Revised
FINAL PROGRESS REPORT
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TITLE: Accountability and Health Safety – A Statewide Approach

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SUMMARY STRUCTURED ABSTRACT

Purpose: Georgia Hospital Association's Partnership for Health and Accountability (PHA) was formed to improve the quality and safety of health services. Adult acute care hospitals across the state participate in voluntary and confidential event reporting, organizational self-assessments, data-driven medication error reduction, and clinical quality improvement programs. Emory University collaborated with PHA to provide the supporting research.

Scope: Over 150 PHA urban, rural, teaching and nonteaching hospitals were represented.

Methods: PHA staff provided tools and education to participating hospitals. Emory researchers recommended how to improve PHA's data gathering tools and executed seven studies to examine 1) the effectiveness of the voluntary error reporting system; 2) the cost of patient safety initiatives; 3) the culture of patient safety; 4) the extent of information technology; and 5) patient safety communication, including informing patients about harm caused by errors.

Results: All eligible acute stay hospitals participated in the program. Preliminary evidence of success is demonstrated through PHA's active awards program, public reporting initiative, and safe medication use program. Supporting research shows significant reduction in targeted medication errors and improvement in adherence to treatment guidelines.

Key Words: Patient Safety, Error Reporting, Voluntary, Medication Error, Guideline Adherence, Error Communication, Safety Culture, Patient Education, CPOE, Cost

“Overall Accountability and Health Safety Program Implementation”

Purpose:

Goal 1: Researchers and providers work together in partnership to quickly translate research into practice.
Goal 2: Bolstered effectiveness of the Accountability and Health Safety Program (AHS) leads to the continued reduction of risks and improvement in care processes and outcomes through the implementation of best practices.
Goal 3: Trained individuals utilize effective communication (verbal and written) techniques for informing patients (or their family) about safety in general and when they have been injured as a result of a medical error.
Goal 4: Reporting system success and effectiveness is assessed through an iterative formative evaluation process. See study abstracts I through III, below.

Scope:

Georgia's Partnership for Health and Accountability (PHA) is a voluntary, statewide initiative that recognizes patient safety as its top priority and describes the elements that support a culture of safety in healthcare organizations. Among these are a pervasive commitment to patient safety, open communication, a blame-free environment, and the importance of safety design in preventing future errors. Acknowledging that success in creating a culture of safety requires the commitment of both organizational leadership and frontline healthcare workers, PHA stresses the critical role of physicians and employees in the process.

PHA brings together the healthcare field with agencies and individuals to ensure quality and safety in healthy communities. PHA assists in strengthening collaboration between providers, community members, and other stakeholders by providing education and data-driven tools to facilitate improvement.

Methods: NA

Results:

Goal 1 - Key Accomplishments

1. Research team is an integral part of Accountability and Health Safety (AHS) Committee and appropriately related task force committee structure.
2. Research team, staff, and hospital representatives worked to identify successful strategies implemented by hospitals through their Safe Medication Use (SMU) improvement plans to develop SMU Best Practices for dissemination to all hospitals.
3. Safe Medication Use Dialogues have been conducted monthly on topics identified as opportunities through the SMU Self-assessment.
4. Research team provided education on health literacy, safe medication use, best practices, aging and medication safety, content analysis, etc.
5. Safety Alerts were published quarterly and focused on topics such as the morbidly obese patient, caring for the elderly, universal surgical protocols, clinical communication, health & literacy competency.
6. Monthly and “as needed” Project Team meetings have been held.

