Do we need one science of production in health care?

Lauri Koskela, John Rooke, Ricardo Codinhoto, Mike Kagioglou

HaCIRIC, School of the Built Environment, University of Salford
Do we need one science of production in health care?

- Aristotle's concept of techne
- Evaluation of current approaches
  - Improvement science
  - Lean healthcare
  - Evidence-based practice
  - Service science
- Discussion
Aristotle

- A science of production?
- Episteme, techne and phronesis
- Medicine is techne
2. Current Approaches
Improvement Science

- Eliminate variation in the product
- Statistical process control
- Improvement cycle (PDSA/PDCA)
- Deming's 'system of profound knowledge'
- Origin in the work of Shewart in the 1920s
- Contribution to US war effort in the 1940s and the post-war success of Japanese manufacturing
- Widely adopted in healthcare
- aka Quality Management, Six Sigma
Lean Healthcare

- Focus on process, rather than product
- Elimination of Waste
- Holistic approach, involving values, relationships, knowledge management and:
  - The management of flows
- Derives from Toyota Production System
- Successful initiatives in healthcare, but narrow in scope
Evidence Based Practice

- Requires results from at least two clinical trials appropriate to the patients situation
- Double blind RCTs
- Requires patient consent
- Supports improvement in treatment, but:
  - Can be difficult to find sufficient evidence
- Episteme based
Service Science

- Newly emerging approach
- Distinction between goods and services is becoming increasingly blurred
- Attempt to synthesize insights from computer science, cognitive psychology, economics, organizational behaviour, human resource management, marketing, operations research and etc.
- focus on processes and customer value
- co-creation of value
Synthesis?
Synthesis?

- Variation in output and variability in time – synthesis of improvement science and lean healthcare
- Tension between generic law (episteme) and clinical practice (techne)
- Randomized control trials and improvement cycles (Berwick)
- From delivering health care to the co-production of health
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Thank you