

Co-design and Qualitative Evaluation of the “Just One Move” Toolkit to Support Physical Activity Promotion in Rheumatology Care

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Abstract

Background

Guidelines recommend physical activity for managing inflammatory arthritis (IA), yet physical activity promotion is not consistently integrated into rheumatology care. Healthcare providers (HCPs) report barriers including limited consultation time, low self-efficacy in providing physical activity advice, and lack of accessible, disease-specific resources. This study describes the co-design of the “Just One Move” HCP-facing toolkit and qualitative HCP evaluation of its usability, usefulness, and implementation potential.

Methods

The Just One Move toolkit was developed through three phases grounded in the Behaviour Change Wheel. Preparatory work comprised two nominal group technique (NGT) priority-setting studies and an umbrella review. Iterative co-design sessions with rheumatology HCPs produced a multi-component toolkit evaluated through six semi-structured focus groups with 14 rheumatology HCPs. Data were analyzed using reflexive thematic analysis.

Results

We identified five themes: (1) Design; (2) Impact; (3) Roles; (4) Behaviour Change; and 5) Resources. Fourteen sub-themes elaborated needs, opportunities, and challenges between the toolkit’s perceived value and structural, relational, and systemic implementation constraints.

Conclusions

The Just One Move HCP toolkit was perceived as a feasible, practical resource for routine physical activity promotion in rheumatology care. Time constraints, role ambiguity, and limited tailored referral options were perceived challenges to implementation. Integration with team-based care, electronic medical record workflows, and the patient-facing Just One Move website is recommended.

Background

Inflammatory arthritis (IA)—encompassing rheumatoid arthritis (RA), spondyloarthritis, and psoriatic arthritis—comprises conditions characterized by joint pain, swelling, warmth, tenderness, and morning stiffness.¹ International IA guidelines recommend regular physical activity as an effective, feasible, and safe approach to managing IA symptoms and improving health-related quality of life.^{2,3} Physical activity yields benefits across multiple domains, including reductions in inflammation and joint damage, and improvements in pain, fatigue, stiffness, and cardiorespiratory fitness,^{3–5} and improvements in mental health.⁶ These benefits are clinically significant given that individuals with RA carry a substantially elevated burden of comorbidity.⁷

Despite strong evidence supporting the benefits of physical activity, individuals with IA consistently report lower physical activity levels and greater time in sedentary behaviour than the general adult population.⁸ Beyond common barriers to physical activity participation, individuals with IA experience additional disease-specific challenges, including fluctuating symptoms, joint pain, fatigue, and unpredictable flares. These are further compounded by psychological barriers, including fear-avoidant behaviours, where concerns about joint damage or worsening inflammation may limit regular physical activity participation.^{9,10} These patterns carry significant clinical consequence as sedentary behaviours contribute directly to accelerated disease burden and comorbidity risk.¹¹

Healthcare providers (HCPs) are a trusted source of health information, and patients have been shown to highly value physical activity recommendations from their providers.^{12,13} Despite this, evidence indicates that individuals with IA frequently do not receive recommendation-based physical activity guidance from their HCPs, and physical activity promotion is not consistently integrated into rheumatology care.^{8,13} HCPs report barriers including limited time, patient information overload, low self-efficacy in providing physical activity advice, and uncertainty about physical activity guidelines.¹⁴ Theoretical mapping of these determinants to the Behaviour Change Wheel (BCW) highlights deficits in HCP capability (e.g., limited counselling skills), opportunity (e.g., time constraints), and motivation (e.g., uncertainty about role) as key targets for intervention.¹⁴ In Canada, rheumatology appointments are typically time-limited (15–20 minutes) and concentrated on medication management, which structurally constrains opportunities for physical activity counselling.¹⁴ While some centres have interdisciplinary care models incorporating exercise professionals, access to physical activity referral pathways are largely unestablished.

Practical tools are needed to support HCPs to integrate physical activity discussions into routine clinical care. Clinical toolkits and structured conversation guides can enable evidence-based physical activity promotion by providing clear messaging, referral pathways, and patient education resources. Such tools have been used successfully in other healthcare contexts.¹⁵ Theoretically grounded frameworks—such as the BCW—have been systematically applied to develop practical resources to improve the frequency and quality of HCP-led physical activity conversations across clinical settings.¹⁵ Co-design—the iterative involvement of end-users throughout the development process—is critical to ensuring that resources are responsive to the real-world priorities and workflow constraints of HCPs.^{15,16}

This team has conducted a program of preparatory work to inform toolkit development. First, nominal group technique (NGT) studies identified priority barriers and facilitators to physical activity promotion from the perspectives of rheumatology HCPs¹⁴ and individuals with RA¹⁷, and second, an umbrella review synthesized the broader evidence base for physical activity behaviour change in individuals with IA.⁸ Together, these findings highlighted the need for accessible, practical resources to support physical activity conversations in clinical settings, and directly informed the co-design of the "Just One Move" HCP-facing physical activity promotion toolkit. Here we describe the co-design and iterative refinement

of the toolkit. The aims are to: (1) describe the co-design process and resultant toolkit components; and (2) summarize rheumatology HCP perspectives on usability, usefulness, and implementation.

Methods

Study design overview

The Just One Move HCP toolkit was developed and evaluated through a three-phase program of work (Figure 1). The BCW and its constituent Capability, Opportunity, Motivation–Behaviour (COM-B) model¹⁸ served as the overarching theoretical framework throughout, guiding both the interpretation of preparatory findings and the selection of toolkit content, behaviour change techniques, and intervention functions.¹⁹

Figure 1 here

Phase 1 comprised preparatory work described elsewhere^{8,14,17} including: an environmental scan, an umbrella review of physical activity behaviour change interventions in IA, and two NGT priority-setting studies with rheumatology HCPs and individuals with RA. Both NGT studies followed a standardized three-step protocol comprising: (1) individual idea generation; (2) structured round-robin sharing and facilitated discussion to develop comprehensive, well-defined lists; and (3) independent rating of the consolidated list to generate consensus rankings.^{14,17} Following each study, priority findings were mapped to the BCW to identify evidence-based targets and intervention functions to inform toolkit design.^{14,17} Phase 2 translated those findings into an iteratively co-designed toolkit through a series of structured sessions with rheumatology HCPs and a design consultant. Phase 3 evaluated the toolkit through semi-structured qualitative focus groups. The present manuscript reports Phases 2 and 3.

