Embracing a Culture of Safety and Learning

Provincial Forum on Adverse Health Event Management

St. John’s Newfoundland
May 26, 2008

Ward Flemons MD, FRCPC
Vice-President, Health Outcomes
• Adverse Events (AEs)

• Understanding Adverse Events
  • Reason’s Person vs System (‘swiss cheese’) model

• Creating a Culture of Safety

• Safety Policies

• Managing an Adverse Event
In April of 1992, a four-year-old girl in Halifax was scheduled to receive the last in a series of chemotherapy treatments for leukemia. She was diagnosed two years earlier but, on that day in April, her physicians considered her cured. The medications, including Vincristine, were administered in the operating room as she was also receiving dental surgery and one anesthetic procedure could allow both treatments to proceed at the same time. Unfortunately, several factors contributed to the Vincristine being injected intrathecally (into a spinal catheter) instead of intravenously (into a vein). Vincristine is lethal when injected intrathecally — she died a week later (Jones, 1996 as cited in Baker and Norton, 2001).
Dana Farber Cancer Institute – Boston MA 1995

- Betsy Lehman, young mother of three
- Healthcare reporter for the Boston Globe
- Undergoing experimental chemotherapy regimen for breast cancer
- One of the agents → cardiotoxicity (dose dependent)
- Betsy’s chemotherapy designed to be delivered over a 4 day protocol
- Instead she was given the protocol dose each day for 4 days
- Four fold overdose
- She died suddenly five days later of cardiac failure
- One other patient – same overdose → intensive care
- Error was not detected for 2 months
Two patients dead in tragic error at Foothills hospital
Patient Safety

• Issue is not new
• Not unique to Calgary
• ‘To Err is Human’ 1999
• Canadian Adverse Events Study- 2004
  • 7.5% of hospitalized patients
  • 2.8% - ‘preventable’
  • 6 to 7 extra days in hospital
  • 1.6% of patients died and had an adverse event
Understanding Adverse Events

Why do bad things happen?

⇒ Designing Safer Systems

⇒ Managing Adverse Events
  - Patients / Families
  - Healthcare Providers
  - Stakeholders → the people the healthcare system serves
Understanding Adverse Events
Why do bad things happen?

Two Models

1. Person Model

2. System Model
Man - a creature made at the end of the week when God was tired.

Mark Twain
Person Model
The pweor of the hmuan mnid

Aoccdrnig to a rscheearch at Cmabrigde Uinervtisy, it deosn't mttaer in what oredr the ltteers in a wrod are. The olny iprmoetnt tihng is taht the frist and lsat ltteer be at the rghit pclae. The rset can be a total mses and you can sitll raed it wouthit porbelm. Tihs is bcusea the huamn mnid deos not raed ervey lteter by istlef, but the wrod as a wlohe.

Amzanig huh?
### Approximations of system performance and potential performance

#### Nominal error rates developed by specialists in human factors

<table>
<thead>
<tr>
<th>Activity</th>
<th>Probability of human error</th>
</tr>
</thead>
<tbody>
<tr>
<td>General error of commission for example, misreading a label</td>
<td>0.003</td>
</tr>
<tr>
<td>General error of omission in the absence of reminders</td>
<td>0.01</td>
</tr>
<tr>
<td>General error of omission when items are embedded in a procedure for example, cash card is returned from cash machine before money is dispensed</td>
<td>0.003</td>
</tr>
<tr>
<td>Simple arithmetic errors with self checking but without repeating the calculation on another sheet of paper</td>
<td>0.03</td>
</tr>
<tr>
<td>Monitor or inspector fails to recognise an error</td>
<td>0.1</td>
</tr>
<tr>
<td>Staff on different shifts fail to check hardware condition unless required by checklist or written directive</td>
<td>0.1</td>
</tr>
<tr>
<td>General error rate given very high stress levels where dangerous activities are occurring rapidly</td>
<td>0.25</td>
</tr>
</tbody>
</table>

* Unless otherwise indicated, assumes the activities are performed under no undue time pressures or stress.

Avoid the Error Myth That Bad People Make Bad Errors!
Dialysis drug mix-up demands fatality probe

In Calgary, another daughter, Kathleen Prowse, was a beacon in Rancho Mirage, Calif.

