REDUCING VIOLENCE AND AGGRESSION IN A&E

THROUGH A BETTER EXPERIENCE

Design Council

CABE

Working in partnership with the Department of Health

DH Department of Health

The word hospital comes from the Latin hospes, signifying a stranger or foreigner, hence a guest. Another noun derived from this, hospitium, came to signify hospitality, that is, the relation between guest and shelterer, friendliness, hospitable reception.

Contents

Executive summary

Background

NHS hospital staff in the UK experience more than 150 incidents of violence and aggression every day. This problem is particularly prevalent in high pressure areas, with a fifth of all incidents taking place in Acute Trusts, which include Accident and Emergency (A&E) departments.

The estimated cost of violence and aggression to the NHS exceeds £69m annually, but this figure does not tell the whole story. Violent and aggressive behaviour affects staff, patients and other service users in a number of different ways. As well as decreasing job satisfaction and patient experience, it can also mask a number of additional costs. These include, for example, the lost investment in training staff who decide to leave, and the specialist security guards now employed by some hospitals to deter and deal with violence and aggression.

Working in partnership with the Department of Health, the Design Council has run a UK-wide open innovation competition aimed at tackling this issue. The challenge for designers was to identify and develop ways that design can help to reduce violence and aggression towards NHS staff in A&E departments.

Our specific goals for the programme were to:

— Support NHS staff and organisations in reducing the incidence of violence and aggression towards staff within their communities

— Directly or indirectly reduce incidents of violence and aggression in A&E and in doing so reduce associated litigation costs experienced by the NHS to compensate claimants (staff, patients and visitors) via clinical negligence and/or personal accident benefits

— Deliver tangible cost savings, reducing the actual and associated costs of violence and aggression incurred by the NHS

— Help bolster staff confidence and satisfaction by making real and perceived improvements to healthcare environments and facilities

— Help deliver improved patient care through calmer environments

— Generate awareness and support a culture change among NHS staff and patients, focusing on mutual trust and respect

— Accelerate the identification and adoption of innovative design in NHS A&E departments.

Design essentials

It was crucial for the design team's solutions to be:

– Easily implementable

– Non-Trust specific

– Retrofittable

– Flexible

– Affordable

– Effective

Approach

The Design Council and Department of Health recognised that it was essential for the commissioned design team to develop, prototype and test solutions in operational A&E departments.

We partnered with three NHS Trusts, which are broadly representative of A&E departments across the country: **Chesterfield Royal Hospital NHS Foundation Trust**, **Guy's and St Thomas' NHS Foundation Trust** and **University Hospital Southampton NHS Foundation Trust**. As well as providing valuable sites for research, the Trusts worked closely with the winning design team to co-design solutions to the problem of violence and aggression and act as test-beds for the emerging design solutions.

The first step in any good design project is to research the problem. The Design Council first produced an in-depth desk research report, which examined existing reports on recent violent and aggressive incidents in UK A&E departments – and previous attempts to control and reduce this type of behaviour in the health service, as well as in other public-facing services.

We then commissioned two ethnographic research companies to spend more than 300 hours in our partner NHS Trusts' A&E departments, looking at how they worked from a user's perspective. This research led to the identification of six 'perpetrator characteristics' pertaining to individuals who commit acts of aggression or violence and nine sets of 'triggers' of violence and aggression.

Perpetrator characteristics

1 Clinically confused

2 Frustrated

3 Intoxicated

4 Anti-social/angry

5 Distressed/frightened

6 Socially isolated

See 'Chapter 3: The design challenge' for more information on these perpetrator characteristics.

Source: *Understanding Violence and Aggression in Accident and Emergency Departments* © ESRO 2011

The *Reducing violence and aggression in A&E* Design challenge process

Exploring the issues
Putting people first

To understand how frontline staff and patients experience violence and aggression in A&E, and what leads to such behaviour, ethnographic researchers spent time interviewing and observing people using A&E. *Read more about the characteristics of perpetrators of violence and aggression on page 46 and about triggers of violence and aggression on page 49*

By working with experts including managers and staff at three NHS Trusts, emergency care specialists and organisational consultants, researchers developed a clear picture of issues faced by frontline staff.
Read more on page 36

Defining the problem
Establishing the project agenda

Evidence on violence and aggression in A&E was analysed alongside insights generated from ethnographic research. A set of priority objectives, intended results and a picture of how designers could help deliver solutions was established.
Read more on page 45

Setting the design challenge

A set of design briefs were created which asked multi-disciplinary teams to design new systems, services, products, communications, buildings or experiences and deliver results.
Read more on page 30
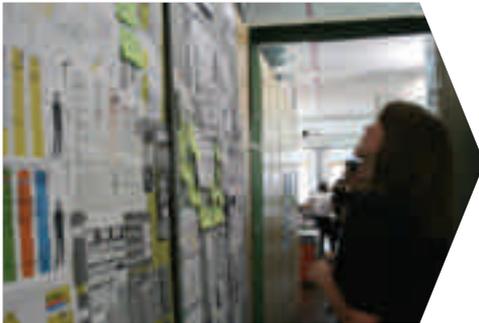
Developing ideas
Collaborating with experts

A team of designers working with researchers, specialists in organisational dynamics and clinicians generated ideas for new communication systems, staff services and secure spaces.
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The design team created computer models, mock-ups and initial prototypes to test their ideas in real A&E departments and get feedback from staff and patients.
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Feedback on initial prototypes helped the design team develop their concepts further and begin to establish criteria for evaluating the success of their final solutions.
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Delivering solutions
Tailoring concepts to suit different contexts

A toolkit has been developed to allow NHS managers across the country to iterate and refine the new solutions to meet the needs of their specific situations.
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An evaluation framework has been established to monitor how staff, patients and visitors to A&E interact with new design solutions, how they affect their experience of A&E and how levels of violence and aggression are affected. It has been developed alongside the design concepts to support their adoption.
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Future opportunities

Showcasing prototypes and visualisations developed at events, seminars and online has disseminated information on how a multi-disciplinary design process can be used to tackle big problems. It is hoped this will enable other NHS Trusts to adopt the solutions and also pursue their own design projects to develop innovative new experiences for staff and patients.
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Triggers of violence and aggression

Clash of people:

Many areas in A&E departments are crowded with a range of different people, forced together by difficult circumstances – each undergoing their own stress and dealing with their own complex mix of clinical and non-clinical needs.

Lack of progression:

Whilst all Trusts aim to treat 95 per cent of patients within four hours, waiting for any length of time can be a difficult experience. There are few situations in our lives when we are forced to wait for such lengths of time without any sense of progression.

Inhospitable environments:

Many people describe a dislike of hospitals, not least because they are full of sick people. Beyond the patients, hospitals can be uncomfortable places which are not pleasant to spend time in.

Dehumanising environments:

When arriving at A&E people can feel 'out of sorts' for a large number of reasons. Sometimes the way patients are managed can further lead to a loss of perspective.

Intense emotions:

A&E is a place where people may be experiencing extreme life events, suffering with pain or stress, or having to witness how other people are coping (or not) with their own stressful experiences.

Unsafe environments:

A&E is typically a very busy environment, with considerable amounts of equipment and large numbers of people using the space. Sometimes these factors can help to trigger or worsen violence and aggression.

Perceived inefficiency:

From a patient's perspective it can sometimes feel as if staff in A&E environments are disorganised and lacking focus. Patients observe themselves and others seemingly waiting for hours, while staff 'busy themselves' with perceived non-essential tasks.

Inconsistent response:

Hospital environments are often tightly controlled by policies, guidance, rules and regulations, much of which is difficult to decipher, inconsistently applied, and can be contrary to what happens in practice.

Staff fatigue:

Working in an A&E department is highly demanding on staff, many of whom work 12-hour shifts. Over time, staff can become both physically and emotionally tired, struggling to find the energy to deal with the constant flow of patients.

See 'Chapter 3: The design challenge' for more information on these triggers of violence and aggression.

Source: *Understanding Violence and Aggression in Accident and Emergency Departments*
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The design briefs

Based on the research to date, we then issued six briefs to the UK design community via a national design challenge:

1 User-centred process
Redesign the A&E process so that it better meets the needs of patients and other service users from start to finish.

2 Versatile spaces
Consider how spaces in A&E can be made more versatile and better able to deal with diverse client groups and unpredictable workloads.

3 A good wait
Improve the waiting experience for patients and other service users to ensure that both clinical and non-clinical needs are better met.

4 Perceptions of A&E
Identify ways to use communication and design to reinforce positive behaviour and avoid aggression and violence.

5 Making safe
Consider how design could be used to minimise both perceived and actual vulnerability and risk throughout the A&E environment for staff, patients and other service users.

6 Place and process clarity
Identify ways to make A&E processes and patient pathways more transparent and easier to understand.

The design challenge asked applicants to find innovative ways to reduce violence and aggression in A&E. Their responses could include new systems, processes, interior layouts, furniture, equipment, communications and/or services.

The team

The winning design team was a UK-based multidisciplinary consortium, comprising some of the country's most respected designers, researchers, evaluation consultants, senior clinicians and social scientists. They were awarded a modest R&D grant to develop practical, cost-effective solutions which could be easily retrofitted into existing NHS A&E departments.

Over a four-month period, the design team were supported by an independent Advisory Board, made up of senior stakeholders in health, industry and education, convened by the Design Council to offer the design team strategic guidance. Crucially, the design team worked closely with the three partner NHS Trusts to research, develop and refine their concepts.

Philosophy

After familiarising themselves with the research and conducting their own fieldwork within the partner NHS Trusts, the design team were able to better understand the reasons for violence and aggression in A&E, and could begin to develop their solutions. The following key statements, distilled from their various research and fieldwork, outlines the overriding philosophy behind the design team's eventual outcomes:

1 This project is about people and requires a human approach to designing the A&E experience.

2 Improving people's experience of the service – individually and collectively – will help to improve their behaviour.

3 The current system tries to contain the high level aggression and violence, rather than tackling the root causes and low level frustrations.

4 Violence and aggression doesn't only come from patients, but also concerned friends or relatives. At present, very little is done to address their needs.

5 The solutions need to be retrofittable in every A&E across the country, regardless of department size, design or layout.

6 The goal is to create a 'humanising' atmosphere by improving the relationships between people and the system.

7 The first step is to acknowledge that people attending A&E are in physical and emotional pain. The second step is to manage people's expectations of the service. The third step is to make sure that they understand the system they have entered into.

Outcomes

This overarching philosophy led the design team to take a holistic approach to tackling the issue of violence and aggression in A&E. After reviewing the six national design challenge briefs, they distilled the challenge into four overarching themes:

The arrival experience: creating positive first impressions and managing expectations for patients and other service users

The waiting experience: how to intervene before frustrations accumulate

Guidance: providing information to patients and other service users to alleviate the stress of the unknown

People: building a healthy mutual relationship between the user and the system

These themes formed the basis of the team's three separate design solutions:

1 Guidance

Improving patient experience through better communication and guidance

Proposed solution: A modular information and communication system to provide a more humane and informed experience for patients and other service users.

In summary: This output provides a comprehensive package of information about the department, waiting times and treatment processes in order to empower patients and reduce anxiety levels. It includes on-site environmental signage, patient leaflets, digital platforms and touch screen applications. Implemented throughout the department, it ensures that a consistent level of information is delivered to patients and service users, however they arrive in A&E.

2 People

Better supporting NHS frontline staff to manage and learn from incidents of violence and aggression

Proposed solution: A staff-centred programme to help staff overcome work fatigue and restore their sense of compassion, enabling better interactions with patients and other service users.

In summary: This solution provides a way for staff to recover from the stresses of the workplace through reflective practice, aided by learning and development tools. The first element is a practical, people-centred training programme, which promotes staff engagement and aims to boost morale and reduce staff sickness/absence. The second is an induction pack which helps new staff to understand the dynamics of an A&E department and supports their interface with potentially aggressive and violent patients.

3 Toolkit

Informing and inspiring A&E commissioners and decision-makers in the NHS

Proposed solution: A design toolkit, which offers concise design-led recommendations to help improve patient experience and reduce violence and aggression.

In summary: This toolkit will provide a full spectrum of design recommendations that can be implemented to help combat the causes of violence and aggression in A&E departments. Examples include environmental design recommendations to areas such as reception, triage, minors, majors, cubicles, etc. This will be available as an online resource and will inform decision-makers as to how the designs of various elements can positively impact the reduction of violence and aggression.

Targets — CONFLICT? — promises — REactive

Aggressive Patient Personas — Trigger Clusters

ACKNOWLEDGE ANXIETY EMPATHY — CARE — HONESTY

promises

DIGNITY PRIVACY — TOP LEVEL SERVICE

IMPLEMENTING PROCESS.

FACTS — UNPREDICTA...

NEVER THE SAME

PRE LOADED AGRESSION

Welcome to the A&E Department. Take a ticket to speak to the receptionist

Arrival — Check-in

The receptionist will take your... and book you into the system

I KNOW WHAT... — IN THE SYSTEM

perceptions

What next

It is intended that one or more of the project's partner NHS Trusts will implement the design solutions to allow their impact upon violence and aggression to be fully evaluated, thus demonstrating a return on investment, both financial and experiential. Our ambition is ultimately for the solutions to be more widely disseminated and adopted across the NHS.

Once the results of the evaluation are available, the Design Council and Department of Health aim to share them with key stakeholders, including those who work in A&E and commission change in NHS Trusts. We hope that this will form a considerable evidence base which will directly assist in the dissemination and adoption of the designs across the NHS.

We have also produced an online resource to act as a quick reference guide for those who work in, commission, design, or are simply interested in learning more about the design of A&E departments. As outlined in Chapter 8, this online toolkit offers key design considerations when refurbishing or rebuilding A&E departments. We anticipate that this toolkit will continue to be a dynamic, living resource which can be updated as the development, implementation and evaluation of the design solutions and recommendations progress.

1 About this project

This publication

Reducing violence and aggression in A&E is an innovative partnership between the Department of Health and the Design Council. Through this publication, we hope to influence policy makers and inspire NHS stakeholders to understand the effectiveness of a design-led approach to tackle costly and complex problems within their healthcare settings.

The publication is targeted at NHS managers, directors, chief executives and senior clinicians, nurses, and A&E matrons.

The project materials and initiatives will tell the story of a project based on innovation and collaborative design – a story that, we hope, will inspire new ways of thinking.

The outlined approach, development and delivery of this project will provide policy makers and NHS stakeholders with the tools to engage in similar projects within their own departments. We hope this will demonstrate the innovative effectiveness of a design-led approach to solving problematic issues.

The issue of violence and aggression

Violence and aggression presents a serious problem for the NHS. Every year, more than 55,000 physical assaults (155 per day) are reported against NHS staff across the UK.[1] More than 20 per cent of these occur in hospitals managed by Acute Trusts, which include A&E departments and employ a large part of the total NHS workforce.[2]

The precise level of physical and verbal assaults is even higher than these figures, however. Research conducted by Ipsos MORI for the NHS Counter Fraud and Security Management Service (now NHS Protect) shows that two-thirds of staff who are physically abused do not typically report the attacks, while just over half do not report incidents of verbal abuse.[3] This suggests that many NHS staff believe that violence and abuse are simply occupational hazards and forms part of their working day.[4]

There is a lack of official data about levels of violence specifically within A&E departments, but it is clear that verbal abuse within A&E departments occurs frequently. Physical violence is less prevalent, but it is still relatively frequent with the average A&E department experiencing incidents on a regular basis. Violence and aggression is particularly prevalent in A&E because they are especially complex, high-pressured and unpredictable departments. It is common to hear staff say that "no day in A&E is ever the same".

Incidents of violence and aggression have significant financial implications. The estimated cost to the NHS of healthcare-related violence exceeds £69 million annually, equivalent to the salaries of 4,500 nurses.[6] (These figures don't take into account a £33,000 loss in training costs for each nurse who leaves the service.)[7]

Violence and aggression in numbers

13,219
Annual reported physical assaults in Acute Trusts. [5]

50%
of A&E staff who do not report verbal abuse.

4,500
Nurses' salaries – the equivalent cost of healthcare-related violence.

£33,000
lost in training costs for each nurse who leaves the service.

£69m
The annual cost to the NHS of workplace related violence.

Major Treatment Area

Furthermore, hospitals in some of Britain's biggest cities currently spend tens of thousands of pounds on high level security in A&E departments at weekends – with security staff employed to prevent violence towards doctors, nurses and other staff.[8]

However, the cost of violence and protective measures is not just a financial issue. Staff suffer both physically and psychologically. Staff recovery time also results in a greater strain on existing resources in A&E departments. Staff morale, retention and productivity are all affected adversely.

The NHS Constitution pledges a safe working environment for the NHS workforce, but it is clear that solutions are needed to help make this a reality for frontline staff. One innovative approach to achieving this goal is to design products, spaces and systems in A&E environments to minimise incidents of aggression and violence.

Defining violence and aggression

Violence

The NHS distinguishes between physical and non-physical violence. Physical violence was first defined by NHS Protect as "the intentional application of force to the person of another, without lawful justification, resulting in physical injury or personal discomfort".[9] Non-physical violence is "the use of inappropriate words or behaviour causing distress and/or constituting harassment".[10]

In the *Social Psychology of Violence and Aggression*, Geen (1995) takes a broader view of violence, describing it as "the infliction of intense force upon persons or property for the purposes of destruction, punishment or control".

Aggression

A commonly used definition of aggressive behaviour in a healthcare context is that of Baron and Richardson (1994): "Any form of behaviour directed toward the goal of harming or injuring another living being who is motivated to avoid such treatment."

There are a number of common characteristics in "violent and aggressive" acts:

– An interaction which occurs between one or more people
– The use of force against property or person
– The involvement of either verbal and/or physical components
– The possibility of both long- and short-term physical or emotional consequences.

Scale of violence and aggression

Increasing severity

Extreme physical violence resulting in serious injury

Physical violence resulting in minor injury

Physical contact or damage to property

Significant verbal hostility, profanity

Moderate verbal hostility, inappropriate language

Why we are working together

"The Department of Health recognises that good design in the development stage of a product or service improves its chances of success"

The Government, and specifically the Department of Health, is committed to reducing violence and aggression against NHS staff. Prime Minister David Cameron has said: "We're going to accept nothing less than a zero tolerance approach to those who attack NHS staff. That means prosecution as standard practice – with the attack regarded as an aggravated offence. I want to see this stamped out."[11]

The Department of Health and the Design Council, an independent charity whose remit is to inspire, enable and demonstrate how design can lead to economic and social renewal, have a strong track record of delivering innovative programmes in the healthcare settings which include *Design Bugs Out* and *Design for Patient Dignity*. Thanks to these successful collaborations, when the Department of Health considered how it could reduce violence and aggression in A&E, it commissioned the Design Council to develop and manage a design-led improvement programme.

Managed by the Design Council in partnership with the Department of Health, the *Reducing violence and aggression in A&E* project has brought together designers, researchers, frontline clinicians, social scientists and evaluation consultants. The shared goal has been to develop innovative design solutions to reduce the human and financial costs of staff assault and support the Department of Health's initiative to reduce violence and aggression.
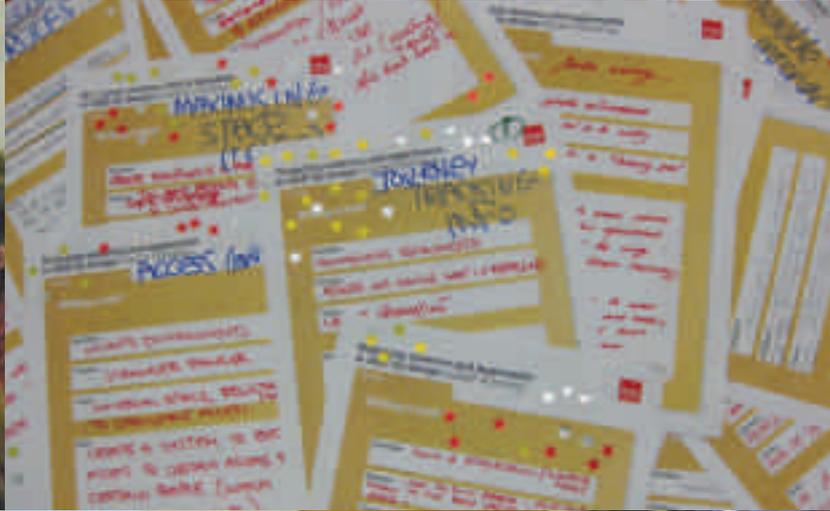
Why design?

Designers draw on a number of principles and approaches to turn good ideas into innovative products, services, environments and experiences.

Understanding users

Good designers spend time with the end-users of the products and services they create and involve them in the process of designing and making. They do this to understand what it is that people actually need and want, rather than make assumptions. Through this process, designers often uncover latent as well as known needs. This ensures what they create is useful, useable and desirable.

Collaboration

Because it focuses on creating the best possible responses to real human needs, design is intrinsically a very collaborative process. Designers will collaborate with a range of people – from users and frontline staff to investors and experts – and bring together a multi-disciplinary team to tackle all of the issues involved. Collaborating with the people who will deliver a solution means that an idea is more likely to be realised.

Visualisation

With a grounding in the creative arts, designers work visually to make things simple and easy to understand. Through visualisation, designers synthesise often complex ideas which helps communication and understanding with users and other stakeholders.

Prototyping

Designers build and test solutions early in the development process. This iterative approach means solutions are refined and improved many times before they are rolled out – a process known as prototyping. Prototyping helps iron out any errors and issues before money is committed to fully implementing a solution. This mitigates risk, since the solution is less likely to fail having been tried and improved many times.

Design and A&E

The Department of Health recognises that good design in the development stage of a product or service improves its chances of successfully solving problems, delivering cost-effective solutions and enhancing the patient experience.

It is important to note that the role of design goes beyond that of pure aesthetics. While the physical environment of A&E departments, such as their fittings and furnishings, are important considerations, design is about far more than providing a comfortable chair or pleasant decoration. Designers focus on the needs of end-users and their solutions should consider the wider provision and management of care which duly takes place within A&E departments, and the information systems that support its delivery.

For the *Reducing violence and aggression in A&E* programme the Design Council worked in partnership with the Department of Health and the NHS to co-ordinate a team of experts, including a consortium of organisational consultants, user-centred researchers and emergency care specialists, who collaborated to identify opportunities for design-led solutions to tackle specific frontline staff issues.

Those professionals who are responsible for A&Es, and work in them on a daily basis, understand them better than anyone.

The UK design, manufacturing and building communities were then invited to team up to respond to the *Reducing violence and aggression in A&E* challenge and a multi-disciplinary team was appointed to collaborate with frontline A&E staff to design and implement their ideas.

The commissioned design team worked closely with frontline staff at three NHS Trusts to understand the issues, opportunities and constraints faced by A&E staff. The designers developed, prototyped, tested and, where possible, evaluated the impact of their designs. At every stage, they have worked directly with users and stakeholders.

Design Council challenge programmes

To stimulate new markets for design-led approaches to problem solving, the Design Council runs open innovation challenges that bring designers, manufacturers and technologists together to develop new ideas that can be turned into real solutions.

The Design Council and the Department of Health first partnered in 2008 to tackle the issue of healthcare-associated infections. The *Design Bugs Out* challenge looked at how hospital furniture and equipment could be designed so that it was easy to clean and easy to use, therefore helping to reduce the risk of infection.

In 2010, the challenge of making the hospital experience better by helping patients feel less vulnerable and more dignified triggered the *Design for Patient Dignity* programme.

Following the success of these projects, the Department of Health understood there was considerable potential for design-led solutions to help tackle violence and aggression towards NHS staff in A&E departments and it commissioned the Design Council to run the *Reducing violence and aggression in A&E* challenge.

Other industries, such as the licensed trade, have successfully reduced levels of vandalism and violence by practicing crime prevention through environmental design (CPTED). By redesigning the layout of their pubs and clubs so that it is easier for customers to access the bar, or by enabling clear sight lines for staff to create a "neighbourhood watch effect" around the bar area, there has been a reduction in the number of fights and in levels of violence in pubs.

