

Human factors: Review of the use of mechanical restraint in high secure hospital settings in England

Overview of work

To take a human factors approach to better understand when and how mechanical restraint is currently used across the high secure mental health hospitals in the UK, including identifying barriers and facilitators for appropriate use. The work provided that understanding, guidance on possible improvement areas, explained variation in practice and could be used as a resource of information to support the creation of inaugural best practice guidance for mechanical restraint use in this population.

Aim

To use a human factors approach to support the understanding of how and when mechanical restraint is used (considering aspects such as policies, data, environmental, cultural and patient factors), variation in use and the possible reasons for this, staff and patient experience, and what good practice could look like.

What was the problem?

Mechanical restraint is a form of restrictive intervention that refers to 'the use of a device to prevent, restrict or subdue movement of a person's body, or part of the body, for the primary purpose of behavioural control' and needs to be used in line with a legal framework. (Department of Health, 1983).

It is only used if there is significant risk to life for either the patient, other patients, or staff. The use of mechanical restraint varies across the high secure hospitals as does the equipment used.

There is no best practice guidance for its use or overall understanding of the type and reasons for equipment choice.

Human Factors approach used

- **Hierarchical Task Analysis** of the process and comparing to work-as-done.
- Focus groups.
- **Observations** of the environment and the equipment.
- **Interviews** with clinical leads.
- **Testing of the mechanical restraint kit.**
- **Patient survey.**
- **Clinical review** of case notes.
- **Literature review.**
- **Systems analysis using SEIPS**

Main findings or outcomes

Full findings of this work cannot currently be shared, However they can be summarised as:

- The patient population (e.g. gender and mental health condition) affects the type and frequency of use of mechanical restraint.
- Organisational preferences for restrictive practice vary.
- There are seven key influencing factors in the work system.
- Whilst mechanical restraint equipment varies between sites this is a considered decision that reflects the patient population needs and the environment.
- There is system variation that is justified but also possible alignment for improvement work across systems.

The full findings have been shared at a cross-system workshop and improvement work is now occurring across hospitals.

What were the benefits of taking a human factors approach?

- **Applied a systems-thinking approach** to identify barriers and facilitators.
- **Inclusive engagement with psychological safety:** All stakeholders were given a voice, promoting shared ownership and diverse insights, avoiding blame and encouraging openness.
- **Contextual understanding:** Explaining the variation not visible in data alone by considering work system factors.
- **Collaborative alignment:** Identifies common areas for improvement across teams or sites, fostering cooperation.
- **Effective change:** Supports well-informed, appropriate, and sustainable improvements.

Human factors supported an understanding of variation across multiple systems