Goal 2 - Key Accomplishments:

1. Full years 2001, 2002, and 2003 data available for outcomes analysis.
2. Key evidenced-based process data available for 4th quarter 2001, full years 2002 and 2003.
3. Analysis of 12-15 months of data led to identification of 42 Top Performing hospitals that "Sustained the Gain" and nine that were "Most Improved" for process measures in acute myocardial infarction, heart failure, pneumonia, and pregnancy.
   a. Hospitals were recognized at 2004 CEO Annual Summer Meeting, published in GHA Today, and presented certificates at the September 29, 2004, "Going Beyond Sustaining the Gain" conference.
   b. Hospitals shared successful strategies related to The Joint Commission core measures, which will be summarized, published, and distributed to all members.
4. Quality/Patient Safety Index methodology is under development for public reporting. It will include measures related to The Joint Commission core measures, outcomes data, such as length of stay and readmits, and the Agency for Healthcare Research and Quality Patient Safety Indicators. The measures will be weighted and combined into one number (index) that "provides a snapshot score" of the hospital's overall quality of care. The index can be used to assess, monitor variation, and manage performance (trend) of the quality of care in the hospital. The hospital can use the index to report performance to employees, patients, and communities through bulletin boards, publications, and promotional materials.
5. Conducted CEO leadership self-assessment surveys in 2001, 2002, and 2003. Positive change was seen in most comparable questions. A score increase greater than 10% was noted in four questions.
6. Conducted middle management leadership self-assessment surveys in 2002 and 2003. Positive change was noted in most comparable questions. Four questions saw a rise in score of 20% or more.
7. Completed Safe Medication Use Surveys 2001-2004. Improvements in all areas seen for all categories.
8. Worked collaboratively to make further improvements to CEO leadership, middle management leadership, and Safe Medication Use surveys. Converted them to web-based reporting and provided web-based feedback with benchmarks by bed size, urban & rural, state, and region.
9. Created web-based medical event reporting tool in June 2002 and worked collaboratively to make further improvements to the tool in 2004.
10. Created process to appoint special topic peer review subcommittees to allow for sharing of more information.
11. Provided Certificates of Participation in the PHA program to over 150 acute care hospitals for 2002, 2003, 2004.
12. Developed individualized hospital Executive Reports that summarized and provided feedback to hospitals on all information submitted to PHA, with comparisons to state and bed size benchmarks in order to highlight successful strategies and opportunities for improvement.
13. In 2003, conducted over 220 in-person hospital visits for on-site educational and technical assistance.
14. In 2004, conducted more than 180 hospital visits at which Executive Reports were presented and reviewed with peer review contacts and hospital management team.

15. Conducted 23 regional Action Collaborative Team (ACTs) meetings from 2002-2003 to work together to improve quality and safety on issues, such as communicating patient safety techniques to patients and staff through the development of a patient safety brochure and bulletin boards, using data effectively through dashboards to monitor patient safety activities, etc.

16. Applications for the annual PHA Quality and Patient Safety Award increased 442% from 2001-2004. In 2004, five hospitals submitted multiple applications for a bed-size category. This resulted in the first and second place winner being the same hospital in one category.

17. Modified requirements related to Patient Safety Issues-Medical Events (PSI-ME) Self-Assessments (SA):

a. 2003 Medical Errors (falls, deep vein thrombosis, pressure ulcers): Hospitals selected one PSI-ME and submitted self-assessment, improvement plan, and reassessment to the improvement plan on the PSI-ME selected.
b. 2004 – Hospitals selected to participate in one of three options:
    i. 108 hospitals elected to continue to use the current self-assessment process for falls, deep vein thrombosis, or pressure ulcers
    ii. 17 selected a collaborative HFMEA focusing on patient flow
    iii. 20 opted for an Independent Hospital Patient Safety Initiative appropriate to the facility

18. The Joint Commission self-assessment conducted in 2001 and 2002 was eliminated in 2003. A crosswalk was created to link The Joint Commission Patient Safety Standards for each question in the CEO and Leadership Strategies self-assessments.

19. Georgia was selected to participate in AHRQ/VA National Patient Safety Improvement Corp in 2004. The four-member team was composed of two Office of Regulatory Services staff, one hospital, and one PHA representative. Georgia's project is focused on wrong-site surgery.

