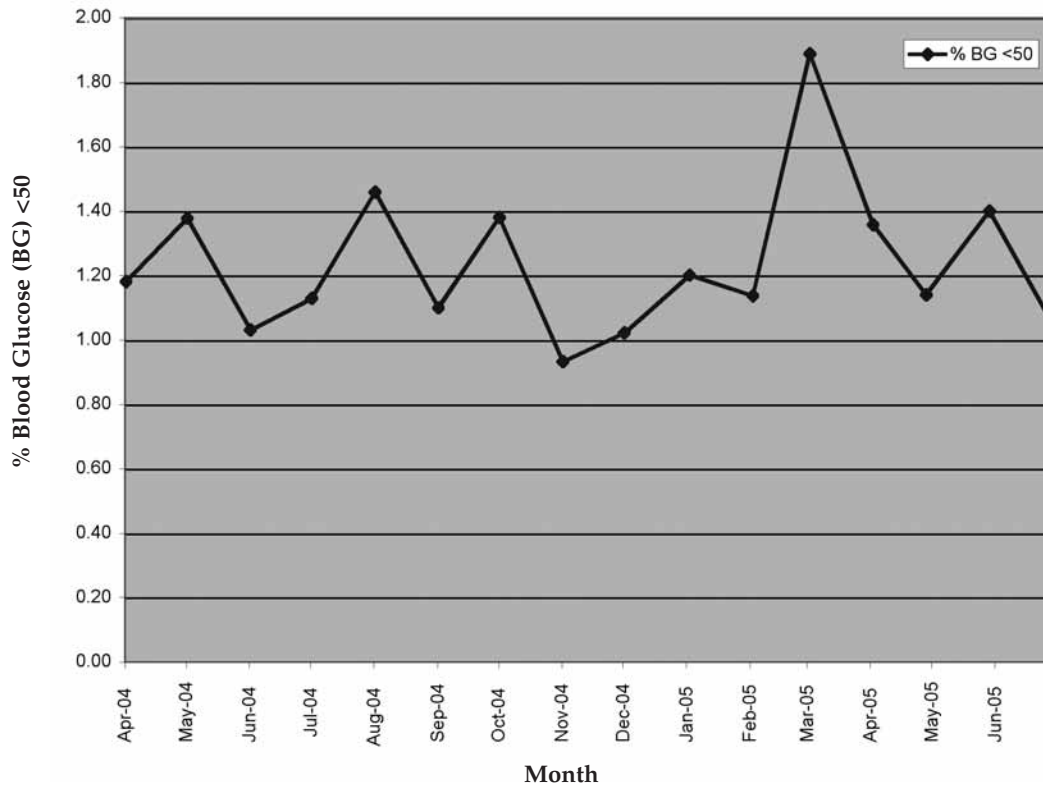
Figure 7. Average Length of Stay by Service



kind of intervention. The ability to accomplish this across a large community-based institutional setting with an open medical staff has never been previously reported. Furthermore, these protocols can be safely implemented throughout a hospital with a low incidence of hypoglycemic events.

A few key factors helped to account for a high acceptance of the multidisciplinary intervention by the medical staff.

- The protocols were user-friendly, and they increased physician efficiency and decreased the number of telephone calls made to physicians.

Figure 8. Incidence of Hypoglycemia

- The effort was led by a physician (an endocrinologist) who personally educated large groups of physicians and nursing staff members and was available to answer questions. Minor changes were made to the protocols following regular feedback from physicians and nurses.
- Physician-specific data were sent back to providers, which helped improve compliance.
- Early acceptance from a large number of nursing staff members occurred in high-profile units, such as critical care units and units caring for transplant patients.

ACE has recently published guidelines for glycemic control in hospitalized patients with diabetes, both in critical care units and other units (ACE, 2003). However, implementing these guidelines presents unique challenges in real-life clinical settings. Although the well-known Diabetes Control Clinical Trial (DCCT), published in 1993, demonstrated the benefits of tight glycemic control in ambulatory patients, almost 7 years later only 37% of ambulatory patients are able to accomplish the desirable glycemic control of a glycosylated value of <7 (Saydah, Fradkin, & Cowie, 2004). Against this

background, this study's results are particularly encouraging.

The decline in the mortality rate among patients with diabetes (without a change in the overall mortality rate) is also encouraging and will need to be studied further.

