Reducing violence and aggression in A&E by design

Stephen Platt, William Fawcett, Helen Mulligan, Robin Nicholson and Wen Quek

Reference:

Reducing violence and aggression in A&E by design

The Hospitality Hospital

Cambridge Architectural Research
Edward Cullinan Architects
Stride Design
Audio Analytic
Benedict Phillips
Jerram Falkus Construction
*Flourish/Tsunami Axis

*specialist healthcare furniture providers
Reducing violence and aggression in A&E by design

The Hospitality Hospital

Dr Steve Platt
Dr William Fawcett
Dr Helen Mulligan
    – Cambridge Architectural Research

Robin Nicholson
Wen Quek
    – Edward Cullinan Architects
Reducing violence and aggression in A&E by design

The Hospitality Hospital

1. Our approach
   - William Fawcett

2. The design idea
   - A. Pervasive information
     - William Fawcett
   - B. Meet & greet
     - Wen Quek
   - C. Multiple settings
     - Wen Quek

3. Delivering the proof of concept
   - Steve Platt

4. Why choose us
   - Robin Nicholson
1. Our approach: conditions for violence and aggression in A&E departments

**People**
- Experience of extreme stress

**Place**
- Opportunity to accost staff
1. Our approach: conditions for violence and aggression in A&E departments

- **People**: Experience of extreme stress
- **Place**: Opportunity to accost staff

**Incident!**

Aggression or violence
Defensive design – to reduce or eliminate opportunities

People
- Experience of extreme stress

Place
- Opportunity to accost staff

Aggression or violence

Incident!

Defensive design
Defensive design – to reduce or eliminate opportunities

People

Experience of extreme stress

Opportunity to accost staff

Place

Aggression or violence

Incident!

Defensive design

Responsive design
Defensive design – to reduce or eliminate opportunities

People
Experience of extreme stress

Place
Opportunity to accost staff

Defensive design

Responsive design

eg. Poyner & Fawcett
Preventative design – to reduce or eliminate extreme stress

People
- Experience of extreme stress

Place
- Opportunity to accost staff

Preventative design

Incident!
- Aggression or violence

Defensive design

Responsive design
Preventative design – transforming the user experience

Time-line between accident and treatment
Preventative design – transforming the user experience

Stress level

Accident or emergency

ARRIVE AT A&E UNIT

CALL FOR TREATMENT

A & E WAITING

TREATMENT
Preventative design – transforming the user experience

Stress level

Accident or emergency

ARRIVE AT A&E UNIT

CALL FOR TREATMENT

A & E WAITING

Treatment
Preventative design – transforming the user experience

Stress level

Accident or emergency

Meet & greet

Transform waiting experience

ARRIVE AT A&E UNIT

CALL FOR TREATMENT

A & E W A I T I N G

Treatment

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2. The design idea
– contrast with current experience

‘Imprisonment’ of people waiting

‘Liberation’ of people waiting

– can’t risk missing your place in the queue

Hogarth: Prison scene from *The Rake’s Progress* (1732)
A. Pervasive information

MULTIPLE SETTINGS

MEET & GREET

Treatment
A. Pervasive information

MEET & GREET

Register smartphone or take mobile number

PATIENTS’ DEVICES

MULTIPLE SETTINGS

Treatment
A. Pervasive information

MEET & GREET

Register smartphone or take mobile number

PATIENTS’ DEVICES

free access terminals

two-way messages

A&E IT HUB

MULTIPLE SETTINGS

Treatment
A. Pervasive information

- Register smartphone or take mobile number
- MEET & GREET
- multiple settings
- wait
- free access terminals
- aggression detection
- two-way messages
- patients’ devices
- A&E IT HUB
- treatment
A. Pervasive information

- **MEET & GREET**
  - Register smartphone or take mobile number

- **PATIENTS’ DEVICES**
  - Two-way messages

- **A&E IT HUB**
  - Access terminals
  - Aggression detection

- **MULTIPLE SETTINGS**
  - A good setting could be the patient’s home

- **Treatment**
A. Pervasive information

IT system design sketch by Simon Ruffle of Stride Design –

- Uses current technology
- Upgrade path for future technology
- Communicates with remote sites
- Can link to hospital’s main IT system, including security systems
- Modular elements, site-configurable
- Generates time-series database for management analysis and policymaking
B. Meet & greet – people are stressed and anxious on arrival

Intimidating  
Confusing  
Alienating

Friendly  
Helpful  
Welcoming
B. Meet & greet
B. Meet & greet
B. Meet & greet
B. Meet & greet