However, while these principles have been used successfully to reduce the risk of violence in other industries, they have not yet been harnessed extensively in healthcare settings.

Reducing violence and aggression in A&E aims to do just that. The project has brought together a range of experts – including designers, researchers, senior clinicians, social scientists and evaluation consultants – to show how innovative design solutions could make A&E departments calmer and safer places to visit and work.

Project aims

The underlying goal of *Reducing violence and aggression in A&E* is to identify and develop ways that design can help to minimise violence and aggression towards NHS staff, with a particular focus on A&E departments.

Specifically, the project has aimed to generate cost-effective, easily implementable and sustainable design-led innovations, which can be used to:

Support NHS staff and organisations to reduce the incidence of violence and aggression towards staff within their communities

Directly or indirectly reduce incidences of violence and aggression in A&E and, in doing so, reduce associated litigation costs experienced by the NHS to compensate claimants (staff, patients and other service users)

Deliver tangible cost savings, reducing the actual and associated costs of violence and aggression incurred by the NHS

Help bolster staff confidence and satisfaction by making real and perceived improvements to healthcare environments and facilities

Help deliver improved patient care through calmer environments

Generate awareness to support a culture for NHS staff and patients, focusing on mutual trust and respect.

Beyond the project's scope

Reducing violence and aggression in A&E does not attempt to address all the reasons why violent or aggressive incidents take place or seek to present a total solution to the problem. Rather, it looks specifically at how design can make improvements to A&E environments, systems and services so that the likelihood of violence and aggression occurring is reduced. Crucially, these improvements do not mean creating physical barriers, but offer more sophisticated design solutions which are focused on preventing incidents of violence and aggression from arising in the first place.

It is important to recognise that the wider issue of violence and aggression in society does not start or end in a healthcare setting. A comprehensive approach to this subject would consider the numerous social and environmental catalysts for violence and aggression outside of A&E.

Within the A&E environment, violence and aggression may occur as a result of these wider social factors. For example, acts of violence and aggression occurring as a result of – or that are directly related to – drug and alcohol consumption or mental health.

**Documented
policy issues**

Privatisation

Migrants and ID

Fear of litigation

Time spent in A&E

Binge drinking

Police custody

Mental health

Reputation management

Primary and secondary social care

Fines and fees

Care in the community

Intoxication

2 Background to the project

Understanding the problem of violence and aggression in the NHS and how design can help to make A&E a safer place for everyone.

All NHS staff should expect "healthy and safe working conditions and an environment free from harassment, bullying or violence". This is a pledge in the NHS Constitution, which sets out the rights and responsibilities for staff, patients and the public.

The reality for many NHS staff, however, is that violence and aggression are still commonplace. NHS annual staff surveys consistently show that more than one in ten staff experience physical violence from patients or their families every year[12]. The problem is particularly difficult to manage in the complex, high pressure environment of A&E.

Clinical quality indicators: understanding A&E care

Research in A&E departments has shown that violent incidents are often triggered by a perception – whether justified or not – that the department is not performing as it should. People may have been left waiting for a long time and may not understand what kind of service they should be expecting.

In April 2011, the Department of Health introduced a new set of A&E **clinical quality indicators**. The aim of these indicators is to help patients and other service users better understand A&E departments' performance and enable them to make like-for-like comparisons. They also, however, provide us with a sense of the solutions required to reduce the problem of violence and aggression.

Policy response

Since the late 1990s, the NHS has spent a considerable amount of time and money attempting to reduce these levels of violence and aggression. Previous policy includes:

2001

The government introduced tough new measures in its **Zero tolerance zone campaign'**. As a last resort, it said that Trusts could withdraw or withhold NHS treatment from violent patients, unless these patients had severe mental health problems or life threatening conditions.

2003

The launch (in England) of **Working Together** , a national strategy for reducing assaults on NHS staff, which included a national incident reporting system for recording physical assaults.

2005

With concern still growing that hospital staff were facing excessive danger, the Department of Health established the NHS **Security Management Service (SMS)**. The role of the SMS was to ensure that everyone working in the NHS could do so in a secure environment, which in turn would allow the service to provide the highest possible standards of care.

2009

Legal protections have been introduced too. In 2009, it became a criminal offence to cause a nuisance or disturbance in NHS environments. This was part of a law which effectively authorised staff to forcibly remove people from the premises for being verbally abusive, intimidating, or making excessive noise.

2011

The latest move to deal with violence and aggression is **NHS Protect**, which replaces the Security Management Service and is a new national initiative responsible for protecting NHS staff and resources from crime.

NHS Protect launched in April 2011 and has a broader remit than that of the Security Management Service. It tackles all crimes against the NHS which undermine the ability of the health service to do its work. These include fraud, bribery, violence, corruption, criminal damage, theft and other unlawful actions, such as market fixing.

The eight clinical quality indicators for A&E are:

1 **Ambulatory care conditions**. This will indicate how many cases that previously needed hospital care are now successfully being treated at home.

2 **Unplanned re-attendance rate**. Normally no more than 5% of people who have attended A&E would have to return to A&E without an appointment. However, a very low rate of unexpected return visits to A&E may also mean the department is admitting too many people who could be managed more effectively and comfortably at home.

3 **Total time spent in the A&E department**. Most (95%) of patients are expected to be able to leave A&E within four hours of arrival. Nobody should still be in A&E six hours after arrival.

4 **Left without being seen**. If more than 5% of patients leave before being seen it should raise concerns about why this is happening; ideally this rate should be as low as possible.

5 **Service experience**. Many A&E departments already undertake satisfaction surveys. These will now go beyond simply reporting the results of such surveys, showing what people think of the service offered.

6 **Time to initial assessment**. Most people (95%) should be seen by a nurse or doctor within 15 minutes of arrival to assess the severity of their case.

7 **Time to treatment**. On average the assessment and start of treatment should take place within 60 minutes of arrival. Serious cases should have care much quicker than this.

8 **Consultant sign-off**. Each A&E will look at how many patients with high-risk conditions have been seen by a senior doctor before being discharged. If this number is low it means the hospital should consider how to improve the way it provides its A&E service.

These indicators are published each month and comparable data can be accessed at http://www.ow.ly/76Nzh

Reporting and management

The Department of Health has instructed providers of A&E services to take steps to ensure that they are able to publish data against these clinical quality indicators. Commissioners of A&E services should consider how they can best use the indicators to encourage local service improvements.

Data is to be presented in a manner that is most meaningful to the patient and helpful to professionals to see areas of improvement and success. Each individual site (rather than NHS organisation) publishes data against the indicators on the internet so that it is available to the general public. The NHS Information Centre for Health and Social Care also collates and publishes the majority of the national indicator data to allow for benchmarking of performance.

Related initiatives

Every hospital understands the need to make its public spaces, particularly A&E departments, as safe and useable as possible.

As a result, there are many examples of hospitals, in the UK and abroad, introducing physical or operational redesigns to improve overall patient and staff experience. Reducing violence and aggression isn't always the primary goal, but it is often an important consideration. Interventions can be relatively small-scale; for instance, some hospitals have equipped staff with head cameras in an attempt to deter violence and aggression, and to record incidents that arise. Larger scale examples include:

Birmingham Heartlands Hospital A&E carried out a £500,000 redesign of its reception area in 2003 as part of the Home Office Safer Hospitals Project. It introduced various measures including barriers to access, placing reception staff out of reach of patients, making security a more visible presence especially during the evening, and restricting access to non-patients. The redesign reduced incidents of violent and aggressive behaviour by more than 50 per cent.[13]

King's College Hospital Emergency Department, which according to local reports typically experiences more than 650 incidents of verbal assault and threatening behaviour towards staff per year, is currently undergoing a major redesign. The department is one of the UK's busiest; it sees over 120,000 patients a year, and also plays a key role in the hospital's role as a Major Trauma Centre for London. The aim of the redesign is to create a more appropriate environment for all patients, including those presenting with mental health problems. The redesign will also improve patient safety, privacy and dignity, and maximise the space and capacity of the department. The redesign includes changing the layout of the department, and compartmentalising it to separate out different types of patients according to their needs.[14]

The A&E department at **St Michael's Hospital** in Toronto, Canada, serves over 55,000 patients annually, including over 1,000 monthly ambulance visits. It is currently working on a study (due to be completed in late 2011) examining the incidence and severity of patient and visitor aggression against staff, and staff satisfaction and perceived safety.[15]

As part of a renovation of the A&E waiting area, the study will include a bundle of "evidence-based design interventions" aimed at improving the design and aesthetic appeal, as well as reducing patient stress. This will include new furniture arranged for increased visitor privacy, noise-reduction panels, upgraded diffuse lighting, slimmer and quieter vending machines, fresh paint and flooring, and improved televisions and viewing options.

When planning the national design challenge briefs for the *Reducing violence and aggression in A&E* project, the Design Council took into account the experiences, recommendations and lessons learned from these other initiatives.

3　The design challenge

Programme timeline

1
Understand the frontline issues

Understand the frontline issues.

Primary and secondary research insights generate design themes.

2
Agree design briefs

Agree design briefs.

Advisory Board agree design briefs.

Challenge goes live.

Design briefs released.

Project goes live on the Design Council website.

3
Designers collaborate

Designers collaborate.

Team tenders invited.

Walk-in surgery available for match-making.

4

Design team selected

Deadline for tenders.

Two-stage judging selection process.

Design teams publically announced.

5

Design team co-design with NHS Trusts

Design teams co-design with NHS Trusts.

Appointed design team works closely with partner NHS Trusts to co-design and test solutions on site and in real-time.

Relevant experts on-hand to meet with the design team to offer advice and mentoring along the design journey.

6

Showcasing and implementation

A public exhibition of the new design solution is held; engaging with frontline staff, the public and high profile healthcare professionals (decision-makers and formers).

Discussions begin with partner NHS Trusts to fully implement solutions to allow formal evaluation.

7

Evaluation and iterative improvements

Results of evaluation study/studies released (expected 6–24 month evaluation period/s) pending full implementation of the new designs.

Advisory Board

To oversee the project as it progressed through the design process, the Design Council created an independent Advisory Board. The Advisory Board is comprised of senior individuals with backgrounds and skill sets in relevant Department of Health and NHS divisions, associated Government departments, professional bodies and the private sector.

The project was overseen by the Advisory Board, whilst we carried out research, issued the national design challenge briefs to the design community, selected the winning design team and advised on concept development, prototyping and evaluation. Panel members offered their expertise and support to ensure that the project delivered results that work for both the NHS and the general public alike.

Following the initial introductory meeting, the Advisory Board met four times during the course of the project for structured progress update sessions.

The *Reducing violence and aggression in A&E* Advisory Board

Chair

Sunand Prasad – Senior Partner, Penoyre & Prasad – Past President, Royal Institute of British Architects

Deputy chair

Prof Matthew Cooke – National Clinical Director, Urgent & Emergency Care Branch, Department of Health

Board members

Alan Dobson – RCN Professional Advisor, Acute and Emergency Care, Royal College of Nursing

Andrew Jones – Director of Allied Clinical and Facilities Services, Chesterfield Royal Hospital NHS Foundation Trust

Dr Anthony Bleetman – Lead Consultant in Emergency Medicine, North West London Hospitals NHS Trust

Bruce Hellman – Artemis Digital Programme Manager, Serco Consulting

Christopher Farrah – Chief Architect & Policy Intelligence Programme Lead, Department of Health, Gateway Review, Estates & Facilities Division

Colum Lowe – Design Management Consultant and Partner, BEING

Dr David Wise – Consultant, A&E and Helicopter Emergency Medical Service (HEMS), Barts and The London NHS Trust (The Royal London Hospital)

Fergus Harradence – Deputy Director, Innovation Policy, Department for Business Innovation and Skills

Frances Wiseman – Divisional Director of Operations, University Hospital Southampton NHS Foundation Trust

Gill Hicks MBE – Founding Director, M.A.D. for Peace

Henry Ashworth – Senior Policy Advisor, Behavioural Insights Team, Cabinet Office

Ian Tumelty – Chief Inspector, South Wales Police – Thematic Advisor on A&E Data Sharing, Tackling Knives and Serious Youth Violence Programme, Home Office.

James Hill – Head of Nursing for The Emergency Department and Acute Admissions, Guy's and St Thomas' NHS Foundation Trust

Dr Joanne Crawford – Senior Ergonomist and Consultant, Institute of Occupational Medicine

Dr John Heyworth – Immediate Past President, College of Emergency Medicine

Lorna Wain – Design Adviser, Guy's and St Thomas' NHS Foundation Trust

Lorraine Harris – Policy Lead, Property and Assets, NHS Protect

Mat Hunter – Chief Design Officer, Design Council

Malcolm Alexander – National Voices – Chair, NALM (National Association of LINks Members)

Miles Ayling – Director of Innovation & Service Improvement, Department of Health

Ranjit Soor – Policy and Programme Manager, Urgent & Emergency Care Branch, Department of Health

Sarah Waller CBE – Programme Director, Enhancing the Healing Environment Programme, The King's Fund

All names and titles correct as at September 2011.

Partner NHS Trusts

To ensure that the outcomes of the *Reducing violence and aggression in A&E* programme were as effective as possible, the Design Council and Department of Health recognised it would be essential for the commissioned design team to develop, prototype and test solutions and the programme in operational A&E departments.

Relevant and representative NHS Trusts – those which had experienced a problem with violent and aggressive behaviour, demonstrated enthusiasm for addressing the issue and had funding to enable an A&E redesign project – were invited to participate in this programme.

The programme also needed research sites for the national collection of design-led ethnographic research, which informed the development of the design challenge briefs. They subsequently worked closely with the winning design team to co-design solutions to the problem of violence and aggression. These were then prototyped and tested on site, with the same partner NHS Trusts hoping to act as test-bed sites for the emerging design solutions.

The Design Council shortlisted a total of 12 potential partner NHS Trusts and identified a strong fit with three: **Chesterfield Royal Hospital NHS Foundation Trust**, **Guy's and St Thomas' NHS Foundation Trust** and **University Hospital Southampton NHS Foundation Trust**. These Trusts were considered to provide a representative cross-section of NHS Trusts in terms of size, demographics, patient throughput, operations and geography. They were not chosen because of especially high levels of violence and aggression – several other Trusts suffer from this issue more severely (in terms of nationally reported statistics collected by NHS Protect).

Chesterfield Royal Hospital NHS
NHS Foundation Trust
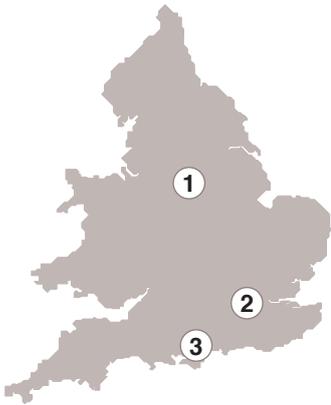
60,000
patient throughput

80
physical assaults

1 Chesterfield Royal Hospital NHS Foundation Trust

Violence and aggression: Chesterfield Royal Hospital experiences more than 80 physical assaults every year.[20] The Trust experiences high levels of violent and aggressive behaviour, and as a result it recently issued security staff with stab-proof vests.

Patients: The A&E at Chesterfield Royal Hospital has a patient throughput of 60,000 per year.[21] A 1900s build, Chesterfield Royal provides services for the population of Chesterfield town and surrounding areas, incorporating North Derbyshire, which represents a relatively rural population.

Future plans: Chesterfield Royal Hospital NHS Foundation Trust demonstrated commitment to developing its A&E department so that it can provide the very best of care to the local population.

Guy's and St Thomas' NHS
NHS Foundation Trust

140,000
patient throughput

176
physical assaults

2 Guy's and St Thomas' NHS Foundation Trust

Violence and aggression: St Thomas' Hospital is on a city centre site and experiences 167 physical assaults per year.[18] Up to half of those occur within the A&E.

Patients: The A&E at St Thomas' Hospital has a patient throughput of 140,000 per annum.[19] Its socio-demographic is diverse with a large homeless population in the local area, as well as high levels of unemployment. However, due to its location the A&E department also serves professionals, and a large number of tourists and visitors to the city of London.

Future plans: St Thomas' Hospital is planning an extensive redesign of its A&E department, so participation in this project offered opportunities to design and test solutions within the existing A&E department which could be adopted into plans for the new department.

University Hospital Southampton NHS
NHS Foundation Trust

110,000
patient throughput

100
physical assaults

3 University Hospital Southampton NHS Foundation Trust

Violence and aggression: Southampton General Hospital encounters over 100 physical assaults per year and reducing violence and aggression in A&E is a priority for the Trust.[16]

Patients: The A&E department at Southampton General Hospital has a patient throughput of 110,000 per annum.[17] The hospital has a large catchment area, incorporating Southampton and south Hampshire as well as providing specialist services for central southern England and the Channel Islands. Consequently the socio-demographic of the area is diverse. In the immediate area of Southampton there is a large number of students, as well as a sizeable aging population.

Future plans: The design of a new Paediatric A&E has left space to reconfigure the A&E department. This presented a real opportunity to identify and implement solutions in the design of the future A&E department at the hospital.

Exploring the issues

The first step in any good design project is to research the problem.

The *Reducing violence and aggression in A&E* programme began with a review of existing reports on the violent and aggressive incidents that have happened in A&E departments in the UK in recent years and at previous attempts to control and reduce this type of behaviour in the health service, as well as in other public-facing services.

The Design Council's in-depth desk research report examined a number of sectors and organisations:

– Birmingham Heartlands Hospital
– King's College Hospital
– The Royal London Hospital
– St Helier Hospital (Epsom and St Helier University Hospitals NHS Trust)
– Northwick Park Hospitals
– HMP Grendon
– Mobilong Prison, Australia
– National Offender Management Service (NOMS)
– London Underground Workplace Violence Unit
– Transport for London (TfL)
– The police service
– Airports
– Bars, pubs and clubs
– Co-operative Group

To truly understand how design could improve safety, we felt that more research was required into the specific triggers of violent and aggressive incidents in A&E.

The Design Council commissioned an ethnographic research programme, conducted in collaboration with our partner NHS Trusts. Two of the 24 applicant companies – ESRO and Bontoft Ltd – were tasked to undertake ethnographic research within NHS Trust A&E departments.

Together, they spent more than 300 hours in A&E departments, looking at how they worked from a user's perspective. The majority of the research was conducted during "peak periods" both in terms of patient throughput and also violence and aggression, including Christmas and New Year.

Each team employed a variety of techniques to understand how, why, when and where violence and aggression occurs. These included:

– stakeholder interviews
– study visits
– analysis of past incidents
– interviews with people involved
– direct observation

The two research agencies collected a huge amount of data, including more than 60 staff and patient interviews and over 80 documented incidents of violence and aggression.

Quantifying the issue

1.3 million

NHS staff in England and Wales, one the largest employers in the world.

1:68

Assault to staff ratio in Acute Trusts (includes A&E departments).

£25,000

Annual amount paid by a major UK city NHS Foundation Trust for a police officer for Thursday, Friday and Saturday nights at one of its hospitals.

9

Number of Acute Trusts reporting more than 150 incidents of physical violence: 2008/09.

82%

of A&E consultants who felt that patient expectations were an important factor in the prevalence of violence and aggression in A&E.

21%

of staff reporting bullying, harassment and abuse by patients in 2009 (down from 28% in 2003).

11%

of staff reporting physical attacks by patients in 2009 (down from 15% in 2003).

**Success story:
Dalston Jobcentre Plus**

675 customers visit the Jobcentre in Dalston each day and 25–30 incidents of violence and aggression are reported each year. Many more incidents go unreported, but thanks to the following design changes the levels of violence and aggression have decreased.

– Staff now treat visitors as 'customers' rather than jobseekers greeting them as they arrive and signposting them to relevant information on arrival.

– The large waiting area has been replaced by small waiting spaces, with comfortable chairs, close to appointment areas.

– The open plan office has low level furniture that mean lines of sight allow staff to stay aware of what's going on around them.

**Success story:
Birmingham Heartlands
Hospital**

120,000 patients each year visit Birmingham Heartlands Hospital's Emergency Department. In 2003, it recorded 24 incidents of violence and aggression towards staff per month. With a £500,000 government grant, design changes were implemented that reduced the incidences of violence and aggression by more than half – there are currently fewer than 10 reported incidents per month.

– Better signage has been installed.

– A new reception area includes transparent safety screens that can be controlled by staff.

– New chairs, air conditioning, and drink machines and a pay phone were installed in the waiting area to reduce stress levels of visitors.

Key research learnings

Ethnographic research
- 300+ hours in A&E departments
- 60+ staff interviews
- 2 research agencies
- 80+ documented incidents of violence and aggression
- 3 NHS Trusts

Our **ethnographic research teams** initially conducted several hundred hours of interviews with a wide range of NHS staff, as well as patients and their friends and family, the police, mental health experts and A&E design experts. Through this research they identified six sets of perpetrator characteristics, highlighting the diversity of individuals who become violent and aggressive in A&E, and categorised nine triggers of violence and aggression (for further details, see 'Defining the problem' on page 45).

This research provided a very thorough background document for the commissioned design team, to familiarise themselves with A&E departments. However, it was also essential for them to experience the departments in person, understanding the environments and processes in place, as well as witnessing the aggression and violence in the department first-hand.

The design team visited several NHS Trusts and conducted workshops with a range of staff. These helped them to learn from each other's thoughts and encourage a multi-disciplinary approach. Their findings gave the design team a valuable grounding in the issue of violence and aggression in A&E and helped to inform their approach and eventual solutions.

Recurrent themes

A principal ambition of both sets of research was to understand more about how visitors to A&E can become violent or aggressive. While the teams carried out their research independently, there were a number of recurrent findings.

1 The waiting experience

For example, it was found that patients and other service users arriving in A&E do expect to wait. However, they noted that people's waiting experience is often uncomfortable and boring, and there is a strong urge to leave the environment as soon as possible.

Coupled with various stresses – ranging from a traumatic experience prior to their visit, to difficulties with parking, confusion about the patient processing system, and worries about how to get home after treatment – this can make patients and other service users anxious.

This anxiety can then develop into aggression, particularly if the patient is suffering from other concerns that are sometimes clinical, such as muscle tension, hormonal problems, head injury, shock or intoxication.

Their anger may be ignited by various triggers, from clashes with other people to being in an uncomfortable environment or feeling that staff are being inefficient or uncaring.

Most frequently, this results in 'low level' aggression, mainly involving swearing or verbal hostility towards staff or other visitors, which is more common than serious violence. It is noteworthy that staff are often desensitised to this kind of aggression. As this behaviour is commonplace and staff are busy and prefer to just "get on with caring for patients", they do not tend to report these low-level incidents.

Understanding violence and aggression in A&E

Individual characteristics

Triggers & escalators

Emotional state

Tolerance threshold

Needs & motivations
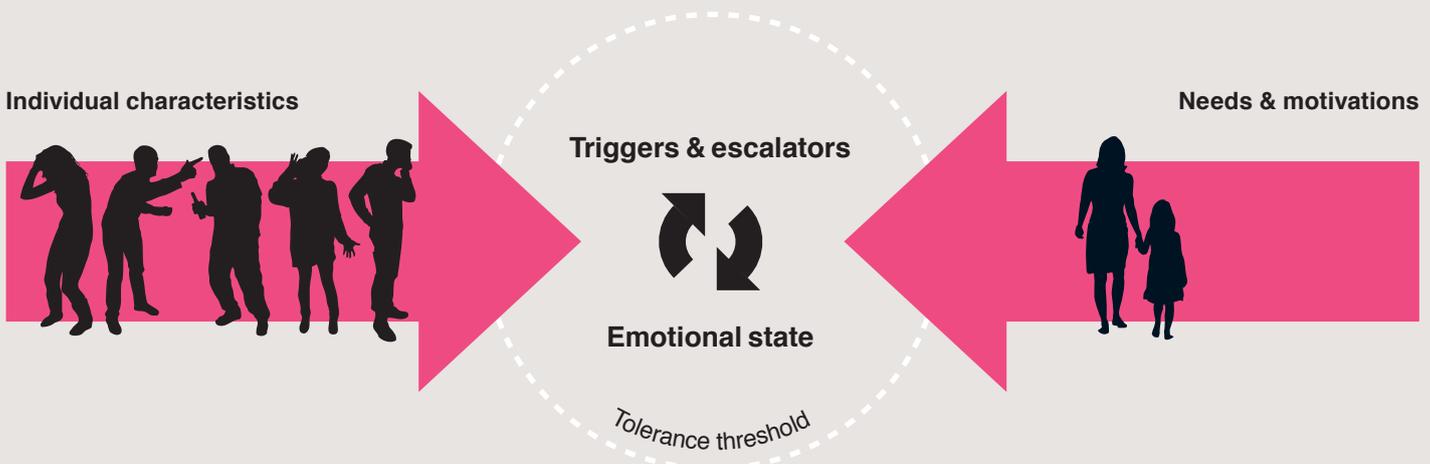
2 Managing expectations and acknowledging pain

The research showed that a key step in reducing the irritability, which can lead to aggression, is for everyone to acknowledge that people attending A&E are in physical and/or emotional pain. In addition, it is important to recognise that this pain needs to be managed well, beginning from the triage system (the initial assessment done by a nurse to decide the seriousness of the situation when a patient arrives).

