

The role of modelling and simulation in the service design process

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NIHR CLAHRCs
Systems Modelling and Simulation
Knowledge Sharing Event

Emmanuel College, Cambridge

NIHR CLAHRC for
Cambridgeshire & Peterborough

Innovation by Design

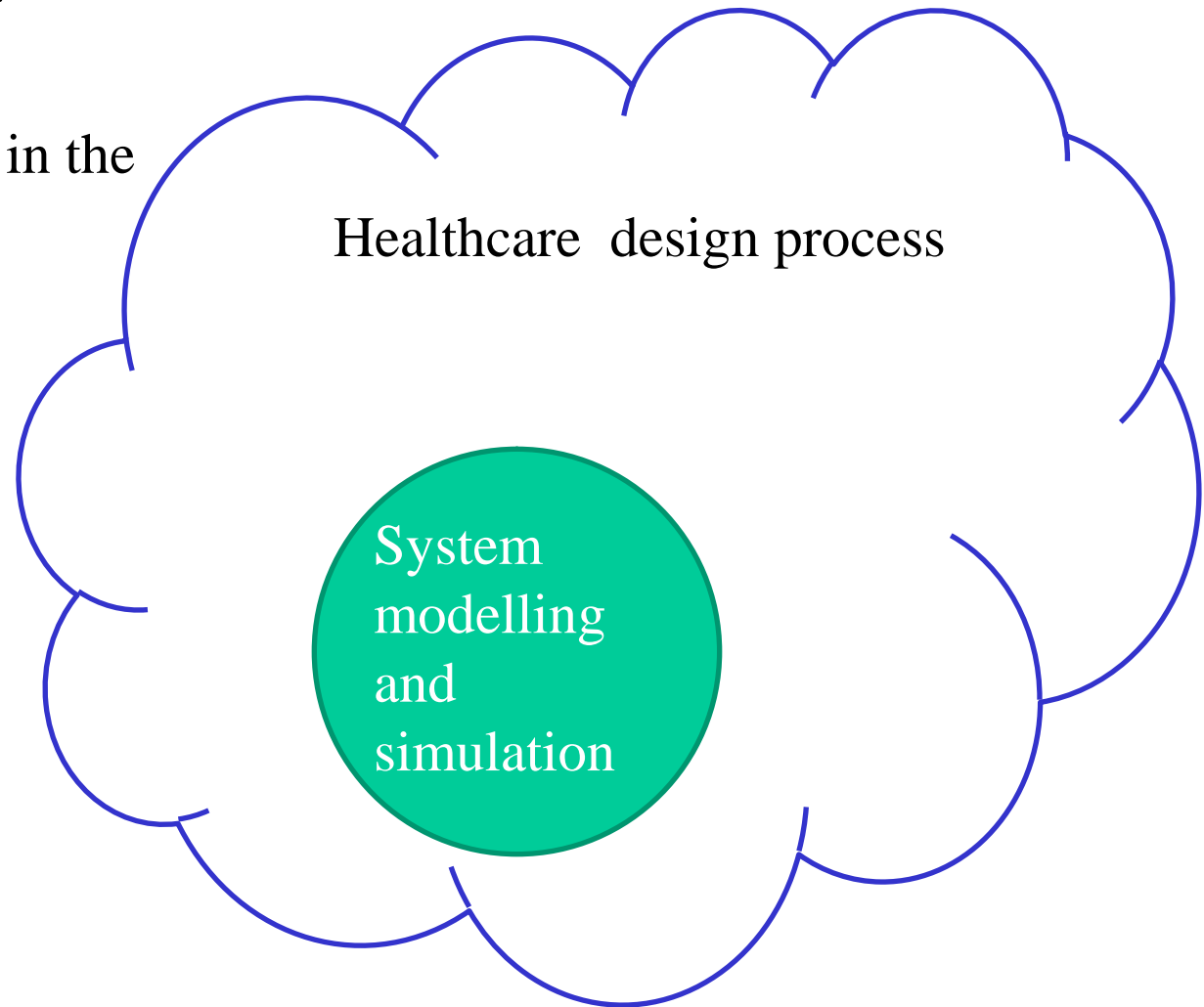

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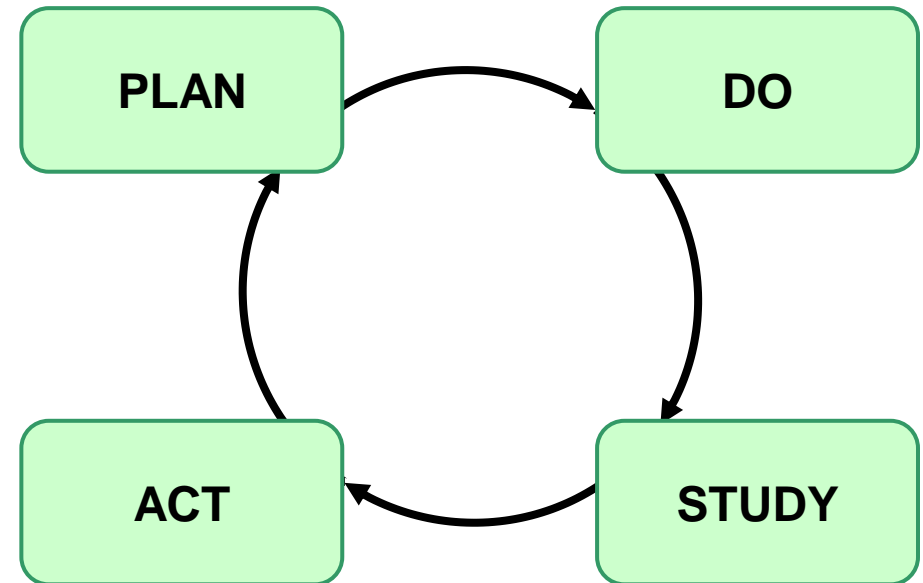
