



Management of Health Care Quality and Patient Safety

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RAHG 702 Health Systems and Health Care Management
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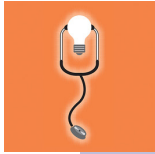
Pix source: ra.mahidol.ac.th



Outline

1. WHAT:
 - Concepts of Health Care Quality, Patient Safety
 - Risk Management & Uncertainty in Health Care Management
 - Human Factor Engineering & Medical Errors
 - Tools for Health Care Quality Improvement
2. WHY:
 - Roles of Physicians in Managing Health Care Quality & Patient Safety
3. HOW:
 - Patient Safety Movement in Thailand: “2P Safety”
 - Introduction of Health Care Quality Improvement Research
4. Case Studies & Discussions (Next Class)

Pix source: online.wsj.com



WHAT: What do you really mean by “quality”?

Pix source: online.wsj.com

What Defines Quality of iPhone?



**“Quality
lies in the eyes
of the beholder.”**

Pix source: apple.com

Dimensions of Healthcare Quality

Maxwell 1992	HSRG 1992	Donabedian 1990	O'Leary & O'Leary 1992
Accessibility	Accessibility Patient-centredness		Accessibility Patient perspectives
Effectiveness	Effectiveness	Effectiveness	Effectiveness
Efficiency	Efficiency Continuity/co-ordination	Efficiency	Efficiency Continuity
Acceptability		Efficacy	Efficacy
Equity		Acceptability	
	Comprehensiveness	Equity	
Relevance		Legitimacy	

Source: Campbell et al. (2000)

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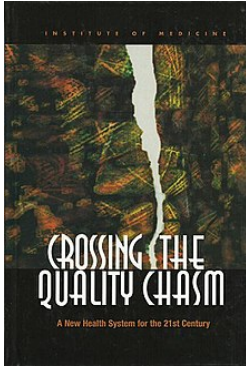
Dimensions of Healthcare Quality

<u>Quality</u>	<u>Care</u>		
	<u>Health care system</u> (Structure)	<u>Patient-centred care</u> (Process)	<u>Consequences of care</u> (Outcome)
<i>Accessibility</i>	Geographic /physical access Affordability Availability	Affordability Availability	Health status User evaluation
<i>Effectiveness</i>		Effectiveness of Clinical care Effectiveness of Inter-personal care	Health status User evaluation

Source: Campbell et al. (2000)

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Systems Goals: Desirable Health Systems



- A great health services system should be:
 1. Equitable
 2. Efficient
 3. Safe
 4. Timely
 5. Effective
 6. Patient-centered

} Quality

“STEEEP”

Source: Adapted from IOM (2001)

Quality as Safety

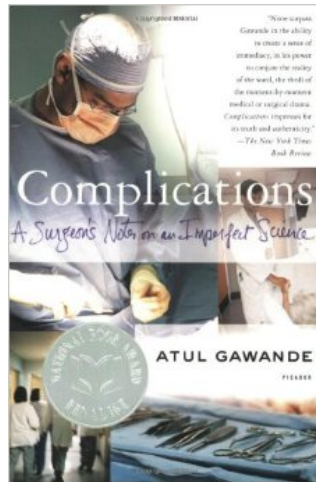
- Safety:
 - By design, a system that prevents medical error and avoid iatrogenic injuries.



Source: Modified from IOM (2001); Pix source: thieme-connect.de/ejournals; tumblr.com

Quality as Safety

(Disclaimer: Obviously, this is partly my self-advertisement!)



Source: amazon.com, matichonbook.com

Quality as Timeliness

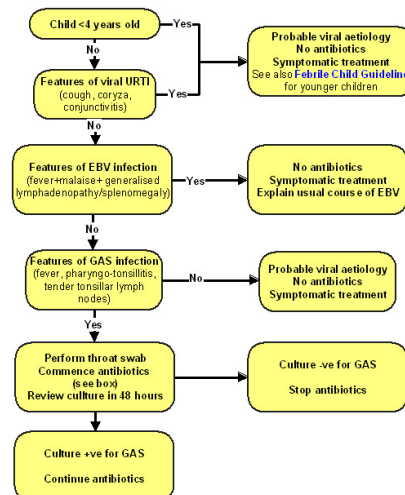
- Timeliness:
 - Reducing waiting time of both health providers and consumers, which sometimes lead to injuries and harms.



Source: Modified from IOM (2001);
Pix source: toonpool.com/cartoons.jpg

Quality as Effectiveness

- Effectiveness:
 - Delivery of evidence-based health services to all people who likely will benefit from such services (“avoid underuse”) and provide no services that have no evidence of benefits or that could be harmful (“avoid overuse and misuse”).



