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From *Good Intentions to Good Actions:* A Patient Safety Manual for Rural Healthcare Settings

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FROM
GOOD INTENTIONS
TO
GOOD ACTIONS:

A PATIENT SAFETY
MANUAL
FOR
RURAL HEALTHCARE
SETTINGS

By

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Patient Safety in Rural Settings

From Good Intentions To Good Actions:

A Patient Safety Manual for

Rural Healthcare Settings

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Patient Safety in Rural Settings

Preface

T he materials offered in this patient safety manual draw on information from a robust database consisting of qualitative and quantitative data gathered over the past nine years. These data come from a 4-year patient safety study conducted in rural hospitals in a 9-state area as well as a series of additional healthcare studies that focused on ethics and decision-making in rural settings.

"We don't talk enough. But, it is so good to talk to someone who gets it." ~ Physician.

The materials we offer have been shaped by the insights and suggestions of healthcare professionals who participated in our various studies. Over the years, these providers have echoed a common theme. They want access to resources that are designed for rural settings rather than adapted from urban healthcare systems for use in rural areas. They have specifically asked for resources that are practical, succinct, and easy to disseminate.

When we began this rural patient study, we offered the participants a variety of nationally-produced traditional resources including journal articles, books, videos, and internet resources that focused on patient safety. Although the healthcare providers expressed appreciation for these efforts, none of the resources were widely used. We often heard the phrase, "it all looks interesting, and I'd like to have time to use them, and they really do look helpful. But we really just don't have time."
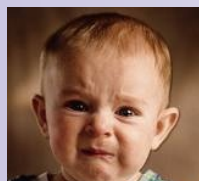
To some extent the resources we offered did not seem to fit the rural context. We were working with generalists who wear many hats and have very limited time. We were working with healthcare settings where educational opportunities, especially interdisciplinary activities, are very limited.

Preface (continued)

Thus we have tried to develop a resource that fits the rural context. The first chapter discusses the national patient safety movement. In succeeding chapters we discuss definitions of errors and lessons learned from our multi-method patient safety study. We then discuss approaches that might help achieve the delivery of safer care. The final chapter contains resources that can be used by rural healthcare providers in order to support system-wide patient safety efforts.

"It usually goes well, but I am not sure that everyone is willing to change their behaviors."
~ Pharmacist

The exercises and tools in the final chapter are designed to promote "skillful discussion." Such a discussion uses inquiry and collaborative reflection as means for coming to agreement and making decisions. We hope this approach will help healthcare providers think together and use awareness of their differences to increase their collective wisdom to promote patient safety. True dialogue achieves the following:

➤ The participants feel that they can be honest and truthful;
➤ The participants listen to others and feel that others are listening to them;
➤ All opinions and ideas are given the same space and respect;
➤ Participants broaden their perspectives and awareness.

The renowned quantum mechanical physicist, David Bohm, offers an interesting way to think about this kind of dialogue or skillful discussion. He suggests that the original meaning of dialogue was "meaning passing or moving through . . . a free flow of meaning between people in the sense of a stream that flows between two banks."

Preface (continued)

> " I don't know if we ignore the errors, or if we think that something is not important and so don't do it. Until someone comes to review, and we think: 'Oh, my.'"
> ~ Nurse

Our findings clearly underscore the need for dialogue in order to provide quality healthcare. Many of our medical errors and problems arise from a lack of dialogue, awareness, and understanding. The communication theorist, William Isaacs, says that dialogue creates the opportunity for coherent, collective thought instead of fragmentation. It offers a way to step back and consciously notice how we are thinking and feeling. With this awareness, we can begin asking questions about the deep sources of our thoughts and feelings. Such questions could include:

➢ What are our deeply held beliefs?
➢ What are the assumptions from which we're operating?
➢ What are our mental models of what's going on and being considered, and where did those models come from?
➢ What images and metaphors pervade our language?
➢ What is happening inside us as well as in the team or group?
➢ Are we even looking at the same data?
➢ Are we thinking in the moment or from memory or projection?
➢ What is the quality of our listening -- to ourselves and to each other?
➢ What is the collective field and meaning we are creating together?

Throughout the manual you will see, in the margins, comments and perspectives offered by the healthcare providers who participated in this effort. We hope that these comments will spur dialogue and help identify areas where improvements can be made in your healthcare setting.

Preface (continued)

> *"We realized we were only human and not able to practice medicine without making any errors."*
> *~ Physician*

The patient safety study described in this manual was supported by grant number R01- HS11930 from the Agency for Healthcare Research and Quality (AHRQ). Some of the materials also reflect lessons learned from studies that were supported by the Greenwall Foundation and the Charles E. Culpeper Foundation, a division of the Rockefeller Brothers Fund.
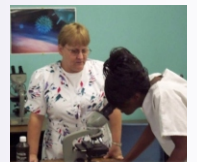
We hope you will find this manual useful and invite you to share your responses and your suggestions with us. All of the materials are free of charge and can be copied and disseminated without permission. They are available on a CD as well as online via our website: http://www.umt.edu/bioethics.

We express our appreciation to AHRQ for providing the funds to conduct this patient safety study. We also express our deep appreciation to all of the healthcare providers who have shared their ideas and their stories with such candor and commitment. This effort would not have been possible without such unwavering support, commitment, honesty, and enthusiasm.

Ways to Use This Manual

➢ Create an inter-disciplinary study group to study the findings and discuss implications for your hospital;
➢ Share the manual with relevant committees such as Quality Control, P&T, Infection Control, etc;
➢ Use the quotes in the margins as topics for staff discussion;
➢ Leave copies of the case studies in accessible places such as nursing station and staff and physician lounges;
➢ Offer a CME/CEU evening meeting during which cases are discussed;
➢ Conduct a Readers Theater presentation using the script that is provided;
➢ E-mail copies of case studies to staff so as to initiate a virtual discussion;
➢ As you educate staff, also consider ways to educate the public so that risk and strategies to reduce risk are better understood;.
➢ Explore ways that the resources and tools in Chapter 6 can be used for quality improvement activities.

Patient Safety in Rural Settings

Table of Contents

> "*I joined this project because it had the word 'rural' in the title.*"
> *~ Nurse*

Patient Safety in Rural Settings

The Patient Safety Movement

Every healthcare provider strives to provide safe care. After all, the goal of medicine has traditionally been to respond to need, to rescue those in peril, and to reduce and relieve suffering. This goal, however, may not be easy to achieve. Indeed a report by the Institute of Medicine (IOM), entitled *To Err is Human*, ranks medical errors somewhere between the fifth and eighth leading cause of death in the United States. The report noted that more people die as a result of medical errors or mistakes than die from motor vehicle accidents, breast cancer, or AIDs. Errors are costly. The annual costs of adverse events are estimated to range between $37.6 billion and $50 billion. Medication-related errors are estimated to add $4,700 per admission.

"More people die as a result of medical errors or mistakes than die from motor vehicle accidents, breast cancer or AIDs."
~ IOM

When issuing the report in 1999, the IOM called for a 50% reduction in errors within five years. In order to achieve that goal, the report discussed the importance of designing systems that "make it hard for people to do the wrong thing and easy for people to do the right thing." The report contains recommendations for a government sponsored patient safety center, mandatory reporting systems for deaths and serious injuries, voluntary reporting of less serious injuries and close calls, and the transparent disclosure and analysis of error. The goal, according to the IOM report, is a "no shame/no blame environment" and the development of a culture of safety.

When describing the need for increased safety, many media reports make "safer healthcare" sound like a straightforward and manageable endeavor. It seems that we can achieve a safer environment if errors are consistently acknowledged, reported, resolved, and disclosed. This proactive approach helps create a culture of safety in which both healthcare providers and patients play active roles.
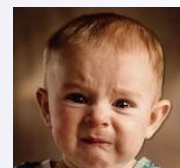
The Patient Safety Movement (continued)

Without doubt, progress on achieving patient safety has been made since the IOM report was first issued. Certainly, healthcare providers are more cognizant of errors and their repercussions for b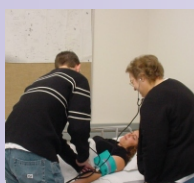oth patients and providers. There is growing recognition that the status quo is not acceptable. And there is growing recognition that safety is an important first step in improving the quality of care.

"Our healthcare providers do not recognize them as errors, they see them more as just something that happened - unpreventable"
~ Nurse

However, the IOM goal of reducing errors by 50% within five years has proven elusive. Although some patient safety advocates have called for mandatory reporting systems, others note that such systems tend to focus attention on a few, limited types of errors. Thus errors that we have not been prompted to recognize are consistently overlooked. Some patient safety advocates have encouraged the adoption of technologies, such as computerized physician order entry systems, electronic medical records, and bar coding. While these approaches may prove helpful, others warn that technological solutions may themselves create new problems. In short, the last five years have taught us that patient safety issues are complex and need a multitude of approaches and sustained interventions.

In the subsequent chapters we explore the lessons learned from a four year rural patient safety initiative supported by the Agency for Healthcare Research and Quality (AHRQ). The findings from this project, conducted among 30 rural hospitals in a multi-state area, help us understand some of the barriers that hinder the provision of safe care. This manual also provides a case-based curriculum that was rated, by participating rural healthcare providers, as practical and responsive to their needs and concerns.

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Rosenthal, M.M. & Sutcliffe, K.M. (ed). (2002). *Medical Error: What do we know? What do we do?* San Francisco, CA: Jossey-Bass.

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"I think you are focusing on the right issues. The commitment is the difficult part. With your help maybe we can do it together."
~ Nurse

Patient Safety in Rural Settings

What is an error?

O ur research has proven that it is quite difficult to define "error" in a way that is acceptable to all stakeholders. Indeed, what may be viewed as an error by one healthcare provider may be characterized as a sub-optimal event, practice variance, or even clinical judgment by another. At times the designation of an event as an "error" is dependent on the outcome - whether harm occurred or was avoided. As one healthcare provider explained: "errors may be more difficult to recognize *unless* the patient has an adverse reaction/event from the error. Without a reaction, healthcare providers just categorize various incidents as "complications."

"Things always look different from different perspectives. The 'view' also depends on how close you are to the error."
~ CEO

Even when there appears to be agreement about definitions, there may *not* be agreement about how to solve or disclose the errors. This profound lack of agreement among healthcare providers was exemplified in one of our surveys when we presented two scenarios and asked healthcare providers to respond to three questions:

(1)   Did an error occur?

(2)   Would you report it?

(3)   Would you tell the patient about it?

The first scenario depicted a case where a physician ordered 10 units of insulin for a diabetic patient; the nurse interpreted the order as 20 units. An overwhelming majority of our respondents indicated that an error had occurred (98%) and they would report it (96%). However, only 64% of the respondents would tell the patient about this error.

In the second scenario, an 83-year old male was diagnosed with atrial fibrillation and was admitted to the hospital for evaluation. His heart rate was controlled, he was started on Heparin and Coumadin, and when his INR reached a value of 2.5, he was discharged on a Coumadin dose of 5 mg/day. No follow-up lab tests were done or ordered before the patient's scheduled visit to the clinic in 3 weeks. He came to ER one day before the scheduled visit with an INR of 14.7 and pain from an expanding spontaneous hematoma of his thigh.

What is an error? (continued)

When healthcare providers responded to this second scenario, they showed less agreement. Only 68% of our respondents indicated that they believe an error has occurred; 75% would report it, and slightly more than half of them (54%) would tell the patient about it.

"You see it in the medical staff peer review all the time -- it's just a variation in care, not an error. There seems to always be justification." ~ Nurse
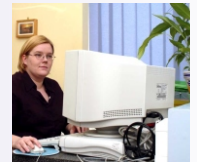
The responses to these vignettes show why it is so important to achieve a shared understanding of what constitutes an error. Scholars and patient safety organizations have developed definitions of a medical error, an adverse event, and a near miss. Below are some commonly suggested definitions.

Definitions of Error

The Institute of Medicine and Agency of Healthcare Research & Quality offer the following definitions:

➤ An error: the failure of a planned action to be completed as intended (i.e., error of execution) or the use of a wrong plan to achieve an aim (i.e., an error of planning).
➤ Adverse event: injury caused by medical care rather than underlying disease.
➤ Medical error: planned action is not completed as planned, or the wrong plan is used.
➤ Near miss: when a medical error is corrected before reaching the patient.

Other definitions have also been offered. Lucien Leape, one of the pioneers of the patient safety movement, defines error as an *unintended act* (either of omission or commission) or one that does not achieve its intended outcome. The Joint Commission's definition is similar to Leape's and defines error as: an unintended act, either of omission or commission, or an act that does not achieve its outcome. The Dana Farber Cancer Institute defines error as an event or act of commission or omission with unintended, potentially negative consequences for the patient.

What is an error? (continued)

Medical errors can be classified according to types of errors, such as diagnostic, treatment, or prevention errors. Any of these errors could be the result of deficiencies in knowledge, judgment, external systems, inadequate staffing, poor documentation, improper supervision, miscommunication, or inadequate follow-up. Characterizations of these errors are listed below.

Diagnostic errors

- Error or delay in diagnosis;
- Failure to employ indicated tests;
- Use of outmoded tests or therapy;
- Failure to act on results of monitoring or testing.

Treatment errors

- Error in the performance of an operation, procedure or test;
- Error in administering the treatment;
- Error in the dose or method of using a drug;
- Avoidable delay in treatment or in responding to an abnormal test;
- Inappropriate (not indicated) care.

Prevention errors

- Failure to provide prophylactic treatment;
- Inadequate or monitoring of follow-up of treatment.

Other errors

- Failure of communication;
- Equipment failure;
- Other system failure.

What is an error? (continued)

The National Coordinating Council for Medication Errors and Prevention has approved the following working definitions specifically for medication errors.

Medication error: Any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the healthcare professional, patient or consumer. Such events may be related to professional practice, healthcare products, procedures or systems including prescribing, order communication, product labeling, packaging and nomenclature, compounding, dispensing, distribution, administration, education, monitoring, and use.

Adverse drug event: An adverse drug event is any injury resulting from a medical intervention related to a drug. Examples of such injuries include heart rhythm disturbances, diarrhea, fever, nausea, vomiting, renal failure, mental confusion, rash, low blood pressure, and bleeding.

Medication errors can occur at any stage of medication administration. These include:

➤ **Ordering:** wrong dose or wrong choice of drug;

➤ **Transcribing:** wrong frequency of drug administration; missed dose because the medication is not transcribed;

➤ **Dispensing:** drug not sent in time to be administered at the time ordered, wrong drug, wrong dose;

➤ **Administering:** wrong dose of drug administered, wrong technique used to administer the drug; and

➤ **Monitoring:** not noting the effects of a given medication.

Other medication errors

➤ Failure of communication;
➤ Equipment failure;
➤ Other system failure.

What is an error? (continued)

Issues to think about and discuss with your colleagues:

➢ Consider the quotes in the margin on each page. Do you hear similar statements in your hospital?
➢ Do you think there is room for improvement in your hospital's policies or approaches to error?
➢ Consider the scenarios on page four. How would those situations be handled in your hospital?
➢ Do you have a process to identify all the different kinds of errors (medication, diagnosis, and treatment) that may occur in your hospital?
➢ When a problem occurs is there a system-wide effort to find out what happened and why?
➢ If so, is there a system for taking action? Who is part of that process?

"No one is against patient safety; it's what fire do you put out first? "
~ Physician

References

Agency for Healthcare Research & Quality (AHRQ)	www.ahrq.gov http://www.ahcpr.gov/qual/errorsix.htm
American Hospital Association	www.aha.org/PatientSafety/Safe_home.asp
American Society of Health System Pharmacists	www.ashp.org/patient_safety/
Anesthesia Patient Safety Foundation	www.gasnet.org/societies/apsf/
Australian Patient Safety Foundation	www.apsf.net.au
FDA Patient Safety News	http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/psn/index.cfm
Guiding principles for patient safety	http://www.npsf.org/html/statement.html
Institute for Healthcare Improvement	www.ihi.org/resources/patientsafety
Institute for Safe Medication Practices	www.ismp.org
Joint Commission on Accreditation of Healthcare Organizations	www.jcaho.org
Sorry Works	www.sorryworks.net
National Patient Safety Agency (UK)	www.npsa.org.uk
National Patient Safety Foundation	www.npsf.org
National Patient Safety Foundation Conference	www.mederrors.org
Partnership for Patient Safety	www.p4ps.org
Patient Safety Institute	www.ptsafety.org/default.asp
Premier safety Institute	www.premierinc.com/safety
Quality Interagency Coordination Task Force (QuIC)	www.quic.gov
VA National Center for Patient Safety	www.patientsafety.gov
Wound Management	www.wocn.org

"The dialogue helps create the norms."
~ Physician

Lessons Learned: Patient Safety in Rural Settings

W hen we began the rural patient safety project in 2001, little was known about the status of patient safety efforts in rural areas or the extent to which urban interventions could be transplanted into rural settings. Our research focused on the working conditions in rural healthcare settings and the factors that shape recognition, reporting, disclosure, and resolution of patient safety issues, including errors and adverse events. The study was designed to help rural healthcare providers identify what kinds of errors are most likely to occur, how such problems can be discussed and resolved, and what kinds of resources might be most helpful.
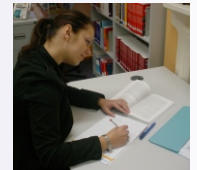
"The biggest challenge is making and taking the time to make patient safety a priority."
~ CEO

Description of the Research

At the start of this 4-year rural patient safety study we created, in each hospital, interdisciplinary teams of three to five healthcare providers (physician, nurse, pharmacist, and administrators including quality control personnel). One team member served as a key contact. The participants worked in 30 hospitals in a 9-state area of the rural west. A geographic area of this size met two important criteria: it ensured the anonymity of the participating hospitals and permitted us to study safety issues across different systems. In accordance with results of previous research, the participating hospitals were representative of those found in states with large rural populations; they included acute care facilities (69%), or a combination of acute and long-term care facilities (31%). The majority of hospitals (76%) had fewer than 50 acute care beds. Although most hospitals had an on-site pharmacy (83%), only 35% have an on-site pharmacist full-time. More than half (52%) of the hospitals did not have JCAHO accreditation (Joint Commission on Accreditation of Healthcare Organizations); almost half did not have an ethics committee. All of the hospitals had access to the internet.

