

# Inclusive Design in Healthcare

A blurred photograph of a hospital ward. In the foreground, a person in blue scrubs is walking towards the camera, their figure out of focus. In the background, another person in blue scrubs stands near a window with red frames. The ward is filled with hospital beds, medical monitors, and other equipment. The floor is highly reflective, showing the overhead lights and the people in the room. The overall atmosphere is busy and clinical.

Jonathan West  
Reader in Healthcare Design,  
Helen Hamlyn Centre for Design | Royal College of Art

Who we are

Inclusive Design methods

Case studies of Inclusive Design

Context of methods

Conclusions



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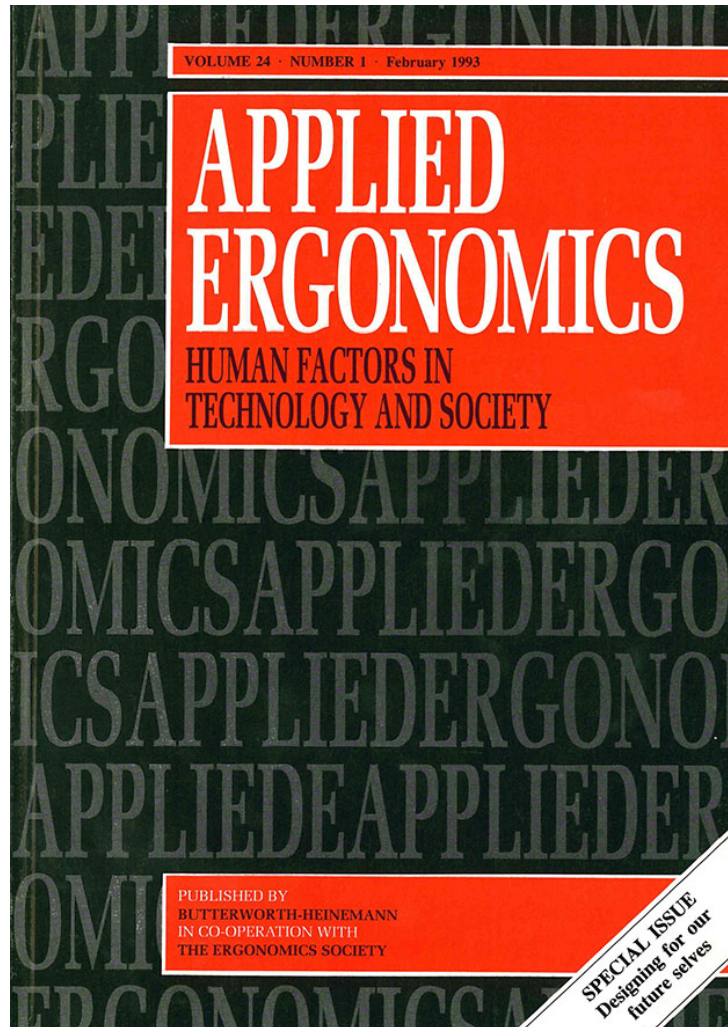
Conclusions

