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Paediatric International Patient Safety and Quality Community

**Presentation**

# Building on parent's concerns – Improving safety and decreasing diagnostic error

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Research article

Open Access

## **"Against the silence": Development and first results of a patient survey to assess experiences of safety-related events in hospital**

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**Conclusion:** Many patients experience undesirable events during hospitalization and a significant number of patients is seriously concerned about their safety. Surveying patients about experiences with safety-related events in hospital seems a valuable tool for identifying and monitoring problematic areas of care and undesirable events. Evidence from the qualitative interviews indicates that safety remains an unsaid word between patients and their care providers.

J Hosp Med. 2009 Nov;4(9):521-7.

## Afraid in the hospital: parental concern for errors during a child's hospitalization.

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### Abstract

**OBJECTIVE:** (1) To determine the proportion of parents concerned about medical errors during their child's hospitalization and (2) to examine the association between this concern and parental self-efficacy with physician interactions.

**STUDY DESIGN:** Cross-sectional survey.

**SETTING:** Tertiary care children's hospital.

**PARTICIPANTS:** Parents of children admitted to the general medical service.

**OUTCOME MEASURE:** Parental concern about medical errors.

**METHODS:** Parents were asked their agreement with the statement "When my child is in the hospital I feel that I have to watch over the care that he/she is receiving to make sure that mistakes aren't made." We used multivariate logistic regression to examine the association between parents' self-efficacy with physician interactions and the need "to watch over a child's care," adjusting for parent and child demographics, English proficiency, past hospitalization, and social desirability bias.

**RESULTS:** Of 278 eligible parents, 130 completed surveys and 63% reported the need to watch over their child's care to ensure that mistakes were not made. Parents with greater self-efficacy with physician interactions were less likely to report this need (odds ratio [OR], 0.83; 95% confidence interval [CI], 0.72-0.92). All parents who were "very uncomfortable" communicating with doctors in English reported the need to watch over their child's care to prevent mistakes.

**CONCLUSIONS:** Nearly two-thirds of surveyed parents felt the need to watch over their child's hospital care to prevent mistakes. Parents with greater self-efficacy with physician interactions were less likely to report the need to watch over their child's care while parents with lower English proficiency were more likely to report this need.

63% of parents report the need to watch over their child's care to ensure mistakes are not made

# Partnering with Patients and Families: Hearing the Patient and Families Voice

**Questionnaire** was developed to elicit parent's perceptions of patient safety concerns and their reporting of these concerns.