The research agenda included eight sub-studies. As an initial activity, the key contact completed a hospital data sheet that provided basic information about the structure, size, and resources available at each hospital. All team members then completed two surveys: the Close Call Pilot Culture Assessment Instrument developed by the Department of Veterans Affairs National Center for Patient Safety, and an open-ended Error Assessment Tool developed by the project investigators. Other studies included quarterly interviews with the key contacts in each hospital, on-line/e-mail questionnaires, analysis of responses to case studies, a staff-wide patient safety survey, and a final evaluation survey.

Lessons Learned: Patient Safety in Rural Settings (continued)

E ach study provided some very specific information. Data from the *Culture Assessment Survey* provided an overview of participants' perceptions and attitudes toward patient safety. The data indicate that the sample is well-balanced consisting of healthcare providers with, on average, 20-year careers in healthcare care, and approximately 11 years of experience in their healthcare facilities. The majority of all respondents indicated high satisfaction with their jobs and a high level of concern about patient safety. Most indicated they were "proud" to be working for their facility and believed they had a personal impact on increasing patient safety. Most also believed their facilities were genuinely concerned about patient safety.

> *"Training is a barrier to safety. Time and money are required. Education of staff is lacking as we have no opportunity to meet as an aggregate body."*
> *~ Nurse*

The *Error Assessment Tool* provided a way to expand the theoretical ratings of attitudes and behaviors and obtain data relative to actual practices regarding what was recognized as an error and what was reported. The interviews provided the opportunity to discuss, in greater depth, the kinds of patient safety issues that developed in each hospital and the processes used to respond to them. The e-mail questionnaires allowed us to explore information about specific issues, such as pharmacy protocols when physician orders for patients seemed questionable or erroneous. The case studies and companion questions, e-mailed to all team members on a regular basis, helped identify the kinds of events that are recognized as errors and what might be done to respond to them.

As data emerged and were analyzed, results and resources were shared with participating team members in each hospital via a web site and ongoing e-mails. This approach helped us forge an ongoing relationship with the research sites and helped inform and shape each successive study. The success of this approach was evidenced by that fact that after nearly four years, none of the original hospitals had left the study, new hospitals had joined, and healthcare providers remained actively engaged in a dialogue across settings.

Lessons Learned: Patient Safety in Rural Settings (continued)

What We Learned

Our findings can be grouped into three major categories:

(1)   *Working Conditions And Professional Barriers* that impact the development of a culture of safety;

(2)   *Internal And External System Or Organizational Barriers* that impact the adoption of interventions;

(3)   *Individual Level Barriers* related to cognitive perceptions of errors and behavioral responses to errors.

"Dialogue is a problem;, we don't share previous errors as a learning experience."
~ Physician

***Working Conditions Barriers*:**
Rural healthcare providers consistently note the theoretical importance of safety. However, lack of time and lack of interdisciplinary communication as well as associated issues such as unequal power relationships, hierarchical decision-making, lack of interdisciplinary interaction, and lack of feedback on error reporting, all emerged as serious barriers to patient safety. These barriers contribute to a culture in which the lack of shared experiences becomes the norm. These conditions result in fundamental differences within and among the professions in areas such as agreement and recognition of errors, development of protocols for reporting, and attribution of responsibility for ensuring patient safety.

***Internal System Barriers*:** Most rural hospitals lack formal or mandatory systems for reporting close calls, errors, and adverse events. Most rural healthcare providers have never participated in formal error analysis activities like Root Cause Analysis (RCA) or Failure Mode Effect Analysis (FMEA). Most also report inconsistent opportunities for participation in *any* other error analysis process. In general, feedback mechanisms relative to error are not well established. Indeed, most healthcare providers lacked familiarity with their hospitals' safety program. Moreover, even when safety systems are in place and errors are recognized, recognition and reporting are typically limited to medication-related errors and adverse events. This focus on medication errors is so linked to patient safety that other kinds of errors such as those associated with diagnosis and treatment are rarely recognized, discussed, or reported.

Lessons Learned: Patient Safety in Rural Settings (continued)

Most healthcare providers also reported inconsistencies in staffing patterns, and use of part time or "locum" staff. The use of part-time staff as well as the hiring arrangements for physicians seem to be issues that require further investigation. For example, when the physicians are employed by the hospital, the hospital appears to have some control over the physician's adherence to standards and protocols. But when the physicians are self employed and merely maintain hospital privileges, hospital control over behavior is considerably diminished. These patterns make it difficult to sustain organizational protocols for patient safety that go beyond medication related errors. In this kind of an environment, it is not surprising that the healthcare providers who promote safety or report errors are seen as "picky" or unduly critical or organizationally insensitive.

External System Barriers: Healthcare providers consistently reported limited access to appropriate guides, standards, and patient safety resources. They noted that most clinical guides are written for specialists, while they are generalists. They also reported that the technological interventions designed for large institutions may not fit the scales of economy of small places.

Individual Level Barriers: Our data suggest there is a fundamental misalignment between what people *believe* and what they actually *do* when faced with patient safety issues. This split between cognition and behavior makes it difficult for rural healthcare providers to consistently recognize and respond to unsafe situations. Thus even when healthcare providers report a willingness to take action when encountering unsafe situations, they do not consistently recognize, disclose, or agree on other appropriate responses when action is required.

The *DVA Close Call Culture Assessment* provided important insights relative to healthcare providers' perceptions about patient safety and error reporting in their healthcare settings. On one level, the information was very encouraging. A majority of the team members indicated their facility leadership does not punish people who report safety discrepancies (on a 5-point scale, ranging from disagree strongly to agree strongly; 71% agreed strongly, and

> *"Right now, without a facility-accepted definition of a medical error, I believe this environment makes it more difficult to address medical errors as some seem to "minimize" the error and therefore little, if any, corrective action is implemented"*
> ~ CEO

Lessons Learned: Patient Safety in Rural Settings (continued)

23% agreed slightly). All of the team members agreed, to some extent, that their healthcare settings were genuinely concerned about safety (71% agreed strongly, 29% agreed slightly) and most of them also agreed that they have an effect on work safety (80% strongly, 17% slightly).

Moreover, a majority of the team members agreed with the statement that when somebody else makes a mistake, they would like to know about it, so they would not make the same mistake (51% agreed strongly and 32% slightly). Correspondingly, a majority of them agreed that their job performance has improved as a result of learning about mistakes made by other staff members (26% agreed strongly, and 52% agreed slightly). Most disagreed (63% strongly, 28% slightly) with a statement that seeing a coworker making a mistake would negatively affect their respect for that coworker.

*"So you sometimes let things go on because you are dealing with people's opinions and it's a challenge. You don't ignore but not much happens."
~Nurse*

Finally, more than half of them believed that within their facility, good communication flow exists up and down the chain of command (19% agreed strongly, 43% slightly). In general, respondents appear more positive than neutral or negative when rating all of these issues. However, the significant differences among those who agreed slightly as opposed to strongly when rating good communication flow as well as learning from the mistakes of others, suggest there may be some concerns.

Similar findings emerged when analyzing data from the Staff Patient Safety Survey. This survey was conducted among staff in the participating hospitals. The majority of respondents offered positive ratings with respect to their institutional culture on patient safety and error. Most believed that the culture in their hospital is "anyone can make mistakes" (65%), and that the error reporting system is open to all employees (86%), confidential (70%), and impartial (56%). Moreover, the majority of the staff reported they felt comfortable (65%) or somewhat comfortable (32%) discussing the topic of medical errors.

Lessons Learned: Patient Safety in Rural Settings (continued)

"But I have to admit it's difficult to convince other folks. Because when everything turns out ok, they don't question the standard of care. They don't seem to get that issue."
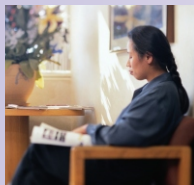*~ Pharmacist*

The above findings suggest a positive and proactive environment. However, data from the *Error Reporting Tool* (consisting of 8 open-ended questions) suggest that rural healthcare providers have had limited exposure to medical errors. Most report they have encountered *only* medication-related errors (the wrong time, dose, drug, or mode of delivery), patient falls, and illegible handwriting. Their experiences with reporting and charting errors were limited to these same types.

Similar findings emerged when conducting quarterly interviews. Key contacts detailed organizational efforts to reduce medication errors and to a lesser degree, patient falls. They also identified these two areas as issues they would continue to prioritize in their hospitals. Similar findings emerged again when the team members responded to case studies that depicted the kinds of medication-related errors described as most prevalent in the *Error Reporting Tool* and most frequent in the *Staff Patient Safety Survey*. Healthcare providers generally recognized them, identified them as errors, indicated they should be documented via incident reports or in the patient chart, and suggested strategies that would improve patient care.

However, when given case studies that showed any other kind of error, such as diagnoses or treatment errors, there was no agreement about the nature of the incident. Nor was there agreement about how such errors should be resolved, charted, or disclosed. Moreover, when asked about other types of errors during quarterly interviews, the healthcare providers uniformly reported that they had "not gone there yet." One healthcare provider explained: "Many times other errors may be more serious than the medication error, but they are more difficult to detect; for example a missed treatment is not immediately visible to an oncoming nurse, whereas, in our system, a medication not dispensed at the appropriate time is still in the patient's 'med drawer'".

Lessons Learned: Patient Safety in Rural Settings (continued)

What this means

This patient safety study was designed to assess the kinds of patient safety issues that develop in rural settings and identify the conditions, including working conditions, under which system change can occur. This is a complex and challenging agenda. If we had conducted only one or two studies, for example a pre- and post test, we might not have gained sufficient knowledge about the degree to which errors are recognized, the extent of the differences in perceptions among the professions, differences in attribution of responsibility, and the multiple factors that hinder willingness to take corrective action.

For example, in all of the studies, healthcare providers consistently acknowledged the importance of patient safety. But given the kinds of error that are most often recognized in rural settings, most healthcare providers also believed that primary responsibility for safety rested on the shoulders of nurses. It was harder for the participants in this study to attribute responsibility to other professions when potential errors were unrecognized or when repercussions hindered willingness to recognize or report.

"To the pharmacist it was as clear as the nose on your face but to a nurse, clear as mud."
~ Quality Control

Our data suggest that three key conditions must be met in order for system change to occur:

(1)   shared recognition of unsafe practices;
(2)   belief that the consequences of such recognition can be handled;
(3)   belief that organizational changes, or corrective actions, are possible and will occur.

If any one of these conditions is not met, resistance to any kind of intervention or action is heightened. The extent to which these conditions influence behavior was showcased by a nurse in our study who had attended a seminar on prevention of wrong site surgery. Soon thereafter she was assisting during a surgery when she and other staff suspected that the surgeon might be operating on the wrong knee. In spite of her recent training and this nagging doubt she and her colleagues did not have the courage to challenge the physician.

Lessons Learned: Patient Safety in Rural Settings (continued)

The patient safety literature calls for the creation of a culture of safety. To achieve such a culture in rural settings serious barriers or conditions have to be overcome. For example, the resource scarcities that are pervasive in rural areas can easily deter a willingness to recognize unsafe situations or take corrective action. Rural healthcare providers frequently talked about "being one doctor away from disaster." The fear of implementing unpopular practices that could result in the loss of a physician or other essential healthcare provider can jeopardize the willingness to develop or sustain patient safety initiatives. This hesitancy to take action, however, can create serious consequences for those who seek to provide care and for those who receive it.

*"People were confused about what dilemmas were, who they called. There were some gaps."
~ CEO*

The relationship between recognition of error, belief that consequences can be handled, and belief that the system will change was evidenced in several of our studies. For example, when interviewed, nurses often expressed reluctance to acknowledge medical errors. They noted that it was not within their scope to question doctors. They reported that when mistakes occurred, they were to make certain that problems were fixed, but not necessarily reported. If nurses did report errors, they noted that the usual procedure was then to have the issue referred to the M&M and the medical staff; rarely did they receive any feedback on their reporting. And so, in a sense, they did not look for medical errors.

Administrators also encountered some barriers. They reported that they often lacked the medical knowledge or the clinical judgment to question diagnosis and treatment issues. Thus they generally rely on the physicians to solve "their own problems." Physicians reported that they rarely "looked over each others' shoulders." Pharmacists acknowledged that they, when necessary, have changed incorrect orders from physicians and also noted that those incorrect orders were never regarded as mistakes or errors. As one reported: "Our doctors don't view those as errors."

These conditions create an environment in which it takes great insight and courage to recognize and report errors or advocate adoption of patient safety practices. Just moving from non-recognition to recognition is an important achievement and an essential first step toward change.

Patient Safety in Rural Settings

Lessons Learned: Patient Safety in Rural Settings (continued)

The findings from our study underscore the need for both interdisciplinary efforts as well as multi-method approaches in order to fully explore and respond to the conditions that influence patient safety in rural healthcare settings. Our findings suggest that rural healthcare settings need change agents to drive the pursuit of safe practices. The change agents, in turn, require ongoing feedback and strong institutional support for patient safety efforts.

"We are now looking at more than medication errors. This project has prepared us to go deeper. We really depend on you."
~ Director of Nursing

By continuously sharing the results from the different studies we created the conditions that supported the examination of perceptions and behaviors that influence the ability of healthcare providers to provide safe care. This feedback loop kept participants involved and helped them see gaps in the quality of care. This method also served as a reality test. For example, after participating in project activities, pharmacists and administrators observed that their hospital data on errors were probably not accurate. Nurses and physicians noted their surprise at discovering the extent of their professional differences in recognizing, approaching, and resolving patient safety issues.

A key issue, and one that requires serious attention, involves the attribution of responsibility for patient safety to nurses. Most healthcare providers believed that patient safety was primarily the responsibility of nurses. In part that perception may reflect the limited scope of what traditionally constitutes an error (medication) in most rural settings. Thus when the nurse gives the wrong dose it is recognized as an error. However, when a physician orders a wrong dose, the pharmacist corrects the mistake and it is not then viewed as an error. In this context, most of the errors are more easily attributed to the nursing staff, and so responsibility for patient safety and reporting falls within the realm of the nursing role. This orientation has not encouraged a thorough examination or appreciation of the scope of the patient safety problem. This finding was evidenced by data from the patient safety staff survey that showed that the same kinds of errors reoccur with some frequency.

Lessons Learned: Patient Safety in Rural Settings (continued)

It can be hard to know what kinds of resources will help healthcare providers respond to the issues we have discussed thus far. After some trial and error, we developed a case-based curriculum. This curriculum seemed to overcome some of the barriers that have discouraged system-wide examination of patient safety issues in rural areas.

To develop the curriculum, we worked closely with participants so as to identify situations that occurred with some frequency in rural hospitals. We then depicted these issues in short, tightly woven case studies and asked healthcare providers to respond to a series of questions. As healthcare providers examined and responded to these familiar situations, they became aware of professional differences that inhibited recognition and resolution of errors and compromised the overall quality of safe care.

"There's a lot of curbside communication but it doesn't go over well for the nurse to tell the physician about practices."
~ CEO

Throughout the research cycle we learned the importance of sensitivity, on the part of the researchers and participants, to the choice of words. Through our previous studies on ethics and rural healthcare we had learned that a direct question about the kinds of ethical issues that occur in rural settings was often met with silence. Rural healthcare providers did not typically identify issues as "ethical." So in order to discern what ethical issues might look like in the rural context, we had to re-phrase the questions and make them less academic. We learned to ask about values and beliefs and rules for living in their communities rather than about "ethics."

Likewise, when we first began asking the participants in this patient safety project to identify the errors depicted in each case study, the healthcare providers were extremely hesitant to designate issues as errors. Recognizing the importance of language, we tried to adopt more neutral, or value-free language. The hesitancy to respond was immediately dispelled when we began to ask the participants whether an event similar to the one depicted in the case could occur, or had occurred, in the participants' own settings. Again and again we heard the question: "Were you here last week?"

Lessons Learned: Patient Safety in Rural Settings (continued)

To further encourage a neutral examination of issues, we developed a standard template for case analysis. The template included questions about the following areas:

➢ The central topic in each case study;
➢ The key issues;
➢ The learning points;
➢ The clinical guides and standards that should or could be applied; and
➢ The strategies for improvement.

This approach encouraged dialogue and seemed to help the healthcare providers overcome the personal, professional, and system-level barriers associated with identifying errors or unsafe practices. This recognition and dialogue were important steps in advancing a culture of safety.

