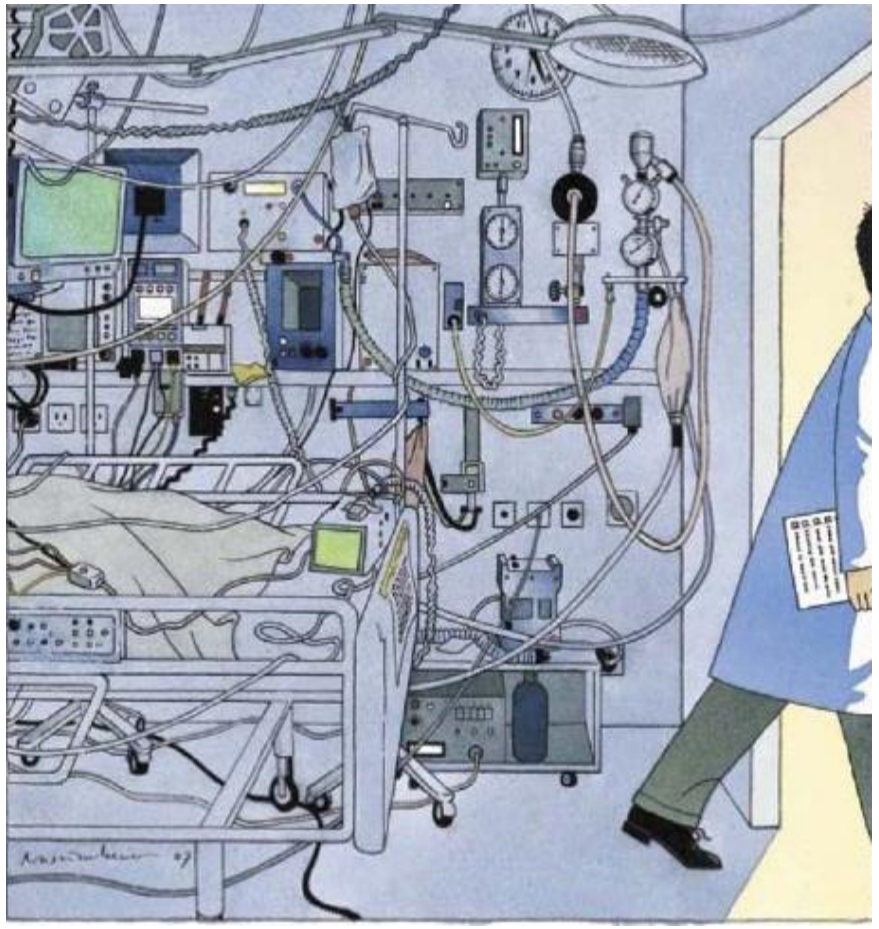
- A study of two UK hospitals found that 11% of admitted patients experienced adverse events of which 48% of these events were most likely preventable if the **right knowledge was applied**.

- The **under-utilization** of healthcare data- information-knowledge contributes to improper clinical decisions, medical errors, under-utilization of resources and raise in healthcare delivery costs

How safe is your hospital?

- Take 3 to 5 minutes to think about safety in your hospital or organization
- List 3-5 risk process or areas

Aircraft Vs. ICU



"Modern healthcare is the ***most complex human activity*** *there is, due to interpersonal relationships between many different clinicians with different expertise and interests, and we haven't figured out how to make that work well.*