# The Helen Hamlyn Centre for Design





# 25-year History



# Business Driven





# Community Facing





# Public Facing





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**Discover**

**Define**

**Develop**

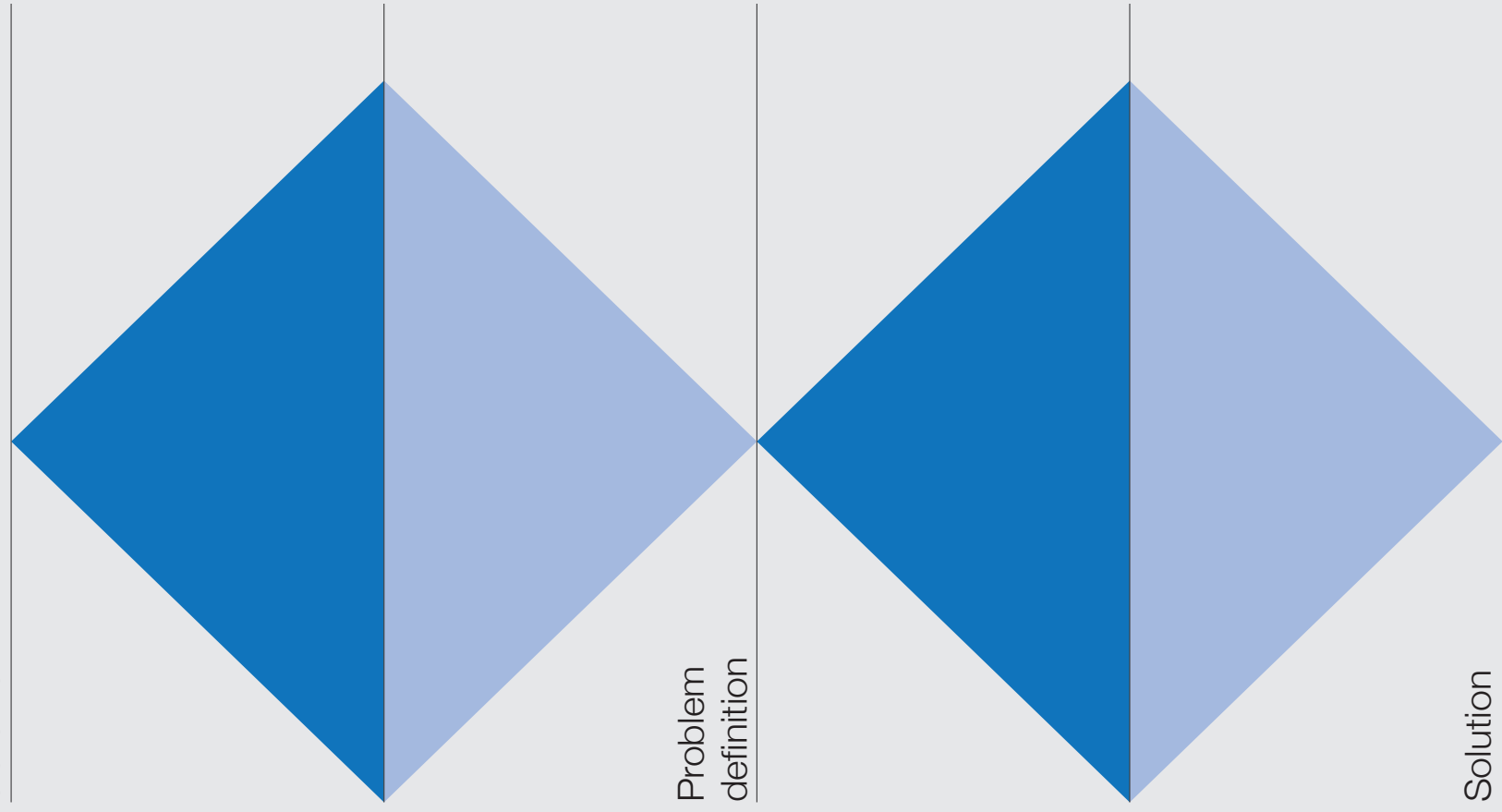
**Deliver**

Problem  
statement

Problem  
definition

Solution

Proposition





**Discover**

**Define**

**Develop**

**Deliver**

Problem  
statement

Problem  
definition

Solution

User  
research

Evidence  
base

Brief

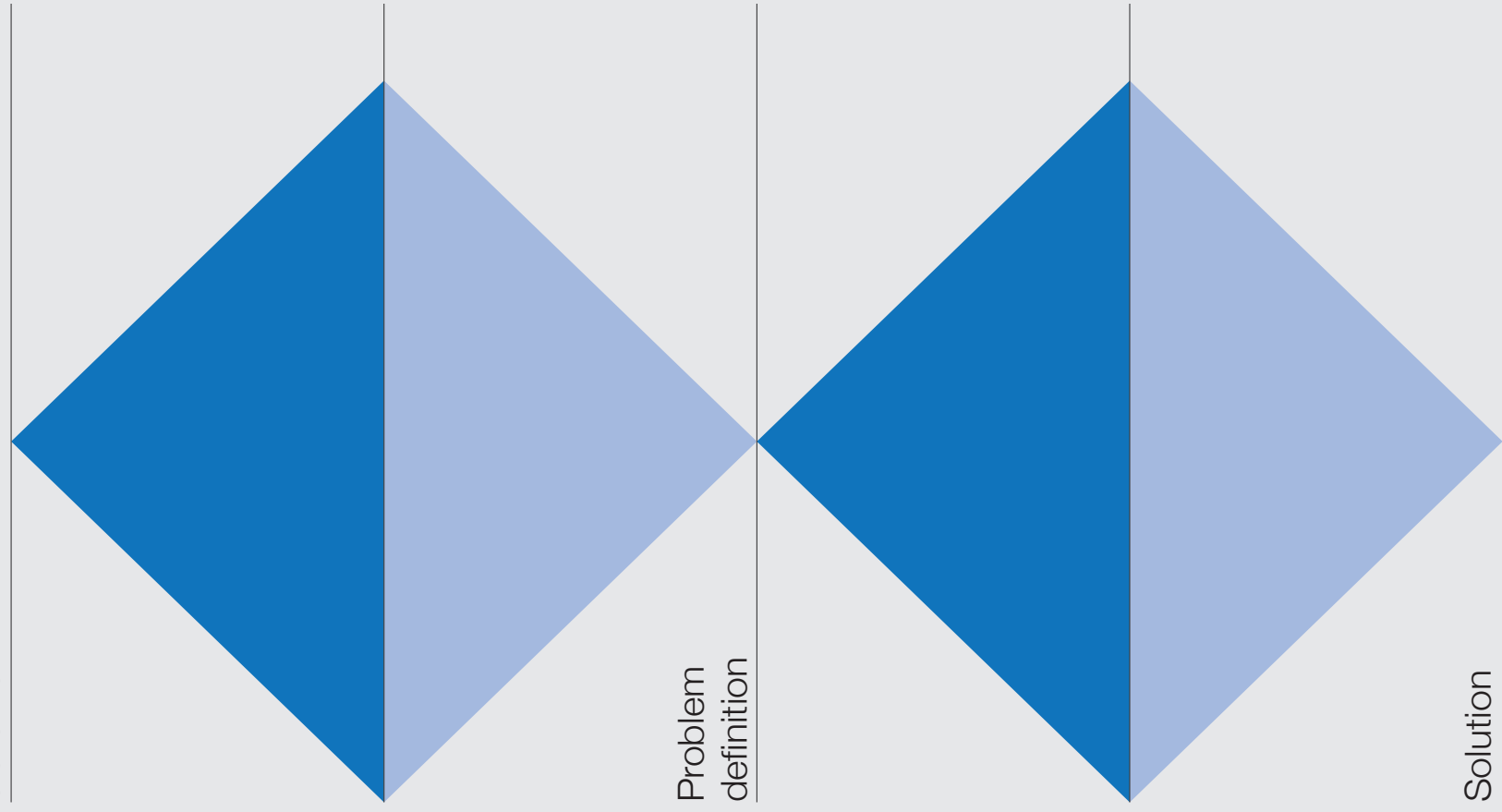
Co-design

Prototype

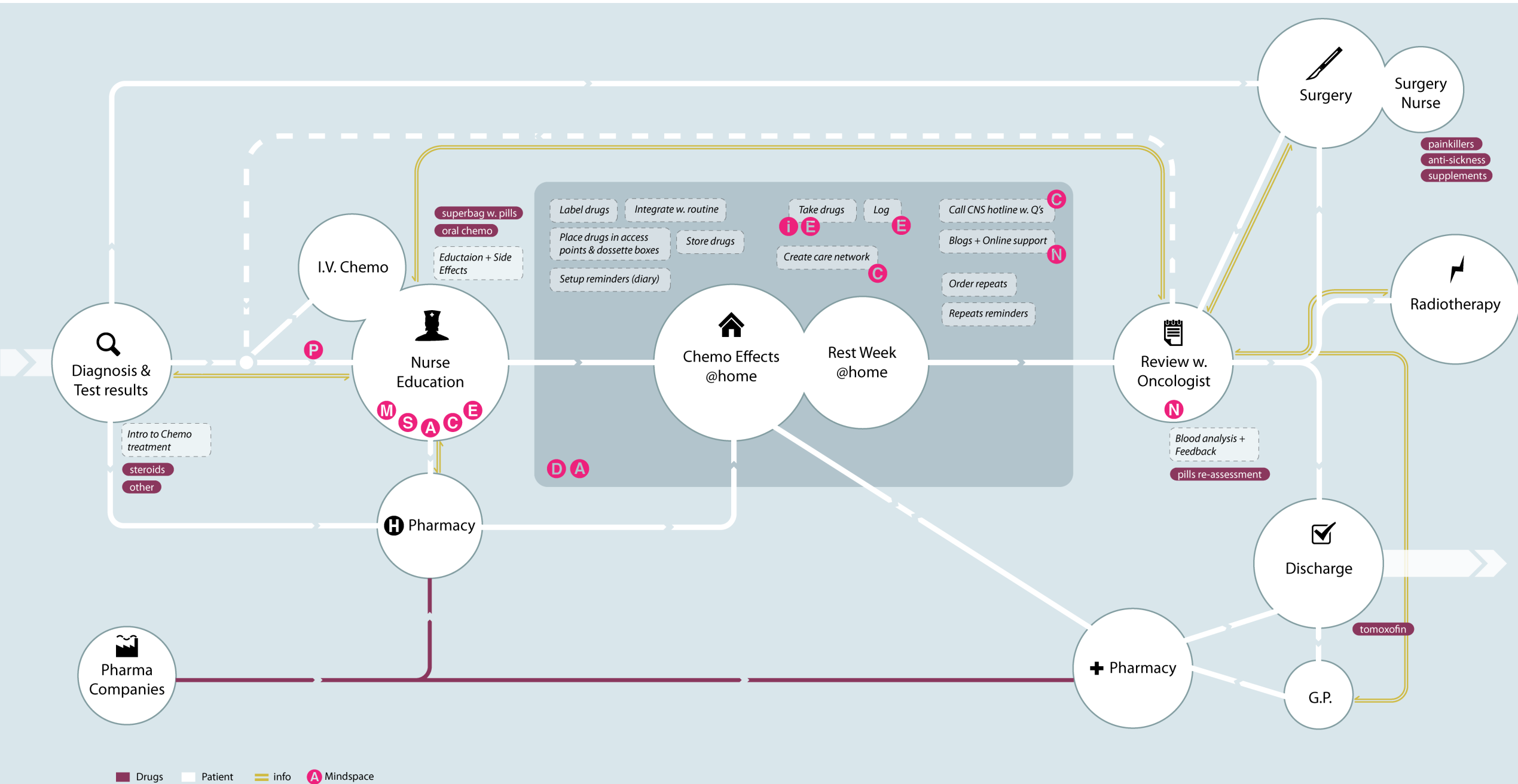
Co-evaluate

Proposition

Feedback



# Stakeholder analysis - front line, economic, regulatory, commercial









**THE ALCOHOL STAR PACK**

Inside these bottles there are a selection of tasks and questions. Feel free to add your contributions, add others and generally have your say. You can't do anything wrong and it is just great to get your thoughts into alcohol dependency in general and Portsmouth's Alcohol Services. Each sheet should take about a cup of tea to complete! Please enjoy the bottles while you do so!

Thank you much for taking part,  
**Stacy Sneyd**  
Alcohol Support @ P.A.D.  
Research Associate

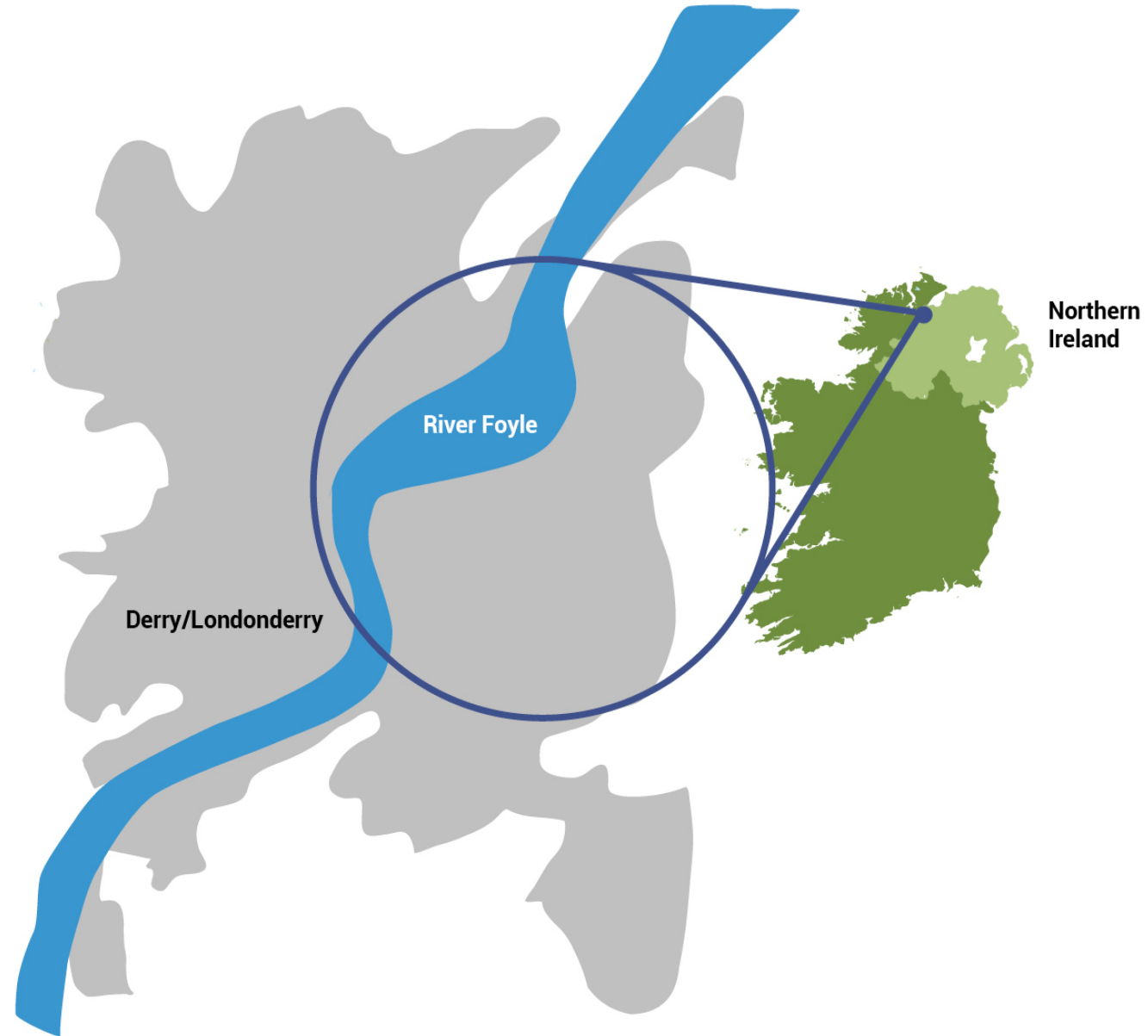
Any questions please email:  
stacy.sneyd@portsmouth.gov.uk

Please write any extra comments or info I should know about on the holder. If you do please include it in the envelope.

**THE ALCOHOL STAR PACK**







River Foyle

Derry/Londonderry

Northern  
Ireland











### Dopey Dick Returns to the River

Dopey Dick has returned to this year's clipper festival come inside and let him know your hopes and aspirations for the riverfront and help us build Our Future Foyle.



Our Future Foyle is a research and design project aimed at empowering the local community to re-define the river and the surrounding banks and bridges. The aim is that through the community's vision of ownership of the river, the area will become associated with wellbeing, community events and public space.

The project is supported by Public Health Agency Northern Ireland, in collaboration with local community, voluntary, public and private sectors, with thanks to:



### THE JERRY WILLS

This is a real historical piece and linking with a rich, local heritage. Jerry Wills is the name of the man who built the sculpture. The sculpture is made of wood and is a tribute to the man who built the sculpture. The sculpture is made of wood and is a tribute to the man who built the sculpture. The sculpture is made of wood and is a tribute to the man who built the sculpture.