"It's trying to take it all and implement it. It's a real shift into new processes. It has really raised our awareness. Trying to get there is a push but we will get there."
~ Nurse

Issues to think about and discuss with your colleagues:

➢ Do you believe the culture and working conditions in your hospital promote or undermine patient safety?
➢ Would you be comfortable sharing your definition of error with patients and members of your community?
➢ Are there opportunities for interdisciplinary and/or inter-professional collaboration in your hospital?
➢ To what extent is the patient or family a member of the decision-making team? Is there room for improvement?
➢ What would you define as the barriers in your hospital to achieving safer care?
➢ Patient safety theorists say that what happens *after* an injury is as important as what happens *before* the injury. Discuss what this means in relation to your healthcare setting.
➢ Are the healthcare providers in your setting aware of professional differences regarding definitions and handling of errors and adverse events?

References

"That's the biggest challenge. Not that they are against something new in theory. But where do we even begin?" ~ Physician

The following articles discuss the project and its key findings:

Cook, A., Hoas, H. & Guttmannova, K. (2003). Not by technology alone: Optimizing a process for patient safety. *Biomedical Instrumentation and Technology*, 37(2):128-13-130.

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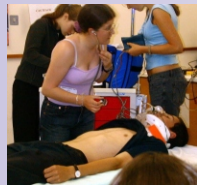
What Might Help

The data from all of the sub-studies underscore the fact that rural healthcare providers want to provide safe care. They are committed to their communities and want activities that help them:

(1) recognize errors, adverse events, and near misses;
(2) devise ways to report such activities, and
(3) reduce errors and solve pro-actively those that do occur.

Most research participants expressed positive beliefs about the importance of reporting errors as well as positive experiences when reporting errors. They noted the importance of constructive feedback and system-wide efforts that focus on education and training, staffing and scheduling, and better communication. As one nurse noted, in order to make changes "you have to know what you don't know."

"I like the case studies for use at in-services for the nursing staff because they could happen at our place on any given day."
~ Nurse

But as our data show a number of barriers impede the ability of healthcare providers "to know what we don't know." On a *cognitive* level, words like "error" and "mistake" can create strong reactions that leave lingering and painful memories. The emotional burden associated with the word "error" and the memories of painful events can hinder or prevent dialogue. On a *behavioral* level, new approaches can feel threatening or uncomfortable. And on an *organizational* level, the task of system change can seem almost overwhelming, a relentless burden of too little time, resources, and skills.

We became aware of this burden when, in nearly every conversation with rural healthcare providers, they underscored how busy their lives were. Staff shortages and the use of temporary or part-time staff hamper consistent efforts to standardize care and ensure adequate communication. In addition, professional expectations and traditions limited the amount of dialogue that healthcare providers have with one another. Nurses noted that it was often difficult to arrange conversations with physicians. Since rural nurses do not uniformly accompany physicians during their rounds, nurses were not sure what a physician told an individual patient. Technologic interventions such as taped reports at shift changes decreased the dialogue among the nursing staff. In many cases, staff meetings are no longer held on a regular basis. To add

What Might Help (continued)

to these challenges, purchasing educational resources such as videos, participating in national organizations, and attending national seminars can seem, especially for a resource limited facility, too costly. And even when money is not a matter of concern, content and focus are often poorly aligned with the rural context. Said one nurse: "the patient safety conference was very interesting and seemed useful, but when I tried to implement some of the ideas in my rural setting, nothing really worked."

*"Definitely, during busy days or busy hours of a day, our nurses may be pulled in all directions. To me, this leads to increased chance for error."
~ Quality Control*

The time constraints reported by rural healthcare providers are exacerbated by the power imbalances and professional beliefs about role and scope of work. As noted in the previous section, rural healthcare providers talk about "being one doctor away from disaster." Just the fear of losing a physician can jeopardize the development or implementation of patient safety initiatives. Members of the nursing staff expressed reluctance to acknowledge diagnosis and treatment errors. They observed that it was not within their scope to question doctors. When encountering mistakes, they were to make certain that problems were fixed, but not necessarily reported. If nurses did report, they said that the usual procedure was to have the issue referred to the M&M and the medical staff; rarely did they receive any feedback on their reporting.

Administrators said they did not have the medical knowledge to question diagnosis and treatment issues and so had to rely on the physicians to solve "their own problems." Physicians reported that they rarely "looked over each others' shoulders." Pharmacists, who acknowledged that they frequently changed incorrect orders from physicians, also noted that those incorrect orders were never regarded as mistakes or errors. These conditions create an environment in which it takes great courage to recognize and report errors or advocate adoption of patient safety practices. Just moving from non-recognition to recognition is a huge achievement and an essential first step toward change.

What Might Help (continued)

T hese environmental factors help us understand why, though there seem to be many patient safety resources available, their use in rural settings was limited. When we began the patient safety study, we created a curriculum accessible via a secure web site for all participants. The curriculum contained a variety of resources including case studies, articles, definitions, links to clinical standards and other patient safety resources. When healthcare providers accessed the secure website, they noted the value and relevance of the curriculum. But they also noted that they did not access the site on a regular basis. On a busy day, healthcare providers reported that they did not have the time to look for new information. New information did not seem like as much of a priority as the present emergency. And so weeks would pass, and the relevance of patient safety, as a daily concern, diminished.

"We are all comfortable, but, people do get defensive if it involves them."
~ Pharmacist
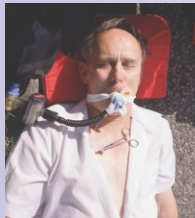
In order to make it possible for healthcare providers to focus on patient safety, the intervention had to be designed so that it would be easy to implement. At the outset we had to show the discrepancy between the beliefs about the safety of care in one's hospital and actual occurrences. We had to show that increased dialogue and collaboration might offer important benefits. We had to find a methodology for ongoing education and training that was culturally compatible since conferences, books, journals, seminars, and even websites did not seem to be very well accepted or at least used with any frequency. We had to identify environmental issues that might compromise patient safety. Finally, we had to identify rules, policies, and procedures that support adoption of safe practices.

What Might Help (continued)

Creating a model
In order to adjust to those various constraints and make it easier for healthcare providers to actively participate in the patient safety initiative, we redesigned the curriculum. We presented patient safety issues, as well as important concepts, definitions, standards, and other resources via succinct, tightly structured case studies. The case studies were e-mailed to participants on a weekly basis. This format evolved as a collaborative effort among team members, researchers, and a patient safety team at Rush Medical College in Chicago. The study participants provided examples of problematic and potentially harmful situations, and the researchers then shaped them into case studies. The format was pilot tested and revised as needed. Over the course of the project, the case studies progressed from depicting the kinds of problems most typically identified as problematic (medication errors and patient falls) to less easily recognized problems (diagnosis and treatment errors).

"Each of us plays the blame game to our advantage. Few facilities truly constitute a team orientation"
~ CEO

Upon receiving the case study, the research participants were asked to respond to a series of questions. The questions also went through a series of revisions. When we initially asked if the case contained an error, the healthcare providers were reluctant to identify it as such, even when the case included errors that met the IOM criteria and definition of error. To overcome this reluctance we began asking if the depicted situation had happened or could happen in their settings.

We then created a standardized format and asked the participants to analyze each case study by identifying the topic, issues, learning points, clinical guides and standards, and room for improvement. The responses were summarized, shared with the participants, and were posted on the secure website. Participants were also asked to disseminate the case studies and summaries to staff in their hospitals for further discussion, dialogue, and action.

What Might Help (continued)

T he case studies helped healthcare providers realize the discrepancies between their perceptions and their behaviors, between what they thought about error and what they did when unsafe situations occurred. Healthcare providers uniformly agreed that they did not realize the extent to which the lack of shared perspectives, definitions, words, experiences, and traditions hindered recognition of error and compromised patient safety.

> "Each member in the medication process has expectations of the others. The nurse and pharmacist expect the doctor to write the correct orders. The pharmacist expects the nurse to double check medications prior to giving, and the nurse expects the pharmacist to dispense the correct drug and dose. These expectations lead to less dialogue secondary to assumptions that the other person completed their part correctly."
> ~ CEO

The structure of this dialogue process-the exploratory questions at the end of a case description, the evaluation framework used by the participants, and the "rules of discourse"-does more than provide an open forum for differing opinions. This iterative process elicits input about the context and the incident that may not have been recognized n the first analysis. The back-and-forth communication and argument with others enables all participants to agree on a concise, explanatory account of what happened, why it happened, and how it happened.

The case studies and summaries proved to be the most valuable resources offered during the study. Indeed 95% of the respondents to the project evaluation indicated that they read the case studies. Some hospitals joined the study just so that they could receive the case studies. The case studies were short and tightly focused. This format responded to the time constraints that impede the participation of healthcare providers in any educational activity. The e-mail format was efficient and accessible; the arrival of a weekly case study helped keep patient safety on the radar screen. Participants forwarded the case studies to other members of the staff, placed them on bulletin boards, and left them at nursing stations. The case studies seemed to facilitate interdisciplinary collaboration. Some hospitals scheduled educational seminars for physicians and nurses during which the case studies were presented for discussion.

Throughout the course of the study, the participants were given feedback and reports of the findings from all the sub-studies. This allowed the team members from each hospital to compare perceptions with actual findings and gauge progress toward the development of a culture of safety.

What Might Help (continued)

Issues to think about and discuss with your colleagues:

➢ To what extent does your organization facilitate or inhibit collaborative education of healthcare professionals?

➢ Are there organizational or system-level practices that increase the likelihood of errors?

➢ Is there agreement among all staff about issues such as:
  ‣ Quality of care
  ‣ Error reporting
  ‣ Attribution of responsibility
  ‣ Lines of responsibility
  ‣ Lines of communication

➢ How do you describe your role in achieving a safe healthcare environment?

➢ Organizational beliefs can shape the culture of safety. Consider the following:
  ‣ The balance of power concentrated versus shared
  ‣ Beliefs about conflict
  ‣ Leadership and personal responsibility
  ‣ Attitudes toward change
  ‣ Belief that hazard and risk cannot be reduced

"I'm really shocked by our differences. I'm not sure we are speaking the same language.."
~ Nurse

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Website: http://www.umt.edu/bioethics

"Talking about errors on an honest level is about relationships."
~ Nurse

Making healthcare safer: What does it take?

"We feel we disappoint the profession, when we make errors. I have had this on my shoulders for 14 years."

~ Physician

Errors and adverse events cause harm, create the need for further intervention, and diminish trust in the healthcare system. Given the statistics cited in the Institute of Medicine (IOM) report and in many subsequent publications, the call for a change in attitudes, behaviors, beliefs, and practices is an urgent one. The IOM refers to this as a shift from a culture of error to a culture of safety. When we create a culture of safety, we "make it hard for people to do the wrong thing and easy for people to do the right thing."

Doing the right thing sounds like a pretty straightforward task. But if cultural change is so easy to accomplish, healthcare would become much safer with each year that passes. However, in spite of so much effort and good intent, patient safety experts now realize that we are far from the 5-year IOM goal of reducing error by 50%. Our failure to reach that goal shows us that change is very difficult to accomplish. We hone our beliefs, attitudes, behaviors, and practices throughout our lives. We develop coping skills and patterns of interaction. We develop our comfort zones both as professionals and as individuals.

Moving from our comfort zones can create cognitive dissonance. Cognitive dissonance arises when there is tension between one's attitudes, emotions, beliefs, and values. As human beings we want to avoid cognitive dissonance and one coping mechanism is denial. When asked, most healthcare providers ardently hold that the healthcare they provide is the safest around. So, admitting that healthcare in one's hospital is not safe violates the healthcare providers' core beliefs about what they do and how they do it. Likewise, the acknowledgment of medical errors directly assails several fundamental beliefs such as: one has control over one's destiny, care in one's hospital is safe, technology and science are forces of progress, risks necessary for the good life are acceptable, and experts know best. It is not easy to discard such beliefs.
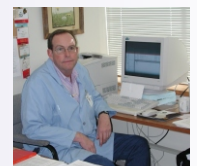
Making healthcare safer: What does it take? (continued)

In our studies we have found that when problems occur, healthcare providers will only take action, or overcome cognitive dissonance, if three conditions are met. These conditions can be thought of as the three legs of a milk stool and if any one of these legs is missing, the possibility for taking any action is unlikely. The three legs are:

➤ Recognition of a problem;
➤ Belief in one's ability to handle consequences of action;
➤ Belief that change can occur.

"The physician was amazed that we told the patient right away about the error, and didn't charge for ICU."

~ Nurse

Setting the stage
Given the discussion so far, imagine the barriers that arise when trying to change any behaviors. One can promise to quit smoking, or to increase physical activity, or to exclude junk food from one's menu. But, as most people know, the best of intentions are often derailed by old behaviors. Old behaviors are not inherently bad. In many ways our habits and behaviors make life predictable and give us survival skills and protection against stress. Following a routine reduces the number of decisions one has to make. Given these realities, even small and seemingly insignificant changes can be stressful. Imagine a change as straightforward as taking a different route to work every day for a month. The task may not initially seem stressful; in fact, on the first day it may seem quite easy. But as the days pass, one's stress level will increase.

So even if one understands the need for change and wants to achieve change, roadblocks will be encountered! Today's rural healthcare providers encounter a steady stream of new developments, expectations, and technologies that require frequent changes on many levels. In such an environment it can be very hard, even with the best of intentions, to keep patient safety "on the radar screen."

But change is possible. During the four years of this study, we forged an ongoing relationship with the research sites. And during that time healthcare providers changed attitudes, expectations, and behaviors.

Making healthcare safer: What does it take? (continued)

O ur data show that in order to keep patient safety on the radar screen, we have to consistently support the behavioral processes that help people respond to the problems they encounter. According to change theorists this means we have to choose activities that support a commitment to changing behavior. We have to replace problem behaviors with new behaviors. We have to avoid situations that trigger old behaviors. We have to reward new behaviors and create helping relationships.

"It seems that nurses are best at reporting. It's pretty hard to miss a fall. And it's obvious."
~ Nurse

Stages of Change: The Process
When change occurs, a person or a system goes through a multi-stage process. The goal of achieving greater recognition of errors, for example, involves helping staff move from being aware of only limited kinds of errors to recognition of a greater variety of events or practices that may harm patients. This broader recognition can lead to shared perceptions and ultimately to shared solutions. Of course one hopes that change can be accomplished as quickly and painlessly as possible. But a recent IOM report indicates that, in spite of concerted national efforts, the goal of reducing errors by 50% during the past five years has not been met. This finding underscores the reality that change is complicated. Theorists suggest that change actually involves a 5-step process.

The steps include the following:

Pre-contemplation: People in this stage are basically unaware of their problems and have no intention to change their behavior. Such people may feel some pressure from others, but basically are hoping that "other people" will change. Many healthcare providers were in this stage when the IOM report was published. They thought their facilities were safe, that the need for major change was exaggerated, and that the statistics offered in the IOM report were inflated. During presentations healthcare providers questioned those numbers and asked: "Why are you using those statistics?"

Patient Safety in Rural Settings

Making healthcare safer: What does it take? (continued)

Contemplation: People in this stage are aware of problems and are serious about thinking about them sometime within the next six months or so. They have not made a commitment to take action for two basic reasons: (1) they may still feel quite daunted by the scope of the problems, or (2) they may still feel positive about some aspect of their troublesome behavior. An example of such a scenario would be persons who are "still thinking about" quitting smoking. In our study, for example, healthcare providers reported that storing medication in a "med drawer" had caused some safety problems, but it also made it easier to get medications when needed. So change was not seriously pursued.

Preparation: Individuals in this stage intend to take action within the next month. They may have already tried to modify some behaviors, but these behaviors have been sporadic or only partially effective. They may be developing strategies for a more committed approach to change, but are still ambivalent about the process. In our patient safety study, healthcare providers described the effort to change or prohibit the use of certain abbreviations or certain medications. Oftentimes these efforts would be met with resistance. Pharmacists in several hospitals expressed interest in starting a Coumadin clinic where they could help patients manage their prescriptions. But they also reported that physicians did not want to give up their management of this drug.

Action: In this stage, people take concrete steps to change their behavior or environment in order to resolve the problem. Scholars studying change have found that at a given time, only 10-15% of people who feel they are in a "change process" are in this action phase. As participants entered this phase, many began distributing case studies to colleagues in order to achieve dialogue and encourage new behaviors that increase patient safety. Some hospitals used the case studies and other resources when conducting continuing education to their staff.

> *"When it involves changing things- it gets really hard with some of our people. In rural settings this is so evident, you have a medical staff that is very close and generally has a lot of power, and a lot of the staff has been around for a long time, it is hard to get them to make changes."*
> ~ CEO

Making healthcare safer: What does it take? (continued)

Maintenance: This is the stage in which people try to consolidate their gains and avoid relapse. Behaving in ways incompatible with the problem is a key sign that a person has reached this stage. This is a crucial but difficult stage. Once progress has been made and change achieved, it is easy to think that the problem has been solved. But success can be deceiving. One hospital provided continuing education training on the protocols for use of Demerol. At first, the healthcare providers adhered to the new protocols. However, two years later the quality control coordinator discovered that adherence to the protocols had lapsed. To avoid relapse, maintenance has to be viewed as an on-going activity.