Goal 3 – Key Accomplishments:

1. Published *Insights* in 2002 and updated in 2003 and 2004. A user-friendly consumer guide promoting quality and safety in Georgia hospitals, *Insights* allows the consumer to get a broad overview of some of the initiatives undertaken by Georgia hospitals. These, in turn, have allowed Georgia hospitals to improve patient safety and the quality of healthcare delivered in the state. In 2004, *Insights* was updated to reflect increased hospital submissions and related quality and safety activities for PHA as well as participation in national initiatives, such as AHA, The Joint Commission, and CMS.
2. Coordinated Patient Safety Week public relations plan for hospitals in 2002, 2003, and 2004. Included press releases from GHA for hospital use as well as hospital bulletin boards, games, and a variety of graphic resources, including posters, bookmarks, T-shirts – a complete "tool kit" for Patient Safety Week activities. The 2004 theme was "YOU are the key to Patient Safety" and included information directed at every level of hospital care.
3. Coordinated communication and a press release on Patient Safety Day at the Capitol in 2002, 2003, and 2004. Hospitals displayed their "storyboards." Invited legislators to hear an overview by stakeholders and to talk to the hospital winners of the Quality and Patient Safety Award.
    a. Received Governor's Proclamation of Patient Safety Week each year.
    b. Received Resolution from House and Senate that recognized PHA Quality and Patient Safety Award winners for their outstanding contributions each year.
    c. Wrote press release for GHA and *GHA Today* and wrote sample press release for hospital use for each event.

4. Provided a presentation regarding the Massachusetts Top Leader opinion survey, funded by AHRQ in 2003, and coordinated observing hospitals to participate in the testing of the Westat culture of safety survey.
5. Assisted in the development, communication, and distribution of video related to disclosure and informing patients.
    a. Presented at the 2003 Annual CEO Summer Meeting on the importance of and techniques for disclosure.
    b. Coordinated hospital attorneys' review and modifications of the video during development.
    c. Posted video related to the PHA website, which has received 2,646 hits as of February 28, 2005.
    d. Posted in *AHA News Now*. Responded to requests for VHS or DVD copies of the video from over 72 entities, which included requests from 5 countries and approximately 30 states.
6. Published in the *Focus Line Newsletter* as needed (four times in 2004) on topics related to patient safety.
7. Sent weekly PHA email bulletins to keep hospital members informed of current trends in the healthcare industry as they relate to patient safety and community initiatives. These provided current information from a variety of sources.
8. Made hospital bulletin boards – these boards are shown online with all the necessary graphic files for a hospital to recreate them. Topics are divided between the public and staff. Public bulletin boards are designed to educate the public on patient safety and community outreach topics and to encourage the idea that the patient is an important member of the patient safety team. Staff bulletin boards are designed to remind the staff of important patient safety and community outreach topics that will help them to do their jobs more efficiently.

Key Words: Leadership role in safety, error reporting, medication errors, patient safety, voluntary patient safety, safety culture, health literacy.

Publications and Products:

1. *Focus Line Newsletter*: A weekly publication highlighting patient safety and community health issues; available online.
2. Weekly PHA email bulletin: Provides updates on educational programs, grants, PHA meetings, and available resources; sent via email with links to online information and resources.
3. Safety Alert Forum: Discussions held on an as needed basis (at least quarterly) on a requested topic relating to potential safety issues. Instituted as a proactive approach for hospitals to share information about issues they face. A safety alert relating to the topic is published post-forum. Health and cultural literacy was the most recent topic.
4. Patient Safety Alerts: Upon receipt of a reportable event, near miss, or by request, PHA staff work with hospitals to prepare an alert that can be placed on the PHA website.
5. Self-assessment/surveys (SAs): The SAs are an integral part of the PHA's Accountability and Health Safety Program. Various comparative peer groups' reports are provided back to hospitals to evaluate their standing with other hospitals of a similar bed size or geographic location. Due to the large number of assessments and supplication present across SAs, several have been revised and, where possible, have been converted to web-based tools.

a. CEO Leadership Strategies Self-Assessment Survey: This survey pulled together leadership strategies that grew from the experience of Boston's Dana-Farber Cancer Institute and from other leaders across America. The survey identified principles that have been associated with an exemplary patient safety program.