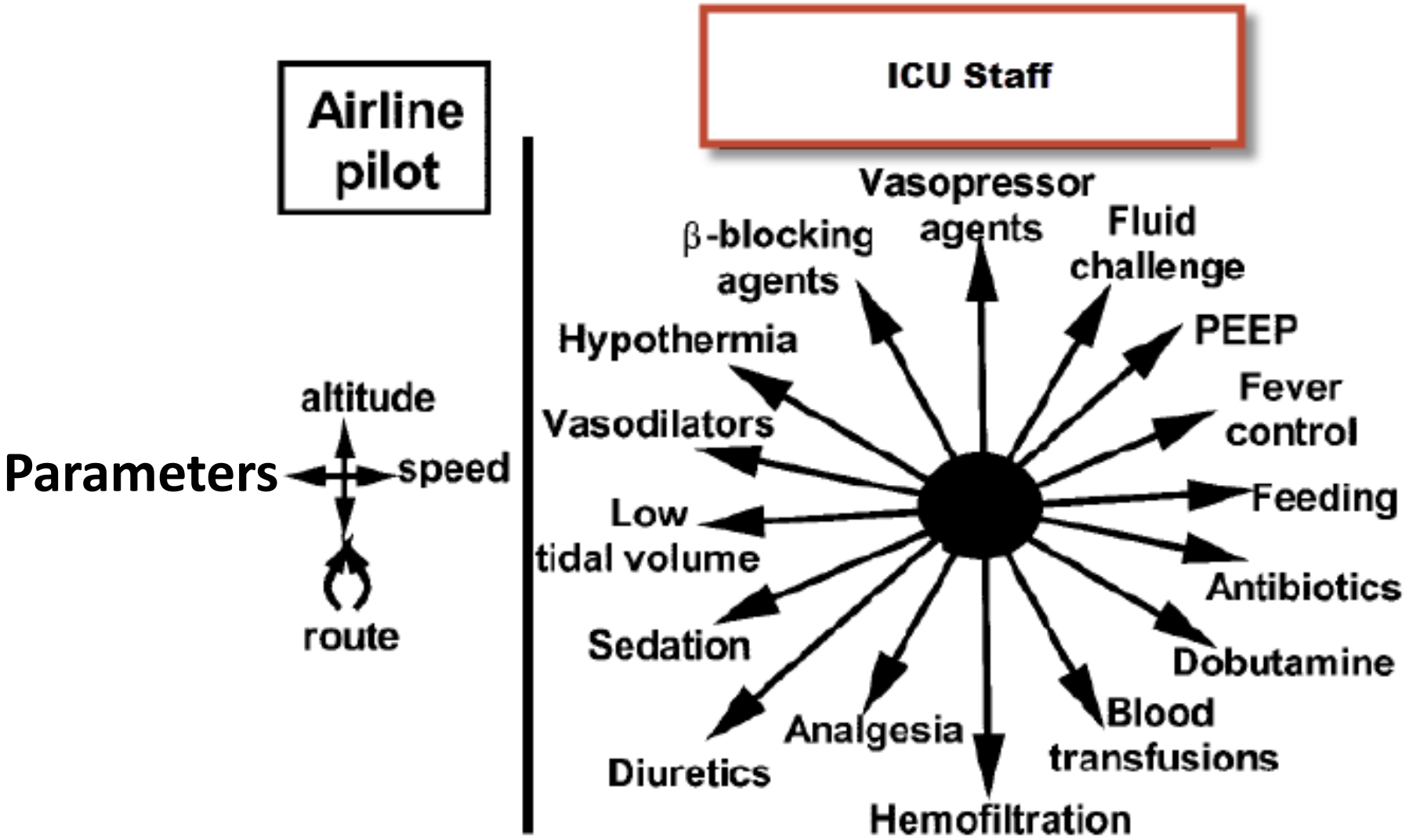
We have come to a full stop against a complex environment that resists accepting change on the scale clearly required"

Lucian Leape, MD

Founder of the Modern Patient Safety Movement

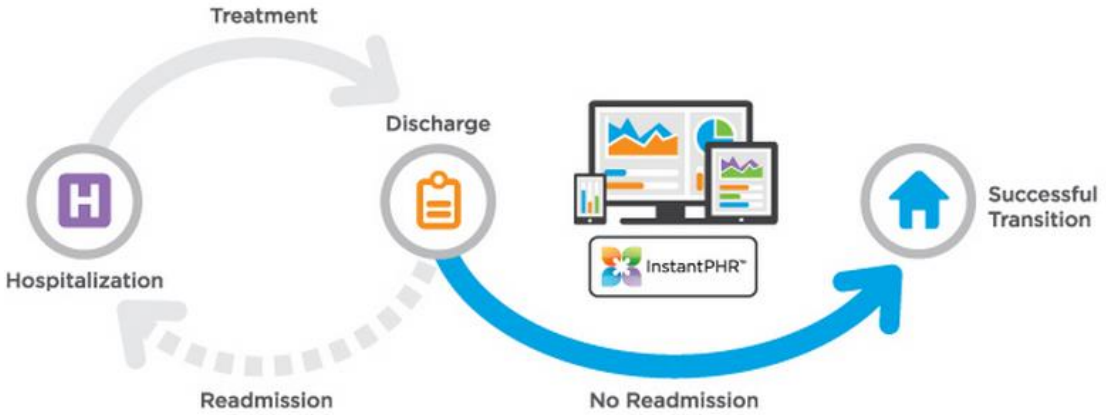
Adjunct professor of health policy at Harvard University

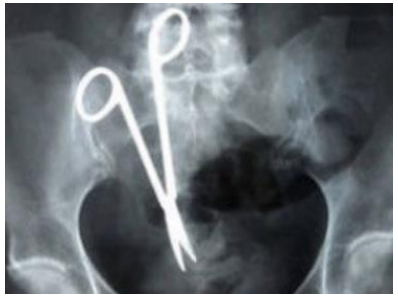
"Error in Medicine," published in JAMA, 1994