"There's always lip service to it but when it comes down to the rubber hitting the road, they wonder how it will impact the institution, the ripple effect. They weigh the risk and the benefit and wonder if we're better off putting this to the side."
~ Pharmacist

When seeking change remember:
➤ People are not at the same stage at the same time
➤ Pay attention to an individual's "stage" at a given time
➤ Recognize the need to go slowly
➤ Anticipate some backsliding
➤ Try to do the right thing at the right time
➤ Avoid inappropriate responses like shame and blame
➤ Honor every stage of change

Where are you in the patient safety change process?
➤ Where do you put yourself in terms of changing your own behavior toward creating a culture of safety?
➤ If you think about your hospital, where would you put it?
➤ What are you willing to do to increase patient safety?
➤ Who can help you with this process?

Making healthcare safer: What does it take? (continued)

The change process requires us to seriously examine where we are in terms of our beliefs, attitudes, values, and behaviors, and where we want to be. As we change we will:

Move from:
➢   Being unaware of problems
➢   Not considering change
➢   Resisting change: this can involve reluctance, rebellion, resignation, & rationalization
➢   Exclusivity: believing that patient safety involves a specific cohort, like nursing.

"We are working on a disclosure policy. It's a challenge for the medical staff. Our policy at this point: don't tell them a thing."
~ CEO

Move to:
➢   Increased awareness
➢   Reflective listening
➢   Development of choices
➢   Exploration of personal, professional, and system-level barriers
➢   Acknowledgment of reasons for not changing behaviors
➢   Inclusivity: patient safety involves everyone; it's not for experts only

So, what do we do next?
First of all, it is important to identify leaders within the institution who can champion patient safety initiatives. These leaders need to represent all different professions and have the confidence and trust of other staff. These leaders will help create a common language, shared experiences, and opportunities for shared training/education. They have to be able to model for other healthcare providers the importance of collaboration, good communication, and respect for others. They have to be aware of the power imbalances among staff and patients and have the authority to create conditions conducive to provision of safe care.

Making healthcare safer: What does it take? (continued)

Since the patient safety leaders or champions need to guide the change process, they will need skills that facilitate and enable constructive problem solving. Constructive problem solving usually involves the following steps:

> Assessing the situation (evaluating and gathering facts, meeting with colleagues and patients);
> Beginning the change process (defining goals, disclosure, ground rules, confidentiality);
> Eliciting facts about what happens (new medication, differential diagnoses, figuring out exactly what happened);
> Gathering information from all involved (this includes gathering information about beliefs, feelings, emotions, interests);
> Problem solving (developing options, solutions);
> Resolution (testing and evaluating the options and solutions);
> Follow up (ensuring that everything agreed on is implemented and maintained).

"We need to apply it more and move to the next level. We need to figure out what to do next."
~ Physician

Achieving patient safety is a constant challenge, one that we face every day. The resources provided in the next section of this manual have been designed to help healthcare providers overcome the cognitive dissonance and other barriers that challenge the ability or willingness to respond to this challenge. It may make it easier for us to change behaviors when we remind ourselves that caring for humans is a serious commitment and one that we all seek to honor.

References

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Lebow, J. 2002. *Transformation now!* (Or maybe later). Psychotherapy Networker, January/February: 31-32.

"Taking action depends on what challenge you are going to face and what discipline. The administrator says is that battle worth it?"
*~ Quality Control*

Patient safety resources

T his chapter contains examples of resources and tools that have been extensively field tested in the participating rural hospitals. They have been designed to encourage interdisciplinary dialogue, to raise awareness, and to support system change.

The following resources are included in this chapter:

➤ A Plan-Do-Study-Act (PDSA) template. The PDSA model has been successfully used to identify areas that require attention and test and assess approaches that respond to them.

➤ Case studies and the analytical model used to assess them. The cases are based on patient safety issues that, according to participating healthcare providers, arise in rural healthcare settings.

➤ The summaries following each case study are based on the feedback from the interdisciplinary teams in each of the participating rural hospitals *and* from the interdisciplinary patient safety team, under the direction of Dr. Robert McNutt, at Rush Medical College. The summaries do not offer medical or clinical recommendations. Rather they offer a process for identifying areas that merit attention and discussion when trying to improve patient safety.

➤ Other tools that support interdisciplinary discussion and decision making.
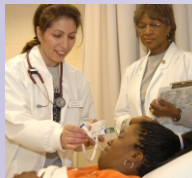
You are free to copy and disseminate any of the resources or tools in this manual. You may also go to our website and access these and other resources related to rural healthcare at: http://www.umt.edu/bioethics. We welcome your feedback about their use and helpfulness.

Example of PDSA Application

T he PDSA (Plan - Do - Study - Act) model is a process used in continuous quality improvement. The PDSA model is an effective, rapid cycle methodology that:

➢   Achieves interdisciplinary collaboration;
➢   Identifies areas for quality improvement;
➢   Provides a means to test interventions; and
➢   Incorporates evaluation into the overall process.

PLAN: Develop the Plan
The project work plan is based on the hospital/department's vision and goals. Remember not all of the goals have to be achieved in the first year. It is better to focus on what is feasible. The staff will be encouraged by early successes, so start small and celebrate accomplishments. Avoid an overly aggressive project work plan, because it can be a recipe for failure.

DO: Implement the Improvement Plan
The improvement plan will first be implemented on a pilot basis either as a time-dependent (e.g., a three month) or practice-dependent (e.g., physicians A and B only) pilot and the plan will be adjusted continuously.

STUDY: Collect Post-Intervention Data
Post-intervention data will be collected to assess if the improvement plan worked. The base line data collection will be repeated for a time period after the intervention process is implemented. A difference in the aggregate gap-analysis assessed. Improvements will be made based on the pilot test

ACT: Implement the Plan
The results will be reported to the entire staff, and the practice will decide to implement the revised improvement plan practice-wide, and establish a time-line for re-evaluation.

*I'm responsible for in-service, I'm on 17 committees, plus the hospital is in the midst of a major addition."
~ Nurse*

* (adapted from American Academy of Family Physicians website)

Plan → Do → Study → Act

Action Plan for: _____

Name: _____ Date: _____

Phone #: _____

GWTG Implementation Module: _____

Purpose of this PDSA cycle: _____

Plan

The change:
What are we testing, and who is conducting the test?

Who are we testing the change on?

When are we testing?

Where are we testing?

Predictions:
What do we expect to happen?

Data:
What data do we need to collect?

Who will collect the data?

When will the data be collected?

Where will the data be collected?

Do

1. Test (carry out the change)
2. Collect data
3. Begin analysis

What was actually tested?

What happened?

Observations:

Problems:

Study

Complete analysis of data

Summarize what was learned

Compare data to predictions

Act

What changes should we make before the next test cycle?

What will the next test cycle be?

Are we ready to implement the change?

Adapted, with permission, from materials developed by the Institute for Healthcare Improvement

Example of PDSA Application (continued)

1A. Sample Project Timeline and Task Assignment Worksheet

Task   **Date to be completed Staff assigned task**

Collect data

Compile results

Analyze data - staff meeting

Collect additional data/analyze

Develop an improvement plan

Present project results and improvement plan

Implement plan on a pilot basis

Collect post-intervention data/analyze

Implement improvement practice-wid

Six-month review

"Oh, great! Now I am aware of screw-ups but what should I do?"
~ Nurse

The following example shows how the PDSA methodology can be used to help your team implement various patient safety improvements.

Objective: to improve rates of pneumoccocal XX vaccination among at risk elderly patients.

Plan: Measure current care:

1. **Sample Base Line Data Collection Measurement Strategy:**

   Target Population: All elderly patients who meet diagnostic criteria
   Sample: 100 percent time sample. Charts of all eligible patients seen in the last three months.
   Estimated sample size: XX charts
   Data source: Billing data will be used to identify charts.
   Plan: The team will meet in two weeks with results from the base line data collection. They will decide on and fill out a project time-line and task assignment work-sheet (see 1A), collect base line data (see 1B) and calculate the practice rate of vaccination (see 1C).

Example of PDSA Application (continued)

1B. Collect Base Line Data
 Charts will be pulled by a designated staff and will be audited for record of vaccination.

Sample Base Line Data Collection Worksheet

(A) Patient number	(B) Date of patient visit	(C) Examining physician	(D) Vaccination recorded in chart (yes/no)
1			
2			
3			
4			
5			

> *"When it comes to little things, like 'med omissions' that don't hurt patients, no one reports or looks at it."*
>
> *~ Physician*

1C. Calculate the Practice Rate of the vaccination

Vaccination table

$$\text{Percent of Vaccinations} = \frac{\#yes\ (column\ d)}{\#patients\ (column\ a)} \times 100$$

2. Generate feedback reports and gap analyses
 Feedback reports and gap analyses will be generated to show discrepancy between current practice and optimal performance.

Sample Feedback Report and Gap Analysis:PCXX Vaccinations for Patients

	Vaccinations completed Completed/possible	Percent success	Gap analysis
Provider A (n=10)	9/10	90%	10% improvement indicated
Provider B (n=15)	9/15	60%	40%
Provider C (n=5)	2/5	40%	60%
Provider D (n=10)	6/10	60%	40%
Provider E (n=10)	6/10	60%	40%
Total (n=50)	**32/50**	**64%**	**36%**

Example of PDSA Application (continued)

3. Analyze Base Line Data

The vaccination team will organize a team meeting to analyze the results from the base line data collection. It will assess the difference in the rate of vaccination and compare features of high success rate practice with those of lower levels of success to identify reasons for the difference and the opportunities for improvement.

3. Develop Improvement Plan

The team will develop an improvement plan including the following features:

a. Educate staff about the importance of PCXX vaccination for at risk patients.
b. Implement the intervention process:

➢ Front desk staff flags charts of at risk patients.
➢ Nurse checks the chart for a record of the PCXX vaccination.
➢ If no vaccination is recorded, the nurse puts a sticky note on the chart, reminding the physician to address the issue of vaccination.
➢ The physician records the vaccination or a note of discussion with the patient in the chart.

3. Prepare a Presentation to Practice Leadership and Staff

After the team develops the improvement plan, the team will meet with practice leadership, including the head physician and the QI project manager, to gain "buy-in" by leadership. The presentation will include:

➢ A discussion of a project goal;
➢ Project time line;
➢ Base line data collection results and analysis;
➢ Opportunity statement;
➢ Pilot improvement plan;
➢ Pilot time line;
➢ Resource expenditure statement (time/dollars);
➢ Expected outcome.
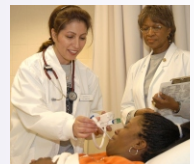
Case Studies

The case studies were developed over a four-year period and reflect situations that have occurred in rural hospitals. They provided a safe way for healthcare providers to collectively discuss issues that develop in rural healthcare settings and design strategies for responding to them.

The analysis model was developed in collaboration with the patient safety team at Rush Medical College.
The cases are analyzed according to the following model:

➢ Topic
➢ Issue
➢ Learning points
➢ Clinical guides or standards
➢ Room for improvement

In addition to the clinical issues that are depicted in each of the following case studies, you may notice various ethical problems. These problems might involve the traditional bioethics principles such as beneficence, non-maleficence, justice, and autonomy. The cases might also raise other ethical considerations such as impartiality or fairness, publicity or appropriate public disclosure, contestability or ability of those involved to question decisions, or processes for shared decisionmaking/collaboration. All of these different considerations deserve discussion and reflection.

Twelve case studies are provided in this chapter. Additional case studies can be found on the National Rural Bioethics Project website: http://www.umt.edu/bioethics.

"The cases are very interesting. They like the cases. Most could happen at any institution."
~ Nurse

Case Studies (continued)

Case Study 1:

The Case: Breast Milk Mix-up

Four newborns are being cared for in the small nursery at the local hospital due to a variety of relatively minor problems including neonatal jaundice, difficulty maintaining normal temperature, etc. Two of the mothers are breast feeding their infants exclusively; since the mothers have been discharged, they are pumping and storing breast milk for their infants. These packets of milk are labeled with the infant's name and hospital identification information, and then placed in the medication refrigerator.

Nurse Johnson, on the evening shift assigned to the nursery, retrieved one packet of breast milk at 10 pm to feed Baby Jones. At 10:30, she went to the refrigerator to retrieve breast milk for Baby Huebler. As she searched for a packet of breast milk for Baby Huebler, she suddenly realized that she had initially intended to feed Baby Huebler first but changed her plan because Baby Jones woke up and was crying.

She looked in the garbage can, found the packet of breast milk, and confirmed her fear that she had given the wrong mother's breast milk to Baby Jones. "Well, this is not ideal" she thought. "But at least it doesn't involve blood or something that really matters."

Questions:

➤   **Topic:** what happened? (Diagnosis/prognosis/treatment plan correct?)
➤   **Issues:** What issues need to be addressed? (Treatment administered properly? Appropriate clinical procedures?**)**
➤   **Ethical considerations** (impartiality, publicity, contestability, shared decisionmaking/collaboration)
➤   **Learning Points:** What are the learning points? (Please specify)
➤   **Standards & Guides:** What clinical and/or nursing guides could be suggested to solve this problem and avoid future problems? (System plan? System solution? Disclosure?)
➤   **Improvement:** What steps for improvement should be considered?

"We've changed our perspective. I run the quality program and needed to make it a priority to deal with patient issues."
~ Quality Control

Case Studies (continued)

Summary

Topic:
➤   A baby in the hospital nursery received the wrong mother's breast milk. This kind of situation is sometimes viewed as a "simple error," and one that is not too worrisome. However, it has consequences that can prove challenging for all involved.

"I think it is helpful to start difficult discussions with words like: 'in the interest of patient safety, do you think...'"
~ Quality Control.

Issues:
➤   This case involves an accidental exposure to bodily fluids. It needs to be approached similar to a needle stick. Most states have laws that allow the person who suffered the accidental exposure to have the other person tested for relevant body-fluid transmitted diseases (preferably with their consent but most states allow testing even when consent is refused. Note: this does not mean that testing is done without the person's knowledge, but it can be done without their consent).
➤ The primary concern is transmission of HIV. Hepatitis C and B do not appear to be transmitted via breast milk (see citations #1 & 2 below). In the United States, approximately 7000 HIV-infected women give birth annually (#3). The rate of HIV is increasing in rural areas. The Public Health Service recommends that HIV infected women refrain from breast feeding due to the risk of transmitting the virus via breast milk (#4).

Learning Points:
➤   The hospital policy regarding accidental exposure to bodily fluids is relevant.
➤   The mother of the baby who received the wrong breast milk should be informed of the error. The process of communication (what the parents are told, how the information is relayed, and by whom) will be very important in this case.
➤   The mother whose breast milk was accidentally given to the wrong baby should be informed of the error (without identifying the baby who received the milk). This mother should also be told that she needs to be tested for diseases that are transmitted via breast milk. (It might be adequate to rule out the possibility of HIV infection via a history -- but that can be extremely unreliable.)
➤   Post exposure prophylaxis (PEP) is recommended for significant accidental exposures to bodily fluids. The decision about when to offer PEP is usually made based on the relative risk of infection. However, the earlier PEP is started, the greater the chance of effectiveness. Hence, it is crucial to rapidly identify the error and appropriate follow-up.
➤   CQI team could be set up to take a look at the process and make recommendations for improvements.

Case Studies (continued)

> *"We still have some caregivers who give defensive documentation for errors."*
> *~CEO*

Standards & Guides:

➢ If the mother is found to be HIV positive, the parents and physician of the baby who received the wrong breast milk will need to consider post exposure prophylaxis (PEP). PEP should be initiated as quickly as possible. The usual goal is to start within one to two hours after exposure. Hence, it is very important to recognize this error and initiate appropriate steps.

➢ The risk of HIV in this scenario is very small. However, we are unable to accurately predict who does or does not have the virus simply on their 'reputation'. In addition, the consequences for the infant are catastrophic if infection does occur. PEP can significantly reduce the risk of infection.

➢ Treatments have consequences and so thorough patient education is required.

➢ In terms of patient safety, one option would be to treat breast milk similar to blood -- eg, require two nurses to check packets against a baby's ID band at the bedside. Other options, like a color coding system that links the mother's milk and the baby could help prevent this error.

➢ The 5 rights of medication management (right patient, right dose, etc) have relevance here.

➢ Review hospital policies for: (1) accidental exposure to bodily fluids to make sure that breast milk is included as an example of a potential accidental exposure. (2) billing since the lab work and possible treatment regimen have financial repercussions; and (3) charting, disclosure, and other relevant issues.

➢ Initiate appropriate training.

References:
1. Absence of infection in breast-fed infants born to hepatitis C virus-infected mothers. Lin HH; Kao JH; Hsu HY; Ni YH; Chang MH; Huang SC; Hwang LH; Chen PJ; Chen DS. J Pediatr 1995;126(4):589-91.

2. Evidence against breast-feeding as a mechanism for vertical transmission of hepatitis B. Beasley RP; Stevens CE; Shiao IS; Meng HC. Lancet 1975;2(7938):740-1.

3. Prevalence and incidence of vertically acquired HIV infection in the United States. Davis SF; Byers RH Jr; Lindegren ML; Caldwell MB; Karon JM; Gwinn M. JAMA 1995;274(12):952-5.

4. Recommendations for assisting in the prevention of perinatal transmission of human T-lymphotropic virus type III/ lymphadenopathy-associated virus and acquired immunodeficiency syndrome. Centers for Disease Control and Prevention. MMWR Morb Mortal Wkly Rep 1985; 34:721.