## **Mixed methods**

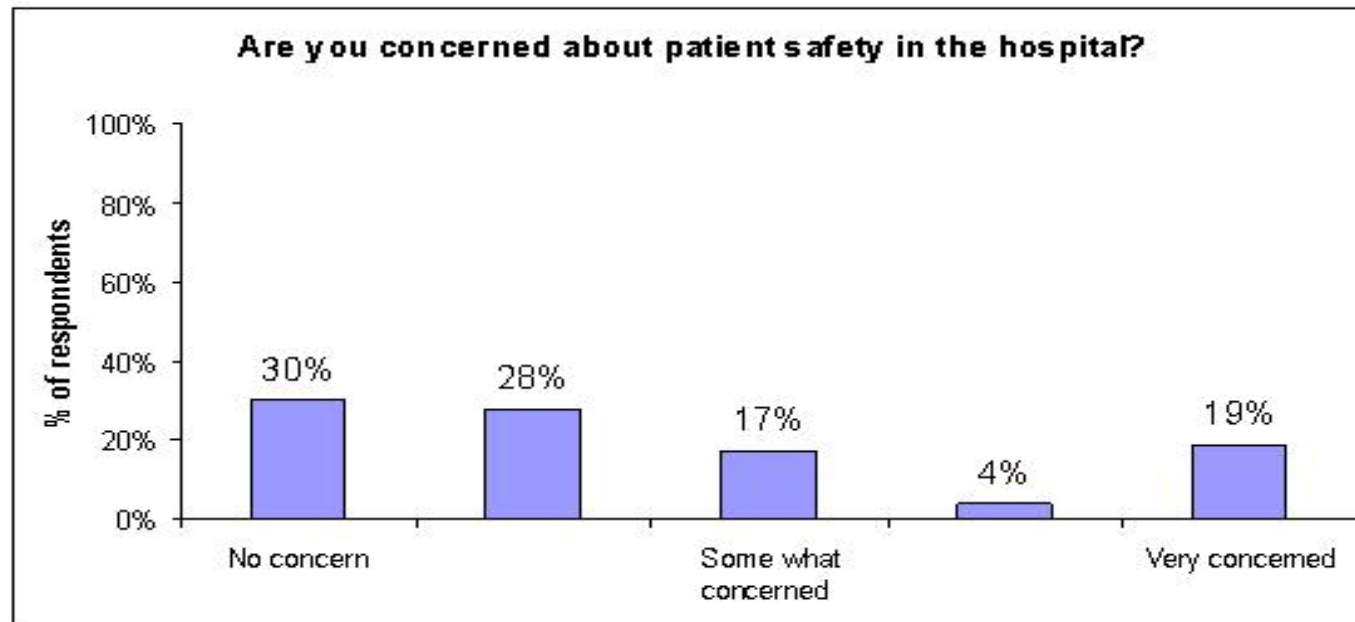
**Quantitative analysis of data**

**Qualitative methods** to code and analyze descriptive data from surveys completed.

**London Protocol** used as framework for analysis Taylor-Adams and Vincent's (2000)



128 parents and family members were approached to participate in the Quick Pic. 124 of 128 (97%) agreed to enroll. 70% of families indicated they had some patient safety concern as depicted below:



# Factors Contributing to Parents' Safety Concerns

Factors Contributing to Parents' Safety Concerns as per London Protocol	% of Respondents	Examples
Organization and Management	76%	Security, Safety Culture and Infection Transmission
Task	38%	Accuracy, Appropriateness, timeliness, Patient Identification, Clinical Care and Medications
Environment	23%	Physical Injury, Cleanliness
Team	8%	Communication
Individual	8%	
Patient	3%	Communication

### Inpatient Concerns

<b>Category /Concern</b>	<b>Number of Concerns</b>	<b>Subsets</b>	<b>Percentage of Parents voicing this concern</b>
<b>Infection Control</b>	<b>31</b>	-Cleanliness (8) -Sterile Equipment (4) -Transmission from person (18) -Overcrowding (1)	<b>27.4%</b>
<b>Security</b>	<b>18</b>	-Abduction (9) -Unknown/unauthorized Persons (7) - Wandering patients (2)	<b>15.9%</b>
<b>General Care</b>	<b>23</b>	-Proper Care (16) - Timely Care (7)	<b>20.4%</b>
<b>Medications</b>	<b>12</b>	- Correct Dosage (2) - Correct Medication (6) - General (4)	<b>10.6%</b>
<b>ID</b>	<b>5</b>	- Patient ID (4) -Parent ID (1)	<b>4.4%</b>
<b>Environmental Safety</b>	<b>12</b>	- Smoking (2) - Parking (2) - Slips and Falls (4) - Fire (1) - Other (3)	<b>10.6%</b>
<b>Communication</b>	<b>6</b>	-Between Care Givers (5) -With Parent (1)	<b>5.3%</b>
<b>Food Issues</b>	<b>4</b>		<b>3.5%</b>
<b>Allergies</b>	<b>1</b>		<b>0.9%</b>
<b>Mental Health</b>	<b>1</b>		<b>0.9%</b>
<b>Total:</b>	<b>113</b>		

## OUTPATIENT CONCERNS

Category/Concern	Number of concerns	Subsets	Percentage Parents voicing this concern
Infection Control	27	-Transmission from person (13) -Cleanliness (11) - Overcrowding (3)	25.5%
Security	23	-Abduction (12) -Lost children (3) -General Security (7) -Theft (1)	21.7%
General Care	16	-Proper care. i.e. -- Negligence, wrong diagnosis, malpractice, continuity of team. (17) -Timely care (1)	15.1%
Environmental Safety	20	-Equipment (5) -Fire (1) -Waiting areas (4) -Signage (1) -Air quality (1) -Unsafe toys (2) - Supervision (6)	18.9%
Medications	7	-Correct med (6) - Correct dosage (1)	6.6%
ID	6	- Patient ID (5) - Staff ID (1)	5.7%
Food Allergy	2		1.9%
Communication	2	-Language barrier (2)	1.9%
Confidentiality	3	-Patient personal information (3)	2.7%
<b>Total:</b>	<b>106</b>		