Airline pilot
ICU Staff
Parameters
altitude
speed
route
Vasopressor agents
β-blocking agents
Fluid challenge
Hypothermia
PEEP
Vasodilators
Fever control
Low tidal volume
Feeding
Antibiotics
Sedation
Dobutamine
Analgesia
Blood transfusions
Diuretics
Hemofiltration

Safety Issues

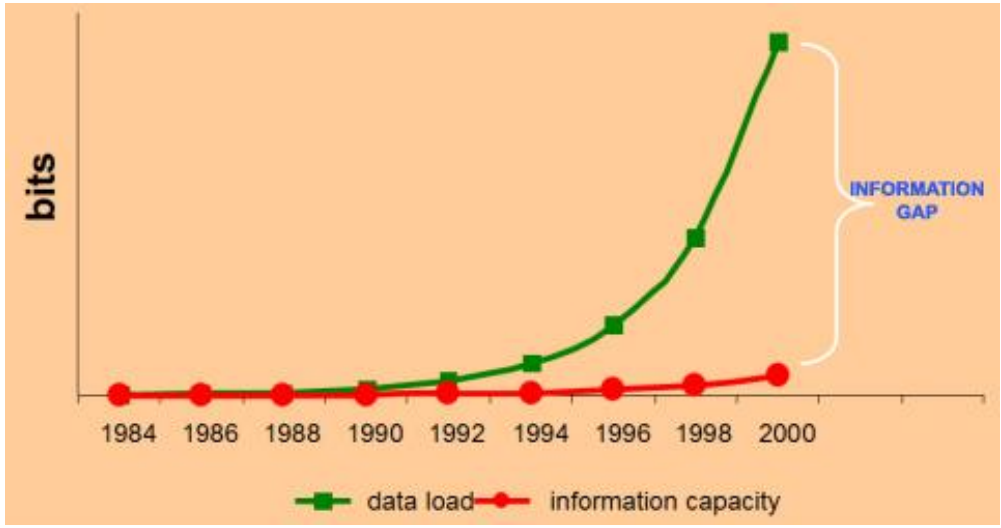
- Medication errors
- Failure to rescue
- Readmissions
- Falls
- Pressure ulcer
- Sentinel events
- Hospital acquired infections
- Under reported incidents



