International Prospectives in Risk Management for Healthcare Systems

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March 2005

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Presentation outline

- Overview of basics
- 1997 NPSF's survey (at AMA)
- 2000 IOM's national agenda
- 2004 IHA's medical reconciliation
- Closing marks

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Overview of Basics

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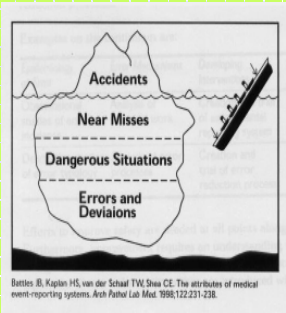
Terms of patient safety



Battles JB, Kaplan HS, van der Schaaf TW, Shea CE. The attributes of medical event-reporting systems. *Arch Pathol Lab Med.* 1998;122:231-238.

- Error: failure of planned action (error of execution) vs. wrong plan (error of planning) (Reason, 1990)
- Adverse events (AE): errors that result in injury; not due to patient condition
- Safety: free from accidental injury; subset of quality
- Preventable AE (PEA): ~25% AE
- Disputable events: ~10% of AE
- Risk: a chance of failure that we are willing to take for benefit; probability of occurrence

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The onset study

- Leape *et al.*, The Nature of adverse events in hospitalized patients, Results of the Harvard Medical Practical Study II. *N Engl J Med.* 324(6):377-384, 1991.
- Adverse events: 3.7% of total hospitalizations, n>30,000 case reports reviewed in 1986.
- In which, 1 out of 4 (25%) was preventable (PEA).
- In which, 1 out of 8 (1.3%) went to dispute (dispute rate = 0.03%), and the patient winning rate was about 50%.

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Taiwan data (謝啓瑞，民80年)

- In case of lawsuit, only 10% was determined against health care providers; in mediation, 42% was settled with monetary compensation.
- Compensation NT 230,000 every dispute and litigation cost NT 130,000 every providers.

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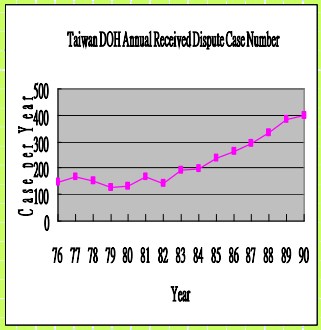

- **Dispute rate: 400/2.8 millions = 0.015% (about one half of the US data)**
- **Adverse events: 1.5%, assuming that only 1% is reported to DOH**

Key Agents of Patient Safety

- **President's Advisory Commission on Consumer Protection and Quality (CCPQ) in the Health Care Industry**
- **Agency of Health Care Research and Quality (AHRQ/HHS)**
- **Institute of Medicine (IOM)**
- **National Patient Safety Foundation (NPSF)**
- **Anesthesia Patient Safety Foundation (APSF)**
- **Institute for Healthcare Improvement (IHI)**
- **Institute for Safe Medication Practices (ISMP)**
- **Leapfrog Group for Patient Safety (LGPS)**
- **WHO Patient Safety Program**
- **National Patient Safety Agency (UK-NPSA)**
- **Australian Council for Safety and Quality (CSQ) in Health Care**

Risk perception

TABLE 17-5
Public Concerns vs. the EPA's Top 11 Risks

The EPA's Top 11 (not in rank order)	*Public Concerns (in rank order)**
Ecological Risks	1. Active hazardous waste sites
Global climate change	2. Abandoned hazardous waste sites
Stratospheric ozone depletion	3. Water pollution from industrial wastes
Alteration of habitat	4. *Occupational exposure to toxic chemicals*
Extinction of species and loss of biodiversity	5. Oil spills
	6. *Destruction of the ozone layer*
Health Risks	7. Nuclear power plant accidents
Criteria air pollutants (e.g., smog)	8. Industrial accidents releasing pollutants
Toxic air pollutants (e.g., benzene)	9. Radiation from radioactive wastes
Radon	10. *Air pollution from factories*
Indoor air pollution	11. Leaking underground storage tanks
Contamination of drinking water	12. Contamination of coastal waters
Occupational exposure to chemicals	13. Solid waste and liter
Application of pesticides	14. *Pesticide risks to farm workers*
	15. Water pollution from agricultural runoff
	16. Water pollution from sewage plants
	17. *Air pollution from vehicles*
	18. Pesticide residues in foods
	19. *Greenhouse effect*
	20. *Contamination of drinking water*
	21. Destruction of wetlands
	22. Acid rain
	23. Water pollution from city runoff
	24. Nonhazardous waste sites
	25. Biotechnology
	26. *Indoor air pollution*
	27. Radiation from X rays
	28. *Radon in homes*

