Medical Architecture

DESIGNING FOR AUTISM

Mitford, Adult Autism Unit, Morpeth

Paul Yeomans
Director

Mitford is the first building in the UK specifically designed for adult in-patients with severe autism, including complex Learning Disability and mental health needs.

Project cost £10.6m, 1,988m², opened November 2016

NEEDS OF THE SERVICE

A national Autism Inpatient Service

For bespoke assessment and treatment of adults on the autism spectrum with extremely complex needs and display extremely challenging behaviours.

Time limited assessment and treatment model.

18 month clinical pathway

The timescales ensure that momentum to return individuals to their home community is not lost and that lengthy hospital stays are avoided.

Planning for discharge is prior to admission

Admissions from range of sources typically Medium and High Secure. However this is not a secure service. Importance on relational security rather than environmental.

BASIC CONTENT

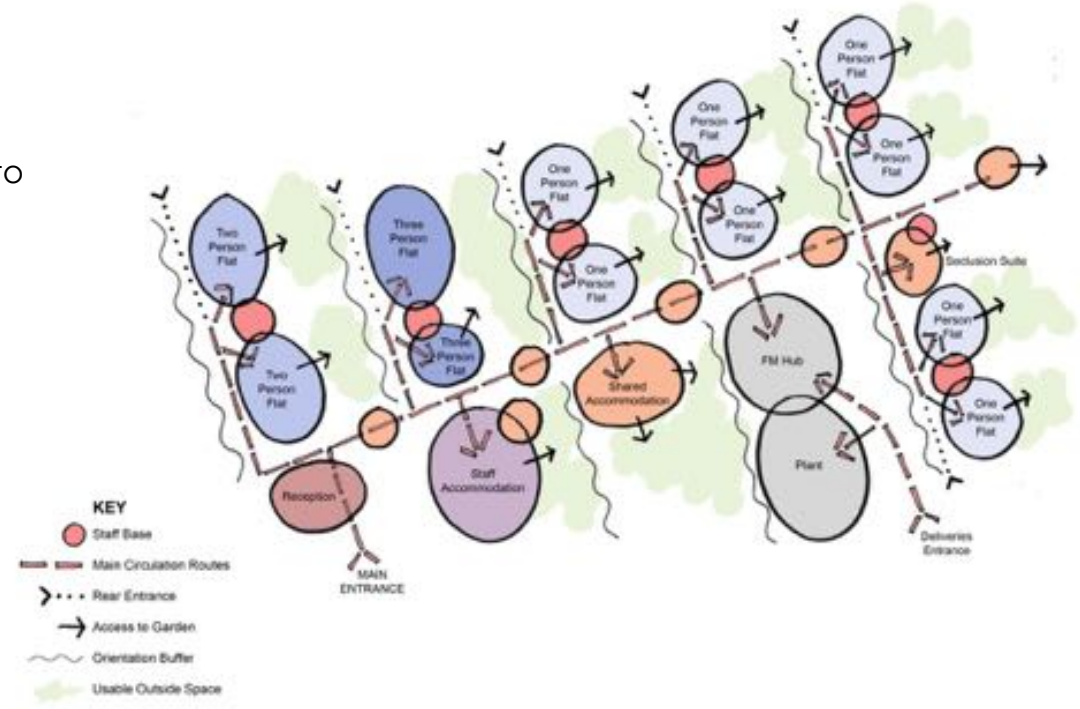
15 bed inpatient unit providing:

• 8 x 1 person flats (most complex and challenging service-users)

• 2 x 2 person flats

• 1 x 3 person flat (service-users are more able to socialise and are preparing to leave the unit)