Objective

Understanding the role of systems modelling and simulation (well defined) in the healthcare design process (fuzzy)



Healthcare Design (current practice)

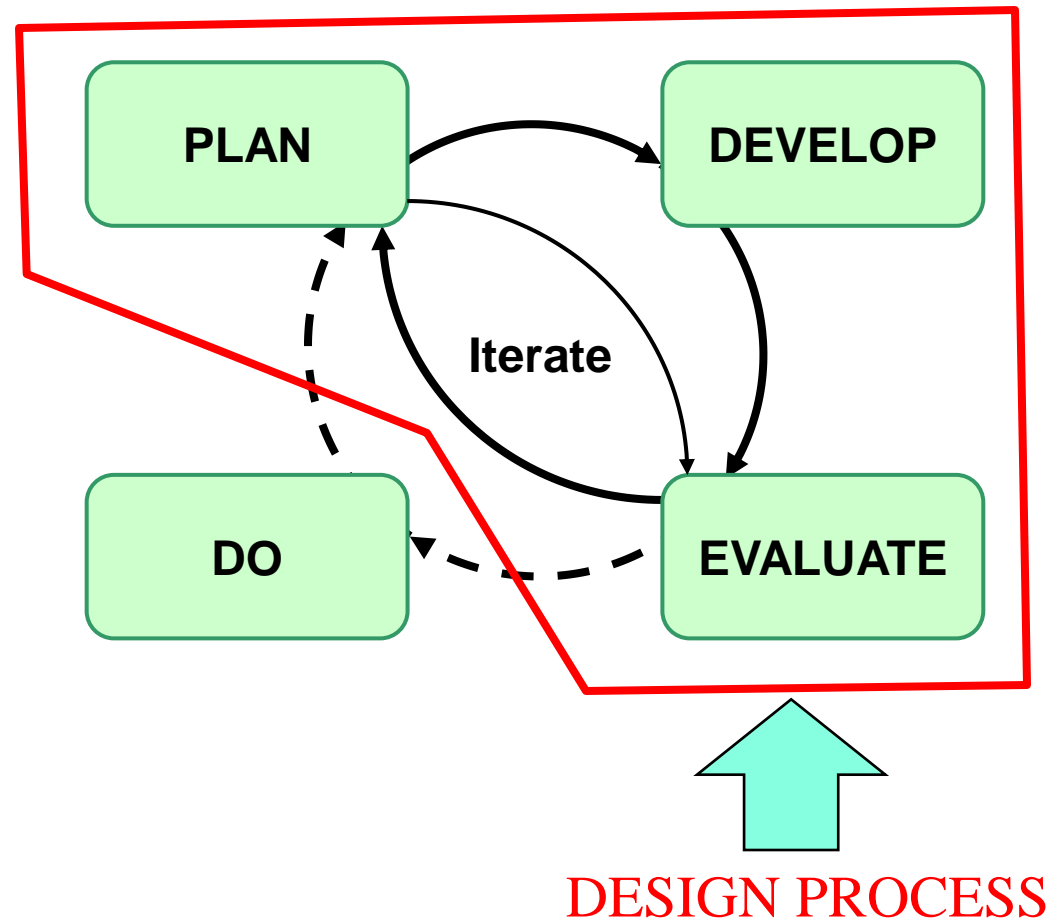
- Managing Service Development
 - Plan
 - Do
 - Study
 - Act
- Continuous development cycle.
- Difficult to document.
- Monitor risk after implementation.