Source: "Counting on Science at EPA," *Science* 249 (2950): 616. I. Roberts. Copyright 1990 by the AAAS.
* Items in italics also appear on the EPA's list.

USEPA 4-tierred risk assessment framework

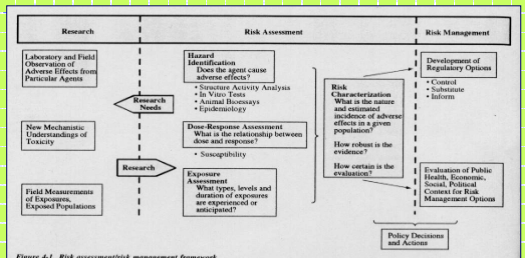

Figure 4-1. Risk assessment/risk management framework.

This framework shows in blue the four key steps of risk assessment: hazard identification, dose-response assessment, exposure assessment, and risk characterization. It shows an interactive, two-way process where research needs from the risk assessment process drive new research, and new research findings modify risk assessment outcomes. (Adapted from NRC, 1983; 1994; Calkins, 1980; Faustman, 1996; Gargas, 1999.)

Disciplines of risk science

- **Health risk assessment (chemical or non-chemical agents)**
- **Ecological (environmental) risk assessment**
- **Corporate risk management**
- **Medical risk management**
- **Financial risk management (actuarial science)**

Risk analysis and management

- **Damage analysis (hazard identification)**
- **Occurrence analysis (dose-response relationship)**
- **Risk communication (risk perception)**
- **Cost-benefit analysis**
- **Risk control and management**

Special topics in risk management

- Disaster on life
- Climate on agriculture
- Terror attack
- Communicable disease (SARS)
- Food and drug
- Consumer products

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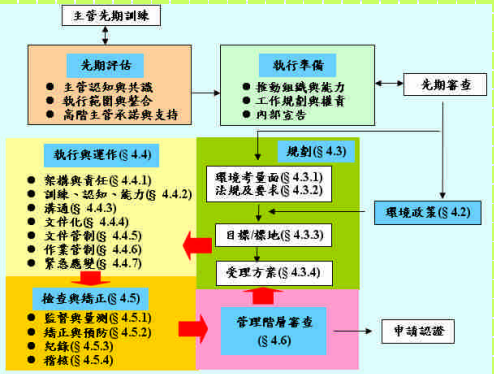
PDCA loop-ISO 14001



1997 NPSF's Survey

Source: National Patient Safety Foundation (NPSF), Public opinion of patient safety issues – research findings, Dec. 1997.

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Objective and method

- To understand the experiences and opinions of American adults (age 18+) on patient safety issues in the health care environment.
- Commissioned by AMA
- Telephone interviews: July 30 ~ August 21, 1997.
- Margins of error: 2.58% at 95% CI of all 1,513 respondents

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Finding 1: Safety in general

- The health care is perceived as "moderately" safe (4.9 on a 1 to 7 scale, 7 = very safe), somewhat less safe than airline travel or workplace environment.
- Patient safety issues: unknown (28%), infection (20%), general level (13%), qualifications of care prof. (11%).
- If getting better over the past 5 years: improved (33%), same (33%), worse (31%).
- Place of making medical mistakes: most likely at a nursing home, least likely at the doctor's office.

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Finding 2: Safety precautions

- Two most risky behaviors: not carrying an medical ID (75%), smoking tobacco (65%).
- Precaution most likely to take: getting a 2nd opinion on a serious diagnosis (85%).

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Finding 3: Health care professionals

- Satisfaction with prof. from recent visit: very or somewhat satisfied (84%).
- Most lacking: did not spend enough time (85%), did not give enough information about all possible treatments (70%).