Source: Modified from IOM (2001); Pix source: www.rch.org.au/clinicalguide

Quality as Patient-Centeredness

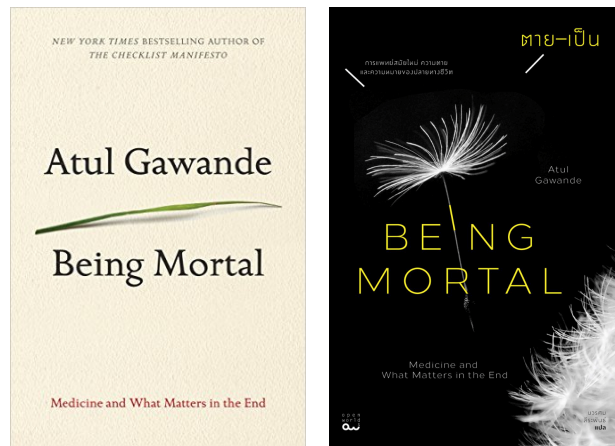
- Patient-centeredness:
 - A system that respects the patient’s rights.
 - Be responsive to personal beliefs' and value of individuals.
 - Open an opportunity for patients (and families) and clinicians to make mutual decisions on their health interventions
 - Not a disease-centered system
 - Not a provider-centered system



Source: Modified from IOM (2001); Pix source: blog.skylight.com/patient-centric

Quality as Patient-Centeredness

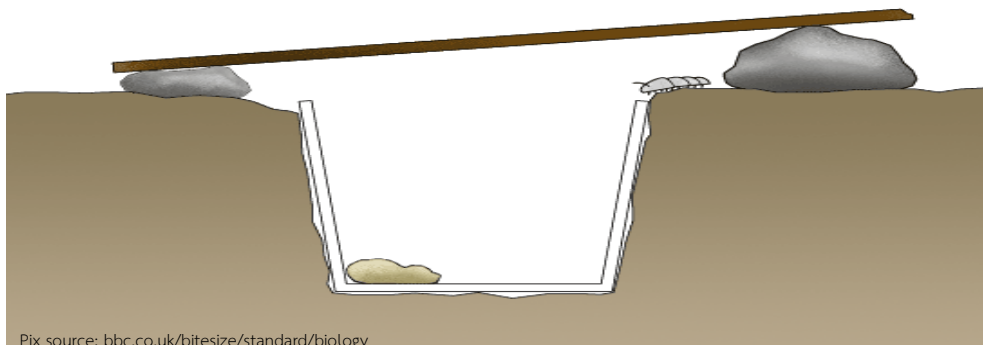
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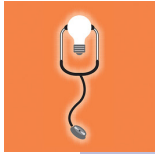
Source: amazon.com, openworlds.in.th

Three common “pitfalls” in managing for healthcare quality:

- 1) “Do your jobs professionally”
- 2) “Just another fad and fashion”
- 3) “Too adhere to a frame”

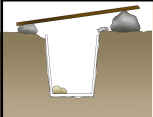


Pix source: bbc.co.uk/bitesize/standard/biology



WHY: Roles of Physicians in Health Care Quality management?

Pix source: online.wsj.com



Pitfall: "Just Be Professional?"



Pix source: kevin.lexblog.com

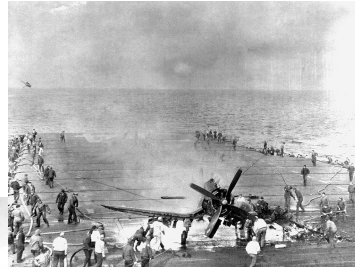
"Why working professionally is not enough?"



Pix source: devastatecharlie.blogspot.com; uboat.net; strangecosmos.com; historylink101.com

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"Why working professionally is not enough?"

