

## **Design Engaging with Healthcare Transformation : a project, a pod and a PhD**

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# Design engaging with health care transformation: a project, a pod and a PhD.

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## Abstract

In 2007, the Euro Consumer Health Index judged the NHS the 17th best health care service in Europe. Recent government reports aim to deliver world-class public services through transformational change. To attain this objective, the Department of Health has charged all Strategic Health Authorities with a legal duty to promote innovation and Primary Care Trusts to develop clearly defined competencies in world class commissioning. The paper addresses how design practice will need to adapt if it is to engage with health care transformation within the NHS.

## Keywords

Public service transformation, health care innovation, systemic thinking, the NHS

## Introduction

Today we are experiencing social, economic and technological change at an unprecedented frequency and velocity (Ackoff 1974) (Toffler 1980) (Bostock 1996). While enlightened businesses in the private sector have kept pace with a capricious society in transit - the NHS has not been as agile. Healthcare services throughout the world are in transition, perpetuated by demographic shifts, exponential demand, escalating costs and rising public expectation. Banathy (2000) argues that these changes are reshaping our thinking and the way we view the world and the systems we are apart of. In this context, design practice needs to be reconsidered in response to this accelerated change; (Hugentobler, Jonas, Rahe 2004) to ensure it has a future currency with the organisations, systems and people it aims to serve. The Cabinet Office through its Excellence and Fairness report (2008) identified the key characteristics of world-class services as those which empower citizens to shape the services they receive, and where service professionals act as a catalyst for change. The NHS is an evolutionary system; open and complex but with the capacity to evolve- a fact that has not gone unrecognised by the NHS Institute of Innovation and Improvement who is now urging *all* NHS professionals to 'think differently' about the services and experiences they provide.

Following this introduction the paper is structured in three parts, the first describes design practice and its traditional engagements and methodologies. In the second the need for a systemic methodological approach when design engages with

complex problems is illustrated through a Design project (Project) and design brief (Pod). In the third part the new pre-requisites for design practice if designers are to engage with health care transformation is analysed through a brief overview of a PhD (PhD). The paper ends with conclusions for systemic transformative design.

## Traditional design engagements

Historically the practice of design has centred on problem solving, functionality and manufacturing within a product context (Jones 1984, Young 2006). Figure 1 represents design as applying an analytical process in a reductionist framework where an object is deconstructed, analysed, optimised and reconstructed.

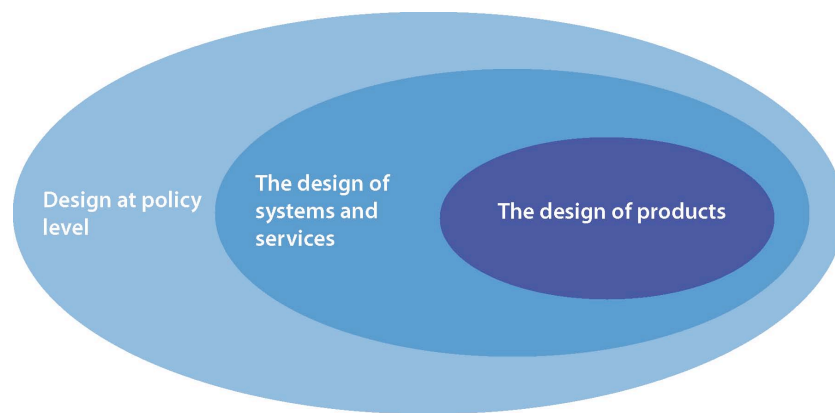


Figure 1: Young's diagram of the traditional territory of design

In addressing problems within dynamic and interconnected systems such as health care, traditional methodologies are limited as improving individual elements does not necessarily constitute a better system (Ackoff 2004). The research at the core of this paper asks: 'If a designer's future capability is to migrate beyond the domain of products and services and into the new territory of health care strategy, what are the new tools, skill sets and methodologies required to enable this transition'?

