**Theoretical, Evidence-informed And Co-designed Health Innovation Teamwork (TEACH-IT)**

**Joy C MacDermid PhD**

1. **Define Potential Users, Problems and Intervention Scope and Goals**
	1. Identify Target Users (Patients and providers)
		1. Relationships, patient partners1,2, early adopters, opinion leaders and stakeholders
	2. Identify Internal/external Context Factors
	3. Identify Gaps to be addressed, Clinical Goals, Scope of Innovation Plan
2. **Identify relevant conceptual frameworks, theories, research evidence and mechanisms for**:
	1. Intervention targets (Physical, Psychological, Social Health), Skills, Knowledge and Attitude Targets and related Mechanisms
	2. Learning and Behaviour Change Theory(Mechanisms)3–5
	3. Pedagogical Theory
	4. Implementation Theory
	5. Relevant Content from literature (evidence synthesis)
3. **Establish Co-design Process, Needs/Preferences**
	1. Engage knowledge user partners and define co-design process and roles6–10.
	2. Use qualitative and quantitative methods to define target Users Needs, Preferences and Priorities for content/delivery,
	3. Define intersectional equity concerns.
	4. Iterative Content and Technical Expert consultations on content, format and learning strategies
	5. Refine Therapeutic Goals, Intervention Targets and Target Audience
4. **Embed Values in Co-design Processes**11–15
	1. Co-learning to achieve shared understanding
	2. Shared ownership
	3. Shared decision-making, a voice for all team members
	4. Patient-centered
	5. Trust and relationship strengthening
5. **Establish a Specific Intervention Model-** **Concept mapping**16,17**, intervention mapping**18–23 **and/or logic models**24 to define:
	1. Scope and target audience
	2. Specific objectives
	3. Skills, Knowledge and Attitude Targets.
	4. Therapeutic interventions/content and their expected mechanisms.
	5. Content/component weighting and organization
	6. Process and outcome measures that can monitor uptake and impact.
		1. Design an outcome strategy and select indicators/measures.
	7. Map intervention components and mechanisms to expected outcomes.
	8. Select outcome measures and strategy
		1. Adherence, fidelity and process outcomes
		2. Quintuple Aims25,26
			1. Patient Experience
			2. Patient outcomes
			3. Providers experience outcomes
			4. Costs
			5. Equity Outcomes
		3. Review measurement properties of potential tools/measures
		4. Select and document outcome measurement strategy (measures, timing, delivery, scoring)
6. **Prototype Creation -Generative Design**
	1. Prioritize and develop content
	2. Designate chunks/modules.
	3. Develop scripts, story boards and structural templates.
	4. Produce components
	5. Obtain iterative expert, user, stakeholder feedback on scripts and produced components.
7. **Useability**27–30**, Equity**31,32 **and Inclusion Strategy**
	1. Define “who might be left behind” and needs of diverse subgroups (equity and clinical experts and target user consultations)
	2. Determine capacity and priority for adaptive responsive design features, versions or content to improve equity.
	3. Health literacy evaluations and content clarification
	4. Useability Analysis (e.g., Observational, cognitive interviews, surveys, qualitative).
8. **Pedagogical Design**33
	1. Design and embed learning strategies and interactivity (e.g., teach-back, audit and feedback, self-tests, community of practice, FAQ).
9. **Optimization through Revision/ Adaptation**
	1. Iterative consultation with target audience, experts, users, and other stakeholders to refine.
10. **Implementation**34–42 **and Sustainability**43
	1. Develop an implementation plan (e.g., champions, implementation personnel, process, timing), resources (training materials, funding, facilities), sharing principles/rules, strategies (training, incentives, procedures) and monitoring (uptake and use indicators).
	2. Evaluate implementation and adapt, including feedback into iterative improvement/optimization.
	3. Evaluate impact.
	4. Develop and implement sustainability plan.
		1. Resources Needs and Plan
		2. Personnel Needs and Plan
		3. Authorities/Ownership Documentation, Roles, Processes and Management Plan
	5. Monitoring and Reporting Plan

**Quality standards**

The ultimate goal is better quality of health care interventions considering the Quintuple Aims25,26 of patient experience and outcomes, provider work role experience, cost efficiency and equity. In interim evaluation of an innovation during development we assess the quality of the content (evidence-based) and the 3U’s of Usability (Useful, Useable, Unbiased).

1. **Quality of Content**
	1. **Theoretical** and basic science mechanisms are clear and articulated.
	2. Best clinical evidence integrated.
	3. Clear user engagement: mapped to end-user needs.
2. **The 3 Us of Useability**
	1. **Useful**
		1. Content relevant to users
		2. Customizable to individual variation/priorities
		3. Perceived benefit to users (potential for impact)
		4. Change in health outcomes.
	2. **Useable**
		1. Accessible
		2. Understandable (literacy and health literacy)
		3. Fidelity-implemented/performed efficiently and accurately by different users.
		4. Used (adherence)
	3. **Unbiased**
		1. Equity, Inclusion and Diversity (considers socioeconomic, regional, cultural, sex/gender, age, and other sources of diversity) in access, approach and content.

Examples of methods for different stages of development:

1. Needs and content assessments: consultations, surveys, consensus techniques, qualitative research, patient- clinician expert co-design.
2. Best practices or evidence-informed content: evidence synthesis, expert consensus
3. Useability: consultations, cognitive interviews, text analysis, observational analysis of use, and user ratings
4. Equity - equity assessment/consultation; examination of data using intersectional lens

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