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THINKING,  
FAST AND SLOW



DANIEL  
KAHNEMAN

WINNER OF THE NOBEL PRIZE IN ECONOMICS

**Table 1** Characteristics of System 1 and System 2 approaches in decision making

Characteristic	System 1 (intuitive)	System 2 (analytic)
Cognitive style	Heuristic	Systematic
Operation	Associative	Rule based
Processing	Parallel	Serial
Cognitive awareness	Low	High
Conscious control	Low	High
Automaticity	High	Low
Rate	Fast	Slow
Reliability	Low	High
Errors	Normative distribution	Few but significant
Effort	Low	High
Predictive power	Low	High
Emotional valence	High	Low
Detail on judgment process	Low	High
Scientific rigor	Low	High
Context	High	Low

Adapted from *Concise Encyclopedia of Information Processing in Systems and Organizations*,<sup>9</sup> and *The Robot's Rebellion: Finding Meaning in the Age of Darwin*.<sup>15</sup>

# DUAL PROCESSING APPROACH TO DECISION MAKING



In Croskerry P. Overconfidence in Clinical Decision Making AJM 2008 121:S24-9

apparent effortlessness of the method that permits disparaging discounting; physicians often refer to decisions based on System 1 thinking as “just pattern recognition.” The process is viewed as simply a transition to an automatic way of thinking, analogous to that occurring in the

heart attack... four-legged... similarity to... nsively in... ormation.<sup>1</sup>... ad often us... ations, Sy... d sympto... ASS, the r... ilure will

System 2 being engaged instead. The other side of the coin is that occasionally people act against their better judgment.

ADAM

A bat and a ball cost \$1.10. the bat is \$1 more than the ball. How much does the ball cost?

Joe has always been interested In computers.  
Wears glasses, short cropped hair... 'computer nerd'.

Which is more likely to be correct?

Joe is a farmer. Joe is a librarian.

System 1 works with as little or as much information as it has.If it can't answer the question, "Is Ford stock a good investment?" it supplies an answer based on related but not really relevant data, such as whether you like Ford's cars.

Banana

Vomit

System 1 simplifies, confirms—it looks for, and believes it sees, narrative coherence in an often random world. It does not perform complicated feats of logic or statistical evaluations.

# How Common Are Potentially Harmful Diagnostic Errors?

- Clinical specialties 10-15%
- Perceptual specialties 2-5%
  - Radiology: 3% disagreement rate
    - CT, MRI higher: about 5%
    - J Am Coll Radiol 2004;1:59-65
    - De Vries QSHC 2008; Soop IJQHC 2009

# PEDIATRICS®

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**TABLE 2** Most Prevalent Conditions in Pediatric Malpractice Claims Caused by Error in Diagnosis (1985–2006)

Condition	Average Indemnity (for Diagnostic Errors), \$
1. Meningitis	433 464
2. Appendicitis	131 842
3. Specified nonteratogenic anomalies	197 707
4. Pneumonia	396 318
5. Brain-damaged infant	335 804

