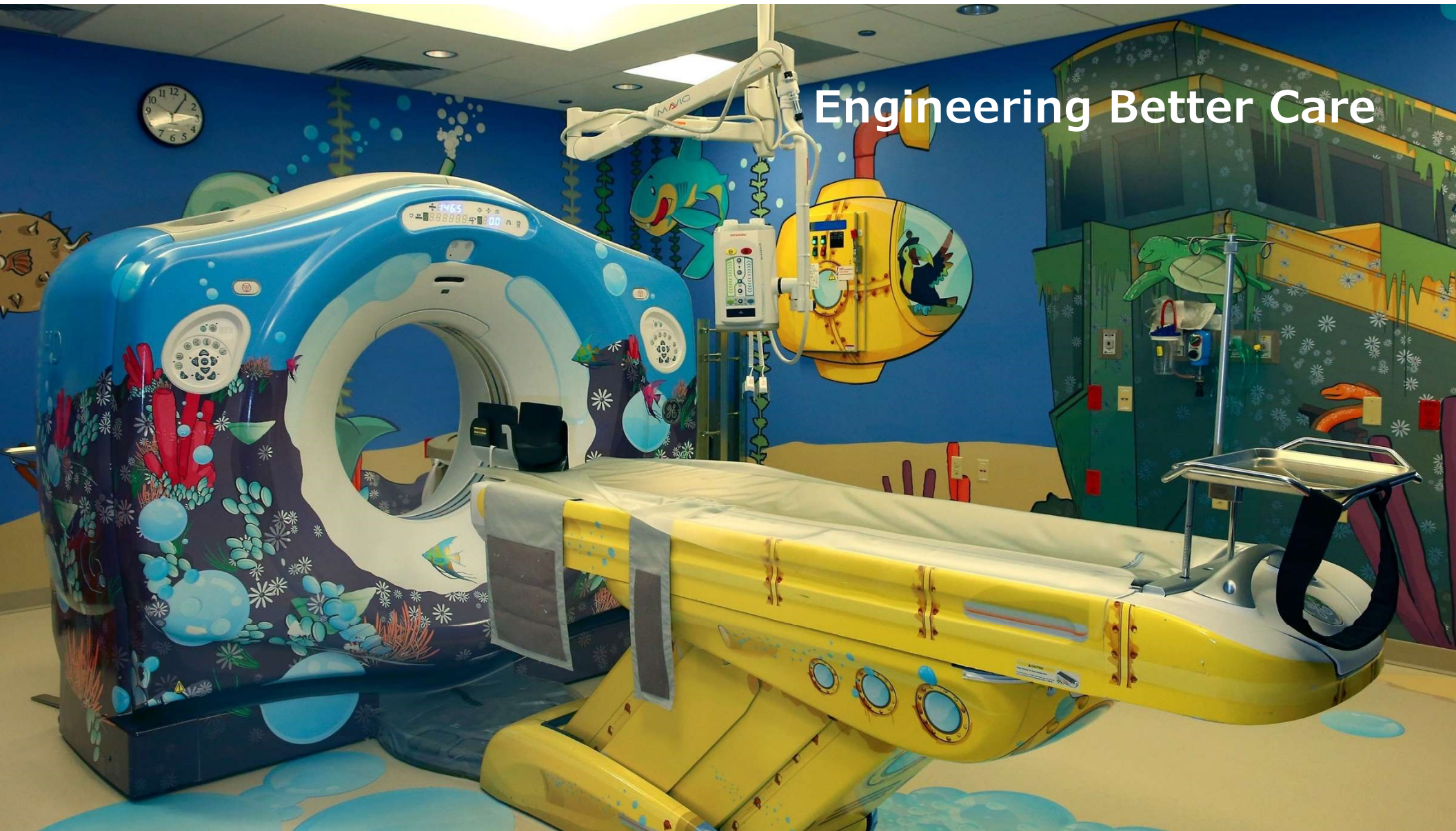




Engineering Better Care: Systems that work do not just happen

John Clarkson
University of Cambridge

Engineering Better Care





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To work with the health and care professions to explore how engineers can add to current understanding and practice of systems engineering in quality improvement and healthcare design



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The **Academy** of
Medical Sciences



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Systems Approach

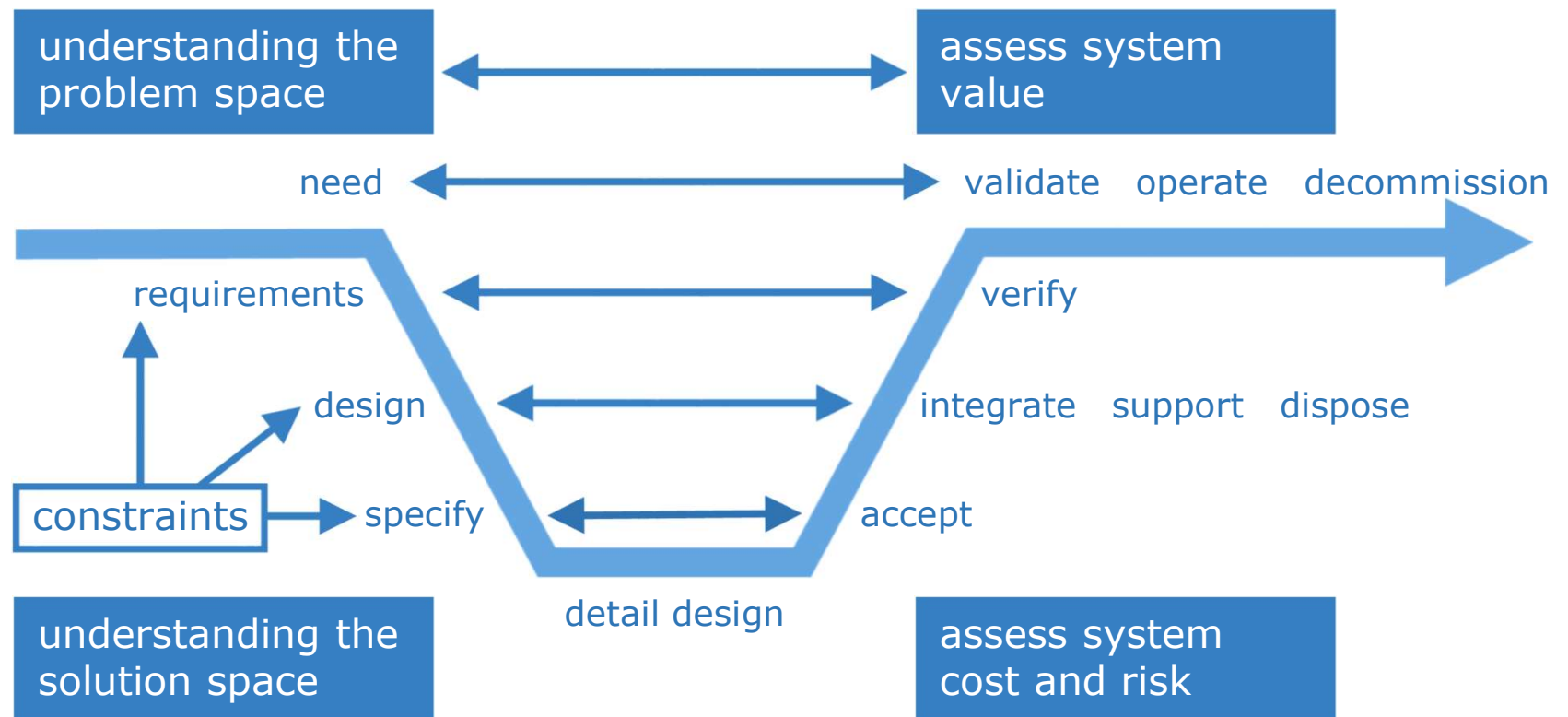
“Systems that work do not just happen –
they have to be planned, designed and built”

(Creating systems that work: Principles of engineering systems
for the 21st century, Royal Academy of Engineering, 2007)



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Systems



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Systems

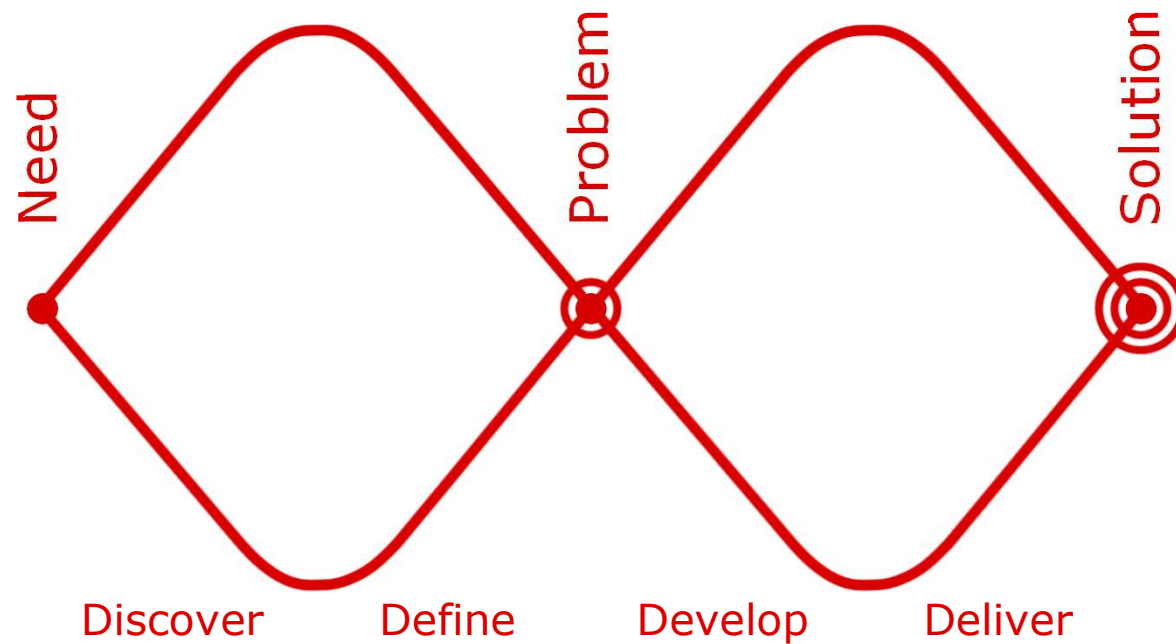
- Who are the stakeholders?
- What are the elements?
- How does the system perform?



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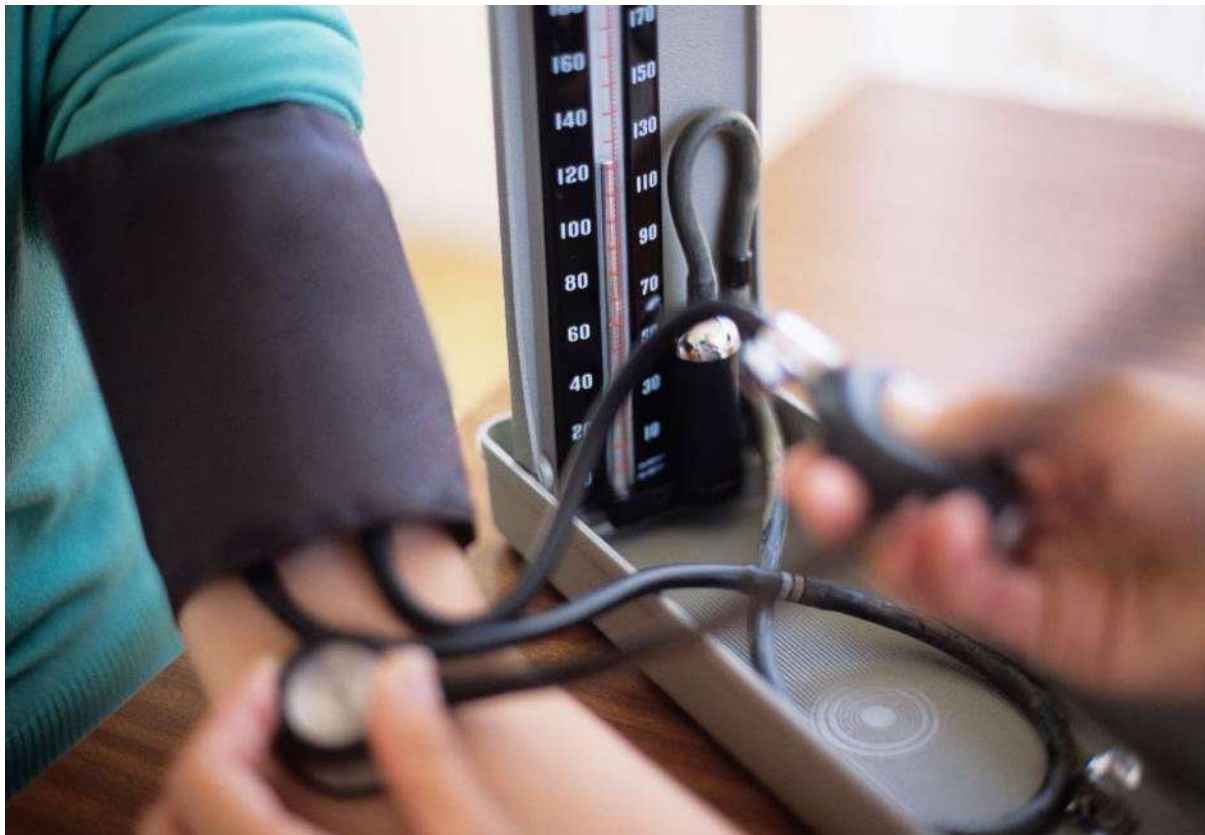
Design