Toolkit co-design process (Phase 2)

The toolkit co-design process was planned and developed in collaboration with a design consultant (JM) from the Alberta Health Services Design Lab¹⁹—Alberta’s provincial healthcare innovation hub—with expertise in design thinking and co-design approaches in healthcare settings. As described above, end-user involvement was central to the co-design approach.^{14,16} All toolkit components (results section in Figure 2) were designed to map directly onto the capability, opportunity, and motivation deficits prioritized by HCPs in the preparatory NGT study.¹⁴ Specifically, HCPs had identified limited time, low self-efficacy in providing physical activity advice, patient information overload, and a lack of high-quality RA-specific resources as key barriers; the toolkit components were designed to address these at both the individual provider level (capability and motivation) and at the structural level (opportunity, through environmental restructuring and enablement).^{18,20}

A series of planning meetings held between February and April 2025 brought together the research team and the design consultant to establish a co-design approach, develop structured activity prompts, and prepare prototype materials. An initial 60-minute brainstorming workshop was held in April 2025 with rheumatology HCPs to explore opportunities to embed physical activity promotion within rheumatology care and to generate prototypes of toolkit content. These prototypes were subsequently refined through additional co-design sessions using the draft materials as anchors to elicit feedback, identify gaps, and generate new ideas. Initial prototype development, along with subsequent refinement through additional co-design sessions, involved a total of eight rheumatologists, one physical therapist, and one academic physical therapist from four provinces across Canada. Research team synthesis meetings held between July and August 2025 consolidated these inputs into a cohesive toolkit. The HCP Design Sprint Summary Guide (Supplementary File 1) documents the structured co-design activities and decisions from this process.

Focus group evaluation of the Toolkit (Phase 3)

The refined toolkit was evaluated through semi-structured focus groups conducted between September and October 2025. This qualitative approach was selected to allow in-depth exploration of HCP perceptions of toolkit usability, feasibility, and clinical integration, and to capture the contextual factors shaping anticipated implementation.²¹

Participants and recruitment

Focus groups were conducted with HCPs working in Canadian rheumatology care settings, including academic clinics, community-based practices, public hospitals, and primary care. Given the structural constraints described above, evaluation was designed with attention to workflow fit and implementation feasibility within real-world clinical constraints.

Purposive sampling was used to recruit HCPs (N=14) with active clinical roles in rheumatology care, to capture a range of professional backgrounds, practice settings, and geographic regions. Eligible HCPs included rheumatologists, physiotherapists, and rheumatology nurses. Participants were recruited through professional networks and relevant clinical and research contacts via email and provided informed consent before participation.

Sample size was guided by an emphasis on data richness rather than formal saturation as described by Malterud et al. (2016).²² Recruitment continued until sufficient depth and diversity of perspectives were achieved. This pragmatic approach reflects the iterative spirit of the co-design process balancing the need to provide enough feedback to inform progression toward implementation, while recognizing that further refinement of the toolkit is expected during subsequent implementation and evaluation in real-world settings.

Data collection

Six sessions were conducted via Zoom, each approximately 90 minutes in duration. Five sessions were conducted in groups of up to five participants. One session was conducted individually. Participants reviewed each toolkit component and provided structured feedback. A semi-structured focus group facilitation guide was used to support discussion during sessions (Supplementary File 1). Resources were presented sequentially, organized by their anticipated timing of use within a clinical encounter: pre-appointment (waiting room posters), in-appointment (HCP conversation guide), and both in- and post-appointment (physical activity action planner). Discussion explored perceptions of usability, clarity, and visual design; relevance and anticipated impact on physical activity conversations; suggestions for improvement; and anticipated barriers and facilitators to implementation, including workflow fit and electronic medical record (EMR) integration. Sessions were audio-recorded and transcribed verbatim; transcripts were reviewed for accuracy prior to analysis.

Researcher characteristics and reflexivity

Focus groups were facilitated by an academic physiotherapist (DG) and exercise behavior change researcher (ME), contributing their clinical and research experience in physical activity promotion in rheumatology. The study was guided by a pragmatic worldview, prioritizing the development of feasible, real-world solutions and drawing on multiple sources of knowledge, including behaviour change theory and HCP perspectives as the primary source of evidence for toolkit refinement.²³ Reflexive awareness was maintained throughout regarding how the facilitator's clinical background may orient interpretation toward implementation-focused, actionable findings. Reflexive notes were kept throughout data collection and analysis.

Data analysis

Data were analyzed between November 2025 to April 2026 using reflexive thematic analysis following Braun and Clarke's²⁴ six-phase approach: familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. Transcripts were imported into NVivo 15.²⁵ Two researchers (DG and KW) independently coded each transcript in relation to the research questions, focusing on five domains: decision-making about tool use; user experience and perceived quality; perceived impact and usefulness; suggestions for improvement; and implementation considerations, including barriers, facilitators, workflow integration, and systems-level enablers. Initial codes were iteratively reviewed and organized into candidate themes through regular meetings of the full research team. Themes were then reviewed, defined, and named through regular team discussions, with clear descriptions and representative participant quotes identified and added representing each theme and subtheme. The COM-B model was pre-specified as an organizing framework for thematic interpretation; following completion of coding and theme development—and by consensus among three members of the research team (DG, KW, ME)—identified themes and sub-themes were mapped to the domains of HCP capability (knowledge, skills, self-efficacy), opportunity

(physical environment, social and structural context), and motivation (beliefs about role, perceived importance of physical activity promotion).^{18,20}

Strategies to enhance trustworthiness

Trustworthiness was addressed across four dimensions.²⁶ Credibility was supported through analyst triangulation (two independent coders) and iterative team-based review of codes and themes. Dependability was enhanced through consistent use of a structured facilitation guide across all sessions and maintenance of an audit trail of analytical decisions. Confirmability was supported by reflexive documentation and bracketing of the facilitator's prior assumptions. Member checking was conducted to further verify that themes accurately reflected participant perspectives. Responses were received from six of the fourteen participants. Feedback received supported the interpretation and representation of the findings.

Ethical considerations

Ethics approval was obtained through the University of Calgary (REB24-0858). All participants provided informed consent prior to participation. Transcripts were deidentified prior to analysis, and audio recordings were destroyed following transcription.

