Promoting Patient Safety Through Data Collection, Analysis and Guidance

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Philadelphia, PA

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Patient Safety Authority Background

IOM Reports, Public Influences

- Escalating Medical Malpractice Insurance Premiums
- Alleged Physician Exodus/Threatened Closure of Clinical Services
- Institute of Medicine Reports
  - “To Err is Human-Building a Safer Health System” (1999)
  - “Crossing the Quality Chasm” (2001)
- $44,000 - $98,000 preventable deaths
- $29 billion per year in additional costs

Act 13 (March 2002)

- 11-member Board appointed by the Governor and General Assembly
- Independent Agency
- Non-regulatory
- Dedicated Funding Stream
- Contract with outside entity to collect, analyze and evaluate reports of Serious Events and Incidents and identify trends
- Advise and issue recommendations for changes and improvements in healthcare practices (Advisories)
- Issue Annual Report
## PA - Reporting Components

### Who Reports
- Hospitals
- Ambulatory Surgical Facilities
- Birthing Centers
- Certain Abortion Facilities

### Types of Events
- **Near-Misses** ("Incidents")
- **Adverse Events** ("Serious Events")
- **Infrastructure Failures**

### Other Considerations
- Mandatory
- No Individual Identifying Data
- Confidentiality Provisions
- Non-discoverable
- Whistleblower Protections
- Facility assessment
- Written Patient Notification
- Anonymous Reports
Serious Event

An event, occurrence, or current situation involving the clinical care of a patient at a medical facility that results in death, or compromises patient safety and results in an unanticipated injury requiring the delivery of additional health care services to the patient.
An event, occurrence, or current situation involving the clinical care of a patient in a medical facility, which could have injured the patient, but did not either cause an unanticipated injury or require the delivery of additional health care services to the patient.
Infrastructure Failure

An undesirable or unintended event, occurrence or situation involving the infrastructure of a medical facility or the discontinuation or significant disruption of a service which could seriously compromise patient safety
Healthcare Facilities

Incidents

Serious Events

Infrastructure Failures

PA - PSRS

Commonwealth of Pennsylvania Patient Safety Authority

Department of Health
### PA - Reporting Components

<table>
<thead>
<tr>
<th>Who Reports</th>
<th>Types of Events</th>
<th>Other Considerations</th>
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<tr>
<td>Hospitals</td>
<td>Near-Misses (“Incidents”)</td>
<td>Mandatory</td>
</tr>
<tr>
<td>Ambulatory Surgical Facilities</td>
<td>Adverse Events (“Serious Events”)</td>
<td>No Individual Identifying Data</td>
</tr>
<tr>
<td>Birthing Centers</td>
<td>Infrastructure Failures</td>
<td>Confidentiality Provisions</td>
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<td>Anonymous Reports</td>
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**Other Considerations**

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- Anonymous Reports
Patient Safety Authority Contract Partners

ECRI
A NONPROFIT AGENCY

ISMP
Institute for Safe Medication Practices

EDS
PA-PSRS: Clinical Analysis

- Incoming Reports
- Triage
- Analytics
- Program Outputs:
  - PSA Annual Report
  - Public Advisories and Recommendations
  - Contact with Individual Facilities

Patient Safety Review Meeting
PA-PSRS

Data Output:
• Real time feedback to facilities
• Patient Safety Advisories
• Annual Report
• Integrated Facility – specific Analysis

Other Patient Safety Activities:
• Education and Training Programs
• Research
• Promotion of Culture of Safety
• Encourage Full and Open Disclosure
2006 Patterns in PA-PSRS Reports

- Medication Errors: 23%
- Errors Related to Procedure / Treatment / Test: 24%
- Falls: 17%
- Complications of Procedure / Treatment / Test: 14%
- Transfusions: 1%
- Adverse Drug Reactions: 2%
- Equipment / Supplies / Devices: 2%
- Other / Miscellaneous: 6%
### 2006 PA-PSRS Reports by Event Type and Serious Events

<table>
<thead>
<tr>
<th>Event Type</th>
<th>% PA-PSRS Reports</th>
<th>% Serious Events</th>
<th>% Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication Errors</td>
<td>23%</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Adverse Drug Reactions</td>
<td>2%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Falls</td>
<td>17%</td>
<td>18%</td>
<td>6%</td>
</tr>
<tr>
<td>Errors of P/T/T</td>
<td>24%</td>
<td>9%</td>
<td>6%</td>
</tr>
<tr>
<td>Complications of P/T/T</td>
<td>14%</td>
<td>42%</td>
<td>57%</td>
</tr>
<tr>
<td>Transfusion</td>
<td>1%</td>
<td>1%</td>
<td>0%</td>
</tr>
<tr>
<td>Skin Integrity</td>
<td>11%</td>
<td>15%</td>
<td>0%</td>
</tr>
<tr>
<td>Other/Miscellaneous</td>
<td>6%</td>
<td>8%</td>
<td>27%</td>
</tr>
</tbody>
</table>
Leading Contributing Factors by Category (2006)