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Design

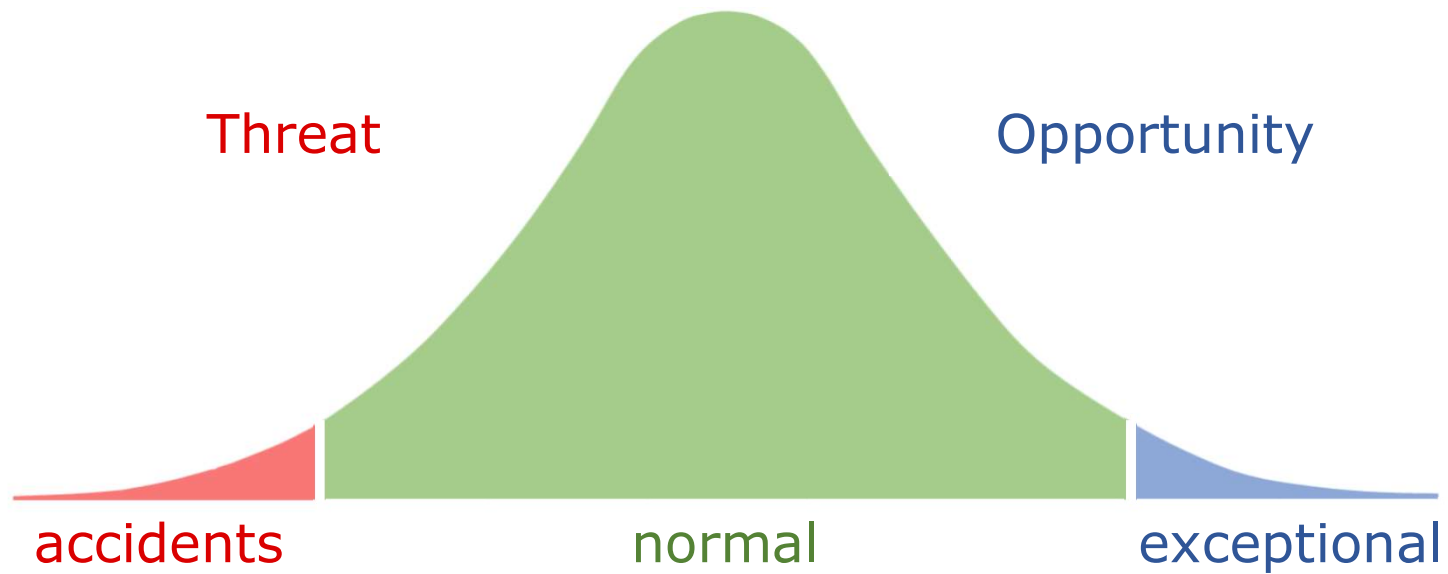
- What are the needs?
- How can the needs be met?
- How well are the needs met?



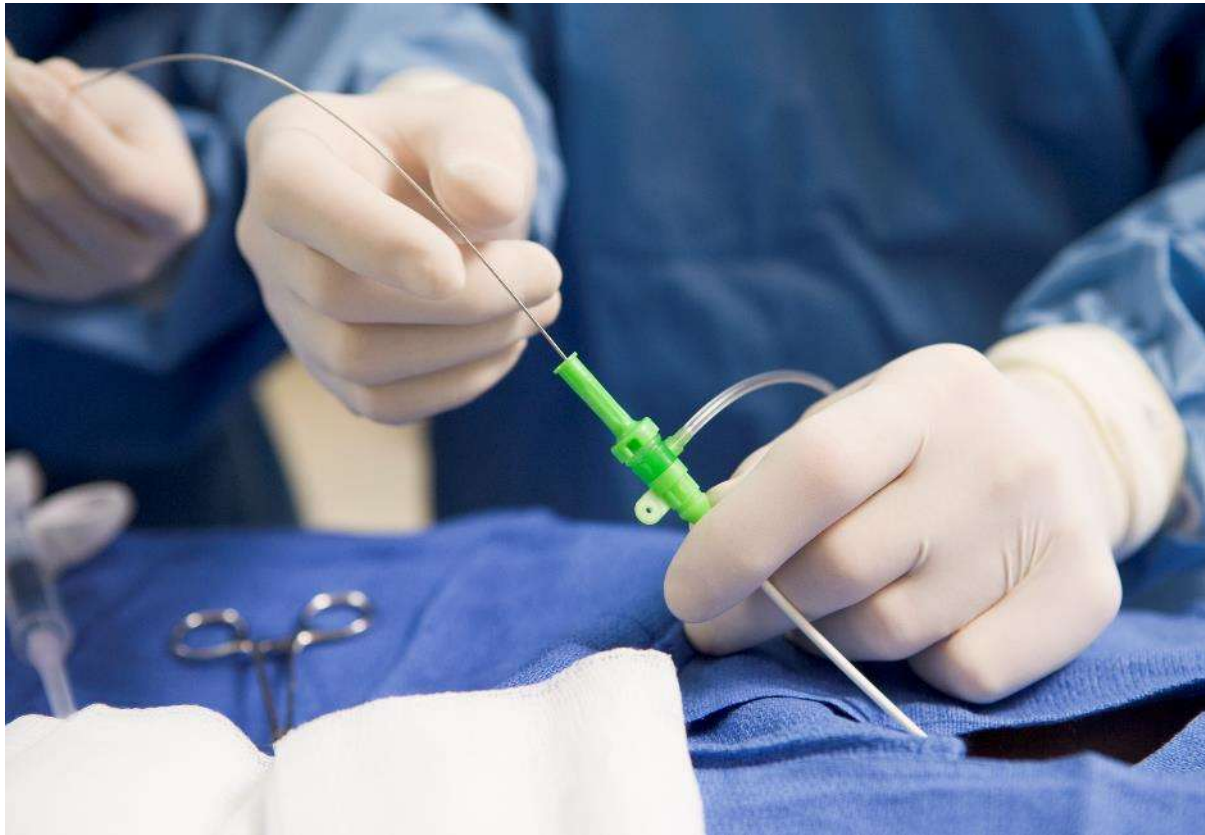
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Risk



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Risk

- What is going on?
- What could go wrong? / What do we do well?
- How can we make it better?



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People





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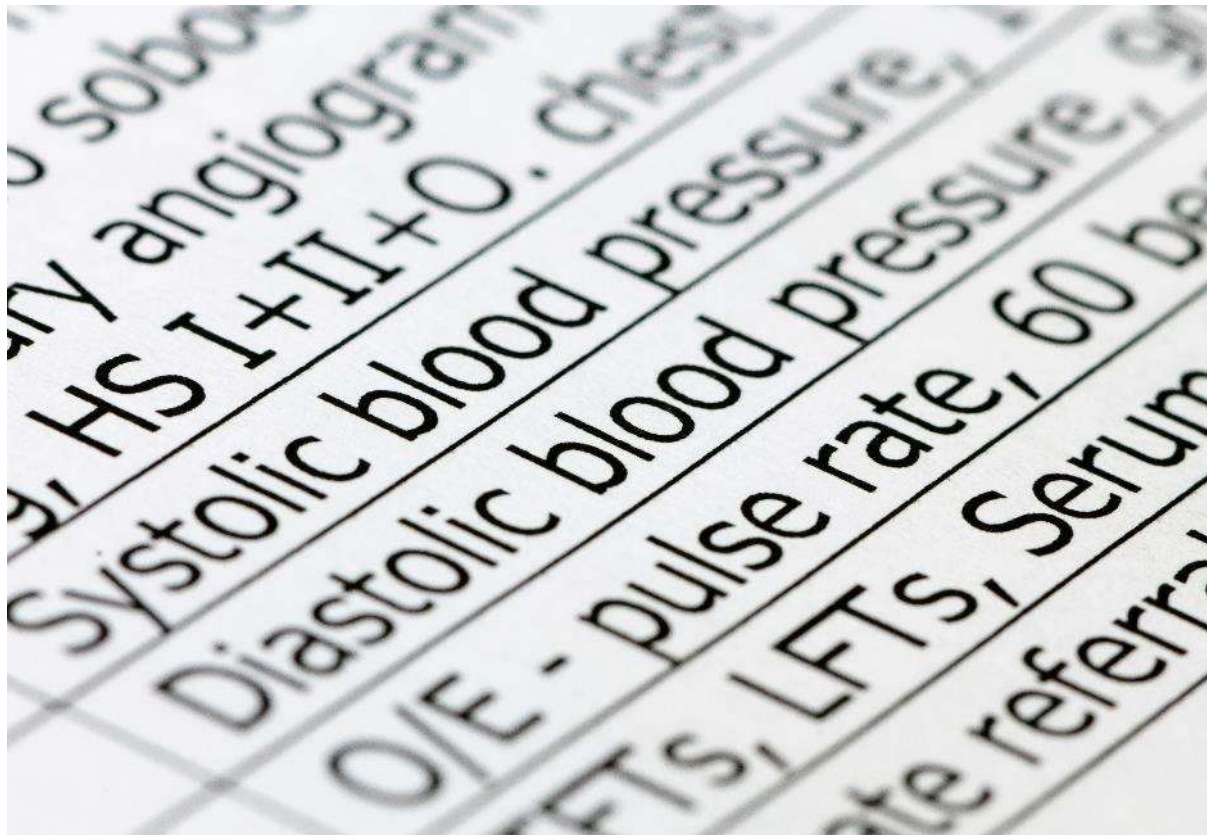
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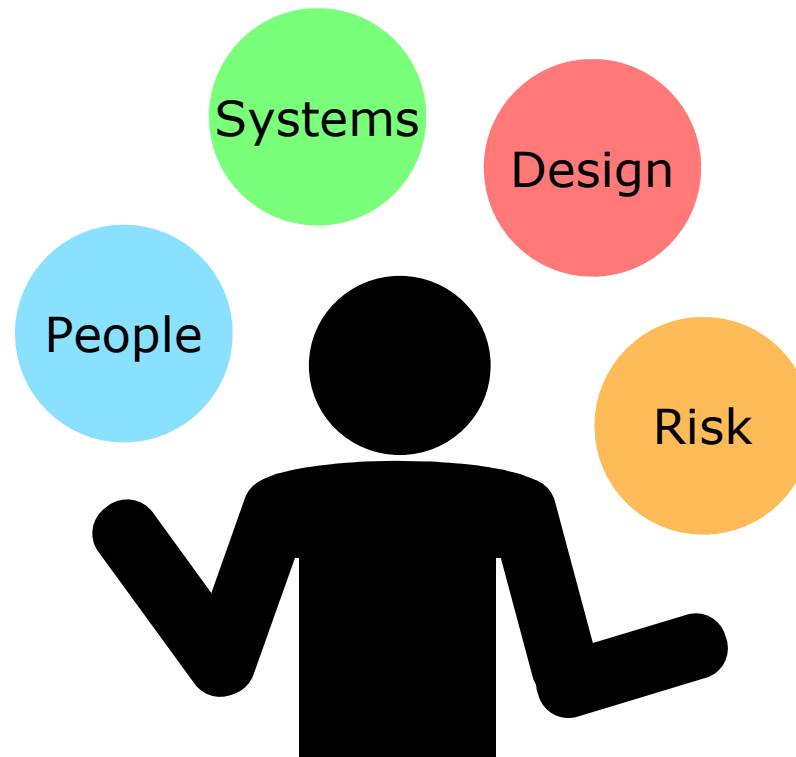
People

- Who will use the system?
- Where is the system?
- What affects the system?