This study is reported in accordance with the Standards for Reporting Qualitative Research (SRQR) guidelines²⁷. The completed reporting checklist is provided as Supplementary Material File 2.²⁸

Equity, diversity, and inclusion statement

Equity, diversity, and inclusion principles were considered in the design and recruitment of this study. Purposive sampling was intentionally used to capture a diversity of perspectives across different healthcare professions and geographic regions within Canadian rheumatology care. Our research team comprised male and female members with a wide variety of backgrounds and experiences in rheumatology, behaviour change, and physiotherapy spanning diverse career stages.

Results

The Just One Move HCP Toolkit

Informed by our preparatory work in Phase 1, we co-designed and developed a multi-component HCP toolkit in Phase 2 using the methods described above. Table 1 summarizes each component's purpose, format, intended timing of use, and intended user, while Figure 2 provides a visual overview of the toolkit components and their design. The toolkit was designed such that components work in sequence across the clinical encounter. Waiting room posters engage patients prior to their appointment; the HCP Conversation Guide supports in-appointment physical activity discussions; the physical activity Action

Planner facilitates collaborative goal setting and follow-up, along with reinforcing in-appointment recommendations. The Action Planner is intended for flexible use across clinical appointment interactions and may be introduced in the waiting room, completed or reviewed during the appointment, and provided as a take-home resource.

Table 1. Just One Move Healthcare Provider Toolkit components: purpose, format, and intended use.

Component	Purpose	Format/Timing	Intended User
Waiting Room Poster 1: “Waiting Room Moves”	Prompts patients to begin thinking about movement while waiting	Poster; pre-appointment	Patients
Waiting Room Poster 2: “Ask Your Doctor”	Primes patients with questions to raise with their HCP and directs them to complete the physical activity Action Planner	Poster; pre-appointment	Patients
HCP Conversation Guide	Concise, action-oriented guide for initiating and supporting physical activity conversations; includes prompts for brief and extended consultations	2-page handout; during appointment	HCPs
Physical Activity Action Planner	Fillable resource for patients to document physical activity interests, goals, and anticipated barriers	Handout; pre-, during, and post-appointment	Patients and HCPs

The waiting room posters (Figure 2A, B) are intended to prime patients for physical activity discussions before interacting with their HCP. “Waiting Room Moves” (Figure 2A) encourages immediate, low-barrier engagement through simple activities (e.g., ankle pumps, leg marches, breathing exercises) that can be performed while waiting. This resource reinforces the message that even brief and simple movements can contribute to symptom management and overall well-being. In contrast, “Ask Your Doctor” (Figure 2B) prompts patients to initiate conversations with their HCP by suggesting specific questions related to safe activities, available programs, and how to get started. It also directs patients toward completing the Physical Activity Action Planner, linking pre-appointment engagement with in-appointment discussions.

Figure 2 Here

The HCP Conversation Guide (Figure 2C) provides a concise, structured framework to help HCPs initiate and facilitate physical activity discussions during clinical appointments. The guide includes prompts to invite patients into the conversation, assess readiness, and tailor discussions according to patient needs, interests, and available time. Distinct pathways are provided for patients who are ready to engage versus those who are more uncertain. For patients ready to engage, the toolkit emphasizes collaborative goal setting, action planning, and progression of activity. For those who are more uncertain, it prioritizes exploring perceived benefits and challenges, addressing concerns, and identifying simple, low-barrier

ways to incorporate movement into daily routines. This resource is designed to support HCP confidence and consistency in integrating physical activity promotion into routine care.

The physical activity Action Planner (Figure 2D) supports goal setting and behaviour change by providing a structured space for patients, in collaboration with their HCP, to document goals, priorities, and anticipated barriers. The planner can be introduced prior to or during the appointment and is intended to produce a personalized, actionable plan to support planning, address challenges, and reinforce strategies for sustained physical activity engagement.

Together, these components function as an integrated toolkit that supports physical activity promotion before and during clinical encounters, while reinforcing behaviour change beyond the visit.

Focus group evaluation of the toolkit

The following results report participant characteristics and findings from semi-structured qualitative focus groups during toolkit evaluation.

Participant characteristics:

Fourteen HCPs participated across six focus group sessions. Participant characteristics are summarized in Table 2. Most participants were female (78.6%) and practiced in academic settings (57.1%). Experience ranged from fewer than two to more than 31 years of clinical practice. Self-reported physical activity levels indicated that most participants were regularly active, with participants reporting an average of 4.2 moderate (SD ± 2.7) and 4.2 strenuous (SD ± 2.3) exercise sessions per week.

Table 2. Healthcare provider demographics and physical activity levels.

Variable	N or Mean	% or SD
Age (mean $\pm$ SD)	50.1	$\pm$ 13.5
Gender		
Female	11	78.6%
Male	3	21.4%
Race/Ethnicity		
White/European	11	78.6%
Indigenous (First Nations/Inuit/Métis)	2	14.3%
Southeast Asian	1	7.1%
Provider Type		
Rheumatologist	7	50.0%
Rheumatologist (former physiotherapist)	1	7.1%
Physiotherapist	3	21.4%
Paediatric Rheumatologist (former physiotherapist)	1	7.1%
Registered Nurse	2	14.3%
Years of Practice		
<2	2	14.2%
3–10	4	28.6%
11–20	5	35.7%
21–30	1	7.1%
>31	2	14.3%
Patients per Week		
0–10	6	42.9%
11–20	4	28.6%
>20	4	28.6%
Practice Setting		

Academic (University-based)	8	57.1%
Community-based	3	21.4%
Primary Care	1	7.1%
Public Hospital	1	7.1%
Ambulatory Clinic	1	7.1%
Province		
Alberta	10	71.4%
Nova Scotia	2	14.3%
Ontario	1	7.1%
Newfoundland and Labrador	1	7.1%
Physical Activity, weekly frequency* (mean $\pm$ SD)		
Mild sessions	2.6	± 2.5
Moderate sessions	4.2	± 2.7
Strenuous sessions	4.2	± 2.3

*Frequency of exercise sessions lasting more than 15 minutes in a typical 7-day (1-week) period.

Qualitative findings: thematic analysis

Five themes were identified related to: (1) Design; (2) Impact; (3) Roles; (4) Behaviour Change; and (5) Resources. Across these themes, fourteen sub-themes were identified. Findings are presented by theme, with corresponding sub-themes, descriptions, and supporting quotations summarized in Tables 3–6.

Theme 1. Design

Providers discussed how the design of resources influenced perceptions of accessibility, usability, and feasibility within clinical practice. Inclusive language, design, and imagery were viewed as important features that enhanced engagement with the materials. By contrast, resources perceived as complex, multi-step, or cognitively demanding raised concerns about feasibility and adoption within routine clinical appointments.

