The Jack Spratt Problem: The Potential Downside of Lean Application in Healthcare- A Threat to Safety II

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a place of mind

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Origins of Lean

- Lean thinking developed by Taiichi Ohno (*Toyota Production System 1988*), became *Business Process Re-Engineering* (1990's-, Buchanan (1997), Packwood et.al (1998) Locock (2000) in the U.S.) adopted by healthcare organizations and other public services in the mid 2000's joining TQM, CQI.
- The *Toyota Production System* : reduce waste (muda); stabilize uneven demand and variation (mura); improve working conditions to avoid worker stress (muri).
- New tools, e.g. 'takt (cycle) time', 'value-stream mapping', 'JIT'
- North Americans intrigued with this approach spent time in Japan: "industrial tourists" (John Seddon, 2008)

WHY LEAN

- The avoidance of “waste”: time and resources- not a new idea (Taylorism)
- Healthcare systems are increasingly challenged to deliver better care to more people using fewer resources
- it is no surprise that Lean, with its package of “tools” to reduce ‘waste’ has been very compelling.

THE PROBLEM

- The uncritical acceptance of Lean in a service context. which in North America tends to be associated more with efficiency as a “value”, has been met with concern from front-line workers about how it is being implemented in healthcare
- Efficiency is a means not a goal

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Experience with Lean

- ‘success stories’ many anecdotal and often one offs (ED, OR, clinic)
- Little formal evaluation using rigorous designs or analysis (Young and McClean, 2008; Proudlove et al, 2008; Radnor and Walley 2008;Vest and Gamm 2009; de Souza 2009; Mazzocato et. al. 2010;; DelliFraine et.al 2010; Radnor, Hollweg, and Waring 2012).
- critical reflection is needed whether Lean is relevant to healthcare and if so how – Ohno did not think in terms of tools, targets or plans: “Write nothing down!” T=Thinking

A critical look at Lean application in healthcare – basic issues

- Lean in a service environment (professional intensive, highly dynamic & complex) such as healthcare is problematic
- Value is central to Lean thinking- but whose value is paramount? And is it fixed?
- Greater emphasis on value/waste than flow/variability

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A critical look at Lean in healthcare – basic issues:

- Uncontrolled variance (processes or outcomes- mura) perceived as the major cause and failure in healthcare.
- Control is generally imposed by management- policies and procedures
- adaptation is reduced to create ‘value’ which is seen as a fixed (not emergent) property

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A critical look at Lean application in healthcare

- Performance variability is a necessary feature of complex adaptive systems.
- a gap between “the work as imagined” versus “the work as done” (Hollnagel, 2009 and 2010; Cook, 1998 and 2012; Dekker, 2008).
- Applying the Lean tools (often rigidly) without understanding how the work gets done can reduce the capacity to adjust to surprise (pure muda)- a threat to Safety II (everyday work)

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Examples: potential problems

- identifying the customer – creating value for staff (convenience), organization (efficiency) or patient (appropriate, timely care or satisfaction)
- understanding how everyday work gets done – reducing time for patient intake process in a cancer clinic led to longer patient waits (bullwhip effect)
- Uncritical adoption of ‘tools’ without consideration of local context: ‘Just in Time’ delivery of tracheostomy tubes?

Implications

- Trade-offs: whose value?
- Reduction in performance variability in complex systems- development of systems though standards, rules and procedures (Lean)-problem of tight coupling
- the capability to adapt to changing conditions (Resilience). Need for slack

Implications (con't)

- Fill the knowledge gap between the rollout and impact of Lean in healthcare
- more formal evaluation of Lean including Return on Investment (Where is the money?)
- Beware of targets-they paradoxically produce waste

Lean: some thoughts re WAI VS WAD

- In theory Lean should re-imagine the work done to reduce waste, unnecessary variation and manage demand
- If frontline staff are insufficiently involved (or the agenda Lean is simply to save money) then WAI will remain quite different from WAD
- If frontline staff are directly involved in Lean then the gap could narrow between WAI and WAD

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Thank You

- What has been your experience with Lean?

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