Here, the researchers discovered the importance of managing people's expectations of the service by communicating with them about what is going to happen to them and how the system works. They found that the arrival and waiting experience could be much more customer-friendly and that the guidance offered could be clearer and more user-focused.

The overall atmosphere of the waiting room needs to be comfortable to cope with the emotional pain of patients and other service users. At present, this seems to be more of a priority in the children's area of A&E rather than the adult area.

The research teams also found that there could be a better, more formal route for turning staff ideas and suggestions into action. They found that staff sometimes had ideas for improvement but there was often no system for them to put these ideas forward.

3 Valuing and empowering staff

A key learning from the research was the perceived role and working environment of nurses and other operational staff within A&E departments.

The design team's research found that patients often see nurses as something of a 'doctor's helper'. As a result, they are seemingly treated with less respect and are far more likely to receive aggression.

Communicating staff worth
Staff felt that there could be improved communication to show the true value of nurses to patients. For example, nurses carry out many jobs that patients assume are done by doctors and recognition of this could help to elevate their status with A&E visitors. It could also give them a stronger sense of authority and more confidence to deal with difficult situations.

Greater responsibility
Many interviewees also felt that nurses could be in charge of a minor improvement budget. This would make them feel empowered to make simple changes that would have a big impact on their day-to-day lives at work. Such changes could include fixing faulty equipment.

Space for reflection
Nurses and other staff felt that they rarely get a chance to discuss aggressive situations/incidents. A safe physical and mental space to discuss conflicts could release the tension that arises from working within A&E departments.

Overall, the research teams found that there could be more structured learning around why certain techniques for dealing with violence and aggression work or fail. This formal reflective space could be useful for all A&E staff.

Training

The research teams found that 'people management' skills were low priority, especially at some very busy A&E departments. For those Trusts who do not do so already, they advise providing staff with specialist training to help them to calm a potentially aggressive visitor down before a violent situation escalates, as well as training in containment and restraint techniques.

4 Further ideas and suggestions

Suggestions made by the research teams and the interviewed hospital staff to reduce violence and aggression in A&E included:

Meeting and greeting

Patients could be greeted at the door and receive an explanation of how A&E works, which was seen as key to helping patients feel less anxious. This kind of role has already been created and implemented successfully by Jobcentre Plus.

A fresh look at triage

Some nurses felt that the triage system was not working very well. One suggestion was to triage in the waiting room, rather than having a separate triage room – partly because it might allow for the triage nurse to act as a calming presence in the waiting room. However, it is noted that this could compromise patient confidentiality.

Inventive/clearer signage

Some nurses suggested that coloured dots on the floor could be a cheap and effective way to help patients navigate A&E, e.g. "Follow the blue dots/feet to X-ray". Similar initiatives have already been trialled and used within a number of hospitals and A&E departments.

Virtual queuing

Some parts of the queue could be made virtual. For example, patients could be given a pager or similar hand-held device to inform them to return to the waiting room when they have 15–30 minutes left to wait. Prior to this, they could relax in the café or read a book. However, clinicians have raised a number of issues with such an approach, such as the ability (or lack of) to monitor a patient's condition if they leave the department.

Creating more comfort

The waiting areas could be made more comfortable both physically and emotionally. This could include changing colours, smells, light, sounds, seating and temperature.

Getting things working

Minor issues may not create dissatisfaction on their own. However, when combined with a shuttered reception kiosk at X-ray and poor directions resulting in a patient getting lost, a faulty TV screen, for example, could result in a patient becoming aggressive. These issues also give an impression of the environment not being cared for, which can lead to negative perceptions about the care that people will receive. It is also well documented that people will treat an environment that seems 'uncared for' with less respect.

Good security

Some staff felt it was essential to have a good security presence. One department studied temporarily had a female police officer who was felt to have a very calming influence on waiting patients. Dedicated A&E security is shown to have a positive impact on reducing violence and aggression, especially if security staff integrated into the A&E team.

Defining the problem

The ethnographic research revealed that while each site had a number of specific local needs, there was also considerable commonality between many of the issues experienced by NHS Trust sites.

Violence and aggression in A&E is often reported in the media as being related to alcohol or drugs. While the research teams did observe many incidents where these factors were implicated, they discovered that the reality is far more complex.

Among the reported incidents of violence and aggression in A&E there are a number of recurring patterns relating to individuals' personalities and their prevailing physical and emotional states. Well-documented factors that affect one's behaviour and render one more likely to be short-tempered or aggressive include:

– Muscle tension
– Lack of sleep (e.g. looking after a newborn child, long shifts at work, etc.)
– Long-term illness
– Hormonal problems
– Drug or alcohol abuse
– Too much caffeine and other endocrine disrupting drugs
– Certain medications
– Too much sugar or preservatives in food
– A painful injury
– Head injury or shock (e.g. a car accident where the individual has suffered damage to the pre-frontal cortex).

Many of these factors correlate with the very reasons why an individual may be attending A&E in the first place. However, the documented incidents enabled the research team to identify a set of 'perpetrator characteristics' that cluster different factors pertaining to individuals who commit acts of aggression or violence.

In creating these perpetrator profiles, the aim was not to stereotype or pigeonhole, or to presume the guilt of innocent people; rather, it was intended to highlight (albeit not exhaustively) distinct challenges and 'aggression pathways' that can be used to focus or test design ideas. It is also noteworthy that many of the perpetrators of violence and aggression exhibit two or more of the identified characteristics. These kinds of overlaps were deliberately ignored in the interests of clarity, but in practice make managing perpetrators and reducing acts of violence and aggression far more complex and difficult.

Most patients were united by the belief that their condition was urgent and important. This was often accompanied by feelings of anxiety, stress and discomfort – compounded by the fact that their visit to A&E is typically for most people an unusual event and a deviation from their routine.

Perpetrator characteristics

Clinically confused

Medical staff make a distinction between incidents with clear intent and those which, lacking intent, may have occurred as a direct result of the patient's illness or medical condition, particularly where that condition results in impaired cognition. Hypoxic pain can lead to all manner of severe confusion, for example, while a head injury can result in an individual behaving 'out of sorts', or dementia lead to disorientation and child-like behaviour.

In practice, a fuzzy distinction and judgement is often made about whether the person would 'normally' conduct themselves in this way, and allowances are often made for extenuating circumstances (grief, pain, anxiety, fear).

How can we spot them?

More often found in the 'majors' side of A&E, these individuals may either be in an unresponsive state or behaving oddly.

How will they behave?

For whatever reason, these individuals may not be in control of their behaviour or their reaction to stimulus. Behaviour is most likely to be directed towards nurses or other clinicians who are trying to assess or treat them.

Frustrated

Frustration is a well-documented cause of aggression. The 'Frustration–Aggression' theory (Dollard et al, 1939) describes the journey towards aggression when a person feels that he or she is being blocked from achieving a goal. For the majority of attenders to A&E, the goal is simple: to receive the attention they need, as quickly as possible. Our research clearly demonstrated that anything perceived to be contributing to a delay or blockage in achieving that goal could become a source of annoyance, agitation or frustration.

Perpetrators who fall into this group were extremely wide-ranging, encompassing anyone and everyone who could present at an A&E department. In fact it could be argued that the majority of people who visit A&E departments feel frustrated at one point, or come into contact with one or more trigger factors (see page 49).

At that point, an individual's conduct simply comes down to their level of self-control and their beliefs regarding acceptable behaviour. Other factors that may affect an individual's move from 'frustrated' to 'aggressive' or 'violent' may include their level of socialisation, tolerance threshold, the solidity of their beliefs and respect for others, their ability to remain composed under stress, and their predisposition to violence.

How can we spot them?

There are no easy ways to detect these individuals beyond awareness of 'agitated' or 'frustrated' body language. Individuals may frown, stare, fidget, pace or mutter under their voice.

How will they behave?

Some may make their frustration clear long before they would resort to violence or aggression; others may simply 'erupt' with seemingly no advance warning at all. Indeed, this behaviour may also take the individual by surprise – a momentary loss of control or impaired judgement.
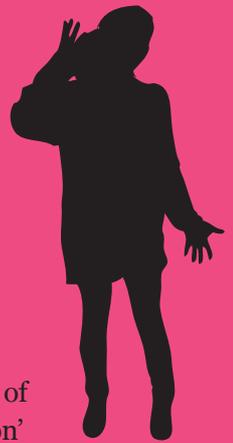
Intoxicated

Intoxication, in particular alcohol consumption, is believed by staff to be one of the most significant contributors to violence and aggression in A&E departments.

How can we spot them?

Individuals may have slurred speech, be staggering around, behaving oddly, or in a less inhibited way.

How will they behave?

Drinking alcohol and taking some drugs can reduce people's social anxieties (overcoming problems like shyness, for example). However it also has the effect, in some situations, of making the drinker less likely to worry about the consequences of his or her actions.

'Alcohol myopia' is a phenomenon that can also explain aggressive behaviour in intoxicated people. It involves a person becoming focussed on the most prominent cues in the environment (e.g. an attractive woman, a threatening man, or the desire for food). It also results in the person who has been drinking becoming far less sensitive to subtle behavioural cues, such as body language and gestures made by others which are intended to communicate that their interaction is unwelcome.

Alcohol impairs judgment, making people much less cautious (MacDonald et al. 1996). It also disrupts the way information is processed (Bushman 1993, 1997; Bushman & Cooper 1990). A drunk person is much more likely to view an accidental event as a purposeful one, and therefore aggression may be triggered by another person even with no intent (e.g. the 'you were looking at my girlfriend' phenomenon). The effects of alcohol on cognitive functioning may reduce the individual's ability to process or remember even basic instructions or solve simple problems.

Anti-social/angry

The anti-social character is likely to have past experience of being violent or aggressive. In normal everyday interactions they may struggle to control their behaviour, lack a clear sense of what is right or wrong, and actively seek offending opportunities. Some may describe this kind of perpetrator as having a 'borderline personality disorder'.

How can we spot them?

There are no easy ways to detect 'anti-social' people. They may take an aggressive stance, swear excessively or speak in a loud voice.

How will they behave?

They are likely to be 'anti-social' in a variety of contexts (i.e. it is not just hospital where they express their violence and aggression). They may also act in a negative or abusive way in the absence of triggers. It is more likely that these individuals have little respect for any kind of authority or rules, and may be unafraid of the consequences of behaving badly.

Distressed/frightened

For some visitors and patients, being in A&E can be a highly emotional experience. These emotions can range from stress and anxiety, to shock, surprise or immense grief.

How can we spot them?

Such people often appear frantic or agitated; they may be physically shaking, flushed or in a visibly panicked state.

How will they behave?

As emotions run high, individuals may be pre-occupied, struggle to listen and be difficult to reason with. Individuals may be unusually volatile and unpredictable.

Socially isolated

Open 24/7, A&E can become a strange gathering place for all sorts of people who are lonely or have nowhere else to go. It is surprisingly common for the individuals to get to know staff quite well. They may be manipulative, identifying weaknesses (e.g. seeking out 'new' starters who are less familiar with the rules and could be convinced to bend them). Quite frequently these individuals don't have any real medical problem and may make up symptoms to get attention from the staff (and avoid being ejected by security).

How can we spot them?

Often regular attenders at A&E, these individuals may look unkempt, be unstable or have poor personal hygiene.

How will they behave?

While often harmless, these individuals can sometimes be manipulative or threatening. Their knowledge of the system can be used to get around basic security measures. Personal knowledge of staff that has been built up over time can make their behaviour more distressing and vivid. Sometimes these characters are good at utilising other patients to act on their behalf. At a basic level, poor hygiene, bad smells and weird objects can make the A&E environment less comfortable for other patients.

Triggers of violence and aggression

Beyond individual characteristics that may make an individual more or less likely to be violent or aggressive, the research agencies documented a huge number of escalators of violence and aggression. These were grouped into nine separate triggers, but they are typically experienced in tandem. The main triggers were waiting times, the way in which patients and other service users felt they were being treated by staff, and their feeling of being in an 'inhospitable', 'dehumanising' and 'unsafe' environment.

Trigger clusters

The research findings identified nine separate triggers of violence and aggression within A&E:

1 Clash of people

2 Lack of progression/waiting times

3 Inhospitable environments

4 Dehumanising environments

5 Intense emotions in a practical space

6 Unsafe environments

7 Perceived inefficiency

8 Inconsistent response to 'undesirable' behaviour

9 Staff fatigue

Aggression and violence

VERBAL
Low level

PHYSICAL
High level

Aggression

Violence

↑ Prevent

↑ Defend & contain

1 Clash of people

Summary: Many areas in A&E departments are crowded with a range of different people, forced together by difficult circumstances – each undergoing their own stress and dealing with their own complex mix of clinical and non-clinical needs.

Vulnerability

Hospitals are public spaces and people roam around freely. Vulnerable individuals, such as people in pain, older people, children and pregnant women, often try to find places to sit that offer more privacy, attempting to create divisions and boundaries between themselves and others.

Children

When there are long waits, the waiting room is a very 'still' environment. People sit for hours without moving. With a lack of things to do, children (both healthy and sick) are left to run around the waiting area. In some hospitals there are no separate waiting facilities for children, which means that adults and children all share the same area. In others, such facilities do exist, but this is not always clearly explained to adult patients accompanied by younger relatives.

Urgency

Sometimes the people sitting in the waiting room look far 'sicker' or more 'urgent' than they are. A person covered in blood may only have a small cut while a person with a life-threatening condition may look completely healthy. Many people experience a sense of disgust and fear at the sight of blood and broken bones.

Contamination

Hospitals are inevitably full of sick people. The reality of walking into a 'place of illness' can make people feel tense and anxious. Individuals can feel over-exposed to others' perceived illnesses, making them feel stressed and defenceless. A&E environments also quickly get dirty, with people constantly arriving from outside, often dripping with blood or discharging other bodily fluids. The longer the stay, the more that some people perceive that they are likely to catch someone else's illness.

Focus of attention

Hospitals cater for everyone in the local community, from the general public to prisoners at the local prison and people spending time in police custody. It is a fairly frequent occurrence for a handcuffed prisoner to be seated in the waiting room with other patients. For many people, this may be the closest they have come to meeting a 'violent criminal' – both exciting in some senses and also fear-inducing.

Crowding

At busy times, the waiting area can become crowded. Sometimes there aren't enough chairs and people are forced to stand for hours on end.

Chairs are also often small and placed very close together, reinforcing feelings of being too close to people with whom you'd rather not be spending time.

2 Lack of progression

Summary: Whilst all Trusts aim to treat 95 per cent of patients within four hours, waiting for any length of time can be a difficult experience. There are few situations in our lives when we are forced to wait for such lengths of time without any sense of progression.

Boredom and anxiety

Boredom and lack of distraction force people to focus on their immediate surroundings and their condition. People deal with boredom in different ways, but in general there is a sense that as time progresses individuals become more fixated on themselves and they are less able to keep their internal thought processes in check.

False hopes

In this kind of environment, many people 'hang on every word' uttered by staff. Staff often try to be as helpful as possible, providing their 'best estimates' about waiting times. Individuals can get confused about the information given, especially when there are multiple waits involved in their patient journey (for example, waiting to book into reception, waiting to be triaged, waiting for X-ray, waiting for a doctor). When this sort of information is exposed as wrong or inaccurate, it can be perceived as deliberate misinformation or lies.

Queuing

Waiting for a long time can make people feel paranoid that they have missed their place or that others are getting special treatment. Patients are often frightened to relax in case they 'switch off' for a second and miss their place in the queue.

Feeling forgotten

After seeing the triage nurse, patients will typically have little contact with any member of staff until they are called through to the treatment area, which is sometimes not for hours later. Patients can feel isolated, ignored and uncared for during this wait.

Progress

The stillness of the waiting area can give the impression that 'nothing' is happening and nobody is moving forward. This is sometimes interspersed with staff running around, stressed and in a hurry. Individuals can be confused about how no one is progressing, and yet staff seem rushed and busy.

Uncertainty

People turn up at A&E for many different reasons, and very few are turned away – even if they themselves question being there. Those with the least serious conditions are often made to wait the longest before being sent away, sometimes frustrated that they have invested such a long time in the wait and without receiving any 'treatment'.

3

Inhospitable environments

Summary: Many people describe a dislike of hospitals, not least because they are full of sick people. Beyond the patients, hospitals can be uncomfortable places which are not pleasant to spend time in.

Discomfort

A&E waiting rooms are often designed around the needs of the healthcare staff and others who work in the space. Furniture is selected to be easy to clean, and lighting set at a level which enables high quality CCTV footage. The sum total of the experience can be uncomfortable, not least for individuals who are already in some degree of pain and discomfort.

Lighting

Whatever time of the day or night, A&E environments are brightly lit. At certain times of day or after a long wait, people become tired and want to rest and relax. Intensely bright lights can prevent them from doing so.

Sustenance

Many people arrive at A&E unprepared for a long wait and often need to drink and eat during their visit. Vending machines are frequently broken or empty, and it is not always obvious how to get basics, such as water. It is also perceived as incongruous that the only food available in the waiting room is often unhealthy: sweets, crisps and soft drinks.

Maintenance

High footfalls can make even the most well-loved areas appear shabby. Staff make attempts to 'spruce' up areas but often nobody has overall responsibility for maintaining decorative order in specific areas. Dirty, cluttered and unloved sections of the department can be perceived as a sign of unprofessionalism, little attention to detail and general lack of care.

Cleanliness

Various kinds of bodily fluids and medical detritus can often be found around the A&E. Cleaning is a constant job; only nurses are allowed to clean up bodily fluids, and on busy days some can be missed. This can result in blood and other fluids not being cleaned up for several hours.

4

Dehumanising environments

Summary: When arriving at A&E people can feel 'out of sorts' for a large number of reasons. Sometimes the way patients are managed can further lead to a loss of perspective.

Feeling ignored

People come to A&E to be looked after or treated. For some, the hours of waiting can leave them feeling ignored or uncared for.

Lack of understanding

A&E systems are regimented and difficult for an outsider to understand. People arriving at A&E can feel that they have entered into an 'unknown process' from which they are unable to deviate or leave.

Exposure

The need to treat people quickly can mean that patients are sometimes attended to in places that are relatively undignified or public.

Restrictions

It is often confusing what patients are allowed (or not allowed) to do for themselves in A&E departments. This is the case for even basic needs, such as drinking water (which can have healthcare-related consequences).

Anonymity

Hospital environments afford anonymity to people. The adoption of this new identity may diminish a person's perceived accountability and the perceived likelihood of detection or punishment.

5

Intense emotions

Summary: A&E is a place where people may be experiencing extreme life events, suffering with pain or stress, or having to witness how other people are coping (or not) with their own stressful experiences.

Mismatched emotional responses

A&E is populated with people experiencing extreme life events and emotions. Staff acclimatisation to 'serious' and 'emotive' issues can create a mismatch between patients' emotions and the practicality of healthcare.

Dignity

Patients can feel that their private medical matters are not given sufficient respect. Sometimes tired staff are more pre-occupied with the practicalities of patient through-flow and saving lives rather than being empathetic.

Unexpected procedures

Some patients, as a result of their condition, may be less perceptive or aware of things happening around them. Sometimes when people are attending to them or procedures are being conducted they become shocked or surprised (for example, many people have a phobia of needles and can react badly to having a blood test).

Noise

People handle pain, fear and stress differently. Sometimes distressed people make a lot of noise and this can be alarming and provoke anxiety in other patients sharing the same space.

Further implications

A visit to A&E can have many causes, such as domestic violence, car accident, gunshot wounds or stabbing, and a wide number of consequences, for example, loss of work, loss of independence. These can often result in domestic strife and family stress.

Duty of care

A&E staff are expected to deal with a lot of stress and care for very difficult individuals. Few patients are refused treatment and there can be conflict between the desire to care and the desire to be protected.

6 Unsafe environments

Summary: A&E is typically a very busy environment, with considerable amounts of equipment and large numbers of people using the space. Sometimes these factors can help to trigger or worsen violence and aggression.

Improvised weapons

Throughout A&E there are numerous potentially dangerous pieces of equipment used by clinicians, as well as medical waste (including sharps) waiting to be destroyed. All have the potential to be turned into improvised weapons.

'Imposters'

Hospitals are public spaces and there are typically lots of people wandering around. It can be difficult to know who is supposed to be in a space and who is an 'imposter'.

Releasing tension

People deal with distress and intense emotions in different ways. Some people can release this pent up emotion on equipment or their environment.

Lockable spaces

Toilets and other lockable spaces can create a hazard for staff, especially when people are determined to self-harm, commit suicide, take a hostage or carry out a pre-meditated attack.

Observation

Hospitals typically comprise a complicated network of corridors, rooms and pillars. It can be difficult for staff and security (even using CCTV) to observe people as they move through the space.

Feeling trapped

Lack of escape routes from some areas of A&E can render these spaces unpopular or unusable. When staff do use them they can behave in a defensive manner.

7

Perceived inefficiency

Summary: From a patient's perspective it can sometimes feel as if staff in A&E environments are disorganised and lacking focus. Patients observe themselves and others seemingly waiting for hours, while staff 'busy themselves' with perceived non-essential tasks.

Humour

The odd occasion when staff share a moment of humour – or are perceived to be having 'fun' or doing something other than treating patients – can infuriate patients and visitors, who may find it disrespectful or unprofessional.

Lack of professionalism

Throughout the A&E environment, it is frequently possible to find equipment and signage which looks like it has been 'bodged' together. This can create an impression of a lack of authority and consistent messaging.

Handover process

For some patients their 'treatment journey' involves a number of handovers between different staff members, especially those who arrive by ambulance. Sometimes these handovers are perceived to be more akin to the delivery of a package, and the transfer of information can lack respect for the patient's privacy.

Redundant equipment

A&E departments are typically full of equipment, some of which is actively used and some of which is no longer functioning. Storage space is at a premium and equipment is often stored in thoroughfares or corridors. Nobody appears to be accountable for keeping areas clear of clutter, and when it is cleared away, it often seems to return almost instantly.

Administration

Paperwork and other more administrative tasks are sometimes perceived as time-wasting by the patients, who believe that if healthcare staff aren't interacting with patients then they probably aren't 'treating them'.

Staff signage

Signage aimed at staff can be easily read by patients and visitors. The need to communicate basic information (for example, wash your hands) can undermine the perceived professionalism of staff. Furthermore, staff often become acclimatized to these messages and lose the ability to see them from the patient's perspective.

Orientation

Staff often spend time looking for things or trying to locate the right equipment. This is compounded by a fast rotation of medical students and junior doctors who are unfamiliar with the space and the location of stored equipment. Looking lost or disorganised does not typically inspire confidence in patients.

8

Inconsistent response

Summary: Hospital environments are often tightly controlled by policies, guidance, rules and regulations – much of which is difficult to decipher, inconsistently applied, and can be contrary to what happens in practice.

Security

When a violent or aggressive incident happens, calling security or the police is sometimes the only possible response. However, a security presence can inflame an already tense situation.

Infringing liberties

For a variety of reasons, some patients decide midway through treatment that they want to leave A&E. If clinicians are concerned about that person's welfare they may try to stop the person from leaving.