By Jim McLaughlin  
www.futurefoyle.org @ourfuturefoyle #ourfuturefoyle





PHOTOGRAPH BY [unreadable]

HOT DOGS BURGERS

Community Counselling

Calvin Richards Hair & Beauty

Animal Refu  
CHARITY SHI

Dope  
Returns to



DOMPERIDONE xmg Tablets  
 Take ONE tablet THREE TIMES a day for FIVE days.  
 Swallow this medicine whole. Do not chew or crush.  
 PHARMACY REF (123456789)  
 01-Mar-2013  
 Keep out of children's sight & reach.

ACICLOVIR xmg Tablets  
 Take ONE tablet TWICE a day until cold sores have gone.  
 Swallow this medicine whole. Do not chew or crush.  
 PHARMACY REF (123456789)  
 01-Mar-2013  
 Keep out of children's sight & reach.

DIOCTYL 100mg Tablets  
 Take TWO tablets ONCE a day with FOOD.  
 Swallow this medicine whole. Do not chew or crush.  
 PHARMACY REF (123456789)  
 01-Apr-2013  
 Keep out of children's sight & reach.

Pharmacy Stamp

Age 68  
 D.o.B 21/02/1940  
 Mrs K. Notreal  
 1 Business Street  
 Widdrington  
 Northumberland  
 NE61 1AB

Please don't reuse over 2gr box  
 Number of days' treatment  
 N.S. Ensure dose is stated  
 Endorsements

PREDNISOLONE xmg  
 tablet(s).  
 TAKE ONE TWICE A DAY FOR TWO DAYS

DOMPERIDONE xmg  
 tablet(s).  
 TAKE ONE 3 TIMES A DAY FOR 5 DAYS

METOLCLOPRAMIDE xmg  
 tablet(s).  
 TAKE ONE 3 TIMES A DAY FOR 5 DAYS

ACICLOVIR xmg  
 tablet(s).  
 TAKE ONE TWICE A DAY FOR 4 DAYS

DIOCTYL 100mg  
 tablet(s).  
 TAKE TWO ONCE A DAY FOR 5 DAYS  
 with FOOD.

Signature of Prescriber  
**B Notreal**

Date 04/02/2009

101010

Dr Brian Notreal  
 Medical Centre  
 NE61 2CD  
 Tele: 0191  
 252 2525  
 EP10590608