Table 3. Subthemes and supporting quotations for Theme 1: Design

Subthemes	Description	Participant Quotes
1.1: Accessible design reduces burden and improves engagement.	Participants valued clear, uncluttered layouts, inclusive imagery representing a range of ethnicities and physical abilities, and language accessible to patients for whom English may not be a first language. Several participants raised the utility of plain language on patient-facing materials—specifically, the suggestion to replace clinical acronyms such as "RA" with more broadly understood terms such as "arthritis." The overall presentation of the posters was received positively.	<p>"Yeah, yeah, the posters look really good. I think, yeah, it's simple, it's, you know, engaging. (P14)"</p> <p>"I think the language is very gentle. (P01)"</p> <p>"I like that it's very inclusive, like, there's multiple races represented at the posters. (P13)"</p>
1.2: A clear purpose and realistic expectations affect attitudes towards using the tools.	Providers responded more favorably to resources with a single, clear message and a low threshold for use. In contrast, materials that appeared to require significant time or effort [the HCP-facing tools such as the conversation guide] were viewed less favorably, particularly among those with limited consultation time. A simple, achievable goal was seen as a prerequisite for uptake.	<p>"So if...if the goal is to just move the needle, like, if it's a really simple message, my view is it would... I'd be much more likely to, like, initiate something, if it was, like, just a very... simple... thing. (P07)"</p> <p>"It's [<u>Poster Resources</u>] simple, and it's feasible for people to do just while they're sitting there, so I was pretty happy about that, because it just made it simplistic and realistic, something you can do while you're sitting there waiting. (P05)"</p>
1.3 Complex tools were perceived as cognitively demanding and raised concerns about feasibility within clinical practice	Resources perceived as cognitively or practically demanding raised concerns about adoption.	<p>"It [<u>Conversation Guide</u>] does look a little overwhelming if you're somebody that's new to needing to have these conversations, and you're trying to carve out even a little way to start doing it in the little bit of time that you have. (P08)"</p>

Theme 2. Impact

Tools were perceived as a practical means of initiating physical activity discussions that providers might not otherwise have the confidence or structure to start. Concise and impactful messaging was perceived to support provider confidence and motivation to engage in these conversations and could help "plant the seed" for patient engagement with physical activity.

Table 4. Subthemes and supporting quotations for Theme 2: Impact

Subthemes	Description	Participant Quotes
2.1: Impactful messages can enhance provider confidence and motivation.	Providers indicated that concise, structured prompts lowered the threshold for initiating physical activity conversations and could support those who lacked established habits around physical activity promotion. The availability of ready-made language and messaging was highlighted as an important enabler.	<i>"You can have just a quick statement at the top [of the Conversation Guide] ... even small movements can help, even small discussions, or even a minute conversation can help. Like, just something quick and catchy like that, so people don't think they need to go into a 15-minute conversation, right? Just for one minute, even mentioning that you are interested in talking about physical activity can open the door. (P06)"</i>
2.2: Tools can invite curiosity about physical activity and support patient engagement.	Resources that empowered patients to identify their own goals and preferences—rather than directing providers to prescribe specific activities—were viewed as more realistic and sustainable within busy clinical contexts. Participants valued a patient-led approach to goal setting.	<p><i>"I think it's the overall, just kind of trying to figure out how do we keep things as concise, but give them enough they need, because it is, I think, as P08 alluded, we just still want to plant those seeds. (P09)"</i></p> <p><i>"I like if we kind of think of this [Physical Activity Action Planner] as, like, a self-reflective activity. For the patient to kind of come up with these questions themselves, like, you know, and think about it, and kind of gain some motivation themselves. I think that in itself is a benefit. (P11)"</i></p> <p><i>"Small movement, that is very important. For me, it is empowering them to let them know, you don't need to run, you don't need to do so much exercises, gym stuff like that. Small movement is helping joint stiffness and improvement. (P10)"</i></p>
2.3 Multi-format tools create opportunities for repeated exposure to physical activity messaging.	Providers described the value of repeated exposure to physical activity messaging across multiple points of care. Waiting room time, pre-appointment periods, and brief interactions were viewed as opportunities to reinforce messaging, increase awareness, and initiate conversations about physical activity without substantially increasing provider burden.	<p><i>"Really, multiple exposure points and multiple times, even if it's just a quick little question, is hugely valuable, because it may not be the first, it may be the 20th time that you've asked a question. (P08)"</i></p> <p><i>"As far as getting a message across to people, they say it takes at least 7 times for somebody to have heard a message until it actually registers, so I don't think that we should underestimate the value of having just asked the question, or put the poster up. (P08)"</i></p> <p><i>"Just put in waiting room, or when they check in the front desk, they can give them [the Physical Activity Action Planner] ... while they're waiting, they</i></p>

Theme 3. Roles

While physical activity promotion was broadly endorsed as important, focus group discussions highlighted the complexity of integrating it alongside competing clinical priorities. Conversations revealed uncertainty about which members of the care team hold primary responsibility for initiating and sustaining physical activity discussions and acknowledged that behaviour change—for both providers and patients—is inherently challenging.

Table 5. Subthemes and supporting quotations for Theme 3: Roles

Subthemes	Description	Participant Quotes
3.1: Professional priorities and the importance of physical activity promotion; it's a balancing act.	Providers acknowledged the clinical importance of physical activity promotion while simultaneously describing the competing demands of the consultation. Motivation to promote physical activity was present but variable and could fluctuate across clinical encounters and over time.	<i>"There's just so many things to go through, right? Like, it's... the rheumatology issues, and now we're meant to cover vaccines and preventative health, so all of these other things you build in... But I mean physical activity is probably one of the more important things we can encourage people to do. (P07)"</i>
	There was genuine uncertainty about whose professional responsibility it is to provide detailed physical activity guidance, with concerns raised about scope of practice, safety, and liability when advice extends beyond familiar clinical competencies.	<i>"When you... when any doctor prescribes something, right? Like, you take responsibility, right? So, any liability. So, if someone were to get hurt. Like, I don't know, as a physician, maybe some people might feel like, oh, I don't want to prescribe something in case they do fall or get hurt. Well, you told me, doctor, and look what happened. (P14)"</i>
3.2 Patient initiated conversations were viewed as helpful in facilitating physical activity discussions.	Patient-initiated conversations were viewed as a valuable approach to supporting physical activity conversations. Some providers suggested that empowering patients to raise questions around physical activity topics with their HCP could reduce provider burden while creating opportunities and space for meaningful discussion.	<i>"Putting it in the hands of patients as much as possible and empowering them to bring it up. (P07)"</i>
3.3: Team-based care and delegation.	Several providers proposed that delegation of physical activity promotion tasks to nurses, physiotherapists, or administrative staff could reduce the burden on rheumatologists. However, the feasibility of delegation was questioned, given concerns about allied health buy-in, available training, and staffing capacity.	<i>"But the problem is time. I mean... even though I'm now convinced. I just don't see myself doing this. Now, it could be done by phone. I mean, encourage a nurse to talk about movement with them. We would have to have a trained nurse, and somebody who has time, and we don't have that. (P12)"</i>