• Shared activity spaces – internal and external



BRIEF BUILDING

5 years in the making

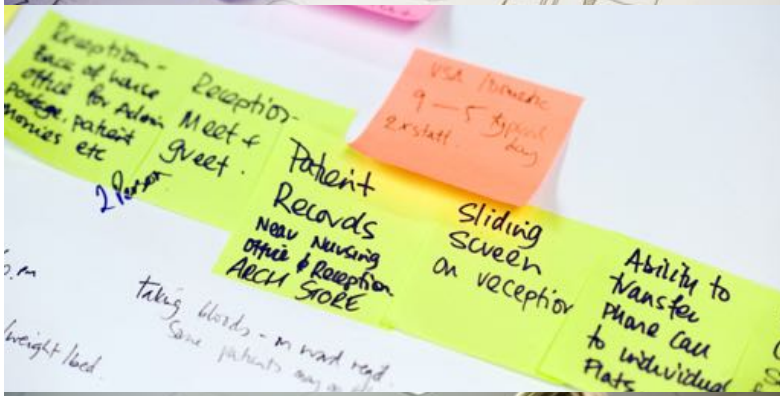
No real standards / guidance

Added complexity – 1st building type in UK

Knowledge gained from
- visiting other Autistic residential buildings,
- National Autistic Society
- first hand clinicians' knowledge and knowledge from previous Trust projects including Estates maintenance

Numerous stakeholder meetings took place including a 'Perfect Day' workshop.

"If you were to work the perfect day in the perfect environment, how would that feel, what activities would you provide, what would you need?"



KEY DESIGN DRIVERS

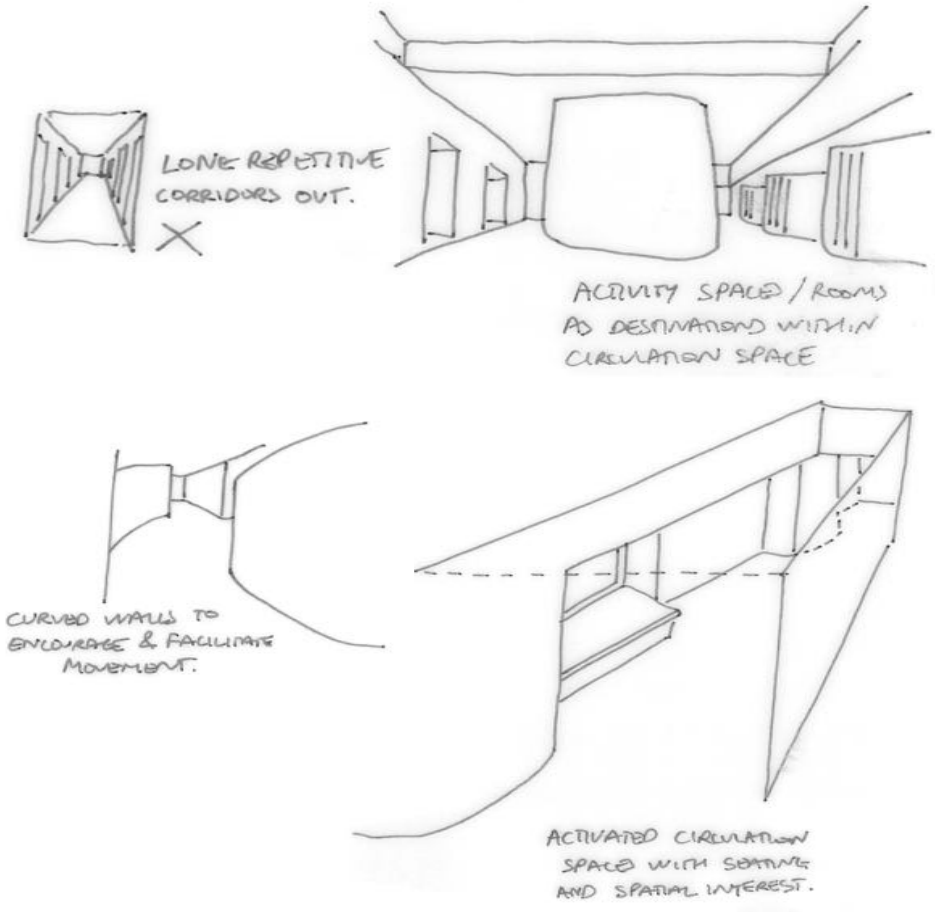
From the various stakeholder workshops and research undertaken, the following key design drivers emerged that formed the foundation for the brief and design:

Active Circulation Space

Corridors should be multi-functional, acting as active circulation spaces with areas for rest or informal activity.