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# Design Bugs Out



# The Challenge





# Insights





## Exploration, Shadowing, Observation, Interviews



# Brief Generation



Ground Research, Desk Research, Workshop



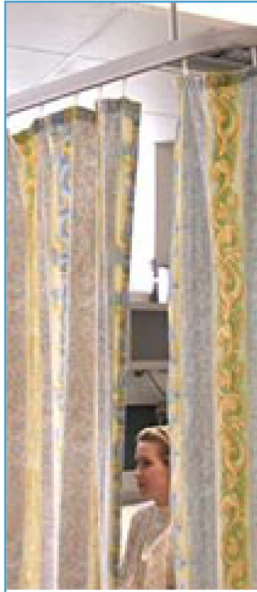
# Our Six Design Briefs



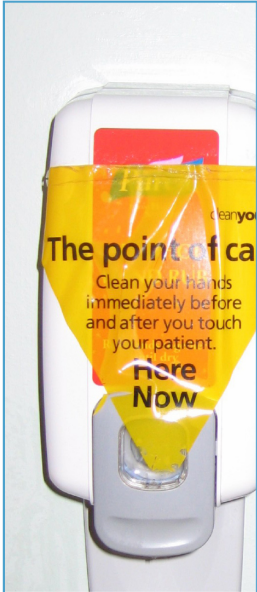
Blood Pressure Cuff



Pulse Oximeter



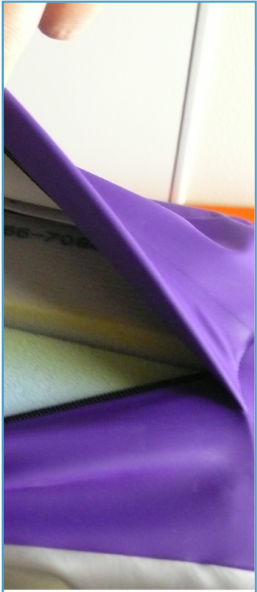
Curtains



Patient Hygiene



Invasive Procedures



Mattress

## Blood Pressure Cuff



Problem

## Blood Pressure Cuff



Problem



Solution



## Invasive Procedures



Problem

# Invasive Procedures



Problem



Solution



# National Showcase and Feedback







# Violence & Aggression **in A&E**



clinical care



©ESRO/Andy Smith 2011

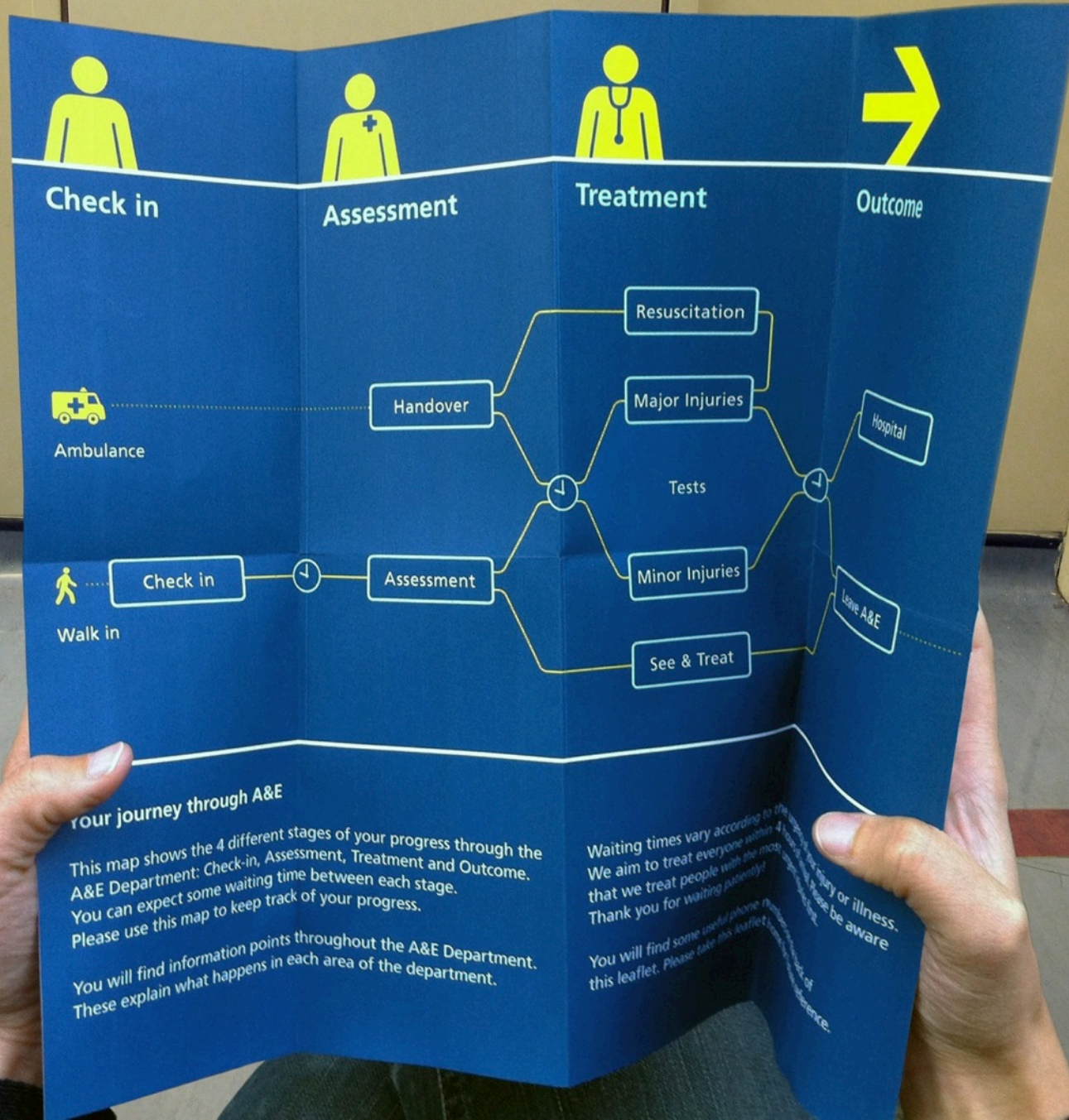
patient needs











### Your journey through A&E

This map shows the 4 different stages of your progress through the A&E Department: Check-in, Assessment, Treatment and Outcome. You can expect some waiting time between each stage. Please use this map to keep track of your progress.

You will find information points throughout the A&E Department. These explain what happens in each area of the department.

Waiting times vary according to the number of people waiting. We aim to treat everyone within 4 hours of arrival. Please be aware that we treat people with the most serious injuries or illness. Thank you for waiting patiently.

You will find some useful phone numbers on the back of this leaflet. Please take this leaflet with you for your reference.







**88%**  
of patients felt  
the Guidance  
project clarified  
the A&E process.

**75%**  
of patients said the  
improved signage  
reduced their frustration  
during waiting times.

**↓ 50%**  
Threatening body language  
and aggressive behaviour fell  
by 50% post-implementation.

**3:1**

For every £1 spent on the  
design solutions, £3 was  
generated in benefits.



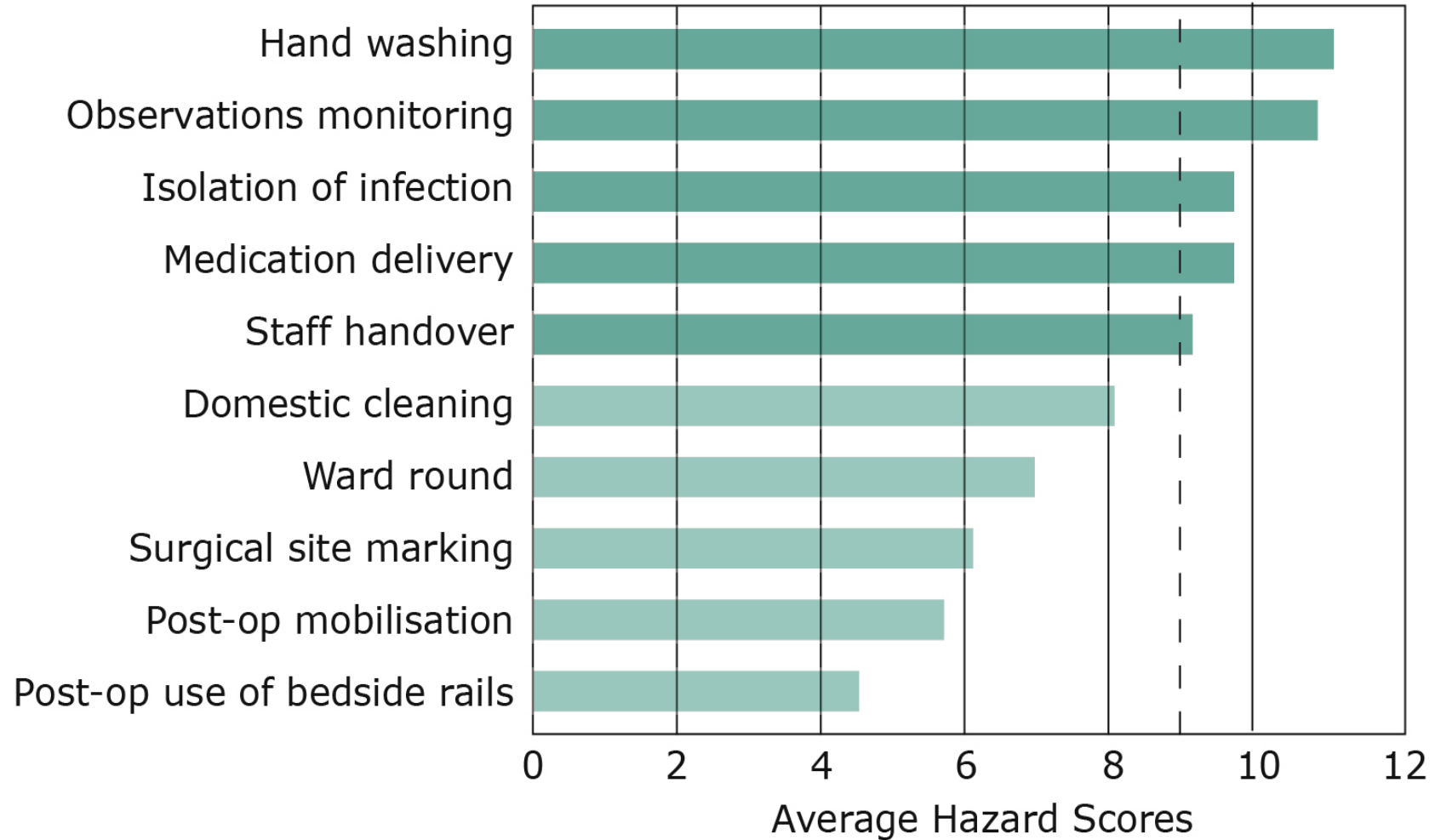
Patients' complaints relating to  
information and communication fell  
dramatically post-implementation.



Designing Out Medical Error



# HAZARD SCORES





PLEASE REPLY  
Bed 21 →

Day Case Unit

21







## Clinical trial

Hand hygiene compliance increase **x3**

Correct use of gloves increase **x3**

Correct use of aprons was **67%** with the CareCentre and **0%** without

CareCentre implementation will help reduce healthcare associated infections.