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Finding 4: Patient safety

- Current system does have adequate measures to prevent mistakes (52%); however 42% disagree.
- Their personal doctor (95%) and they themselves (92%) have a positive effect on patient safety.
- Most prefer to receive information about the risks and benefits of medical statements in written (63%) or verbal (52%) format.

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Finding 5: Awareness of medical mistakes

- Most think carelessness or negligence on the part of health care prof. is the main cause of mistakes (29%)
- The second is prof. are overworked, hurried, and stressed (27%)
- Most heard a situation about medical mistakes (84%): via. a friend or relative (42%) or TV (22%).

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Finding 6: Experience with medical mistakes

- Many have been involved, either personally or through a friend or relative, in a mistake situation (42%).
- Among which, most involve in one situation (56%), more than one (42%).
- The mistake was mainly a misdiagnosis (40%), second with medication (28%), and third during medical procedure (22%).
- Nothing was done to a mistake situation (38%).
- The mistake should have been avoided if more cautious (27%).

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Finding 6: Experience with medical mistakes (cont.)

- Medical mistakes had a permanent negative effect on the patient's death (32%).
- The precautions likely to take: ask questions (28%), research the hospital, physician, and/or treatment (20%), get a 2nd opinion (18%).

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Finding 7: Preventing medical mistakes

- Almost all would report a medical mistake if they encountered one (95%).
- Effective solutions: most is keeping with bad track records from providing service (75%); others: better training, careful selection doctors, forming an independent organization.
- Suggestions on how to prevent mistakes: improve oversight of caregivers (31%), increase the public awareness (13%).

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2000 IOM's National Agenda

Source: Institute of Medicine, To error is human – building a safer health system, editors: LT Kohn, JM Corrigan, and MS Donaldson, National Academy Press, Washington, D. C. 2000.

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Background data (1977)

- Adverse events (AE): 2.9~3.7% of hospitalizations
- Death: 6.6 ~ 13.6 % (44,000 ~ 98,000/year) of AE
- The 8th-leading cause of death (motor vehicle accidents - 43,358; breast cancer - 42,279; AIDS – 16,516)
- PAE: >50% of AE (1.5 ~ 2.0%)
- Lessons from other high-risk industries (aviation)

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Costs of errors

- PAE: $17 ~ 29 billions
- Medication-related: $2 billions (10%)
- Opportunity costs: much more
- Loss of trust: uncountable

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Goals

- Breaking the cycle of inaction;
- By creating external environment for sufficient pressure;
- Specifically by organizational systematic (4-tiered) approaches;
- To achieve at least 50% reduction in PAE

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Four-tiered approaches

- Establishing leadership and knowledge
- Identifying and learning from errors
- Setting performance standards and expectations for safety
- Implementing safety systems in health care organizations

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Tier 1: Leadership and knowledge

- Recommendation 4.1: Congress should create a Center for Patient Safety within the Agency for Healthcare Research and Quality (AHRQ). The Center should
- set national goals
- develop knowledge and understanding of errors in health care
- initial funding: $30~35 millions (about 1% of 8.8 billions attributable to PAE)

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Tier 2: Identifying and learning from errors

- Recommendation 5.1: A nationwide mandatory reporting system (MRS) should be established… Congress should
- designate the National Forum for Health Care Quality Measurement and Reporting (NF-HCQMR) as the entity …
- require all health care organizations to report…
- Designate the Center for Patient Safety to receive and analyze aggregate reports from states…

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Tier 2: Identifying and learning from errors (cont.)

- Recommendations 5.2: The development of voluntary reporting efforts (VRS) should be encouraged. The Center of Patient Safety should
- fund and evaluate pilot projects for VRS

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Tier 3: Setting performance standards and expectations for safety

- Recommendation 7.2: Performance standards and expectations for health professionals should focus greater attention on patient safety
- Implement periodic re-examination and relicensing …
- Work with certifying and credentialing organizations …

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Tier 3: Setting performance standards and expectations for safety (cont.)

- Recommendations 7.3: The Food and Drug Administration (FDA) should increase attention to the safe use of drugs in both pre- and post-marketing processes through the following actions:
- Develop and enforce standards for the design of drug packaging and labeling.