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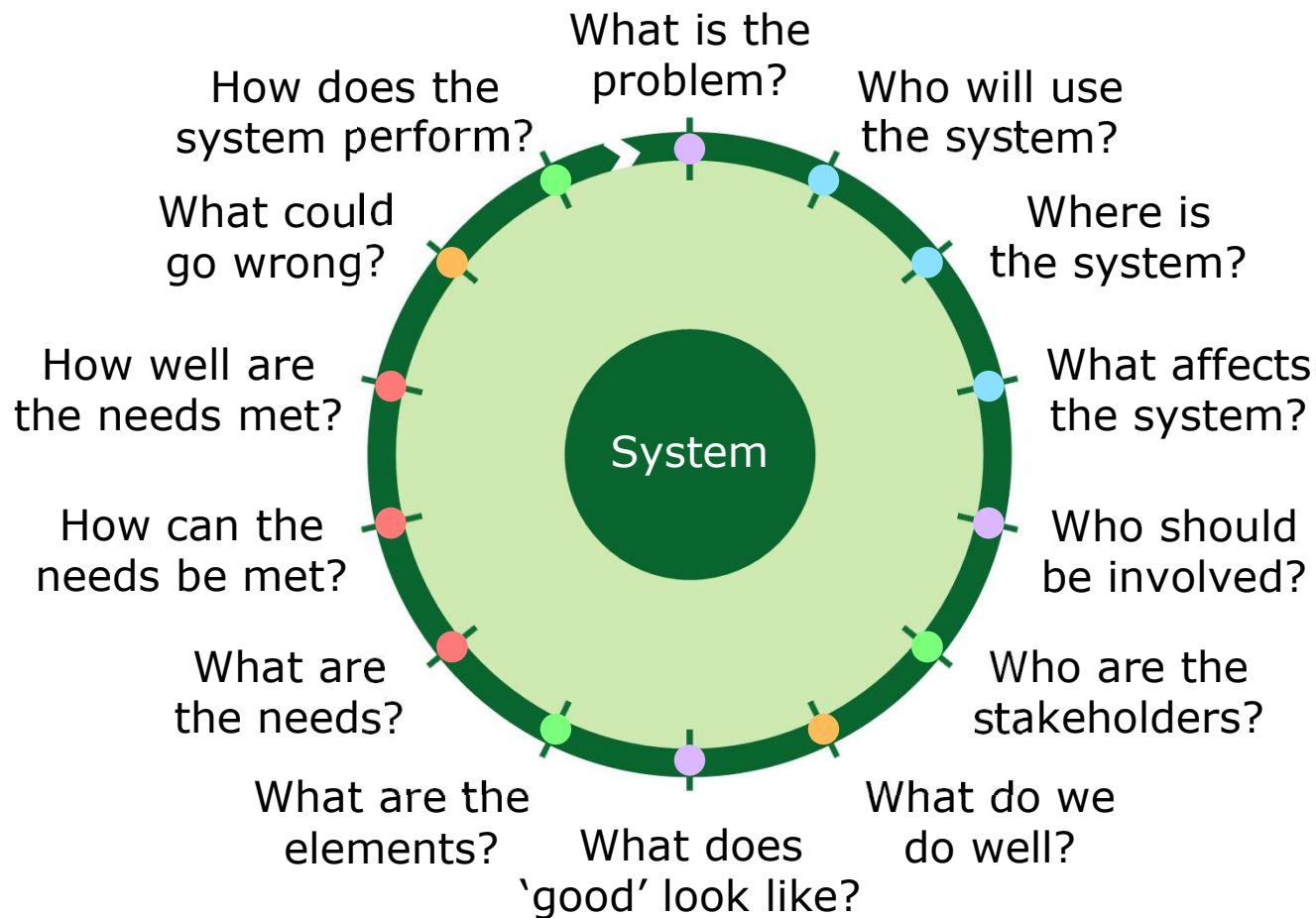
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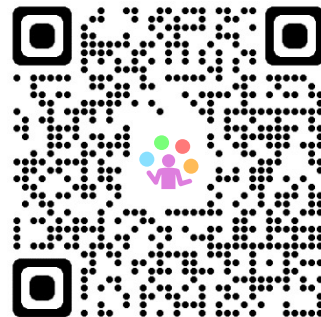
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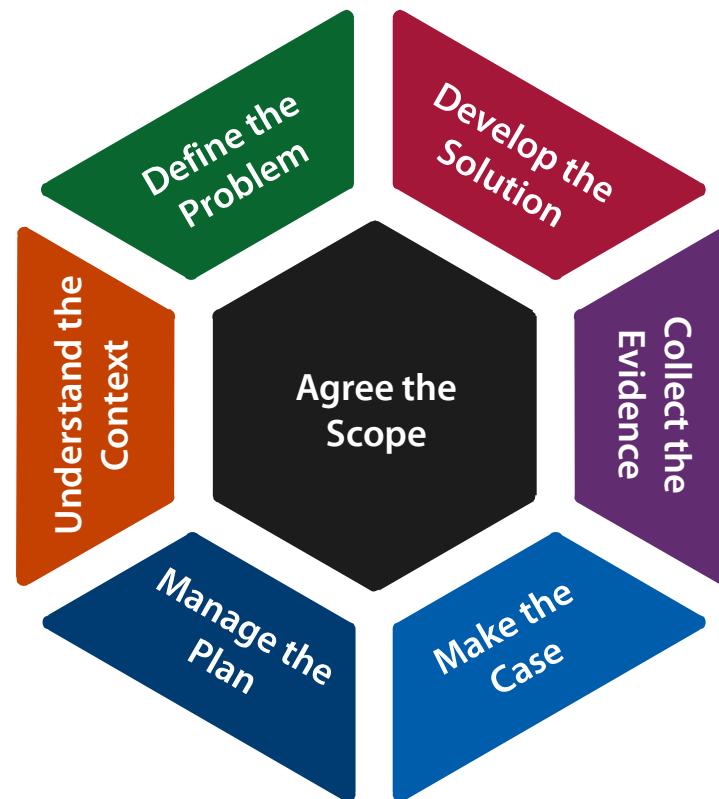
Engineering Better Care