Break up length of the circulation area visually to prevent anxiety in the service-user.

Curving walls where possible – to make them appear 'softer' and to encourage flow.



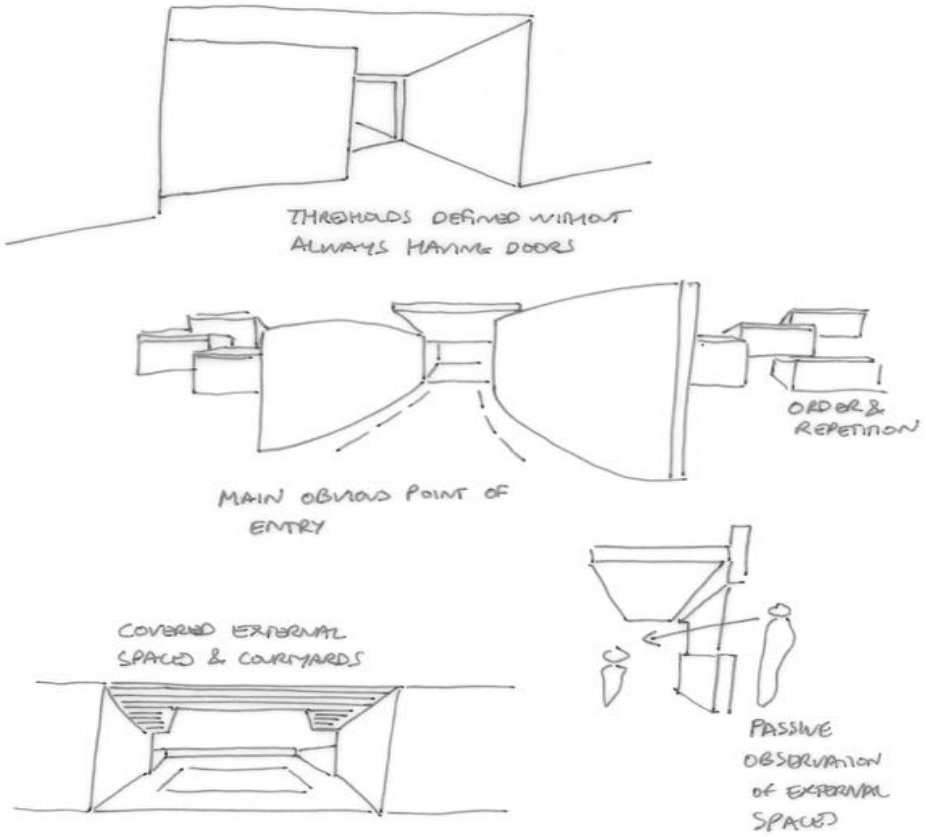
Demarcation of Space

Thresholds are needed to demarcate space without the need for a great number of doors.

Differentiation and identification markers will assist users with orientation, whether this is through use of colour or material.

Different ceiling levels will also subtly change the feel of the space.

The transition space from inside to outside needs to be well designed and gradual. For a service-user that has difficulty engaging with outside space; a well positioned window or window seat may be enough.



Orientation and Natural Light

Orientating each flat and key rooms in the same direction (north east) minimises overheating and glare.