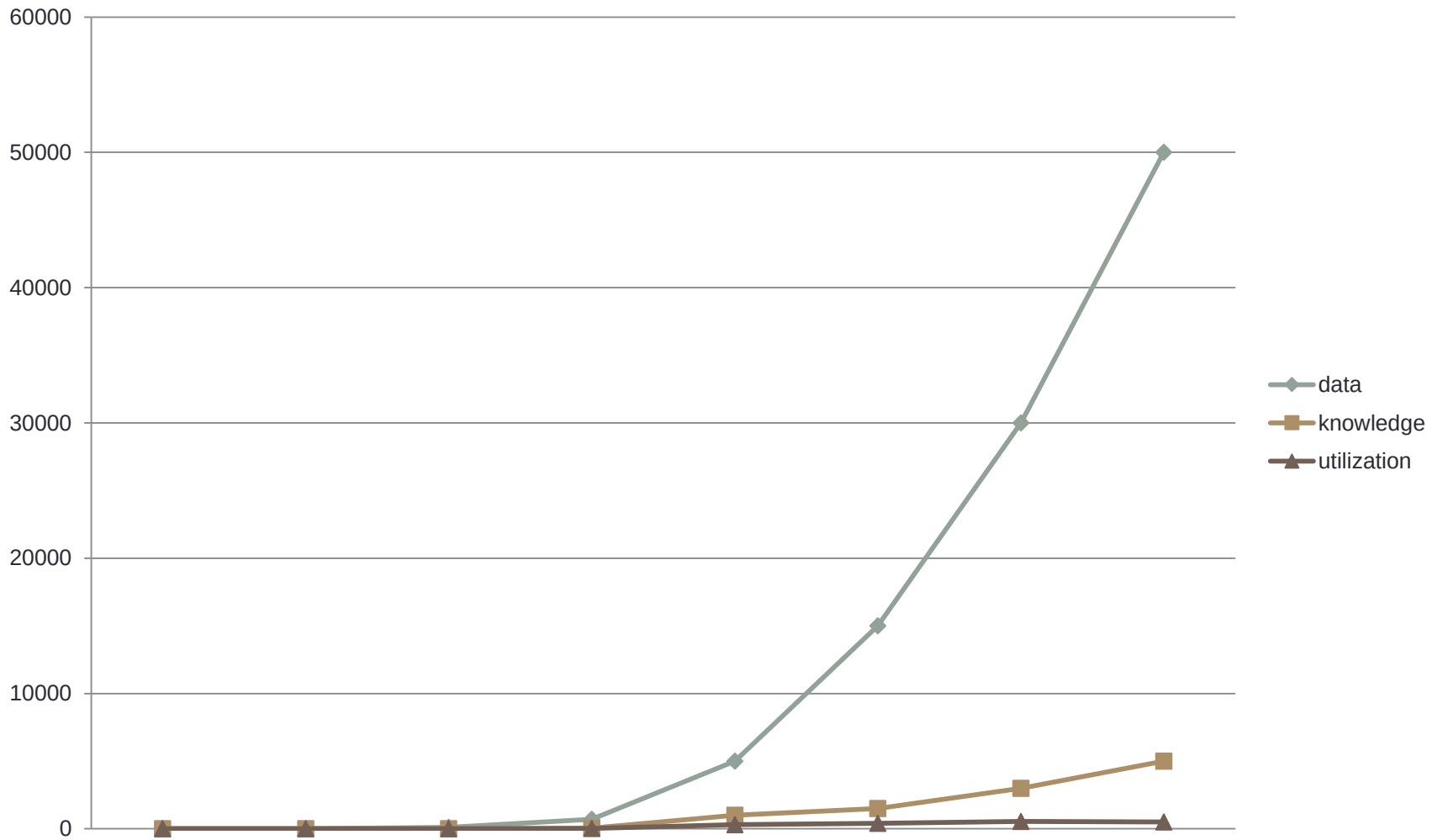


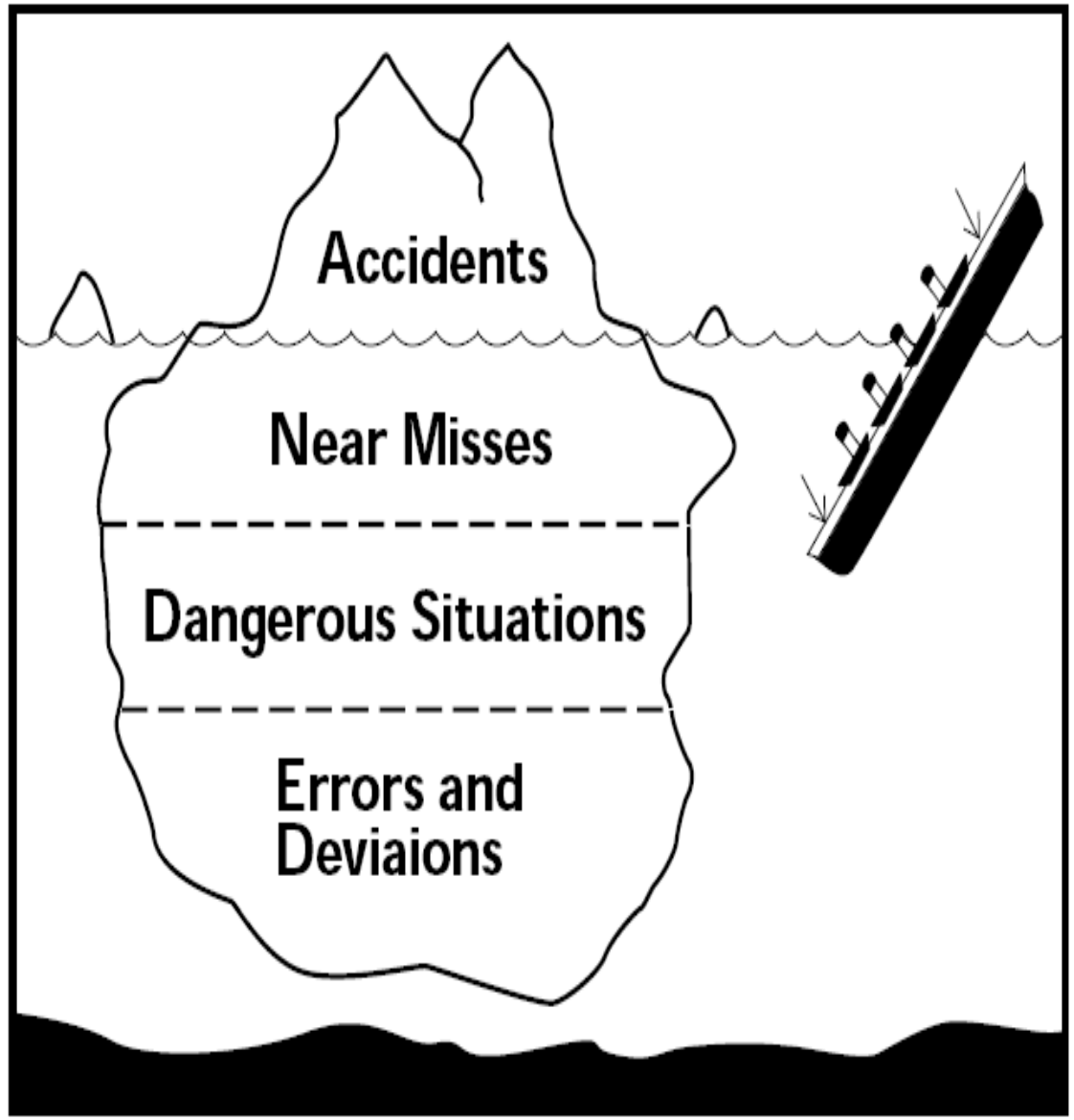
Flood of Information

- Huge gap in data acquisition and