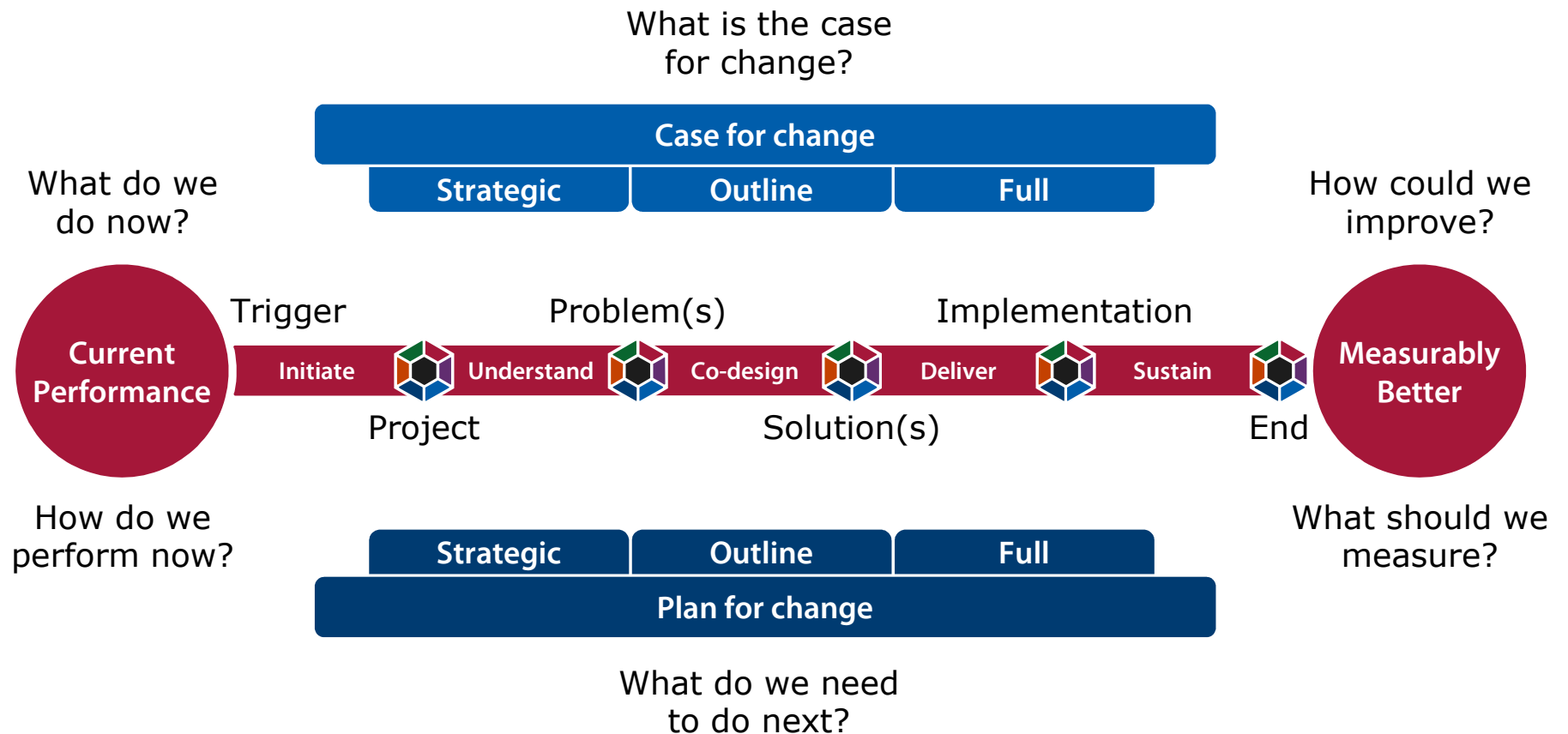
Improving Improvement



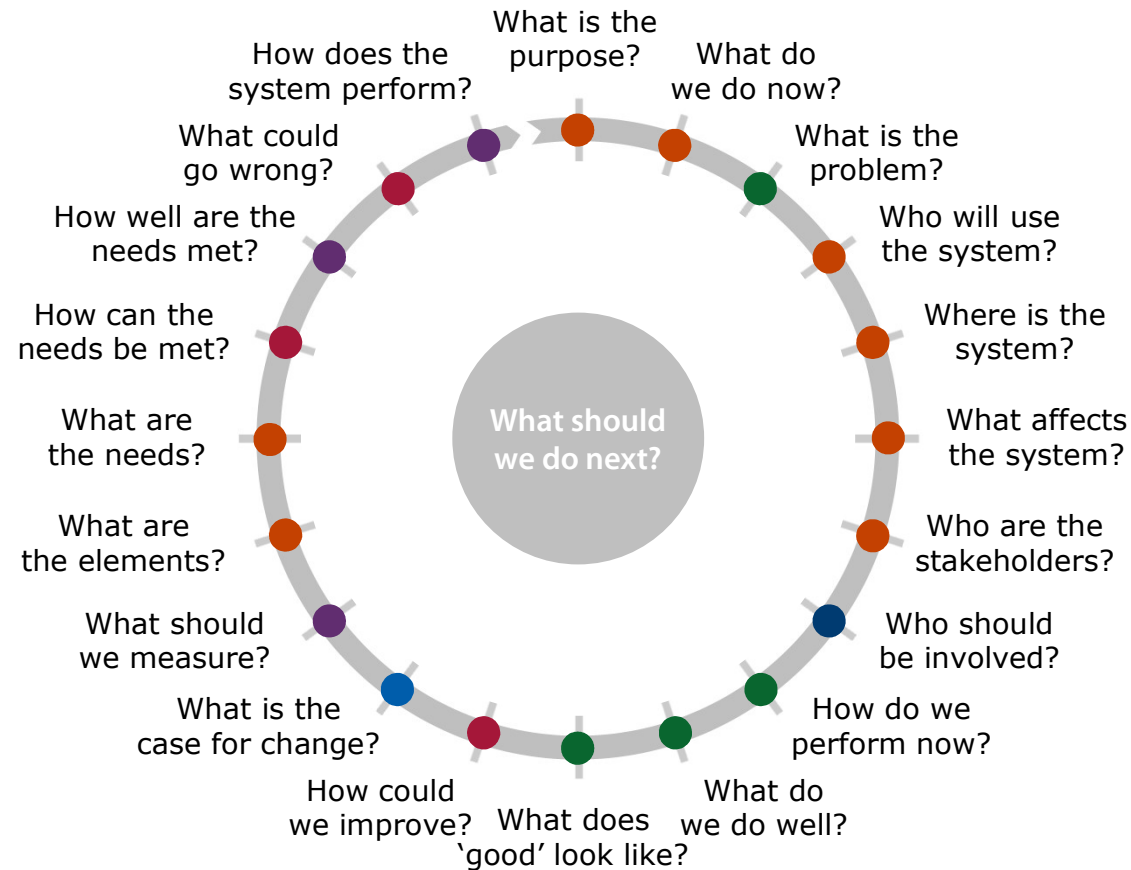
Improving Improvement



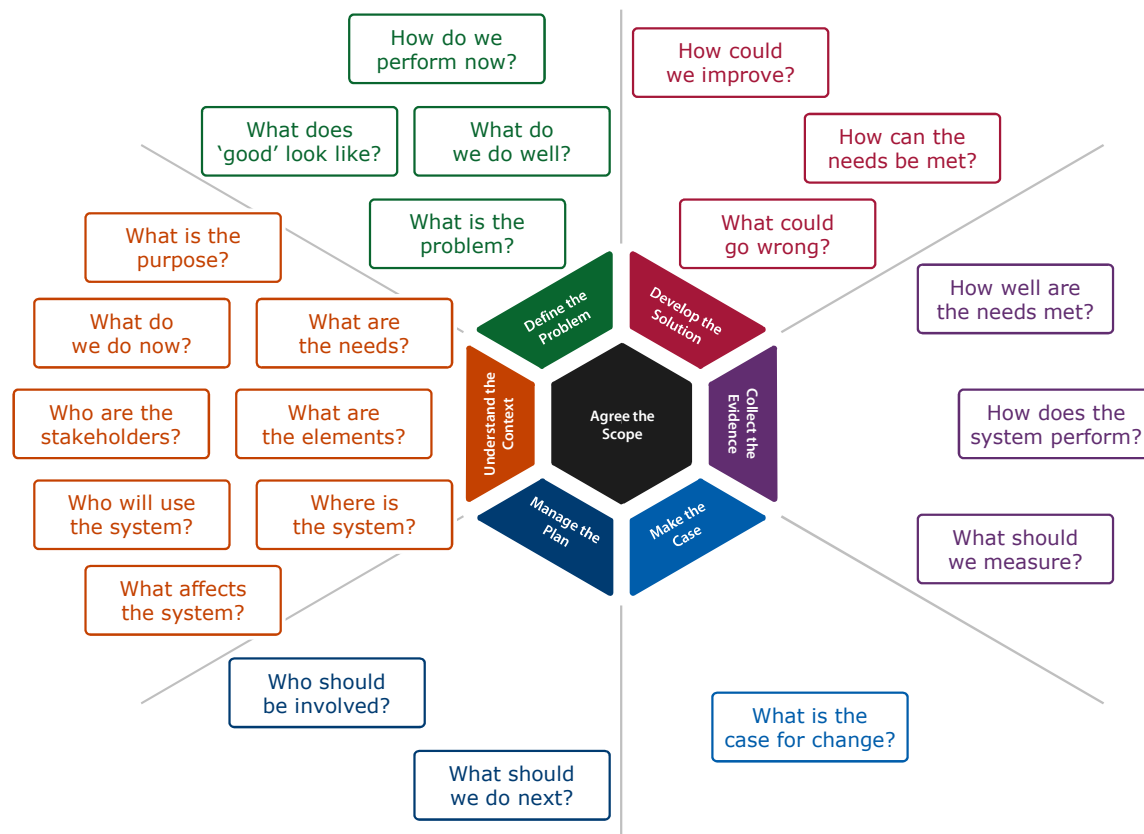
Improving Improvement



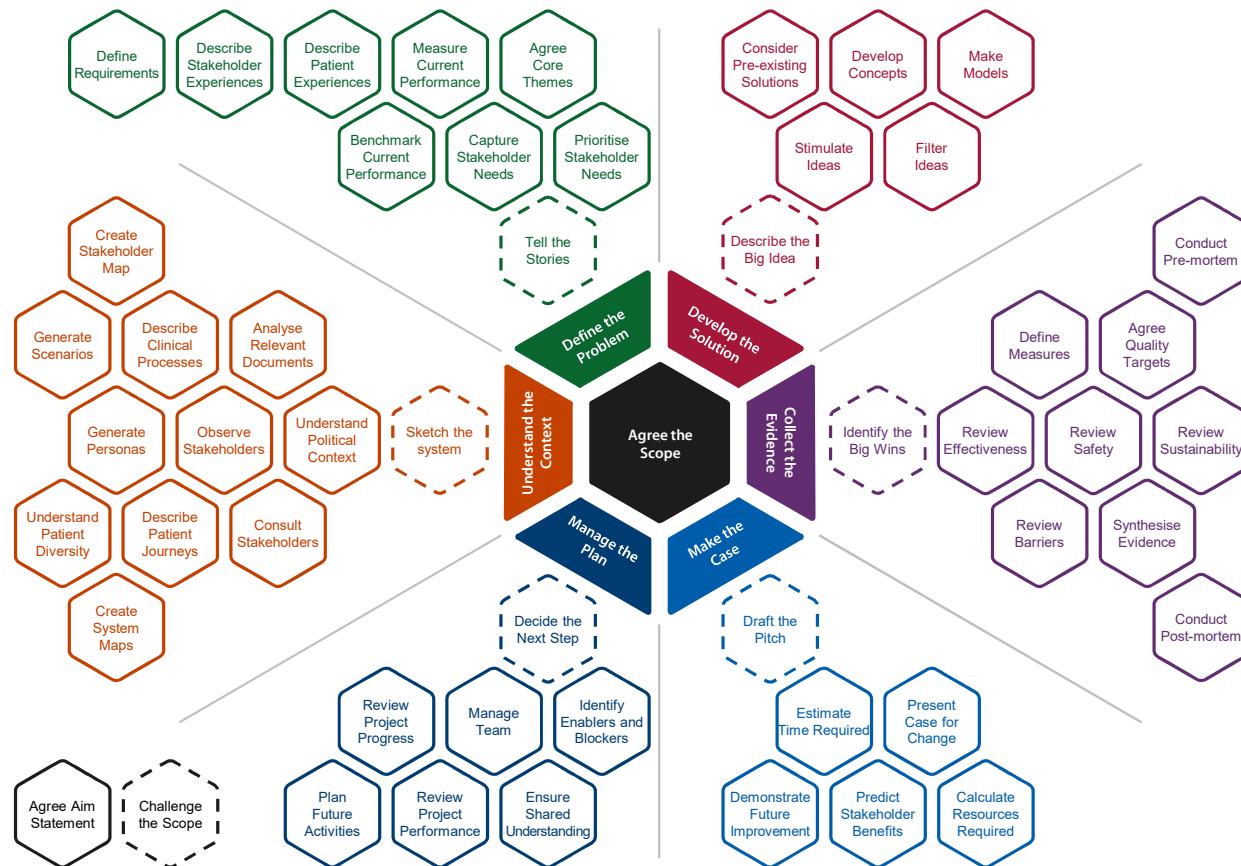
Improving Improvement



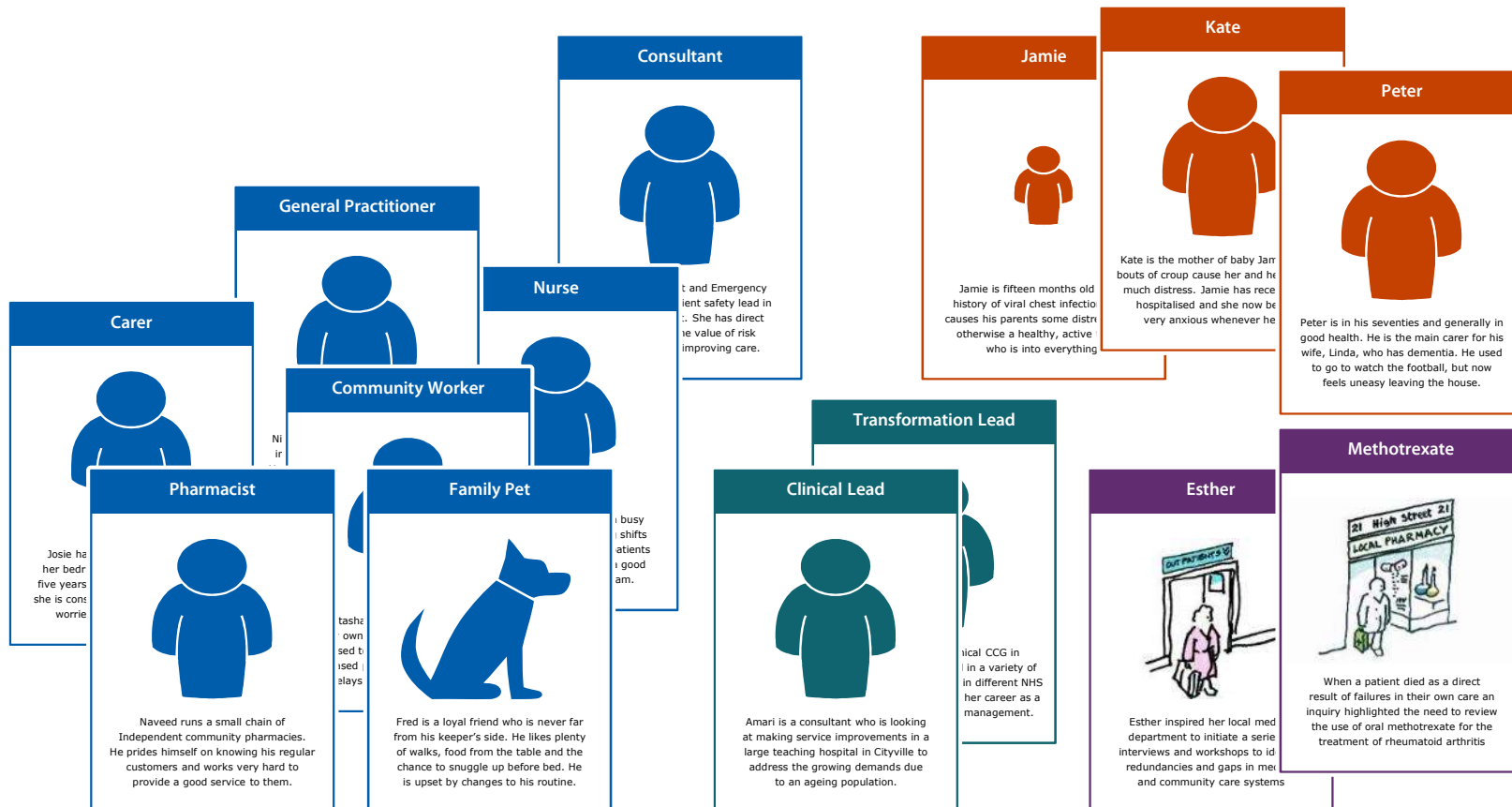
Improving Improvement



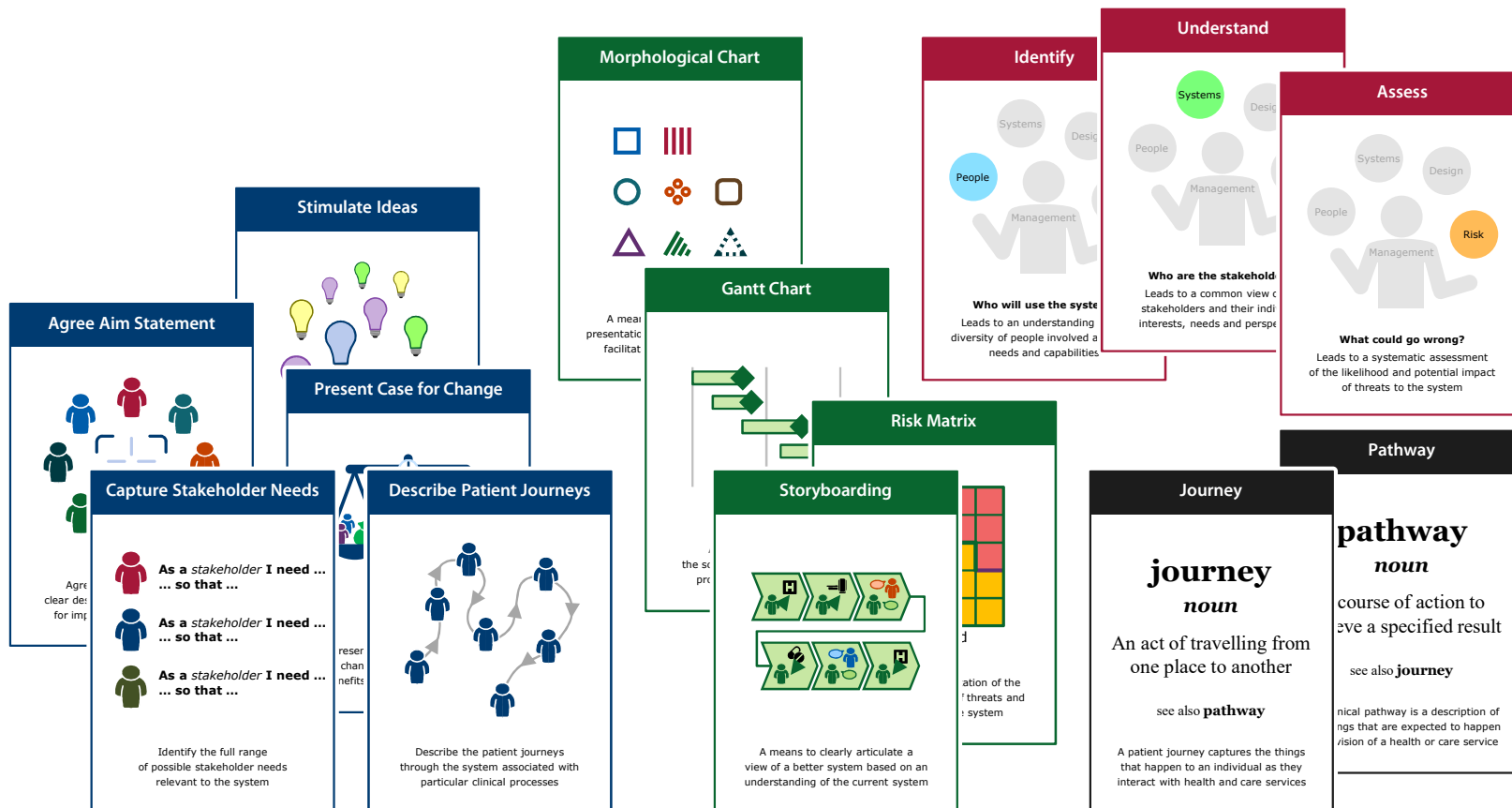
Improving Improvement