Robert Prowse was a Court of Queen’s Bench justice. Delong and Stevenson are in provincial court. But Calgary’s court community is a small world with deep bonds and tight loyalties.

When a gravity inquiry into these latest deaths is inevitably held, the biggest challenge will be finding a local judge who didn’t know the Prowse family.

By all accounts, Kathleen Prowse was a warm, energetic and friendly woman.

She is one of those who have been saved, if only the CHR had realized the first person was killed by an improperly mixed medication.

The Prowse family is well known in judicial offices around town, including that of Judge Manfred Delong, who delivered last year’s fatality inquiry report that blistered the health region in the death of Vince Motta.

Three years earlier, Judge Brian Stevenson, the head of Delong’s provincial court, presided over the fatality inquiry in the case of 80-year-old Maren Burkart.

Emergency rooms before being seen. Delong’s subsequent report gave the CHR the worst kind of twin—being open and transparent.

And she died because of one of the most dreadful medical mistakes ever revealed in Alberta, or all of Canada.
Facing up to double jeopardy

A head or heads have to roll. It’s simply a matter of justice, of public safety and public confidence. A recent interview with Herald columnist colleague Don Braid during the paper’s coverage of the awful affair that is a tragedy for all concerned, the University of Calgary’s Dr. Norm Schachar, a surgeon and leading authority on patient safety, makes some fascinating points on that issue.

He asks: “What are we going to do? Hang a pharmacist? Somebody else would take over and the bottles would still be the same and eventually it would happen again.”

“If the focus is on finding someone to blame, someone to hang, the systems won’t be fixed.”

Ah, there’s the rub.

SEE GRADON, PAGE B4
Why do bad things happen?

Two Models

1. Person Model

2. System Model
Why bad things happen

HAZARDS

LOSSES

James Reason
Understanding adverse events

From: J. Reason; Managing the Risks of Organizational Accidents
Unsafe Acts

- Errors
- Non-Compliance (Violations)
- Willful Intent to Harm (Sabotage)

Errors do occur (all the time)
- Easiest ‘cause’ to see
- Easiest ‘cause’ to deal with
- Punishing people for committing errors does not lead to a safer system (probably the opposite)
Look alike packaging

leaders in health – a partner in care
Look alike labeling

leaders in health – a partner in care
System Model (#2)

- Safety Should be Engineered into the System
  - Human Errors ← Poor Human Engineering
  - Failure to Design Systems According to Cognitive Strengths / Weaknesses of Front-Line Workers

- **Making a safer system**
  - Redesign Systems → Make it Hard to Make Mistakes
    - Reminders
    - Alerts
    - Forcing Functions
  - Continual process improvement
  - Measure Key Process Indicators

*James Reason, Managing the Risks of Organizational Accidents, 1997*
“Every system is perfectly designed to achieve the results that it gets.”

Don Berwick
Creating a Culture of Safety
Patient Safety Strategy

- **Provider Error**
- **Safety Culture**
- **High Reliability**
- **System Factors**
- **Human Factors**

**PATIENT SAFETY**

leaders in health – a partner in care
Why a focus on culture?

‘I came to see, in my time at IBM, that culture isn't just one aspect of the game; it is the game’.

Lou Gerstner Jr.
Chairman & CEO (Retired)

BusinessWeek

leaders in health – a partner in care
NQF 30 Safe Practices

Top Five

NQF-Endorsed Set of Safe Practices*

1. Create a healthcare culture of safety.
2. For designated high-risk, elective surgical procedures or other specified care, patients should be clearly informed of the likely reduced risk of an adverse outcome at treatment facilities that have demonstrated superior outcomes and should be referred to such facilities in accordance with the patient’s stated preference.
3. Specify an explicit protocol to be used to ensure an adequate level of nursing based on the institution’s usual patient mix and the experience and training of its nursing staff.
4. All patients in general intensive care units (both adult and pediatric) should be managed by physicians having specific training and certification in critical care medicine (*critical care certified*).
5. Pharmacists should actively participate in the medication-use process, including, at a minimum, being available for consultation with prescribers on medication ordering, interpretation and review of medication orders, preparation of medications, dispensing of medications, and administration and monitoring of medications.
Organizational Safety Culture