information → knowledge capacity



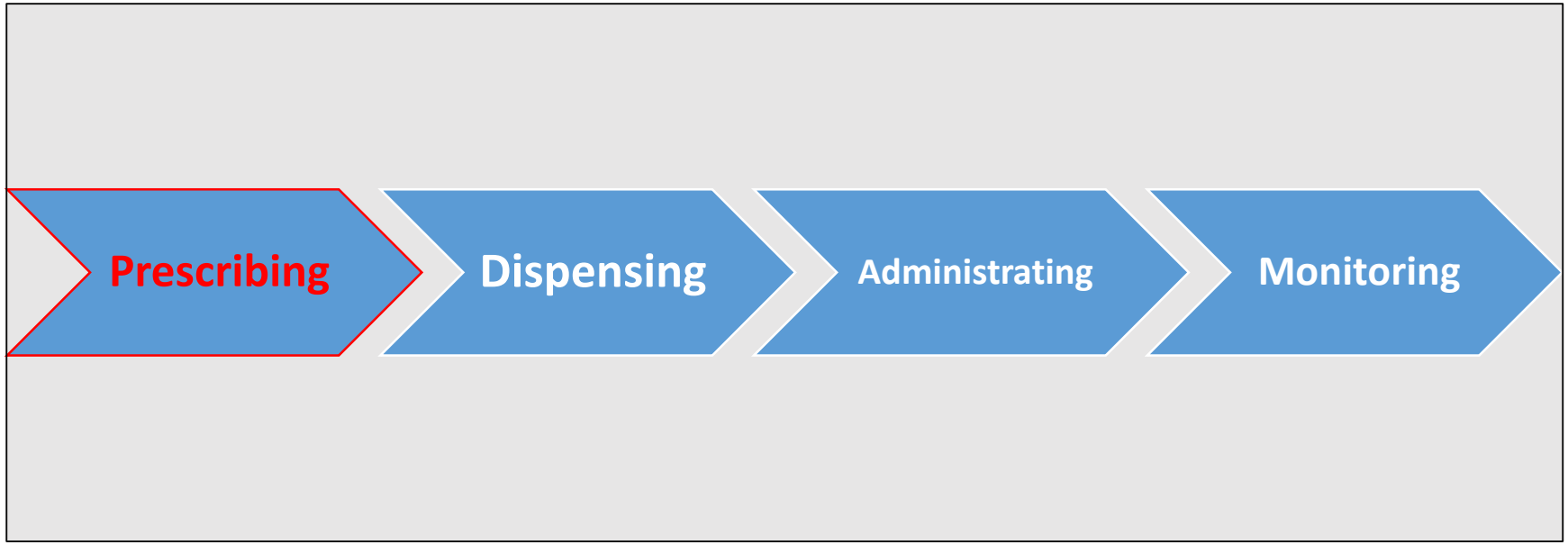
Data – knowledge - utilization





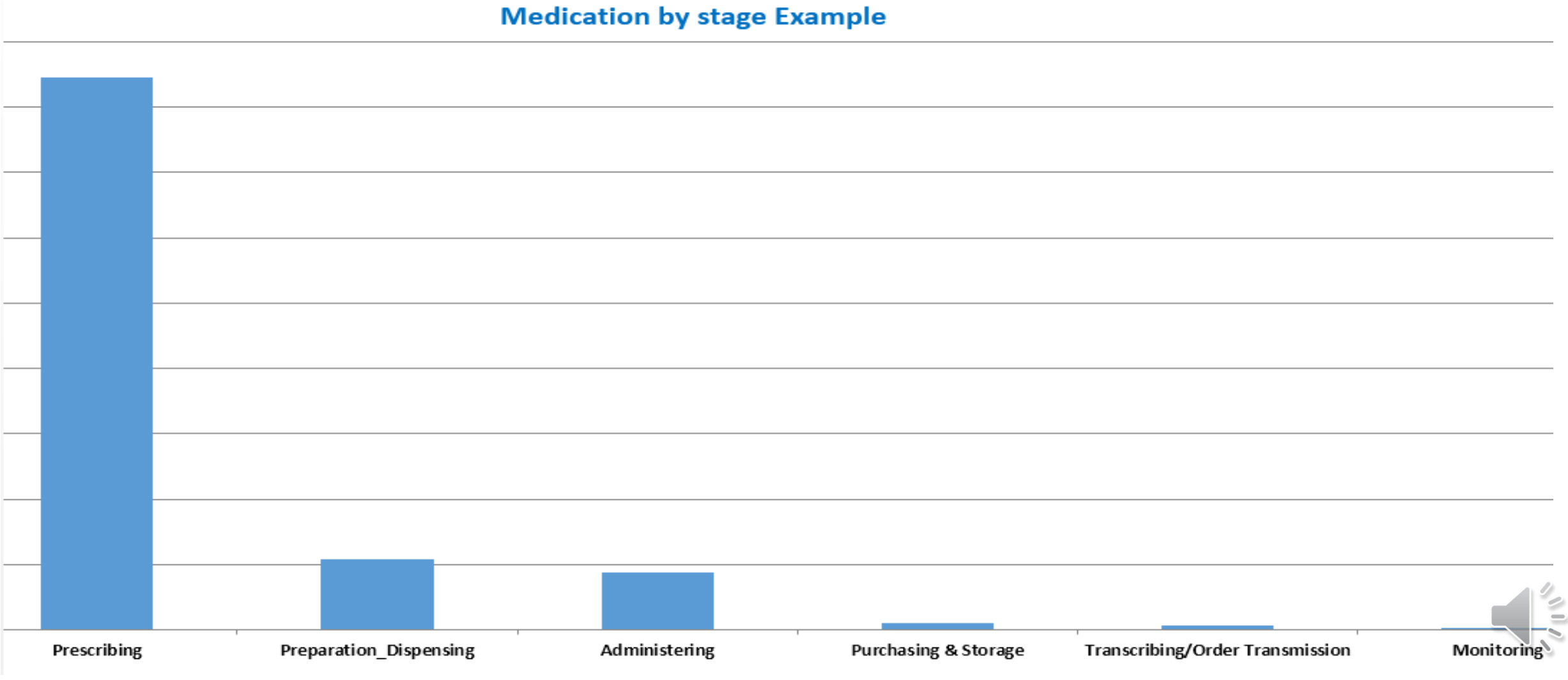
Battles JB, Kaplan HS, van der Schaaf TW, Shea CE. The attributes of medical event-reporting systems. *Arch Pathol Lab Med.* 1998;122:231-238.

