Research Square

Preprints are preliminary reports that have not undergone peer review.
They should not be considered conclusive, used to inform clinical practice,
or referenced by the media as validated information.

Implementation Conditions for Integrating Physical Activity into Oncology Care: A Logic Model from a Qualitative Study – ACTI-MAP

Evolène Fayolle

evolene.fayolle@chu-st-etienne.fr

Univ Jean Monnet, URC, INSERM CIC 1408, University Hospital of Saint-Etienne, Mines Saint-Etienne, INSERM

David Hupin

Univ Jean Monnet, Department of Clinical and Exercise Physiology, University Hospital of Saint-Etienne, Mines Saint-Etienne, INSERM, U 1059

Amandine Baudot

Univ Jean Monnet, URC, INSERM CIC 1408, University Hospital of Saint-Etienne, Mines Saint-Etienne, INSERM

Research Article

Keywords: Physical activity, Oncology, Supportive care, Implementation science, Logic model, Cancer care, Qualitative research

Posted Date: November 1st, 2026

DOI: https://doi.org/10.21203/rs.3.rs-11130005/v1

License: This work is licensed under a Creative Commons Attribution 4.0 International License.
Read Full License

Additional Declarations: No competing interests reported.

Abstract

Purpose

Cancer and its treatments negatively affect physical function and increase fatigue, contributing to a decline in patients' physical activity (PA) levels. Although PA is recommended as part of oncology care pathways due to its well-established benefits, its integration into routine clinical practice remains limited and heterogeneous. This study aimed to identify the key elements influencing PA implementation in oncology care and to develop an implementation logic model.

Methods

A qualitative study was conducted using semi-structured interviews with healthcare professionals involved in oncology care pathways across multiple centers in France. Data were analyzed using the Consolidated Framework for Implementation Research (CFIR), the Expert Recommendations for Implementing Change (ERIC) taxonomy, and Proctor's implementation outcomes framework. Findings were synthesized into an Implementation Research Logic Model (IRLM), linking determinants, strategies, mechanisms, and outcomes.

Findings:

Twenty-two interviews were conducted across 12 centers, classified as having low (n = 2), medium (n = 5), or high (n = 5) levels of PA integration. Analysis identified two interrelated themes: (1) the engagement and roles of three key actors, highlighting the complementary contributions of institutional decision-makers, physician opinion leaders, and PA professionals/coordinators in legitimizing, supporting, and operationalizing PA integration.; and (2) multidisciplinary collaboration, emphasizing the role of HCP knowledge and training, recognition of PA professional roles, interprofessional communication, and integration of PA within existing workflows and care pathways. Across these themes, 12 determinants, 17 implementation strategies, and 17 mechanisms were identified, influencing appropriateness, acceptability, adoption, penetration, and sustainability. These elements influenced key implementation outcomes, including appropriateness, acceptability, adoption, penetration, and sustainability.

Conclusion

This study suggests that PA implementation in oncology care is shaped by a dynamic interplay between contextual conditions, implementation strategies, and underlying mechanisms.

INTRODUCTION

Worldwide, cancer incidence is steadily increasing (1). Cancer and its treatments expose patients to a wide range of adverse effects that progressively impair physical and psychological functioning (2).

In particular, cancer and its treatments lead to a decline in cardiorespiratory fitness and muscle function, contributing to reduced physical activity (PA) and increased sedentary behavior. This process is further exacerbated by anxiety, fatigue, diminished self-efficacy, pain, and social representations of the disease, ultimately resulting in decreased tolerance to physical exercise (3).

Moreover, both cancer and its treatments are associated with a deterioration in quality of life, as well as increased levels of anxiety and pain (2). Regular PA has been shown to mitigate many of these adverse consequences. Strong evidence demonstrates reductions in cancer-related fatigue and anxiety, as well as improvements in quality of life, muscle strength, muscle mass, and cardiorespiratory fitness among patients undergoing cancer treatment (2, 4, 5). Moreover, engaging in PA after diagnosis is associated with a reduced risk of cancer-specific and all-cause mortality (6).

Despite these well-documented benefits, many individuals decrease their PA levels during and after cancer treatment (2, 7). Barriers to PA engagement among people with cancer include treatment-related side effects, low motivation, kinesiophobia, limited social support, time constraints, and poor accessibility of exercise facilities (8). Conversely, facilitators include effective symptom management, perceived health benefits, professional guidance, and the availability of tailored exercise resources (8). In line with these findings, the literature highlights the need to establish exercise-based rehabilitation as an integral element of routine cancer care delivery (8). The integration into the care pathway for all patients also helps ensure equality of care and thereby reduce health inequalities.