Safety Policies – a ‘Contract’

Between the Region / Providers AND Patients

- DISCLOSURE (Harm)

Between Providers AND the Region

- REPORTING (Hazards / Close Calls / Harm)

Between the Region AND its Providers

- JUST & TRUSTING

Between the Region AND its Principal Healthcare Partners / Stakeholders

- INFORMING

leaders in health – a partner in care
Two types of Evaluations (Separate)

- **Safety Analysis**
  - Focus on **systems**
  - Structured analytical approach (‘RCA like’)

- **Administrative Review**
  - Evaluates the actions of healthcare **providers**
  - Roles, responsibilities, competencies
  - In the context of the safety evaluation
Just & Trusting Culture
Region’s Response to Provider’s Actions

Errors
- The failure of a planned action to be completed as intended

The Region will not discipline

Non-compliance
- Deviations from established policies / standards

The Region will evaluate - the appropriateness of i) the policies & standards and ii) the circumstances leading to the non-compliance

Willful Intent to Harm

The Region will not tolerate - disciplinary action will be taken & criminal investigations may result

leaders in health – a partner in care
Reporting – where is the focus?

- Adverse Events
- Close Calls
- Hazards
  - No Adverse Events or Close Calls . . . yet!
WHO – Reporting Systems

WORLD ALLIANCE FOR PATIENT SAFETY

WHO DRAFT GUIDELINES FOR ADVERSE EVENT REPORTING AND LEARNING SYSTEMS

FROM INFORMATION TO ACTION
Reporting - Key Concepts

Focus is on **LEARNING**

Safety Hazards (Hazardous situations)  
\textit{not} Incidents or Errors

Safety Learning Reports \textit{not} Incident Reports
Safety Learning Reporting System

March 11, 2008

- Focus
  - Hazards
  - Close Calls
  - Adverse Events
- Confidential
- Easy to use
- Each report is reviewed
- Status of reports → can be tracked
“I'm required to make it clear that the hospital is in no way bound by this get-well card for your husband.”
The Disclosure Process includes:

1. Acknowledging the harm to the patient
2. Providing an apology for the harm
3. Disclosing factual information about how the harm occurred
Disclosure Policy

Level of harm
- Determines who will be involved in disclosure
- Coordination / communication vital

Discretion
- For close calls (nearly harmed)

Support for Health Partners
- For patients and their families
- For staff, physicians, health professionals involved

leaders in health – a partner in care
Managing Adverse Events

Managing Risks to:

- Patients / Families
- Other Patients
- Healthcare Providers
- The Organization (reputation)
Managing Serious* (Potential) Adverse Events†

SERIOUS* (POTENTIAL) ADVERSE EVENT†

IMMEDIATE MANAGEMENT

RESPOND
R esuscitate patient
E nsure environment safe
S ecure equipment
P rotect other patients
O ffer initial support
N otify
D isclosure (Acknowledgment)

INITIAL ASSESSMENT

CONTINUING MANAGEMENT

ADVOCATE
- ASSIGN A PATIENT ADVOCATE
- ONGOING SUPPORT FOR PATIENT & FAMILY
- ONGOING SUPPORT FOR HEALTHCARE PROVIDERS

COMMUNICATE
- DISCLOSURE TO PATIENT & FAMILY
- SAFETY LEARNING REPORT
- INFORMING

EVALUATE
- SAFETY ANALYSIS
- ADMINISTRATIVE REVIEW

Clinical Safety Evaluation
Initial Timeline

* Serious – Fatal or Severe (loss of limb or organ function or resuscitation required to sustain life)
† or substantial risk thereof (close call)
Person or System Model?

**Medicine and Society**

**Disclosing medical errors to patients: a status report in 2007**

Wendy Levinson MD, Thomas H. Gallagher MD

All editorial matter in CMAJ represents the opinions of the authors and not necessarily those of the Canadian Medical Association.