- Following two administrations of the survey, the survey was revised to shorten it and include questions from the AHRQ-approved Westat survey.
- The CEO Self-Assessment was reduced from 25 to 12 questions.

b. Strategies for Leadership: An Organizational Approach to Patient Safety: This survey attempts to describe the most critical organizational tactics and strategies needed to create a "culture of safety." The Malcolm Bridge National Quality Program categories were used as the framework for this assessment tool, to encourage cooperation and sharing of best practices among all segments of the healthcare community.

- After one administration, this survey was also revised to include questions from the AHRQ-approved Westat survey.
- It was also reduced from 54 to 36 questions.

c. Self-assessments for The Joint Commission's Standards in Support of Patient Safety and Medical/Health Care Error Standards in a hospital setting.

d. Safe Medication Use Best Practice Self-Assessment: This was adapted from the Institute for Safe Medication Practices (ISMP) and other national entities. It was revised in 2003 to clarify questions.

e. Safe Medication Use HCO Medication Reporting Tool for NCC MERP Severity Index A-F Medication Errors

- Improvement Plan Documentation Form
- Reassessment of Improvement Plan Documentation Form
- A web-based tool has been developed for the Reassessment Improvement Plan.

f. Falls Self-Assessment:

- Improvement Plan Documentation Form
- Reassessment of Improvement Plan Documentation Form
- A web-based tool has been developed for the Reassessment Improvement Plan.
- This self-assessment was developed using evidence-based protocols. Enables the user to evaluate the organization's falls prevention program, develop an improvement plan, and evaluate actions completed. This promotes a nonpunitive approach to medical error reporting.

h. Deep Vein Thrombosis Self-Assessment:

- Improvement Plan Documentation Form
- Reassessment of Improvement Plan Documentation Form
- A web-based tool has been developed for the Reassessment Improvement Plan.
- This self-assessment was developed using evidence-based protocols. Enables the user to evaluate the organization's care and treatment of deep vein thrombosis, develop an improvement plan, and evaluate actions completed. This promotes a nonpunitive approach to medical error reporting.

i. Hospital Acquired Pressure Ulcers Self-Assessment:

- Improvement Plan Documentation Form
- Reassessment of Improvement Plan Documentation Form
- A web-based tool has been developed for the Reassessment Improvement Plan.

- This self-assessment was developed using evidence-based protocols. Enables the user to evaluate the organization's methods of promoting skin integrity as well as care and treatment of pressure ulcers, develop an improvement plan, and evaluate actions completed. This promotes a nonpunitive approach to medical error reporting.

6. Reportable Events: The web-based tool was developed for the anonymous submission and collection of sentinel and other event data. The tool includes terminology of error reporting and classification schemes/models recommended in the October 2002 AHRQ Health System Reporting meeting.

Goal 4 – See Study abstracts I through III, below.

DEMONSTRATION PROJECT EVALUATION: INTRODUCTION

As described in pp 124-135 of the original grant application and confirmed in the letter submitted by Kenneth Thorpe on September 17, 2002, demonstration project evaluation activities fall into three general categories: evaluation of the effectiveness of the voluntary error reporting system; informing patients about harm caused by errors; and cost evaluation. Seven studies/projects were designed to accomplish these aims, and an eighth study was added during the course of the project. A final progress report/structured abstract for each of these eight projects follows.

STRUCTURED ABSTRACTS

I

EVALUATION OF THE EFFECTIVENESS OF A VOLUNTARY ERROR REPORTING SYSTEM

I.A "Efficacy of Voluntary Error Reporting on Self-Reported Medication Errors and Sentinel Events"

Purpose: This study evaluated hospital participation in the safe medication use improvement process, evidence of error reductions, and effectiveness of the program across different types of hospitals.

Scope: During 3 years of the study, 2001-2003, over 150 different member hospitals of the Partnership for Health and Accountability (PHA) have participated in the improvement and reassessment process. Urban, rural, teaching and nonteaching hospitals were well-represented.

Methods: Participating hospitals performed a self-assessment, developed an improvement plan to address a specific type of medication error, and then reassessed their results after 9 months of implementation. This study reviewed participating hospital surveys from 2001-2003.