Despite clear recommendations from French institutions supporting PA (2), as well as legislation allowing physicians to prescribe it (9), PA is not yet systematically integrated into cancer care pathways in France. Understanding why and how evidence-based PA interventions can be effectively integrated into routine clinical practice therefore appears essential. In this context, implementation science (IS), defined as “the scientific study of methods to promote the systematic uptake of research findings and evidence-based practices into routine care” (10), offers a relevant framework for examining the gap between evidence and practice (11). Within this framework, several key concepts help to structure the analysis of implementation processes, include implementation determinants (barriers and facilitators) (12, 13), implementation strategies (14), implementation outcomes (15), and mechanisms of change (16), defined as the processes through which implementation unfolds (17).

Therefore, this study aims to investigate the key elements influencing the implementation of PA in oncology care, resulting in the construction of a logic model of PA implementation that provides a structured framework to inform implementation efforts and support the implementation of PA interventions across diverse healthcare contexts (18).

METHODS

Study design

This study used a qualitative research design. Individual semi-structured interviews were conducted to explore participants' experiences and perceptions regarding the integration of PA into oncology care. We focused on key contextual factors, barriers and facilitators, to PA program implementation. Building on these elements, we then examined the implementation strategies employed, along with the mechanisms of change and related outcomes.

Participants

Participants were professionals involved, directly or indirectly, in the cancer care pathway and potentially engaged in implementing PA programs in French healthcare hospitals, regardless of whether the institution currently offered PA programs. Participants included physicians, nurse directors, nurse managers, PA coordinators, PA professional, and dietitians. All participants were contacted via email by a PhD student in public health (EF, female).

Data collection

The interview guide was developed by a PhD student (EF) and reviewed by a qualitative researcher (FC, female) and PhD public health (AB, female), all trained in qualitative research methods. The guide was structured with the Consolidated Framework for Implementation Research (CFIR). CFIR provides a pragmatic approach to identifying barriers and facilitators across five domains: innovation, outer setting, inner setting, characteristics of individuals, and implementation process (13).

Interviews were conducted either via videoconference or face-to-face, depending on participants' location, at their workplace. All interviews were conducted by a PhD student in public health (EF), who had no prior relationship with the participants. Interviews took place between March and September 2025 and lasted between 23 and 107 minutes (mean duration: 40 minutes). All interviews were audio-recorded and transcribed verbatim. All verbatim quotations were translated from French into English for the purpose of this manuscript.

Analysis

A thematic analysis was conducted using *Dedoose* software, following the approach described by Braun and Clarke (19). This analysis involved several iterative steps: data familiarization, generation of initial codes, identification of themes, comparison of emerging themes with the selected theoretical frameworks, and refinement of coding to extract illustrative verbatim quotes.

The PhD student (EF) conducted all analyses. The PhD (AB) double-coded two interviews, and discussions were held to refine the thematic framework.

Interviews were coded using two complementary theoretical frameworks to identify implementation determinants and strategies. The CFIR was used to identify determinants of implementation. Within this framework:

- Intervention domain encompassed all aspects related to the PA programs offered to patients with cancer
- Inner setting domain included all elements within the service and/or hospital where the program took place
- Outer setting domain covered elements external to the hospital, such as public policies, external funding, or programs offered outside the hospital
- Characteristics of individuals domain referred to characteristics of healthcare professionals (HCPs), patients, and their caregivers, including their knowledge, motivations, and capacities
- Implementation process domain concerned how the program was implemented, including planning, execution, and evaluation procedures

The Expert Recommendations for Implementing Change (ERIC) taxonomy was used to identify implementation strategies (14, 20). ERIC includes 73 strategies organized into nine domains: use evaluative and iterative strategies, provide interactive assistance, adapt and tailor to context, develop stakeholder relationships, train and educate stakeholders, support clinicians, engage consumers, utilize financial strategies, and change infrastructure.

Mechanisms are identified as process through which a strategy operates to affect the implementation outcome (16). In this study, they may include, for example, increased self-efficacy, knowledge acquisition, normative influence, collective sensemaking, perceveid feasibility. Finally, implementation outcomes were identified: appropriateness, adoption, acceptability, penetration and sustainability, in line with the implementation outcomes framework proposed by Proctor et al. (15). Appropriateness refers to the compatibility of the intervention with a given context and its ability to address a specific need or problem. Acceptability is the perception of the intervention as acceptable, appropriate, and satisfactory. Adoption is the intention or action to try using the intervention. Penetration refers to the extent to which a practice is integrated within a service setting and its subsystems. Sustainability is the extent to which the intervention is maintained over time.