i.e. Medication process

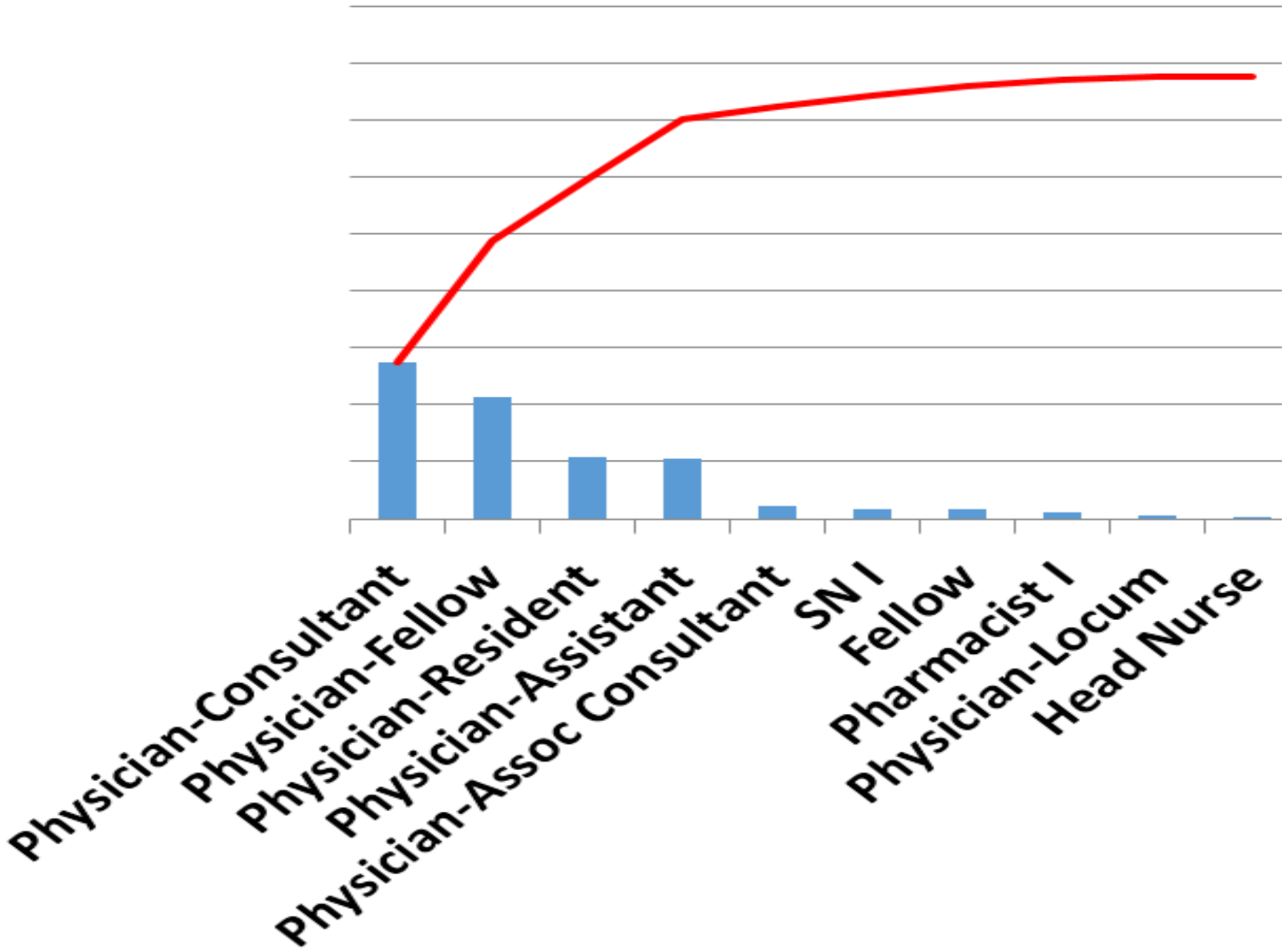


Medication errors (MEs) are common and considered one of the highest risk factors that threaten patients in hospitals. The majority of these errors are considered common during prescribing medication stage (Shulman et al, 2005).

Where did it happened?



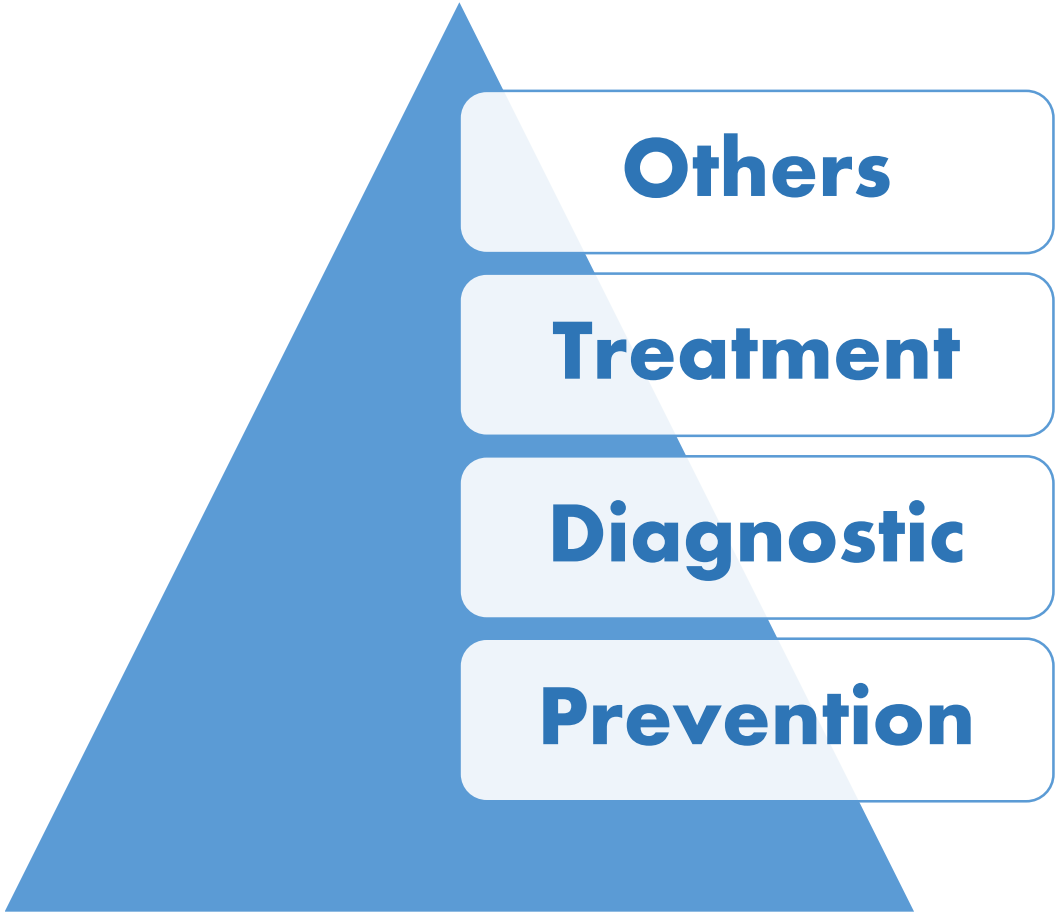
Who did it?