Results: Hospital participation rates were high (over 90% of eligible hospitals) in each year. Dose omission was the most common error type addressed by participating hospitals. Human factors, frequent interruptions, and communication issues were

identified as the most common contributors to errors. Most hospitals relied upon incident reports to identify errors; however, a small but growing number of hospitals are using automated or computer generated reports. The majority of participating hospitals in the last two cycles achieved a reduction in the targeted medication error. The mean error reduction was 28% in 2002 and 34% in 2003. Improvement was seen across all hospital demographics, with no statistically significant differences between urban, rural, large, small, or academic hospitals. Overall, participation in the statewide patient safety program was the only significant predictor of the magnitude of error reduction.

There was high hospital participation in this voluntary program, and most hospitals saw significant reductions in targeted errors. Hospital willingness to share negative results and to continue participating in the voluntary program are strong validations of the nonpunitive environment. This program was effective across a diverse mix of hospitals, including small and rural hospitals, and it should be considered in other states.

Key Words: error reporting, medication errors, patient safety, voluntary

Publications:

Fall	2003/4	Presentation at GHA State Patient Safety Conference
Spring	2004	GHA SMU Telnet Presentation
Fall	2004	Presentation at AHRQ National Meeting
Spring	2005	Presentation to GA state legislators

Rask KJ, Naylor D, Schuessler L. *Advances in Patient Safety: From Research to Implementation.* Voluntary Hospital Coalitions to Promote Patient Safety. In Press

Rask KJ, Naylor D, Schuessler L. A Voluntary Error-Reporting System at Work: The Georgia Experience. Under Review

Rask KJ, Hawley JH, Davis AG, Naylor D, Thorpe KE. Can a statewide hospital initiative reduce medication errors? Under Review

I.B. "Effect of Voluntary Clinical Data Sharing on Patient Outcomes"

Purpose: This study examined trends in adherence to treatment guidelines for AMI, heart failure, and pneumonia, and assessed the association of these trends with hospital characteristics and with hospitals' intensity of participation in PHA activities.

Scope: Georgia hospitals that participated in nine process-of-care measures during 4Q2001 through 4Q2003 were included. Adherence data consisted of CQIP and Core Measure results, as reported to The Joint Commission. Quarterly adherence scores were calculated for each hospital and measure. Hospital characteristics included bed size, teaching status, and urban/rural location. Intensity of participation scores were based on each hospital's participation in a range of PHA patient safety activities.

Methods: Repeated measures analysis was conducted to assess presence of a linear trend. Additional repeated measures analyses examined trends stratified by hospital characteristic and intensity of participation.

Results: A significant and clinically important linear trend in mean adherence rate was observed for HF-1 (written discharge instructions), HF-2 (LVF assessment), and PN-2 (pneumococcal screening/vaccination). Improvement for these measures occurred across all hospital characteristics, though improvement was greater for larger hospitals for HF-1 and for smaller hospitals for HF-2. Adherence was significantly better for HF-1 and HF-2 among hospitals with higher intensity of participation scores. No trend was found for four other measures, a clinically insignificant trend was found for a fifth, and a sixth measure was eliminated from further analysis because a key element of the inclusion criteria for the measure is changing.

Key Words: Patient safety, adherence to guidelines

Publications/Products:
Green D, Kohler S, McGowan K, Ren J, Rask K. Effect of voluntary clinical data sharing on quality of care. In preparation 2005.

Green D, Kohler S, McGowan K, Schild L, Rask K. Does participation in a voluntary patient safety program improve patient outcomes? In analysis 2005.

I.C. “Assessing Cultures of Safety in Different Hospital Work Groups”

Purpose: This study assessed employees' views of the patient safety culture for their hospital and department to compare overall differences in employee attitudes between hospitals and between departments, across hospitals and within hospitals. We also compared employees' views with leaderships' perceptions of patient safety in their hospital.