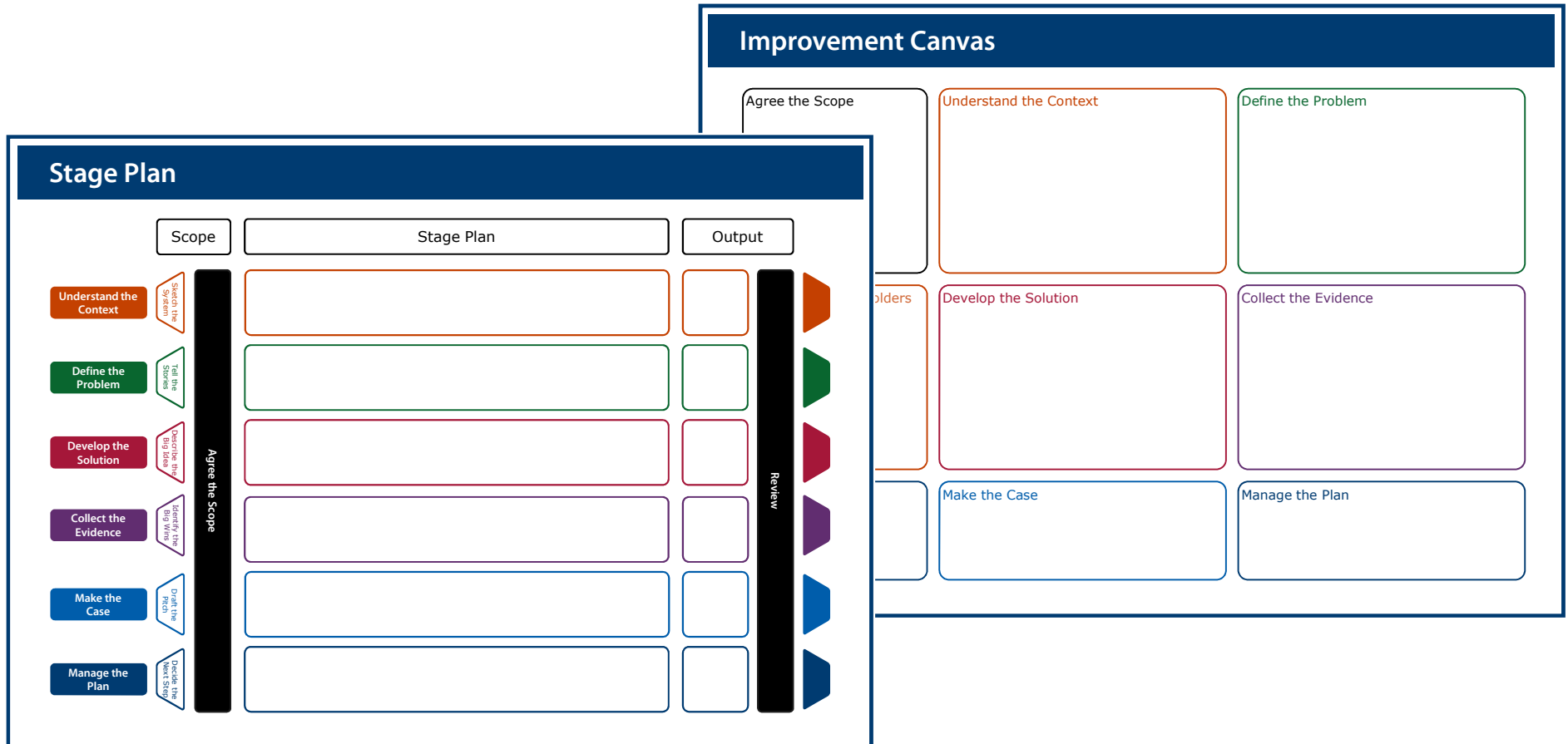
Improving Improvement



Improving Improvement

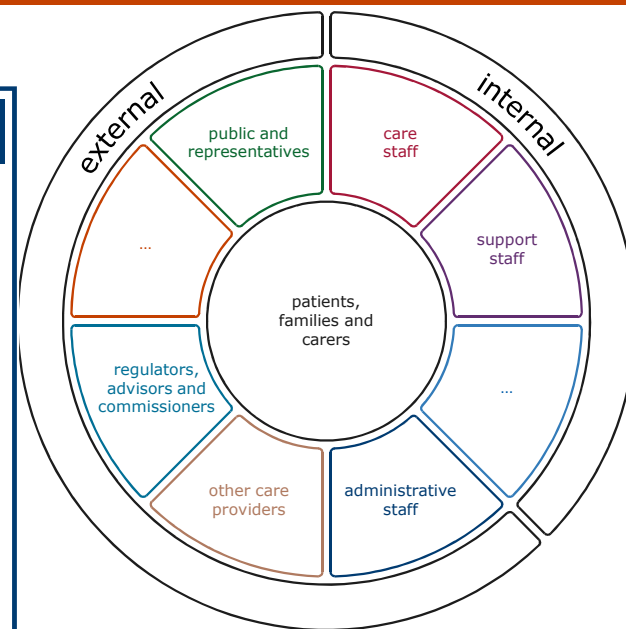


Improving Improvement

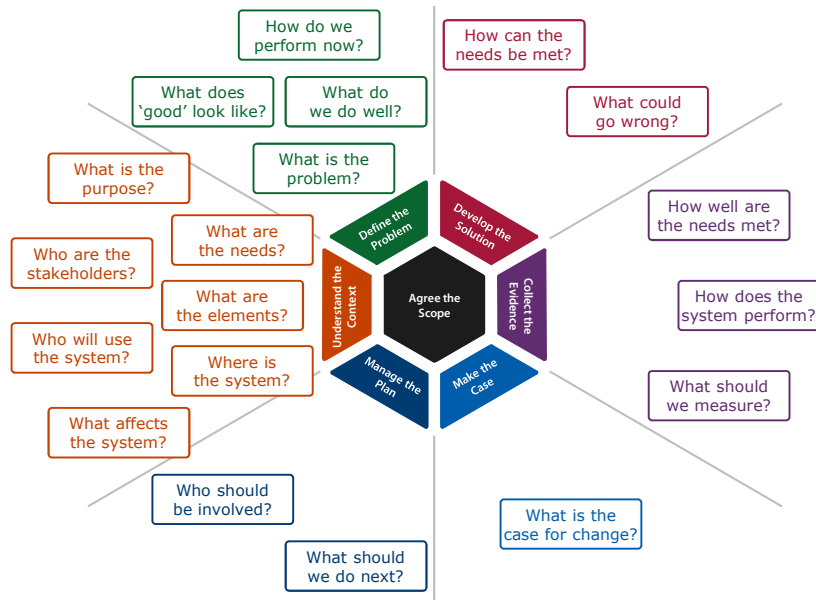


Improving Improvement

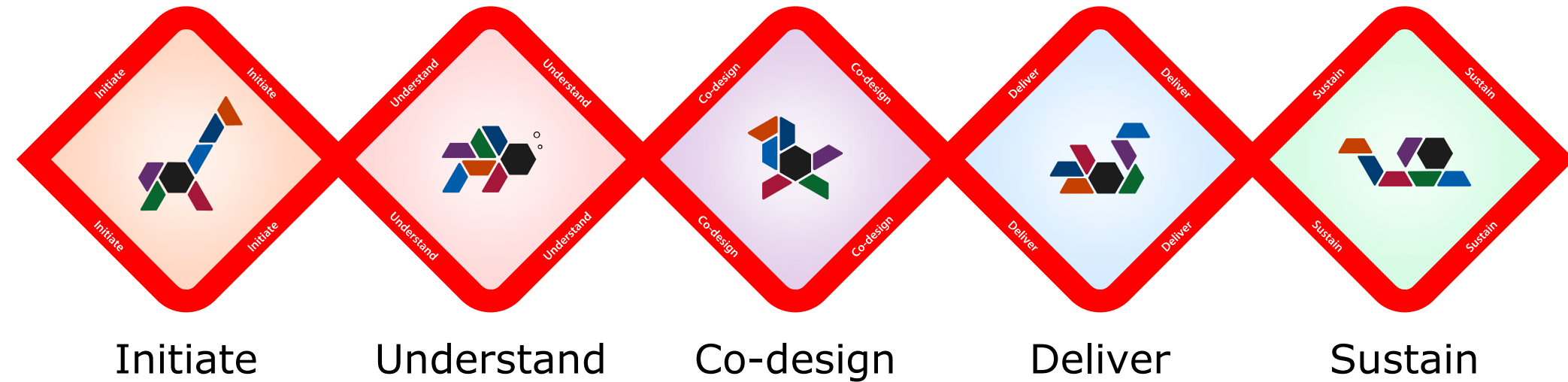
Stakeholder Map



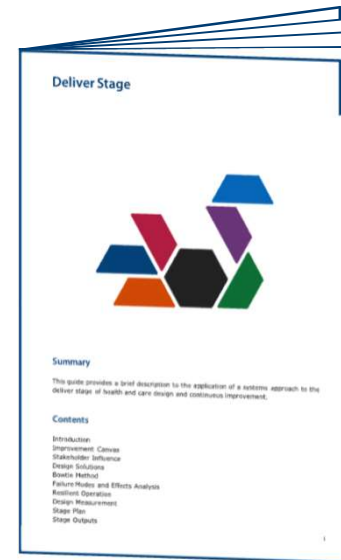
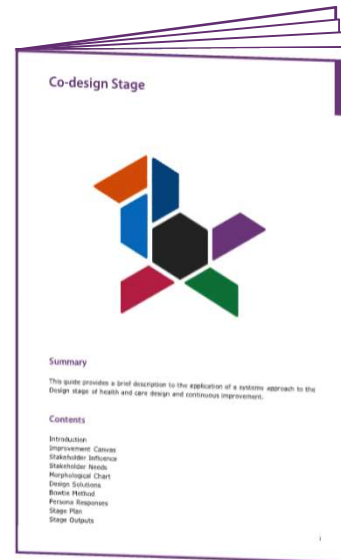
Questions Map