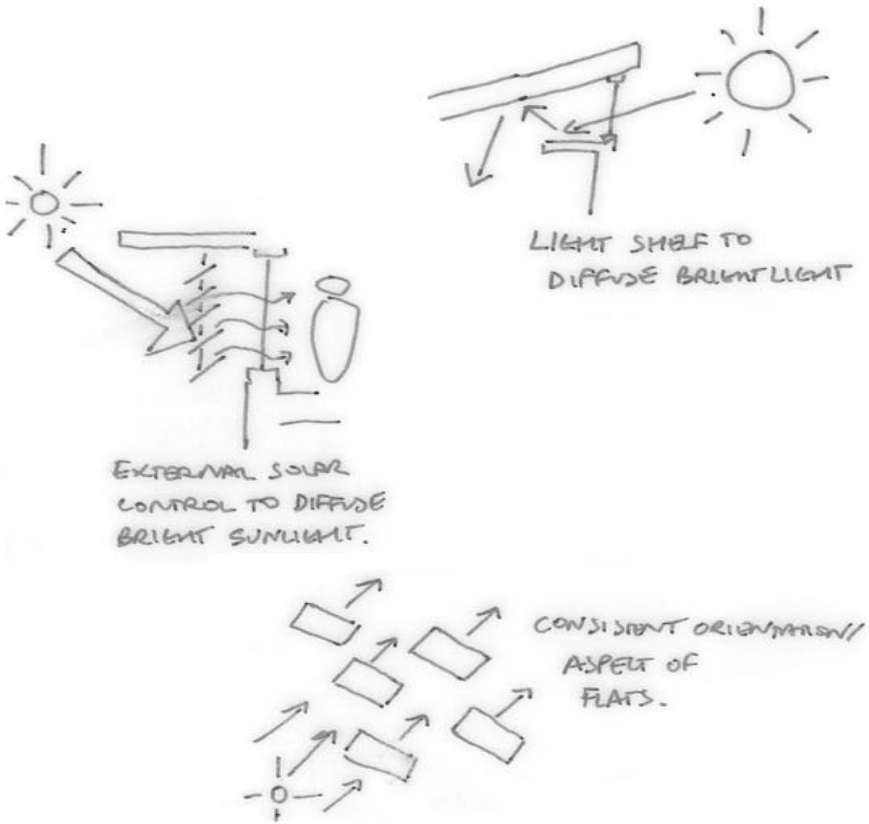
Fluctuation in light and temperature is to be avoided.

Key spaces to face East away from the main routes through the hospital estate, increasing privacy.

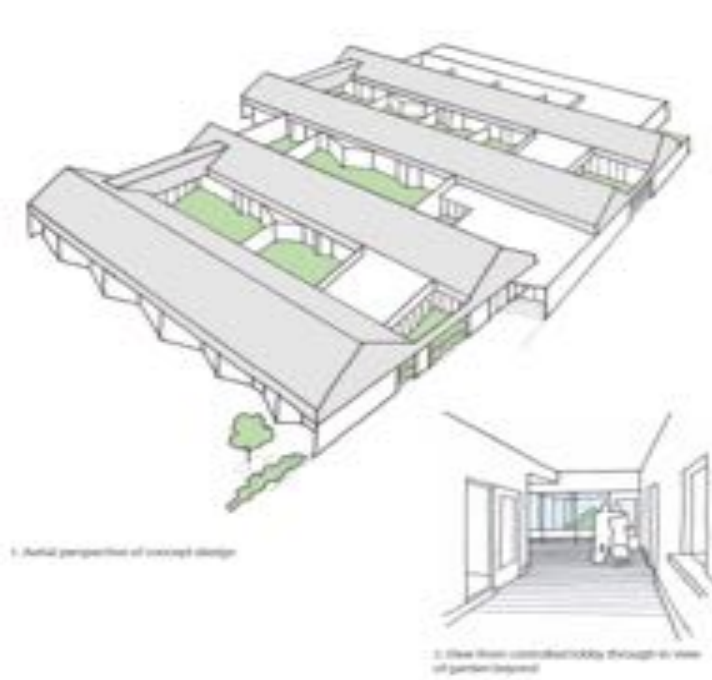
High level windows maximise daylight, minimise glare and add a sense of lightness and space within the building.

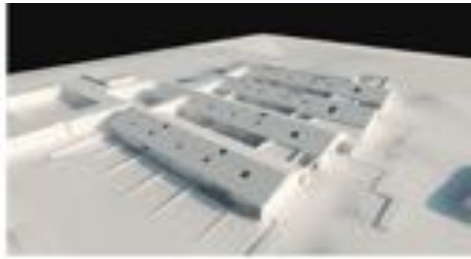
Small picture windows will provide direct, framed views into the immediate or distant landscape.

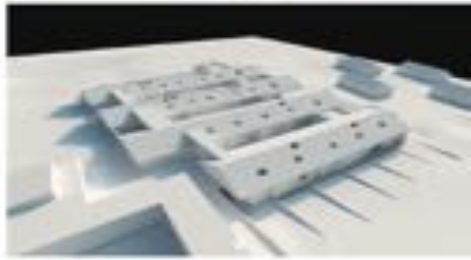
Large paned windows can cause too much stimulus and feedback and are to be avoided.