Theme 4. Behaviour Change

Providers acknowledged challenges related to sustained physical activity promotion for both clinicians and patients alike. Fluctuating engagement, competing clinical priorities and the need to tailor

conversations to patient readiness influenced perceptions of how to consistently integrate physical activity promotion into routine care.

Subthemes	Description	Participant Quotes
4.1: Behaviour change is difficult.	Providers expressed realism about the limits of the tools in changing entrenched behaviour—both among patients and among HCPs themselves. Concerns centred on whether patients would reliably engage with pre-appointment materials and whether providers would sustain habitual use over time.	<p><i>"It's that balance of how much in the provider's face do you want to be to make sure it gets in their head, but not to, you know, so much that it ends up ignoring it. Because providers are a tough nut to crack. (P01)"</i> [describing how change in practice can be challenging for providers].</p> <p><i>[In reference to the Physical Activity Action Planner] "That being said, would they remember to bring it? Would they remember to fill it out? That's a whole other ballgame, but I think if you have the right patient that's motivated, and this is something tangible that they can do, then... yeah. I think it would work for a subset of patients, but certainly not all. (P13)"</i></p>
4.2: Conversations need to be appropriately timed to patient context.	Providers emphasized that the appropriateness of physical activity promotion depends critically on patient context. Patients experiencing a disease flare or in a period of high disease activity were not considered appropriate candidates for physical activity goal-setting conversations; the tools were seen as most relevant for stable patients:	<p><i>"This is more when they're stable, and not in that crisis mode of, you know, just a big flare. And so, this is the time when they're settled down, and okay, let's talk about being physically active, and how you're managing, and what you can do within your limits. (P06)"</i></p> <p><i>"I think that's a really important point, because we're making this assumption that everyone's starting from zero, and that's not the case, and I think we need to understand that better for a given individual, so we can tailor it. (P01)"</i></p>

Theme 5. Resources

Clinical context and resource limitations were identified as the dominant implementation challenge. Providers identified time pressure, integration of the tools into clinical workflows and EMR systems, team-based delegation, and limited availability of locally relevant physical activity referral resources as key challenges to implementation.

Table 6. Subthemes and supporting quotations for Theme 5: Resources

Subthemes	Description	Participant Quotes
5.1: The dominant perceived barrier is time pressure. Time limitations were the most consistent and emphatically identified implementation barrier.	Providers valued the two-tier structure of the conversation guide, which distinguishes between brief and extended interactions, but remained concerned about the additional burden on already constrained appointments.	<p><i>"And, have time, actually, that is the major issue that we have, time in clinic to do so. Patients, if they have questions, it's like, you could bring up physical activity, but then they... if they have a lot of questions, you may not have time to answer them. I think, yeah, we may say set a goal together, but how are you gonna follow up on that goal? That is the question. (P10)"</i></p> <p><i>"I think that [time] will be a big barrier to implementation. (P13)"</i></p>
5.2: System integration and workflow fit.	Providers discussed the potential for EMR integration, such as automated prompts within clinical record systems, to substantially increase tool uptake, while simultaneously noting the risk of alert fatigue and the logistical complexity of implementation across diverse provincial EMR systems.	<p><i>"To be able to do that so it's automated, and then pops up for the provider, that would dramatically increase the chance of these things being discussed, because basically, it primes the provider to say, yes, this patient wants to talk about this. (P11)"</i></p> <p><i>"The number of things I've heard that people want to prompt in EMRs is gonna be like... it's gonna be one of those things where you're turning off notifications. (P07)"</i></p>
	Some providers indicated they would more likely use toolkit components as physical, paper-based prompts within the appointment rather than relying on electronic integration, citing the logistical complexity of digital distribution.	<p><i>"I kind of go through that a little bit, so it is nice to have the printed resource. So probably mostly as a printed resource is the most realistic. (P11)"</i></p> <p><i>"Could you have that one as, like, a handout for patients, too? Cause there are lots of people who don't... do the QR. Especially in our waiting room. (P07)"</i></p>
5.3: Resource and referral gaps.	The time and delegation constraints described above are compounded by a distinct ecosystem-level gap: limited awareness of locally available physical activity resources and the absence of reliable, geographically tailored referral options. This finding is not reducible to time pressure—providers lack knowledge of community programs regardless of how much appointment time they have— Providers expressed uncertainty about which community-	<i>"I think it's unrealistic to expect the rheumatologist to suggest a specific program for them in their area. I have patients coming to me from... somewhere I've never even been, I had to look it up on a map, absolutely no idea what programs are available to them in their area. (P11)"</i>

based programs were accessible to patients across their often-wide catchment areas:

"What are personal programs in my area? Like, we may not know, but we can try to hopefully help them find it—how can I get started? Like, as a provider, some people may not know how to help a patient get started. (P14)"

Behavior Change Wheel mapping of qualitative themes

The mapping of qualitative themes to the behavior change wheel, including COM-B model factors and TDF domains is summarized in Figure 3.

Figure 3 Here

Capability-related findings were most evident in Themes 1 and 2 (design, impact)—reflecting HCPs' psychological capability to initiate and sustain physical activity conversations. HCPs responded favorably to toolkit components that were simple, direct, and low in cognitive burden: materials that did not require extended explanation or specialist knowledge to deploy. Participants were more confident initiating physical activity conversations when provided with a clear, brief conversational prompt (Sub-themes 1.2 and 2.1).¹⁵ This aligns with COM-B's construct of psychological capability, which encompasses the knowledge, communication skills and self-efficacy required to perform a behaviour.¹⁸ Enabling interventions represent an evidence-based strategy to improving psychological capability by reducing cognitive burden and increasing confidence to initiate conversations.²⁹ Examples could include concise point-of-care conversation prompts, patient-facing materials that reinforce key messages, clinic processes that facilitate routine use of toolkit resources, and training to support HCPs in incorporating physical activity discussions into existing workflows.