Case Studies (continued)

Case Study 2:

The Case: Osteomyelitis

Brian, age 26, was diagnosed with juvenile onset diabetes at age 10. While working on a construction job he stepped on a nail that went through his heavy work boots and into the bottom of his foot. He sought medical care immediately. The wound was thoroughly cleaned; he was admitted to the hospital and started on IV antibiotics with an IV of D5NS at 100cc/hr. During the next three days, Brian's blood sugars were elevated and erratic. The nurses suspected that he was sneaking candy bars though Brian vigorously denied this. On the fourth day, Brian talked with his physician about what was in the IV and asked that he be switched to a fluid without any Dextrose in it. His IV was heplocked and his blood sugars returned to normal.

After a week in the hospital, Brian's wound looked healed although he complained of increasing pain. He had Demerol 50-75mg IM ordered prn every 4-6 hours for pain. His requests for Demerol had actually increased as the appearance of the wound improved. The charge nurse, suspecting that he was drug seeking, encouraged the physician to discharge him.

The physician respected the nurse's judgment and wrote an order to discharge Brian. The next day Brian presented at the ER, complaining of increasing pain. An X-ray of the lower leg, ankle, and foot showed an area of osteomyelitis. Brian went to surgery later that day to clean and debride the area, and was re-admitted to the surgical floor. He recovered quickly and required no pain medication after the first post-op day.

Questions:
➤ **Topic:** what happened? (Diagnosis/prognosis/treatment plan correct?)
➤ **Issues:** What issues need to be addressed? (Treatment administered properly? Appropriate clinical procedures?)
➤ **Ethical considerations** (impartiality, publicity, contestability, shared decisionmaking/collaboration)
➤ **Learning Points:** What are the learning points? (Please specify)
➤ **Standards & Guides:** What clinical and/or nursing guides could be suggested to solve this problem and avoid future problems? (System plan? System solution? Disclosure?)
➤ **Improvement:** What steps for improvement should be considered?

"Like for the foot thing, what can you say to the patient? Is there a way to say it? Usually you are so aghast you can't think of a way to deal with it."
~ Nurse

Case Studies (continued)

Summary

Topic:
- 26 year-old with a foot puncture wound that becomes infected.
- Patient is a diabetic.
- Hospital course shows prolonged hospitalization with difficult sugar management.
- Antibiotic treatment leads to apparent improvement in infection (improving external appearance of foot).
- Patient develops pain that requires narcotics.
- Patient is diagnosed as drug seeking.
- Patient is discharged without identifying the cause of the pain that is later found to be osteomyelitis.
- Diabetic patient with puncture wounds and increasing pain despite appropriate antibiotic treatment.

"You know we are dealing with these things and there are no easy fixes. Every case I read I just had this 6 months ago and 26 years ago."
~ CEO

Issues:
- Underlying current of distrust. Patient is thought to have eaten candy bars as the cause of poor sugar control. Patient is accused of drug seeking behavior.
- Providers are faced with conflicting information about cause and effect. For example, the D5 IV complicates the decision-making regarding sugar control. The "wound improving" while the patient is complaining of more pain seem to conflict.
- Patients with diabetes and wounds of the foot are especially at risk for infection and at higher risk of osteomyelitis.

Case Studies (continued)

"Overlooking symptoms based on a chronic patient is very possible."
~ Physician

Learning Points:
➤ Prevalence of osteomyelitis is high in diabetic patients with puncture wounds. Approximately 1/3 of patients will develop osteomyelitis. Therefore, a high index of suspicion is needed and warranted.
➤ Drug seeking behavior is over-diagnosed, especially if there is no clear history of drug use.
➤ Drug seeking behavior should not be considered when acute injury is present.
➤ The pain of osteomyelitis is severe and debilitating and pain management must be adequate to control pain.
➤ Increasing pain in patients with puncture wounds demands a thorough search for osteomyelitis.
➤ Two "red flag diagnosis situations" are present.
  ➤ First, conflicting data leads to more diagnosis mistakes (foot looks better, but pain worsens). For osteomyelitis, this pairing of symptoms is common.
  ➤ Second, if providers make the diagnosis of pain seeking behavior, other diagnoses are more often missed.

Room For Improvement:
➤ Routine surveillance for osteomyelitis in patients with puncture wounds and diabetes should be considered.
➤ If pain develops that requires narcotic, use later in the course of illness; osteomyelitis is a common cause.
➤ Distrust on the part of the provider or the patient leads to more diagnosis mistakes.
➤ The diagnosis of drug seeking behavior should be made with extreme caution and only after making sure other causes of pain are not being missed.
➤ Conflicting information (one test positive; another negative) is a clinical situation that leads to more diagnosis mistakes.

Case Studies (continued)

"We all talk about it. But getting down to data, really knowing what's going on, that's different."
~ Physician

Case Study 3:

The Case: Switching from IV to Oral Pain Medication

Mr. Darrow, a 78 year-old man, was admitted to the hospital due to pain from metastatic prostate cancer. He was started on morphine via a PCA pump achieving adequate pain management with 30 mg MSO4 over 24 hours IV. Upon discharge, his physician ordered that the PCA pump be discontinued and Mr. Darrow be started on 30 mg MSContin BID (twice daily) orally. Based on information she had received at a continuing education seminar on pain management, the nurse caring for Mr. Darrow believed this dose would be inadequate. The speaker at the pain management seminar emphasized that when switching patients from IV morphine to oral morphine (MSContin), a 3:1 ratio should be used for equianalgesia. Hence, the nurse believed that Mr. Darrow should received 90 mg MSContin in 24 hours (45 mg BID).

The nurse approached the physician and shared the information she obtained at the CNE course. The physician replied, "I've been practicing medicine for 30 years. Sometimes a one-hour course can make you think that you know everything about a subject." He then finished writing the discharge note, leaving his original order intact. The nurse called the nursing supervisor to discuss her concern but was told that since she had approached the physician and the issue was not life-threatening, further actions were not appropriate. During the discharge teaching with Mr. Darrow and his wife, the nurse explained that they should call the doctor or return to the hospital if the pain became intolerable. Thirty-six hours later Mr. Darrow arrived at the ER and was subsequently readmitted to the hospital for pain management.

Upon re-admittance, the physician switched to Duragesic patches, a trans-dermal patch of Fentanyl. When the patient could not tolerate this new medication, because of its side effects, he was finally put back on MS Contin at an appropriate dose and did well.

Case Studies (continued)

Questions:
- ➤ **Topic:** What happened? (Diagnosis/prognosis/treatment plan correct?)
- ➤ **Issues:** What issues need to be addressed? (Treatment administered properly? Appropriate clinical procedures?)
- ➤ **Ethical considerations:** (Impartiality, publicity, contestability, shared decisionmaking/collaboration)
- ➤ **Learning Points:** What are the learning points? (Please specify)
- ➤ **Guides:** What clinical and/or nursing guides could be suggested to solve this problem and avoid future problems? (System plan? System solution? Disclosure?)
- ➤ **Improvement:** What steps for improvement should be considered?

Summary

Topic:
- ➤ Appropriate dosing when making conversions

Issues:
- ➤ The nurse may consider the dosage, ordered by the physician, as a mistake or an adverse event due to the training she received, as well as to the quality of her interaction with the physician. Both issues deserve some consideration. In the our studies in rural healthcare settings, nurses and pharmacists tended to be in agreement and view conversion issues, similar to the one described in the case study, as "errors." Physicians were less likely to view such a situation as an error. While the communication was not optimal, it is unclear if there is a link between the patient's re-admission and the discussion between the nurse and the physician.
- ➤ The nurse is correct in the conversion formula that she cited, BUT so is the doctor. As suggested by Dr. Robert McNutt, one of our collaborators, conversions are an evolving technology so only logic defines the truth. The usual dose conversion from 30 IV to oral is 90 - as the nurse said. However, these are not hard and fast rules. For example, there are several conversion calculators on the web and they do not all give the same conversions. In addition, many guidelines suggest reducing the dose on discharge to avoid overdose in situations where the patient may not be observed as closely as in the hospital.

"When you see a problem it helps to have something to point to for back up."
~ Pharmacist

Case Studies (continued)

> Substitution of medication is common and can be reasonable. Side effects may change with substitution. Since these changes have to be viewed as probabilistic, the dosage ordered by the physician is not necessarily a systematic mistake or failure.

> Members of the healthcare team may want to discuss the decision to prescribe fentanyl. It is more expensive and not necessarily more effective than morphine (though fentanyl is preferred for patients requiring very high doses of opioids and for people who can't swallow). This patient did not seem to meet those criteria. It may be preferable to have the patient on an oral medication that can be more easily titrated, etc.

Learning Points:

> It is unclear if the patient was informed of the change in dosing; some patients will have more "side effects" if they think they received something different than they thought they were to receive. This situation could be considered a mistake if there was no communication with the patient about the change in medication, or if the change in medication increased, above chance, the likelihood of side-effects and/or re-hospitalization.

> Information about pain management in general and equi-analgesic dosing in particular, is commonly taught to nurses in either their basic education or at continuing education seminars. Yet, prescribing pain medication is clearly outside nurses' scope of practice. Both parties need to be clear about their roles.

> The patient may have suffered needless pain, an unnecessary hospital admission, and an adverse reaction to the substitute medication. Perhaps a more positive communication process could have eliminated these outcomes.

> The therapeutic window for pain medication is narrow. The consequences of mistakes on the two ends are likely different. On the low end, pain is the issue; on the high end, death is the issue. This intuitively seems to suggest that some under-dose to escalation is a reasonable construct. But, we don't know do we? This is difficult. The rhetoric, however, should not sound like "the patient being in pain is not as important to us". The clinical issue is that pain management is an uncertain environment of care. In such an environment, the use of standards and criteria may reduce complications.

"Support is key. The person I report to may not think it's a big deal and may not report it."
~ Nurse

Case Studies (continued)

Guides and Standards:

➢ Consider using an Excel narcotic conversion chart like the one developed by the patient safety team at Rush Medical College.

➢ Consider the change to an oral dosage while the patient is still hospitalized in order to monitor pain status.

➢ The physician chose to err on the low side and titrate up; the problem in this case was that there was no provision for supplemental, quick acting, morphine. If that had been in place then the patient may have been able to tolerate the pain until the correct dose of MS Contin had been obtained and the levels reach steady state.

➢ MS Contin quite often has to be dosed at the q 8 h frequency to maintain even analgesia.

➢ On an organizational level, develop, implement, and reinforce use of policies and procedures that encourage discussion of patient care among team members.

Room for Improvement:

➢ Consider use of Instant Reports so concerns can be logged and evaluated for frequencies, patterns, and other issues.

➢ Identify medical staff who can provide guidance and mediation when such situations develop.

➢ Employ effective communication strategies.

Case Studies (continued)

Case Study 4:

The Case: Back Pain and Complications

Mr. Bill Hedd is an 89-year-old man in relatively good health who suffers from a common condition of the elderly, he's constipated. However, this is more than your usual constipation; he goes almost a week without a bowel movement, and because of remarkable abdominal cramping, refuses to eat or drink much (though he tries fiber and milk of magnesia). He has complained of intermittent constipation for several years, but says that this is his "worst spell."

Over the course of the week, he develops progressively worsening weakness and fatigue. His pain gradually worsens - a dull constant pain and occasional cramping pain, mostly in the lower abdomen, even into the groin. He says that at times, it seems to come from his back. He feels that might be associated with doing some housework earlier in the week.

Because of the pain and misery, his daughter brings him to the emergency department. He is told an X-ray of his abdomen and his back appears normal; he is reassured that he is "just constipated" and told to self-administer some enemas at home. The emergency physician reassures him that, because the x-ray is normal, his back pain is not recurrent prostate cancer.

He returns home, but has trouble administering the enemas. Instead, he takes magnesium citrate, 6 ounces, and has a number of bowel movements, feels much better, and eats a reasonable meal. Approximately 24 hours later, he gets up from his recliner, collapses to the floor, and calls 911 when he can't contact his daughters. He is taken to the emergency department, given fluid resuscitation for apparent dehydration, and then admitted because of recurrent, persistent episodes of hypotension.

Case Studies (continued)

Mr. Hedd has a number of chronic, stable, medical conditions, including:

1)   Hypertension, well controlled on an ACE-inhibitor (lisinopril, 10 mg).
2)   Hypercholesterolemia, well controlled on a "statin" (simvistatin, 40mg).
3)   A remote history of a fall in the home felt to be associated with a vascular event, probably a transient ischemic event with no residual neurologic deficit.
4)   Prostate cancer, diagnosed 8 years ago and treated hormonally (leuprolide) until 3 years ago. Recently, his PSA was noted to be quite elevated at 154 ng/ml (normal<4 ng/ml). His internist asked him to return to the urologist to consider resuming treatment, but he refused. (The leuprolide gave him hot flashes.);
5)   He had knee replacement surgery 4 years ago. He has never had a heart attack, or chest pain.

Mr. Hedd lives independently at home; his daughter and son live nearby and check on him daily. He is ambulatory, but has begun using a cane. He still does all of his own grocery shopping, and drives himself to the store. He does the crossword puzzle from New York Times and the Washington Post each morning in less than an hour. He has an evening cocktail, usually vodka and tonic. He smokes a pipe.

After his admission, he continues to have hypotensive episodes when he tries to sit up, which he tries to do because it helps his continuing, and worsening, back pain. The nurse has to make him lie supine, to help regulate his blood pressure. He is given some Morphine intravenously, 4 mg, for his pain. While it helps the pain, he has further decline in his blood pressure. His regular physician sees him at this time, and on further examination of his abdomen, he feels a large pulsatile mass in the midline. The physician orders a CT scan of the abdomen which confirms a large (9.5) cm dissecting abdominal aortic aneurysm with evidence of blood leaking retroperitoneally into the left iliopsoas muscle. The vascular surgeon suggests immediate operative repair, while explaining how dangerous it will be. Mr. Hedd agrees to have the surgery, saying, "What else could I do; I don't want to die!" The surgeon tells the internist that he wishes Mr. Hedd would "just say no."

"It's a quandary. What do you do when you don't think it's right?"
~ Nurse

Case Studies (continued)

Questions:

➢   **Topic:** What happened? (Diagnosis/prognosis/treatment plan correct?)

➢   **Issues:** What issues need to be addressed? (Treatment administered properly? Appropriate clinical procedures?)

➢   **Ethical considerations:** (Impartiality, publicity, contestability, shared decisionmaking/collaboration?)

➢   **Learning Points:** What are the learning points? (Please specify)

➢   **Standards & Guides:** What clinical and/or nursing guides could be suggested to solve this problem and avoid future problems? (System plan? System solution? Disclosure?)

➢   **Improvement:** What steps for improvement should be considered?

Summary

Topic:

➢ Elderly patient with chronic conditions including constipation, back pain, and prostate cancer reports to the ER complaining of increased severity of symptoms.

Issues:

➢ The patient's history of constipation sets a tone for his care. Is it reasonable to assume, given no signs of impending collapse, that this is just another case of constipation?

➢ This case is rife with uncertainty. The aortic abdominal aneurysm (AAA) may just be a random intervening event or could have been accentuated by the bearing down and the medication use. Was it there in the ER? We do not know.

➢ Patients with chronic disease and chronic problems present a special and difficult aspect of diagnosis mistakes. Among all the professions who read this case, some saw a preventable mistake, others did not. The ER doctors may have found the AAA if they did an ultrasound of the abdomen, but should an ultrasound be done in patients with chronic constipation on each visit? What is a reasonable standard?

➢ Can we reasonably find a way to improve the situation, ultrasound in all patients with abdominal complaints as a standard, for example? If not, can there be a mistake or error?

➢ The hottest decision point was made when the care givers accepted the fact that the patient was primarily constipated if not impacted following a week of no bowel activity.

> *"Rural hospitals are held to the same standard of diagnosis as urban centers."*
> *~ Physician*

Case Studies (continued)

> *"There are myriad clinical decision points along any diagnostic tree. Re-tracing the decisions are often difficult."*
> *~ Physician*

Learning Points:
- Delays and misdiagnoses likely increase in chronic conditions where some intervening illness presents in a similar fashion to the chronic illness presentation.
- An important clue was that the patient's condition had worsened and maybe this should have triggered a closer more in-depth examination that may have indicated a differential diagnosis.
- Expectations for diagnosis certainty should be lowered in complex, competing disease states (constipation, back pain, prostate cancer).

Clinical Guides or Standards:
- Flat plates of the abdomen are not useful for AAA or masses. The use of ultrasound for cases with complex clinical situations that may mask serious disease might be considered.

Room For Improvement:
- Perhaps elderly patients with abdominal complaints should be considered for ultrasound to rule out aortic abdominal aneurysm as the standard of care. This, however, would require training, technical capabilities, and money. These potential constraints make this sort of implementation less likely to be accomplished.
- When critical lesions are found, then early transfer may be an option.
- It may have been wise to provide an enema under clinical directions, and then re-examine.
- Is this an area where a second opinion would have been warranted?

Case Study 5:

The Case: Switching to Fentanyl patches from oral pain meds

Mr. Jacobs, a long-time rancher, was treated for head and neck cancer for several years. Given the advanced status of his disease, further treatment was aimed at making him comfortable. Since there were no hospice services available in his remote community, Mr. Jacobs received care from his family practice physician.

