

Additional file 1: Terminology Table

Term	Definition
Co-creation	The umbrella concept used in this study describes collaborative processes where diverse stakeholders (patients, public, professionals, researchers, policymakers, etc.) jointly contribute to problem-solving, design, or innovation.
Patient and Public Involvement (PPI)	The application of co-creation within health research, where patients, carers, and the public are actively involved in shaping research conducted <i>with</i> or <i>by</i> them, not merely <i>about</i> them. In this paper, PPI is consistently used to denote the health-specific form of involvement.
Participatory Design (PD)	A specific methodological tradition within co-creation, originating in design and HCI fields, which emphasises structured involvement of users in the design of systems, tools, or environments. In this paper, PD is treated as a subfield of co-creation rather than a separate concept.
Functional Attributes	Features describing <i>what</i> a technology does — its core capabilities, operations, or tasks (e.g., data export, user authentication).
Non-Functional Attributes	Characteristics describing <i>how well</i> a technology performs under certain conditions (e.g., usability, scalability, inclusivity, reliability, security).
Latent Needs	Broad, underlying, and implicit needs not directly expressed (e.g., the challenge of “low participation” suggests a need for more inclusive tools).
Articulated Needs	General but explicitly stated needs, broad in scope (e.g., “the system should enhance collaboration”).
Inferred Needs	Specific but implicit needs that must be deduced from context (e.g., reports of “slow analysis” suggest a need for automated data processing).
Prescriptive Needs	Specific and explicitly stated needs, leaving no room for interpretation (e.g., “the system must support multilingual interfaces”).
Ensuring Integrity (Theme)	Technologies that secure accessibility, engagement, representativity, accountability, and privacy to maintain trust and fairness in co-creation.
Enabling Methodology (Theme)	Technologies that create, adapt, or scale participatory methods, including decision-making, evidence use, and distributed collaboration.
Cognitive Needs (Theme)	Technologies that support participants’ mental processes, motivation, and ability to visualise and comprehend complex information.
Group Dynamics (Theme)	Technologies that foster collaboration, communication, conflict resolution, empathy, and inclusion across diverse groups.
Process Management (Theme)	Technologies that streamline the organisation, data handling, knowledge sharing, and optimisation of co-creation processes.
Hybrid Collective Intelligence	The integration of human and artificial intelligence to enhance decision-making, collaboration, and problem-solving in participatory processes.
Transparency	Making processes, decisions, and contributions visible and understandable to all participants, thereby fostering trust.
Inclusivity	Ensuring that participation opportunities are open, accessible, and equitable for diverse groups, including those typically underrepresented.