Improving Improvement



Improvement Toolkit



Improvement Toolkit



Improving Improvement

A toolkit for Engineering Better Care

[Home](#) [Start Here](#) [Improvement Approaches](#) [Improvement Model](#) [Improvement Stages](#) [Resources](#) [Training](#) [Contact Us](#)

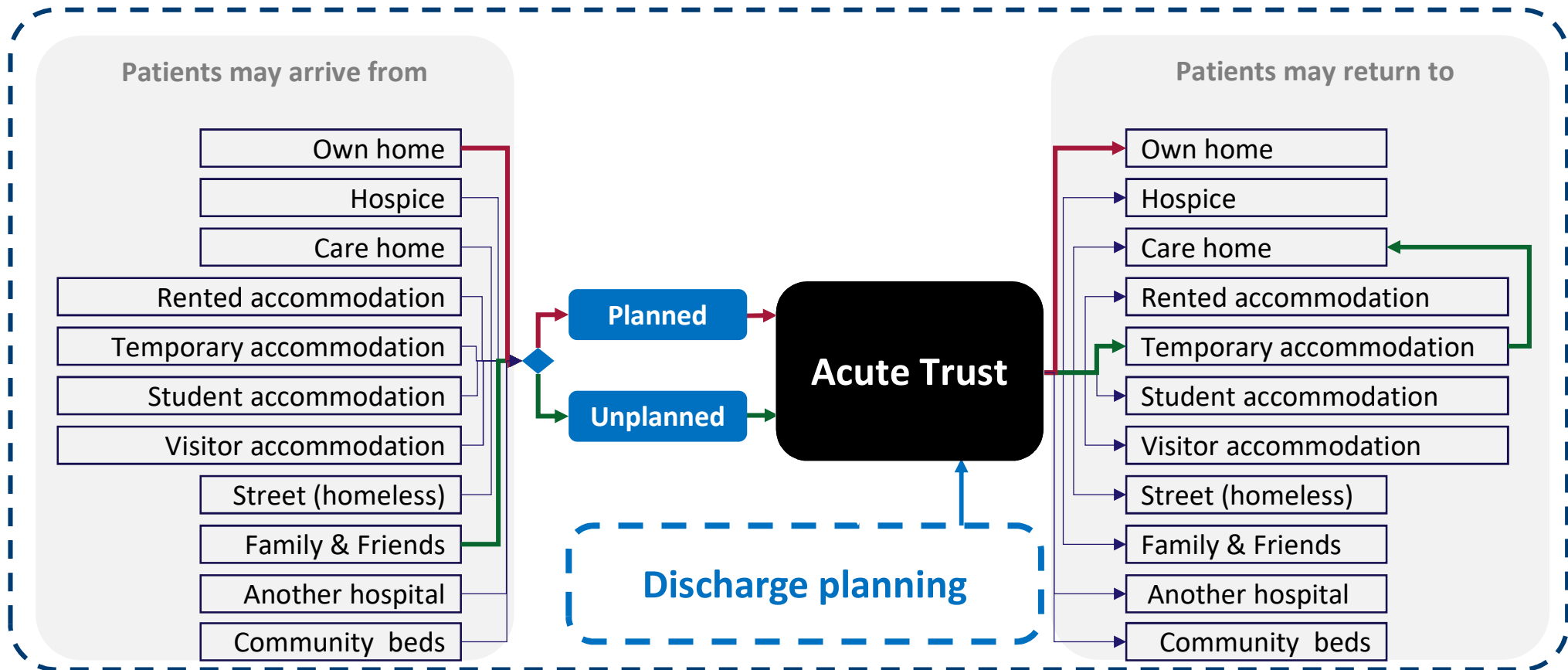


News highlights



Discharge Planning



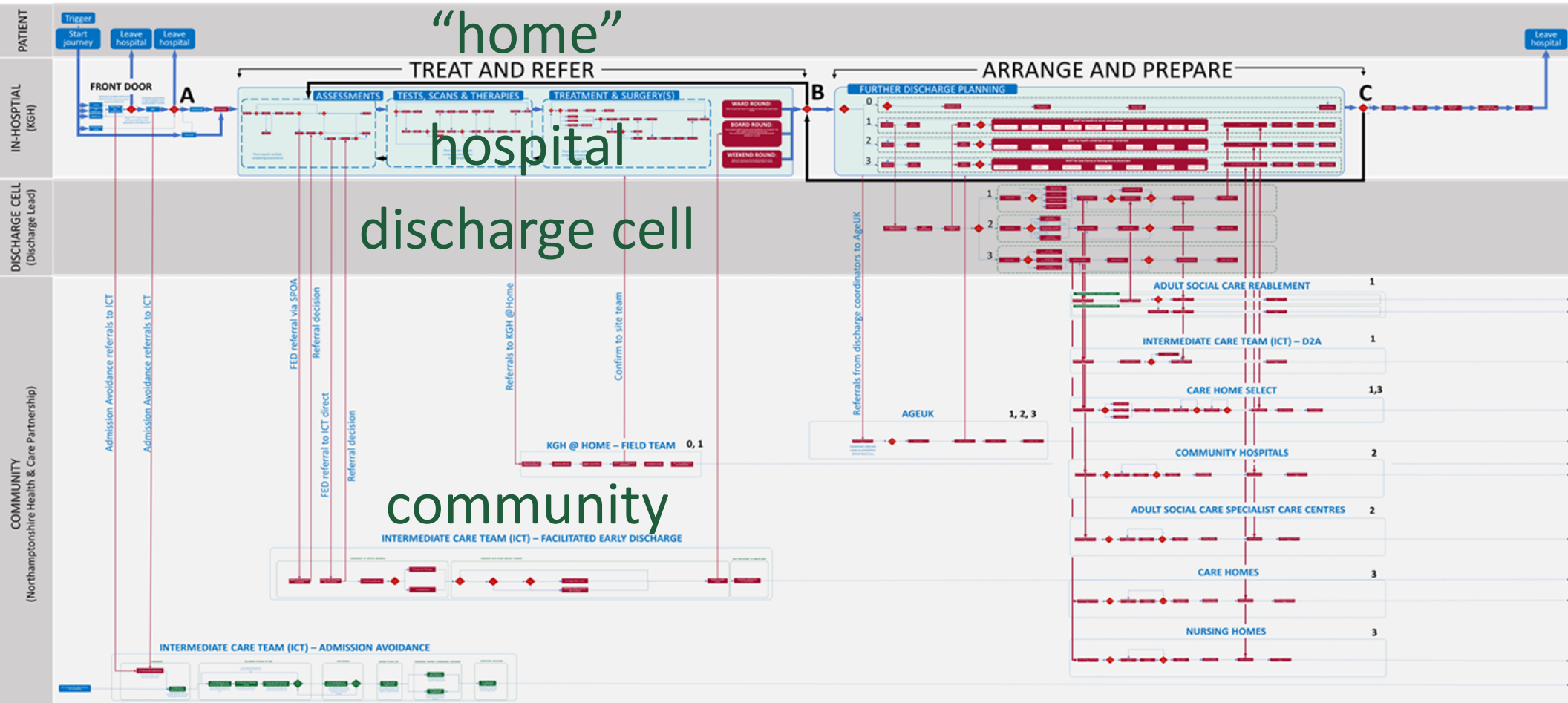


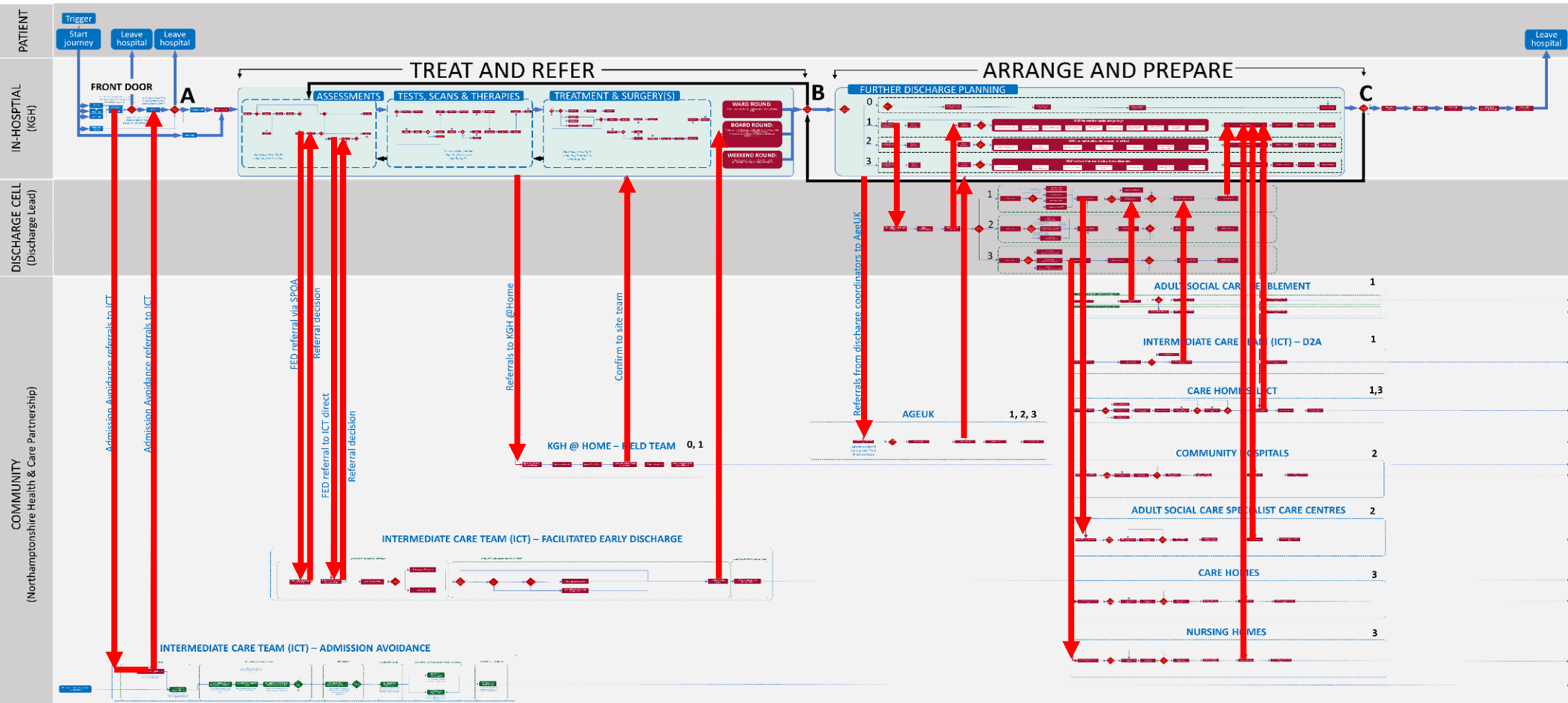
- Interviewed ~40 stakeholders
 - Nurses
 - Occupational Therapists
 - Discharge Coordinators
 - Surgeons and Consultants
 - Adult Social Services
 - Community Hospitals
 - Charity Sector