This study had several limitations. It lacked a randomized control design but rather was sequential and observational. An inherent potential limitation of this design is the possibility of additional, unknown changes occurring in practice patterns over time that may be unrelated to the studied intervention. However, the study's authors believe that this is unlikely because the ALOS did not significantly change in patients without diabetes.

The difference in glycemic control between medical and surgical patients may be related to a number of factors. The intravenous infusion protocols were more frequently used by the surgical group because a higher proportion of their patients were in critical care units. Other factors, such as the failure to increase basal insulin appropriately and the variability in timing of insulin administration, may have been responsible for the higher blood glucose levels on the medical floors. A closer look at these

areas and increased directed education efforts are being planned for these units.

In summary, the hospital-wide use of insulin administration protocols as part of a multidisciplinary intervention strategy is safe and highly effective in lowering blood glucose in hospitalized patients. This intervention also results in a decreased inpatient ALOS and substantial institutional cost savings among hospitalized patients with a secondary diagnosis of diabetes.

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q&a: Barbara Hofmaier on Quality in Publishing

Deborah M. Flores, Interviewer



q It appears that there was a natural progression from high school teaching to college teaching early in your career, but how and why did you make the transition to Yale University Press? What kind of publications were you responsible for editing?

a Through contacts made at a freelance editors' group, I was given a few freelance proofreading assignments for Yale University Press and later obtained a position in the editorial department. In my position as manuscript editor I worked on scholarly books in the humanities—mostly in history and art history. The work called for attention to detail at many levels, which I enjoyed thoroughly, and I also loved the collaboration among departments (editorial, production, and marketing) and especially the relationships with authors. It was so rewarding to be a partner with authors who cared about their writing and appreciated the contribution of a respectful editor. Back then, we edited manuscripts on hard copy and used gummed tags for queries to the author—editing is very different now, of course!

q Explain what the Park Ridge Center for the Study of Health, Faith, and Ethics is and what led you there?

a The Park Ridge Center was founded in 1985 at Lutheran General Hospital in Park Ridge, IL, by a group of creative, forward-thinking people who had observed that although religious faith was important to many patients, it was often missing from conversations in healthcare settings. The organization published the quarterly journal *Second Opinion*, which was edited for a number of years by Martin Marty, professor of church history at the University of Chicago. My family had moved to Chicago in 1985, and I was

Barbara Hofmaier, MAT, is the senior managing editor for the *Journal for Healthcare Quality*. She obtained a BA in English from Wake Forest University (Winston-Salem, NC) and an MAT (English) from the University of Vermont. She has a strong background in education, having taught English at Quinnipiac College and the University of New Haven (in Connecticut) before moving to Yale University Press, where she worked as editorial assistant, assistant to the director, and then manuscript editor. At the Park Ridge Center for Health, Faith, and Ethics (Chicago, IL), she served as associate editor of the quarterly journal *Second Opinion* and as publications coordinator. She then worked as an editor for two nonprofit organizations before moving to her current position with *JHQ*.

approached about serving as the journal's manuscript editor. I worked on *Second Opinion* for 11 years—first as manuscript editor and then as associate editor. I was also publications coordinator for several books published under the center's auspices, among them the 13-volume Health and Medicine in the Faith Traditions series, which included volumes on the Buddhist, Eastern Orthodox, Hindu, Islamic, Jewish, Protestant, and Roman Catholic traditions. This was my introduction to work in healthcare.

My greatest joy in that job was the dialogue we had with so many people in the healthcare field: physicians, nurses, allied health professionals, bioethicists, chaplains, and clergy. The cross-disciplinary conversations in the journal and in the research forums we sponsored were stimulating and challenging, and again, I had rich opportunities for relationships with our authors.

q You have a strong grasp of clinical literature, especially as it relates to quality. What previous experience gave you the skill to make this transition?

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a The skills of a good editor—and I will be working to develop those skills for a long time to come—are transferable to many enterprises. But no matter what sphere we work in, we don't have to look far to see the connections between paying attention to process and achieving gains in quality. I have always been fascinated by the inner workings of organizations: the way that change occurs, the importance of communication, and the way that attitudes toward excellence play out in different settings. Paying attention to details, striving for honesty and genuineness in relationships, resisting the temptation to become resigned to how things are—the extent to which I've been able to do these things has helped me through a number of transitions. And I have learned from watching others who model excellence.