Bristol Maid   
Hospital Metalcraft Limited

**Flomark™**  
THE DRIP REDESIGNED







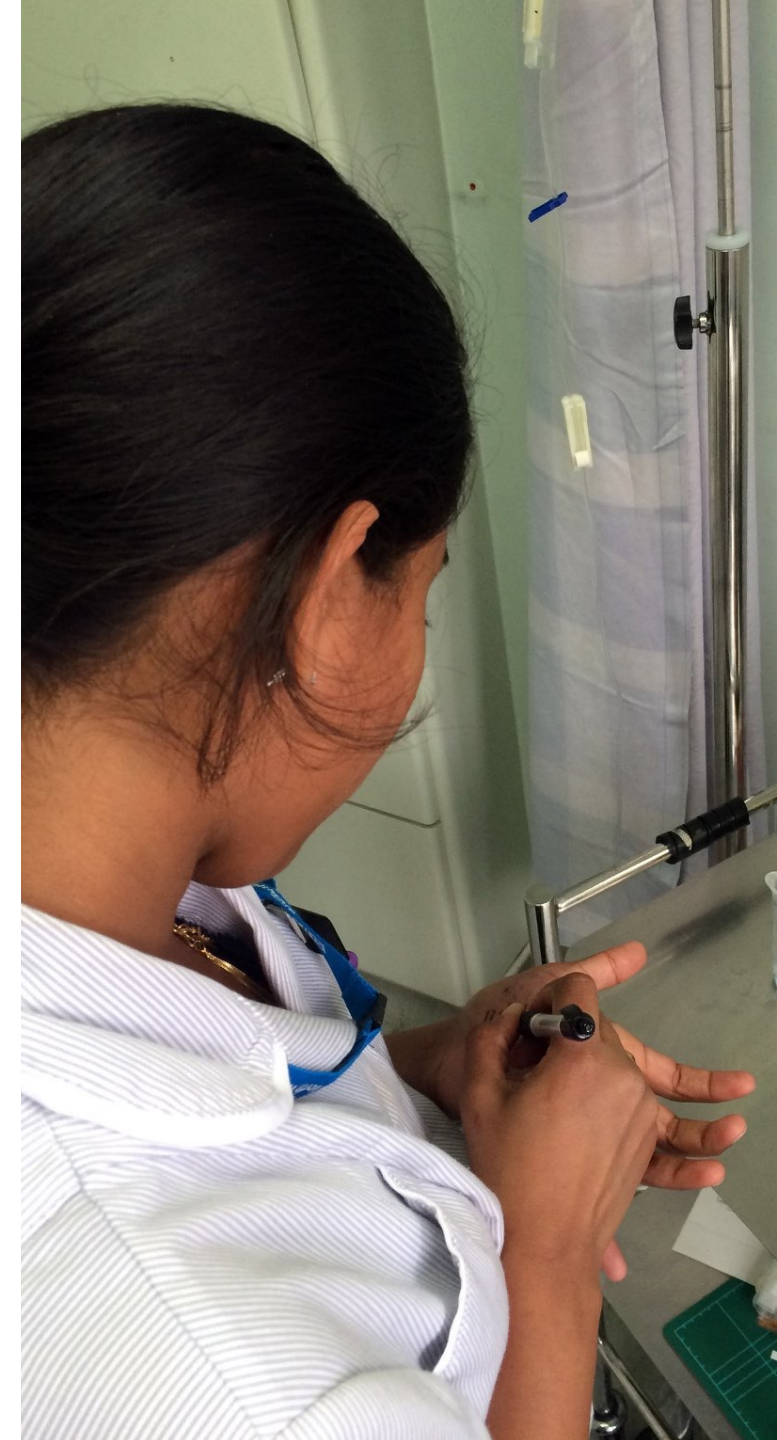


Approximately wastage of US\$ 3.98 per patient per 24-hours infused.<sup>1</sup>

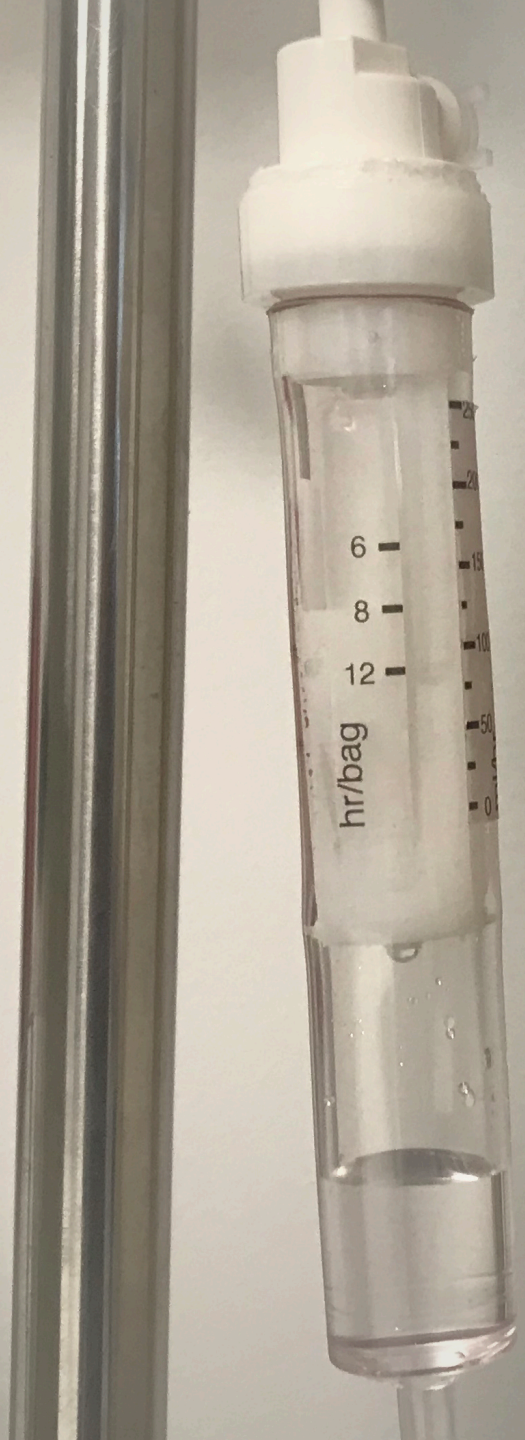
Staff time wasted on calculations & inefficiencies