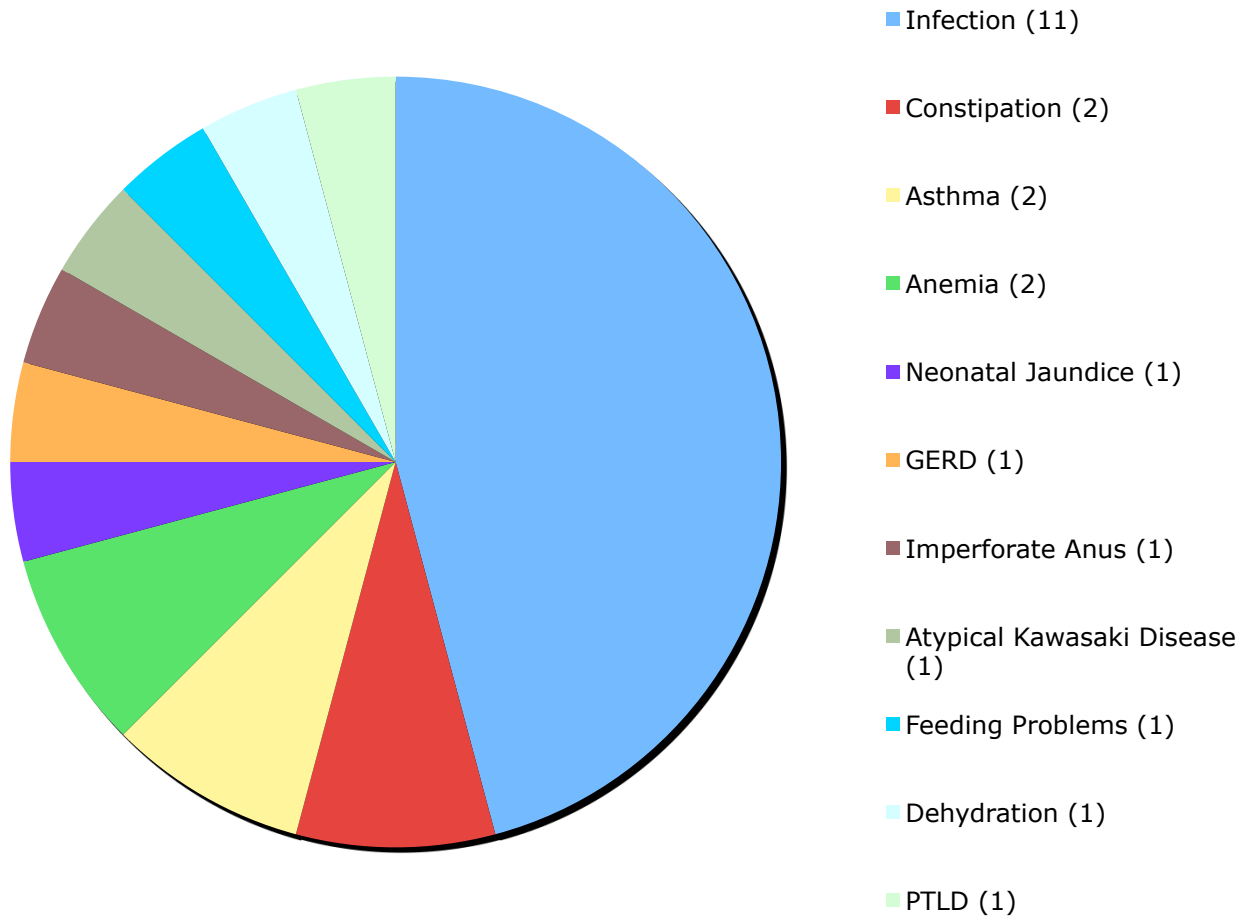
## Medical Diagnoses Commonly Associated With Pediatric Malpractice Lawsuits in the United States

Gary N. McAbee, Steven M. Donn, Robert A. Mendelson, William M. McDonnell,  
Jose L. Gonzalez and Julie Kersten Ake