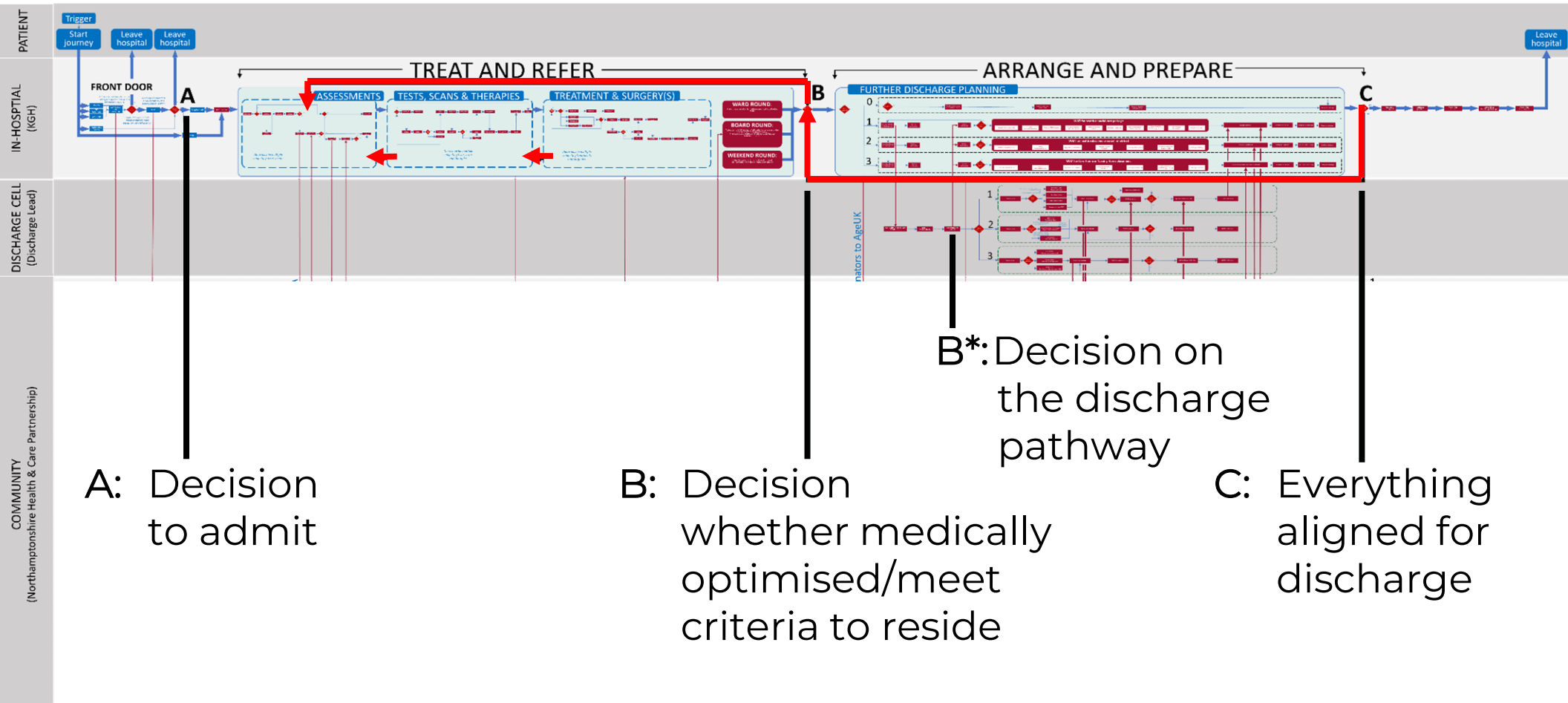
Discharge Planning

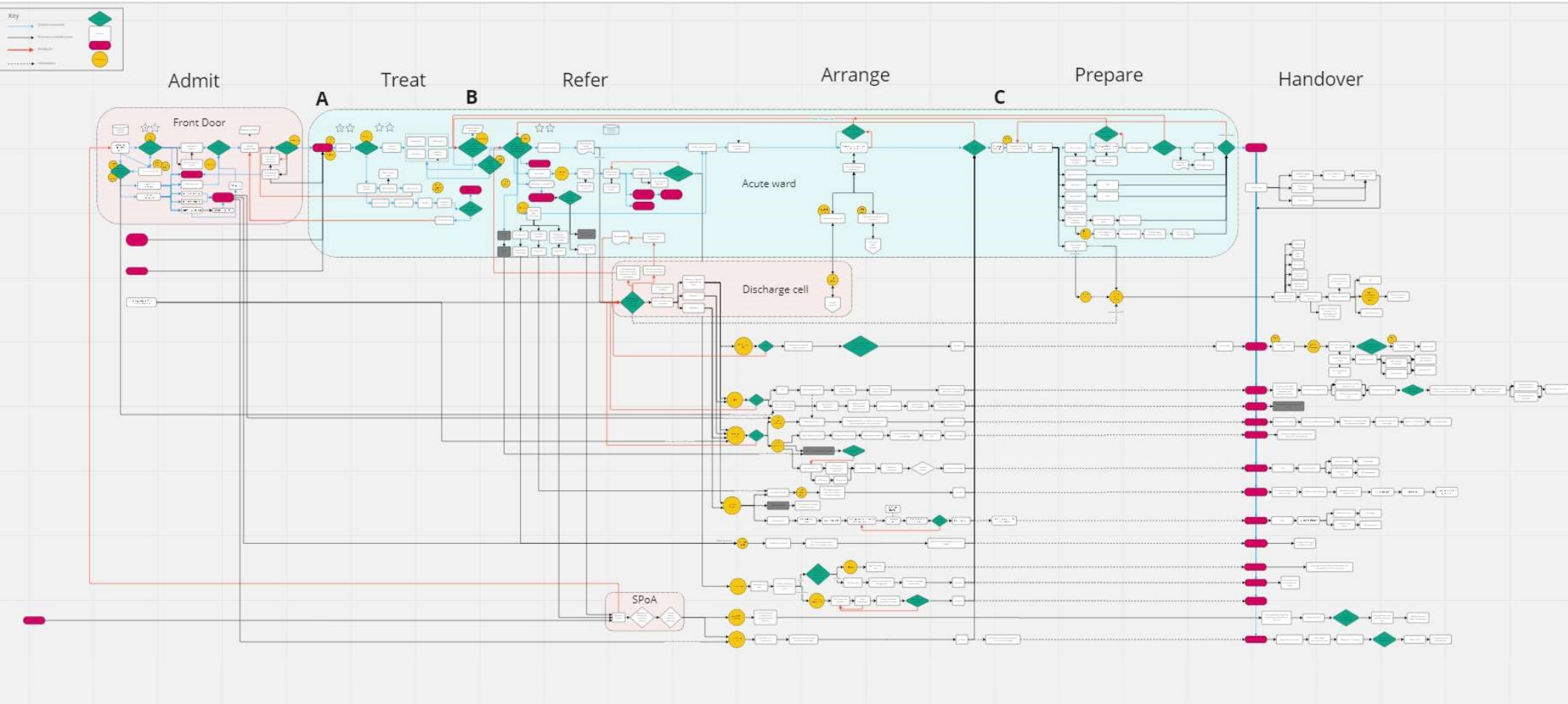


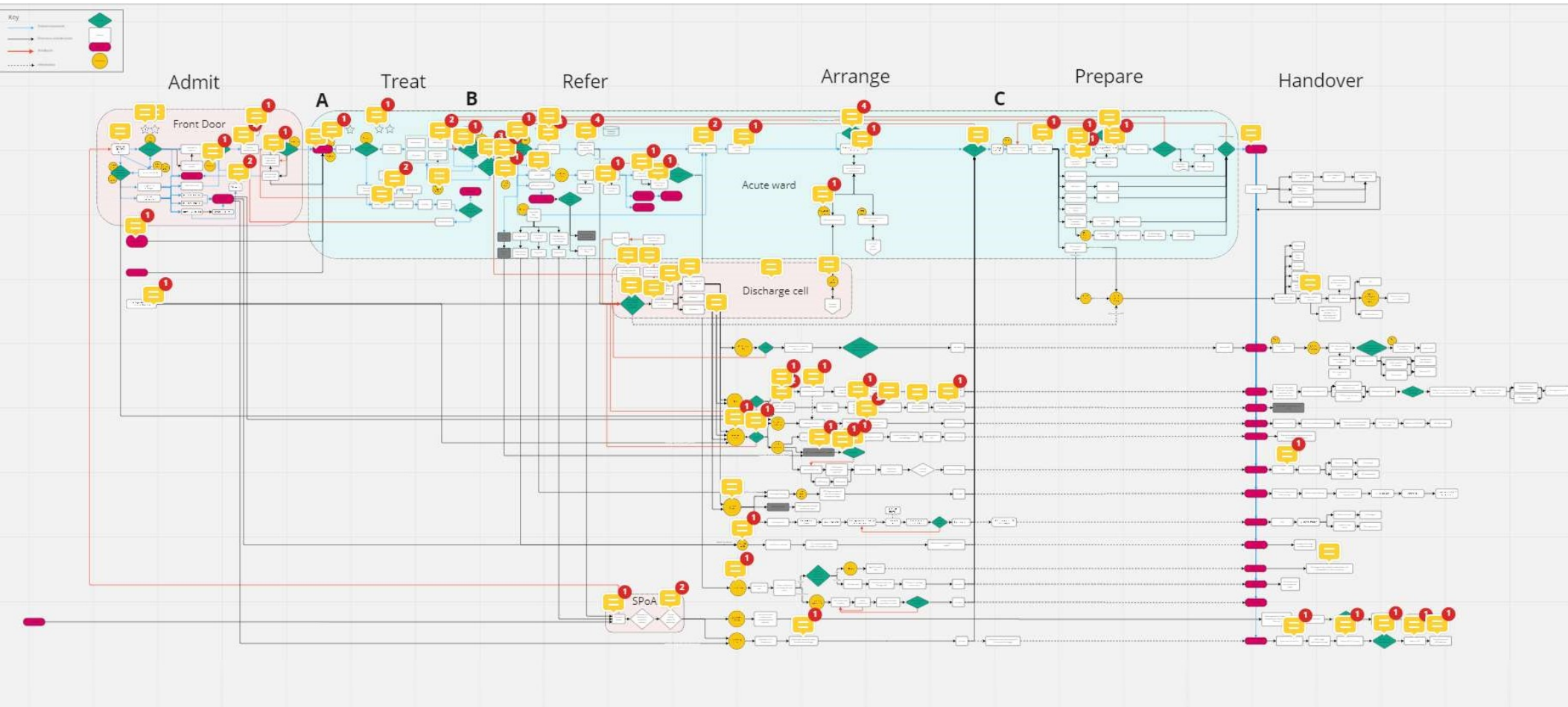
Image credit: [twitter](#)