Healthcare Design (a future vision)

What is missing:

- Removing the 'Do' from the development **during the design process** – need to put something else in its place.
 - Virtual delivery processes
 - Process Mapping
 - Staff and User engagement
 - Simulation
 - Prospective risk analysis
- Management processes that value 'design'



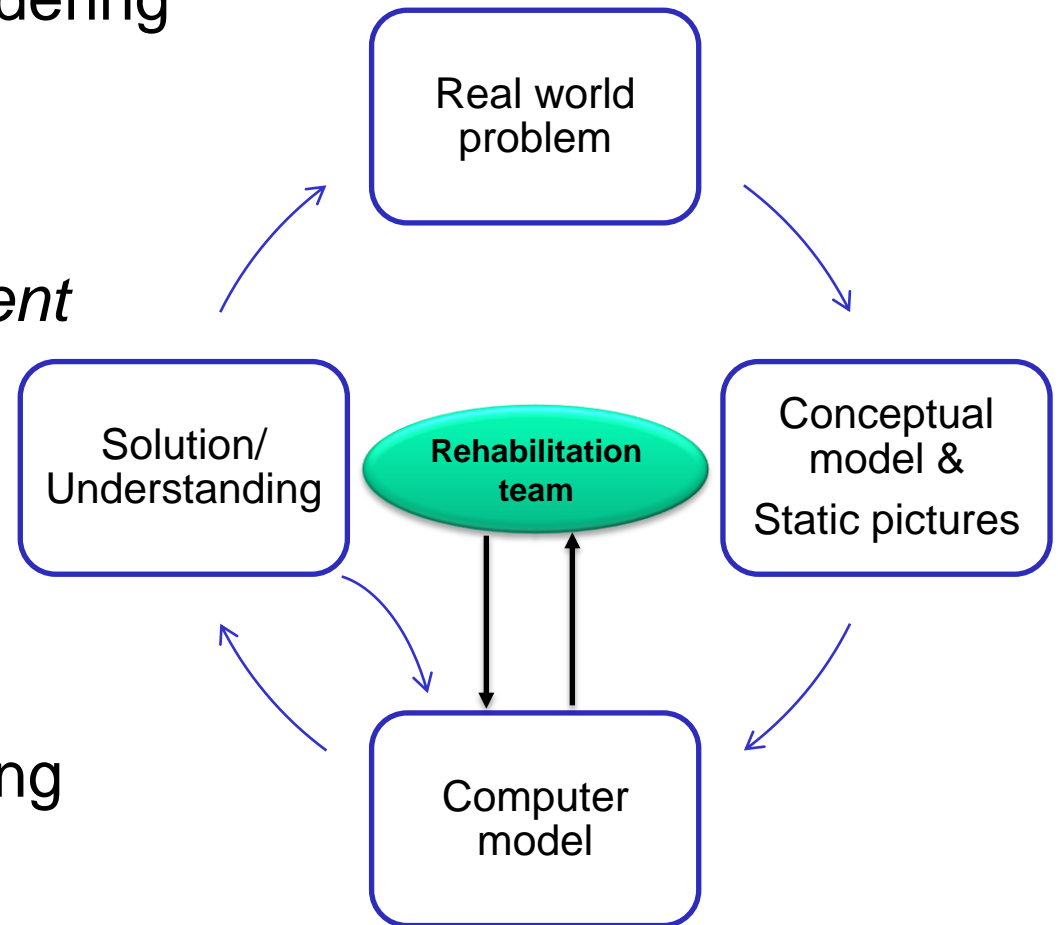
Simulation as the virtual 'DO'

Values process of engagement:
Simulation as a tool for engendering
shared understanding.

Very different from the usual
problem-model-result-implement
cycle

Requires focus on process

May lead to better understanding
of problems not initially
anticipated.



Results

- Mutual understanding of healthcare delivery and system modelling concepts.
 - Higher potential for implementation
 - Relevant new concepts developed. E.g. Concept of disruption management in brain injury services through observations and comparison with disruption management in airline industry.
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THANK YOU!