I would also say that my work on *JHQ* has made me more aware of what a focus on evidence-based research and measurable results can bring to any endeavor. That emphasis doesn't surface so often among the humanities types that I often hang around with, but as I've read in our pages about the difference such a focus has made to patient safety and health outcomes, I've come to appreciate its importance.

q **What have been your greatest challenges in working for *JHQ*?**

a Probably the greatest challenge is producing work of high quality while exercising wise stewardship of time and resources. The journal has been cited by NAHQ members as one of their most important benefits, but we need to keep it affordable for the association.

q **Under your leadership, *JHQ* has been very successful in receiving national recognition through various publishing awards, most recently, the 2006 APEX Award for Publication Excellence and the 2005 Association Trends All Media award. Can you share with us some of the behind-the-scenes work that goes into preparing a publication for entry in those awards competitions?**

a Much of that initial work is done by our authors. We regularly receive solid articles on topics important to health-care quality professionals, so we start out with valuable content. And members of our editorial board and review panel (three to five reviewers read most of the submissions) raise both substantive and stylistic concerns. Many articles that appear in the journal have been revised and resubmitted after the authors have attended to concerns raised during the review process.

After an article has been accepted for publication, it can usually be improved further. Our copyeditors do the usual tightening, and they scrutinize the article with an eye to improving clarity and smoothness and eliminating jargon. We look closely at the supporting tables and figures, and where necessary we make suggestions for clearer presentation. Eric Trisilla, our graphic designer, redesigned *JHQ* in 2004, and it won an APEX award in the category of Most Improved Magazine or Journal in 2005. He and I work together to achieve a clean, attractive layout for each issue, and editor in chief Luc Pelletier is closely involved along the way.

We value our authors and try to give them timely, accurate information during the whole process—from their initial inquiry and submission to publication of the article in the print journal or in *JHQ* Web Exclusives. Authors comment with some regularity on how smoothly the *JHQ* publication process went, which is always gratifying for us to hear. Editorial assistant Erin Miller deserves much of the credit in that area.

q **With your own strong background in writing, what advice would you give our readers who want to publish but are not confident that they have the skills to do so?**

a If a process or an innovation has generated enthusiasm and made a difference in healthcare quality in an institution, others will benefit from hearing about it—so we definitely want people to submit those articles. Assembling convincing data to document the value of the findings is critical. If research results and statistics are important in the article, they should be vetted by a person skilled in that area. We provide thorough guidelines for authors on the NAHQ Web site

(www.nahq.org/journal/resource) and are happy to answer questions at any time in the process.

As I mentioned, *JHQ* is fortunate to have a panel of dedicated and knowledgeable reviewers. They are led by Luc Pelletier and research editor Jacqueline Byers. Authors who submit articles receive detailed comments from the reviewers. If an article shows promise but needs more work, the editor in chief may assign a mentor to help the author reshape the article. And our copyeditors are committed to bringing articles into the best possible shape before they appear in our pages. We respect the author's voice and are diligent about querying authors before making substantive changes.

So potential authors should approach the *JHQ* publication process with the knowledge that they will receive encouragement and support. (They might also consider signing up for the *JHQ* writing workshop at NAHQ's annual conference, to be held this year September 9–12 in Boston.) We seek to make *JHQ* a "professional forum that continuously advances health-care quality practice in diverse and changing environments," but to do that, we need contributions across the wide spectrum of work being done in the field.

Deborah M. Flores, EdD MBA RN, is system director for quality and resource management at Corpus Christi Medical Center, Corpus Christi, TX, and is JHQ's q&a coeditor.

Media Reviews

Lecia A. Albright, Media Editor

Handbook of Neurologic Rating Scales (2nd ed.)

Robert M. Herndon, Demos Medical Publishing, 2006, \$145, 441 pages, ISBN 1-888799-92-7

Audience: mental health clinicians, neurologists, neuroscientists

Key Words: clinical trials, neurologic rating scales, neurology, reliability, scale development

The *Handbook of Neurologic Rating Scales* (2nd ed.) provides reviews of commonly used neurologic rating scales. This book is the work of many distinguished experts in the related fields of neurologic medicine and science. In the preface, the editor expresses the hope that the book will prove helpful to people planning clinical trials as well as those seeking a better understanding of the meaning of such trials. The book's highly instructive contents should be invaluable to healthcare professionals in the field of neurologic medicine.

