Quality Innovation & Evidence in Healthcare Physical Environments in England & Sweden: Establishing a Collaborative Roadmap

This presentation will provide a view on:

- Establish need for international research
- Define language and terms
- English practice (centralisation / coordination)
- Loughborough HaCIRIC research
- Swedish practice (decentralisation / local flexibility)
- Chalmers research
- Raise important questions
Starting point

Understanding:

• the interrelationship between organisational structures and quality / safety assurance systems (guidance / standards and tools) for healthcare infrastructure design

• the interrelationship between mandatory compliance standards on the one hand, and customised project excellence on the other

• common language and opportunities for creating a shared value, quality and evidence-based learning environment
Why Sweden V’s England?

Historically, England and Sweden have taken different approaches to:

Centralisation / coordination (England), and

Decentralisation / local project flexibility (Sweden)
Language and terms – why?

Evidence (to Assure) Infrastructure Quality & Innovation Excellence
Language and terms – EBLE

Evidence-based Standards and Standardisation

Quality & Innovation Assurance / Excellence

Customisation, Innovation / Stakeholder Engagement
Language and terms – EBLE

Assurance
Excellence

Evidence-based Standards and Standardisation

Standard Process

Standard Outcomes

Generic Stakeholders

Custom Outcomes

Project Process

Project Stakeholders

Customisation / Innovation / Stakeholder Engagement
Evidence of excellence – interaction of what on what?

- Service Quality Evidence
- Therapeutic / Healing Building Design Evidence
- Service / Building Quality Evidence
- Staff Satisfaction Evidence
- Building Performance
- Building / Staff Productivity Evidence
- Public Health Evidence
- Economic Evidence
- Infrastructure Evidence
- Technical Systems Evidence

- Sound
- Light
- Thermal Heat
- Aesthetics
- Views
Evidence application process – used by whom and when?

Innovative Evidence Creation and Capture

- **Programme**
- **Project**

Hard / Quantitative Evidence
(e.g. Experiment, Statistics, Data Mining / Analysis)

Soft / Qualitative Evidence and Judgement
(e.g. Observation, Interview, Questionnaire)

Stakeholders and Evidence / Design Information

Creation of a Learning Culture
English practice

(centralisation / coordination)
• Many National standards (HBNs)
• Emerged from 1960s
• Vary in content and have different: levels of specificity, clinical building types/areas/ pathways
• Many Tools

<table>
<thead>
<tr>
<th>Tool</th>
<th>Users</th>
<th>Stage</th>
<th>Level of mandate</th>
<th>Level of mandate</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEDET Evolution/ (Achieving Excellence in Design Evaluation Toolkit) (Excel Spreadsheet)</td>
<td>DH/UKHO, Trusts, Architects, Construction, SHAs</td>
<td>Design</td>
<td>Strategic</td>
<td>1</td>
</tr>
<tr>
<td>ASPECT (A Staff Patient Environment Calibration Tool) (Excel Spreadsheet)</td>
<td>DH/UKHO, Trusts, Architects, Construction, SHAs</td>
<td>Design</td>
<td>Operation</td>
<td>1</td>
</tr>
<tr>
<td>ADB (Activity DataBase) (CD Software supported by web accessible data Plug-ins and CAD / Revit models)</td>
<td>Trusts, Architects, Construction, QS, Engineers, SHAs, Capital Planners, Healthcare Planners, CAD Operators</td>
<td>Strategic</td>
<td>Design</td>
<td>1</td>
</tr>
<tr>
<td>BREEAM HEALTHCARE (British Research Establishment Environmental Assessment Method) (Excel Spreadsheet)</td>
<td>Assessed by an accredited assessor, however evidence is collected by the client / construction team</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>IDEAs (Inspiring Design Excellence and Achievements) (Web based database)</td>
<td>NHS staff and patient representatives (e.g. nurses, matrons, doctors, catering, managers, directors, PPI)</td>
<td>Operation</td>
<td>Legal</td>
<td>1</td>
</tr>
<tr>
<td>PEAT (Patient Environment Action Team) benchmarking tool (Excel Spreadsheet)</td>
<td>DH, Trusts, SHAs, Capital and Healthcare Planners</td>
<td>Strategic</td>
<td>Design</td>
<td>1</td>
</tr>
<tr>
<td>SHAPE (Strategic Health Asset Planning and Evaluation) (Web based data base and GIS map)</td>
<td>DH, Trusts, SHAs, Capital and Healthcare Planners</td>
<td>Design</td>
<td>Strategic</td>
<td>1</td>
</tr>
<tr>
<td>CIAMS (Commissioners Investment &amp; Asset Management Strategy)</td>
<td>DH, Trusts and SHAs</td>
<td>Strategic</td>
<td>Operation</td>
<td>1</td>
</tr>
</tbody>
</table>
Success:
- Embraced evidence-based design
- Standards / standardisation have delivered economies of scale & scope (PFI for example has delivered over 75 projects in the UK)
- Widespread adoption of design quality tools such as ADB, ASPECT / AEDET, BREEAM Healthcare