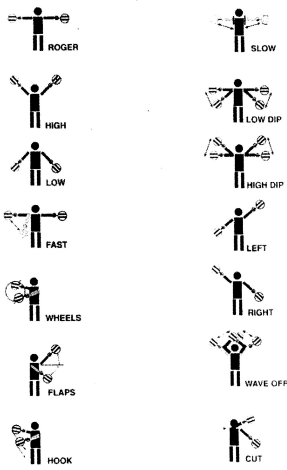


Pix source: devastatecharlie.blogspot.com; uboat.net; warbirdinformationexchange.org; pwencycl.kgbudge.com

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Improvement (Short-term)

AIRCRAFT CARRIER LSO SIGNALS



Pix source: airportjournal.com; pwencycl.kgbudge.com

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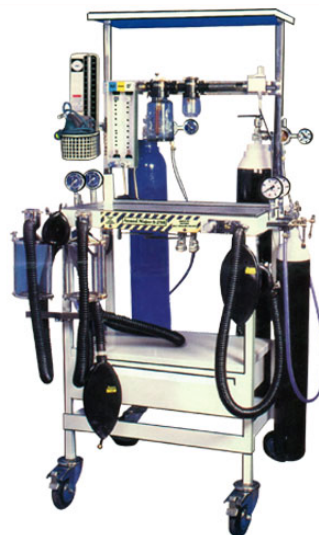
Improvement (Long-term)



Pix source: virtualphalcon.blogspot.com; canitbesaturdaynow.com; science.howstuffworks.com

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Improvement (Long-term)

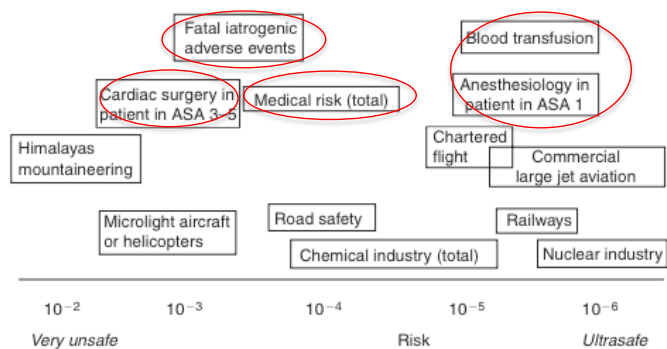


Pix source: www.be2hand.com; www.descoinstruments.com

Risks in Hospitals



Figure 3.3 Average Rate per Exposure of Catastrophes and Associated Deaths in Various Industries and Human Activities¹



¹ Amalberti, R., Y. Auroy, D. Berwick, and P. Barach. 2005. "Five System Barriers to Achieving Ultrasafe Health Care." *Annals of Internal Medicine* 142 (9): 756-64. Used by permission.

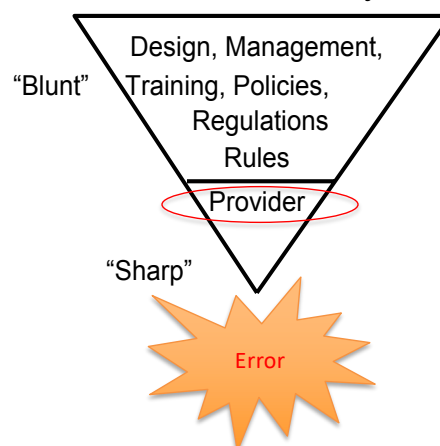
Source: Amalberti et al. (2005); Pix source: focusedehs.com; alexhibbert.com

Causes of Medical Errors

Cognitive Errors ("Slips")	Cognitive Errors ("Mistakes")	Latent Errors
<ul style="list-style-type: none"> Habit Interruptions Hurry Fatigue Anger Anxiety Boredom Fear 	<ul style="list-style-type: none"> Biases memory Overemphasis on discrepant Availability of heuristic Confirmation bias Overconfidence Coning of attention Reversion under stress 	<ul style="list-style-type: none"> Design of work that exceeds the capacity of the human brain Condition of work that generate known causes of errors Poorly design & maintenance of equipment Inadequate training

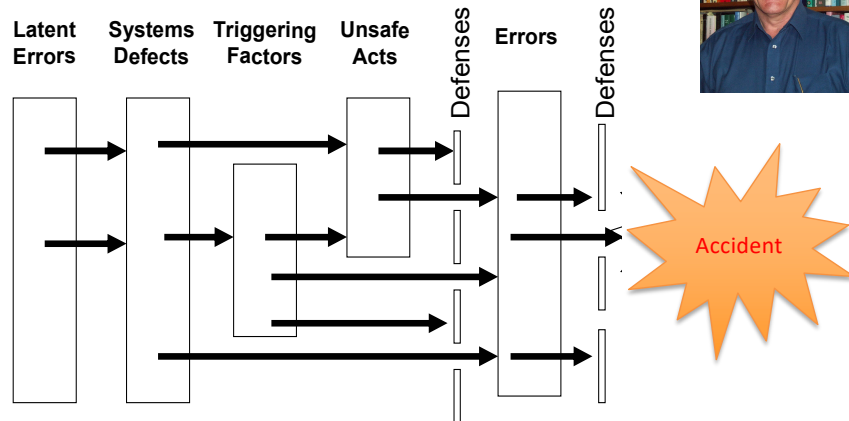
Modified from: Leap (1994)

