Healthier Futures

NHS
Mid Cheshire Hospitals
NHS Foundation Trust

FACT SHEET:

Hospital 2.0 Design
Single Room Care Benefits

This fact sheet summarises the strong evidence base published by the New Hospital Programme in their research paper; 'Maximising Value and Optimising Patient Experience through Hospital 2.0 Design', which outlined the benefits that single rooms, supported by digital technologies, can have for patients and staff.

Summary

The move to 100% single bedrooms under H2.0 design is transformational. Supported by digital innovations, single rooms can deliver:

- Improved clinical outcomes (including infection control, mortality reduction)
- Enhanced flow and reduced length of stay
- Better patient experience (privacy, dignity, recovery)
- Greater operational efficiency
- Future-ready resilience for pandemics and evolving healthcare needs.

Hospital 2.0 Design

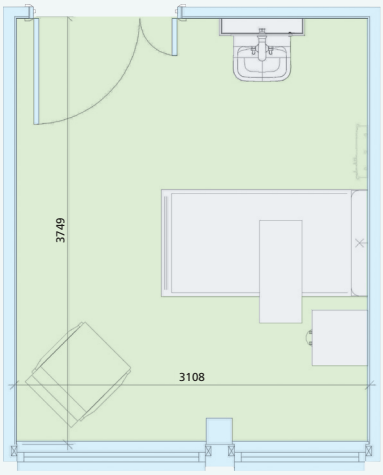
All new NHS hospitals being built in line with the Hospital 2.0 design, as part of the New Hospital Programme, will be single room facilities.

Hospital 2.0 is a standardised design for future hospitals which will benefit patients and staff through digital solutions and optimised hospital layout.

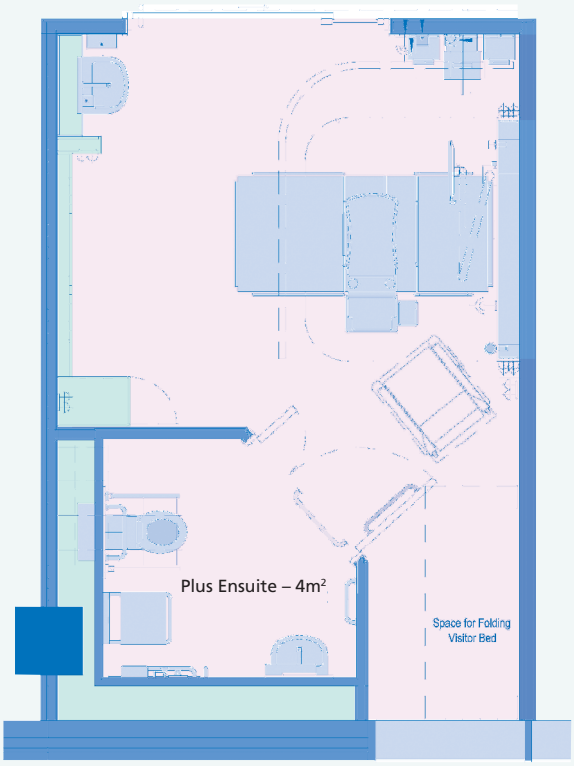
Other countries around the world have already moved to single room models of care for their hospitals, including Australia and Sweden. Closer to home, the Royal Liverpool Hospital has 100% single room inpatient accommodation.

To help influence and shape the single room designs, the New Hospital Programme carried out extensive clinical engagement including:

- Over 250 pieces of feedback from Royal Colleges and Chief Nurses
- Coproduction with over 1,300 clinicians
- Engagement with over 400 patients and other lived experience experts



Existing Hospital Single Bed – 12m2



Indicative New Hospital Single Bed – 18m2

Benefits of Hospital 2.0 single rooms for patient care

Here are some of the evidence and benefits of single room care, supported by digital technology that have been reported for patients in other hospitals:

Improved clinical outcomes

- **Infection control:** Single rooms are highly effective in managing flu, COVID, norovirus, MRSA and C.difficile and reducing central line infections.
  The role of the built environment and private rooms for reducing central line-associated bloodstream infections, Medical University Graz, Austria, February 2018.
- **Patient safety:** Single bedrooms, together with real time data on bed availability and staffing levels can support faster patient flow from Emergency Departments to specialty beds.
  Real-time data on bed availability and staffing helps reduce delays, as seen in Midland Metropolitan University Hospital, where improved patient safety, faster diagnostics, and better resource use have been achieved through single bed care.
- **Pandemic resilience:** The use of single bedrooms during COVID-19 ultimately contributed to safer hospital environments and helped prevent the rapid transmission of the virus.
  Jo, H. J., Choe, P. G., Kim, J. S., Lee, M., Lee, M., Bae, J., ... & Kim, N. J. (2024). Risk of nosocomial coronavirus disease 2019: comparison between single-and multiple-occupancy rooms. Antimicrobial Resistance & Infection Control, 13(1), 95

Enhanced flow and reduced length of stay

- **Reducing lengths of stay:** Single bedrooms are suitable for any patient, no single sex accommodation or special isolation for immunocompromised or infected patients. The average reduction in length of stay (LoS) associated with 100% single bedrooms is estimated to be approximately 8-10%
  NHP, 2023, "Single Bed Rooms Analysis: Impact of SBR on average LoS".
- **Greater flexibility and flow:** Faster bed turnover and shorter lengths of stay resulting from better patient flow and reduced hospital-acquired infections, which lowers overall bed demand and decreases the need for beds compared to multi-bed wards.
  New hospitals that have significantly increased their proportion of SBRs, such as Midland Metropolitan University Hospital have also delivered 0.5 day improvement in length of stay since opening in October 2024.31,32

Better patient experience

- **Better privacy & dignity:** Feedback has shown that patients who have had a single room have experienced greater privacy, dignity and comfort and better experience for visitors with more space, flexible visiting and culturally sensitive care.
  Maben, J., Griffiths, P., Penfold, C., Simon, M., Pizzo, E., Anderson, J., ... & Barlow, J. (2015). Patient experience of the single room ward environment. In Evaluating a major innovation in hospital design: workforce implications and impact on patient and staff experiences of all single room hospital accommodation. NIHR Journals Library)
- **Better sleep, rest & recovery:** 79.7% of patients at Royal Liverpool University Hospital reported improved sleep in single en-suite rooms.
  Liverpool University Hospitals FT inpatient survey, 2022.

Greater operational efficiency

- Single bedrooms can deliver a 10-15% improvement in ability to meet demand for the same number of beds.
  Analysis conducted using data from schedule of accommodation (SoA) and Health Building Notes (HBN) to compare the delivery of a new hospital designed with 100% single bedrooms (in line with the New Hospital Programme's standard design) against a model incorporating 50% single bedrooms and 50% multi-bed bays.
- The smaller footprint of a Hospital 2.0 single bedroom design compared to a 50% Multi Bed Wards design drives lower cleaning and heating costs which in combination with the building management system that enables better temperature and lighting management, leading to lower facilities management costs overall.
  Digitemie, W. N., & Ekemezie, I. O. (2024). A comprehensive review of Building Energy Management Systems (BEMS) for improved efficiency. World Journal of Advanced Research and Reviews, 21(3), 829-841.