Finally, we used the Implementation Research Logic Model (IRLM) to clarify the relationships between determinants, strategies, mechanisms, and implementation outcomes. The IRLM serves as a visualization tool to map the causal pathways linking these components (18).

This study (IRBN162025/CHUSTE) has been approved by the Ethics Committee of University Hospital of Saint-Etienne on February 2025. The manuscript has been described using the COREQ (21).

RESULTS

The study was conducted across 12 centers and comprised 22 semi-structured interviews (mean 40min23s) with participants including 12 women (54.5%), with a mean age of 41 years (range: 23–57 years).

The maturity of PA integration within the service was coded according to three levels: promotion of PA (n = 2), emerging form of PA (n = 5), and coordinated program (n = 5).

The promotion level described as a low level of maturity, refers to brief PA advice delivered by a HCP during a consultation, without any structured follow-up or dedicated intervention.

Emerging forms of PA integration is described as a medium level of maturity. Emerging forms of PA integration refer to isolated or partially developed initiatives, therapeutic education focused on PA, or the proposal of bedside exercise sessions without a clearly defined structure or integration into the care pathway.

In contrast, coordinated programs described as a high level of maturity, consist of one or more structured PA interventions that are formally organized and fully integrated into the patient care pathway.

Professionals were classified according to their role in the integration of PA (CFIR category):

- high-level leaders: individuals with a high level of authority and key decision-making responsibilities, such as department directors
- mid-level leaders: individuals with a moderate level of authority, such as department managers
- opinion leaders: individuals exerting informal influence, often physicians who are influential within the department
- implementation leads: professionals leading the implementation efforts for PA integration (PA coordinator)
- implementation team members: professionals collaborating in the implementation of PA integration
- PA program deliverers: professionals delivering PA sessions (PA professional)

Participants characteristics are summarized in Table 1.

Table 1
Description of the interviewed professionals

N (%)	High-level leaders	Mid-level-leaders	Opinion leader	Implementation leads	Implementation team members	PA program deliverers
	1	**3**	**5**	**6**	**3**	**4**
Mean Age (years)	49	50.7	46	38.3	41.3	30
Sex F (%)	0 (0%)	3 (100%)	1	3 (50)	3 (100%)	2 (50%)
Maturity PA integration						
Low	0 (0%)	1 (33.3%)	1 (20%)	0(0%)	1 (33.3%)	0 (0%)
Medium	1 (100%)	1 (33.3%)	4 (80%)	1 (16.6%)	1 (33.3%)	4 (100%)
High	0 (0%)	1 (33.3%)	0	5 (83.3%)	1 (33.3%)	0 (0%)

In total, 12 determinants from CFIR framework and 17 strategies from ERIC were identified. 17 mechanisms, defined as process or event through which an implementation strategy operates to affect desired implementation outcomes. From this analysis, we identified 2 themes to influence the integration of PA in oncology.

Theme 1: The engagement of three key actors and their roles

Three key professional profiles emerged as essential for integrating PA into the care pathway: decision-makers, physician opinion leaders, and PA professionals and/or coordinators. In fact, participants from services with a high level of PA integration highlighted the engagement of an opinion leader—most frequently a physician—as a pivotal factor in facilitating PA implementation *(Verbatim A*, Table 2*).* At an upper level, the motivation and involvement of institutional decision-makers was identified as critical to securing institutional support and the availability of necessary organizational resources (e.g., time, financial, and human resources). Their endorsement facilitated access to funding mechanisms and organizational resources, but also contributed to the institutionalization of PA as a legitimate component of cancer pathway. *(Verbatim B*, Table 2*)*.