Unenforced rules

The walls of A&E departments are often covered with rules – such as no smoking, no mobile phones, one family member only. These rules are often unenforced or unenforceable, and inconsistent punishments for breaking rules can trigger or escalate aggression.

Slow response

Sometimes staff – and potential perpetrators – perceive that security is too far away or will take too long to be of any real help in an incident.

Easy targets

There are many situations in A&E where staff and patients perceive that they are isolated or vulnerable. Some staff members, such as receptionists, are also perceived to be 'easier targets' because of their lack of authority or inability to refuse treatment.

Preferential treatment

Some people in A&E are more demanding of staff. Sometimes this behaviour can unfairly result in preferential treatment.

9

Staff fatigue

Summary: Working in an A&E department is highly demanding on staff, many of whom work 12-hour shifts. Over time, staff can become both physically and emotionally tired, struggling to find the energy to deal with the constant flow of patients.

Workload

An A&E department is typically open 24/7 with a fairly unpredictable workload. Weekend evenings and Monday mornings are busy, but staff are always on their feet dealing with a constant flow of patients.

Patience

Many clinicians feel worn down by patients who feel certain of their condition, and demand a certain diagnostic process and course of treatment. Feeling undermined and frustrated can result in staff losing their patience.

Negativity

Working in a pressurised environment over the course of many years will give the average clinician a large number of patient experiences. Unfortunately it is often easier to remember negative experiences than positive ones.

Manners

Some staff feel that most patients in A&E are not polite and do not have good manners. Whatever the reasons for this, it can result in staff perceiving the general public as 'rude' and 'demanding'.

Teamwork

In some busy and noisy environments staff can find it difficult to communicate with each other, sometimes resorting to raised voices or shouting. Frustration can sometimes build when staff members are not able to communicate with each other normally.

Expert Reference Group

To check, challenge and validate the research findings, the Design Council convened an Expert Reference Group (ERG) workshop, which brought together frontline NHS clinicians, NHS operational managers and NHS security managers, police staff, prison staff, academics, patients and designers.

This full-day ERG workshop attended by 36 experts, gave the research teams an opportunity to present their findings and methods of interpretation for both the triggers and escalators of violence.

Using the research data as a starting point, the ERG workshop participants came up with over 50 'wouldn't it be great if' scenarios for the future of A&E and identified 31 challenges where design could help develop a solution. A list of six important considerations for designers when trying to design safer and calmer departments was compiled:

1 Safety and security
How organisations respond to perceived problems.

2 Flexible spaces
How the architecture contributes to aggression.

3 Efficiency
Why stays in A&E are often as long as they are.

4 Front of house
The experience of being in A&E/the patient journey.

5 Information
The information needs at various stages of the patient journey.

6 Care
How the process can dehumanise and disempower people.

The final group exercise developed draft design briefs, which were prioritised by voting, and provided a number of validated design themes which could be developed and refined into national design challenge briefs.

Service
User-centred process

Making safe

Place and process clarity

Information
Perceptions of A&E

A good wait

Environment
Versatile spaces

The design briefs

Following the ethnographic research at the three partner NHS Trusts, the *Reducing violence and aggression in A&E* programme issued six design challenge briefs to the UK design community. The six national design challenge briefs were:

1 User-centred process
Redesign the A&E process so that it better meets the needs of patients and other service users from start to finish.

2 Versatile spaces
Consider how spaces in A&E can be made more versatile and better able to deal with diverse client groups and unpredictable workloads.

3 A good wait
Improve the waiting experience for patients and other service users to ensure that both clinical and non-clinical needs are better met.

4 Perceptions of A&E
Identify ways to use communication and design to reinforce positive behaviour and avoid aggression and violence.

5 Making safe
Consider how design could be used to minimise both perceived and actual vulnerability and risk throughout the A&E environment for staff, patients and other service users.

6 Place and process clarity
Identify ways to make A&E processes and patient pathways more transparent and easier to understand.

The design challenge asked applicants to find innovative ways to reduce violence and aggression in A&E. Their responses could include new systems, processes, interior layouts, furniture, equipment, communications and/or services.

For more detailed information on these six briefs, see Chapter 4: The design briefs.

Holistic view of design interventions

The design briefs

Developing the project briefs

Following our initial research on the different ways in which design can reduce violence and aggression in A&E departments, we developed six separate project briefs.

Call for partners

The *Reducing violence and aggression in A&E* national design challenge launched in February 2011, calling for teams made up of designers from disciplines including product, service, communication, interaction, interior, digital, graphic and information, as well as other specialists such as architects, IT software solutions, signage and lighting manufacturers, service, training and security providers, and behavioural psychologists.

Designers were asked to team up with other skill sets that they felt would help them to respond to the briefs. Depending on the team's approach, this could include fabricators, building contractors, manufacturers, service producers or other specialist consultancies. We asked bidding design teams to submit a proposal to tackle one or more briefs, or specific elements of the six design challenge briefs.

The Design Council invited multi-disciplinary design teams to pitch for the work, offering a prize fund of £150,000 to cover the cost of research, design and prototyping.

Brief 1: User-centred process

A new blueprint for A&E focusing on the needs of users

Many visitors find the experience of visiting an A&E department disorientating. It can be difficult to understand the process of admission, waiting for and receiving treatment, and being discharged. Added to this, technical, medical and over-assertive language can make patients feel patronised and out of control. As a result, many perceive their A&E experience to be undignified.

This can lead to a sense of frustration and a perception that the service is poor. In turn, this may escalate into violent or aggressive behaviour.

This brief challenged teams to redesign the A&E process so that it better meets the needs of patients, while still supporting the needs of clinicians. We asked designers to consider a new blueprint for A&E service concepts, and come up with user-centred prototypes.

Issues to consider include:

– The needs of patients and other service users during their time in A&E
– The effect of waiting times on patients' and other service users' attitudes and behaviour
– How the design of space could help A&E staff to segregate offenders, notwithstanding their human rights
– The ease with which patients and other service users can travel to A&E departments

Resuscitation Room

P1

Brief 2: Versatile spaces

The design of a space, and its layout, has the potential to provoke acts of violence and aggression.

Our research shows that very different types of people are forced to share space in A&E departments. Drunk and disorderly people may be there alongside family groups, for instance. Mixing everyone in one space can result in violence and aggression.

Treatment areas in A&E tend to be designed according to the seriousness (acuity) of treatment needed. But the treatment spaces available may not match the mix of cases waiting, which can then cause delays. Added to this, there tend to be only a few areas where staff feel they can put patients who may be violent or aggressive.

The challenge under this brief was to look at how spaces in A&E could be made more versatile to help minimise the risk of violence and aggression.

Issues to consider include:

– Retrofitting concepts to current A&E departments
– Clinical and non-clinical needs of patients and service users at different stages
– Flexible use of space to meet the needs of everyone in A&E

Brief 3: A good wait

Much of the time that people spend in A&E does not relate to treatment. Those waiting in an A&E department may spend time buying and consuming food and drink, arranging for friends or family to visit them, or explaining to their employer why they need time off work.

Waiting areas in a typical A&E department can appear unloved and uncomfortable. Being forced to mix with different people with very different clinical and non-clinical needs also exacerbates patient anxiety and can lead to aggression. For example, people involved in a road traffic accident may take precedence over those who have been already been awaiting treatment for a long time.

The challenge under this brief was to look at how waiting spaces in A&E environments might be improved, and how that could enhance the user experience.

Issues to consider include:

– Making the queuing system and treatment process easier to understand and seem fairer
– Using design to make patient distinctions clearer
– Separating the minority of patients who are the most difficult
– Other calming environmental factors, such as light, colour, acoustics, heating and ventilation

Brief 4: Perceptions of A&E

People visiting A&E departments often feel disempowered and frustrated by the unfamiliar processes and a lack of information. Those coming in from the outside often struggle to understand the way an A&E operates. As a result, they don't fully perceive the complexities and pressures on staff, and so fail to empathise with them. Clarifying staff actions could help to defuse potentially violent situations.

People who act violently also frequently fail to realise the cost to staff, treatment times and other A&E visitors. They don't believe that violent and aggressive behaviour will have consequences, and they see little evidence of other offenders being brought to account. Giving people feedback about their actions and asking them why they behaved as they did can help enforce positive behaviours.

The challenge under this brief was to design a user-led suite of communications that is consistent, holistic and aimed at creating positive behavioural change.

Issues to consider include:

– Encouraging more appropriate use of all available/alternative healthcare services
– Improving communications and services in different locations

Brief 5: Making safe

A&E staff, patients and other service users can all feel vulnerable to violent or aggressive behaviour. Whether the risk is real or simply perceived, it can make A&E an uncomfortable environment for all.

For example, staff, patients and other service users may feel exposed to people who are deemed (rightly or wrongly) to be "potentially dangerous", including those with mental health needs or those who are intoxicated with alcohol and drugs. It can be difficult to monitor everyone wandering around, and people may have easy access to equipment or objects to use as weapons.

The challenge under this brief was to consider how design could be used to minimise both perceived and actual vulnerability and risk throughout A&E environments for staff, patients and other service users.

Issues to consider include:

– Managing access to different parts of A&E
– Improving sightlines through layout design
– Ensuring the intrinsic safety of products, spaces and processes
– Support, incident response and criminal justice

Brief 6: Place and process clarity

A&E departments are intrinsically unpredictable places. Workloads vary, and each patient has their own pathway through A&E depending on their condition or injury.

This can make the queuing system in A&E seem illogical and unfair. Physical space is also restricted and can be inflexible, contributing towards bottlenecks. The perception of a lack of space and a poor quality environment may contribute towards perceived inefficiencies. People get frustrated, and feel that the system isn't working as it should.

The challenge under this brief was to design an information system that keeps users better informed, based on a thorough and holistic understanding of A&E processes.

Issues to consider include:

– Helping people understand their A&E journey:
  – what to do
  – where they are
  – how long they'll wait
  – why they are waiting
– Reducing uncertainty, anxiety and frustration

Call requirements

In the call for partners, we stipulated that the successful team(s) needed to:

– Demonstrate that they are capable of designing interiors, communications and services that will protect staff from violence and aggression; and

– Improve the A&E experience so that fewer patients and other service users behave aggressively

We invited design teams to submit proposals detailing their credentials, case studies of their work, a statement of intent and a short business case.

Our aim was for the selected team(s) to co-design solutions with staff from the three partner NHS Trusts, and subsequently tests these in a live A&E department. Along the way, they would also receive guidance from a team of experts in design, health and industry.

We explained that additional funding for full implementation may become available depending on the scope and complexity of the solution being developed. We also announced that the winning designs would be championed by the Department of Health and the Design Council, with a showcasing event and high-profile media campaign planned for late 2011.

More than

800

people registered their
interest in the project

47

submissions received in
response to the national
design challenge

£150,000

The design & development
award for the winning team

The response

During the five weeks between the launch of the project and the closing date for entries in early April 2011, more than 800 people registered their interest in the project.

The challenge received coverage in the national media, design media and other channels. This coverage directed design teams and other interested parties to a specially created, project-specific social networking site on the Internet. We chose this approach as it allowed us to put details of the project online and give people the ability to contribute to the ideas on the project pages, and collaborate, should they wish.

The Design Council project team offered matchmaking support and assistance to interested parties who were seeking additional skill sets to join their consortia, or who were looking to join an existing consortia. We identified appropriate matches and made introductions, enabling well skilled consortia to be formed.

We received 47 submissions in response to the national design challenge. An impressive cross-section of approaches were laid out by inter-disciplinary and multidisciplinary teams, incorporating a range of design disciplines, including architecture, service and process design, interior design, furniture design, communication design, interaction design, software and technology hardware.

The judging process

Each suitable application entered into a two-stage judging process with an independent panel, composed principally of the programme's Advisory Board and supplemented with additional judges to ensure that all relevant design disciplines were represented. A judging panel, chaired by Sunand Prasad – Advisory Board Chair and former president of the Royal Institute of British Architects – shortlisted six entrants for interview.

The winning team

More than one team could have been appointed from the challenge submissions. However, in order to maximise the creative output of the project, the judging panel decided to select one winning team, who were then eligible for a design and development award of up to £150,000. The selected team then began to work with the partner NHS Trusts and our Expert Reference Group to develop solutions.

The panel's first choice was a consortium led by multidisciplinary design studio, PearsonLloyd. The company is best known for creating Virgin's Upper Class air-cabin suite and their consortium included two senior medically-trained academics, Professor Jonathan Benger and Dr Nigel Caldwell, as well as the Helen Hamlyn Centre for Design and Tavistock & Portman NHS Foundation Trust.

The design team impressed the panel with its overwhelming design experience. As well as targeting behaviour change through environments and information systems, the company proposed a truly holistic approach to four of the six briefs, which was bolstered by an impressive consortium of proven professionals.

For more information about the winning design team, see Chapter 5: The design team.

5 The design team

The multi-disciplinary skills and experiences of the winning design team and how they worked with the key stakeholders.

PearsonLloyd

helen hamlyn centre for design

Tavistock CONSULTING

UWE University of the West of England BRISTOL

UNIVERSITY OF BATH SCHOOL OF MANAGEMENT

THE TAVISTOCK INSTITUTE

About the team

PearsonLloyd is a multi-award winning London-based design studio. Its expertise lies in offering design knowledge and strategic thinking to industries that have demanding spatial, ergonomic and social needs, such as healthcare, aviation, the workplace and the public realm. Founded in 1997, the studio helps organisations to make strategic changes within these areas by exploring the relationships between people and the complex built environments which they inhabit.

PearsonLloyd's work on *Reducing violence and aggression in A&E* was led by design director Tom Lloyd. To deliver the project successfully, the studio needed to use evidence-based knowledge to develop strategic concepts. These had to be delivered through specialist knowledge of human factors, environments, violence and aggression, and the healthcare industry. With this in mind, PearsonLloyd decided to form a consortium for their design challenge team, which comprised the following people and institutions:

– The **Helen Hamlyn Centre for Design**, based at the Royal College of Art, London, was approached for its expertise in people-centred research and design. The centre's Health & Patient Safety team focuses on creating safer and smarter healthcare products and services, and the team has developed its own evidence-based and user-centred methodology.

– The **Tavistock Consultancy Service** is a well established arm of the Tavistock and Portman NHS Foundation Trust and was brought on board to understand the psychological aspects of individual, group and organisational dynamics in A&E. Julian Lousada, a senior consultant, provided his expertise for the project.

– **Professor Jonathan Benger** and **Dr Sarah Voss** of the University of the West of England's Centre for Health and Clinical Research provided a clinical perspective. Professor Jonathan Benger, an expert in emergency care, chairs the Clinical Effectiveness Committee of the College of Emergency Medicine and has experience of addressing violence and alcohol problems in A&E, whilst Dr Sarah Voss has experience of conducting healthcare research focusing on user perspectives and expectations.

– **Dr Nigel Caldwell** and **Dr Alistair Brandon-Jones** of the University of Bath School of Management were brought on board to provide expertise relating to service design, operations and supply management. They were able to advise on the efficacy of the design concepts in terms of A&E as a service system, and how operational measures, incentives and performance measures support (or hinder) design at the system level.

– A key part of the project was to establish how successful any solutions were, and to quantify the impact the designs had upon aggression and violence. This expertise came from **The Tavistock Institute of Human Relations**. Principal consultant Frances Abraham and researcher and consultant Olivia Joyner provided expertise and guidance in how the design solutions could best be evaluated.

The design concepts developed by the design team were showcased by the Design Council in late 2011 prior to prospective evaluation with participating NHS Trusts. The aim is to implement the design solutions at the partner NHS Trusts, and work with other NHS Trusts around the country to promote their wider adoption and implementation.

Working with the Design Council

For the design team, working closely with the Design Council from the very start of the project helped them to receive a clear initial briefing on the subject of violence and aggression in A&E and an understanding of the key issues. They also learned from the Design Council about any initiatives that had been trialled previously to address the issue, and which of these had worked. This provided the design team with a helpful starting point for their work.

The Design Council's ethnographic data provided the backbone to the team's knowledge at the beginning of the project. Insights were then broken down into key areas, such as the reasons why patients might become aggressive (trigger clusters) and what types of patients might be more prone to becoming aggressive (perpetrator characteristics).

In addition, the design team benefited from the Design Council's convening of an extensive network of experts in the field, who were on hand for consultation as and when required. This helped to ensure that the design team's solutions had the necessary academic rigour and credibility.

Working with the NHS Trusts

The involvement of the three partner NHS Trusts was crucial in ensuring that the proposed design solutions addressed the right issues and would create a positive impact on A&E departments.

It was important for the design team to work with more than one Trust so that it could gauge the scope of a number of variables, such as buildings, clientele and processes, and the impact that these have on A&Es. This also ensured that the eventual design solutions could be implemented across a spectrum of different hospitals, each of which would have their own individual needs. This work with the Trusts helped the design team to understand that their solutions would need to have a number of common characteristics. Specifically, they would need to be easily implementable, non-Trust specific, retrofittable, flexible, effective and affordable.

The design team held workshops with staff at each of the three partner NHS Trusts to encourage a multi-disciplinary approach to solving the problem, and to learn from one another's experiences. These were attended by a variety of staff working in A&E, who provided many different points of view. The team continued to meet with the Trusts for the duration of the project to ensure that they were fully involved in the evolution of the design solutions.

6 The design solutions

The design approach

Design is a process that creates ideas and delivers new products and services. It helps businesses and the public sector shape their ideas so that they deliver practical, attractive and useful propositions that people want to buy and use.

At its heart, design is the process of translating ideas into reality. Whether it's being used to develop a new service, a piece of graphic marketing material or an innovative product, a number of key attributes underpin every design-led project. The Design Council illustrates these attributes using a model called the Double Diamond.

The Double Diamond model illustrates how designers work through four key stages. First, they open up space for lots of different ideas to be **discovered** and shared. Then by focusing on user-needs they help identify and **define** priority areas to address. Next, a designer will **develop** multiple prototype solutions based on the opportunity areas identified and finally, they will focus on distinct objectives and manufacturing or delivery constraints to **deliver** a final solution.

The design team followed this process to identify and develop solutions to violence and aggression in A&E in collaboration with staff and patients.

Discover

The research conducted in the discovery phase helped them establish that:

– Improving people's experience of the service – individually and collectively – will help to improve their behaviour.

The ethnographic research, commissioned by the Design Council, provided a useful grounding for the design team on the issues faced by A&E departments, but it was also essential for the team to experience the departments first-hand.

Define

When defining the opportunity areas for design solutions they recognized that:

– The current system tries to contain the high level aggression and violence, rather than tackling the root causes and low level frustrations.

– Violence and aggression doesn't only come from patients, but also concerned friends or relatives. At present, very little is done to address their needs.

The design team did their own fieldwork and research to gain insights into the problem of violence and aggression in A&E departments. They familiarised themselves with the environments and processes, and actually witnessed incidents of aggression and violence as they took place.

The Double Diamond model

Diagnose

Problem definition

Watching the service in action

Mapping and visualising the customer journey

Customer journey walkthrough

Clustering and segmenting insights

Workshops

Creating user profiles

User interviews

Idea generation workshops

Prototyping propositions

Writing the brief

Visualising ideas

Creating a visual record of the process

Learning from other sectors

Specification

Collating and distributing conclusions

Develop

When developing concepts they worked on the understanding that solutions needed to:

– Acknowledge that people attending A&E are in physical and emotional pain.

– Manage people's expectations of the service.

– Make sure that people understand the system they have entered into.

The develop phase saw the design team take the refined intent, a set of clearly defined themes distilled from the various research, and use these as the basis for a set of innovative and easily implementable design solutions.

Deliver

When delivering their design solutions they recognised that:

– Any designed solutions need to be retrofittable in every A&E across the country, regardless of department size, design or layout.

The deliver phase is ongoing. As well as a showcase event and design toolkit (see Chapter 8: The design toolkit), the aim is to encourage implementation of the design solutions within the partner NHS Trusts and across the NHS (see Chapter 10: Next steps).

Interpreting the research and prioritising approaches

The multi-disciplinary design team began work on the *Reducing violence and aggression in A&E* programme by reassessing the insights generated by the ethnographic research from ESRO and Bontoft Ltd and by conducting their own fieldwork to get personal insights into the people and human dynamics in A&E departments. This helped the team's understanding of how distressed people interact in a high-stress environment and the associated issues.

A dehumanising experience

The design team began by identifying underlying design issues that affected the experience of visitors to A&E departments, realising that the A&E system was not sufficiently designed with the needs of these end users, or customers, in mind. This often led to visitors feeling forgotten, neglected or frustrated, which they may perceive as a dehumanising experience.

The realities of A&E mean that patients will encounter a number of stages to being treated. Patients first need to be registered at reception. Following registration, a nurse will assess (triage) their illness or injury in order to establish the urgency of their treatment. The patient may then need to go for some medical tests if further information is required, the results of which must then be processed and analysed. Only then can treatment finally occur. The whole process is considerably more complex than many people might expect.

The process: expectation

User   **The system**

Patient — **Arrive** — **Treat** — **Outcome**

The process: reality

User   **The system**

| Wait | Wait | Wait | Wait | Wait |

Patient — **Arrive** — **Book in** — **Assess** — **Monitor** — **Treat** — **Outcome**
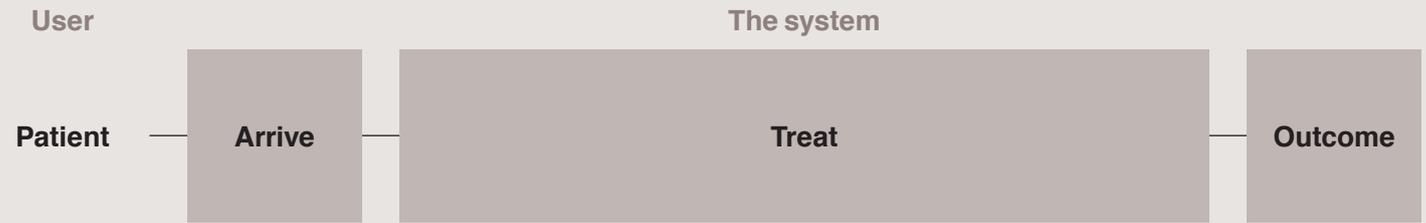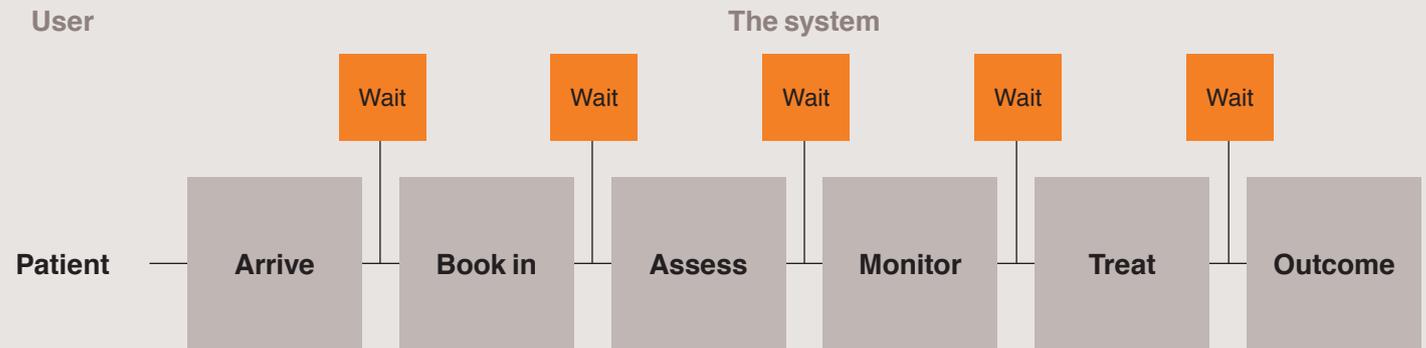
The process: user perception

User   **The system**

| Arrive | Book in | Assess | Monitor | Treat |

Patient — **Wait** — **Wait** — **Wait** — **Wait** — **Wait** — **Outcome**
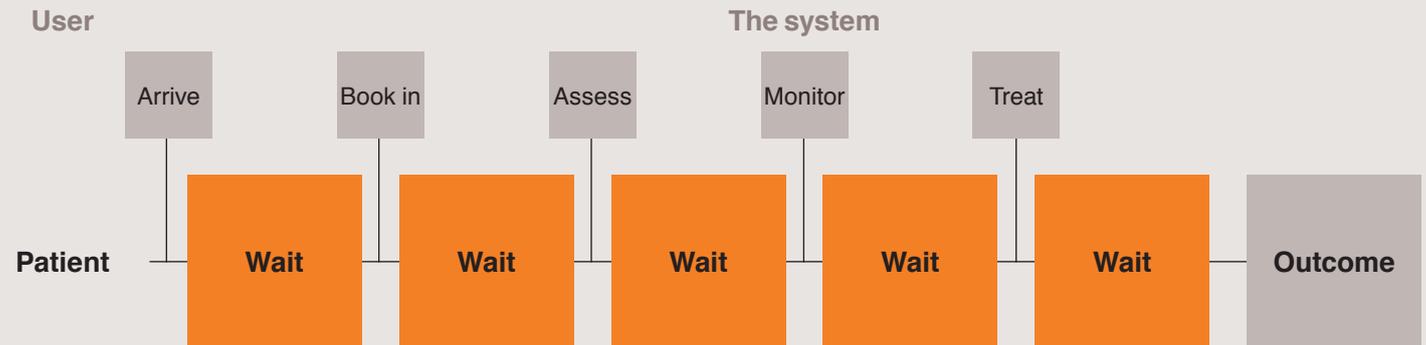
Compounding this problem is the fact that the time spent with a member of staff at each stage is rather short, and unavoidably often preceded by a rather long wait. The result is that many patients perceive the experience as a series of long waits.