'Without changing our pattern of thought, we will not be able to solve the problems we created with our current patterns of thinking'

Albert Einstein

## Smart Pods: a project and a pod

One example of a project that addresses this question is 'Smart Pods', a collaborative research project funded by EPSRC involving the Royal College of Art and the Universities of Bath, Bristol UWE, Loughborough and Plymouth. Even the formation of the team was innovative in that the members came together through an EPSRC sand pit. The sandpit was a professionally facilitated week long process where those with interests in mobile healthcare were put through exercises that

identified common interests and compatibilities. The team and project that emerged is focused on creating a new era of patient safety in the context of urgent and emergency care. The multi-disciplinary expertise of the team has facilitated the detailed research, analysis and evaluation of a complex and multi-component system using a systemic approach to the research; a combination of both analytical and synthetic thinking. The Royal College of Art's research methodology is iterative and cognitive in nature, where detailed case studies of analogous services direct the design research. The Loughborough specialism is in ergonomics and Plymouth provide an initial sociological perspective. The research undertaken by the University of Bath also applies systemic thinking; understanding the components, interactions and the operational environment to support treatment on site rather than the transportation of patients. The methodological approach used by the Smart Pod team displays all the characteristics of transformation design (Burns, Cottom, Vanstone & Winhall 2006) as defined by RED, the research and development team within the Design Council; defining & redefining the brief, collaboration between disciplines, participatory techniques, building capacity, solutions beyond the traditional and creating change. However, transformation design within a NHS context requires an additional characteristic- a comprehensive understanding of the policy and implementation frameworks which Primary Care Trusts adhere to when instigating major reforms in their service provision.

The process of instigating a major service reform can potentially last up to 36 months depending on the complexity of the proposed change. Overseen by the Strategic Health Authority, Primary Care Trusts are required to follow a stringent quality assurance process where a comprehensive service improvement plan is produced consisting of a business case, clinical and service user case for change, stakeholder analysis, financial, transition, communication, risk assessment, impact and implementation plans.

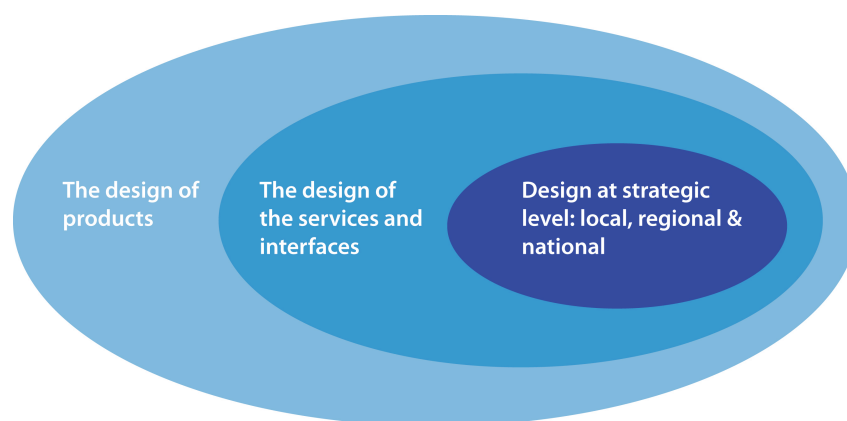


Figure 2: Designers as a future catalyst for health care transformation

The complex nature of the NHS demands a total systemic approach to service transformation and the implementation process. This vital ingredient is embedded within the Smart Pod team's methodology, a methodological approach which integrates these reform codes from project inception; creating a new remit for

designers where knowledge of policy and implementation protocols is at the centre of design practice. See Figure 2.

## NHS at Home: a PhD project

The PhD research is embedded within the RCA's Smart Pods design research team and is funded by the EPSRC. The UK's ambulance service can be defined by three types of vehicle response; emergency, urgent and planned. The central research aim of the Smart Pod project is to create a new era of emergency and urgent patient care. The PhD provides a complementary and overlapping stream of design research by concentrating on planned responses. In the UK, the transportation of patients to hospital to receive frequent planned treatments accounts for 68% of all ambulance journeys. With 45 million out-patient appointments each year, the Department of Health report, Our Say, Our Care suggests that 50% of these appointments could be delivered in a community setting; reducing the burden on acute services while fulfilling the patient's preference to be treated at home.