Scope: Using the Hospital Survey on Patient Safety, developed by Westat, the study examined employee safety culture in 10 diverse hospitals in Georgia. The departments surveyed were general medicine, general surgery, intensive care/critical care, and ancillary services. The survey measured two patient safety outcome dimensions and 10 culture dimensions.

Methods: Hospitals were selected through purposive sampling from the hospitals participating in the PHA. The survey was mailed to the homes of 300-400 employees from five small and five large hospitals. Results of the CEO Leadership Survey for the hospitals were obtained from PHA.

Results: Response rates ranged from 23-35%; 62% were nurses, 90% female, and 88% were involved in direct patient care. Comparison of employees' views with leaderships' perceptions revealed that hospital leaders perceived a more positive patient safety culture than did employee respondents. Results by hospital unit showed significant differences in at least two survey items for both outcome dimensions and eight culture dimensions. Employees in general surgery and ancillary services scored their unit’s safety culture as “higher” than employees in general medicine and ICU.

Key Words: Safety culture, patient safety

List of publications and products:
PHA Telnet presentation:
http://www.gha.org/pha/meetings/telnets/AHRQ_PSMarchConference.ppt

An Annotated Bibliography of Interventions to Improve Safety Culture
http://www.gha.org/pha

Scott T, Schuessler L, Friedman E, Naylor D, Walczak S. Assessing safety culture among different hospital units: evidence from a sample of Georgia hospitals. In preparation 2005.

Scott T, Schuessler L, Naylor D, Walczak S. The link between safety culture and patient outcomes in 10 Georgia hospitals. In analysis 2005.

I.D. "Making Recommendations and Improvements to Existing and New Data Gathering Tools"

Purpose: This series of collaborative, consultative processes included an evaluation of each program tool in an effort to enhance the voluntary error reporting system's ability to capture valid and useful information for the purpose of reducing medical errors. Evaluations took place between November of 2002 and January of 2005.

Scope: Participants included the Partnership for Health and Accountability, Medical College of Georgia, and Emory. The following tools were evaluated:

- The Joint Commission, Strategies for Leadership, and CEO Surveys
- Safe Medication Use Survey, and Safe Medication Use Improvement Plans and Reassessment Forms
- Sentinel Events Reporting Tool
- Falls Assessment Survey
- Pressure Ulcer Self-Assessment
- Diabetes Survey
- DVT Policy and Procedure Survey
- Failure Mode Effects Analysis

Methods: Evaluators met via conference call and in person. Recommendations for combining, eliminating, or rewording each tool were made to the PHA administrators, who sought input and agreement from the hospital users before implementation.

Results: Strategies for Leadership and CEO Surveys were combined and shortened. The Safe Medication Use Improvement Plan Survey and Reassessment Forms were reworded. Edits and/or new questions were recommended for the Sentinel Events Reporting Tool, Falls Assessment Survey, Pressure Ulcer Self-Assessment, Diabetes Survey, and DVT Policy and Procedure Survey. Criteria for a collaborative Failure Mode Effects Analysis were revised. As a result of these changes, time required by hospital staff to use the tools was reduced and data analysis capability was enhanced.

Key Words: Error Reporting, Patient Safety

Publications and Products:
See products listed under "Overall Accountability and Health Safety Program Implementation"

II

INFORMING PATIENTS ABOUT HARM CAUSED BY ERRORS

II.A. "Disclosure of Medical Error – Research and Dissemination"

Purpose: This project sought to produce various written and audio/video materials that would be helpful to healthcare professionals faced with the responsibility of communicating unanticipated outcomes and harm-causing error.

Scope: The scope of the project focused on collecting professional reactions to error commission with a view to how these reactions might inform and affect the communication between a healthcare professional and a patient who was harmed by error.

Methods: The project collected information on and beliefs about the disclosure of medical error by conducting an ongoing literature review on error occurrence, empathy, breaking bad news, medical malpractice, reported psychological reactions to medical error, and organizational policies on error disclosure practices and policies. The investigator also had the opportunity to discuss the management of medical error communication with many patient safety representatives in hospital settings.

A primary educational deliverable, in the form of an audio/videotape on error disclosure, was vetted for its content, accessibility, and informational relevance by various groups affiliated with the Georgia Hospital Association.