- Patient Characteristics 24%
- Team Factors 24%
- Staff Factors 21%
- Work Environment 10%
- Organizational Mgt. 9%
- Task Factors 8%
- Other 4%
Reports Submitted by Hospitals Per 1,000 Patient Days (2004* - 2006)

*PA-PSRS Began Collecting Reports June 28, 2004; these figures reflect the second half of 2004.
Reports Submitted by Individual Hospitals Per 1,000 Patient Days (Highest to Lowest)
757 Cases of Wrong-Site Surgery Reports from 151 Facilities Over 3 Years

Number of Wrong Site/Side Reports from Facilities, Submitted over 3 Year Period, including Near Misses

Distribution of WSS Events Reported by Facility (July 2004 – June 2007)
Look-Alike Packaging
## Colors Used in Wristbands (Dec 2005 Survey)

<table>
<thead>
<tr>
<th>Message</th>
<th>Colors</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNR</td>
<td>Purple</td>
</tr>
<tr>
<td>Limited DNR</td>
<td>Blue</td>
</tr>
<tr>
<td>Fall Risk</td>
<td>Teal</td>
</tr>
<tr>
<td>Restricted Extremity</td>
<td>Green</td>
</tr>
<tr>
<td>Allergy (other than latex)</td>
<td>Red</td>
</tr>
<tr>
<td>Allergy to Latex</td>
<td>Pink</td>
</tr>
<tr>
<td>Tape Allergy</td>
<td>Orange</td>
</tr>
<tr>
<td>Procedure Site</td>
<td>Yellow</td>
</tr>
<tr>
<td>Blood Type/Blood Bank ID</td>
<td>White</td>
</tr>
<tr>
<td>No Blood Products</td>
<td></td>
</tr>
<tr>
<td>Outpatient or ER Patient</td>
<td></td>
</tr>
<tr>
<td>Pediatrics/Mother-Child Match</td>
<td></td>
</tr>
<tr>
<td>Parent/guardian</td>
<td></td>
</tr>
<tr>
<td>Similar Name</td>
<td></td>
</tr>
<tr>
<td>Observation</td>
<td></td>
</tr>
<tr>
<td>Isolation</td>
<td></td>
</tr>
<tr>
<td>Elopement</td>
<td></td>
</tr>
<tr>
<td>Pacemaker</td>
<td></td>
</tr>
<tr>
<td>Anticoagulants</td>
<td></td>
</tr>
<tr>
<td>Nothing by Mouth (NPO)</td>
<td></td>
</tr>
<tr>
<td>Dietary Restrictions</td>
<td></td>
</tr>
<tr>
<td>Diabetics</td>
<td></td>
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</tbody>
</table>
Selected Advisory Topics

- Doing the “Right” Things to Correct Wrong-Site Surgery
- Mismanagement of Expressed Breast Milk
- Bone Cement Implantation Syndrome
- Use of Color-Coded Wristbands Creates Unnecessary Risk
- Improving the Safety of Telephone and Verbal Orders
- Unanticipated Care after Discharge from ASF’s
- The Beers Criteria: Medication Screening in the Elderly
- Hidden sources of Latex in Healthcare Products
- Use of X-Rays for Incorrect Needle Counts
- Patient Identification Issues
- Falls Associated with Wheelchairs
- Medication Errors Linked to Name Confusion
- Anesthesia Awareness
- Lost Surgical Specimens
- Perforations of the Colon During Colonoscopy
- Who Administers Propofol in your Organization?
- Dangerous Abbreviations in Surgery
- Problems Related to Informed Consent
- Focus on High Alert Medications
- Bed Exit Alarms to Reduce Falls
- Confusion between Insulin and Tuberculin Syringes
- The Role of Empowerment in Patient Safety
- Changing Catheters Over a Wire
- Abbreviations: A Shortcut to Medication Errors
- When Patients Speak-Collaboration in Patient Safety
Verbal Orders Tool Kit

- Article Reprint: “Improving the Safety of Telephone or Verbal Orders” (vol.3, No.2- June 2006)
- Sample policy on use of verbal orders based on guidance included in the article
- Poster to remind clinicians about the read-back procedure
- Audio PowerPoint slideshow for training on safe practices associated with verbal orders
- Survey questionnaire to assess use of verbal orders in your facility
System Enhancements and Educational Outreach

- Root Cause Analysis Training
- FMEA Training
- Focus Groups
- Interface Development
- User Surveys
- Statewide Citizen Surveys
Reports to PA-PSRS of Interest to Nurse Anesthetists (since June, 2004)

- 15% of overall coded anesthesia events in PA-PSRS report harm
  - Harm is reported overall in 4% of PA-PSRS reports
  - Includes 19 deaths, 18 near-death events and 4 permanent injuries

Facilities reporting errors of interest to Nurse Anesthetists

- 3 out of 4 reports that specifically mention Nurse Anesthetists come from hospitals
  - 1 of every 3 facilities that mention them is an Ambulatory Surgery Facility (ASF)
  - 50% of the Serious Events from these reports come from ASFs