The central hypothesis of the PhD is that the home will become a future health care setting for certain treatment types; managed and palliative care. The PhD research examines how design and technology will shape the way future health care is delivered, experienced and accepted in the 21<sup>st</sup> Century using etic, emic and systemic methodologies to capture service interactions, relationships and experiences from the perspective of patients, providers and the public. Engagement with relevant stakeholders will underpin the research direction and provide a critical framework for the design and development of a new service experiences and interactions for a specific treatment type and targeted patient group.

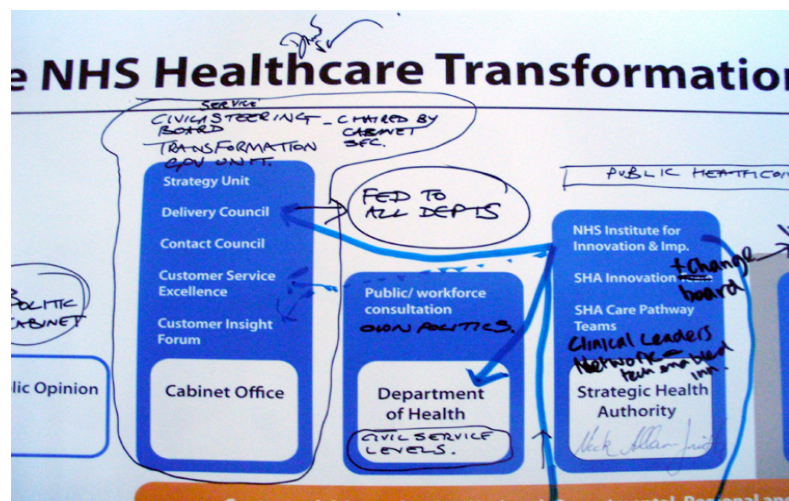


Figure 3: A detail from the transformation mapping exercise

Implementation is recognised as a significant factor in the process of achieving service transformation. To support this logic and for design to have a new level of engagement in complex services, a mapping exercise was undertaken to identify structures, sequences and barriers to transformation. Meetings with transformation

stakeholders at each level captured these interactions, building and refining the map. See Figure 3. Contributors included Sir David Varney, Advisor to Gordon Brown on Public Service Transformation, Dr. Lynne Maher, Head of Service Improvement at the NHS Institute for Innovation & Improvement, The Service Reform Panel at Yorkshire & Humber Strategic Health Authority and Duncan Ross, Deputy Chief Executive & Director of Planning, Jo Gaunt, Assistant Director of Design & Innovation at NHS East Riding of Yorkshire. At the time of writing conclusions are still being extrapolated from the results but initial findings suggest:

The management of the public consultation process is a critical factor for major service reforms to be publicly accepted and implemented. To-date the consultation process is dominated by traditional presentations and Q and A sessions at venues like town halls. Designers could make a contribution in this area by developing new creative public engagement experiences and dissemination methods to facilitate public acceptance of service reforms

There appears to be a lack of resources at SHA & PCT level to capture and synthesize current contextual research to inform future strategic decisions. A design presence within these organisations could bring a holistic perspective, create new synergies and identify best practice from analogous industries to inform future health care strategy and direction.

A lack of creativity, inhibitive structures and ingrained cultures are commonly cited as creating inertia for service transformation. There is a critical role here for design. Designers positioned at the heart of PCT service innovation and reform teams could create a momentum for transformation and contribute towards PCTs achieving their world class commissioning competency targets.

## **Conclusions**

Buckminster Fuller's (1972) analogy of a designers acting as a 'trim tab' for major strategic change is an appropriate metaphor in this context. However, where should designers be located to engage and effect strategic change and innovation? This paper has suggested co-location with health care strategists if design is to maximise its effectiveness. If designers are to migrate from the drawing board to the heart of the boardroom (Hugentobler et al) and become future transformational leaders, systemic thinking, a knowledge of the implementation process, an understanding of strategic and policy influences on delivery (such as transformation map), as well as the acquisition of influencing skills will become future pre-requisites for design practice and designers.

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