Case Studies (continued)

His family regularly drove Mr. Jacobs to the physician's office in a small town about 90 minutes away from his home. Mr. Jacob was on MS Contin 45 mg BID orally for six months with good pain management. However, the growing tumors created problems with swallowing and so his physician wrote a new order for Duragesic 50 mcg patches (transdermal fentanyl). The rural hospital pharmacist told Mr. Jacob how to apply and dispose of the patches, and also helped him put on the first one.

Beyond the pharmacist's assistance, Mr. Jacob did not receive any additional instructions in terms of pain management. At home later that evening, he experienced a huge spike in pain. Throughout the night, he was unable to sleep and vomited repeatedly. The following morning Mr. Jacob, fearing that his dying process would be marked by intractable pain, used his hunting rifle to kill himself.

Questions:
➢ **Topic:** What happened? (Diagnosis/prognosis/treatment plan correct?)
➢ **Issues:** What issues need to be addressed? (Treatment administered properly? Appropriate clinical procedures?)
➢ **Ethical considerations:** (Impartiality, publicity, contestability, shared decisionmaking/collaboration?)
➢ **Learning Points:** What are the learning points? (Please specify)
➢ **Standards & Guides:** What clinical and/or nursing guides could be suggested to solve this problem and avoid future problems? (System plan? System solution? Disclosure?)
➢ **Improvement:** What steps for improvement should be considered?

Summary

Topic:
➢ Changing narcotic medications.
➢ Conversion may lead to adverse events.

> *"It really comes down to if this was your mother and you had to make sure she got the right pills, what would you do?"*
> *~ Pharmacist*

Case Studies (continued)

Issues:
➤ For cancer patients, suicide rates are greatest for those suffering from head and neck cancer.
➤ There is no "gold standard" for converting from one narcotic to another. (The literature reports up to a 3X variation when converting from some narcotics to others).
➤ There are no decision support programs available for wide use that check for incompatibility for doses of narcotics.
➤ The timing of the change from oral MS (45mg) to the patch may be important in this case. Was this gentleman on oral MS at the time the patch was placed or was the patient without narcotics before changing to the patch? This is important for the following reasons:

Learning Points:
➤ A special problem may arise when converting from oral or IV narcotics to a patch. Even if the dose conversion is correct (as this case), there is a lag time to stable pain control with the patch.
➤ When changing to a patch, some other narcotic needs to be prescribed for breakthrough pain.

Room For Improvement:
➤ When using a patch, provide additional pain medication, oral, sub-q or IV, to supplement pain control until the patch has time to work.
➤ The pharmacist who filled the order should have informed the patient of the titration period, sometimes as long as 2-3 days.
➤ Be aware of the potential for suicide in all patients with cancer and especially with head and neck cancer.
➤ In addition to education, consider regulations to have pharmacists check for appropriate conversion when changes are made in narcotic orders.
➤ When using patches for pain, warn patients about the potential for breakthrough pain and provide medication for exacerbation.
➤ The patient should have been given information about where to turn and ask for help if the pain exacerbated.
➤ A national agenda should be undertaken to establish a universal guideline for use of narcotics with special emphasis on appropriate conversion.

"There is always some balancing how much is it worth to deal with it?"
~ Nurse

Case Studies (continued)

Case Study 6:

The Case: Did I Do The Right Thing?

Hilda Hensen has worked as director of nursing in a rural hospital for nearly fifteen years. This is a hospital, she explains, in which patients expect to be treated "as though they were family members." That expectation is not surprising since community members built the hospital, laid the floor boards, and painted the walls. "This is not a world," she explains during an interview, "where we can turn people away like they do in the big city hospitals. This is a world where people are tight and everybody is a little bit of kin." This is a world of connections; there are few secrets on Main Street.

When describing her community, Hilda offered comments such as "everybody knows everybody" and "people value their own." Still, she noted, "a hospital can feel like a strange place. People may not know what decisions they will have to make. She explained that recently a very young, first time mother recently experienced a long and difficult labor. Throughout the labor and birth, the young woman cried and begged the nurses for pain medication. Pain medication was certainly available, but the woman's husband told the nurses that the Bible explicitly stated: "In pain shall you deliver your young." He stayed at his wife's side throughout the labor and delivery and repeatedly insisted that she must not be given any pain relief. The family's minister also stayed in the room with the young couple. Hilda said she and the other staff who were working that night accepted the husband's wishes and coached the young woman as best they could. It was a long and stressful night; the young woman had a very difficult time.

The nurses were irritated with the husband and the minister, but they did not discuss the situation among themselves or with the couple. Hilda believed that life would be "easier for the woman in the long run" if they obeyed her husband. In fact, she thought she was doing the young woman a favor. Hilda was familiar with their Church and she knew the minister. The minister and the husband would have been angry if pain medication had been given. "There are so few secrets in this town" explained Hilda. If the woman had accepted pain medication, she would have been seriously criticized by her family and members of the congregation. She would have been shunned.

Case Studies (continued)

The young mother expressed gratitude to the nurses when she was discharged from the hospital. She was glad she had not received pain medication and told the nurses they could be "trusted" because their actions had not placed her or her family in jeopardy.   At the end of the interview Hilda asked: "Would you call that an ethical issue? A mistake? Did I do the right thing?"

Questions:
- ➤ **Topic:** What happened? (Diagnosis/prognosis/treatment plan correct?)
- ➤ **Issues:** What issues need to be addressed? (Treatment administered properly? Appropriate clinical procedures?)
- ➤ **Ethical considerations:** (Impartiality, publicity, contestability, shared decisionmaking/collaboration?)
- ➤ **Learning Points:** What are the learning points? (Please specify)
- ➤ **Standards & Guides:** What clinical and/or nursing guides could be suggested to solve this problem and avoid future problems? (System plan? System solution? Disclosure?)
- ➤ **Improvement:** What steps for improvement should be considered?

Case Study 7:

The Case: Morphine and Renal Failure

Mrs. Thomas, 52 years old, was recently diagnosed with gastric cancer. She has had a long history of diabetes and has been on hemodialysis for two years because of renal failure. Due to an increasing dull, aching, abdominal pain her oncologist prescribed 15mg MS Contin BID, a very low dose. Two days later, her adult daughter brought her to the emergency room because Mrs. Thomas was extremely lethargic. In the ER, Mrs. Thomas was difficult to arouse with pinpoint pupils. Mrs. Thomas was admitted to the ICU for airway protection and was given Narcan IV and fluids (necessitating an additional dialysis). She recovered within a few days and was switched to Oxycontin (with Oxycodone for breakthrough pain), which she tolerated without problems.

Case Studies (continued)

Questions:

➤ **Topic:** What happened? (Diagnosis/prognosis/treatment plan correct?)

➤ **Issues:** What issues need to be addressed? (Treatment administered properly? Appropriate clinical procedures?)

➤ **Ethical considerations:** (Impartiality, publicity, contestability, shared decisionmaking/collaboration?)

➤ **Learning Points:** What are the learning points? (Please specify)

➤ **Standards & Guides:** What clinical and/or nursing guides could be suggested to solve this problem and avoid future problems? (System plan? System solution? Disclosure?)

➤ **Improvement:** What steps for improvement should be considered?

Summary

Topic:

➤ Narcotic dose adjustment in renal failure.

Issues:

➤ 15MG MS contin is a low dose. It is equivalent to 10MG of morphine in a 24 hour time period. This would be equal to about 2MG of dilaudi d. These are small starting doses. Clearance is partially via the kidneys. The dose reduction is 50% if the GFR is <10.

➤ Adverse Event involving apparent overdose of narcotic.

Learning Points:

➤ All opioids can cause problems in renal failure - including Oxycodone, the drug given to this patient. In fact, acute renal failure has been described with Oxycodone suppositories. "Conservative" doses are recommended even for this drug (Micromedex). Some trials show that Methadone works better than MS.

➤ 15 mg bid is a low dose; but 50% reduction would be reasonable.

➤ For most patients, the consequences of an overdose are worse than the consequences of an under-dose (pain in one case; potential death in the other) so many doctors try lower first and build.

Case Studies (continued)

Room For Improvement:

➤ It is important to consider that dosing errors can occur at home as well as in the hospital. Some education or communication at discharge about how to give narcotics at home may help. An assessment of the family's ability to handle adversity and an assessment of the family's emotional state may help as some can not deal with pain and suffering. It may be helpful to have national discharge planning instructions for all patients taking narcotics at home following hospital discharge. Case discussions should include as much detail as possible before assigning cause and effect. Often there are extenuating circumstances.

➤ Interviews with providers at the bedside often change the discussions and the assignment of cause and effect.

Case Study 8:

The Case: Mrs. Smith Goes to the Doctor

Mrs. Smith, a 56-year old patient, has been diagnosed with a number of health problems. Her diagnoses include: hypertension, increased lipids, diabetes mellitus II, asthma, osteo-artritis, diverticulosis, ERT, COPD, CAD, sigmoidal resection, and chronic pain. During a recent visit, she told her physician that she was tired and had recently experienced some dizzy spells. The doctor ordered a work up that could rule out a cerebrovascular accident (CVA). Mrs. Smith's current medications include: Ipratropium (1 ampule in neblizer), Albuterol (2 puffs, q.i.d), Combivent MDI (2 puffs every 4 hours prn), Advair Diskus 500/50 (1 puff b.i.d), Centrum MVI (1 daily), Vitamin E 400 IU (1 daily), Citracal-D (1 po t.i.d.), Premarin 0.625mg (1 po daily), Docusate 100 mg (1 po b.i.d), Quinine 325 mg (1 po daily at bedtime), Aciphex 20 mg (1 po daily), Simvastatin 20 mg (1 po daily at bedtime), Lisinopril 40 mg (1 po daily), Glipizide XL 10 mg (2 po daily), Vioxx (20 mg daily), Albuterol unit dose nebulizer (q.i.d.), and baby aspirin.

"We struggle, day in and day out, with orders like "meds as at home."
~ Pharmacist

Case Studies (continued)

Questions:

➤   **Topic:** What happened? (Diagnosis/prognosis/treatment plan correct?)

➤   **Issues:** What issues need to be addressed? (Treatment administered properly? Appropriate clinical procedures?)

➤   **Ethical considerations:** (Impartiality, publicity, contestability, shared decisionmaking/collaboration?)

➤   **Learning Points:** What are the learning points? (Please specify)

➤   **Standards & Guides:** What clinical and/or nursing guides could be suggested to solve this problem and avoid future problems? (System plan? System solution? Disclosure?)

➤   **Improvement:** What steps for improvement should be considered?

Summary

Topic:

➤   Poly pharmacy

➤   Syncope/weakness in patients with multiple medications.

Issues:

➤   Elderly patients with multiple medications who develop side effects while on those medications should be tested for cause-effect of drug side-effects by drug withdrawal trials.

➤   The most likely agent causing symptoms should be stopped first. An example, a dig withdrawal trial found that about 40% could stop the medication (did not get more short of breath), but 60% worsened with stopping the medication.

➤   Try as we might, however, there is no science to assess the best practice for polypharmacy.

➤   Recent articles even suggest that a "polypill" with 6 agents for cardiovascular health should be considered. However, rebuttals remind that there are no trials that test the best "number of pills".

➤   Obvious duplication should be avoided.

"I could say we don't do as deep an investigation as needed. We don't get to the root. But not intentionally. It's just the way we do it."
~ Pharmacist

Case Studies (continued)

Learning Points:

➢ No high quality data exists on what is "polypharmacy".

➢ No national databases exist that are of high enough quality to assess the true consequences of polypharmacy.

➢ Excess consultation is a predictor of polypharmacy, but this is confounded with indication and the need to consult.

➢ Hospitalization is a predictor of new medications and reconcilliation when in the out-patient setting is a must.

➢ Polypharmacy is presently an unsolvable conundrum and uncertainty is certain. Each case must, at present, be individualized and trial and error is the norm for evaluation.

Room for Improvement:

➢ Only patient specific withdrawal trials should be done (when possible).

➢ Reconcile all medication lists with primary care providers.

➢ Include the patient in evaluating the risk and benefits of medications. Often patients know what is best (but the placebo effect is huge).

➢ MORE communication, not less is needed between providers.

➢ Evaluate the decision to give medications in uncertain or low benefit situations; time and close follow-up are often better plans.

➢ NSAIDs can be dangerous in the elderly, and for patients with CHF, CRF, PUD, DM and hypertension.

"They are in a rush and people get in trouble. They don't re-check anymore. They don't do 1,2,3,4,5. They do 1,4,5. "
~ Quality Control

Case Studies (continued)

Case Study 9:

The Case: Needle Stick

In order to cover staff summer vacations, the lab supervisor is helping with morning lab draws. She will do this for about two weeks. The supervisor does not normally do routine lab draws for hospitalized patients and the location of the sharps disposal box has changed since her earlier practice. She develops a routine for blood draws where she stands at the patient's bedside while drawing the blood, placing the used sharps on the sink (which is within reach). Once she has completed her work with the patient, she disposes the needles in the sharps box (which is not within reach from the bedside).

On her third morning, she draws blood from a patient who has been admitted with liver failure; she places the used syringe on the sink, but neglects to place it in the "sharps box" before leaving. Approximately 10 minutes later, the night shift RN, finishing her care for this patient, comes into the room. In the process of caring for him, she backs into the syringe. The needle sticks into her buttocks and the plunger is briefly pressed against the back of the sink area. The nurse leaves the room very upset and in tears. After asking colleagues if they had seen anyone enter the patient's room in the last hour, she realizes that the syringe was left by the lab supervisor.

She calls her nurse manager to report the whole incident. The nurse manager tells her to complete an incident report and be examined in the ER when she completes her shift (in approximately 20 minutes). She also tells the nurse to not talk with the lab supervisor directly, but to allow someone in administration to do so if they think it is warranted saying, "There is no point in making her feel badly about this."

However there is a delay of about 2 hours because of staffing and her emotional distress. She is also embarrassed to be seen in the ER because she is overweight and dreads having her colleagues examine the needle stick site.

"Any issues brought to light should be seen as helpful and that environment needs to be developed. When that is developed, employees come forward. It's one step at a time and we deal with it."
~ Nurse

Case Studies (continued)

Questions:

➤ **Topic:** What happened? (Diagnosis/prognosis/treatment plan correct?)

➤ **Issues:** What issues need to be addressed? (Treatment administered properly? Appropriate clinical procedures?)

➤ **Ethical considerations:** (Impartiality, publicity, contestability, shared decisionmaking/collaboration?)

➤ **Learning Points:** What are the learning points? (Please specify)

➤ **Standards & Guides:** What clinical and/or nursing guides could be suggested to solve this problem and avoid future problems? (System plan? System solution? Disclosure?)

➤ **Improvement:** What steps for improvement should be considered?

Summary

Topic:

➤ Accidental needle stick that fits the criteria for an adverse event. This is a 'significant' exposure in the occupational health language because the hub of the needle probably had blood in it and the needle stick resulted wasn't just a prick because the plunger was depressed -- potentially injecting an unknown amount of blood into the nurse.

Issues:

➤ The patient's diagnosis is troubling -- liver failure could be secondary to hepatitis. And HIV is an issue since some of the risky behaviors that result in hepatitis also are associated with HIV.

➤ Failure to use, or have access to, appropriate disposal are serious mistakes.

➤ Inadequate back-up for critical procedures or people (This adverse event would have been less likely with an expert lab draw).

➤ The delay of seeking prompt treatment is a serious problem.

"The RN employee's health should be the first priority" ~ Physician

Case Studies (continued)

"The goal is to prevent a similar occurrence in the future"
~ Physician

Learning Points:

➢ The RN employee's health should be the first priority and an immediate trip to the E.D using the full protocol should be employed.

➢ The nurse manager should have relieved the nurse from duty and arranged for medical attention. If the injured nurse refuses to seek medical attention, such a refusal should be well documented.

➢ Although difficult to design, given short supply, pressures, etc., a back-up system for all critical procedures/people is essential.

➢ While not uncommon, the person who left the syringe needs to be told immediately and compassionately about the error so that the unsafe practice(s) can be adjusted promptly. If prompt action is not taken, the potential for further errors increases, not to mention the potential for gossip.

➢ The organization needs to maintain the employee's confidentiality re: the needle-stick, treatment, or outcome.

Guides:

➢ An OSHA hazard assessment needs to be performed in all areas where such procedures are being performed. The assessment should be documented and a copy included in response to the incident report as well as the corrective action taken.

➢ The nurse may well be a candidate for prophylaxis.

➢ Our medical consultants suggest that treatment can be complicated. They suggest using the CDC website for explicit direction s. The address is: http://www.cdc.gov guides for needle-stic k. When you access that site, go to health topics A-Z and choose Needle stic k. That page also links to a new UCLA site on needle stick s. Both are excellent sources.

Case Studies (continued)

Areas For Improvement:

➢ Consider using only experts for toughest and most dangerous lab draw.

➢ Consider a fail-safe system for needle with technology for immediate needle disposal.

➢ Consider training all about - draw -discard- draw -discard - reminders all over the hospital. The need to take immediate action needs to be stressed.

➢ As the situation is investigated thoroughly, areas for improvement may be identified on an organizational wide basis. This review may reveal
   that there are policy, practice, training issues that are broader than for specific employees.