Clinical trials are the foundation of evidence-based medicine. Such trials require tools to measure the effects of a new medicine or procedure on a disease process. Clinical neurologic scales are tools used to measure the effects of neurologic diseases. These tools, when used in clinical trials, may contribute to improved neurologic care. The use of neurologic rating scales in evidence-based medicine to treat neurologic diseases may be indirectly related to cost savings in treatment.

The style and content of this lengthy publication are suited to an academic audience. The discussion of a scale usually includes a description, advice on its administration and

validation, and a succinct commentary that weighs the possible advantages and disadvantages of using the scale.

Chapters cover the expanding information on neurologic rating scales and explain how these scales are used in the study of pediatric neurology, amyotrophic lateral sclerosis, movement disorders, multiple sclerosis and demyelinating diseases, dementia, peripheral neuropathy, headache, ataxia, traumatic brain injury, and epilepsy.

A multitude of tables and figures are provided in the text, including tables that replicate specific scales. Extensive references are also given.

Readers should be aware that, although many neurologic rating scales have been included in the book, some have been omitted. Neurologic rating scales vary greatly in reliability, and many scales need further validation. Updating neurologic rating scales is an ongoing process, and more research is needed. As medical knowledge relevant to the construction of neurologic rating scales continues to evolve, new scales will likely be developed.

This well-written book is an important contribution to the neurologic literature and should be quite helpful to people who are designing neurologic-based clinical trials and interpreting the results of previously published trials. Mental health clinicians, including adult and pediatric neurologists and neuroscientists, will be particularly interested in this book.

Reviewed by Leo Uzycz, MPH JD, Wallingford, PA

Lecia A. Albright, CPHQ, is JHQ's media editor and the principal and owner of LARA Consulting, LLC, Spotsylvania, VA. Her e-mail address is lecia-laraconsulting@comcast.net.

Quality NETWORK

Robert J. Rosati and Daniel H. van Leeuwen, Quality NETWORK Editors

“Quality NETWORK” offers reviews of selected Web sites relevant to healthcare quality professionals. The editors welcome comments and feedback on the column as well as suggestions for future reviews. To read previous reviews that have appeared in the journal, visit www.nahqplus.org, the exclusive Web site for NAHQ members.

Health Care for All

<http://blog.hcfama.org/>

Key Words: accountability, consumer advocacy, empowerment, legislative issues, public policy issues, quality improvement and management

Health Care for All is a cutting-edge, independent, not-for-profit organization focused on healthcare quality. The Web site is easy to navigate because various categories and an extensive archive are listed in a toolbar on the home page. These categories include healthcare market, healthcare politics, and healthcare quality.

Health Care for All’s mission is to build “a movement of empowered people and organizations with the goal of creating a health care system that is responsive to the needs of all people, particularly the most vulnerable. Health Care for All is dedicated to making quality care the right of all people, and supports a health care system that is universal, comprehensive, and equitable.”

The Web site is continuously updated with new entries; sometimes several new posts are added in 1 day. Visitors to the Web site have the ability to respond with comments and information about the entries. The wide range of information provides value to consumers and healthcare professionals. The Web site also has a Web log, or blog, titled “A Healthy Blog,” where consumers can easily provide feedback to the people who direct the site. Many links lead to information pertinent to the mission of Health Care for All. I added this site to my

favorites because the site is cutting edge and will serve as a resource for me on healthcare issues.

Reviewed by Carole S. Guinane, MBA RN, a member of JHQ’s review panel and chief clinical officer for NewHope Bariatrics, Charlotte, NC

Health Care Law Blog

<http://healthcarebloglaw.blogspot.com>

Key Words: blogs, computer support, healthcare law, Internet

The Health Care Law Blog is an informative healthcare Web site created by Bob Coffield, a lawyer in West Virginia. He monitors changes to healthcare laws and provides comments on the healthcare industry, privacy, security, and technology. This easy-to-navigate site has many links to other healthcare sites such as the Centers for Medicare & Medicaid Services and to other blogs about business and tax law, healthcare in hospitals, frontline healthcare, and healthcare law. A recent entry discussed the Healthcare Blogging Summit that was held December 2006 in Washington, DC in conjunction with the Consumer Health World Expo. Other entries aimed at healthcare quality professionals discuss the Health Insurance Portability and Accountability Act, patient data, and health information technology. Healthcare quality professionals will find this site interesting and helpful.