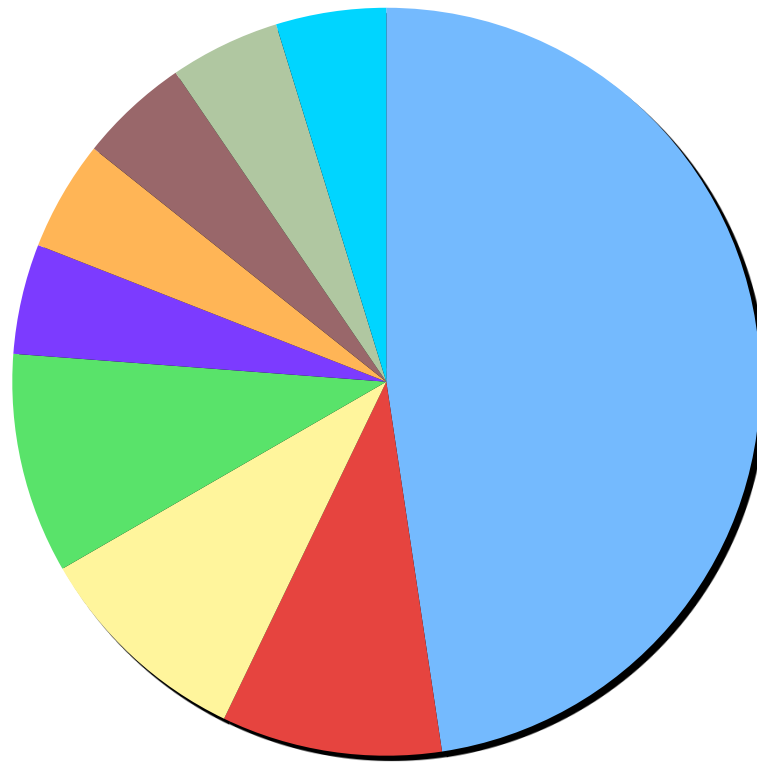
*Pediatrics* 2008;122:e1282-e1286

DOI: 10.1542/peds.2008-1594

### Medical Diagnostic Adverse Events



### Surgical Diagnostic Adverse Events



- Appendix (10)
- Intraabdominal Sepsis (2)
- Post-op Bleed (2)
- Pyloric Stenosis (2)
- Intussusception (1)
- Meckel's (1)
- Subglottic Stenosis (1)
- Surgical-site Infection (1)
- Tracheocutaneous Fistula (1)

# Causes of Diagnostic Error

- Individual Thinking: About 30%
  - System Problem: About 15%
  - Both: About 50%
  - “No fault”: About 5%
- Graber et al.,2005. Kachalla et al, 2006
  - Roy, C. L. Ann Intern Med 2005;143:121-128
  - Moore et al. Arch Intern Med. 2007. NEJM 2004;351:1838-1848