Case Study 10:

The Case: Teen with Asthma

Katy Adams is a 15-year-old girl who has had severe asthma since age 3. She is 60 inches tall and weighs 92 pounds. She has been hospitalized numerous times in the rural town where she lives. Hospitalizations are triggered by either respiratory infections or environmental allergens. Katy has traditionally been very responsible and compliant but the teenage years have been challenging; on numerous occasions, she has tried to downplay symptoms and delay treatment.

At 11:00 pm, Katy is brought to the ER by her father. At that time, she admits that she has not been tracking her peak expiratory flow rates at home, has been wheezing more than normal, and has been exposed to more allergens than normal because of an air inversion. Katy's peak expiratory flow rate on evaluation in the ER is 53% of predicted, given her height; O2 saturation by oximetry is 89%, respiratory rate is 48 and labored and heart rate is 145. Initial treatment in the ER included low flow oxygen via nasal cannula, Albuterol via nebulizer (a beta-2-selective adrenergic agonists), and Atrovent via nebulizer (an anticholinergic agent). Within 30 minutes, Katy's wheezes are significantly improved, RR=36, breathing is less labored and O2 sat is 92%.

The ER physician decides to admit Katy and at 1:15 AM, Katy is taken upstairs to the medical floor with orders for vitals q. 1 hour until stable and to start systemic corticosteriods in addition to O2, Albuterol and Atrovent. Katy receives the first dose of corticosteriods at 3:30 AM.

Case Studies (continued)

At 7 AM the day shift nurse receives the report from the night shift nurse. The night nurse reports that Katy appears to be somewhat improved and watched TV, while sitting up in bed, instead of sleeping. The nurse also reports that Katy has had diffuse expiratory wheezes throughout her lungs during the night but that in the past hour the wheezes can no longer be heard. Katy's vital signs also seemed improved. Heart rate had been 130 most of the night and now is 115. Respiratory rate had been 30-40 most of the night and now is 26. The use of accessory muscles for breathing seems to be reduced. The nurse did not check an O2 sat with the last vitals as the oximeter was being used by another nurse, but O2 sats have ranged from 90-94% throughout the night on oxygen.

After listening to the report, the day shift nurse asks the night nurse what position Katy was in the last time the nurse was in the room. The night nurse reports that when she checked on Katy approximately 10 minutes earlier, she was sitting upright in the middle of her bed, cross-legged, leaning on her arms watching TV.

The day shift nurse rushed to Katy's room immediately where she found Katy in a classic 'tripod' position. Katy could not talk due to shortness of breath; no wheezes were heard because essentially no air was moving in her lungs. Oximetry showed a SAO2 of 80 %. The nurse called a code and Katy was taken immediately to the ICU where she was successfully intubated. After 3 days, Katy was discharged to home with a tapering schedule of oral corticosteriods to reduce the risk of relapse and readmission.

Questions:

➢ **Topic:** What happened? (Diagnosis/prognosis/treatment plan correct?)

➢ **Issues:** What issues need to be addressed? (Treatment administered properly? Appropriate clinical procedures?)

➢ **Ethical considerations:** (Impartiality, publicity, contestability, shared decisionmaking/collaboration?)

➢ **Learning Points:** What are the learning points? (Please specify)

➢ **Standards & Guides:** What clinical and/or nursing guides could be suggested to solve this problem and avoid future problems? (System plan? System solution? Disclosure?)

➢ **Improvement:** What steps for improvement should be considered?

> *"Our attitude and egos get in the way of data-based medicine and we treat what we know, not always what we see before us."*
> *~ CEO*

Case Studies (continued)

"I shared this case with a few staff members and they stated that this very kind of case had happened to them and in fact it was because no one checked the oxygen level and it was a teenager."
~ Nurse

Topic:
➤   Management of Severe Asthma Exacerbation.

Issues:
➤   Potential mismatch of goal and treatment due to not giving steroids early in care.
➤   Potential mismatch of goal to accurately assess the progress of patient while on therapy.
➤   Case has cues that suggest the patient was improving and it is unclear if the patient suddenly takes a turn for the worse, or if subtle cues were being missed.

Learning Points:
➤   Cochrane review of use of steroids found that patients with moderate to severe asthma exacerbation had a reduced readmission rate if steroids given.

Guides:
➤   No reliable data exist for prediction of response to therapy.
➤   Respiratory rate, peak flow, 02 saturation, use of accessory muscles of respiration, pulse, and airway sounds are all used in follow-up.
➤   The lack of a single best method or predictor of response to therapy makes this a moving target. In addition, no specific data exist to suggest the best triage decision (ED, floor, or ICU). This lack of evidence leads to variation in judgments by providers.

Room for Improvement:
➤   Patients with asthma are so common that providers can forget to gauge the level of severity of the exacerbation.
➤   Guidelines can help providers judge the severity of illness.
➤   For Katy, the peak flow and 02 findings defined a severe exacerbation.
➤   A standard protocol for asthma should include a judgment of severity and appropriate plan of treatment.
➤   A standard protocol could be established for monitoring patients.
➤   A worsening peak flow or failure to improve the 02 saturation would prompt providers to consider ICU care.

Case Studies (continued)

Case Study 11:

The Case: Surgery, Slow Recovery, and a Fall

After receiving a total knee replacement, an 83 year old man is put on coumadin. Two days after surgery he is noted to have a delirium. Its cause is presumed to be post-op and may be secondary to pain medications. The notes of several nurses reveal that he seems worse after getting vicodin. He begins to clear over the following week, but occasional notes in his chart reveal that he is oriented X2; once X3. His neurology exam is normal.

Since he shows only slow improvement, he is discharged and admitted the same day to a rehab hospital floor. Two days after this admission, he falls and bumps his head. His INR is 1.5-1.9. A consulting neurologist notes that he has no LOC, or head ache and his physical exam is normal. The patient is followed daily and monitored closely by multiple providers; all say he is oriented to time, person, and place and no focal neurological deficits are noted. Several notes say: "no need for a CT scan as his exam remains normal".

Despite a slow recovery with rehab, his family does not think he is as sharp as before and want him to go home to normal surroundings for a time. The PT/OT staff report that he needs 24-hour/day watch for falling and he is discharged. Three days after his return home he is noted to be "dull and weak." He is taken to an ED and they find a large subdural hematoma with herniation. The patient dies.

Questions:
➢ **Topic:** What happened? (Diagnosis/prognosis/treatment plan correct?)
➢ **Issues:** What issues need to be addressed? (Treatment administered properly? Appropriate clinical procedures?)
➢ **Ethical considerations:** (Impartiality, publicity, contestability, shared decisionmaking/collaboration?)
➢ **Learning Points:** What are the learning points? (Please specify)
➢ **Standards & Guides:** What clinical and/or nursing guides could be suggested to solve this problem and avoid future problems? (System plan? System solution? Disclosure?)
➢ **Improvement:** What steps for improvement should be considered?

"They weren't looking at the PATIENT, they were only following a protocol."
~ Quality Control

Case Studies (continued)

> *"I think sometimes we as nurses don't explore all venues when we think we are faced with a patient who has a 'complaining nature.'"*
> *~ Nurse'*

Topic:
➢ Elderly patients on anticoagulants (heparin, LMWH, coumadin, ASA, platelet inhibitors) who fall and hit their head.

Issue:
➢ CT scans versus clinical observation for intracranial bleeding.

Learning Points:
➢ Nausea, vomiting, severe head ache, LOC, seizures, signs of trauma above the clavicle, and age > 60 are predictors of increase risk. If any of the above is positive (in this case - age >60 and sign of trauma on the head), the risk of intracranial bleeding is nearly 1/10.
➢ The clinical examination is less reliable when the patient has baseline neurologic compromise.

Guide:
➢ CT scan is the most reliable test for determining if a patient on anticoagulation who falls has intracranial bleeding and should be considered unless a contraindication exists.
➢ It is not clear when is the best time to order the CT.
➢ If a CT scan cannot be done, the physician may consider stopping anticoagulation if the benefit is less than the risk.

Room for Improvement:
➢ Patient education including informing patients of the difficult trade-offs for this clinical situation.

Case Study 12:

The Case: Post-Op Nausea

A 32 year old woman with a history of significant post-operative nausea and has developed allergies to a number of medications used for such nausea.

Cynthia, age 32, is admitted for abdominal surgery to relieve a bowel obstruction due to peritoneal attachments. She has had multiple abdominal surgeries to correct congenital problems, but has a history of significant post-operative nausea.

Case Studies (continued)

She has become fearful of not having her post-operative pain aggressively managed. Unfortunately, she has also developed allergies/negative reactions to many medications including Compazine (prochlorperazine), Vistaril (hydroxyzine), and Reglan (metoclopramide).

Her abdominal surgery was uneventful and an epidural line was placed for post-operative pain management. A naso-gastric tube was also placed. The physician ordered a Fentanyl (droperidol) drip through the epidural line on a maintenance dose (with orders allowing the nurses to increase this maintenance level if needed). In addition, Cynthia could use the patient-controlled bolus feature on the epidural pump to administer a small bolus for break-through pain. In addition, the nurses had orders allowing them to administer a larger bolus for uncontrolled pain. Finally, Cynthia also has orders for treatment of nausea including Phenergan (promethazine) 25 mg IV q. 4-6 hours as needed and Zofran (ondansetron) 8 mg IV q. 8-12 hours as needed.

The first 24 hours after surgery were miserable for Cynthia. Her pain was only marginally managed. The nurses would provide a bolus of Fentanyl via the epidural line when Cynthia's pain became intolerable, but within minutes she would experience severe nausea and would begin gagging. This caused NG tube movement that further stimulated her gag reflex, and led to non-productive vomiting and increased abdominal pain. The nurses would then give her a bolus of Phenergan IV.

The combination of pain and nausea medication would cause her to become very drowsy and difficult to arouse. Every hour or two the whole cycle would be repeated. The nurses were reluctant to increase her Fentanyl drip fearing that she would become over-sedated. Cynthia said she was sure the doctor had promised medication for the nausea, but the nurses maintained that they should not provide additional medication because it would further sedate her. Both times the surgeon made rounds, Cynthia was asleep so he checked with the nurses on her condition. They reported that Cynthia was very difficult to manage due to the sedation and her complaining nature.

Case Studies (continued)

Questions:
➤ **Topic:** What happened? (Diagnosis/prognosis/treatment plan correct?)
➤ **Issues:** What issues need to be addressed? (Treatment administered properly? Appropriate clinical procedures?)
➤ **Ethical considerations:** (Impartiality, publicity, contestability, shared decisionmaking/collaboration?)
➤ **Learning Points:** What are the learning points? (Please specify)
➤ **Standards & Guides:** What clinical and/or nursing guides could be suggested to solve this problem and avoid future problems? (System plan? System solution? Disclosure?)
➤ **Improvement:** What steps for improvement should be considered?

Summary
Topic:
➤ Inadequately managed pain and post-op nausea
➤ Treating post-op nausea

Main Issues:
➤ Inadequate pain management
➤ Inadequate nausea management
➤ Communication

Learning Points:
➤ Intervention for pain management only occurred when pain "became intolerable." Need to address pain issues before pain becomes intolerable.
➤ Should have increased the maintenance dose as needed.
➤ Droperidol, the generic name for Inapsine, may not be an optimal choice for an epidural drip. Zofran was not given at all.
➤ Inadequate communication with the anesthesia provider or the physician. Using labels like patient has a "complaining nature" creates barriers.
➤ If nursing is worried about over-sedation they need to talk with MD about it and plan ahead.

"When it comes to little things, like 'med omissions' that don't hurt patients, no one reports or looks at it."

~ Physician

Case Studies (continued)

Guides:

➤ Treatment could include premedicating for nausea prior to giving a bolus.

➤ Some medications, if used in a smaller dosage and given prior to pain medication could minimize the nausea.

➤ A sedation score sheet might have been helpful in medication administration. There are several available; Cook and Palma Sedation Scale, Mccaffery and Pasero's Sedation scale, Nisbet and Norris Sedation scale, Modified Sedation Score in Children Barker and Nisbet, Sedation Score of Mackenzie and Grant, Ramsey Sedation Score. If anyone is interested in these they can be found at this web site. Www.medal.org/ch32.html.

➤ A substitution for fentanyl in the drip may have been tried as well.

Room For Improvement:

➤ Consideration of ICU placement for closer observation or at least have Narcan available.

➤ Conference between the patient, nurses, and MD would have helped.

"I want to stay here until I retire. I choose my battles. I wonder if that's fair ?"

~Nurse

Additional Tools

No one solution will necessarily make healthcare safer. Depending on the situation, context, and individual learning styles, any number of resources may be useful. The tools in the following section are included as guides to help rural healthcare institutions increase communication and dialogue across professions; they are also intended to help identifying and reaching common goals.

The tools in this section include:
➢ System Quadrant Analysis Tool
➢ Organizational Decision-making Tool
➢ Chart Form For Patient Care (2 Pages)
➢ Ethical Decision-making Map
➢ Readers Theater Script

Tool 1: Quadrant for System Analysis
This tool was developed to help healthcare providers analyze a problematic situation.

Tool 2: Organizational Decision-making Process
At times when we make decisions it is helpful to come to agreement and achieve realistic expectations. This tool will help healthcare providers work toward common goals as an organization.

Tool 3: Chart-Form (2 Pages)
This form is designed to help patients and family members discuss diagnosis and treatment options with members of the healthcare team.

Tool 4: Ethical Decision-making Map
This tool helps healthcare providers identify areas of conflict, parties involved, and concerns of those involved. It also helps identify potential ethical issues that need attention.

Tool 5: Readers Theater
Readers Theater offers healthcare providers a way to view their beliefs and behaviors in a different light. The script draws on the quantitative and qualitative data from our rural studies.

"In our hospital we are looking at a physician relation program and trying to make sure we aren't part of the problem."

~ Quality Control.

Tool 1: Quadrant for System Analysis

"I know that new orders are not being reviewed every day."
~ Pharmacist

System Error Analysis	
1. Facts & Assumptions a. Is diagnosis correct? b. Is prognosis correct? c. Is treatment plan correct? d. Is your information adequate? e. Incorrect assumptions?	**2. Actions & Process Issues** a. Was the treatment administered properly? b. Was documentation done correctly? c. Was procedure followed? d. Were there other options?
3. Attitudes & Biases a. Is this patient being labeled? b. Do you 'like' this patient as a person? c. How would you want to be treated in similar situations? d. Are there other ways to view the issue?	**4. System & Safety issues** a. What are the organizational issues? b. Does the system have an existing plan to cover these problems? c. Was it followed? d. Could there be systems solution? e. How do the Threads help us understand the problem?

Tool 2: Organizational Decision-making Process

Clarify the Organizational Standard

➢ Gold rule: the best healthcare for the greatest numbers of people;
➢ Silver rule: doing more than avoiding harm but not fully committed to the best healthcare for the greatest number of people;
➢ Tin rule: pursuit of good without violating the rights of stakeholders.

Initiate a Process for Making Ethical Decisions

➢ Identify all parties involved in decision;
➢ Level the playing field to minimize disparities in power knowledge and other areas of the varies parties;
➢ Help parties define interests;
➢ Search for common ground and areas of consensus;
➢ Identify options for consideration;
➢ Evaluate the decision;
➢ Document the decision.

Examine Areas of Potential Harm

➢ Clarify harms to affected parties and seek the lesser harm;
➢ Weigh the potential harms, the consequences in terms of seriousness & quantity;
➢ Clarify the commonly accepted rules and norms for the culture/community; this includes consideration of organizational, professional and cultural norms;
➢ Determine mitigating circumstances, chiefly, the capacity to act with knowledge and freedom;
➢ Develop strategies to minimize harm to those who may be harmed.

Develop Criteria for Outcome

➢ Seek the best that can be done;
➢ Clarify the minimal criteria for organizational ethics (standard you won't go below);
➢ Disseminate the accepted rules;
➢ Act with consistency;
➢ Seek ways to compensate the vulnerable and disadvantaged.