Anatomy of Errors



Modified from: Leap (1994); Pix source: free-ed.net/free-ed/HealthCare/Physiology/default.asp

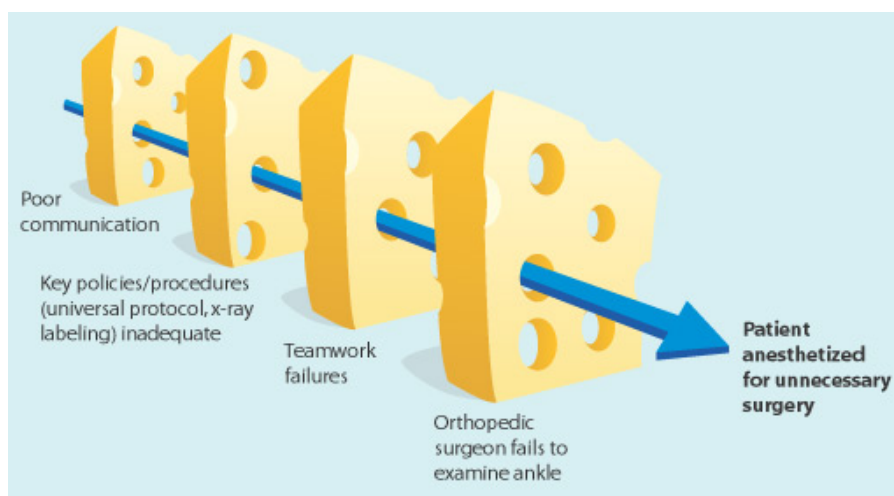
Organizational Accidental Causation Model



Modified from: James Reason (1993); Pix source: simulation.londondeanery.ac.uk

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"Swiss Cheese Model"