Reviewed by Barbara Corn, MA BSN RN CPHQ, vice president of United HealthCare, St. Louis, MO, and a member of JHQ’s review panel

Running a Hospital

<http://runningahospital.blogspot.com/>

Key Words: blogs, Internet, public policy

Paul Levy, MD and CEO of Beth Israel Deaconess Medical Center, Boston, MA, created this blog to give readers a chance to share their thoughts about issues involving

QUALITY NETWORK

hospitals, medicine, and healthcare in general. Visitors will find an intriguing mix of discussions about healthcare management, clinical issues, and policy. The postings are updated frequently.

Recent discussion threads included an acknowledgment of patients' challenges and accomplishments, a wedding for a September 11 widow, and the impact of hip replacement surgery on patients. This blog is a great way to engage staff and colleagues in discussions about providing safe and high-quality care in healthcare facilities. I read this blog weekly to find inspiration and information.

Wikipedia

http://en.wikipedia.org/wiki/Main_Page

Key Word: Internet

The Wikimedia Foundation, Inc., develops and maintains open-content Web services and provides the full content of these projects to the public free of charge. *Open content* is a format that allows users to create, edit, and annotate the content on a Web page. These interactive Web sites are called wikis. This Web format led the Wikimedia Foundation to create a fascinating, dynamic, and user-driven online encyclopedia called Wikipedia.

A quick search for *healthcare quality* resulted in 960 Wikipedia entries. The Agency for Healthcare Research and Quality was at the top of the list with a 100% relevance rating. Other related entries included the Agency for Health Care Policy and Research, United States Pharmacopoeial Convention, New Hampshire for Health Care, the National Health Service Institute for Innovation and Improvement, HealthGrades, Inc., and health information management. No entry for *JHQ* appeared in Wikipedia.

The entry for *pay for performance* states that "pay for performance is an emerging movement in health insurance (initially in Britain and United States). Providers under this arrangement are rewarded for quality of healthcare services. This is a fundamental change from fee for service payment."

I find this well-traveled site intriguing and useful, and it is one of my more frequently used favorites. Anyone interested in creating an entry for *JHQ*?

The Wikimedia Foundation also manages a multilanguage dictionary and thesaurus called Wiktionary, an encyclopedia of quotations called Wikiquote, a repository of source texts in numerous languages called Wikisource, and a collection of e-book texts for students.

Reviewed by Daniel H. van Leeuwen, MPH RN CPHQ, manager in information technology at St. Peter's Hospital, Albany, NY

Help Identify and Review Sites

The *JHQ* team invites you to help identify and review healthcare-related Web sites. A review consists of the name of the site or sponsoring organization, a URL reference, key words, the intent of the site, and comments about ease of navigation, value, pertinence to healthcare quality professionals, timeliness, and cost, if any.

Please e-mail questions, sites for review, or, better yet, sites with reviews, to Quality NETwork coeditor Robert Rosati at rosati@vnsny.org.

Robert J. Rosati, PhD, is director of outcomes analysis and research at the Center for Home Care Policy and Research, Visiting Nurse Service of New York in New York, NY.

Daniel H. van Leeuwen, MPH RN CPHQ, is a manager in information technology at St. Peter's Hospital, Albany, NY.

Quality Products and Resources

Deborah A. Dowling

This *JHQ* feature provides members with interesting up-to-the-minute resources that will help them navigate through the constant flood of healthcare quality information. Brief descriptions of recently released media are provided, as well as ordering and Internet access information. New product announcements and company contact information are also provided.

Products

On-Line Lean for Healthcare Training Available

For healthcare organizations looking for Web-based training on using Lean as a performance improvement technique, the American Society for Quality provides information about a course from Creative Healthcare that can help with understanding Lean concepts. The course helps establish ways to identify and reduce waste, reduce cycle time and non-value-added activities, and develop a plan for starting organizations on a Lean journey. This self-paced 40-hour online course gives access to a comprehensive glossary, bibliographies, tools and templates for projects, healthcare case studies, and statistical analysis application.

For more information visit <https://secure.asq.org/perlearn/catalog.cgi?item=CHCLEAN>.