Results: The principal finding of the project consisted of its detecting wide and occasionally hostile divergences of professional opinion (e.g., ethical, legal, regulatory, and malpractice carriers) on the nature and amount of information that should be disclosed to an individual harmed by error. However, a lively, patient-centered movement was also detected that not only emphasized the professional's moral obligation to disclose error but also noted certain cost-savings (largely accruing from rapid, out-of-court settlements) that result from error acknowledgment and apology.

In addition to a number of professional publications, a two-part video was produced and made available online (at http://ethics.emory.edu/media/error.htm). Part one of the video offered an expert panel analysis of error disclosure scenarios, and part two illustrated empathic communication techniques. This instructional tape was publicized by various organizations and ultimately viewed throughout the world. The author also published a book that appeared in February 2005, entitled *Medical Errors and Medical Narcissism* (Jones and Bartlett).

Key Words: medical error, empathy, narcissism, communication

Publications/Products:

Banja J. Disclosure of medical error: the need for moral courage. *Midwest Bioethics Forum* 2001; 7(2):7-11.

Banja J. Disclosing medical error: How much to tell? *Journal of Healthcare Risk Management* 2003; 23(1):11-14.

Banja J. 2003. Why, What and How Ought Harmed Parties Be Told? The Art, Mechanics and Ambiguities of Error Disclosure. In Hatlie M and Youngberg B. *The Patient Safety Handbook*. Sudbury, MA: Jones and Bartlett, 2003, pp. 531-548.

Banja J. Doing the right thing: Disclosing medical errors. *Momentum* 2003; 6(2):22-23.

Banja J. Persisting problems in disclosing medical error. *Harvard Health Policy Review* 2004; 5(1):15-21.

Banja J. *Medical Errors and Medical Narcissism*. Jones and Bartlett Publishers, Sudbury, MA. 2005.

Banja J. (Accepted) Disclosing Harm-Causing Medical Error as a Violation of the Cooperation Clause in Medical Malpractice Insurance Policies. *Advances in Patient Safety: From Research to Implementation.*

Instructional Video, "Discussing Unanticipated Outcomes and Disclosing Medical Errors" http://ethics.emory.edu/media/error.htm

II.B "Assessment and Development of a Patient Safety Health Communication Plan for the Prevention and Disclosure of Error"

Purpose: To determine patients' preferences for patient safety educational materials and to use these data to develop a patient safety education tool kit for hospital use.

Scope: The importance of the patient perspective is a critical component in the development of appropriate patient education materials, yet it has received little attention.

Methods: Acute care hospitals (n=16) were selected based on urban/rural location, bed size, and ownership. Hospitals provided names of adult patients recently discharged. Consenting patients were interviewed regarding patient safety, preferences for educational materials, and health literacy (HL).

Results: The study population (n=96) was 79% male, half White, half Black, and half ≥ age 50. Twenty-six percent had inadequate/marginal HL (IHL). Independent of age and HL, written materials and personal interactions were significantly preferred as sources of health information. The web was not a useful source. Beginning at age 35, <50% found the web "useful." Of those with adequate HL, 47% never used the web for health information. Among patients with IHL, only 36% "always/most of the time" asked for help in reading health information materials. These data demonstrate a need for easy-to-read printed materials on patient safety.

Key Words: patient safety, patient education, health literacy

Publications: Jacobson KJ, Green DC, He D. Patient Safety: Knowledge, Attitudes, and Behaviors of Recently Discharged Patients. In preparation 2005.

Products: Patient Safety Tool Kit: A manual, *Developing Effective Patient Education Brochures: A Guide for Improving Health Communications in the Hospital Setting,* and 5 patient safety educational brochures.

III

COST EVALUATION

III.A. "CPOE and the IT Infrastructure of Georgia Hospitals"

Purpose: The primary purpose of this research project was to collect information on the current status of the information technology (IT) infrastructure in Georgia hospitals, including the availability of computerized physician order entry (CPOE) systems. CPOE systems have been shown to significantly reduce medication errors in hospitals, but little is known about the cost of implementing and operating CPOE systems.