One of the key issues identified is the lack of knowledge patients and other service users have about how the A&E system works. Once they have been processed into the system, they often don't know how long they are going to wait. Furthermore, throughout this time they are likely to be in pain or distress. It can end up feeling like "me versus the system", which can then result in built up frustration leading to aggression or violence.

Levels of aggression vary according to the person and the different triggers that may have occurred. Verbal abuse seems to be most commonly experienced by staff in A&E departments, but this can escalate to high-level aggression and even physical violence. Focusing on the causes of aggression can help to reduce violence as well as the routine low-level aggression.

The A&E journey

The user experience can be broken down into distinct stages: arrival, waiting, treatment and the final outcome (discharge or admission). The design team felt it was important to make each stage a positive experience, and to keep users informed throughout their visit to A&E.

They found that this is being done very well throughout the treatment and outcome stages, but that there is room for improvement in the arrival stage, and that patients and other service users could be kept better informed throughout their visit.

As first impressions count, a positive initial point of contact will set expectations and result in far more favourable perceptions throughout every stage of the visit, and vice versa. As highlighted in the previous chapter, one suggestion to the team from NHS staff was to have a 'greeter' at the entrance to A&E to welcome and reassure arriving patients and other service users. This initial interaction could make patients easier to satisfy in the subsequent processes of their journey.

It is worth noting that a person's experience of A&E often starts before they even enter the A&E department. For example, if a patient or service user has had difficulty finding a parking space, they will already be stressed and more likely to become aggressive. Patients will then be more likely to be dissatisfied with subsequent stages of the process when otherwise they may have been satisfied. In other words, the early stages will have an impact on impressions of later ones.

The design team felt that creating positive interaction at every stage – not just in terms of the patient, but for everyone in A&E – could "rehumanise" an otherwise dehumanising experience, and prevent any aggression occurring.

First impressions count

Arrival

Delight shifts the zone of tolerance

Delighted

Satisfied
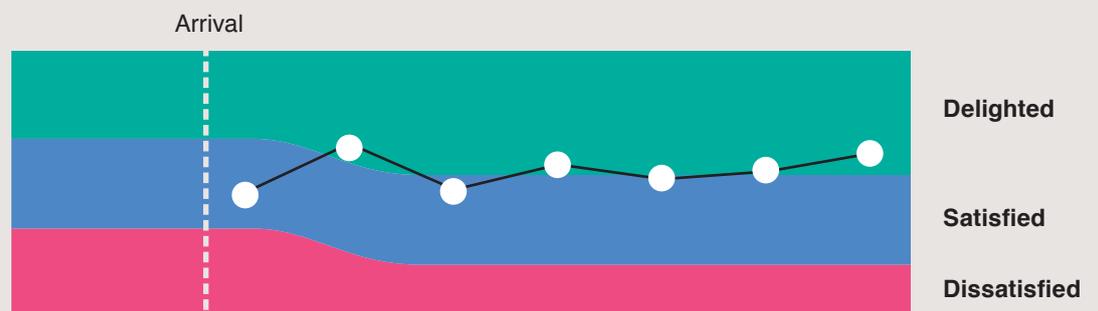
Dissatisfied

Dissatisfaction early on shifts the zone of tolerance up

Delighted

Satisfied

Dissatisfied
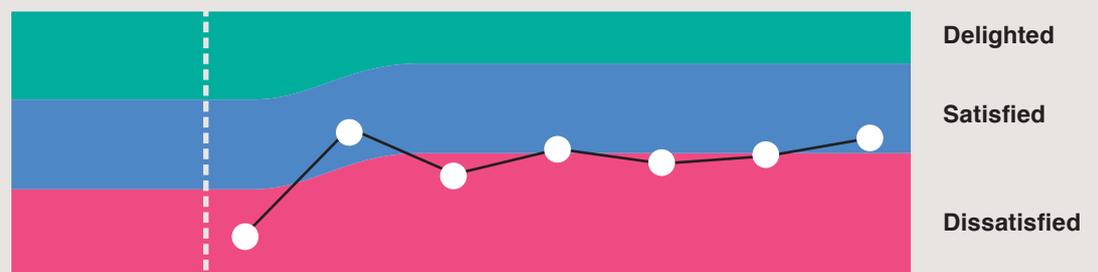
Expectations   **Process**   **Outcome**

Patients and other service users often lack knowledge about how the A&E system works

Me

versus

The system

The A&E journey

We need to have a positive interaction at each stage of the user experience

| Pre-arrival | Arrival | Wait | Treatment | Outcome |

And we need to stay in touch throughout the visit to A&E
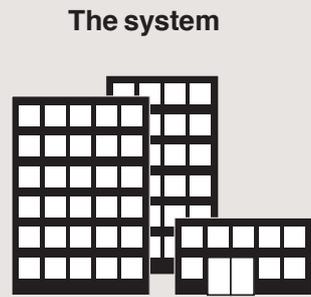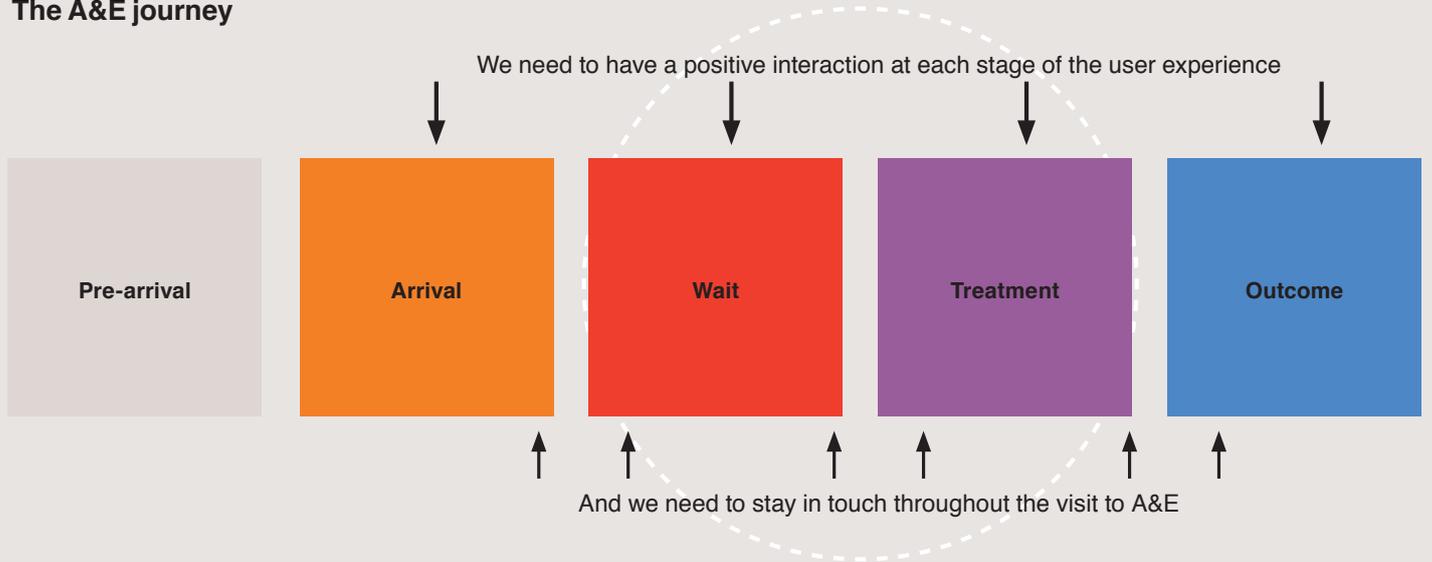
What's happened before people arrive at A&E entrance? Have they had difficulty parking? Will they be stressed already?

More information on arrival would help manage visitor expectations

First impressions count. Could a 'greeter' welcome and reassure arriving patients and visitors?

Information given to visitors in accessible chunks

Information given to visitors in accessible chunks

When I arrive at A&E: a chain of negative experiences

Where do I park?

Where's the entrance?

What's this queue for?

Should I even be here?

Ideal patience experience

By breaking down the different key stages of the typical patient journey through A&E, the design team were able to create an ideal patient experience, which would help to inform their eventual design solutions.

Pre-arrival

I know how busy A&E is (and if it's a good time to go).

I know what my options are (alternative services).

I know how to get to hospital.

I can find the A&E department easily.

Arrival

I've been greeted, acknowledged and reassured.

I've been guided on where to go and what to do.

I have a basic understanding of the service and what happens next.

I know how busy A&E is (and if it's a good time).

I feel safe.

I know who I am talking to.

Check-in

I understand the service and what happens next.

I feel in the process.

I feel like someone cares about what happens to me.

I feel reassured and confident about what will happen to me.

I feel safe.

I know who I am talking to.

Wait

I understand the service and what happens next.

I know why I am waiting.

I know what I am waiting for.

I know how long I'll wait.

I am free to wait in a manner that suits me.

I know I haven't been forgotten.

I can find out more if I'm not sure.

I'm comfortable.

I feel reassured and confident about what will happen to me.

I feel safe.

I know who I am talking to.

Assessment

I understand my journey and what happens next.

I know how long I'll wait until my treatment.

I feel I'm being cared for and someone cares about what happens to me.

I feel safe.

I know who I am talking to.

Monitor/Treat

I understand what's next in my journey.

I know why I'm waiting.

I know what I'm waiting for.

I know how long I'll wait.

I am comfortable.

I know I haven't been forgotten.

I can find out more if I'm not sure.

I feel reassured and confident about what will happen to me.

I feel safe.

I know who I am talking to.

Depart

I understand my diagnosis and treatment.

I understand my ongoing treatment and what I do next.

I know where I need to go and how to get there.

I feel safe.

I know who I am talking to.

Refined intent

For the design team, this period of discovery resulted in them taking a holistic approach to tackling the issue of violence and aggression in A&E. This led them to review the six national design challenge briefs, and distil these into four overarching themes for their design solutions:

— **The arrival experience:** creating positive first impressions and managing expectations for patients and other service users

— **The waiting experience**: how to intervene before frustrations accumulate

— **Guidance**: providing information to patients and other service users to alleviate the stress of the unknown

— **People**: building a healthy mutual relationship between the user and the system

Once they had identified the four themes, the design team investigated each one in greater detail to understand how they currently work in A&E departments. This enabled them to identify every possible opportunity for their design solutions to help reduce violence and aggression, and also helped them to understand that the design solutions would have to work to certain constraints. Specifically, the solutions would need to be:

— Implementable
— Non-trust specific
— Retrofittable
— Flexible
— Affordable
— Effective

Detailed approach

During the research stage, the design team built on their own experiences of A&E to inform their understanding of the service users' perspective. However, in order to receive a more objective view of the A&E experience, an online patient survey was conducted through the team's personal network. This received a strong response: 117 people completed the survey, reporting on experiences relating to 58 different NHS hospitals across the country.

The survey responses backed up the team's own experiences, and revealed a number of insights.

– While clinical care was rated good or exceptional by the majority of people (67%), the non-clinical element of their care was rated good/exceptional by less than half of people (48%).

– A third of people did not understand the process for being treated, and two-thirds of people (63%) did not always know what was happening.

– While most people (87%) expected to wait for their treatment, two-thirds (67%) expected the wait to be shorter than it was, with over half of the survey population (51%) not always understanding the reasons for their wait.

– Two-fifths of people (42%) felt unable to talk to staff, with a similar number not knowing who they were talking to.

This data provided some clear indicators as to how patients and other service users view their A&E experiences. The vast majority of patients' comments related to the waiting experience, understanding the process and interactions with staff.

This provided clear evidence that the project's design themes were addressing the right issues.

- Lack of information for patients
- Unrealistic patient expectations
- Disorientation
- Poor waiting environment
- Overcrowding/lack of space
- Other environment
- Lack of privacy
- Noisy
- Drunk/Mentally ill patients
- Patient flow through department
- Poor customer service
- Lack of security
- Anxiety for themselves or others

- Give patients information (times/process)
- Staff welcoming role
- Better signage
- Encourage positive feedback
- Improve layout
- Seperate aggressive patients
- Decor/lighting
- Improve staff facilities
- Reduce clutter in arrival area
- Facilities/distractions in waiting area
- Access control
- Safe storage
- Education for staff
- Security presence in A&E
- CCTV
- Support for staff
- Tea trolley

The solutions: summary

The design team's solutions distilled the four theme areas into three distinct outputs.

1 Guidance

How to improve the patient experience through better communication and guidance

Proposed solution: an intuitive modular information and communication system – in the form of large scale environmental signage and live digital platforms – designed to be deployed on-site to empower patients with key information and reduce anxiety levels.

In summary: provides a need-to-know package of information about the department, waiting times and treatment practices to patients. It includes integral on-site signage, patient leaflet, interactive media digital systems and touch screen applications. This is complemented by a live digital screen welcoming patients, coupled with a large process map of a patient's pathway through the respective A&E department.

2 People

How frontline NHS staff can be better supported to manage and learn from incidents of violence and aggression

Proposed solution: new staff-centred reflective practice designed to develop and duly safeguard frontline staff – through cognitive learning – to support their interface with potentially aggressive and violent patients.

In summary: this provides concepts for staff to recover from the stresses of the workplace, promoting staff engagement, boosting morale and reducing staff sickness/absence through learning and development tools. It will support staff to develop and/or regain their compassion in difficult circumstances through learning and development via practical, people-centred training programmes and other in-house inductions or reflective sessions.

3 Toolkit

How the outputs from this project can better inform and inspire A&E commissioners and decision-makers in the NHS

Proposed solution: a design toolkit, which offers concise design-led recommendations – inclusive of process, information and environmental spheres – to help improve patient experience and reduce violence and aggression.

In summary: the production of a toolkit which provides management with a full spectrum of the causes of violence and aggression in A&E departments and design recommendations which could be made to help combat or solve them. Examples could include environmental layout and atmospheric recommendations to areas such as reception, triage, minors, majors, cubicles, etc. This will educate decision-makers on how the designs of various elements can positively impact reduction of violence and aggression.

What   A communication package to create a transparent process, providing basic information about the department, waiting and treatment.

Why   By giving visitors to A&E a better understanding of how the department works, and a sense that their human as well as clinical needs are being attended to, they are less likely to become confused, frustrated and potentially aggressive as they progress through the system.

How   Retrofittable environmental graphics, complemented by a live digital system and welcoming arrival process.

What   A programme that enables staff to help fulfil the core values of the NHS and engage directly with the issues around violence and aggression.

Why   To promote staff engagement, boost morale and reduce staff absenteeism, with the goal of helping staff develop enhanced techniques to care for different types of patient and visitor.

How   An induction programme for new staff members including traineee nurses, junior doctors, agency staff, receptionists and security. A cyclical programme of staff engagement around a format of reporting and review.

What   A guide for NHS frontline, management, estates and industry that provides guidelines on the built environment, relevant to each area of A&E.

Why   Educate decision-makers on how the design of various elements can positively impact upon levels of aggression and violence, and recommend best practice solutions.

How   Illustrated publication and online website.

1

Guidance

Solution 1: Guidance

The design team's field research with NHS Trusts confirmed that many people become frustrated with the A&E service because of a lack of clear, effective information and guidance. Patients and other service users arriving at A&E by means other than an ambulance may have significant difficulties in navigating the physical space, and can become lost even before arriving in the A&E department. Once there, they are exposed to a complex system that they may not understand and is frequently not explained to them.

This lack of knowledge, guidance and information increases their anxiety, and this in turn has the potential to develop into aggressive or violent episodes.

To define and develop the most relevant, useful and implementable design solutions, the design team explored each stage of the journey made by patients and other service users through A&E. What were their physical and emotional needs at each stage of the process, and what could be done to provide for these?

What kind of guidance

Where's the
water fountain?

Please queue
to register here

What finding

Instruction

Information

Wayfinding

Treatment in
order of priority

Where's A&E?

The A&E journey

i. The arrival experience

Patients and other service users arriving at A&E will inevitably arrive with certain expectations. Their state of mind will largely depend on why they are there. Whatever the reason, patients are often faced with a series of obstacles before they are actually booked into the system – from parking to finding the department and queuing, typically with little or no human contact.

If these first impressions are negative it can have a significant impact upon the service user's overall satisfaction with the service.

Design opportunities

The pre-arrival and arrival experiences are two different stages in the service user's journey, and therefore represent distinct opportunities for improvement.

– A pre-arrival intervention would allow patients and other service users to self-triage and identify the appropriate care pathway. They may benefit from direction to alternative care pathways when A&E is not appropriate. When A&E is the right place, however, they need to be guided towards the correct destination, while actively managing their expectations of the service.

– Upon arrival, the opportunities lie in reassuring, managing expectations and creating the best possible first impression. The ideal case scenario would be a personal greeting, delivered as early as possible within a welcoming space that creates a sense of mutual respect between the user and the service.

ii. The waiting experience

Some degree of waiting is to be expected with any visit to A&E. At what point, however, is the wait perceived to be too long, and how can this feeling be mitigated?

The design team felt that the current waiting process provides patients and other service users with very little information. This lack of knowledge causes anxiety – and can leave them feeling trapped and unable to move for fear of losing their place in the queue. The inflexibility of the waiting process, combined with the lack of distraction, can make the wait feel longer than it actually is.

Furthermore, the waiting space may be a bright and uncomfortable area, with the patient and service user surrounded by potentially loud and aggressive people who are also awaiting treatment. Other factors, such as the ergonomics of the environment, the acoustics of the space and the layout of the furniture, can all contribute towards raising stress levels further.

The patient and service user can end up feeling ignored and neglected by the department, particularly during long and uninformed waits. By treating the wait as an experience in its own right and providing appropriate facilities for it, the patient and service user can feel cared for throughout their stay.

Design opportunities

The waiting experience can be broken down into a number of themes, each of which presents opportunities for improvement:

— **Understanding**
The patient and service user may lack an understanding of why they are waiting, and of how the waiting process and prioritisation of treatment is organised.

— **Social experience**
The waiting space is shared by disparate groups and individuals, a proportion of whom may be intoxicated, antisocial, or in significant distress. As a result, a negative or positive interaction can quickly result in a similar atmosphere being spread throughout the space.

— **Environment**
The ambient environment can give the patient and service user prompts as to how to behave and what to expect. In the same way that a library promotes a hushed environment, an appropriately designed A&E environment could promote a sense of calm and respect.

— **Empowerment**
Providing the right information at the right time can help to alleviate the stress of the unknown and manage patients' and service users' expectations of the A&E service. This may cover information about how the A&E department works, where the patient or service user is in the process, or even just how to find their way around the department. Empowering people with knowledge can also reduce the time spent by clinical staff responding to general queries.

The information provided to patients and other service users also needs to be conveyed in the right way, to ensure the right message is being given at all times. A clear, honest and humane tone of voice can help to create a rapport with the visitor, establish the right atmosphere in the environment, and engender a respectful culture within the A&E department (and ideally the hospital as a whole).

Approach

The primary design output focused on a guidance package that communicates essential information to the patients and other service users arriving at A&E. This contains both generic information relating to the process for receiving treatment, as well as live information relating to the status of the department and waiting times.

This project looked primarily at the question of how to convey basic information in a busy A&E department, where staff are often too busy to offer information or guidance on an individual basis. The solution had to be retrofittable and easily implemented in any hospital, as well as addressing the issue of violence and aggression.

The goal of this guidance package was to give patients and other service users in A&E a better understanding of how the department works, and a sense that their human, as well as clinical, needs are being attended to. As a result, this would make them less likely to become confused, frustrated and potentially aggressive as they progress through the system.

The design team felt that this would be best achieved by retrofittable environmental graphics, complemented by a live digital system and welcoming arrival process.

The first step was to establish exactly what kind of information was required, where and why. A matrix was developed, which categorised information into the three levels of static, live (dynamic) and personal, and whether this information was mobile or fixed to a location.

Different delivery formats and technologies could deliver the various levels of information.

For example, the more generic static information, such as the general process for treatment, can be delivered in a fixed print/graphic format. Personal information can only be delivered digitally with a password and identity number for access, due to confidentiality reasons.

Given the emphasis on the solutions being retrofittable and easily implemented, the decision was taken to focus on the static and live information for this project, with the potential for personal information being scoped out as a future development.