Extended patient stay

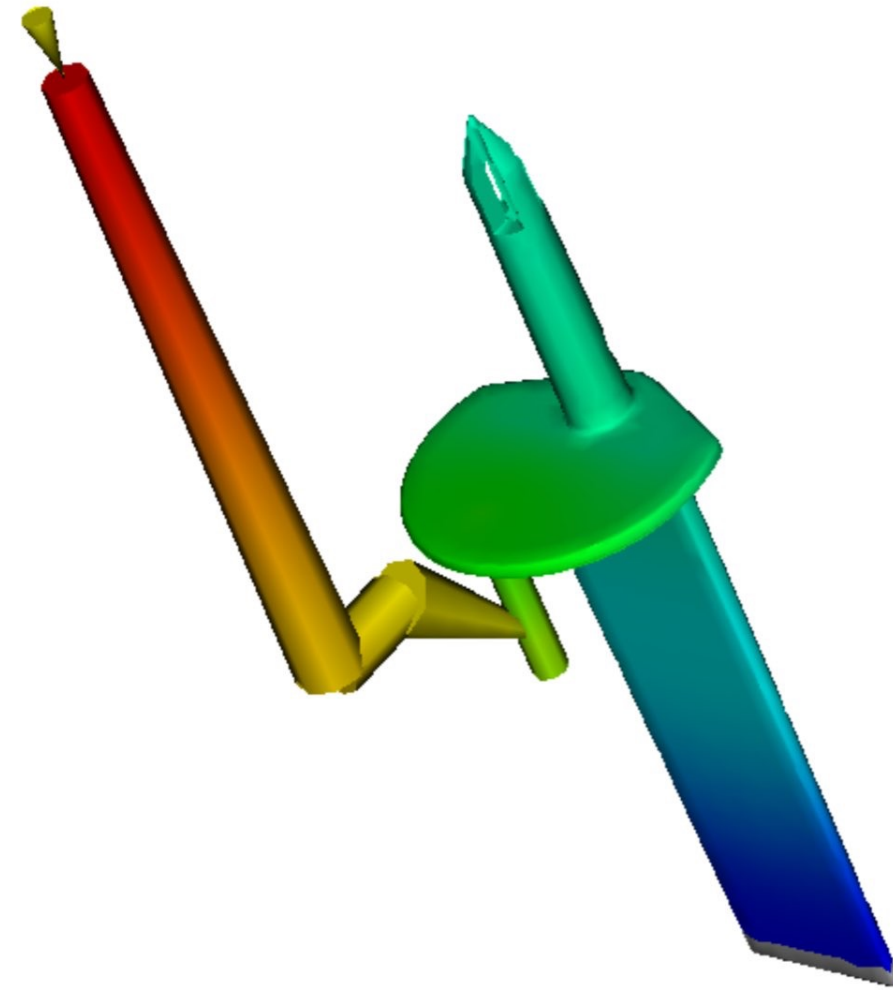
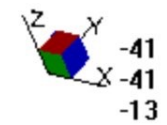
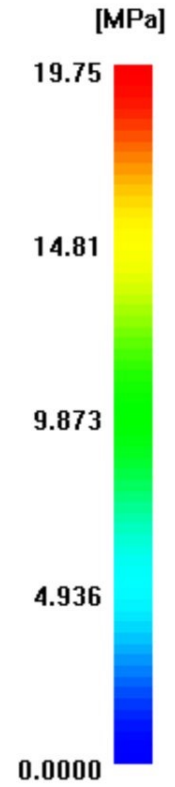
1. [http://www.varori.co.za/infusion\\_problem.htm](http://www.varori.co.za/infusion_problem.htm)







速度/压力切换时的压力  
= 19.75[MPa]



缩放 (50 mm)

Design for manufacture

Trials

Regulatory

Licensing

Links with procurement



gameChange  
Improving lives through VR therapy







**6** SCENARIOS

**5** LEVELS

**30** MINUTE TREATMENT

VIRTUAL COACH

Allows people to evaluate their expectations and learn that they are 'safe enough' in everyday situations







Design workshops around the UK

Smaller weekly workshops

Meetings with developers

Internal workshops

Building prototypes

## Therapist House



## Café Scenario





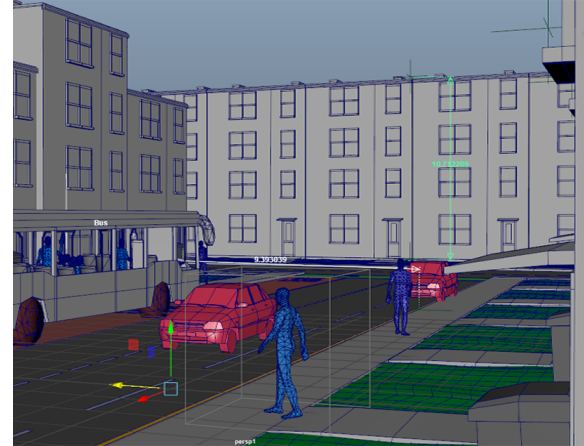
# PROTOTYPE DEVELOPMENT

## LEVEL DESIGN

-Creating friendly and stress relief spaces

## REALISTIC DIMENSIONS

-Getting the right measurements for each level



# THERAPIST PRESENTATION

## FLOATING TABLET

-Therapist being placed as a video



## FULL BODY FORM

-Therapist standing in front of the user





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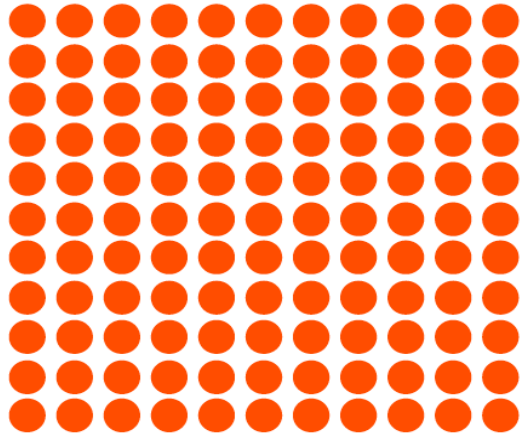
Conclusions

Subjects

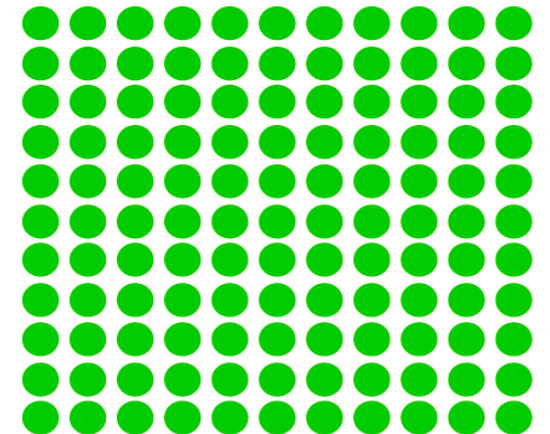
Truth

Inspiration

Traditional  
Market  
Research



Empathic  
Research



Derived from presentaton by Martin Bontoft (IDEO)