Motivation-related findings were most apparent across Themes 2-4 (impact, roles, behaviour change), where providers expressed uncertainty about whether initiating physical activity promotion was their professional responsibility relative to other care team members or the patient. This reflects a form of reflective motivation—the evaluative and planning processes through which clinicians assign priority to competing clinical demands.¹⁸ It also raises questions about professional role identity and the social opportunity afforded by care teams in which physical activity promotion norms are held collectively. Their motivation to promote physical activity was impacted by their beliefs about capabilities (i.e. self-confidence) and optimism or pessimism about adopting and maintaining this habit. Training and modeling interventions could be leveraged to improve self-efficacy and strengthen physical activity promotion roles (e.g. developing a continuing medical education course to support physician training in physical activity promotion; and/or training physician champions). Incentivizing the desired behavior

may also increase motivation, providing an initial extrinsic motivator.²⁹ Examples could include billing codes to recognize time and effort required to support physical activity promotion and/or to support allied health care providers to take this role.

Opportunity-related findings dominated Theme 5 (resources). Time pressure, workflow integration challenges, and uneven awareness of community-based physical activity referral resources were consistently identified as barriers to using the toolkit in practice. Participants' concerns about appointment duration and EMR integration (Sub-theme 5.2) suggest that opportunity barriers remain the most challenging domain to address through toolkit design alone. Environmental restructuring interventions, such as the hiring of exercise specialists, may be required for sustainable physical activity promotion in rheumatology care.²⁹

Taken together, these five themes reflect a consistent tension between providers' recognition of the Just One Move toolkit's potential value and the structural, relational, and resource constraints that shape whether that potential can be realized in routine rheumatology care.

Discussion

This study describes the iterative co-design and qualitative evaluation of the Just One Move HCP-facing toolkit—a multi-component resource developed to support routine physical activity promotion in rheumatology clinical settings. Five themes emerged from focus group analysis focusing on: (1) Design; (2) Impact; (3) Resources; (4) Behaviour Change; and (5) Resources. Taken together, the findings affirm both the perceived value of co-designed, theoretically grounded physical activity promotion tools in rheumatology care and the complexity of the implementation environment into which such tools must fit.

The value of co-design in developing the toolkit

The iterative co-design process was central to producing a toolkit perceived as feasible and relevant by HCPs. Engaging rheumatology HCPs across multiple co-design sessions—and incorporating feedback directly into successive prototype iterations—ensured that toolkit components were responsive to the practical realities of rheumatology care rather than developed from theoretical principles alone.

Ramirez-Duran et al.¹⁶ demonstrated that co-ideation of a shared decision-making tool for physical activity promotion in primary care—involving patients, academics, and HCPs from the earliest design stages—yielded important insight into user preferences and implementation challenges, and identified simplicity, personalization, and workflow integration as essential design requirements. Comparable priorities emerged in the present study: participants valued simple, self-explanatory tools with a single clear purpose, and raised concerns about resources that added to their cognitive or time burden. The alignment of these findings across different healthcare contexts suggests consistent, cross-setting design principles for HCP-facing physical activity promotion resources.

The Moving Medicine initiative in the UK provides a further methodological parallel.¹⁵ Using a multistage consensus and workshop process involving HCPs from across clinical specialties, Reid et al.¹⁵ developed educational materials and a clinical framework for person-centred physical activity conversations—a resource similarly designed to embed into routine care without requiring dedicated appointment time. The Just One Move toolkit extends this model by situating it within a population with distinct disease-related physical activity barriers.^{14,17}

Clinical and practical implications informed by the BCW

The use of the BCW as a theoretical scaffold throughout co-design and evaluation strengthens the toolkit's conceptual coherence. Reid et al.²⁰ demonstrated that physical activity promotion tools developed using BCW methodology are more likely to achieve sustained practice change by systematically targeting the capability, opportunity, and motivation deficits that underpin the target behaviour. Using the BCW illuminates how capability, opportunity, and motivation interact, and sometimes conflict, in shaping whether rheumatology HCPs can and will engage in routine physical activity promotion. This method also ensures that each toolkit component addresses a specific, evidence-based behavioral target rather than relying on generic communication strategies.

The Just One Move HCP toolkit offers a practical, low-burden entry point for physical activity promotion in rheumatology clinical settings. Reid et al.²⁰ identified that directly addressing the time constraints of clinical practice—for example, through waiting room materials that initiate the physical activity conversation before the HCP is present—is a key implementation strategy for improving physical opportunity. The toolkit's sequential design, in which waiting room posters, the Conversation Guide, and the physical activity Action Planner work together to initiate, support, and operationalize physical activity discussions, reflects this principle, and¹⁴ reduces the burden of any single interaction while preserving flexibility for brief or extended engagement depending on appointment constraints. This design reflects current best-practice guidance on structuring physical activity promotion within clinical workflows.²⁰

Participants identified team-based delegation—to nurses, physiotherapists, or administrative staff—as a promising strategy for reducing the physical activity promotion burden on rheumatologists (Sub-theme 3.3). Future implementation efforts should explicitly support this model: allied health staff could be trained to administer the action planner and initiate the physical activity conversation prior to or following the physician portion of the visit. However, as several participants noted, this model is feasible only where allied health staffing and buy-in are adequate—conditions that vary substantially across practice settings.

Our findings demonstrated limited provider awareness of locally available physical activity programs (Sub-theme 5.3), highlighting a future design opportunity to develop streamlined, user-friendly referral processes that enable quick and efficient integration into clinical workflows. This would require the development and maintenance of locally curated, geographically tailored physical activity resource

directories. Integration with the patient-facing Just One Move website (justonemove.ca) and exploration of digital delivery formats should be prioritized in the next implementation phase.

Critically, the umbrella review informing this work found no published studies evaluating an HCP-facing rheumatology physical activity promotion toolkit using controlled or pre-post designs; most existing evidence addresses patient-directed interventions such as digital tools, health coaching, and counselling.⁸ The review explicitly identifies how to implement and sustain physical activity support in real-world IA care settings as an outstanding research priority. The present study addresses part of this gap by describing the co-design process and reporting qualitative perceptions of toolkit usability; however, controlled evaluation of effectiveness—including impact on physical activity conversation frequency, HCP confidence, and patient physical activity behaviour—remains an essential next step.