Example of 'slice' variations within an A&E department
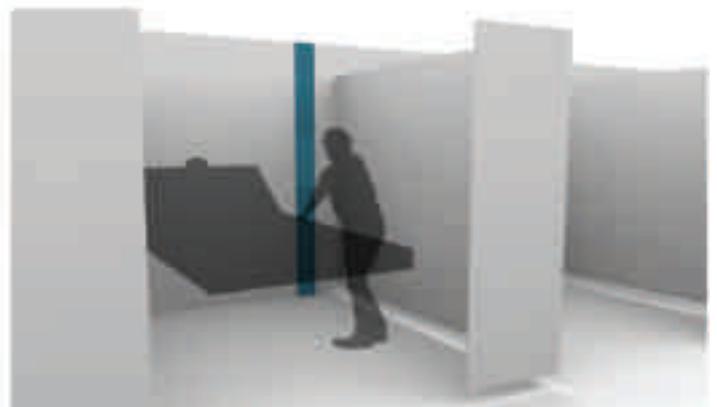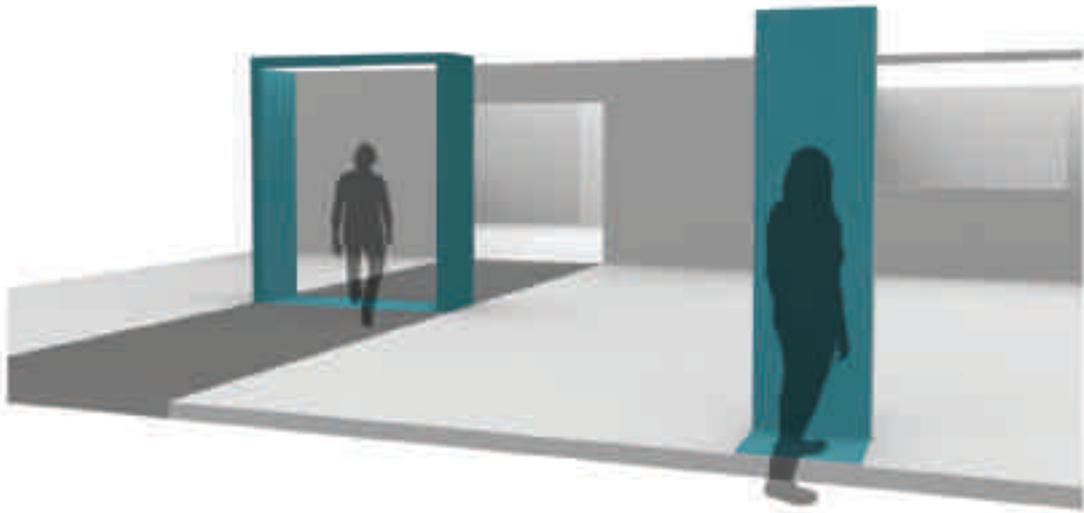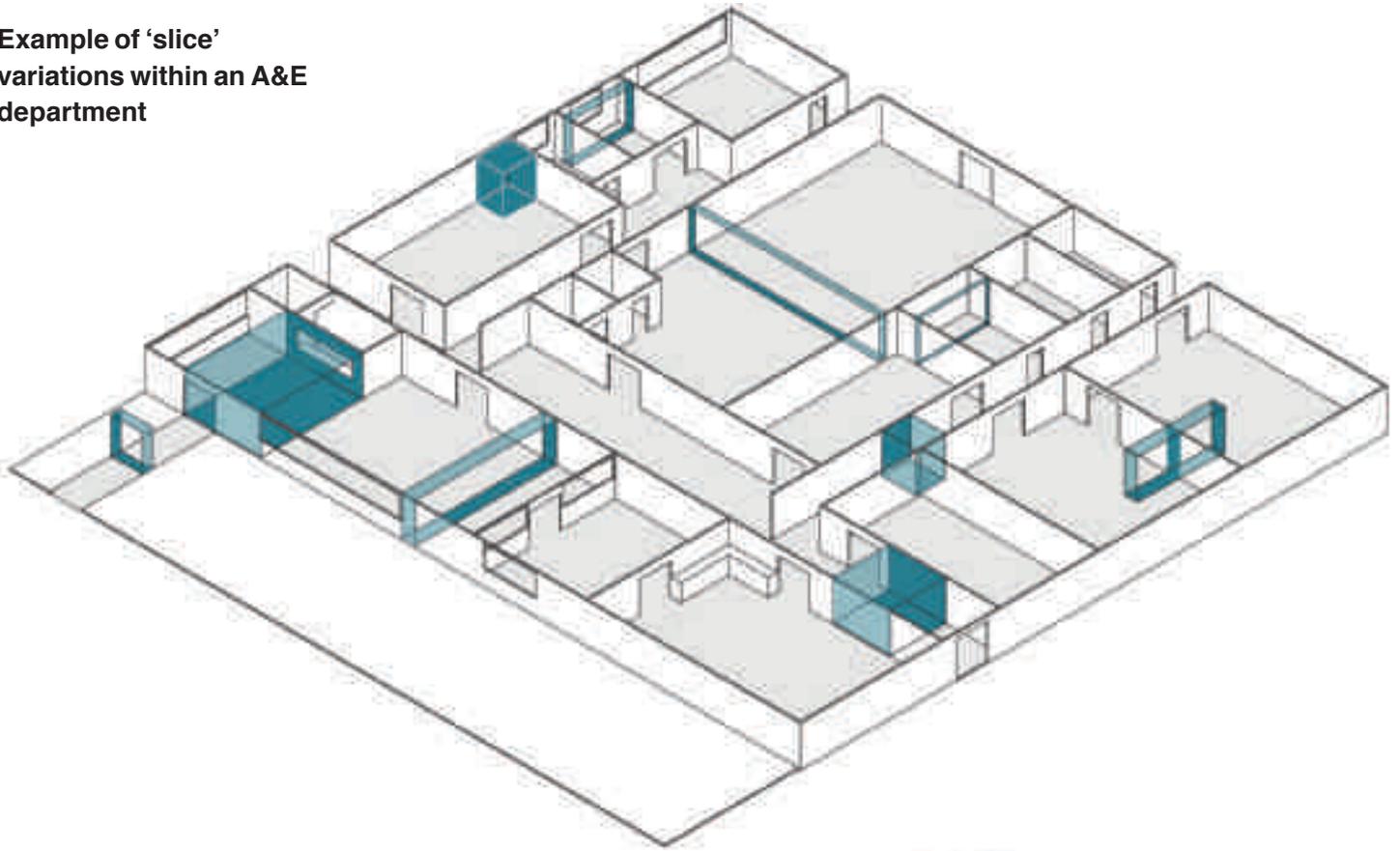
Design solution

The design team's primary solution for providing essential guidance to patients and service users was to develop a series of static, fixed format signs. Digital formats (see 'Future opportunities' on page 106) could also provide the opportunity to display dynamic and personalised information.

The recognition that static, fixed information presented the best opportunity for conveying basic information to patients and other service users in A&E led to the design team developing the concept of the 'slice'.

The slice

A narrow vertical slice in each space would be modified to contain all the information relevant to the user at that stage in the treatment process, and become the recognised communication point for patients throughout the department.

This meant that rather than redesigning the whole department, or refitting each and every room, a 'slice' could be inserted, which would gently guide the patient or other service user along their journey through A&E.

The flexibility of the 'slice' system means it can be inserted into any room, space, or corridor, creating an instantly recognisable point for information and communication throughout the department.

The ideal case scenario would be to have a four-sided slice, but when retrofitting space constraints might mean it would have to be scaled down into one full-height panel.

The patient survey confirmed that there was a need for even the most basic of information, so the first necessity was to make sure that this information was conveyed in the panels. This meant explaining what the process for treatment was, and addressing the gap between the patient's or other service user's expectations and the actual process.

**'Slices' used to guide
the patient or other
service user along their
journey through A&E
(this page and overleaf)**

1
Where am I?
What stage am I at?

2
What's the most important thing I
need to know?

3
Why am I waiting?
How long will I wait?
What impacts on waiting times?

4 (optional)
What happens at this stage?
What happens after this stage?

5
Where am I in the process?

A&E
Waiting area

People in this area may be at different stages of assessment or treatment.

This A&E Department is often very busy. We aim to treat everyone as quickly as possible, but waiting times can be long. Thank you for waiting patiently.

We see the most urgent cases first. This means that people who arrived after you may be called first.

Please ask us if you are worried about waiting times.

If you have to leave, please tell us, so that we can update our records.

Check in

Please take a ticket.

Reception staff will call you and ask for details like your name, address, date of birth and next of kin.

At busy times there may be a short wait before your ticket number is called.

People who are very unwell may be taken to a treatment room immediately.
In this case, a receptionist will be called to the treatment area to complete their registration.

Assessment

Please wait for your name to be called.

A nurse will assess the urgency of your injury or illness and talk to you about the type of treatment you need.

We aim to assess you within 30 minutes after check in.

When the nurse has assessed your injury or illness, we will have a good idea of how serious it is and what type of treatment you may need.

We aim to treat the most urgent injuries and illnesses first.

Treatment

Please wait for your name to be called.

Remember that waiting times for different kinds of treatment can vary, so other people may be called before you.

Sometimes, a serious emergency will need additional support from doctors and nurses. Emergencies can affect waiting times for other patients. If this happens we will let you know

You will have be treated in one of the following treatment areas

- Major injuries
- Minor Injuries
- See & Treat

As part of your treatment we may need to carry out tests. Some of these tests, such as scans, blood tests or x-rays, may mean that you need to wait while we process the results.

Minor injuries

In Minor Injuries we treat people who are not in immediate danger from their injury or illness.

We aim to treat you as quickly as possible. If you would like an approximate waiting time, please ask

Please be aware that it can be difficult to predict waiting times accurately, as some patients take longer to assess and treat than others.

You will be seen by a doctor or an emergency nurse practitioner. Please ask if you do not understand anything they discuss with you.

You may then have to wait for some tests or treatment, or to be seen by a specialist doctor.

Observation
Bay 15

The Observation Unit is for people who require care for longer than 4 hours.

It is also for patients who are waiting for a bed on a hospital ward.

A&E patients

If you need care and/or investigations after you leave the Observations Unit, a specialist doctor will decide whether you need to be admitted to a ward or if you can go home

Patients for admission

While you are waiting for a bed on the ward, your team of doctors will see you at least once a day. You will receive the same treatment and investigations that you would receive on a ward.

Assessment Categories

A specialist nurse, called the triage nurse, will assess the urgency of your injury or illness.

Everyone is assessed using the same scale of Priority Categories, from 1 (life-threatening) to 5 (non-urgent)

| Priority 1 |
| Priority 2 |
| Priority 3 |
| Priority 4 |
| Priority 5 |

Within each Priority Category, we treat the most serious cases first.

Patients who arrive by ambulance are assessed in the same way as people who arrive unassisted.

Major injuries

In Major Injuries we treat people who have a serious injury or illness.

We aim to treat you as quickly as possible.
If you would like an approximate waiting time, please ask.

Please be aware that it can be difficult to predict waiting times accurately, as some patients take longer to assess and treat than others.

The Major Injuries area is for people who have a serious injury or illness who need clinical investigations and advanced nursing care.

X-Ray
Seating area

This unit takes x-rays for A&E and other departments in the hospital.

During busy periods you may have to wait.

Please wait for your name to be called by one of our technicians.

Children will be seen first, whenever possible.

**Full-height panel 'slices'**
within A&E

Minor
Injuries

Process map

To accompany the 'slices', a process map was developed, which became the core of the communication language. This illustrated the patient journey as a series of steps moving towards the goal of treatment, with a pause (or wait) before moving onto each step. The steps were categorised into the four larger stages of check-in, assessment, treatment and outcome (or further treatment).

It was important to illustrate each wait as being purposeful and another step in the journey towards treatment in order to readdress perceptions around waiting in A&E. The process map is intended to be displayed in full size in the waiting room, but the information should also be available in a portable format as a patient leaflet.

Process map with corresponding 'slices'
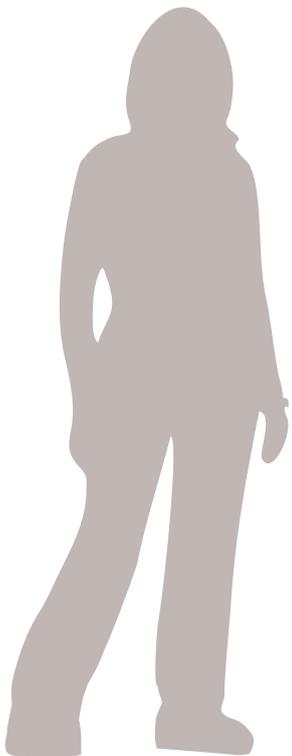
Check in

Assessment

Ambulance ·· Handover

Walk in ········· Check in —— 🕐 —— Assessment

The receptionist will check you in.

You will be seen by a nurse in order of arrival.

A nurse will assess the urgency of your injury or illness.

Treatment

Outcome

Resuscitation

For people with life-threatening injuries or illnesses.

Major Injuries

For people with very urgent injuries or illnesses.

Tests

We may need to find out more about your injury or illness.

Minor Injuries

For people with less urgent injuries or illnesses.

See & Treat

For people whose injuries can be assessed and treated in one step.

You will be treated in order of urgency

You may have to wait while we process your test results and decide on the best treatment.

Hospital

People who need further treatment will be admitted to a hospital ward.

Leave A&E

Most people will be able to leave A&E after treatment.

Your journey through A&E

Assessment

Treatment

Outcome

Handover

Assessment

Resuscitation

Major Injuries

Tests

Minor Injuries

See & Treat

Hospital
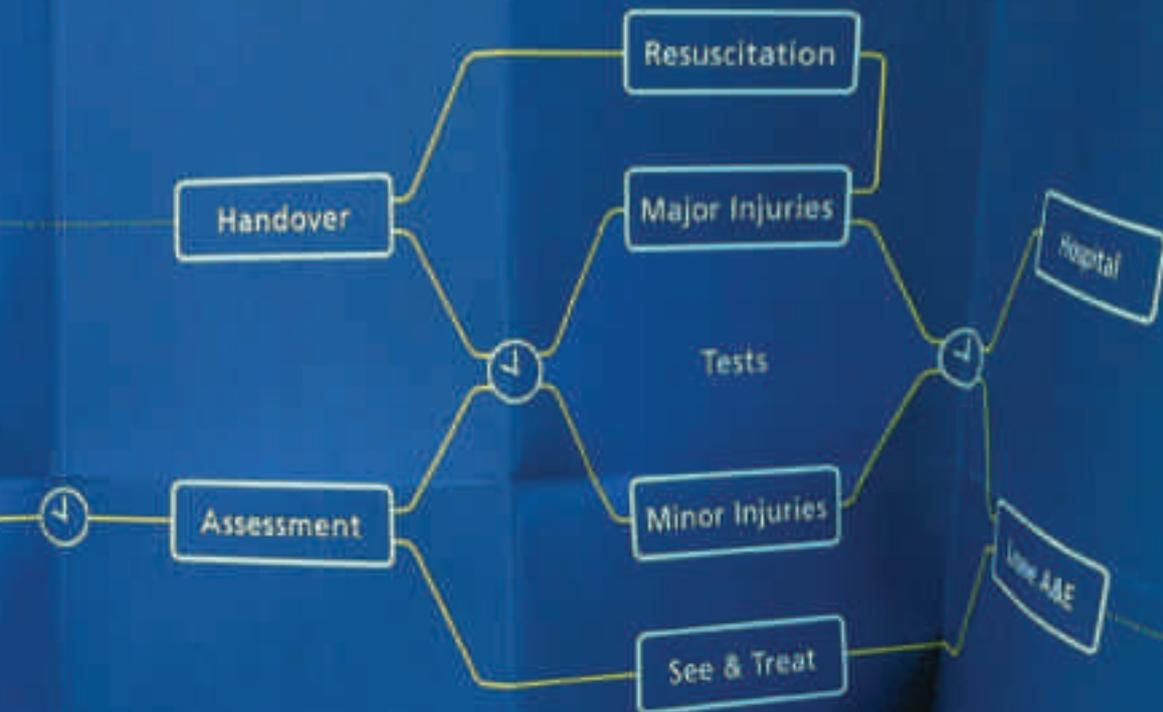
Urine A&E

&E

nt stages of your progress through the
Assessment, Treatment and Outcome.
time between each stage.
rack of your progress.

nts throughout the A&E Department.
in each area of the department.

Waiting times vary according to
We aim to treat everyone
that we treat people with
Thank you for waiting

You will find
this leaflet.

or illness.
be aware

Digital content

Print information is ideal for communicating the basic static information about the department, but a digital information stream is necessary to communicate live information. The digital content builds on the visual language established in the print information.

The design team's patient survey was instrumental in establishing what type of live information was useful. Displaying department waiting times would enable people to relax while waiting, rather than having the anxiety of constantly wondering when their names will be called. It would also enable people to decide whether to come back to A&E at a less busy time for faster treatment.

Departments working with electronic patient records now have all the data needed to output the information on waiting times and busyness. Although this is reliant on the data being inputted into the software system in real-time, many A&E departments now appear to be moving towards achieving this goal for their own self-monitoring purposes. The question then simply becomes what information to extract, and how to display it.

Different levels of technology allows different amounts of information to be presented, but these are not all able to be implemented immediately.

Live information screens are currently being used in some A&E departments. Many of those seen by the design team, however, were being changed manually. Typically, they were not being updated consistently, especially when the department was busy, or they were broken and showed blank screens.

Using the existing data stored in software systems already used by A&E departments enables the updating to be done automatically and regularly. It can also provide more accurate and relevant information. For example, it can inform the waiting room when urgently ill patients arrive by ambulance. As a solution which could be immediately implemented (subject to the A&E department having the right software), this solution was developed for this project. Contact has been made with the largest provider of A&E software to form a collaboration to develop the software.
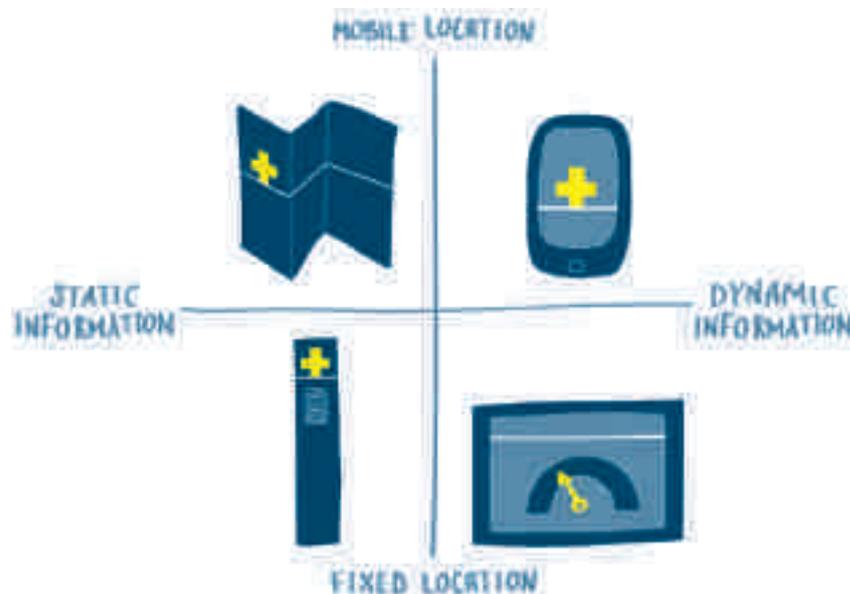
Practical implementation

The 'slices' themselves were envisaged as starting outside the building in the car park, and then continuing inside throughout the department. A handful of standard-sized wall panels were designed which could be used anywhere within A&E. A ceiling panel was also incorporated for patients arriving on stretchers. These were intended for the ambulance entrance, as well as being above the bed for resuscitation and major wards.

In deciding the content of each panel, it was crucial to understand that there was no linear order to the panels. Patients and other service users can enter the A&E system from a number of routes, and so each panel must make sense in isolation.

The visual language was deliberately developed to reference a journey map, with each step represented as a 'stop'. The stop names can be read from a distance, and the overall process can be quickly understood. If the reader moves closer, they can read the explanatory text and learn more about each step.

The panels are designed to hold the key information at a height of 1–2m. They place the location at the top, followed by the key message for that space, then information about what happens in that space, and then what the patient/visitor should expect to happen next.

The realities of retrofitting these panels into existing departments with very little spare wall space meant that the width had to be quite constrained, and that crash bumpers would run through the middle of each panel.

It is important to ensure that the information can be read by everyone coming through the door, so the graphics took into account the need to use a clear font and font size, colour contrast, readability and pictograms.

Colour palette

When creating the colour scheme for the Guidance solution, the design team recognised that each A&E department is different and that it was necessary to provide more than one colour option for the slices and slice variations. As a result, the design team created a palette of three different colours, allowing each NHS Trust to choose the most suitable option for its respective A&E environment(s).

Check in

Please take a ticket

Reception staff will call you and ask for details like your name, address, date of birth and next of kin.

Check in

Please take a ticket

Reception staff will call you and ask for details like your name, address, date of birth and next of kin.

Check in

Please take a ticket

Reception staff will call you and ask for details like your name, address, date of birth and next of kin.

105

Future opportunities

In addition to the live information screen highlighted in 'Solution 1: Guidance', the design team also identified the potential benefits of installing a touchscreen facility within A&E departments. In particular, a barcode-enabled touchscreen can enable patients to access their own records and view the waiting times particular to their own personal treatment. The touchscreens could also display information in multiple languages, and provide an audio channel for those with impaired vision.

Smartphones are becoming ever more prevalent, with one in three people now owning a smartphone in the UK. This medium provides the greatest scope for information personalisation and breadth of information.

It is anticipated that in future, phone apps would enable users to self triage, find their least busy local urgent care centres, and check-in before arriving at the centre. This has benefits both for users, who are able to maximise the use of healthcare provision in their local area, and also for the centres, who are able to anticipate patient numbers better, and prepare accordingly.

A phone app is fully anticipated to be the next stage in development for this project, but was beyond the scope of this project's objectives and timelines.

Smartphone app

Barcode-enabled touchscreen

Welcome to A&E

Patients   Visitors

PLOWMAN Sally
152 583 3018

Welcome!

Please scan your wristband

or navigate general information by clicking below:

General Information

Authentication

Enter your initials
and date of birth
in DD/MM/YY format below:

FC 31 / 05 / _   OK

Q W E R T T U I O P
A S D F G H J K L return
⇧ Z X C V B N M ⇧

Hello Pat!

You are now waiting to be assessed.

There are 5 people before you.
Your estimated waiting time is less than 1 hour.

Goodbye!

Your medical records will be sent to your GP.

Click below to receive a copy

Post   Email

2
People

Solution 2: People

Over the past decade, the NHS has sought to become a more patient-centred healthcare provider. Implementing this cultural change is an ongoing process.

First-time visitors to A&E still encounter a complex system – and human contact remains the best way to guide, help and reassure them. This human contact provides the interface between service users and the healthcare system, and can be considered to be the 'customer service' that they experience.

However, the frontline staff providing this service may be subject to many systemic factors which impede their ability to deliver a patient- or service user-focused service, such as understaffing or time constraints. This may also be exacerbated by continuous negative feedback and abuse from those using the A&E service.

Opportunity

The NHS Constitution cites compassion, dignity and respect among its core values. The realities of working 12-hour shifts in a pressured and stressful environment, however, will inevitably have an impact upon the ability of staff to uphold these values.

Indeed, ethnographic research conducted as part of this project identified staff fatigue as one of the key triggers for patient and service user aggression. Staff fatigue is inevitable, so there is an opportunity to explore how the system can mitigate its effects. The proposed design solutions should provide the necessary support to ensure that good 'customer service' is delivered throughout, and be able to withstand the stresses and strains of working in an A&E department.

Approach

The second design output centred on a programme to engage staff and work with them to ensure the departmental culture is one of dignity and respect. The People project focused on how to attend to the relationships and interactions among and between every person involved in A&E.

The design team recognised that staff, patients and other service users are typically well meaning and emotionally tolerant, but that emotions commonly experienced in A&E, such as frustration, anxiety, fear, pain and loss, can all reduce these tolerance thresholds for both staff and patients.

The People project aimed to promote staff engagement, boost morale and reduce staff absenteeism to enable staff to become advocates of change. The goal was to help individuals and the department as a whole to understand, learn and improve ways of handling aggression and violence, whilst maintaining levels of compassion and empathy, and sustaining this into the future.

Design solutions

A two-pronged solution was proposed. The first was an induction pack for staff new to A&E, and the other was a system for more established staff members to promote reflection on managing violence and aggression.

Induction pack

The induction pack was designed to help individuals joining the department understand the culture of the hospital they are entering. This pack would need be developed with the A&E department to tailor it to their needs and dovetail it into their existing induction processes. It could contain information on patient types likely to become aggressive or violent, guidance on how best to respond, and indicate 'flashpoint' times when aggression is most likely to occur.

Current working patterns within A&E also support the concept of an induction pack. While all staff working in an A&E department should receive training to develop the necessary skills, there are many staff who may regularly work within the department but do not qualify for training. At university hospitals, for example, there are also many trainee nurses and junior medics in the department who may be there for only a few months at a time and therefore miss out on training. The induction pack therefore helps to resolve this problem, so that all staff have the requisite knowledge.

Induction pack

Your journey through

A&E

THE STAFF PERSPECTIVE

A&E Department
St Fiction Hospital
Address line 1, postcode
000 1111 2222

Hello!

Welcome to our A&E team.

Working here is a unique and rewarding experience, which constantly challenges you to be at your best under the most difficult circumstances.

In the next few pages, you'll find an overview of the department. We aim to create the best experience possible for our staff, as well as our visitors, patients and their relatives.
We can each contribute towards this goal.

This guide is to help you understand what we expect from you and is a tool to be used as part of your induction. In return, we aim to support you in your work and help create a great workplace.

Susan, Head Matron A&E

THE PEOPLE PROJECT

1. PLANNING

2. NOTICING
(INCIDENT TALLY)

| 12 | 18 |
| 25 | 14 |

3. REFLECTING

4. FEEDBACK

Reflective programme

For long-term staff a reflective programme was proposed that encourages staff to notice incident levels, discuss and reflect on their experiences, and give feedback to management on their recommendations for improvement. The design team proposed an 8-week programme, consisting of 8–10 people and conducted twice a year. During the programme, they recommend that participants – representing a vertical cross-section of staff across the A&E department – meet once a week for an hour.