Physician-Consultant
Physician-Fellow
Physician-Resident
Physician-Assistant
Physician-Assoc Consultant
SN I
Fellow
Pharmacist I
Physician-Locum
Head Nurse

Prof. Lucian Leape MD

- Incompetent people are, at most, **1%** of the problem.
- The other **99%** are good people trying to do a good job who make very simple mistakes
- It's the processes that set them up to make these mistakes.

Error types



Failure of communication

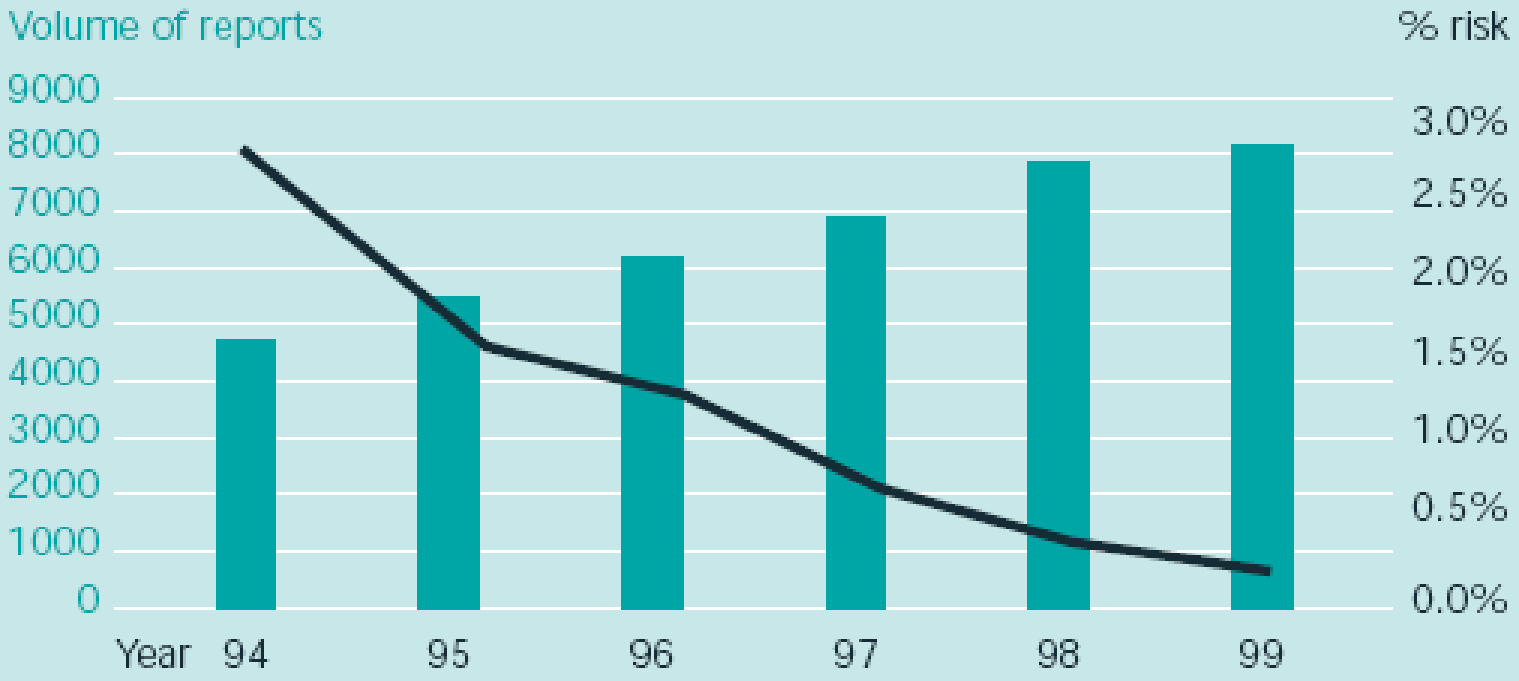
Wrong medication administration

Delay in diagnosis

Failure to provide prophylactic

Air safety reports

Volume of reports and risk
British Airways data 1994 -1999



Key Total number of reports
High and medium risk events
(as a percentage of the total number of events)