Gaps:
- Further consideration of infrastructure carbon
- Dynamic / agile / emergent strategic briefing processes (less encumbered by standards)
- Multi-disciplinary / institutional working (across care, estates and transport infrastructure boundaries)
- Improved timely stakeholder consultation, visualisation and control
HaCIRIC Lboro Research Areas

• The whole system impact of the physical environment on healthcare quality, productivity and patient experience:
  — Evidence-based design
  — Stakeholder consultation and design process control
  — Infrastructure planning and reconfiguration
  — Modelling simulation and visualisation
England findings

The shift from complying to standards to locally derived design processes has its own problems; to include the:

- Creation and maintenance of national learning and the benefits of nationally led standardisation
- Control of stakeholder expectations
- Procurement economies of scale
Swedish practice
(decentralisation / local flexibility)
Challenges

• How can we better capture and describe client and user needs in a complex and continually evolving world?

• How can facility planning support change and organizational innovation in healthcare?

• No national standards for health care facilities
  ─ Building code/regulations/legislation apply (H&S, Access, Env’, Work, Energy)
  ─ Local / organisational standards and initiatives
  ─ International Construction Firms and Tools
  ─ County based framework briefs/programs
Sweden

Design Dialogues

A collaborative method for design driven innovation and specification in front-end planning
Sweden

Karolinska University Hospital

New building for operation, imaging and intervention

Design Dialogue with coordinated multiple workshop series
Success:
• a planning process where visions, requirements and spatial solutions can develop in parallel
• new forms of interaction in variable, team-based design processes in which multi-professional teams (patients), client, builders and experts all work together
• a methodology to support large and complex spatial situations while at the same time review, discuss and reinvent how work is done
• earlier stakeholder engagement on master planning

Gaps:
• Stakeholder engagement control and process efficiency (it is big)
• No common or National development plan
• Lack of standardisation and no common baseline standard
Chalmers Research Areas

- The impact of the physical environment on healthcare activities, quality, effectiveness and patient recovery and experience of care as a whole
  - Dynamic briefing
  - Visualisation methods for complex spaces
  - Healthcare processes – healthcare architecture
Sweden findings

The shift from dynamic briefing and large scale consultation to a partly centralised and standardised approach may:

- Stifle innovation
- Reduce stakeholder commitment
- Create inflexible buildings driven by PFI consortium

Sweden findings
Further research discourse

Need to work together to compare:

- Standardisation and process control
- Customisation and stakeholder engagement
- Evidence based design
- Modelling and simulation
- Dynamic building briefing
- Infrastructure planning and efficient reconfiguration
Extended Nordic / UK Network

- IFROSS, Lyon, France
- Karlsruhe University Institute for Technology and Management in Construction, Germany
- Semmelweis University, Department of Health Management, Hungary
- MCI (Management Centre Innsbruck)
- Veneto Region, Italy
- EHMA – European Health Managers Association
- Helsinki University of Technology and its successor organisation
Thank you, any questions?