Modified from: Reason (1993); Pix source: webmm.ahrq.gov

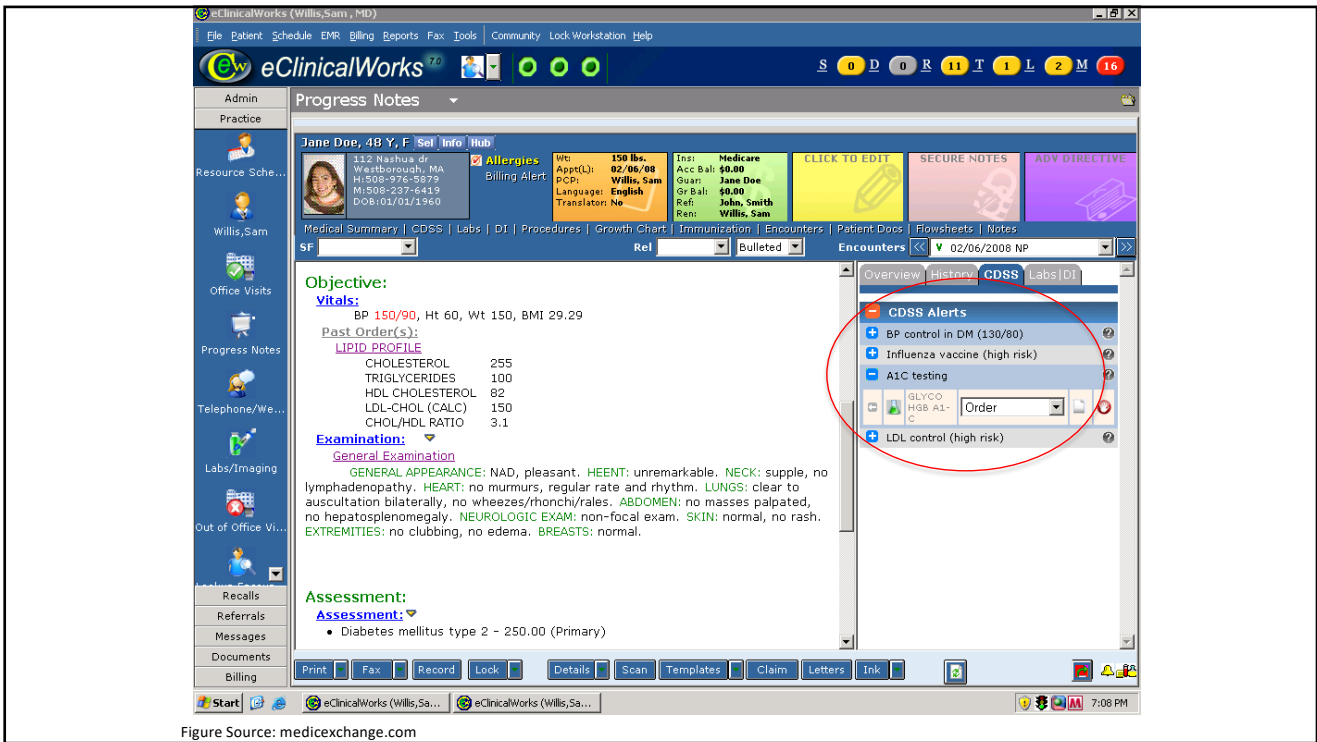


Figure Source: medicexchange.com

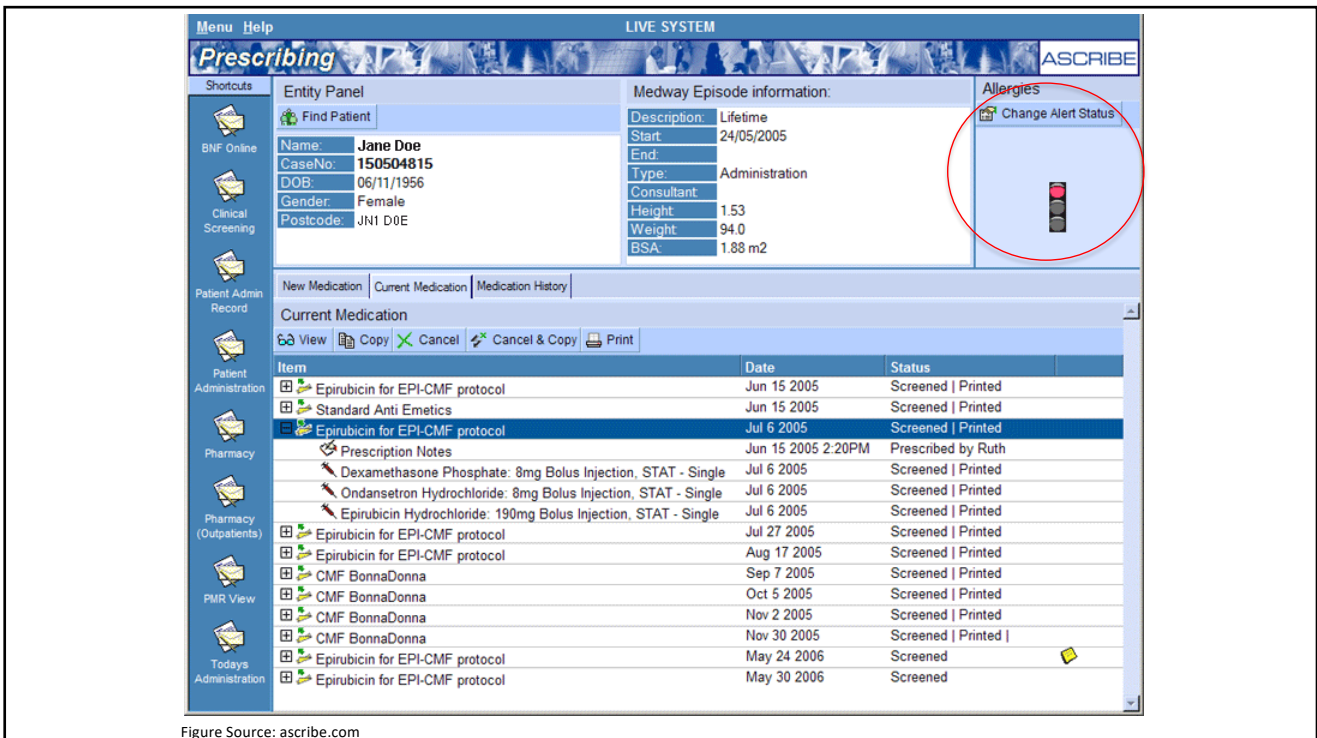
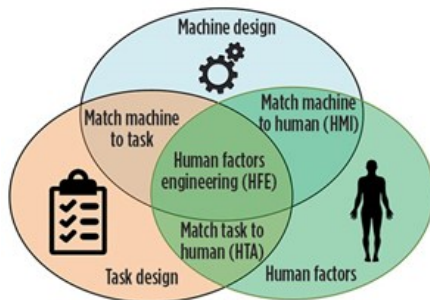


Figure Source: ascribe.com

Human Factor Engineering

Design of Machines, Equipment, Tools
("medical technology")

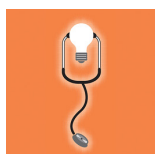


Design of Task and Work Systems
("care delivery process")

Human Factors
("physicians and care teams")

Pix source: <https://www.worldoil.com/magazine/2017/march-2017/columns/energy-issues>

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WHAT: QI Framework & Tools

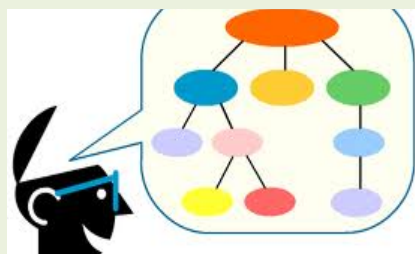
Pix source: online.wsj.com

STANDARDS

- Hospital Accreditation Standards (HA Thailand)
- Joint Commission International Accreditation Standards for Hospital (JCI)
- Malcolm Baldrige National Quality Award (MBNQA)
- Thailand Quality Award (TQA)

“Why so many quality standards?”

Pix source: patentspostgrant.com



- Total Quality Management (TQM)
- Deming Cycle (PDCA)
- Modified Deming (FOCUS-PDCA)
- Kaizen-Gemba
- Toyota Production System (TPS)

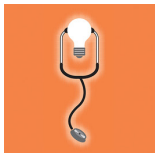
- Lean Thinking
- Just-In-Time Management (JIT)
- Six Sigma
- Theory of Constraints (TOC)/Constraints Management
- Patient Safety
- Clinical Microsystems
- Routine to Research (R2R)

Pix source: sinai.edublogs.org

- 5-S
- 5-Whys
- Ishikawa Cause-and-Effect Diagram (Root Cause Analysis)
- Pareto Diagram (Pareto Analysis)
- Spaghetti Diagram (Physical Flow & Distance Analysis)
- Value Compass
- Value Stream Mapping (VSM)
- Checklist
- Control Chart & Run Chart/Statistical Process Control (SPC)
- Clinical Decision Support System (CDSS)



Pix source: psychsurvivor2.wordpress.com/tools



HOW:
Physicians managing health care quality?

Pix source: online.wsj.com

Pitfall: Seeing Quality as Individual Competencies

Prevention: Understand it's a work system.

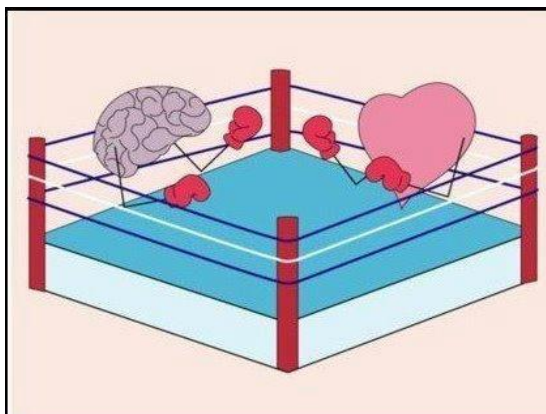
See both the sharp end and the blunt end
or unqualified or poor-quality work!



Pix source: docblogs.wordpress.com; gearjunkie.com

"Sustainable" Quality Management

It requires both your "brain" and your "heart".



TQM/CQI focuses on "People", "Process" & "Performance".

Pix source: facebook.com/medicalthoumour

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"Thailand 2P Safety"



THAI PERSONNEL SAFETY GOALS:



Security and Privacy of Information and Social Media

- S:1 Security and privacy of information
- S2: Social Media and communication professionalism

Infection and Exposure

- I1: Fundamental of Infection Control and Prevention for Workforce
- I2: Infection control and prevention for workforce (Airborne transmission, Droplet transmission, Contact transmission, Vector borne transmission)

Mental health and Mediation

- M1: Mental Health (Mindfulness at Work, second victim, Burnout and Mental Health Disorder)
- M2: Mediation,

Process of Work

- P1: Fundamental Guideline for Prevention of Work-Related Disorder
- P2: Specific Guideline for Prevention of Work-Related Disorder (Physical hazards, Chemical Hazard, Radiation hazards, Biomechanical hazards)
- P3: Fitness for duty Health Assessment (Pre-placement examination, Return to work Health Examination, Medical Surveillance Program)