Event Types mentioning Nurse Anesthetists

<table>
<thead>
<tr>
<th>Event Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complication of Procedure / Treatment / Test</td>
<td>35.9%</td>
</tr>
<tr>
<td>Error related to Procedure / Treatment / Test</td>
<td>24.5%</td>
</tr>
<tr>
<td>Medication error</td>
<td>14.6%</td>
</tr>
<tr>
<td>Other/Miscellaneous</td>
<td>13.7%</td>
</tr>
</tbody>
</table>
Types of reports involving Nurse Anesthetists

- Wrong medications given to patients
- Wrong doses of medications given to patients
- Patients misidentified or not checked for proper identification
- Consent problems (missing or inadequate)
- Eye irritation due to taping eyelids shut
- Intubation and extubation problems
- Infiltrations of IVs
“Good catches” by Nurse Anesthetists

• Questioned site of operation, preventing wrong site surgery

• Cancelled procedures due to evaluation of patient’s preoperative condition
  • (cardiac arrhythmia, elevated blood pressure/heart rate, etc.)

• Promptly detected and restarted infiltrated IVs

• Responded to allergic reactions and skin rashes

• Cleared and stabilized patient airways following aspirations

• Performed emergent intubation of patients in respiratory distress

• Responded to disconnected epidural catheter
Facilities reporting errors involving Propofol and Diprivan

- 150 facilities have reported errors involving Propofol/Diprivan (since June, 2004)
  - Of these, 10 facilities have accounted for 45% of reports
  - 38 facilities were Ambulatory Surgical Facilities (ASFs)
    - About half of these ASFs specialize in endoscopic procedures

Harm level of reports involving Propofol and Diprivan

- Of the Propofol/Diprivan reports to PA-PSRS, 11% reported harm to the patient
  - Harm is reported overall in 4% of PA-PSRS reports
  - ASFs reported harm in 28% of their submitted reports involving Propofol/Diprivan
  - Death occurred in 6 reports involving Propofol/Diprivan
Reports to PA-PSRS involving Propofol/Diprivan, by Month
Reports to PA-PSRS involving Propofol/Diprivan, by Quarter
The Patient Safety Authority has reported extensively on various anesthesia topics in the *Patient Safety Advisory*:

- Obstructive Sleep Apnea May Block the Path to a Positive Postoperative Outcome (September, 2007)
- Propofol Infusion Syndrome: A Rare but Potentially Fatal Reaction (June, 2007)
- Complications of Retrobulbar Blocks (March, 2007)
- Demerol: Is It the Best Analgesic? (June, 2006)
- New Guidance on Preventing Anesthesia Awareness (March, 2006)
- Anesthesia Awareness (September, 2005)
- PCA by Proxy—An Overdose of Care (June, 2005)

Available at [www.psa.state.pa.us](http://www.psa.state.pa.us).
Where We Are

Safe Patient Experiences

- Over one half million reports reviewed
- Patient Safety Advisories
- RCA and new user training
- Special Projects

PA-PSRS
Where We Are Going

Safe Patient Experiences

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- Patient Safety Advisories
- RCA and new user training
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Where We Are Going

Safe Patient Experiences

- FMEA
- Healthcare acquired infection
- Board of Trustees
- Root cause analysis
- Health care training grounds
- Nursing homes
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Where We Are Going

Safe Patient Experiences

- Data Collection
  - Over one half million reports reviewed
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  - RCA and new user training
  - Special Projects

- Analysis

- Guidance

Education

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Collaboration

- PaSSKEye
- Board of Trustees
- Extended local presence
- State Agencies
- HAP, IHI, HCIF, others
Where We Are Going

Safe Patient Experiences

Data Collection

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Guidance

PA-PSRS

Education

- FMEA
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- Over one half million reports reviewed
- Patient Safety Advisories
- RCA and new user training
- Special Projects
- Recommendations
- Reporting consistency

Collaboration

- PaSsKEy
- Board of Trustees
- Extended local presence
- State Agencies
- HAP, IHI, HCIF, others
Strategic Plan Initiatives

- A: Educate Executive Management and Boards of Trustees
- B: Infection Awareness and Reduction
- C: Patient Safety Knowledge Exchange (PaSsKEy)
- D: Improve Reporting Consistency and Recommendations
- E: Increase Effectiveness through Extended Presence
- F: Governor’s Office of Healthcare Reform (GOHCR) Collaboration
- G: Data Collaboration
- H: Patient Safety Methods Training
- I: Nursing Home Data Analysis
- J: PA-PSRS System Enhancements
- K: Maintain Success of Patient Safety Advisory
The award recognizes the Authority's efforts to make PA-PSRS into a nationally recognized resource for education and learning about patient safety.

- Joint Commission on Accreditation of Healthcare Organizations
- National Quality Forum (NQF)
The ultimate success of the PA-PSRS system is not in the number of reports we receive, but in how facilities and individual providers use the information within those reports to improve patient care.