Scope: A Hospital IT Infrastructure Survey developed, validated by Guy Par'e and Cluade Sicotte, was used to measure the IT infrastructure of Georgia hospitals. The survey asked a series of questions designed to evaluate a hospital's IT sophistication on three dimensions: functional activities computerized, technological devices available, and the extent of internal and external IT integration among acute care hospitals. The survey also obtained information concerning Georgia hospitals' plans for implementing a CPOE system. The study also sought to identify the major cost components of implementing and operating a CPOE system and how they vary by hospital bed size.

Methods: The study population was all community acute care hospitals that were members of the Georgia Hospital Association (GHA). The survey was mailed to the Chief Operating Officer of 130 acute care hospitals in Georgia on August 1, 2003. A total of 71 hospitals returned completed surveys by November 1, 2003. Survey respondents were similar to the bed size distribution and the geographic (urban vs. rural) distribution of all Georgia acute care hospitals.

Results: The results of the IT survey suggest a moderate overall level of IT sophistication for Georgia hospitals. The typical Georgia community hospital had approximately 64% of the 56 functional activities computerized, 55% of the 41 technological devices available, and 67% of the integration capabilities available in some proportion of the hospital. There was substantial variation in the IT sophistication by the size and geographic location of community hospitals. In general, urban hospitals and the largest hospitals had higher IT sophistication than rural hospitals or the smallest hospitals for nearly all IT infrastructure activities. As of December 2003, less than 5% of all acute care hospitals in Georgia had a CPOE system that was operational. However, approximately 30% of the hospitals responding indicated that they expected to begin implementing a CPOE system by the end of 2005.

Key Words: IT infrastructure, technological devices, CPOE, Community Hospitals

Publications/Products:

Culler S, Atherly A, Walczak S, Hawley J, Rask KJ, Naylor D, Thorpe K. A comparison of urban rural differences in hospital IT infrastructure: results from a state wide survey of Georgia. Under review at the *Journal of Rural Health.*

Culler S, Atherly A, Walczak S, Hawley J, Rask KJ, Naylor D, Thorpe K. The Relationship Between a Hospital's IT Infrastructure and Plans for Computerized Physician Order Entry Systems. In preparation 2005.

Culler S, Atherly A, Walczak S, Hawley J, Rask KJ, Naylor D, Thorpe K. The major cost components of implementing and operating a CPOE system: How do they vary by hospital bedsize. In preparation 2005.

III.B. "Patient Safety Cost"

Purpose: This study measured hospital resources devoted to patient safety activities. The primary purpose was to collect information on the cost of current patient safety initiatives for all hospitals in Georgia. Next, compare the cost of the various patient safety initiatives to estimates of the effects they have on improving patient safety. This will allow us to inform state and federal decision-makers which initiatives provided the most "bang for their buck" in terms of improved patient safety.

Scope: In consultation with the Georgia Hospital Association, we developed a telephone survey to measure the cost of patient safety initiatives. The survey asked each hospital to identify the three patient safety activities where their organization devoted the greatest resources and then to provide all infrastructure, personnel, computer, and other costs associated with each of the activities.

Methods: A letter was sent to all GHA hospitals in the state asking them to identify the person in the organization most able to respond to the survey. These individuals were then contacted via email and a date was established for an in-depth interview. Hospitals were selected to represent all regions and hospital sizes to provide an overview of the cost of patient safety initiatives for hospitals in different circumstances.

Results: In total**,** 13 in-depth interviews were completed. Patient safety activities were characterized by type of activity, whether it was required by a state or other regulatory activity, and the time since the initiation of the program. Costs were categorized by personnel, equipment, infrastructure, training, and other.

Key Words: Patient safety, cost

Publications/Products: Atherly, A., Culler, S., Walczak, S., Davis, A., Hawley, J., Rask, K., Naylor, V. and Thorpe, K. The Cost of Patient Safety Interventions in a Survey of Georgia Hospitals. In preparation 2005.