1. Observation: Noticing incident levels is important in helping staff understand the potential perpetrators of violence and aggression and to reflect on the reasons for this behaviour. This enables tools and procedures to be developed to proactively respond, and help prevent or mitigate against violence and aggression.

The design team have developed a 'noticing pack', which is a series of posters for staff to customise. Each week, a poster would be put up in the staff room to establish where the aggression and violence lies within a set of parameters. Staff would then make a mark in the appropriate place every time they experience aggression or violence – and a visual map would gradually develop of the spread of incidents. Each week, these parameters would be changed and different variables noticed. This information would help to shine a spotlight on the issue of violence and aggression within the department, so that staff can become aware of where, when and from whom it is occurring.

2. Discussion: This observation work then feeds into a weekly discussion forum, where staff can reflect upon their experiences, and deal with the day-to-day problems of working in this environment, as well as how to respond to the findings they have collected. It would need to be conducted by an external facilitator who is able to question and confront the issues at hand.

Discussing these problems as a group is important as it facilitates learning from other people's experiences and then enables everyone to proactively deal with the issues as a group, as well as feeling less isolated in dealing with these experiences. A similar initiative in the USA found that staff were able to better respond to patients' social and emotional needs and improve their interactions with patients and other staff, while feeling less stressed and isolated.

Initially, the discussion forum would focus on the results from the noticing pack. Staff could then move on to explore how these findings can be used proactively to prevent violence and aggression occurring in future.

The design team felt that it was essential for the findings from these observations and discussions to be reported back to senior management, with any recommendations for changes that can be implemented. This way, positive changes can occur within the department and the group will feel that there is a purpose to the work. These insights can also be fed back into the induction pack, creating a positive feedback loop and ensuring that any new learnings are passed on to other members of staff.

Incident tally

Scope of design solutions

 Guidance: Environmental and print

Guidance: Digital

People: Staff areas

3
Toolkit

Solution 3: Design toolkit

To enable any NHS Trust to implement changes to improve safety in their A&E departments, instead of redesigning just one specific waiting room or department, the designers worked on producing guidance to inspire and enable NHS Trusts to implement these changes within their A&E departments.

The toolkit is a guidance document that compiles all the high level design recommendations that can help to reduce aggression and violence in A&E. These are not design solutions in themselves, but may be specifications or service changes.

The toolkit breaks the patient journey down into its different stages of the A&E process and presents case studies of best practice that are in place at other NHS Trusts.

The toolkit is intended to be used by all NHS staff, while also providing a reference source for architects or interior designers working on new-build projects. It is also available in greater detail as an online resource www.AEtoolkit.org.uk

The toolkit covers many of the issues relating to the arrival and waiting experiences. Consequently, the design team decided to then focus on the Guidance and People themes. These are both essentially communications projects.

For more detail on this solution, please see Chapter 8: The design toolkit.

Implementation

The success of any project depends on how well and how widely it is implemented. Every part of the solution must be implemented, and all staff need to be involved and fully supportive of the programme. A number of steps are therefore proposed to implement the design solutions, as outlined below.

Management workshop

Any solutions that are implemented need to have complete buy-in and support from senior management. A number of management workshops are planned, which will help to tailor the programme to each NHS Trust and its departmental culture.

Appoint 'implementation team'

A&E staff have been involved in co-designing the solutions and they should continue to enable prototypes to be tested and iterated. The implementation team should therefore consist of a cross-section of all staff to fully represent their different needs. The team would be responsible for rolling out the design solutions across the department and ensuring they are fully implemented.

Site-specific development

These design solutions can be applied to any department or NHS Trust, but the finer details need to be decided in collaboration with each individual Trust. An implementation team at any Trust working on this project would therefore become part of the co-design team. They would work with the designers on the content of any guidance to adjust process maps and any other content to ensure they responded to site specific issues. Staff induction packs and staff forums would also need to be site-specific.

Pre-implementation evaluation

The Department of Health is interested in understanding the impact that the design interventions will have on reducing violence and aggression in practice. The levels of aggression and violence therefore need to be assessed in detail at each NHS Trust prior to any design changes being implemented. While data is already collected at a Trust level via staff self-reporting, the design team feels that accurate department-specific data could be achieved by using objective reporting initiatives, such as inviting an external monitor into the A&E department and through staff surveys.

Post-implementation evaluation

Levels of aggression and violence need to be assessed again post-implementation in order to quantify the impact of the design solutions. Evaluating the solutions and demonstrating with evidence the impact of the solutions on violence and aggression, and the staff, patient and other service user experience more widely, is anticipated to assist with implementation and adoption across other NHS Trusts. Evaluation results will be published online, and will be accessible via www.designcouncil.org.uk/AandE

7 Evaluation

Creating a set of evaluation activities, including a post-implementation framework, to determine the proposed and actual impact of the design solutions on violence and aggression in A&E departments.

Why evaluate?

There is a big difference between creating outputs and producing outcomes. It is essential to demonstrate the actual impact of the new design solutions – and only a thorough evaluation exercise will inform us whether the new designs work and, if so, how well.

The principal question is whether we have achieved the overriding aim of this programme. In other words, will the solutions help to reduce violence and aggression in A&E and the considerable human and financial costs associated with this issue?

While the programme has successfully produced innovative solutions, co-designed with NHS frontline staff, their effectiveness in reducing violence and aggression and improving the experiences of patients and other service users has yet to be measured.

Through evaluation, we can create empirical proof and begin to form an evidence base. This allows the programme's outputs to turn into outcomes. Evaluating the effectiveness and impact of the designs in real-time will also facilitate valuable iterative improvements to the designs and how they are deployed on the ground. These dynamic feedback loops will continue to enhance the quality and efficacy of the designs and the ways in which they are potentially received across the NHS.

Independent qualitative and quantitative data will also help to communicate the success of the designs, and may well be instrumental in supporting the adoption and dissemination of the outputs of the programme across the NHS.

Three streams of evaluation

1 Measuring staff perceptions of design

2 Forecasting return on investment

3 Evaluation framework
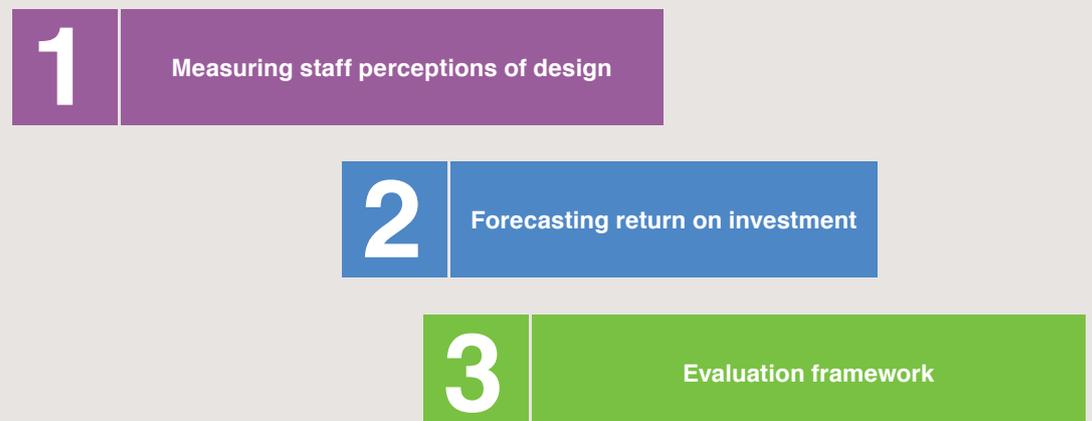
Introduction

To quantify the effects that the proposed design solutions would have on reducing violence and aggression in A&E departments, the design team carried out a series of evaluation activities. This comprised three distinct streams of work:

– The first was a survey of staff perceptions of the 'power of design' in achieving a reduction in incidents of reduce violence and aggression in A&E departments. Conducted at the three partner NHS Trusts, this aimed to measure how being involved in the project had affected the A&E staff's perceptions of design.

– The second stream asked a panel of experts to forecast what return on investment (ROI) might result from the implementation of the proposed design solutions. The forecast was developed through an initial prediction provided by managers and clinical leads from the three partner NHS Trust sites, other trusts and a number of outside experts.

– Thirdly, an evaluation framework and toolkit were created to monitor the implementation of the design solutions, using a multi-method data capture strategy. This framework includes pre- and post-implementation structured observations, a patient, families and friends survey, a staff and managers survey, and qualitative interviews with key staff and managers. In addition, the design team conducted secondary analysis of existing datasets collected within national NHS, Care Quality Commission (CQC) and Security Incident Reporting Systems (SIRS) frameworks.

Methodologies

Measuring staff perceptions of design

The design team carried out descriptive statistical analysis to demonstrate any changes in the NHS staff perception of how design could have an impact on reducing violence and aggression in A&Es. The survey collected data on questions such as the level of involvement of the staff member in the redesign process, how they took part, and if they were also involved in any other redesign projects at the Trust.

The aim of this survey was to capture 'the power of design' in broadening and deepening staff perceptions of the role that design could play in improving their working environment and the care they deliver. In other words, what was the perceived potential contribution of design to reduce violence and aggression in A&E, and any factors which contribute to it.

The survey was conducted inside the three partner NHS Trusts' A&E departments at two different points in time: initially, at the early stages of the project in June 2011 and, secondly, following the showcasing event in November 2011 where the design solutions were launched and a degree of implementation had begun, allowing for staff to gain exposure to the solutions and consider their responses.

The design team together with key staff involved in the project from the three partner NHS Trusts agreed a total sample size of 150: this was comprised of 50 staff members from each of the three partner NHS Trusts' A&E departments.

Design solutions	Reduced incidents	Improved outcomes

Better-informed patient waiting experience

Increased staff capacity to reduce or mitigate aggression and violence

Improved patient experience

Improved staff morale

Reduced staff absenteeism and turnover

Reduced complaints

Improved productivity

The sample size of 50 was felt sufficient to cover the main staff members who would participate or be exposed to the redesign process, and would also capture a wide range of staff. These include police officers, security, reception staff, nurses and consultants. Involvement was voluntary and confidential.

Once the second round of data collection has been captured and analysed, the results from the survey will be published online, and will be accessible at www.designcouncil.org.uk/AandE

Forecasting return on investment

To give an idea of return on investment (ROI), the design team first calculated the likely costs for the implementation of their designs. These costs were then shared and discussed with hospital staff and managers from the three partner NHS Trusts, who also estimated the costs of implementation and potential ROI. Further cost and ROI estimates were gathered from fellows and members of the College of Emergency Medicine, as well as from other NHS Trusts.

The design team followed a four-stage approach to provide the Trusts with clear indications of the kinds of ROI which could be delivered through the implementation of the design solutions in their A&E departments.

To calculate ROI, the design team suggests using the ROI calculator proposed by the NHS Institute for Innovation and Improvement.

Using a Risk Assessment Matrix, areas for cost reduction (from the original list generated in Stage One) will be displayed along one dimension, while design solutions will be displayed along the other. The final matrix will clearly show the extent of consensus and divergence between different stakeholders on the likelihood or probability of adoption, and the achievable cost benefits from each of the solutions.

Stage 1

The design team first developed a comprehensive list of the main areas identified for cost reduction in A&E departments relating to this project.

Carried out through electronic search and documentary review, this enquiry looked beyond the immediate costs and benefits of reducing violence and aggression. For example, the design team recognised that improvements in other clinical quality indicators, as well as patient and staff experience, such as improving staff morale and patient throughput, may also have financial benefits associated with them.

This preliminary work also helped to inform the development of the two other evaluation activity streams: the staff survey and the evaluation framework and toolkit.

Stage 2

With a finalised and costed set of design solutions, the design team asked managers at the three partner NHS Trust sites how they felt about the suggested ROIs allocated to each element, rating them according to probability. This work was carried out in late September 2011.

Stage 3

The design team then submitted the results of Stage Two to a number of independent experts. This involved one round of eliciting opinions from managers at other NHS Trusts. This work was carried out on an individual basis to mitigate the risk of any 'group think'.

Stage 4

Finally, the results of Stages Two and Three were discussed in a workshop with a range of independent experts familiar with the performance of A&E departments, such as healthcare academics and civil servants.

Stage Four will also involve the grouping of responses from the initial forecasts and analysis of the outputs in previous stages. This would result in a rating of 'solutions', identifying consensus and divergence on ROI, and views on likelihood of implementation.

Evaluation framework

To help understand the impact of the implementation of the design solutions, the design team created an evaluation framework comprising an over-arching toolkit of instruments.

The main output of the framework is a 'how to guide' detailing how the design solutions can be evaluated. It will include descriptions of the different evaluation methods and how to deploy them, as well as timeframes and data collection tools. It will also include survey instruments for patients, staff and managers to measure the impact of the implemented design solutions on reducing the incidence of violence and aggression.

The framework builds on and brings together in one place the work carried out by the design team in the two other evaluation streams. It includes the following components:

Structured observation
The use of structured observation to measure any reductions in aggression and violence, immediately before and after the solutions have been implemented, by an independent set of researchers.

A patient, family and friends survey

A survey on exit from the A&E departments – before and after implementation of the design solutions – to assess the usefulness of the design solutions in stemming anxiety and providing information to patients, their friends and families.

A staff and managers survey
A paper-based, self-administered questionnaire for staff and managers to measure their perception of whether the solutions have eased time pressures on them by providing information to patients, families and friends. This shows whether the solutions have reduced the sense of pressure they feel at work, improved their morale, increased the quality of their interactions with patients, and reduced patient to staff aggression.

Qualitative interviews with key staff and managers
Interviews with a relatively small number of key staff and managers to clarify the context for the changes. For example, this could include progress with implementation (helpers, barriers and developments), or any closures of other local services which could effect demand and throughput, as well as levels of violence and aggression or changes in levels of reporting of violence and aggression by staff.

Secondary analysis of statistical data
A secondary analysis to provide comparisons between those sites where design solutions have been implemented and those where they have not.

This will enable those involved in the project to establish whether the three pilot sites show greater improvement over the 12-month period during which the solutions are implemented, compared to three sites where the solutions have not been implemented.

The comparison group will be selected according to Trust/A&E profiles, such as size, volume of demand, throughput and the demographic/socio-economic features of the catchment population. The indicators used could combine:

– Department of Health A&E Clinical Quality Indicators introduced in April 2011, specifically those indicators which assess the 'Patient Experience'.
– Existing survey instruments routinely used to monitor A&E service provision, for example the Care Quality Commission's (CQC) Annual Staff Survey results (recorded at Trust level).
– Trust/A&E data collection on complaints, staff turnover and absenteeism.
– Security Incident Reporting System (SIRS) data.

Guidance for the analysis of this data is included in the evaluation framework, which will be launched online at www.designcouncil.org.uk/AandE

8 The design toolkit

Developing and sharing a practical toolkit for all NHS Trusts to help reduce the incidence of violence and aggression in A&E.

To ensure that every NHS A&E department is able to gain an immediate benefit from the *Reducing violence and aggression in A&E project*, the design team decided to create a guidance document featuring a series of readily implementable high level design recommendations. These are not design solutions in themselves, but may be specifications or service changes.

The toolkit breaks the patient journey down into its different stages of the A&E process and presents case studies of best practice that are in place at other NHS Trusts.

The toolkit is intended to be used by all NHS staff, while also providing a reference source for architects or interior designers working on new-build projects. It is also available in greater detail as an online resource at www.AEtoolkit.org.uk

Toolkit themes

"A&E needs an overhaul in designing the customer experience and touchpoints. Customer service is the most serious issue that requires a full training programme for all staff, including the doctors!"

Patient quote

Designers can help improve the A&E experience at all steps of the process, from arrival to departure, because they approach challenges from the perspective of the people affected with the aim of identifying solutions in collaboration with staff and patients in A&E. They will understand the following points:

– Improving people's experience of the service – individually and collectively – will help to improve their behaviour.

– The current system tries to contain the high level aggression and violence, rather than tackling the root causes and low level frustrations.

– Violence and aggression doesn't only come from patients, but also concerned friends or relatives. At present, very little is done to address their needs.

– Any designed solutions need to be retrofittable in every A&E across the country, regardless of department size, design or layout.

1 The first step of any design project must be to acknowledge that people attending A&E are in physical and emotional pain.

2 The second step is to manage people's expectations of the service.

3 The third step is to make sure that they understand the system they have entered into.

Designers can help reduce violence and aggression in A&E using the following disciplines.

Spatial design

Objective: The quality of a built environment can dramatically influence perceptions of the services offered. Much as a clean and ordered hotel lobby can prompt a change in behaviour, the design of the A&E reception should also be able to initiate a positive response. The quality of the design, layout and materials should inspire confidence, as well as providing the elements of a healing environment.

"If a space is dirty, neglected and un-cared for, it suggests that staff morale is low and leads patients to worry that the care provided may not be of a high quality... Providing an attractive environment can create a virtuous spiral, and improve the relationship between patients and staff in a department which is often under strain".

Principles: A&E environments must appear clean and well maintained. Create a layout that establishes a calm atmosphere and enables privacy.

Outcome: "I feel safe", "I feel comfortable".

Information design

"To have been treated as an adult and given some information would have been extremely helpful."

Patient quote

Objective: Patients within A&E often regard a lack of relevant information as a key element of their frustrations. A way of providing sufficient, yet not excessive, well targeted and well-delivered information to patients is essential.

Typically patients who are in pain and under stress will not easily absorb information; so although keeping patients informed is beneficial, too much information can become confusing. Information needs to be delivered in a way that can be easily understood and is accurate without being overly technical.

Any written information supplied should use language that can be understood by the 'layman' and avoids as much as possible the use of medical jargon. It should, however, be kept in mind that signage in hospitals should be respected so if clinical terms (e.g. CDU) must be used, they should be followed by an explanation of its meaning.

Principles: Provide reassurance and feedback. Answer questions. Help people find their way. Make the A&E process clear and transparent.

Outcome: "I understand and feel part of my treatment process", "I can see my progress".

Service design

Objectives: Coming into A&E can be a traumatic experience. Patients, as well as visitors, may feel disoriented, have high levels of anxiety and may not have clarity of thought to understand their way around, in what is already an alien and often confusing environment. Good staff–patient services have demonstrated positive outcomes in maintaining a calming environment and improving patient and visitor journeys throughout the A&E.

"Aggressive verbal and non verbal behaviour on the part of staff can escalate the patient's distress and violent behaviour. When staff act in a controlling manner patients are more likely to use aggression and violence to get control.

Staff who are authoritarian, disrespectful or inflexible in their approach to patients or who have not been trained in crisis management techniques are also more likely to provoke aggressive behaviour."

Principles: Create a service that is considerate and enables good staff morale.

Outcome: "I am being cared for", "I have been provided for", "I am not forgotten", "I matter".

These themes informed the design team's final toolkit recommendations, which were then categorised into cross-departmental issues and the different stages in a service user's journey through A&E.

Cross-departmental issues

Wayfinding

People often ignore signposting and follow their instincts in order to reach their end destination. If they then become lost they can become frustrated and angry, particularly in an emergency situation when time is key.

It is therefore important that the design of an A&E department supports the natural wayfinding of these people using the facility. It should be noted that staff, patients and other service users all have different needs in terms of wayfinding:

— **Patients** will need to navigate between the main waiting area and the different treatment areas

— **Friends and relatives** often move about much more and need to navigate between the treatment areas and the main entrance.

— **Staff** will require direct routes from the treatment rooms to staff bases.[29]

Natural wayfinding can be improved by ensuring that there is a direct route to the destination, with sight lines and very few turns. For example, the reception desk should be visible from the main entrance.

Wayfinding can also be enhanced through corridor location, the effective use of lighting and by allowing patients and other service users access only to areas that are relevant to them, thereby restricting access to sensitive areas of the department such as paediatrics or resuscitation.

Current guidance from the US suggests that directional signage should be positioned "at or before every major intersection, at every major destination, and where there are environmental cues, such as a change in flooring, that a different area is being entered. If there are no key decision points along a route, signs should be placed approximately every 150–250ft".[30]

Communication

"Aggressive verbal and non-verbal behaviour on the part of staff can escalate the patients' distress and violent behaviour. When staff act in a controlling manner patients are more likely to use aggression and violence to get control. Staff who are authoritarian, disrespectful or inflexible in their approach to patients or who have not been trained in crisis management techniques are also more likely to provoke aggressive behaviour." [31]

Coming into A&E can be a traumatic experience. Patients, as well as other service users, may feel disoriented, have high levels of anxiety and may not have the clarity of thought to understand their way around in what is already an alien and often confusing environment. Good staff–patient interpersonal and communication skills have been shown to create positive outcomes in maintaining a calming environment and improving patient and visitor journeys throughout A&E. Studies have also found that when patients are more forthcoming about their symptoms and concerns, diagnoses become more accurate and lead to better care. [32]

One way of expressing a willingness to communicate could be through designated staff wearing 'here to help' notices. Their availability is then visibly expressed, and patients and other service users know which member of staff they should talk to.

Patient and visitor comfort

Lighting

Lighting is a key element in facilitating the comfort of patients and service users. Levels should be adjustable so they can be made appropriate to the atmosphere of the space, or areas of different light intensity should be provided so people can select an area they feel most comfortable in.

Corridors should be lit with a combination of direct and indirect lighting so that patients being wheeled on trolleys do not have to stare at bright lights. Patients may also wish to control the lighting in their bedspace area. While bright task lights should still be provided for staff purposes, the provision of dimmer switches or alternative light sources empowers the patient to create the environment most conducive to their own recovery.

Acoustics

A&E departments are often characterised by hard reflective surfaces which cause sound to travel long distances and can create a noisy environment. There is strong evidence that noise increases stress in adult patients, for example by quickening heart rates and increasing blood pressure. Installing high-performance sound absorbing ceiling tiles and flooring can help to reduce noise-related stress.

Air temperature and quality

Low air quality can encourage cross-infections, while hot temperatures can result in an increase in violent and aggressive behaviour. Air conditioning helps to regulate the temperature while also creating regular air exchange. Ideally, patients would also be able to regulate the airflow in their cubicle.

Pre-arrival

Waiting times

"A systematic review of violence in emergency departments demonstrated the association between increased violence against staff and longer waiting time." [33]

When people decide to come to A&E they may not be aware of the department's current demand level. If the department is very busy and they were expecting immediate treatment, this may affect their perception of the service they receive.

If they can access information on current waiting times and demand levels before they come to A&E, patients and other service users will be able to make a more informed decision on which department to attend and when. This could be provided via a phone number, a live online feed, or even by showing CCTV footage of the waiting rooms, as has already been implemented on the United Lincolnshire Hospitals NHS website.

Entrance

Personal greeting

"Able, approachable and experienced staff located at the reception desk – rather than inside an office or behind glass – will be able to welcome, direct and give general information. For hesitant, anxious, vulnerable patients – some of whom may have difficulties with mobility, language, vision or hearing – this is the most important element of their arrival."

Patients and other service users entering A&E usually need to obtain basic information and directions from a member of staff, clinical or otherwise. If they have to queue to obtain even the simplest information, this may delay other A&E processes and place a greater burden on busy staff. Appointing a member of staff to the front door to manage the initial interaction between the visitor and the department creates a filter that can help streamline different visitors' needs and ease the workload on other members of staff. Volunteers may be employed to greet people, provide basic information about the service and deal with basic enquiries. Provided there is a staff member in charge of meeting and greeting patients, receptionists should perform the check-in procedures and inform patients and other service users about the process they will go through thereafter.

A ticketing system

Patients and other service users arrive at A&E in an ad hoc fashion. Bottlenecks may occur in the reception area when the visitor flow increases and queues can quickly form.

Queue theory tells us that when people wait in an 'in-process' queue, the wait feels shorter compared to when they are not in the process.[34] Installing a ticketing system thus enables people to instantly feel part of the process, and removes any initial anxiety. It also allows them to take a seat and rest while they queue, which is a more compassionate way to let a person with an injury or illness wait.