Resources

Protecting 5 Million Lives from Harm

Following the monumental success of the 100K Lives Campaign, the Institute for Healthcare Improvement (IHI) has launched its next audacious campaign initiative: to protect 5 million lives from harm. The goal of this 2-year program (December 2006–December 2008) is to enlist at least 4,000 U.S. hospitals in a renewed national commitment to improve patient safety faster than ever before. Along with the six previously established patient safety initiatives, six new focus areas for intervention have been identified:

- prevent harm from high-alert medications
- reduce surgical complications
- prevent pressure ulcers
- reduce methicillin-resistant staphylococcus aureus (MRSA) infection
- deliver reliable, evidence-based care for congestive heart failure to reduce readmissions
- spread the message by talking to hospital boards.

To accomplish this goal, IHI has developed comprehensive resources, including Microsoft PowerPoint presentations, summaries of frequently asked questions, an ongoing schedule of educational campaign calls, open office hours, and information about a global trigger tool for measuring adverse events. Some of the easiest resources to use are the “How-to Guides” on the individual safety initiatives. The guides provide data and background on why the initiative is important, easy-to-follow steps for implementation, data collection indicators (with definitions), and an extensive bibliography. Donald Berwick, IHI founder, and the IHI staff have developed another compelling call to action—“The Number Is 5 Million—The Time to Start Is Now!” The results of the energy and efforts of this new campaign are expected to be remarkable.

For more information, visit www.ihl.org/ihl/programs/campaign.

Medicare’s National Quality Improvement Priority Topics

The MedQIC Web site provides a comprehensive online resource of quality improvement information on Medicare’s National Quality Improvement Priority Topics for hospitals, physician offices, home healthcare, nursing homes, and pharmacies. All files posted on MedQIC for downloading are in the public domain and are provided free of charge. Necessary permissions have already been obtained for any copyrighted materials posted on the site.

The surgical care improvement resources in the hospital section of this Web site, for example, have been used successfully to launch action plans designed to help physicians, nurses, pharmacists, and healthcare quality professionals collaborate to improve the care of surgical patients. Two posters on the site, one for cat-lovers and one for dog-lovers, provide acronyms to help remember the steps to best-practice care: “CATS reduce surgical infections: Clippers, Antibiotics, Temperature, and Sugar” and “BEAGLES save lives: Beta blockers, Environmental controls—temperature, Antibiotics, Glucose, Lovenox, Embolism protection, and Skin preparation—no razor.”

For more information, visit www.medqic.org.

Leadership Summit on Quality Improvement

On September 28, 2006, the Centers for Medicare & Medicaid Services and the Oklahoma Foundation for Medical Quality (OFMQ) sponsored the summit “Moving Hospitals from Good to Great” on the impact of hospital leadership on quality improvement. Leaders in healthcare quality explored the latest research, knowledge, and strategies to create top-down culture change. Downloadable PDF files of several of the summit presentations are available on the MedQIC Web site (www.medqic.org). The presentations provide an excellent framework for leaders to continue improving the quality journey within their organizations.

For more information, visit www.medqic.org/dcs/ContentServer?cid=1093378073594&pagename=Medqic%2FListingPages%2FMainListingTemplate&parentName=Topic&level3=Presentations&resetSessionForTopic=Yes&c=MQParents.

Results from the CMS/Premier Hospital Quality Incentive Demonstration Project

The first-year results from the 3-year national pay-for-performance project being conducted by the Centers for Medicare & Medicaid Services and Premier, Inc., are outlined in the white paper “Project Overview and Findings from Year One.” This paper begins to build a persuasive case that financial and public recognition incentives are effective for improving the quality of inpatient hospital care. The first-year project results show that composite quality scores improved from the first quarter to the fourth quarter in all five clinical areas measured: community-acquired pneumonia, congestive heart failure, acute myocardial infarction, total knee and hip replacement, and coronary artery bypass graft surgery. A complete description of the project, indicators measured, risk-adjusted methodology, key findings, and potential penalties in the project are outlined.

For more information and a copy of the paper, visit www.premierinc.com/quality-safety/tools-services/p4p/hqi/index.jsp.

Deborah A. Dowling, MPH BSN CPHQ, is senior director of quality management at Randolph Hospital, Asheboro, NC. She is a member of JHQ's review panel.