SYSTEMATIC

Prevention, Precision and Equity by Design for People Living with Multiple Long-Term Conditions

About SysteMatic

SysteMatic brings together researchers from the Universities of Liverpool and Glasgow to develop a plan to design and engineer health systems for people living with Multiple Long-Term Conditions (MLTC).

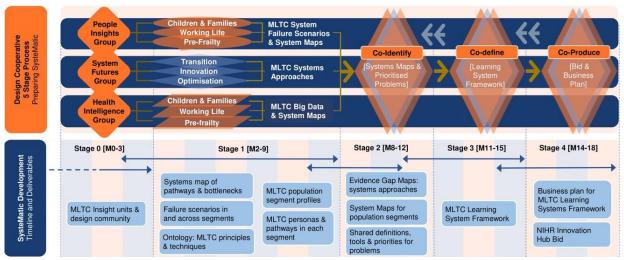
This work is supported by funding from the National Institute for Health Research (NIHR) Systems Engineering Innovation hubs for Multiple long-term Conditions (SEISMIC) scheme. The project is currently in its 18-month development phase, spanning from July 2023 to December 2024. In January 2025, we will submit an application for a full-scale programme, which will be funded between £3-6 million over five years.

Development phase

The development phase has brought together those with lived experience of MLTCs, health/care professionals, scientists, engineers, social scientists, artists and designers to identify, prioritise and co-design a programme of work focused on key challenges to health and care systems. The figure below provides an overview of the development phase approach & timeline.



You can read more about it in our article 'Developing SysteMatic: Prevention, precision and equity by design for people living with multiple long-term conditions' published in the Journal of Multimorbidity and Comorbidity.



Development process









Our findings highlight the following key focuses:

- 1. Working age population, especially those with combined mental and physical health conditions.
- 2. Prevention, precision and equity "by design" (the right care, at the right time in the right place).
- 3. Coherent and fluid communication between patients, carers, clinicians, the care and voluntary sector, moving from a passive concept of data supporting care to emphasising actionable information that 'makes care happen'.
- 4. Locating opportunity for optimising and innovating on existing systems while actively considering when to reconstruct and transition the delivery of care.
- 5. Place-based patient-centred problems engaging and delivering healthcare using civic principles, avoiding the assumption that a solution developed for one community can be transplanted to any other.

About the Sandpit

To operationalise SysteMatic, and build a better healthcare system for people with multiple long-term conditions, collaboration with industry, local authority and voluntary sector is essential. We are convening 'sandpit' events in Liverpool and Glasgow to share insights from the development phase, and refine the SysteMatic programme.

Our proposal includes three themes (Prevention, Self-Management, and Care Navigation) and provocations (P1-5). Three pillars will support the operationalisation of the ecosystem: Data Science & Engineering, Rapid Evaluation Methodology, Health Citizenship & Innovation. The Equity Learning System will analyse and prioritise according to programmable equity in multiple long-term conditions' prevention, precision and payment to address life-course inequalities and will formulate systems engineering problems and projects.

EQUITY LEARNING SYSTEM

(programmable equity in multiple long-term conditions' prevention, precision and payment)

Prioritised, System Invited Engineering

PREVENTION

P1: Prevent Medicines Harms

P2: Preventing Loss of Healthy Life

SELF-MANAGEMENT

P3: Living with Combined Mental and Physical Health Conditions

CARE NAVIGATION

P4: Digitally Assisted Case Management

P5: Collaborative Care Networks

DATA SCIENCE & ENGINEERING (Counterfactual Prediction; Ambient Sensing; Avatar / Al Patient Ally)

RAPID EVALUATION METHODOLOGY (Health, Economic, Technical, Systems)

HEALTH CITIZENSHIP & INNOVATION (Patients, Carers, Practitioners, Public, Designers, Engineers, Scientists, Managers – from Academia, Industry and Public Services)

Life-course inequalities (trauma, age, living conditions, poverty, gender, employment) driving early and severe combinations of mental and physical long-term conditions

SysteMatic overview