Strategies include identifying an initially motivated opinion leader in PA promotion within the care pathway, and formally integrating their involvement in the project into their professional role, thereby facilitating their engagement in the implementation process. Participants from services with a high level

of PA integration emphasized that establishing interprofessional collaboration and partnerships among PA professionals, the PA coordinator, and physicians was an effective strategy for improving the implementation of PA *(Verbatim C*, Table 2*)*. By acting as an opinion leader, this physician helped improve acceptability among HCPs and contributed to legitimizing the integration of PA into the cancer care pathway, whereas such medical leadership were generally absent in services with lower levels of PA integration. The PA professional provided essential expertise and knowledge in PA. Furthermore, according to interviewees with high or medium level of PA integration, providing scientific evidence regarding the benefits of PA for patients with cancer contributed to decision-makers' engagement in supporting its integration into care pathways. Involving a decision-maker from the early stages of project reflection and development, using arguments such as financial and evidence from local research, was perceived as important to garner decision-makers' support and help them perceive its appropriateness. *(Verbatim D*, Table 2*)*. In this sense, hierarchical motivation and support functioned as both a political and structural lever, contributing the alignment between the intervention and institutional priorities. Penetration is enabled through a triadic engagement that facilitates the emergence of the coordinator's professional role as a key opinion leader, supported by dedicated resources, ultimately allowing the intervention to be integrated.

The availability and stability of financial resources conditioned both the implementation and sustainability of PA projects. Insufficient funding limited not only project initiation but also its development over time *(Verbatim E*, Table 2*).* Similarly, the availability of sufficient time for project development emerged as another determinant. Lack of time was consistently reported as a key barrier, in centers with low or medium PA integration, limiting planning, coordination, and stakeholder engagement.

An essential strategy consisted of appointing a PA coordinator with a dedicated mission to lead project development, coordination, HCP training, and follow-up, while also being responsible for securing additional funding sources *(Verbatim F*, Table 2*)*. This required specific skills and involved identifying opportunities such as donations, funding linked to day hospital activities, or partnerships with social security organizations, thus strengthening perceived organizational feasibility while accessing PA expertise. Knowledge of these different funding sources and access to them appeared necessary for implementation. In services with medium and high levels of PA integration, funding linked to day hospital activities was particularly used.

Theme 2: Multidisciplinary collaboration

The PA project must also be fully embedded within the clinical service, with a multidisciplinary approach.

HCPs' knowledge of the benefits of PA for patients with cancer emerged as a determinant of their engagement and motivation to actively promote PA in routine care. In service with low levels PA integration, limited knowledge constrained professionals' investment, slowed the integration of PA into routine practice and reduced patient referral *(Verbatim G*, Table 2*)*. Several physicians also emphasized

that, within traditional academic training pathways, limited attention is given to the benefits of PA for cancer patients. Furthermore, due to the significant influence of physicians' messages, inconsistent communication may cause confusion or misinformation, underscoring the need for coherent professional messaging and robust foundational training *(Verbatim H*, Table 2*)*.

One strategy involved delivering dedicated information and training sessions for HCPs within the service *(Verbatim I*, Table 2*)* to strengthen their knowledge. PA professional or coordinator highlighted that training should be feasible within routine clinical schedules, with interactive approaches preferred over passive informational formats, which not only contributed to knowledge acquisition but also increased self-efficacy. A second strategy focused on integrating structured training on the benefits of PA in oncology into the initial education of students in health-related disciplines with the aim of strengthening knowledge and supporting cognitive consolidation over time. Together, these strategies strengthened the perceived appropriateness of PA integration.

HCPs' referral of patients to PA programs was shaped by a combination of their knowledge of the benefits of PA and their confidence in the safety, relevance of PA for patients, and expertise of PA professionals. Limited knowledge among HCPs of PA professional competencies and of the specificities of PA in oncology constrained the integration of PA into the care pathway and hindered HCPs' referrals. This occurs in a context marked by a lack of recognition and legitimacy of PA professional roles. Participants from centers with low or medium PA integration highlighted that the absence of a clear administrative framework defining recruitment, responsibilities, and institutional positioning for PA professionals and coordinators acted as a key barrier to PA integration, reflecting the persistent need for legitimacy and recognition of these roles *(Verbatim K*, Table 2*)*. Employment arrangements influenced engagement in PA initiatives: temporary or externally funded positions (low/medium PA integration) created job insecurity, whereas stable, officially recognized positions (high PA integration) supported the development of the intervention.

Strategy to enhance recognition and knowledge involved highlighting the evidence supporting the multiple health benefits of PA for patients through scientific studies and theses conducted by the professionals themselves. Results were communicated within services and to decision-makers. By embedding PA into cancer care pathways, these studies provided evidence of its effectiveness in real-world practice settings while also serving as a means to test and refine implementation processes. This contributed to demonstrating the feasibility of PA within the service context and, in turn, facilitated its integration into routine care by strengthening its perceived credibility and organizational fit. A further strategy aimed at long-term sustainability was the establishment of permanent contracts for PA professionals, which may enhance workforce stability and facilitate their alignment with organizational priorities within hospital settings *(Verbatim K*, Table 2*).* