Introducing STAMP to a Health Care Organisation

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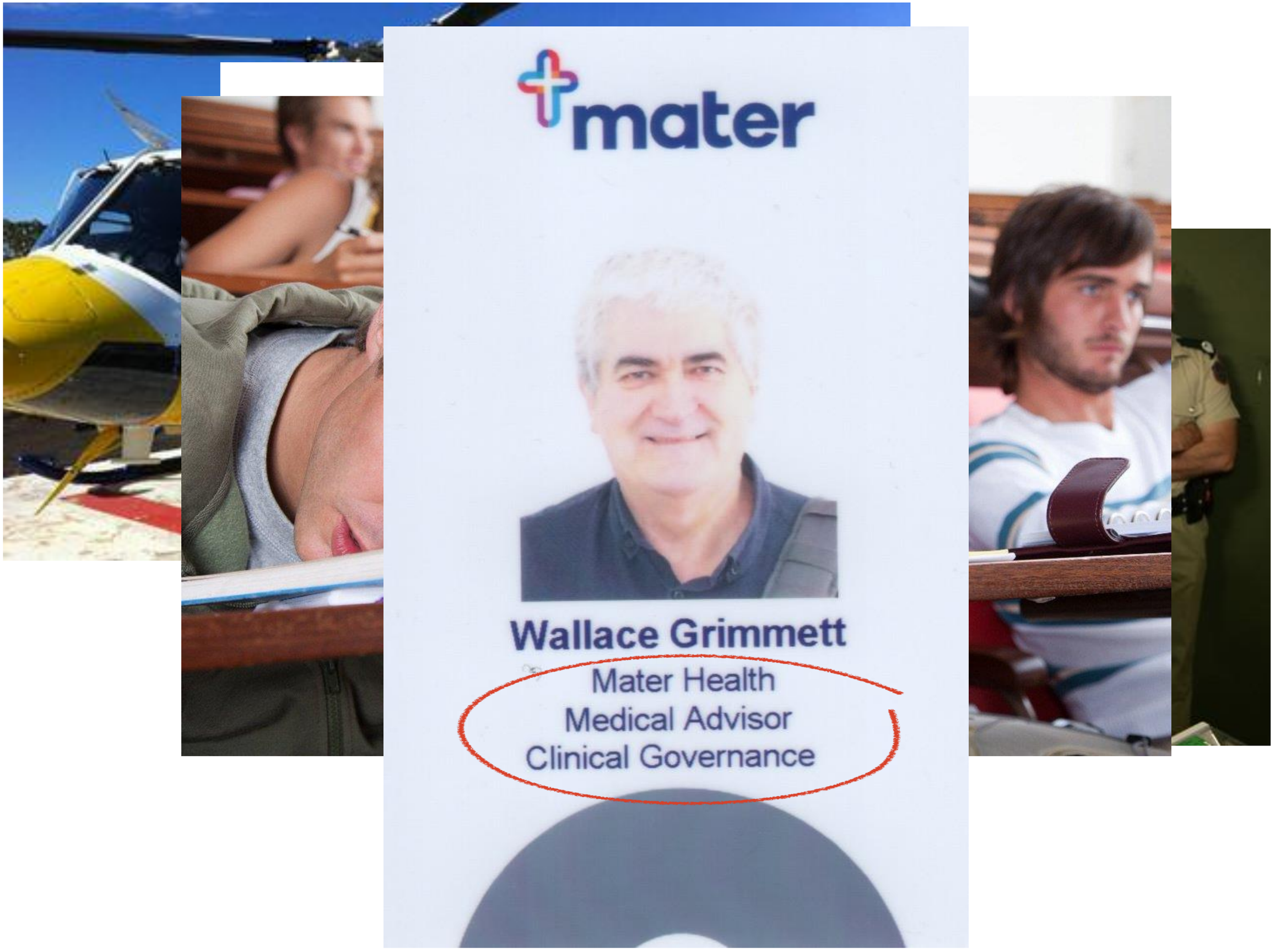
mater
Wallace Grimmett
Mater Health
Medical Advisor
Clinical Governance

- 17 Hospitals, 15 Private and 2 Public

- 500 000 patient per year

Medical Advisor Clinical Governance

- Lead and support systems and causal analysis of adverse clinical events;
- Assist in developing methods and tools for systems and causal analysis within Mater Health.
- Provide education and develop training and evaluation of systems and causal analysis reviews within Mater Health and externally as appropriate.
- Undertake relevant conference presentations, research and publications;
- Working with, advising and integrating with Mater Health quality and safety teams, Clinical Governance team and other key multidisciplinary teams across the Mater.
- Provide advice and work as an influencer in reviewing and generating evidence in relation to Mater Health’s approach to incident and event analysis, systems and causal analysis and reviews.

How did this happen?
Serendipity?

- New Clinical Governance Director (my new boss) had previous exposure to STAMP.
- Underlying disquiet with RCA's as a process. (Most medical staff were ambivalent about RCA's but there was no compelling alternative. (In QLD RCA was enshrined in legislation.)
- Unimplemented RCA findings in most institutions
- Repeat RCA's for similar events.

How Much of Root Cause Analysis Translates into Improved Patient Safety: A

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THE PROBLEM WITH...

The problem with root cause

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Are root cause analyses recommendations effective and sustainable? An observational study

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PETER D. HIBBERT[1,2,3], MATTHEW J.W. THOMAS[4], ANITA DEAKIN[3], WILLIAM B. RUNCIMAN[1,2,3], JEFFREY BRAITHWAITE[1], STEPHANIE LOMAX[5], JONATHAN PRESCOTT[5], GLENDA GORRIE[5], AMY SZCZYGIELSKI[6], TANJA SURWALD[6], and CATHERINE FRASER[5]

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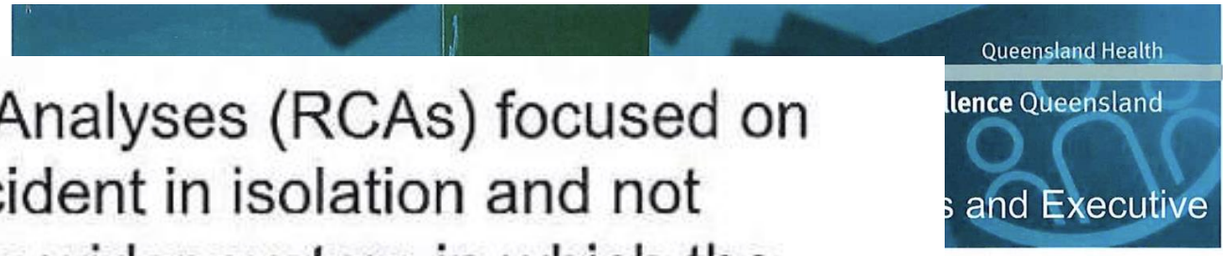
Article

PATIENT SAFETY AND THE RCA: A DOCUMENT ANALYSIS

Karen Singh BHSc (nursing)
Submitted in fulfilment of the requirements for the degree of Doctor of Philosophy
Centre for Learning Innovation Faculty of Health Queensland University of Technology
September 2015

“The findings from this research suggest that although organisational policy is theoretically informed the application of these principles fails to provide a systemic process of analysis which renders latent failures hard to find and root cause arbitrarily applied. For this reason, the RCA as a tool to investigate harm in healthcare was ineffective to mitigate harm and improve patient safety.”

- Root Cause Analyses (RCAs) focused on the single incident in isolation and not assessing the wider system in which the event occurred[8] or help with highly preventable recurrent incidents.[9]
- weak RCA recommendations i.e. less than one out of ten) RCA's produce recommendations that are strong enough to prevent recurrence of the incident.[10]



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a learning system approach, with a patient s
culture that actively encourages staff to repc
clinical incidents and see these as opportun
to learn from and fix problems. Incident repc
is viewed as an indicator of a good patient s
culture that ultimately leads to better patient

What is a clinical incident?

A clinical incident is any unplanned event wl
causes, or has the potential to cause, harm
patient. An adverse event is a clinical incide
which resulted in unintended or unnecessar
harm to the patient.

Queensland Health categorises clinical incic
into four groupings i.e. Severity Assessment
Codes (SACs) according to the level of harn
experienced.

- SAC1: Death or likely permanent harm v
is not reasonably expected as an outcon
healthcare
- SAC2: Temporary harm which is not
reasonably expected as an outcome of
healthcare

[1] National Patient Safety Foundation. *Free from Harm: Accel*
Patient Safety Improvement Fifteen Years after To Err Is Hu
Boston, MA: National Patient Safety Foundation; 2015.
N0.5-20200603

What is *Work-as-done* versus *work-as-imagined* and why it is important?[2]

"Work as imagined" describes what should happen under normal working conditions. Unfortunately, it doesn't take account that those performing the task performance have to adjust to constantly changing conditions of work. "Work as done", on the other hand, describes what actually happens, over time, in the complex reality of health services. Unless what is really happening on the clinical floor is known, the response to Clinical Incidents is likely to be mis-directed.

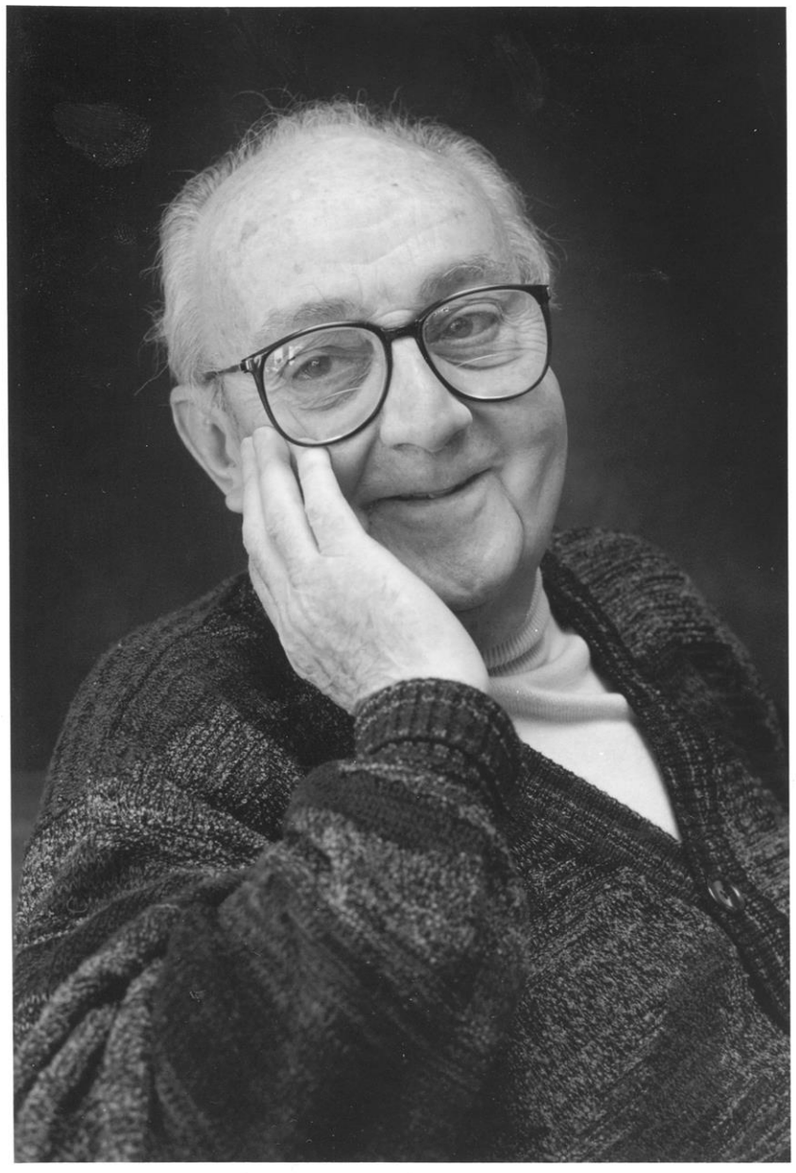
How to Introduce STAMP to MATER Health?

Invited to Address a MATER Leadership Forum; *(15 minutes to present 9 years of reading!)*

I concentrated on the following;

- Validation vs Utility
- Common Features of all systems theories
- Address the complexity of the language
- Preservation of current processes (especially with STAMP)

Validation vs Utility



“All models are wrong, some are useful”

George Box

Box GEP. Science and Statistics. Journal of the American Statistical Association.71(356):791-9.

Validation vs Utility

Primary Criteria

- [The model] leads to a more comprehensive understanding of the accident and the factors that must be changed to prevent future accidents
- The use of [the model] during accident investigations should assist investigators in determining the questions necessary to ask in order to build a comprehensive model of the accident.
- [The model] should be useful not only in analyzing accidents that have occurred but in developing system engineering methodologies to prevent accidents
- [The model] could also be used to improve performance analysis.
- [The model] could also point the way to very different approaches to risk assessment.

Leveson N. A new accident model for engineering safer systems. Safety science. 2004;42(4):237-70.

Emphasise common features of all systems based theories

and why they are more useful that linear error models. (Remember the concepts are intrinsically appealing)

- Emergence
- Equivalence
- Drift (Functional resonance)
- Intractability

Address the complexity of the language in systems approaches

and try and simplify it for your audience by suggesting equivalence of some terminology.

For example;

- Drift vs Functional Resonance
- WAD/WAI vs mental models
- CAS and Complex Sociotechnical systems

Emphasise the preservation of current processes

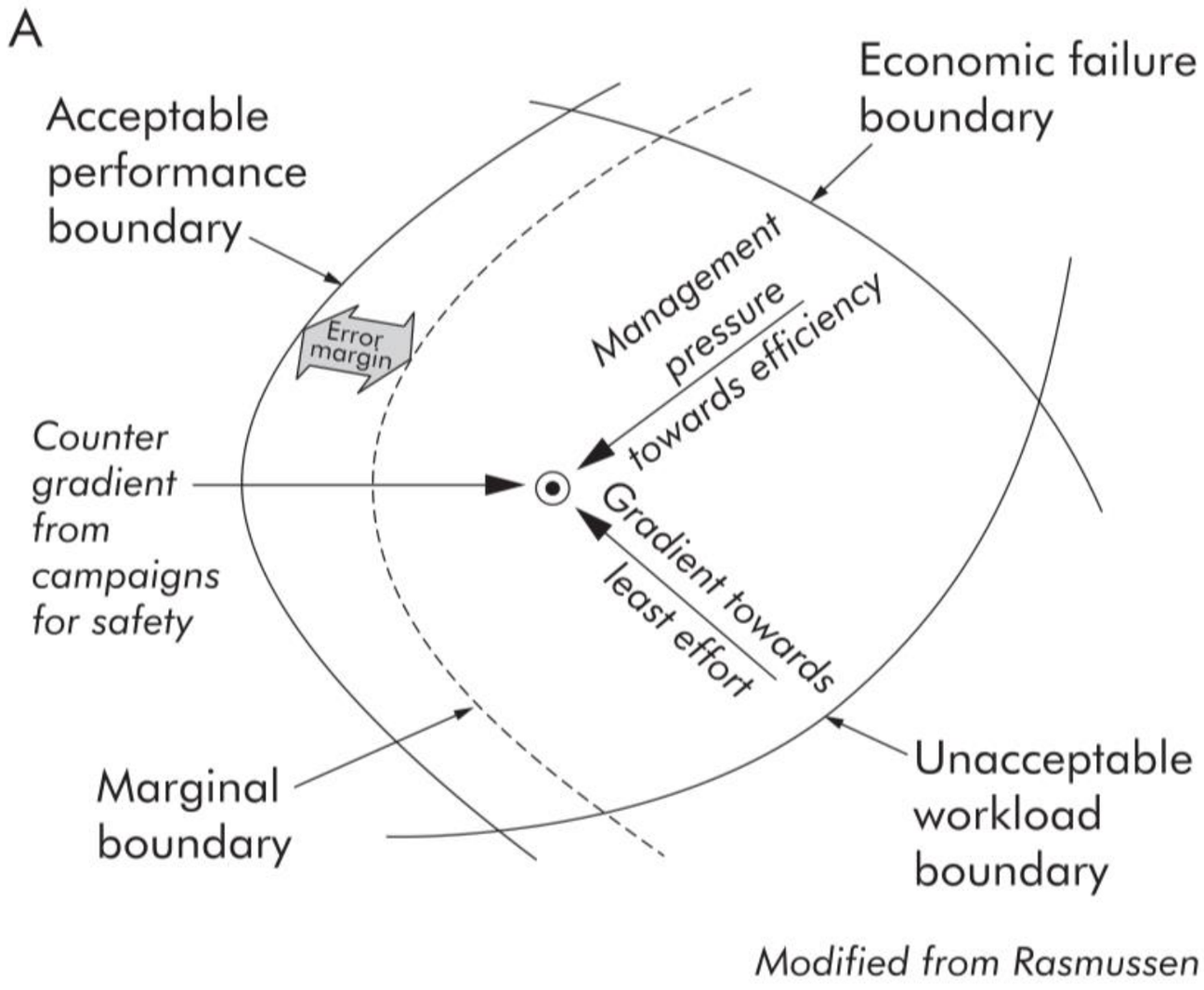
- Mortality & Morbidity
- Incident reporting is critical to control of complex systems. *SYSTEMS NEED ACCURATE DATA TO STAY IN CONTROL.*
- Existing Quality Assurance indicators from National bodies (eg Australian Commission on Safety and Quality in Health Care)
- Safety Culture concepts esp; Flexibility, Learning culture, Culture of valuing knowledge, Reporting culture & Just culture.

BUT RECOGNISE DEFICIENCIES THAT WILL NEED TO BE ADDRESSED

- Desperately need *QUALITY* assessment tools. *AGAIN, SYSTEMS NEED ACCURATE DATA TO STAY IN CONTROL.*
- USA is ahead with NSQIP (only limited trials in Australia)

Administration Buy In

- Extremely useful concept slide
- QA does not aim to increase costs
- QA aims to be part of a collaborative team that helps a complex organisation succeed.



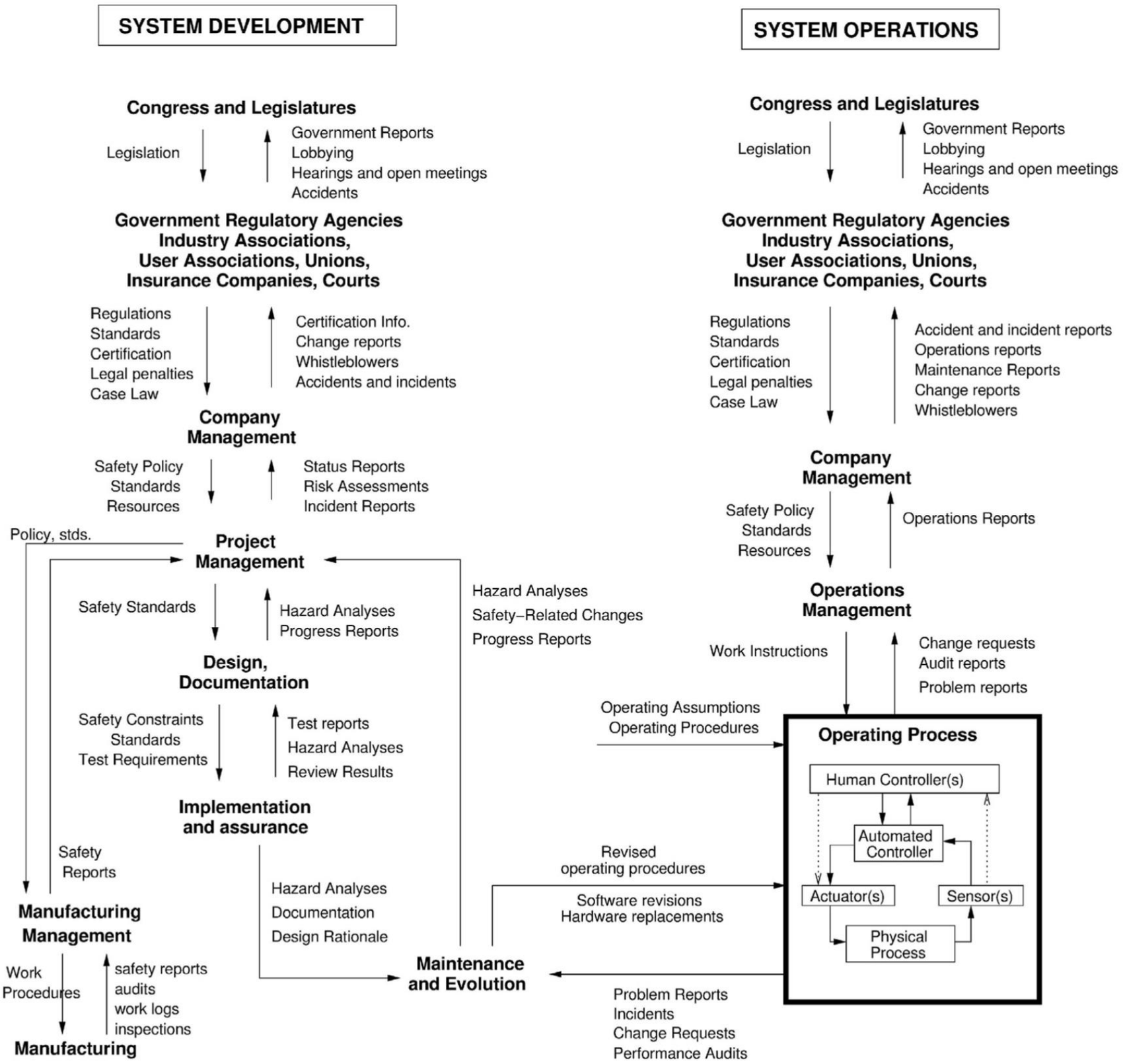
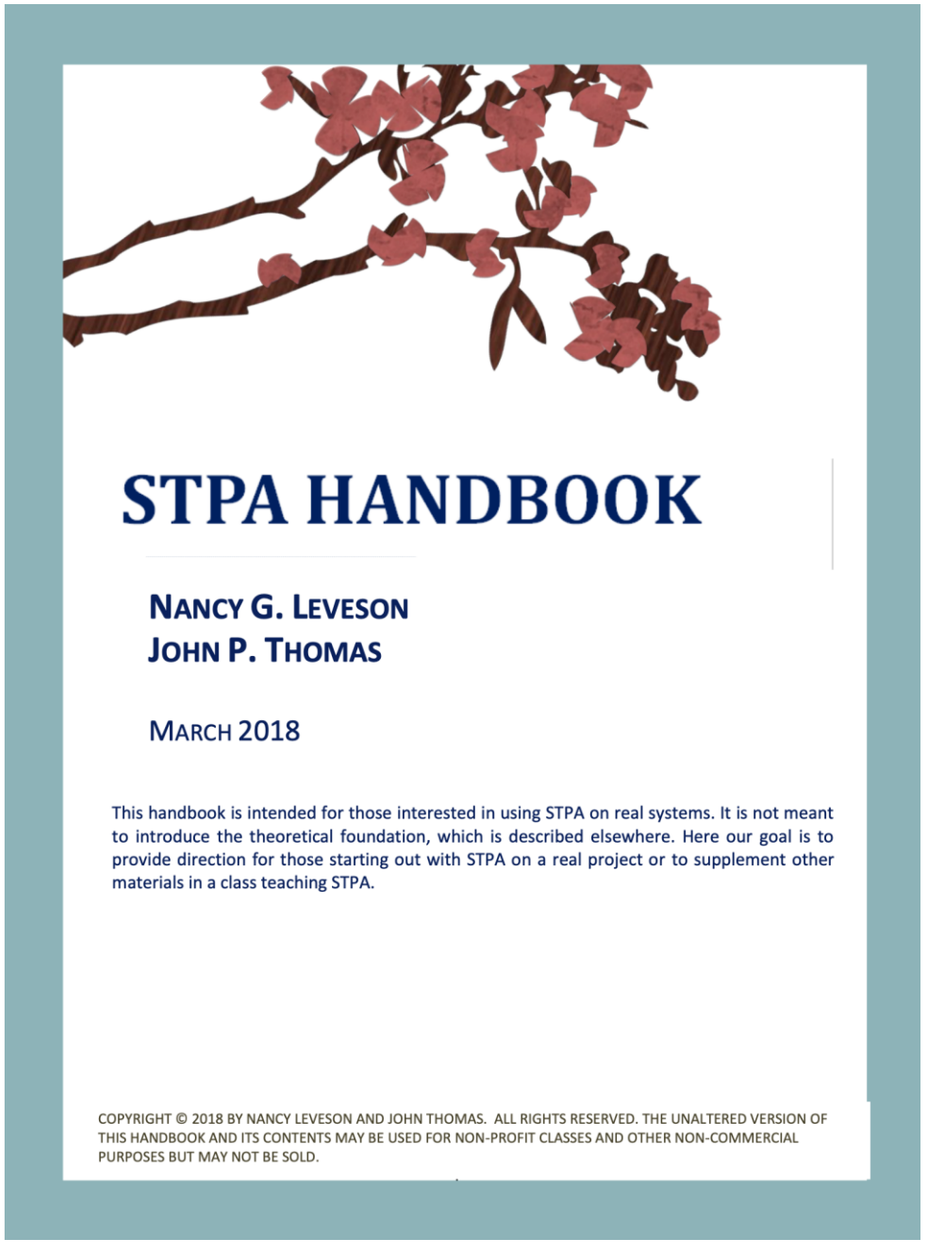


Fig. 7. A generic hierarchical safety control structure.

STAMP as a Cultural Change

- Generic hierarchical structure predicts Systems thinking needs to proporgate throughout the whole organisation.
- STAMP is as much a cultural change as it is a methodology.
- Organisation will only change when it sees a need to.
- MATER, for multiple reasons, was ready for change.

STAMP IS A “COMPLETE PACKAGE”



STPA HANDBOOK

NANCY G. LEVESON
JOHN P. THOMAS

MARCH 2018

This handbook is intended for those interested in using STPA on real systems. It is not meant to introduce the theoretical foundation, which is described elsewhere. Here our goal is to provide direction for those starting out with STPA on a real project or to supplement other materials in a class teaching STPA.

CAST HANDBOOK:

How to Learn More from Incidents and Accidents

Nancy G. Leveson

	Safety 1	Safety 2	Safety Engineering	Safety 3
Safety Management Principle	Reactive, respond when something happens, or is categorised as an unacceptable risk	Proactive, continuously trying to anticipate developments and events	Concentrates on preventing hazards and accidents but does learn from accidents, incidents, and audits of how system is performing.	Concentrates on preventing hazards and losses, but does learn from accidents, incidents, and audits of how system is performing.
Explanations of accidents	Accidents are caused by failures and malfunctions. The purpose of an investigation is to identify causes and contributory factors.	Things basically happen in the same way, regardless of the outcome. The purpose of an investigation is to understand how things usually go right as a basis for explaining how things go wrong.	Accidents are caused by linear chains of failure events. The purpose of investigation is to identify the chain of events and the root cause.	Accidents are caused by inadequate control over hazards. Linear causality is not assumed. There is no such thing as a root cause. The entire socio-technical system must be designed to prevent hazards; the goal of investigation is to identify why the safety control structure did not prevent the loss.

Incident Swamping

- 145 incidents in 15 days at 3 out 17 hospitals
- Urgently need classification and grading from a systems theory perspective. (Currently graded on outcome; SAC 1-4).
- Difficulty is the innocuous can be the most interesting. Eg 1 drug infusion line switch incident report turned out to be 3 when I made one enquiry. No changes because no harm. Unit too busy to recognise this a a serious hazard. Maybe they are right incidence is 1:5000 (but only that low if we are detecting them all)
- Currently exploring the use of AI for analysis of data. (as of 2 days ago!)

Safety Huddles

- Initiated recently by Chris Foley (Director Clinical Governance)

- Excellent way to “filter” cases. To cope with incident “swamping”.

- May turn out to be a stop-gap until we develop more sophisticated tools. (eg Exploring using AI for reviewing all incidents.)

Utility of Safety Huddles

- They are very time efficient, allowing conservation of time in a time poor department.
- All QA staff are involved, it is team effort. Every one's opinion is respected, senior staff are there to *support* coal-face staff.
- It is excellent way to start introducing systems theory by showing how to think about incidents.
- A legal expert is embedded in the process. *(Justice by design!?)*

Checklist for Safety Huddles

(Incident triage tool)

- Staff are willing to report *(Safety culture; reporting needs to constantly encouraged.)*
- The Incident/hazard was recognised (discovery was not simply serendipity) and is likely to recognised again with existing controls.
- The incident/hazard was controlled with existing controls and is likely to be controlled again if it recurs.
- Lessons from the incident were learnt by those involved (they correctly altered their mental model) and if necessary, system changes occurred.
- Are there any “second victim harm” issues to address? Typically, staff judge themselves too harshly; we have a duty of care to make sure staff are supported.
- Are those lessons local or do they need to be disseminated across the organisation?
- Have those lessons been passed up the chain of command? This is mandatory if the mental models of the designers are to stay valid.
- Is everyone in the huddle satisfied there aren’t lessons that are hidden that require further investigation to discover? (Are we missing something?)

Lawyers Embedded in Process

Not in the Handbook!

- Previously there was a legally based Q&A process at MATER
- Lawyers now embedded in Safety Huddles.
- Valuable contribution on legal issues arising; often identifying hazards not recognised by medical team (particularly useful for coronial reports which are often tainted with hindsight bias and moral judgements)
- At the end of the day I have to deliver a CAST/STPA report the lawyer has to to deliver to a judge. The lawyer has to understand my language.
- Thus currently we are considering “legal issues” as just another hazard that needs to be controlled to allow safe operation of the system (this may change)
- Works because of excellent working relationship. (Pre-existing me!)

Second Victim Harm

- Enormously under estimated cost of any clinical incident management system
- Drug infusion line switch example; 1 nurse (of three total) resigned. This was despite no patient harm in that case.
- Explore Psychology support as a duty of care issue.
- Currently establishing a research project into second victim harm.

Flexibility is Important

ASURE (Analysing Systems for Understanding Recurrent Events)

- MATER found out about this 7 days ago
- A Clinical Excellence Commission (QLD Health) project representing a watershed in CIM thinking. (Safety 1 to Safety 2)
- Challenge will be how to *diplomatically* integrate this project into MATER processes asap. (ASURE only mentions ACCIMAP, FRAM & HEAP as methodologies.)
- Close relationship with Qld Health (Qld Government Health Department) now critical to progress STAMP in MATER.

Summary

- Healthcare Systems are seeking change as current methodologies prove disappointing.

- STAMP fulfils most of the utility criteria they seek.

- Preservation of many existing processes is an enormous advantage.

- The scope of organisation cultural change that STAMP induces needs to be realised to apprehend the scale of the challenge.


KEEP
CALM
the presentation is over
ANY
QUESTIONS???