DESIGN DEVELOPMENT








Public
Restaurant
Sanitation
Activity
Staff
FM / Plant

TESTING THE DESIGN






A significant element of this project was the patient flat and it was incredibly important to get the design right. NTW invested in building a 1:1 mock up. The mock up started with simple spaces and became more and more refined, testing joinery and other detailed elements.




A new design was developed that allowed it to be fixed to the floor in 2 different positions. Different wall build-ups were tested for their acoustic and robustness properties - reverberation and impact noise were key elements. A walkthrough model was uploaded to the NTW intranet site so staff could see how the building would look. When the building was handed over there was 3 days of Live-ins, allowing the Trust's Clinical and Capital Projects teams, architects and governors to comprehensively test the building before patients were transferred. A valuable experience which picked up a few small teething problems.

THE BUILDING












The 'Regent' 48 accommodation are linked at their southern end by a band of shared spaces, interspersed with staff facilities. The front-of-house accommodation is organised to carefully protect the privacy of the patients, and allow the staff to work efficiently with minimal journeys around the facility. The main circulation space allows fluid transitions between rooms and spaces, areas flowed into each other to increase flexibility of use.





Circulation space beside bedroom areas. There is a window seat opposite each bedroom entrance. This provides a safe threshold for the patient on movement from one area of the building to another. It also provides an area of activity and engagement without the patient getting anxious about going to the nearest activity space.








WITHIN A WEEK OF THE MOVE…..NOVEMBER 2016

"In the old building there was one patient who used to live in self-imposed isolation and crawled everywhere. Within a week of moving into Mitford he was having a drink with staff in one of the offices."

Pamela McIntyre, Ward Manager, Mitford

Medical Architecture

+18 months on

DESIGN

As well as a circulation route, the back corridor gets used for bowls, cricket, football and pacing.

2 x seclusion suites in ideal spot.

Transitioning of patients across the ‘fingers’ works very well.

Fundamentally the overall design was felt to be absolutely right.

“Nobody ever feels hemmed in or uncomfortable in the spaces.”

+18 MONTHS STATISTICS

Patient welfare:

Streamlined medication saved £13k in drug use in year 1.

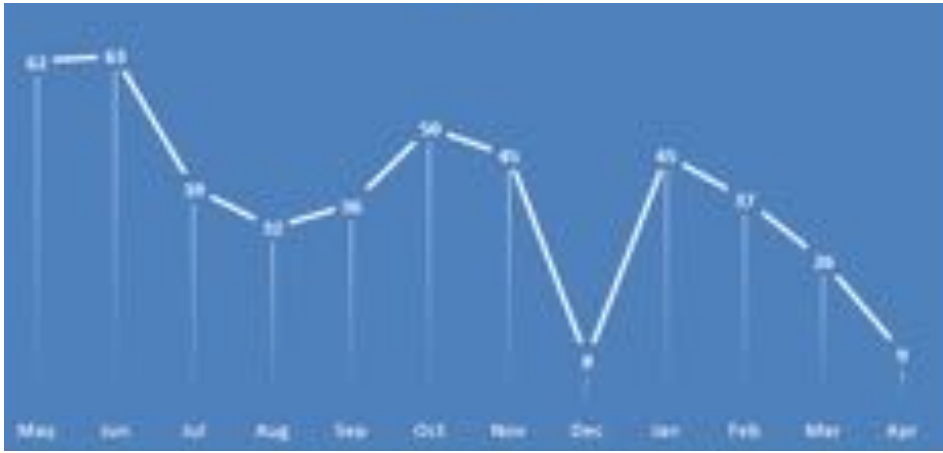
5 patients discharged. Target 18 month clinical pathway on track.

Long term segregation has ended for 2 patients.