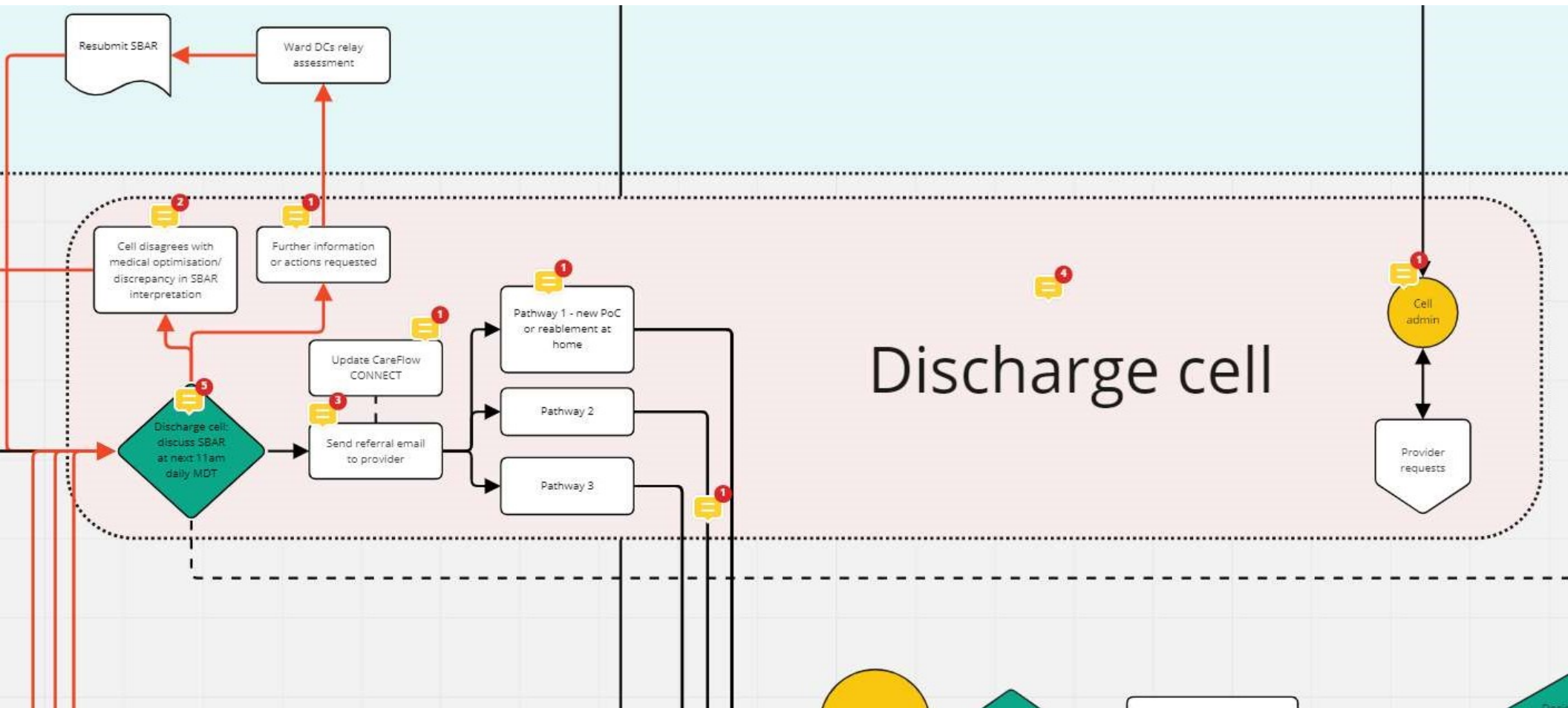




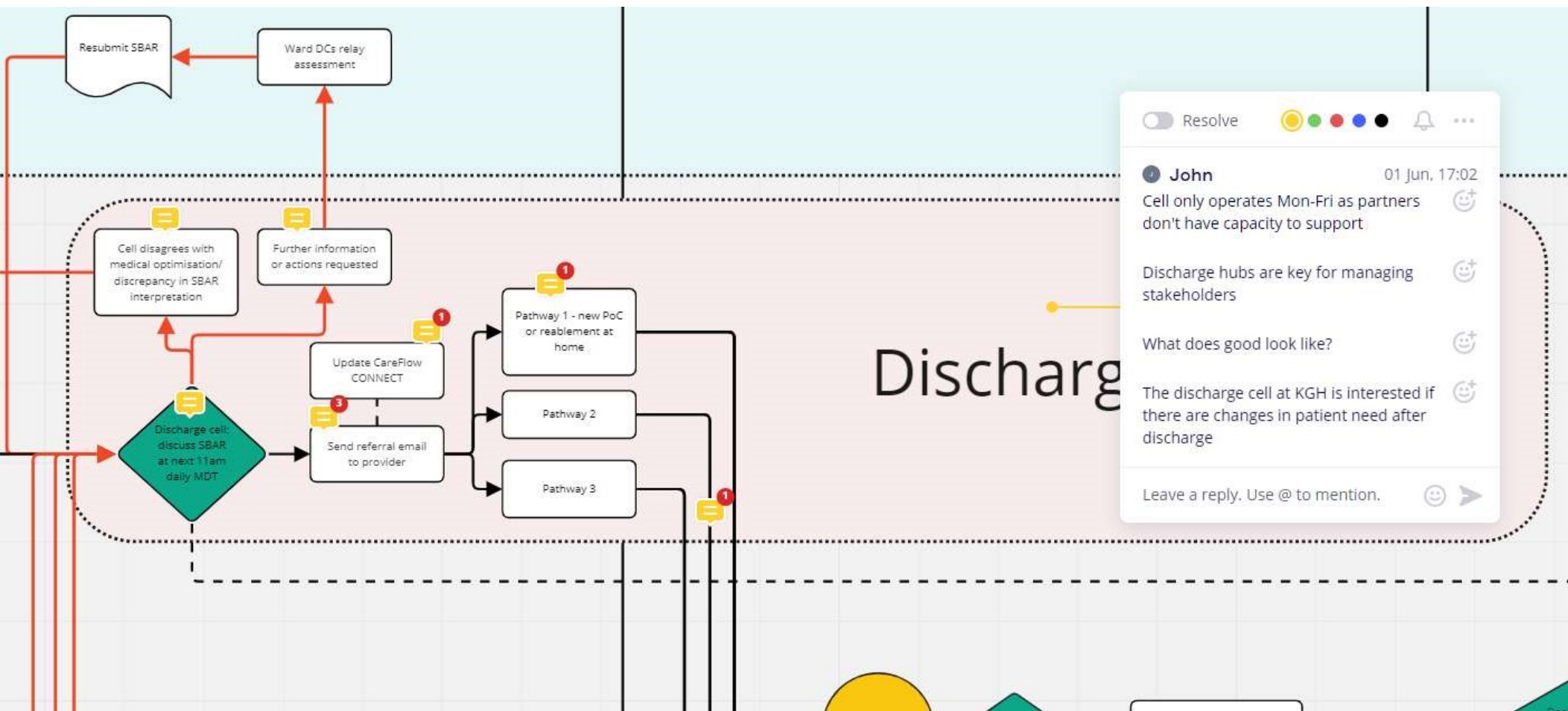




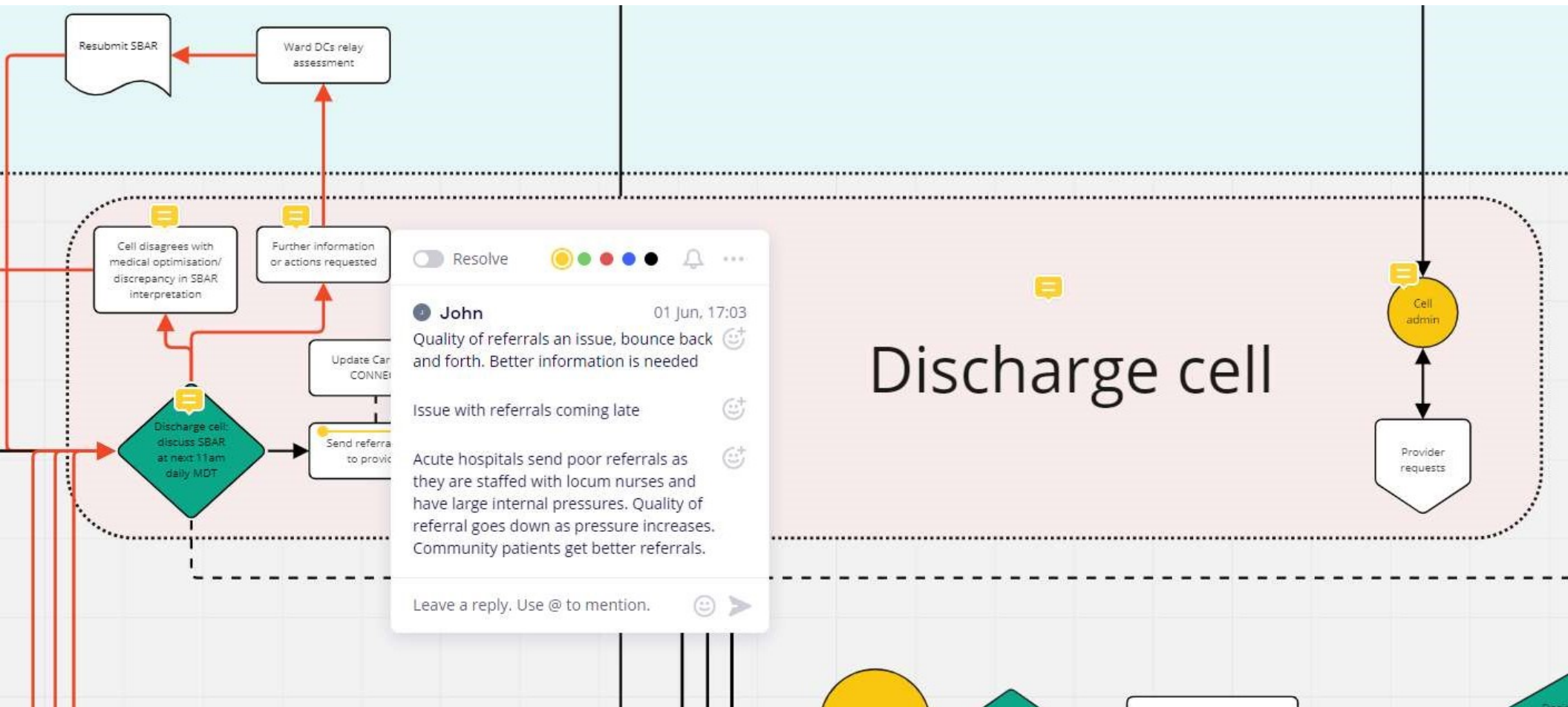




Discharge Planning



Discharge Planning





System complexity

- Individual elements are complicated, the whole is complex
- Knowledge of the whole process is fragmented
- Experts do not externalise their mental models of practice



Inherent challenges

- Discharge pathway is essentially operated as a serial process
- Planning delays increase risk of change, deterioration and rework
- Current care packages may be forfeited on hospital admission



Current thoughts

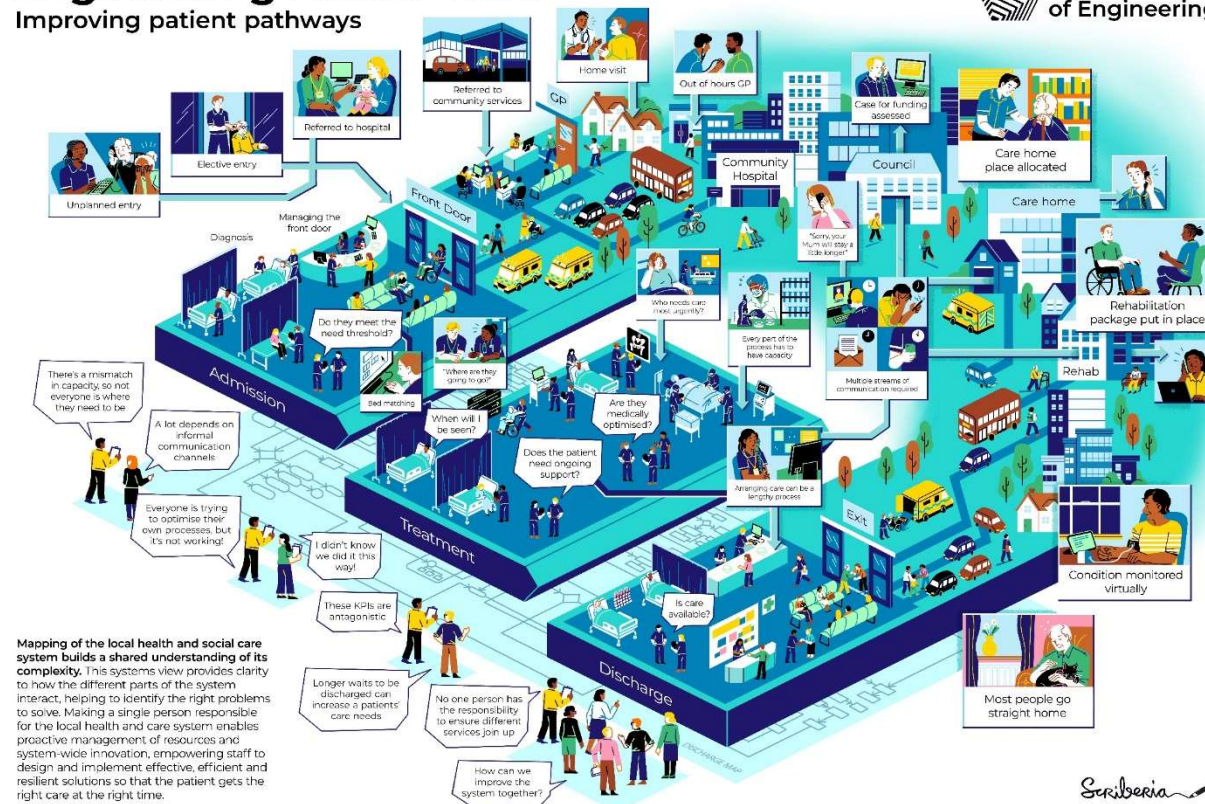
- There is value in consolidated responsibility and governance
- Over 'leaning' of individual elements may compromise the whole
- There may be a need to 'fatten' some elements of the process



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Discharge Planning

Engineering Better Care Improving patient pathways



Scriberia



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