Lane (Ambulance), Legal issues

- 1.1 Lane (In-transit ambulance, On-scene safety, Ambulance driving safety)
- L2: Legal issues (Informed consent, Medical Records documentation)

Environment and working conditions

- E1: Safe physical environment
- E2: Working conditions
- E3: Workplace Violence

www.facebook.com/Riskroom 76



**HOW:
Quality Improvement Research**

Pix source: online.wsj.com

Health Research Mapping

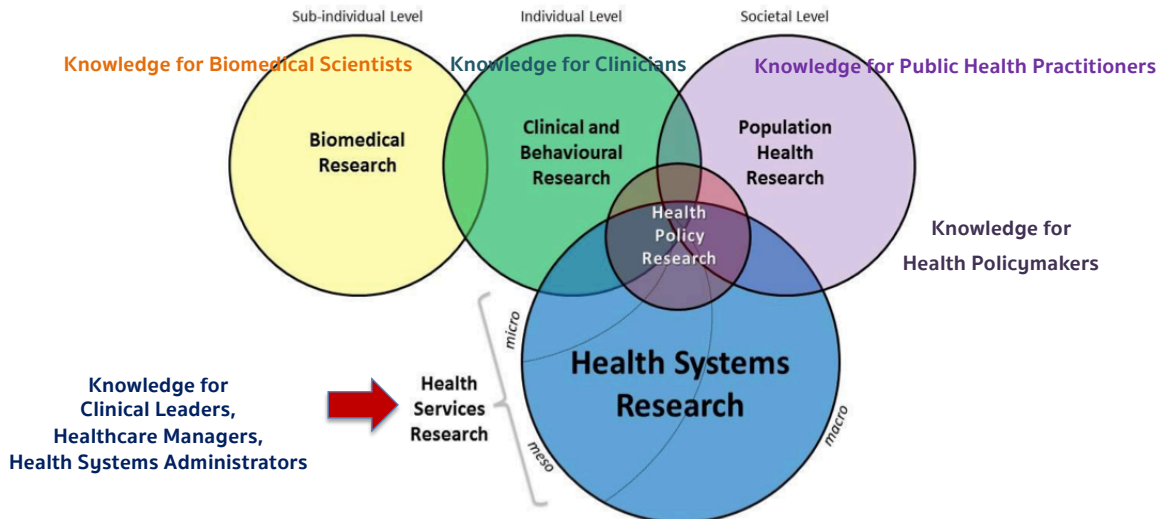
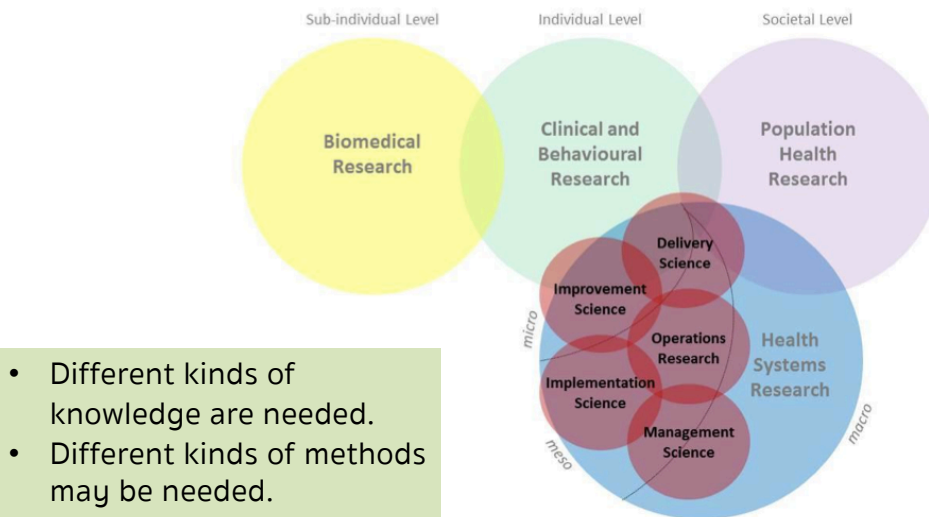


Figure source: Hoffman (2012) et al.

Health Research Mapping



Source: Hoffman et al. (2012).