"We stress non-punitive but it will take some time before the person making the error feels that they are not at fault."
~ Quality Control

Tool 3: Chart Form

GUIDE FOR PATIENT AND FAMILY DECISION-MAKING		
This form is designed to help patients and family members discuss medical indications and treatment options with members of the healthcare team. A signed copy of this form should be given to the patient or family member(s) and should also be included in the patient's chart.	Last Name of Patient	
	First Name/Middle Initial of Patient	
	Patient Date of Birth (mm/dd/yy)	
SECTION A	**What is the patient's diagnosis?**	**What interventions are recommended?**
SECTION B CHECK ALL THAT APPLY	**Areas discussed with patient/family:** ☐ pt/family understand diagnosis ☐ pt/family understand treatment ☐ pt/family understand choices ☐ consequences of accepting/refusing therapy ☐ concerns about coercion, duress, abandonment, or capacity	☐ advance directives/DNR ☐ financial issues ☐ life expectancy ☐ potential disability/suffering ☐ interpreter needed ☐ pt/family advised about who to ask for information (see other side)
SECTION C CHECK ALL THAT APPLY	**Who agrees with the care plan?** ☐ doctor ☐ nurse ☐ family ☐ administration ☐ patient ☐ other	**Who has authority to make decisions?** ☐ does physician have authority to make decision for pt. ☐ does pt have authority to refuse or demand care ☐ does family have authority to refuse or demand care ☐ authority lies with other agent or surrogate

SECTION D CHECK ALL THAT APPLY	**Areas of possible concern**:		
	☐ professional codes	☐ interests/rights of other family/pt	☐ communication with
	☐ standard of care community norms	☐ diagnosis & prognosis	☐ awareness of
	☐ futility/utility	☐ protection of others	☐ reporting of errors
	☐ efficacy/inefficacy	☐ legal obligations	☐ referral to social

SECTION E CHECK ALL THAT APPLY	**Goals of therapy:** ☐ Should resuscitation be attempted? ☐ Shall artificial nutrition and hydration be utilized? ☐ Should a nursing home resident or someone ill at home be hospitalized? ☐ Is it time to reconsider treatment goals	
SECTION	Discussed with:	Patient signature:

Tool 3 (continued)

FORM FOR ASSESSMENT OF ETHICAL ISSUES IN PATIENT CARE		

SECTION G	Issues that may need further attention:	Recommendations:

SECTION H

Please review this form if there is a substantial change in patient's health status such as:

☐ Close to death   ☐ Improved condition   ☐ Advanced progressive illness
☐ Extraordinary suffering ☐ Transfer   ☐ Permanent unconsciousness

SECTION I

Review of this form

Date of review	Reviewer	Location of review	Outcome of review
			☐ No change ☐ Form voided: new form ☐ Form voided: no new form
			☐ No change ☐ Form voided: new form ☐ Form voided: no new form
			☐ No change ☐ Form voided: new form ☐ Form voided: no new form
			☐ No change ☐ Form voided: new form ☐ Form voided: no new form

If you have questions about the information we have discussed, you may contact:

Name: _____

"It's hard to get some of our docs to use new forms, especially if they come from nursing."
~ Nurse

Tool 4: Ethical Decision-making Map

1. ISSUE	2. PERSPECTIVES OF THOSE INVOLVED	3. LOCUS OF DECISION
ETHICAL DECISION-MAKING MAP		
What is the situation or dilemma? (Outline briefly) ➢ basic medical problem ➢ medical indications for treatment ➢ what decision needs to be made? ➢ what are the patient/family preferences? ➢ what are the preferences of healthcare providers?	**Patient's/family's concerns** ➢ adequate disclosure ➢ capacity to choose ➢ ability to refuse therapy ➢ coercion, duress or abandonment ➢ advanced directives ➢ surrogate decision makers ➢ pt health vs family finances ➢ religion, values & culture	**Who has authority to act?** ➢ does physician have authority to force care on pt ➢ does pt have authority to refuse or demand care ➢ does family have authority to refuse or demand care ➢ authority lies with other agent
Who does what to whom and under what circumstances? ➢ who is involved in the situation? ➢ what actions are planned? ➢ what information is being given & withheld? ➢ who will experience consequences? ➢ how will the decision be achieved?	**The Healthcare Providers' concerns** ➢ professional codes ➢ standard of care ➢ awareness of community norms ➢ trust and professional reputation ➢ diagnosis & prognosis ➢ goals of therapy ➢ efficacy/inefficacy ➢ futility/utility ➢ loyalty issues ➢ communication with family/pt ➢ institutional concerns & financial constraints	**How was the decision actually made in terms of power?** (who had the final say?) ➢ doctor ➢ family ➢ patient ➢ nurse ➢ administration ➢ other
Is there a conflict of values? ➢ between healthcare provider and patient/family ➢ among healthcare providers ➢ between healthcare provider(s) and organization ➢ between the family and patient ➢ between patient and 3rd party payer	**Contextual/systemic, & quality of life issues** ➢ relevance of benefits, harms and rights of others ➢ interests of others ➢ protection of others ➢ cost of care ➢ allocation of resources ➢ legal obligations ➢ effects on community and the medical practice relations? ➢ life expectancy ➢ potential for disability & suffering	**What ethical principles inform the situation?** (Examples) *Autonomy:* ➢ does the patient have the right to refuse care? ➢ is patient informed enough to refuse care? ➢ does the family have a right to know? *Competency:* ➢ does the patient/family understand the diagnosis and treatment? *Truth-telling:* ➢ how much information should the healthcare providers provide? *Harm:* ➢ will not telling cause harm? ➢ will telling cause harm? ➢ will forcing care cause harm? ➢ will not forcing care cause harm?

Tool 5: Readers Theater Script

Tool 5: Readers Theater.
We developed Readers Theater scripts some years ago as a way to share, with rural healthcare providers, the key findings from a series of ethics and patient safety studies. When conducting these studies, we learned that rural healthcare providers diligently strive to provide quality care. However, healthcare professionals do not always look at the world through the same lens. The reasons for this are many; they do not attend the same conferences, read the same journals, or attend the same staff meetings. Lamented one nurse: "We rarely have time to talk to one another; sometimes I have to write a letter." As a result, rural healthcare providers do not really know or see on a daily basis how divergent their world views can be. Moreover, some topics are difficult to broach even under the best of circumstances.

Readers Theater offers healthcare providers a way to view their beliefs and behaviors in a different light. The scripts draw on the quantitative and qualitative data from our rural studies. Each tells a story about several incidents that commonly occur in rural healthcare settings. The incidents may involve a policy, such as advance directive, an error such as an incorrect dose or procedure, or a cultural value such as familiarity.

Each script has roles for a narrator and 5 or 6 readers who represent the various healthcare professions, patients, and family members. Volunteer readers are picked from the audience; no advance preparation is required. We try to achieve role reversals, so that a nurse, for example, will read the CEO's lines, and a doctor the patient's and so on. At the close of the reading, a moderator fields a series of questions that highlight gaps and areas of differing perceptions among the different roles. The questions help identify the issues, options, learning points, and areas for improvement. Initially, the questions are directed to the readers who explain how it feels to read someone else's words and viewpoints; after that the audience is encouraged to ask questions and offer insights. Participants testify that the Readers Theater is a powerful way to learn other profession's viewpoints and to open up interdisciplinary dialogue.

"The differences in perspective make finger pointing easier and then individual responsibility is lessened"
~ Physician

Tool 5 (continued)

> *"When it involves changing things- it gets really hard with some of our people. In rural settings this is so evident; you have a medical staff that is very close and generally has a lot of power, and a lot of the staff has been around for along time. It is hard to get them to make changes."*
> *~ CEO*

Narrator: Patient safety has been identified as an issue of national concern. Indeed, stories about healthcare errors are published in the newspapers or the media every day. Congress is now considering a number of bills that target patient safety. Some healthcare providers dispute the IOM suggestion that as many as 98,000 people die every year due to errors. But nearly everyone agrees that errors do happen - and happen more frequently than they should. Hospitals are now struggling to determine why errors occur and what can be done to reduce them.

Quality C: Our hospital really is concerned about patient safety. I think we have a no shame/no blame approach. After all, mistakes happen to even the best healthcare providers. We are all human. We document medication errors and patient falls on our incident reports. And I review the charts.

Admin: I think our good catch policy has made a difference. We've provided staff training; its a priority area. I think people feel more comfortable talking about errors. We're making steady progress. We are making sure that our training activities involve nurses because it seems that many of the errors involve nursing care.

Nurse: Well the good catch deal lasted about a month.

Physician: I will sleep better if some of your training has an impact. Last week I ordered 10 units of insulin for a patient and he got 20. That kind of error happens more often than we think - and it shouldn't.

Nurse: You're talking about the no blame approach but listening to you, it seems like the nurses are blamed. When we make a mistake, we chart it. You can't hide those things - they are pretty obvious. We file incident reports and talk about what happened.

Physician: Well that's my point. Look at the incident reports. They're filled with medication errors. We have a lot of work to do. The nurses give the wrong dose, or the wrong drug. Sometimes they give medication at the wrong time, if not altogether omitted. Yesterday a nurse gave the medication via IV instead of IM.

Quality C: It's true - we do have a lot of medication errors and some are serious. Most don't cause harm but those that do are really troublesome. But we're not alone. Look at the national efforts - they are all focusing on medication errors.

Tool 5 (continued)

Admin:	We could look at ways to streamline the process, make it simpler if that is the problem.
Nurse:	It's not that simple. The spotlight will still shine on us because in this hospital, doctors don't make mistakes. They have sub-optimal outcomes or practice variances. They use their clinical judgment and have discretion. There's no investigation. There are no errors. Well, there are no errors on the official radar screen.
Physician:	That's ridiculous. We have the M&M meeting every week. We have peer review. If there's a problem, we see it and the chief of staff deals with it.
Pharmacist:	Well, some problems may be solved in M&M. But I'll be honest. You can't blame just nursing. I've changed a lot of prescriptions since I've been here. Actually, I have to make changes every week. If I didn't, someone would die.
Quality C:	You must be exaggerating. That's illegal. I know that you and the nurses have complained about bad handwriting. And we've been trying out the new medication order form. A couple of the physicians said they would give it a try.
Pharmacist:	Face it - most won't use it. And when the orders are wrong, I'll keep changing them. I change conversion rates, I change doses. I change the drugs. New guidelines come out. You can't expect the physicians to remember the specifics of all of these drugs. Sure sometimes I call the physicians. But they get irritated when they get so many calls. If a doc is just going to slam the phone in my ear or throw a chart, what's the point? I have to think of the patient. We'd never get the prescriptions filled if I spent all of my time on the telephone. I make the change, put a notation in the chart, and another error is averted.
Nurse:	That's my point. Do you call that an error? You don't. Is that change marked down on an incident report? It isn't. Sometimes when you make the changes you tell us to let the doctor know. And then we are right in the middle. If I'm an hour late with a dose of Tylenol, that's an error. I wish we could just say clinical judgment and the problem would magically disappear.

Tool 5 (continued)

Quality C: You're making me quite nervous. I think we have a good reporting system. We're on top of the new JCAHO guidelines. We encourage you to alert us to any potential problems. And I think we're being fair.

Admin: We've got a number of new systems in place. I think our concern for patient safety is very genuine.

Nurse: Well I don't think those systems would have helped Mr. Brown. And I sure got burned when I was taking care of him. He has really poor circulation and we were treating his foot wound with dry dressings, just as his cardiac surgeon had authorized. We were on top of the problem and following current wound care guidelines. You know I did attend the wound treatment seminar last month. When Mr. Brown went back to his primary care physician there was no coordination. You know who I am talking about; that doctor never even called the cardiologist. He used the treatment he learned in medical school 30 years ago. He debrided the wounds; it looks like Mr Brown is going to lose his toes. When I complained to my supervisor, I was accused of nitpicking and practicing medicine without a license. She told me not to question the physician's clinical judgment.

Physician: That's not a fair example. The physician is under no obligation to call the cardiologist. It may have been entirely appropriate to debride the wounds. A physician does have to use his clinical judgment. You can't go snooping around in charts and guess what you would have done in that circumstance.

Admin: We're getting a little off-center here. We can't control what the physicians do in their offices.

Nurse: Right. But now he's back in the hospital to have his toes amputated. When can you question clinical judgement? When do you call it an error? That primary care doc didn't do any doppler studies. He didn't know if there was any circulation in those toes. I thought that the failure to use the right tests or ignoring new clinical guidelines was an error.

Tool 5 (continued)

Physician: Personally, I hate practicing by recipe. Intuition is an important characteristic of the art of medicine. There is no substitute for our clinical judgement - it is rooted in our experiences. We'd be wasting our time if we tried to implement all the things suggested by the patient safety foundation. We don't have wrong site surgeries here. We know our patients. We don't need computers to tell us when to schedule appointments.

Pharmacist: You know, the nurse has a point. Clinical guidelines have a place. We had that case last week when the 83 year-old patient came to the ER with a hematoma. He was put on Coumadin when he was hospitalized and the physician told him to return for a blood test in three weeks. Just shy of 3 weeks, he came to the ER and his INR was 14. The hematoma was serious; we're lucky he didn't have an even more serious bleed. I think that's an error and frankly it's one we see all too often.

Quality C: That was an unfortunate case but I think you might be exaggerating. I'm sure that doesn't happen often. I do the chart reviews and I haven't seen very many cases like that one.

Nurse: Of course not. Who is going to put something like that in the chart? That gets buried. It happens a lot. Point A, he got Coumadin. Point C, he was back at the hospital. No one is going to look at Point B.

Physician: That's my point about all of this error talk. That Coumadin case does not involve an error. Period. It would be an error if the doctor had ordered the blood tests and they were not done. I'm not casting blame but the burden here is really on the hospital. The hospital should have some policies if they want to avoid this kind of ahhhhh, problem. It's the discharge planner's fault. And patients have to be empowered to take responsibility for their care.

Nurse: That patient was 83 years old. Like I said, this stuff happens. It never goes in the chart. It just gets buried. And I have no idea what we are really supposed to tell the patient. And even if I had access to the clinical guidelines, what am I supposed to do with them? Wave them in the doctors face?

Admin: Good grief. Tell the patient? There's no need to start alarming patients. There's no need to use words like errors.

Tool 5 (continued)

> *"I sit in with medical staff when they are doing peer review and twice in the last 6 months when the care has been questionable, the physician approved it because everything turned out ok. So they don't question the standard of care."*
> *~ Quality Control*

Pharmacist: You know last year I suggested that we should start a warfarin clinic. It's a bad combination - old patients, warfarin and side effects. We pharmacists understand the complications and we could be managing these cases.

Physician: Everybody thinks they should take over. Physicians are perfectly competent and able to manage these cases. We do it all the time. I am rigorous about ordering blood tests.

Quality C: Of course you are. But what about some of the others? Do you ever talk to them about their practices? Would you chart something like this?

Physician: Well, we have the M&M. But you don't go looking in someone else's charts. We just don't. And you have to realize there is always someone out there who wants to sue us. There are lawyers under every bed. I'm a good doc but you'd cover this up. Problems happen and you can't avoid all of them.

Nurse: I know you do the M&M thing. But it's all behind locked doors. We never hear about it. We don't know if there is any follow-up. Should I have told Mr. Brown to get a second opinion? His toes were at stake. If it was my mother I'd want someone to tell her. But if my supervisor says don't ask/don't tell - get real. I don't. I'm certain that 99.9% of close calls don't get reported. And I don't think that most errors get reported either.

Pharmacist: Well, gosh. These things get really sticky. Dr. Jones won't use any anesthetics when he circumcises those baby boys. Dr. Peters did a wound debridement with no pain medication and the poor old woman was just screaming. Are those errors? What do we do with things like that? Are you suggesting that we tell the patients about things like that? Good grief.

Physicians Of course not. There is no need to explain to anyone when no lasting harm has been caused.

Nurse: And patients aren't told. Not really. We might tell them that we gave them the wrong medicine. But we wouldn't tell them why or what really happened.

Tool 5 (continued)

> *"We have a good medical staff but they pooh pooh some of this error stuff and argue about definitions."*
> ~ Quality Control

Quality C: It doesn't sound like were on the same page at all. But I am not sure what we should do at this point. We don't have time to do the root cause analysis for every little thing. My confidence in our ability to make things safer is shrinking a little.

Admin: I don't like this conversation. There seems little that I can do about it. You'd think the leader could effect change, but the rubber meets the road on the lowest level.

Nurse: Well, there are many things that go wrong and for every one you notice, there are 10 you don't. When it comes to errors, it's not just being worried about legal issues; it's a face saving issue.

Quality C: No-one is sure what to do. It's going to take a long time. We still run on the premise that we know best and people should be happy with what they get.

Questions for Discussion

How did it feel to participate as a Reader or as a member of the audience?

➤ Did the behaviors of the various players help solve problems or intensify problems?

➤ What were the consequences for the hospital, the community, healthcare providers, patients, and community members?

➤ What activities escalated interpersonal tensions?

What kinds of problems developed in this story?

➤ Communication - problems related to flow and availability of information

➤ Training - issues related to on the job training and continuing education

➤ Fatigue and Scheduling - issues related to changes, fatigue, staffing patterns

➤ Environmental /Equipment - general suitability of the environment

➤ Rules, policies and procedures - existence and accessibility of directives

➤ Effectiveness of Barriers that protect people and property from adverse events

Tool 5 (continued)

> *"I look for opportunities to heal the pain caused by the impossible promise of practicing medicine perfectly."*
>
> *~ Physician*

How did the different players respond to the various problems?

➤ Did the perceptions of healthcare providers stem from variations among the disciplines or deep philosophical differences?

➤ Was there evidence of differences in clinical judgment styles among healthcare professionals?

➤ Did the characters have different perspectives on prognosis and goals of medicine?

➤ Did the characters have different information about the patient and family?

➤ Were there different perceptions of legal repercussions?

➤ Characterize the different views on patient autonomy, impartiality, and fairness.

➤ Were the patient's and family's perception of care different from that of healthcare providers?

➤ Discuss the different perceptions regarding who serves as the patient's advocate.

➤ What do we do with people who don't think like we do?

What were the organizational processes?

➤ Where did patients receive "bad news" and how were patients/families asked to make decisions?

➤ What kinds of relationships existed among staff?

➤ Who was involved in patient care decision-making?

➤ Were lines of responsibility clear?

➤ What were the consequences for the different stakeholders?

➤ What would a "level playing field" look like?

➤ How could organizational structures be changed to create a more level playing field

What kinds of behaviors might have been more helpful?

➤ Was there mutual awareness of problems?

➤ What practical resources might help address/discuss problems?

➤ Was there a shared commitment to experiential and behavioral changes - **PACE** (positive, accepting, curious, and empathy)

➤ What might this community and hospital do to heighten levels of patient safety?

*From good intentions
to good actions....*

The journey continues.