From outside - first impression…
B. Meet & greet

Once inside –
A place to wait...
C. Multiple settings – people have control over their environment

Variety of settings

Distractions

- space to watch a silent movie as a distraction
- waiting not on route but overlooking routes
- views out
- waiting
- variety of waiting spaces
C. Multiple settings

spaces & activities

& distractions
3. Delivering the proof of concept

<table>
<thead>
<tr>
<th>Workstages and timescale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tasks</td>
</tr>
<tr>
<td>Resources and responsibilities</td>
</tr>
<tr>
<td>Outputs – the proof of concept</td>
</tr>
</tbody>
</table>
Workstages and timescale

A. Brief and analysis

B. Developing the design

C. Implementation and proof of concept

Dissemination – Design Council showcase exhibition

Roll out

April 2011
May 2011
June 2011
July 2011
August 2011
September 2011
October 2011

4 months

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EDWARD CULLINAN ARCHITECTS
Tasks – A. Brief and Analysis

Project management

• Programme of work, milestones, responsibilities
• Client relationship and communications
• Procedures – record keeping, monitoring, approvals

Pre-design studies

• Visit case study NHS Trust – interviews and observations
• Analyse existing research material (including ethnographic studies)
• Review best practice in IT/communications for A&E
• Feasibility evaluation of design idea with experts
Tasks – B. Developing the design

Design, brand and ‘kit of parts’

- Set ‘holistic’ context (furniture, materials, colour, lighting)
- Develop meet & greet station
- Settings for waiting – variety of spaces and possible ‘distractions’
- Work with staff to manage ‘customer relations’ with patients
- Define communications protocol for meet & greet
- Develop software specification for IT system
- Develop hardware specification for IT system
- Devise prototype meet & greet digital clipboard
- Integrate audio-based aggression detection system
Tasks – C. Implementation and proof of concept

Applications, mock-ups and presentation

• Analyse case study sites and adapt ‘kit of parts’
• Trial working prototype patient communication system
• Create virtual reality simulation of design final concept
• Mock-up of mobile communications and digital clip-board
• Interviews and feedback from staff and patients
• Collect statistics and audio evidence about aggressive incidents
• Presentation material – videos of key elements of final concept, with staff and patient reactions
## Resources and responsibilities

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambridge Architectural Research</td>
<td>project management and client liaison</td>
</tr>
<tr>
<td></td>
<td>user research and feedback, integration, exploitation</td>
</tr>
<tr>
<td>Edward Cullinan Architects</td>
<td>architectural design</td>
</tr>
<tr>
<td>Stride Design</td>
<td>IT/communications system</td>
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<tr>
<td>Audio Analytic</td>
<td>aggression monitoring</td>
</tr>
<tr>
<td>Benedict Phillips</td>
<td>artistic input</td>
</tr>
<tr>
<td>Jerram Falkus Construction</td>
<td>meet &amp; greet station</td>
</tr>
<tr>
<td>Flourish/Tsunami Axis</td>
<td>waiting area – furniture and fittings</td>
</tr>
<tr>
<td>Plus co-design with case study hospitals, involvement of expert advisors, sub-contracting of presentation materials</td>
<td></td>
</tr>
</tbody>
</table>
Outputs – the proof of concept

- visualisation of the integrated design idea
- non-site-specific design guidance
- design studies of guidance applied at two sites
- mock-ups of meet & greet and setting for waiting
- specification of IT system for communication, resource management and security
- mock-up of IT system front end
- promotion pack of presentation material
- business plan for take-up by investors and roll out
4. Why choose us

Our design idea for transforming A&E will deliver:

• personalised patient information from home to home
• meet and greet, friendly reception and informed patient liaison
• freedom from waiting in crowded unpleasant waiting areas
• pleasant, well designed welcoming environment
• security with a smile
• efficient management of A&E resources

Leading to …

Reduced incidence of aggression and violence
Multiple add-on benefits
The **Hospitality** Hospital

There are things we can do and things we can influence to make our environment more conducive to reasonable behaviour. …

A lot of emergency waiting rooms are dark, dingy, no television, nothing to do and you’re sitting there twiddling your thumbs and getting increasingly stressed out.

From my perspective … design can help reduce the incidence of verbal and physical aggression.

Bill Bailey, Clinical Director, Emergency Care, Chesterfield Royal Hospital NHS Foundation Trust – *Design Council video*
Reducing violence and aggression in A&E by design

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Thank you!