Gradual reduction in incidents of violence of aggression.
Chart shows May 2017 – April 2018

….clearly Christmas was the season of good tidings!

violent and aggressive incidents



+18 MONTHS STATISTICS

Staff welfare:

165no. Whole Time Equivalent staff
Short term sickness = 2.6%
Trust average is 4.5%

Spiked at 7.6% in June 2017 when new staff from Forensic Services were introduced.

Claims have reduced eg. replacing damaged clothing.

Value staff and provide a great working and resting environment for them too!

DESIGN

Joinery detailing which allows TV and shelving to ‘disappear’ works very well. Likewise the bedroom window shutter.

With doors locked-back, transitioning becomes a lot easier for patients

4 patients have had locks changed on their flat entrance doors, allowing control of their own access – a big deal!

DESIGN

Acoustics working very well. Can't hear commotion and slamming of doors.

No spots of light on the floor acting as stimulus.

Transition spaces outside flats are well used by patients and staff.

DESIGN

Larger bed sizes are the envy of Northgate Hospital. Clinicians pushed for this recognising patients are here for a long period of time.

Patients can also personalise their flats however they like.

DESIGN

Activity room is like a community hub. There's discos, cinema nights, choirs, workshops…..
Patients are mixing and making friends.

TECHNOLOGY

Microsoft Surface Hub – cutting down on travel; acts as dashboard for MDT; patient/family contact time; patients presenting their work.

CCTV – use it to review staff/patient engagement and are able to reflect on it and train accordingly.
CCTV was put into 2 HDU bedrooms with strict clinical protocols for its use. Activated only when required.

Staff Base – digital access to environmental controls outside flats working extremely well. Damaged once, only when staff forgot to close door.

A YEAR IN THE LIFE OF

“I am not just a patient……”

“I am a performer with the local drama company.”

“I am a carer for animals.”

“I am the owner of fish.”

“I am a shop worker.”

“I am a wood worker.”

WILLIAM….

……is no longer living in one room.

Prior to admission to Mitford, William had been nursed in one room for a long period of time.

He needed a graded approach to ending this.

He now:

- Takes walks along the beach;
- Attends social events;
- Regularly walks around the grounds.

JOHN….

……had his first walk out of hospital grounds in 3 years.

John was admitted in February 2017 under the long term segregation policy.

Prior to this he had been living in a seclusion room for 14 months.

A graded exposure plan was implemented to increase John's confidence in having staff within his room and then his confidence in moving around Mitford.

- John's segregation was lifted in July 2017
- He now has walks around the grounds
- He takes trips to the local area
- John had a walk along the beach, **the first time in over 3 years!**

SHELLY….

……is planning to leave inpatient services after 4 years.

Shelly came to Autism Services in July 2014 from a high dependency unit in Middlesbrough, where she was nursed for a period of time in seclusion.

Shelly is now:

- Working in the shop;
- Managing her own medication;
- Walking to the local shops without staff.

Shelly is now fully involved in her discharge planning. She has been selecting her bungalow that she will be living in soon.

DANNY….

……had his first family visit.

Previous family visits had required Danny to be in restraints to keep him and his family safe.

In May 2017 Danny's family were able to hug their son without the need for restraints.

…..BUT CHALLENGES TOO!

Patient that ate the plaster beads and architraves in his flat.

A patient that was strong enough to rip the entire kitchen bench off.

A patient that would smear faeces across the flat threshold and observation glazing.

…..but the staff have been able to deal with what they've been presented with and the built environment has been able to adapt to the situations.

Ultimately this is what good mental health design is all about.

“It is impossible to put into words adequately our thoughts about everyone at Mitford. They have taken a severely stressed and depressed young man who was doped up to the eyeballs and turned him into a loving son, ready to make the move into his own house and to live as normal a life as possible.”

- family member

“Staff are witnessing huge impacts on quality of life. Seeing a mother reacting to her son having his first incident-free day in seven years is very rewarding.”

“Happiness is.....getting everything you asked for. I never thought it would be so good. The building has been tested and it stood up to it all.”

- Pamela McIntyre, Ward Manager

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Thank you for listening

- Best Mental Healthcare Development – Building Better Healthcare Awards 2017
- Best Mental Health + Social Care, Highly Commended – European Healthcare Design 2017
- Innovation, Highly Commended – RICS Awards 2018

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