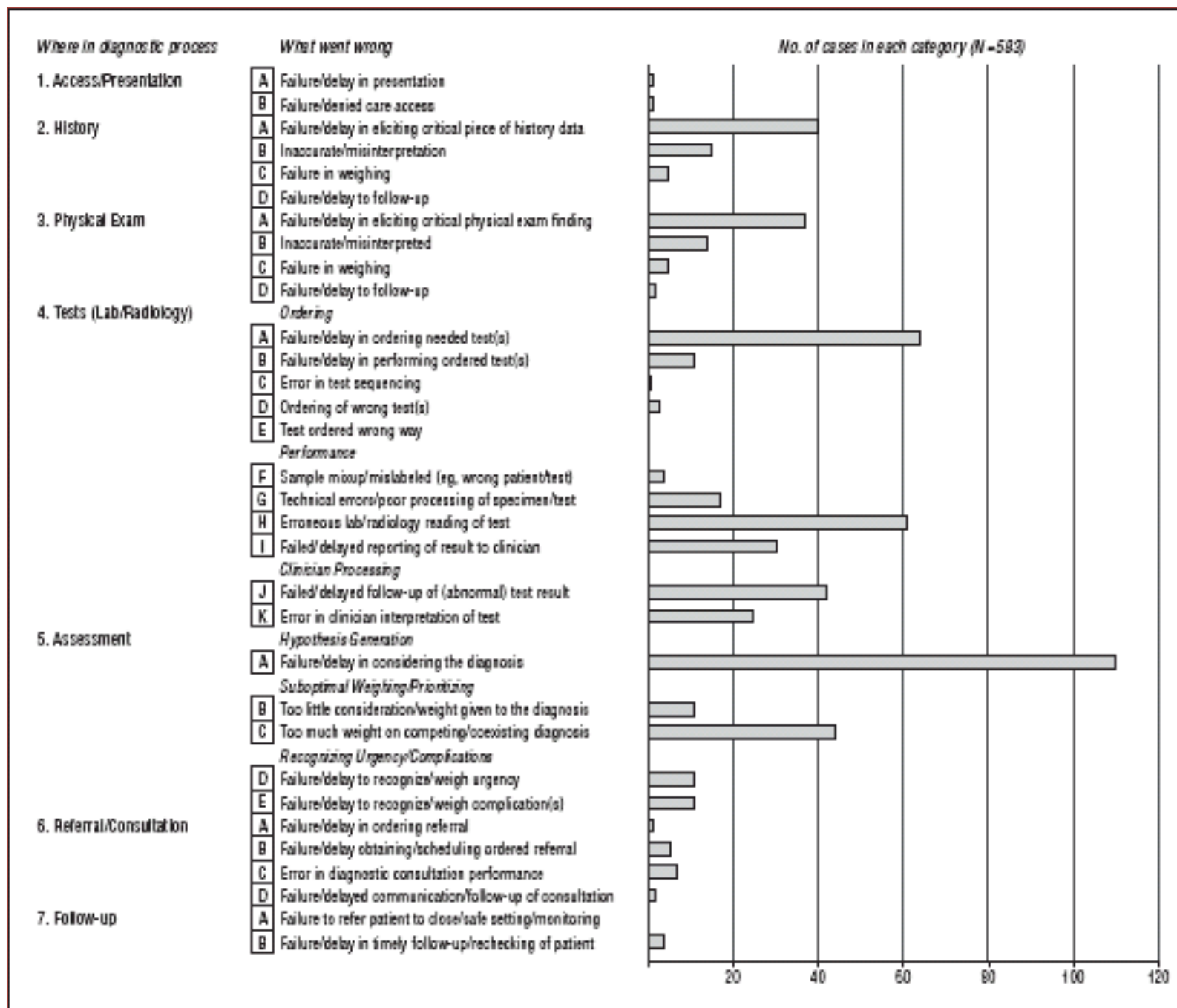


Figure 3. Classification of diagnostic errors in 583 physician-reported cases using the Diagnostic Error Evaluation and Research project tool to localize where in the diagnostic process error occurred.

# Categories Contributing to Diagnostic Error in 100 Patients

*Graber et al., 2005*

## Solutions for systems problems

1. Computer based decision support

2. Feedback at a quality assurance level: eg proficiency tests, autopsies and M&M reports

3. Follow-up: allows third party access to records to help evolve

**In patient:** reassess later in the day, follow up on diagnostic tests

**Out patient:** call patients at home, asking them to return in a week

**ED:** follow up with GP or if worsening illness return to ED

# Categories Contributing to Diagnostic Error in 100 Patients

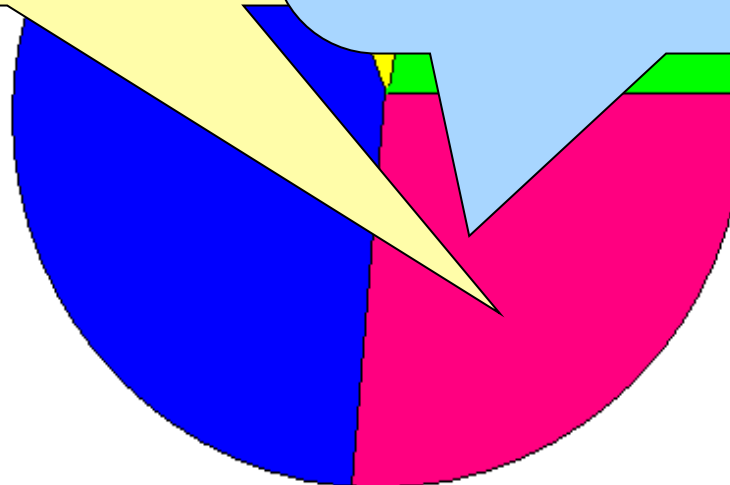
*Graber et al., 2005*

## Metacognitive Training

1. knowledge of your own thoughts and the factors that influence your thinking
2. Prospective hindsight: what can't I afford to miss?
3. Reflective practice

## Strategies for the INDIVIDUAL: AIM TO MAKE MORE OF AN EXPERT

1. Education
2. Expertise in narrow domain
3. More practice including with simulation



Humans have limited ability to accurately judge what they know or don't know, or judge their abilities.

**This impacts on medical decision making, because we are also often lacking the feedback of experts, and/ or, depending on the context (eg emergency departments, walk in clinics) , validation by outcome data.**

- The confidence we experience as we make a judgment is not a reasoned evaluation of the probability that it is right. *Confidence is a feeling, one determined mostly by the coherence of the story and by the ease with which it comes to mind, even when the evidence for the story is sparse and unreliable. The bias toward coherence favors overconfidence.* An individual who expresses high confidence probably has a good story, which may or may not be true.

Kahneman NYT Oct 2011

- To know whether you can trust a particular intuitive judgment, there are two questions you should ask: *Is the environment in which the judgment is made sufficiently regular to enable predictions from the available evidence?* The answer is yes for diagnosticians, no for stock pickers. *Do the professionals have an adequate opportunity to learn the cues and the regularities?* The answer here depends on the professionals' experience and on the quality and speed with which they discover their mistakes.

## How can parents help prevent diagnostic error? My personal thoughts.

- Provide detailed history
- Provide actual data (e.g. temperature chart, pictures of rash in evolution)
- Ensure no language barrier
- Understand the degree of certainty the physician has in the diagnosis
- Get follow up if clinical change
- Provide feedback if diagnosis made elsewhere