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Tier 4: Implementing safety systems in health care organizations

- Recommendation 8.1: Health care organizations and the professionals affiliated with them should make continually improved patient safety a declared and serious aim by establishing patient safety programs with defined executive responsibility.
- Implement non-punitive systems for reporting and analyzing errors within their organizations

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Tier 4: Implementing safety systems in health care organizations (cont.)

- Recommendation 8.2: Health care organizations should implement proven medication safety practices.

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2004 IHA's medical reconciliation

Source: Grossi, C, New Illinois learning collaborative focuses on medication reconciliation, *Focus Patient Safety*, 2004;7(4):4-5, The National Patient Safety Foundation.

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Background

- Recognize that patient safety is a broad issue that go beyond any individual caregiver or facility;
- In response to IOM's 2000 landmark study:

  To Err is Human: Building a safer Health Care System (www.ihatoday.org)

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Establishing an authority

- The Patient Safety Steering Committee (PSSC)
- Under IHA, which representing 200 hospitals and health system
- To Facilitate guidance and direction for advancing a culture of patient safety in hospitals.

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Building a template framework

- An "Organizational framework for a culture of safety",
- Providing a checklist of key organizational components,
- For hospitals outlining leadership and safety strategies,
- For benchmarking their efforts toward a culture of safety.

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Commitment

- More than 90% of Illinois hospitals CEOs signed a pledge adopting the framework,
- Demonstrating commitment at the highest level as the top organizational priority.

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Talking to Patients About Health Care Injury
Statement of Principle

When a health care injury occurs, the patient and the family or representative are entitled to a prompt explanation of how the injury occurred and its short- and long-term effects. When an error contributed to the injury, the patient and the family or representative should receive a truthful and compassionate explanation about the error and the remedies available to the patient. They should be informed that the factors involved in the injury will be investigated so that steps can be taken to reduce the likelihood of similar injury to other patients.

Health care professionals and institutions that accept this responsibility are acknowledging their ethical obligation to be forthcoming about health care injuries and errors.

The National Patient Safety Foundation urges all health care professionals and institutions to embrace the principle of dealing honestly with patients.

© 2001 NPSF www.npsf.org Talking to patients about health care injury. *Focus Patient Safety*. 2001;4(1):3.

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Data Guideline

- In spring 2004, IHA complied Quality/Patient Safety Data Guide
- As a one-source reference document
- Summarizing many state and federal quality and patient safety reporting activities.

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The PSLC Initiative (2004)

- Based on the model developed by the Institute of Healthcare Improvement (IHI),
- Establish the Patient Safety Learning Collaborative,
- A real-time evidence-based access for interaction and collaboration,
- Including face-to-face learning sessions and virtual connectivity with safety experts.
- Chicago Patient Safety Forum (CPSF)

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Initial focus (2004)

- As estimated by the Agency for Healthcare Research and Quality (AHRQ):
- Adverse drug events (ADE) rate: 2-7 per 100 hospital admissions,
- With a mean cost of $4,685 per incident.
- High risk time (60%) occurred on patient transfer into, within, and out.

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The Medication reconciliation program

- A systematic process of real-time profile comparison against discrepancies (??).
- Reducing the rate of medication errors by 70 % and adverse medication events by 15%.

Source: Rozich JD, Howard RJ, Justeson JM, Macken PD, Lindsay ME, Resar RK. Standardization as a mechanism to improve safety in health care: impact of sliding scale insulin protocol and reconciliation of medications initiatives. *Jt Comm J Qual Safety;* 2004;30:5-14.

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Closing remarks

- We at Taiwan are not yet convinced to develop a strong legal or cultural basis for patient safety.
- A leadership with framework such as of PCDA in nature is crucial to systematically achieving patient safety.
- A collaborative efforts at the national level must be made for effectiveness.
- The focus: supporting cultural changes and building team skill.
- A real-time and evidence-based reporting network (forum) for information exchange can be established.
- The key of success however is to assure a confidential environment for open communication.

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Recommendations for hospital risk managers by level of feasibility

- Provide statistics for benchmarking (performance evaluation)
- Enhance multiple channels of communication with confidentiality
- Facilitate positive supports
- Establish framework for system integration (PDCA)
- Create core value of corporate culture

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