Reception

Effective communication

The first human interaction that a visitor to A&E has is with the receptionist upon arrival. This interaction is key to establishing the right tone for their visit. Many reception desks have screens installed, but these can cause frustration to the visitor as they are often a barrier to adequate communication.

While it is important to maintain acoustic privacy at check-in, all physical barriers to communication, such as safety glass and grilles, should be removed where possible. This will help to create a friendly, open reception space. If security is considered a high priority then wide desks can be used, while consideration should also be given to wheelchair users.[35]

Security

A permanent security presence can help to maintain a calm and respectful reception and waiting area. The staff employed to carry out this task should present themselves in a non-intimidating, helpful and friendly manner, and be on hand to intervene before potentially violent and/or aggressive situations become serious. Security staff appointed to A&E could also carry out other tasks, such as assisting patients and other service users with wheelchairs, or liaising with ambulance staff.

Waiting rooms

Positive distraction

Time spent idle is perceived as longer than time spent occupied. In order to relieve boredom and prevent frustration, it is advisable to provide some form of entertainment.[36]

Providing free WiFi access would help people to occupy themselves on mobile web devices. Other distractions could include television with moderated content (a children's channel for children's waiting areas, sports and news in adult waiting areas) and access to free newspapers, exhibits, poetry and interactive artwork. An atmosphere of calm can be created using art, plants and green spaces. Views of nature, whether actual views or artwork, have also been found to promote stress recovery.

Refreshments

Dehydration can lead to headaches and irritability and is a recognised trigger of violence and aggression. The provision of free drinking water and a vending machine in the waiting area helps people to remain calm. These should be positioned slightly away from the main seating area, so that areas of congregation are separated from seated patients and other service users.

To help promote wellbeing, the vending machine should stock healthy snack options as well as conventional snack food. Waste bins should also be provided and be secured to the floor.[37]

Treatment areas

Privacy

Patients may have to give personal and embarrassing details repeatedly when encountering new members of staff. Multi-occupancy rooms divided by curtains provide very little privacy, and this can also inhibit how much information staff feel happy to discuss with the patient.

Where possible, curtains should be replaced with solid walls to provide full auditory and visual privacy for the patient. Single patient rooms have been found to have fewer associated medical errors, better communication between staff and patients, as well as higher patient satisfaction rates with overall quality of care.[38]

Further design recommendations are available as an online resource at www.AEtoolkit.org.uk

9   Ten lessons

*Ten key lessons for
those seeking to
reduce violence and
aggression in A&E.*

1

Frontline research is crucial

Creating effective design solutions always start with good insights into the problems that need to be tackled and why they are occurring. When preparing a brief for a design team, it is essential to gather the very best background information possible.

This will come in many formats, including numerical data and qualitative customer feedback. Perhaps some of the most useful and telling information for a design team can be gathered from spending time understanding the issue from the point of view of the current users or providers of a product or service. In *Reducing violence and aggression in A&E*, ethnographic research delivered valuable insights and briefing your designers to spend time with the people affected by a problem and learn about it from their perspective will enhance the effectiveness of the solution they deliver.

On the face of it, this research may seem difficult to set up and achieve – especially in already pressured environments such as A&E – but it is precisely this fundamental knowledge of the issue that ensures design solutions really are as effective as possible at addressing needs and solving problems.

2

Other industries can unlock new ideas

When a design team is brought in to help solve a problem, it is very likely to be because no obvious solution exists within the visible horizon of the client team. The Design Council's research highlighted that while attempts had been made to reduce violence and aggression in a variety of ways, no previous design projects had been carried out specifically to address violence and aggression in A&E departments. Design teams bring a knowledge of how solutions have been developed to similar problems by other sectors or in other situations that can provide the inspiration to unlock innovation.

The *Reducing violence and aggression in A&E* project looked to other public services, including transport, the prison service, social welfare and the wider healthcare sector.

3

Some big issues need to be put to one side

Understanding what should be excluded from a brief is sometimes just as important as knowing what to put in it. In the case of larger, complex projects, filtering out significant organisational, systemic or social challenges is important to allow a design project to focus on the challenges that can readily be tackled within the parameters of the project. Failure to do so could serve to distract and ultimately waste valuable investment in design.

In the case of *Reducing violence and aggression in A&E*, the Design Council ran a workshop following the research debrief in order to understand the macro drivers of violence and aggression and what could not reasonably be resolved through the constraints of this design project. This is not to say that design cannot tackle these wider issues, but rather they were deemed too considerable to be addressed within this project. That workshop identified root causes of behaviours and discovered that some of the drivers were large and systemic in nature. These larger issues were flagged as being outside the scope of the design project and were 'parked' accordingly.

4

Manage expectations

When the output of a design project is not immediately obvious – for instance if you are not commissioning a new product but instead commissioning designers to explore an issue and then develop appropriate solutions – it is important to manage the expectations of project stakeholders.

High levels of communication and collaboration between all stakeholders are important to manage expectations through a wide understanding of the scale and complexity of the issue being tackled and therefore of the potential for a diverse range of possible solutions to be delivered.

It is also important for all partners to understand how much time and effort they will have to commit to collaborating with the design team in order for them to define their approach.

5

Know how it will benefit you

There is a degree of Catch-22 between developing a business case for a design project and between analysing the potential business impact of a certain design output. It can be difficult for organisations to craft business cases in detail without knowing what sort of outcome the design project will deliver, but those designs are difficult to develop fully without a clear set of commercial parameters and objectives.

While it is important the objectives are identified before a design project begins, it may not be cost-savings or increased revenue that are the most important aims. It may be more important to identify opportunities for a design project to enhance existing live projects such as capital build projects or even HR or staff training projects.

6

Embrace the design process

It is always comforting to feel that your opinion is being listened to, and a good design process will be based on real-world feedback and insights from frontline staff. More often than not excellent ideas and solutions lie in the hands of staff and the design development process can enable these ideas to come to life. Furthermore, because of the highly iterative and visual nature of the design process, staff are able to quickly understand and comment on how ideas may be realised.

In the case of the A&E project, frontline staff were engaged from day one through the ethnographic research and the ongoing co-design process. Staff embraced the opportunity to discuss the issues they face in their working environments, especially as they could see real value in a process that aimed to make improvements to their working lives.

7

Develop a local response to universal issues

Design solutions often need to be applicable to a wide range of settings and systems, but to work most effectively at solving a particular problem, these solutions also need to be flexible. Many local factors affect the issue of violence and aggression in A&E so while it is important that you can access solutions that have been tried and tested it is also essential that you can flex this solution to meet your specific context.

To ensure that the design outputs from the *Reducing violence and aggression in A&E* project could work across different locations, a palette of design implementation options have been generated for different Trusts to employ.

A design toolkit has been generated to accommodate the recognised need for a localised response. This design toolkit offers concise design-led recommendations to help improve the patient experience and reduce violence and aggression.

8

Link to existing initiatives

Although your key focus may be on reducing violence and aggression in A&E there will be other measures that can be affected by a design project.

Quality, Innovation, Productivity and Prevention (QIPP) and Clinical Quality Indicators for A&E have been introduced to inspire large scale transformational change and designers can help you deliver this by involving all NHS staff, clinicians, patients and the voluntary sector with the aim of making efficiency savings so that money and time can be reinvested in frontline care to improve the patient experience.

Any design programme should be embedded in current thinking and priorities within healthcare. It should supplement existing work rather than exist as an isolated programme, and this will give the outcomes greater impact and longevity.

9

Prototyping instead of piloting can help remove barriers to change

A key factor to enabling an idea to be adopted is the degree to which the idea is robust and proven. But often an idea needs to have been adopted in order to be evaluated, but evaluation is in turn a barrier to adoption.

A central premise of design is that models of ideas should be quickly and cheaply made up and tried out early on, when they are easily iterated and improved. By prototyping and testing in this way, early indicative results can be delivered which can give the confidence to move to a full installation and corresponding evaluation.

10

Measure broader impact

Design isn't necessarily about physical artefacts. Instead, it may determine the style of a service or the tone of communication with an audience. When redesigning A&E the aim may be to reduce the occurrence of violence and aggression which is a finite and therefore measurable concept. But other impacts could include improved staff morale, a more cost-effective system or wider social impact, perhaps more difficult to evaluate.

So it is useful to establish criteria for measuring the effectiveness of a piece of design work as well as the broader design project. The results of this evaluation can influence future iterations of the design or future project work.

One key insight from the *Reducing violence and aggression in A&E* project was that multiple stakeholders owned single aspects of the A&E service. Since design projects need to understand how systems work and are connected to other systems it can identify opportunities for different hospital functions to collaborate on delivering new improved services. Working in new, cross-functional ways can be facilitated by appointing champions within A&E departments to maintain and encourage the adoption of solutions and or a design approach to problem solving in a continued cross-functional way.

Next steps

*The future of the
Reducing violence
and aggression in
A&E project and
a road map for
cultural change.*

The Design Council, working in partnership with the Department of Health, is keen to share the work produced by all of the organisations involved in this project. Our goal is to disseminate the research and design concepts as widely as possible, now and in the future.

The Design Council and Department of Health hope that one or more of the partner NHS Trusts will implement the proposed design solutions in the foreseeable future, depending on their existing schedules for capital build and service re-design programmes.

It is hoped that staff in A&E departments will champion the new designs, adjusting them to suit local circumstances where needed, and then encouraging and assisting wider dissemination and adoption across the NHS.

1

Get senior management buy in
Gain top down support and form a leadership team to steer the project.

2

Review current situation
Assess current culture and influencers of behaviour and develop a compelling need for change.

3

Develop a master plan
Define new behaviour and formulate a vision and criteria for success complete with design and non-design outputs and timelines.

As with all new designs which inherently rely on behavioural change, we realise that there are barriers which could significantly slow, and in some cases prevent, the dissemination and adoption of the designs. Some hospitals will have local issues to consider and might lack the time and money required for the design changes.

Above all, staff will need to have faith that the design solutions will produce a sufficiently positive impact to feel enthusiastic about adopting them. For some people, this may require a significant cultural change, and we know that cultural changes can be difficult to achieve, particularly in large institutions.

The Design Council worked with Colum Lowe, a design management consultant at BEING, to research and distil culture change into the six steps.

4

Engage the workforce
Communicate the need/vision for change, receive feedback and form working groups to act on that feedback and to disseminate the need/vision to others.

5

Training and tool symbol redesign
Redesign relevant parts of the organisational system and implement changes in line with other behaviour change activity, i.e. policies, training and targets.

6

Review, adjust, reinforce
Assess progress against targets and milestones, adjust expectations as required and provide continual support and monitoring.

Future development

The Design Council and the PearsonLloyd-led consortium are keen to continue working with the partner NHS Trusts to implement the designs and carry out a detailed evaluation study after changes have been made. We plan for the results of the study to feed into the design solutions and for them to be updated where necessary along the way. The results of this study will also aid the dissemination of the designs and adoption of the them at Trusts across the NHS.

Once available, the Design Council and Department of Health aim to share the results of the evaluation study(s) with key stakeholders, including those who work in A&E and commission change in NHS Trusts. We hope that this will form a considerable evidence base which will directly assist in the dissemination and adoption of the designs across the NHS.

We have also produced an online resource to act as a quick reference guide for those who work in, commission, design, or are simply interested in learning more about the design of A&E departments. As outlined in Chapter 8, this online toolkit offers key design considerations when refurbishing or rebuilding A&E departments.

We anticipate that this toolkit will continue to be a dynamic, living resource which can be updated as and when new tools and techniques for reducing violence and aggression are developed. If you would like to propose new content to the toolkit, we would like to hear from you.

All those involved in this programme of work recognise that no one intervention will ever eradicate violence and aggression, especially in the busy, high pressured environment of A&E. Violence and aggression is a complex and multifaceted problem, which is widely regarded as a symptom of larger issues in society.

Successful culture change

Deviance to desired behaviour

Conditions, standards and structures

Safety management systems

Culture change programme

Time
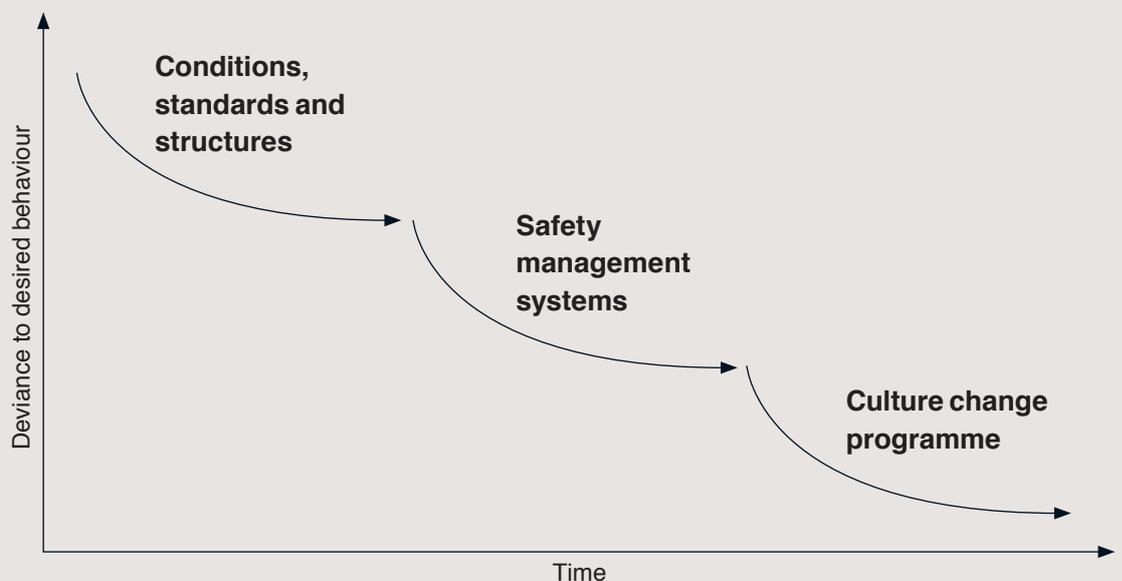
Based on a model by Professor Dianne Parker, University of Manchester

The healthcare system is also highly complex and has many distinct elements, any of which can be redesigned to improve performance and change behaviour. However, we believe that the design solutions hold considerable value and could play a significant role in reducing the prevalence of violent and aggressive acts in A&E.

It would be excellent if, over time, these designs are widely adopted across the NHS – helping to reduce violence and aggression through a marked improvement in the A&E experience for staff, patients and other service users.

We also believe that the principles behind the proposed designs could be feasibly transferred to and be used in other NHS hospitals departments and facilities, across both secondary and primary care – from GP surgeries to ICUs – and would encourage commissioners in other areas to consider their use.

Feedback

If you are interested in adopting and trialling the design solutions, or have used or are planning to use the online design toolkit, we would very much like to hear from you. We can offer support and advice and would love to hear how you get along.

We would also like to hear from you if you have already run a similar or related project and have any feedback about something you think we have missed or could improve. The online toolkit is a dynamic resource which can be updated as we learn more.

Please contact the Design Council Challenges team on 020 7420 5200 or via email: a&e@designcouncil.org.uk

11 Useful links

Suggested sources for further reading and information gathering.

Project specific

A&E design toolkit

www.AEtoolkit.org.uk

An output of the *Reducing violence and aggression in A&E* programme, the design toolkit provides every NHS A&E department with a series of readily implementable high level design recommendations for tackling the issue of violence and aggression.

Design Council

www.designcouncil.org.uk

Design Council is a Royal Chartered Charity and the Government's official advisor on design. Design Council's aim is to champion the voice of good design, putting it at the heart of social and economic renewal, demonstrating and evidencing how design can help build a stronger economy and improve everyday life through practical projects with industry, public services and education.
www.designcouncil.org.uk/our-work/challenges/Health/AE/

Department of Health (DH)

www.dh.gov.uk

The Department of Health exists to improve the health and wellbeing of people in England. The Secretary of State for Health is in overall charge of the NHS and the Department sets the direction for 10 Strategic Health Authorities (SHAs), which oversee all NHS activities in England. In turn, each SHA is responsible for the strategic supervision of all the NHS Trusts in its area. The devolved administrations of Scotland, Wales, and Northern Ireland run their local NHS services separately.

Related healthcare organisations (UK)

National Health Service (NHS)

www.nhs.uk

Since its launch more than 60 years ago, the NHS has grown to become the world's largest publicly funded health service. Nationwide, the NHS employs more than 1.5 million people, including 90,000 hospital doctors, 35,000 general practitioners (GPs), 400,000 nurses and 16,000 ambulance staff. On average, the NHS deals with 1 million patients every 36 hours – that's 463 people a minute or almost 8 a second.

NHS Protect

www.nhsbsa.nhs.uk/security

NHS Protect – formerly the NHS Security Management Service (SMS) – was established in 2011 and is responsible for the security of people and property across the NHS in England. It tackles all crimes against the NHS which undermine the ability of the health service to do its work. These include fraud, bribery, violence, corruption, criminal damage, theft and other unlawful actions, such as market-fixing.

NHS Institute for Innovation and Improvement

www.institute.nhs.uk

The NHS Institute for Innovation and Improvement works alongside the frontline of the NHS to deliver quality and value to improve care for patients and efficiency for the service. The Institute is a facilitator of change for improvement, transforming good ideas into workable solutions for an improving NHS.

Care Quality Commission (CQC)

www.cqc.org.uk

The Care Quality Commission is the independent regulator of all health and adult social care in England. The CQC aims to ensure better care is provided for everyone, whether that's in hospital, in care homes, in people's own homes, or elsewhere.

Health Care Standards Unit (HCSU)

www.hcsu.org.uk

HCSU works with the Department of Health to improve the use of standards within the NHS. One of its key aims is to develop and maintain the Standards for Better Health (SfBH) that all NHS organisations are required to take into account when developing, providing and commissioning healthcare. As the Healthcare Commission uses the standards as a key component of its assessments, HCSU works with the NHS and the Department of Health to ensure the standards are useful to staff, patients and other stakeholders.

National Institute for Health and Clinical Excellence (NICE)

www.nice.org.uk

The National Institute for Health and Clinical Excellence provides guidance, sets quality standards and manages a national database to improve people's health and prevent and treat ill health.

Patient Advice and Liaison Service (PALS)

www.pals.nhs.uk

PALS aims to improve the NHS by listening to patients concerns, suggestions and experiences, and ensuring that people who design and manage services are aware of the issues they raise. Through its services PALS provides an early warning system for NHS Trusts and monitoring bodies by identifying problems or gaps in services and reporting them.

NHS Employers

www.nhsemployers.org

NHS Employers represents Trusts in England on workforce issues and helps employers to ensure that the NHS is a place where people want to work. NHS Employers is part of the NHS Confederation.

www.nhsemployers.org/Aboutus/Publications/Documents/Violence%20against%20staff.pdf

UNISON

www.unison.org.uk

UNISON is Britain and Europe's biggest public sector union with more than 1.3 million members. They include frontline staff and managers working full or part time in local authorities, the NHS, the police service, colleges and schools, the electricity, gas and water industries, transport and the voluntary sector.

www.unison.org.uk/acrobat/13024.pdf

Prevention and recording – systems and initiatives

Clinical Quality Indicators

www.dh.gov.uk/en/Publicationsandstatistics/Publications/
PublicationsPolicyAndGuidance/DH_122868

In April 2011, the Department of Health introduced a set of eight A&E clinical quality indicators. The aim of these indicators is to help patients and service users better understand A&E departments' performance and enable them to make like-for-like comparisons between departments. The indicators can also provide a sense of the solutions required to reduce the problem of violence and aggression.

Security Incident Reporting System (SIRS)

www.nhsbsa.nhs.uk/3064.aspx

The Security Incident Reporting System is designed to help SMS to measure the nature and scale of security incidents in the NHS. Since April 2010 SIRS has been available to supplement other existing methods used by the NHS SMS and NHS Protect, such as risk measurement and research projects, to identify trends and patterns to drive proactive work. By regularly collating data from Trusts, it will allow local findings to inform prevention and deterrence work across the NHS SMS.

Health and Safety Executive (HSE)

www.hse.gov.uk

HSE is the national independent watchdog for work-related health, safety and illness. They are an independent regulator and act in the public interest to reduce work-related death and serious injury across Great Britain's workplaces.

www.hse.gov.uk/violence/conclusions.htm

NHS Protect – Non-Physical Assault Explanatory Notes

www.nhsbsa.nhs.uk/SecurityManagement/Documents/non_physical_assault_notes.pdf

A framework for reporting and dealing with non-physical assaults against NHS staff.

NHS Protect – Tackling violence against staff

www.nhsbsa.nhs.uk/SecurityManagement/Documents/SecurityManagement/Tackling_violence_against_staff_2009.pdf

Explanatory notes for reporting procedures. Includes SMS's definition of physical assault.

Guidance and design initiatives

Health Building Notes (HBN)

www.dh.gov.uk/en/Aboutus/Procurementandproposals/Publicprivatepartnership/Privatefinanceinitiative/InvestmentGuidanceRouteMap/DH_4133055

The Health Building Notes (HBN) are a series of publications that set the Department of Health's best practise standards in the planning and design of healthcare facilities. They inform project teams about accommodating specific department or service requirements. HBN recommendations are reflected in the cost guidance promulgated by the Department as a benchmark for demonstrating value for money in business cases. They are used in the management of the investment process, particularly at business case stages and, as the quality element of value for money (VfM) benchmarks, they underpin the economic case for investment.

Health Technical Memoranda (HTM)

www.dh.gov.uk/en/Aboutus/Procurementandproposals/Publicprivatepartnership/
Privatefinanceinitiative/InvestmentGuidanceRouteMap/DH_4133055

The Health Technical Memoranda (HTM) series of publications sets healthcare-specific standards for building components – such as windows and sanitary ware – and the design and operation of engineering services, such as medical gas installations and fire safety requirements. HTM recommendations are reflected in the cost guidance promulgated by the Department as a benchmark for demonstrating value for money in business cases. The FIRECODE tiles of the HTM series contain requirements on Trusts that are mandatory. The HTMs are supported by other technical guidance, such as the Model Engineering Specifications. Titles in the series are viewable from DH Estates & Facilities Division's publication list and are also downloadable free to the NHS via the DH Estates Knowledge and Information Portal.

Space for Health

www.spaceforhealth.nhs.uk

Space for Health, is an information service for healthcare premises professionals, to assist in planning, designing and managing healthcare premises. The service provides design manuals for a number of 'generic spaces' including clinical and clinical support areas, such as reception desks, waiting areas and refreshments and rest areas.

NHS Institute for Innovation and Improvement – Experienced-based design

http://www.institute.nhs.uk/quality_and_value/introduction/experience_based_design.html

Experienced-based design (ebd) is an approach tobringing patients and staff together to share the role of improving care and re-designing services. It is being developed by the NHS Institute for Innovation and Improvement as a way of helping frontline NHS teams make the improvements their patients really want.

While leading global companies have used similar approaches for years, the ebd approach is very new for the NHS. Where it has been used in the health service, it is having amazing results – delivering the sort of care pathways that leave patients feeling safer, happier and more valued, and making staff feel more positive, rewarded and empowered.

The King's Fund – Enhancing the Healing Environment

http://www.kingsfund.org.uk/current_projects/enhancing_the_healing_environment/

The King's Fund is a UK health charity that seeks to understand how the health system in England can be improved, and shapes NHS policy and practice, to transform services and bring about behaviour change. The Enhancing the Healing Environment (EHE) programme encourages and enables nurse-led teams to work in partnership with patients to improve the environment in which they deliver care.

The International Academy for Design and Health

www.designandhealth.com/Research

The International Academy for Design and Health was founded in 1997 as a non-profit organisation dedicated to the stimulation and application of research concerning the interaction between design, health, science and culture.

12   Acknowledgements

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Hull and East Yorkshire Hospitals NHS Trust
Norfolk and Norwich University Hospitals NHS Foundation Trust
King's College Hospital NHS Trust
The Royal London Hospital, Barts and the London NHS Trust
JobCentre Plus
National Offender Management Service
Transport for London (TfL)
HMP Grendon
Care Quality Commission (CQC)

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