Strengths and limitations

The iterative co-design methodology is a key strength of this study. Engaging rheumatology HCPs across multiple co-design sessions spanning seven months, and grounding both the preparatory work and the design process in the BCW framework¹⁸, produced a toolkit directly responsive to end-user priorities and theoretically coherent. The diverse HCP sample across multiple settings and five clinical roles—enhances the breadth of perspectives captured in the qualitative evaluation. Reflexive thematic analysis was conducted in accordance with Braun and Clarke²⁴, and trustworthiness was supported through peer debriefing, investigator triangulation, and maintenance of an audit trail throughout analysis.²⁶

Several limitations should be acknowledged. First, the sample was self-selected: HCPs who chose to participate may already be more motivated to promote physical activity than their colleagues. A systematic review by Borges et al.³⁰ found that higher personal physical activity levels among HCPs are associated with greater physical activity promotion and counselling practices, suggesting that motivation in this domain is partly rooted in personal experience and professional modelling. It is possible that self-selection by more physically active HCPs could potentially bias findings toward more favorable appraisals of the toolkit and underrepresent implementation challenges faced by less engaged providers.

Second, the sample was drawn predominantly from academic practice settings, which may limit generalizability to community-based, primary care, or rural rheumatology contexts where staffing, time pressures, and referral resource availability may differ substantially. Third, this study reports perceptions of usability and potential clinical utility only; no data are available on actual toolkit uptake or patient-level outcomes.

Conclusion

The Just One Move HCP toolkit represents a co-designed, practically grounded response to a recognized gap in rheumatology clinical care—the absence of accessible, evidence-informed resources to support routine physical activity promotion conversations. Integration with team-based care models, EMR

workflows, and the patient-facing Just One Move website (justonemove.ca) represents the most promising pathway to broader adoption. Controlled effectiveness evaluation, identified as an outstanding priority in the broader IA physical activity literature⁸, is needed to establish whether the toolkit produces meaningful improvements in physical activity conversation frequency, HCP confidence, and patient physical activity behaviour in rheumatology care.

Abbreviations

BCW: Behavior Change Wheel

COM-B: Capability, Opportunity, Motivation, Behavior Model

EMR: Electronic Medical Record

HCP: Health Care Provider

IA: Inflammatory Arthritis

NGT: Nominal Group Technique

RA: Rheumatoid Arthritis

TDF: Theoretical Domains Framework

Declarations

Ethics approval and consent to participate

Ethics approval was obtained from the University of Calgary Conjoint Health Research Ethics Board (REB24-0858). All participants provided informed consent prior to participation.

Consent for Publication

Not applicable. All participant data presented in this manuscript have been deidentified.

Availability of Data and Materials

The datasets generated and/or analyzed during the current study are not publicly available to protect participant confidentiality, as the qualitative interview transcripts may contain potentially identifiable information despite deidentification. Data may be available from the corresponding author on reasonable request.

Competing Interests

The authors declare that they have no competing interests.

Funding, grant/award info, name and numbers

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Author Contributions

DG: Data curation, formal analysis, investigation, methodology, project administration, resources, thematic analysis, transcript coding, visualization, writing – original draft, writing – reviewing and editing. KW: Data curation, formal analysis, investigation, project administration, resources, thematic analysis, transcript coding, writing – reviewing and editing. KD: Data curation, formal analysis, investigation, project administration, resources, writing – reviewing and editing. SK: Formal analysis, methodology, supervision, thematic analysis, writing – reviewing, editing, and manuscript preparation. CB (Guarantor): Conceptualization, funding acquisition, investigation, methodology, resources, supervision, thematic analysis, transcript coding, writing – reviewing and editing. ME: Conceptualization, formal analysis, funding acquisition, investigation, methodology, project administration, resources, supervision, thematic analysis, transcript coding, visualization, writing – reviewing and editing.