CMAJ • JULY 31, 2007 • 177(3) © 2007 Canadian Medical Association or its licensors

**The NEW ENGLAND JOURNAL of MEDICINE**

**REVIEW ARTICLE**

**CURRENT CONCEPTS**

**Disclosing Harmful Medical Errors to Patients**

Thomas H. Gallagher, M.D., David Studdert, LL.B., Sc.D., M.P.H., and Wendy Levinson, M.D.
Managing Adverse Events

**Informing**

*Sending a Strong Message of Transparency*

*Opening the Possibility for Healing*
Managing Serious* (Potential) Adverse Events†

SERIOUS* (POTENTIAL) ADVERSE EVENT†

RESPOND
R esuscitate patient
E nsure environment safe
S ecure equipment
P rotect other patients
O ffer initial support
N otify
D isclosure (Acknowledgment)

IMMEDIATE MANAGEMENT

INITIAL ASSESSMENT

Clinical Safety Evaluation
Initial Timeline

 CONTINUING MANAGEMENT

ADVOCATE
ASSIGN A PATIENT ADVOCATE
ONGOING SUPPORT FOR PATIENT & FAMILY
ONGOING SUPPORT FOR HEALTHCARE PROVIDERS

COMMUNICATE
DISCLOSURE TO PATIENT & FAMILY
SAFETY LEARNING REPORT
INFORMING

EVALUATE
SAFETY ANALYSIS
ADMINISTRATIVE REVIEW

* Serious – Fatal or Severe (loss of limb or organ function or resuscitation required to sustain life)
† or substantial risk thereof (close call)
Two critically ill patients died recently at the Foothills Medical Centre after they were given an incorrect solution during dialysis treatment.

And Calgary Health Region officials are crediting an "astute" physician for immediately identifying the mistake, reacting quickly and preventing the possibility of many more deaths.

One of the patients has been identified as Kathleen Prowse, who came from a prominent Calgary legal family. She was married to Hubert Prowse, a former Court of Queen's Bench judge in Calgary. The family...
Statement from David Tuer, chairman of the Calgary Health Region

'It is vital we learn from these mistakes'

Today I would like to make a short statement on behalf of the Board of Directors of the Calgary Health Region. Over the past few weeks the community this region serves has had to deal with some tragic news related to errors resulting in the deaths of two patients. It is hard to understand, in this day and age of automation and safety checks, how accidents like this can happen. Sadly, they do.

Let me state that the thousands of health providers and physicians who work with the Region have faced this difficult news bravely, but it does hurt. It is hard to hear about deaths due to errors in the health system.

Every day many of our families receive care and we have every confidence in the system and those who provide the care. Every day we have thousands of successful interventions that save or improve lives.

This is what our staff does in a quiet and responsible way.

Our goal last Thursday was to ensure we are accountable to those who use our services. No one chooses to be unwell and we need to provide to all those who need us, the greatest level of professionalism and care. We do this. And we do this well.

With that professionalism comes a responsibility to be accountable. To admit when we've done harm through a mistake. To care for the needs and wishes of the families affected by this tragedy and to learn from what we did wrong and commit to never allowing it to happen again.

through the system. This process will start next week as Dr. Robson joins our Regional team in this review.

The review team will also be consulting with Dr. John Cowell with the Health Quality Council and the Canadian Patient Safety Institute.

I want to assure all Calgary Health Region residents that this report will be made public and that we will act on the recommendations.

Potassium chloride is one of many substances that are required by us to sustain life.

Sadly, we know that any medication in the wrong dosage can do harm. We need to be mindful that potassium chloride has been an emerging national issue in Canada's health system. But equally, we must commit to learn from other errors and ensure that we have the best practices in place in the CHR. Nothing less will do. We owe those families who have suffered a
We learned . . . .

to listen and speak publicly with more families
A healing journey for individuals

PROWSE — Kathleen (Kay) Betty Miller Prudent Hubert Prowse, passed 104 after a brief illness. Kathleen was born in Moose Jaw, Saskatchewan. She spent her early years working as a Registered Nurse in Vancouver, B.C. She moved to British Columbia where she met the love of her life and married for fifty years. They raised two children and had a daughter.

A death announcement for Kathleen Prowse ran in the Herald on March 9.
A healing journey as a group

Patient / Family Safety Council

13 patients / family members & Regional support
Trust / Transparency

PATIENT SAFETY

Calgary Health Region

Regulatory Agencies

Healthcare Organizations

Regional HC Providers

Patients

Disclosure

Reporting Hazards & Safety Events

Providers / Staff

INFORMING

Public

Media

Safety Agencies