Introduction to Patient Safety Research

Presentation 9 - Understanding Causes: Cross-Sectional Survey
2: Introduction: Study Details

- **Full Reference**

  **Link to Abstract (HTML)**

  **Link to Full Text**

  Not currently available online
3: Introduction: Patient Safety Research Team

- **Lead researcher - Professor Albert Wu**
  - Department of Health Policy and Management
  - Johns Hopkins Bloomberg School of Public Health in Baltimore, MD, USA
  - Field of expertise: disclosure of adverse events

- **Other team members:**
  - Bernard Lo
  - Steve McPhee
  - Susan Folkman
4: Background: Opening Points

- Mistakes are inevitable in medicine
- Physicians in training are relatively inexperienced and care for acutely ill hospitalized patients
- Physicians who err are sometimes pigeonholed as incompetent and deviant
- Institutional culture may obstruct learning from mistakes
5: Background: Study Rationale

- Idea for study came after observing on several occasions that medical errors made by house officers, when they arose, were handled poorly by almost everyone concerned
  - Physicians-in-training (medical students and house officers) frequently experience errors, some of which harm patients
  - Incidents can be traumatic to trainees
- Little is known about:
  - What happens to the patient?
  - What happens to the house officer? How do they cope?
  - Do house officers learn from their mistakes?
6: Background: Choosing the Team

- Prof. Wu first proposed the research topic to his advisors and sought potential "mentors" to advise and assist him
  - Although it was initially unclear what expertise would be needed for the study, selected team achieved a good complement of expertise

- Funding
  - Provided through the Dr. Wu's fellowship training program
7: Methods: Study Objectives

- **Objective:**
  - To understand how medical house officers handle medical errors
  - the experience during their training

- **Research questions:**
  - Do House Officers (HO) make mistakes in patient care?
  - What factors contribute to the incidents?
  - Who do they tell about the incidents?
  - How do they cope?
  - Do they change their practice as a result of the mistakes?
8: Methods: Study Design

- **Design**: cross-sectional survey
  - Confidential, anonymous survey of physicians using free text and fixed response questions
  - Procedures:
    - Survey mailed out and mailed back
    - If no reply, two reminder postcards sent
  - Design chosen to provide both in depth responses and enough responses to test the outlined hypotheses

- **Other self-report methods which could have been used:**
  - Semi-structured interviews
  - Small group discussions
  - Focus groups
  - One-to-one interviews
9: Methods: Population and Setting

- **Setting:** three large academic medical centers
- **Population:** house officers in residency training programs in internal medicine
  - Of all house officers contacted, 114 responded, representing a response rate of about 45%
  - All respondents reported a mistake
10: Methods: Data Collection

- Study developed a survey to be mailed out to house officers and mailed back once completed. Survey included:
  - Free text description: “most significant mistake and response to it”
  - Fixed response questions using adjective rating response scales
  - Validated scales from “Ways of Coping” instrument

- Survey package was distributed to universe of house officers in three residency training programs
  - Package included a pen and a self-addressed postage paid return envelope
  - Response postcards included a section to indicate that either the survey had been returned or that the recipient wished not to be bothered by any further contacts

- Two rounds of reminder postcards and a second survey package were sent if there was no reply to the first mailed contact
11: Methods: Data Analysis and Interpretation

- **Calculated**
  - Descriptive analysis of frequencies of responses
  - Bivariate and multivariable regression analysis to identify predictors of constructive and defensive changes in practice
12: Results: Key Findings

- Serious adverse outcome found in 90% of cases, death in 31%
- A number of responses to mistakes by house officers identified:
  - Remorse
  - Fear and/or anger
  - Guilt
  - Isolation
  - Feelings of inadequacy
- 54% of respondents had discussed the mistake with a supervising physician
- Only 24% had told the patients or families
13: Results: Changes in Practice

- Constructive changes were more likely in house officers who accepted responsibility and discussed it.
- Constructive changes were less likely if they attributed the mistake to job overload.
- Defensive changes were more likely if house officer felt the institution was judgmental.
14: Conclusion: Main Points

- Physicians in training frequently experience mistakes that harm patients
  - Mistakes included all aspects of clinical work
- Supervising physicians and patients are often not told about mistakes
- Overwork and judgmental attitudes by hospitals discourage learning
  - Educators should encourage house officers to accept responsibility and to discuss their mistakes
15: Conclusion: Study Impact

- **Academic impact**
  - Study was published in a top journal and was cited numerous times by other academic studies, continuing to this day

- **Policy impact**
  - Helped to influence thinking and policy about disclosure of adverse events

- **Practice impact**
  - The paper is widely distributed by medical educators to medical students and other physicians in training
16: Conclusion: Practical Considerations

- **Study duration**
  - 18 months

- **Cost**
  - Approximately $3000 USD

- **Additional resources**
  - Computer access and statistical software

- **Required competencies**
  - Clinical, ethical, survey and measurement knowledge and experience

- **Ethical approval**
  - Took one month to obtain
17: Author Reflections: Lessons and Advice

- If the authors could redo one thing differently they would include questions about barriers to disclosure in their survey
- Lessons learned:
  - Physicians are often reluctant to respond to surveys - plan ahead to achieve adequate response rate
  - Survey questions may not “work”- always pilot tests before starting
  - Previously validated scales are much easier to use and interpret - try to minimize writing of brand new questions
  - Free text responses are difficult to analyze
18: Author Reflections: Overcoming Barriers

**Challenge**

- Achieving an acceptable response rate to the survey regarding this controversial topics was one of the main challenges of this study.

**Solution**

- A partial solution developed was to use multiple reminders including postcards to indicate that “I have responded by returning a completed survey, or do not want to be bothered with further reminders.”
19: Author Reflections: Developing Countries

- Surveys of physicians and other clinicians are relatively convenient and can provide useful information about system flaws and potential solutions.
- This type of study could be replicated in house officer training programs in developing or transitional countries to uncover local setting-sensitive and culturally relevant findings.
20: Additional References