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Figures

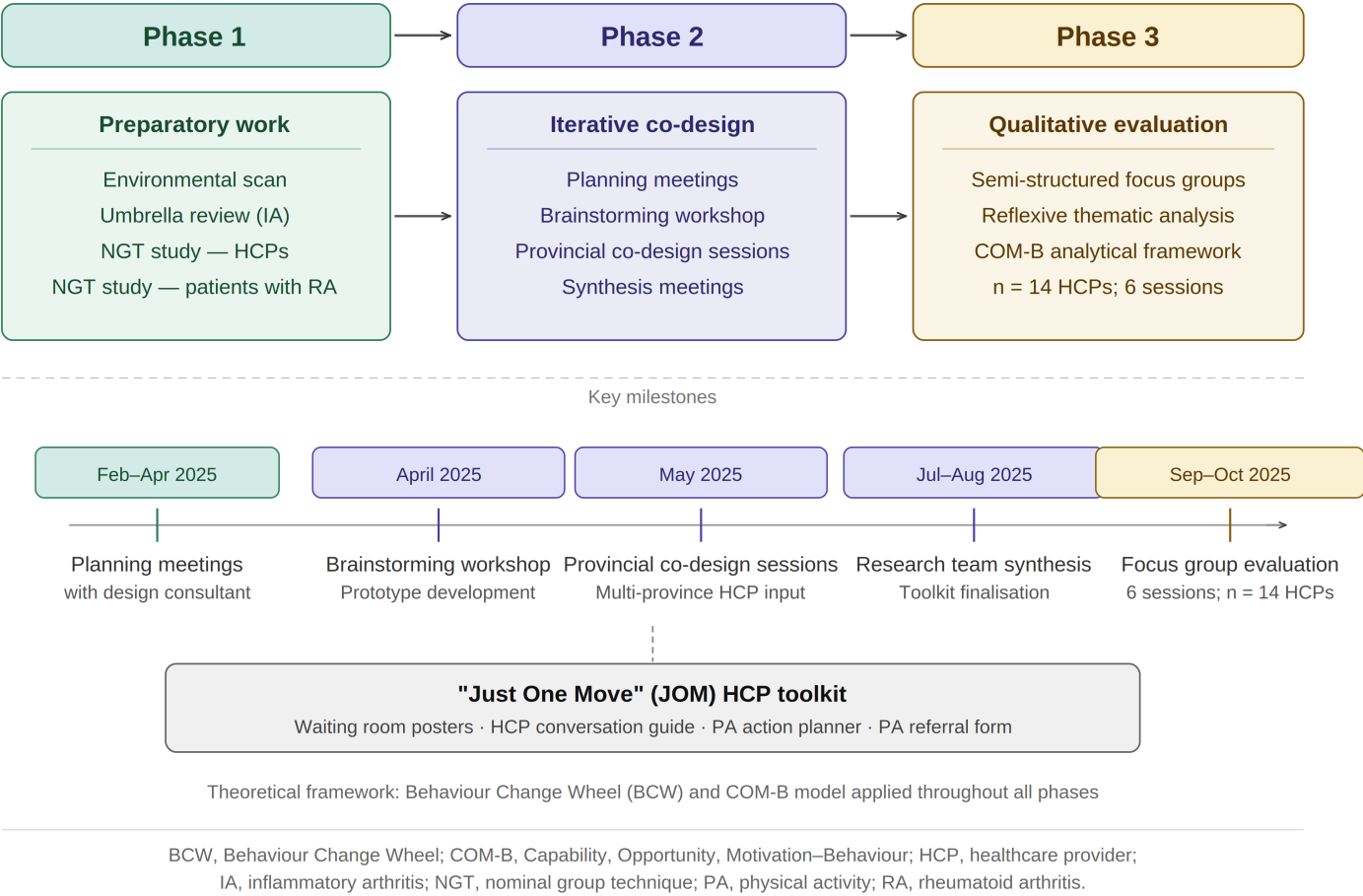


Figure 1

Three-phase co-design and evaluation of the “Just One Move” healthcare provider physical activity promotion toolkit

BCW, Behaviour Change Wheel; COM-B, Capability, Opportunity, Motivation–Behaviour; HCP, healthcare provider; IA, inflammatory arthritis; NGT, nominal group technique; PA, physical activity; RA, rheumatoid arthritis.



Figure 2

Visual outlines of the "Just One Move" Physical Activity Promotion Toolkit.

(A) Waiting Room Poster 1: "Waiting Room Moves"; (B) Waiting Room Poster 2: "Ask Your Doctor"; (C) Health Care Provider Conversation Guide; (D) Physical Activity Action Planner.

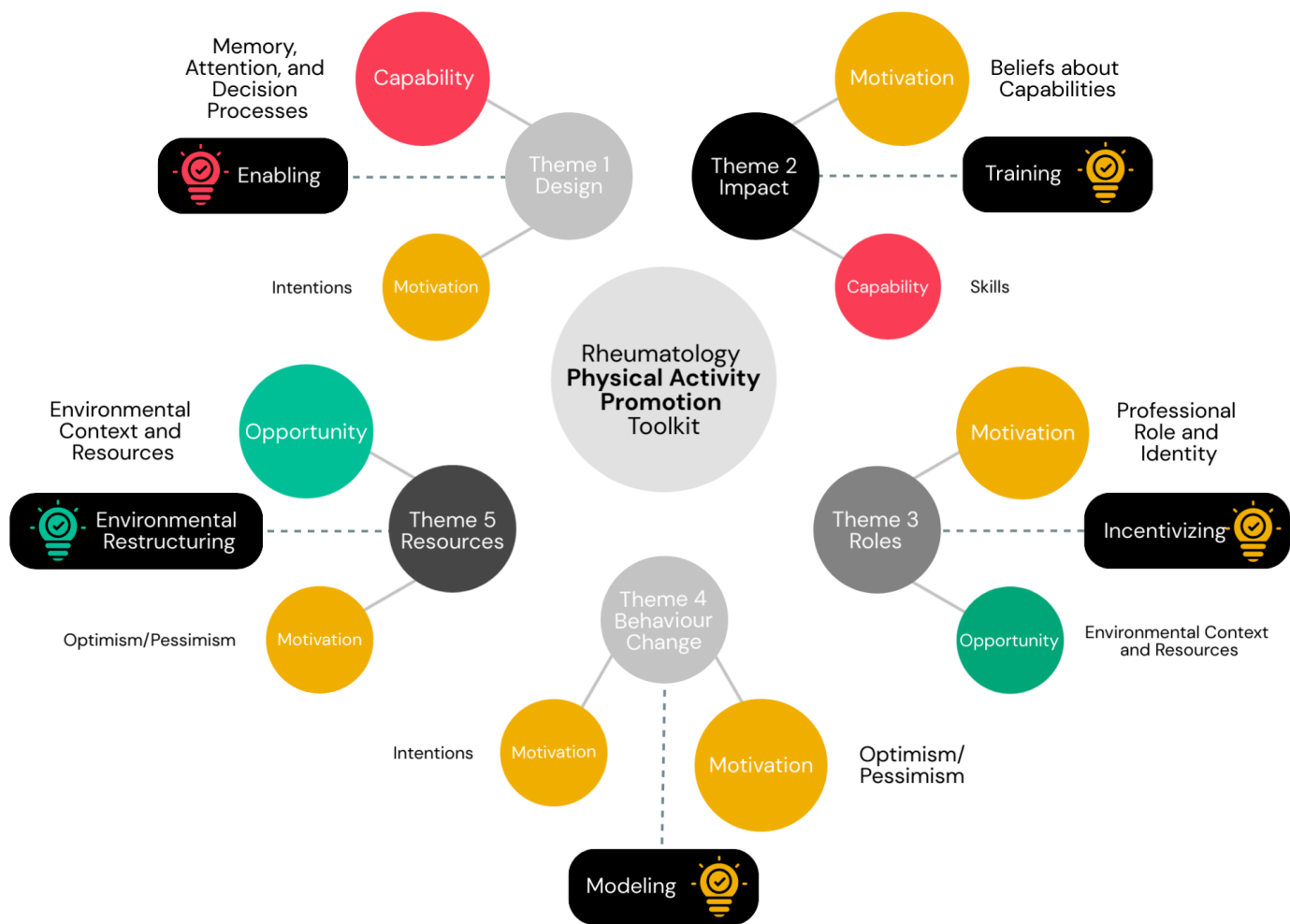


Figure 3

Summary of behavior change wheel mapping of qualitative themes.

Primary COM-B model factors are presented as larger circles, with secondary factors presented as smaller circles. Each theme includes TDF domains (black text) and evidence-based intervention functions (black boxes) that may improve toolkit implementation.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [AdditionalFile1.HCPFocusGroupSemiStructuredInterviewGuide.docx](#)
- [AdditionalFile2.SRQRChecklist.docx](#)