Quality Improvement (QI) Research



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Perspective

Quality-Improvement Research and Informed Consent

Franklin G. Miller, Ph.D., and Ezekiel J. Emanuel, M.D., Ph.D.
N Engl J Med 2008; 358:765-767 | February 21, 2008

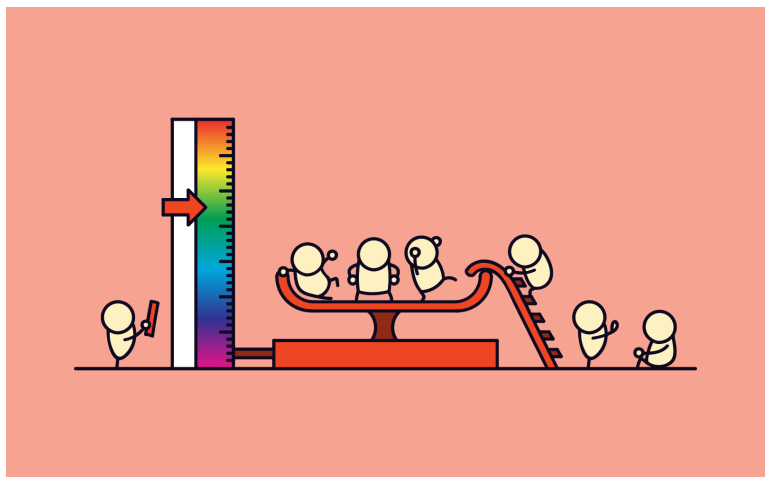
Article References Citing Articles (28)

Tens of thousands of patients die each year because of hospitals' failure to adhere consistently to standard procedures of safe and effective medical care. Accordingly, improving the quality of routine hospital care is a public health imperative. An effective way to promote quality improvement is to conduct evaluative research on programs designed to implement standard practices for the safety and care of hospitalized patients.

Research Methods: QUAN

1. “การศึกษาวิจัยเชิงปริมาณ” (quantitative research: QUAN)

- ทดสอบทฤษฎี
- สืบค้นความสัมพันธ์ระหว่างตัวแปรเชิงปริมาณ (variables)
- เน้นการนำข้อสรุปที่ได้จากการวิจัยไปใช้ในบริบทอื่นๆ (generalizing the findings)

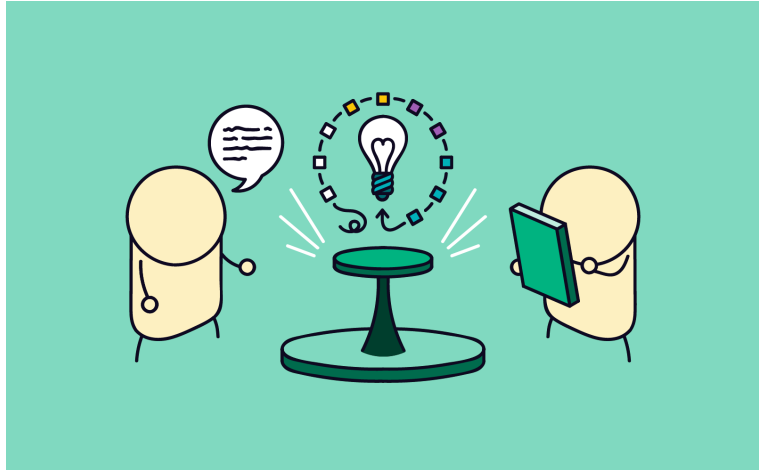


Pix source: <https://blog.optimalworkshop.com/how-many-participants-do-i-need-for-qualitative-research/>

Research Methods: QUAL

2. “การศึกษาวิจัยเชิงคุณภาพ” (qualitative research: QUAL)

- สำรวจและทำความเข้าใจวิธีการที่บุคคลหรือกลุ่มคนมีส่วนในกระบวนการต่างๆ
- มีส่วนร่วมในปัญหาต่างๆ ของมนุษย์และสังคม
- เน้นการนำเสนอข้อมูลซึ่งสะท้อนประเด็นความซับซ้อนที่ปรากฏอยู่ในปรากฏการณ์ที่ศึกษา (rendering the complexity)



Pix source: <https://blog.optimalworkshop.com/qualitative-research-methods/>

Research Methods: MMR

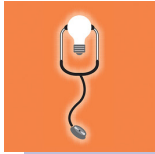
3. “การศึกษาวิจัยแบบผสมผสาน” (mixed methods research: MMR)



“สังเคราะห์
(synthesize)”

“วิเคราะห์
(analyze)”

Pix source: <https://blog.optimalworkshop.com/a-beginners-guide-to-qualitative-and-quantitative-research/>



Food-for-Thought

Pix source: online.wsj.com

“All improvement is change,
but not all change is improvement”.

--Louise Stoll



Pix source: louisestoll.com