**Discover**

**Define**

**Develop**

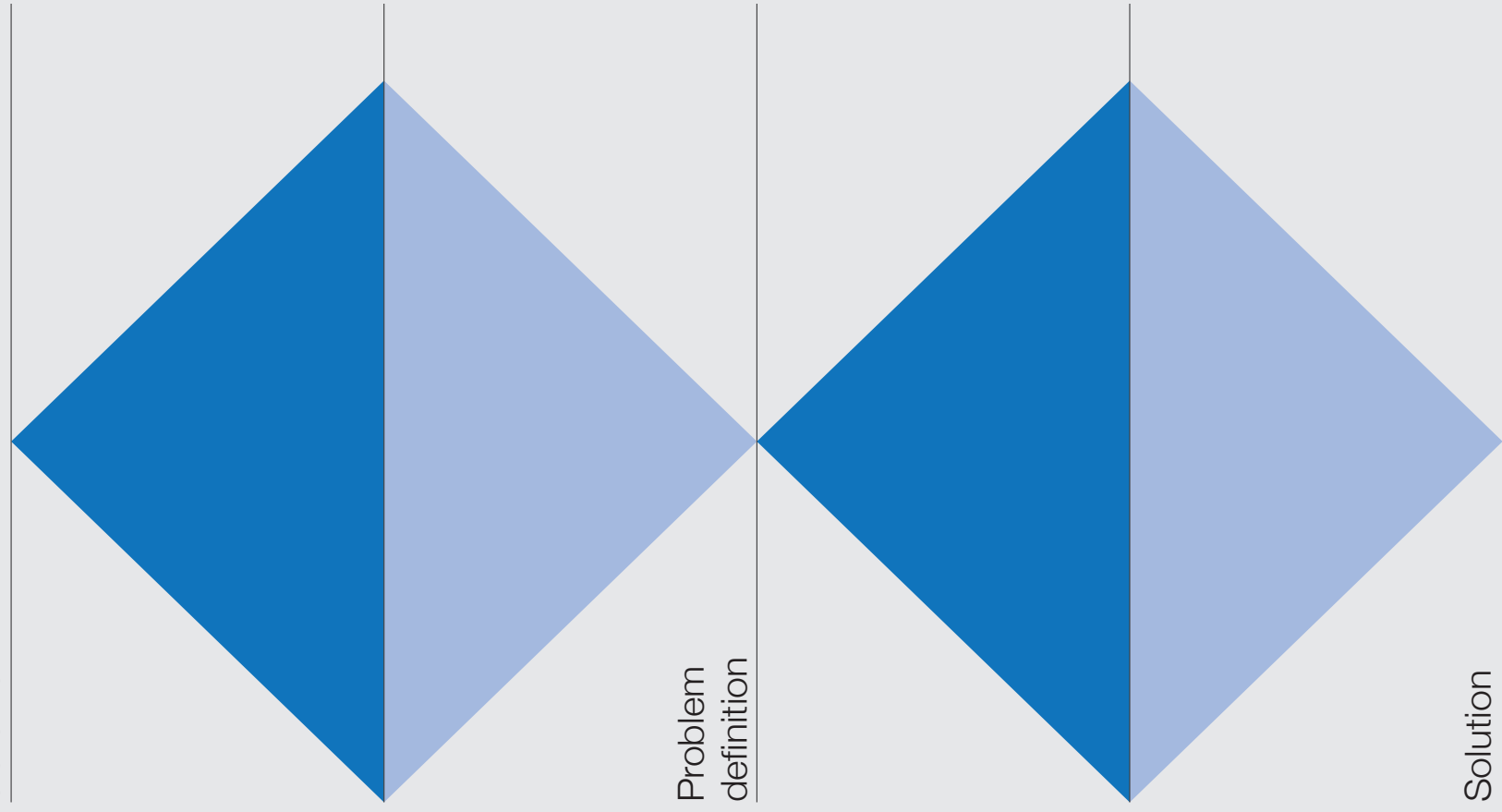
**Deliver**

Problem  
statement

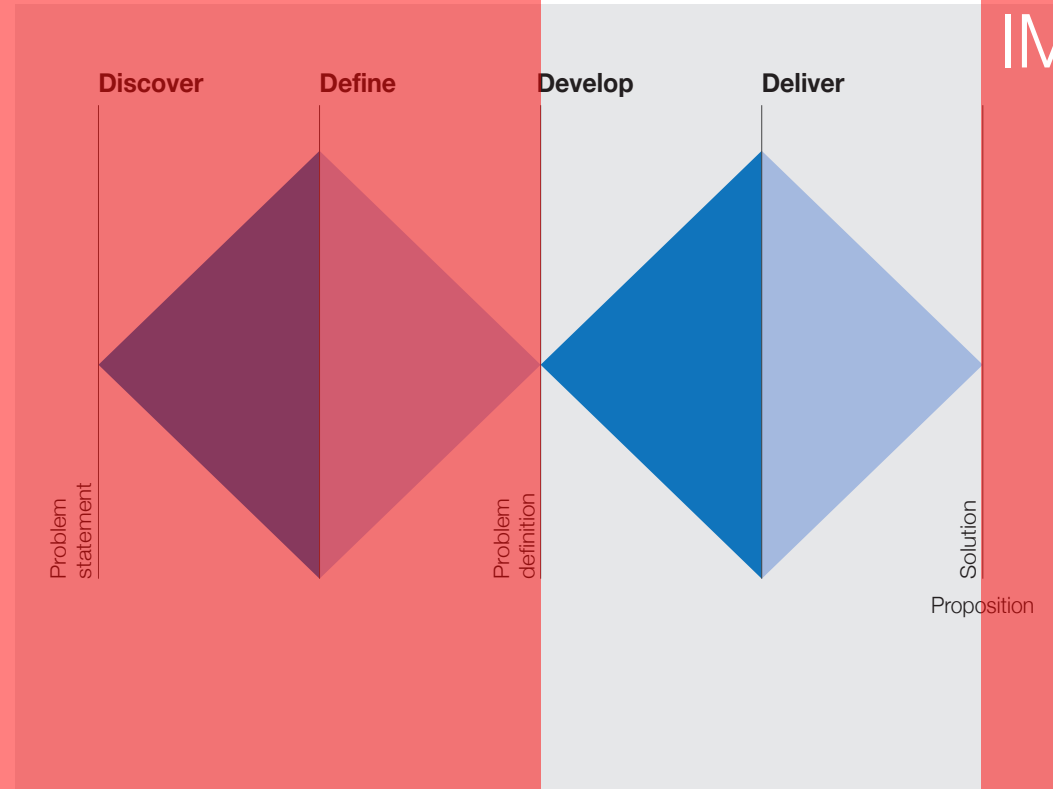
Problem  
definition

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# SCIENTIFIC METHOD – NEEDS GATHERING



# SCIENTIFIC METHOD – TRIAL & IMPLEMENTATION



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A blurred photograph of a hospital ward. In the foreground, a person in blue scrubs is walking towards the camera, their figure out of focus. The background shows several hospital beds with white and blue frames, some with patients. Medical equipment like monitors and IV stands are visible. A man in a white lab coat stands near a window in the middle ground. The room has light blue walls, a clock on the wall, and large windows with red frames. The floor is shiny and reflects the overhead lights.

Design research is bespoke

Insights into human element

Different design disciplines, collaborations and outputs

In parallel with scientific method



# Thank you



**Jonathan West**

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Royal College of Art

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@HHCDesign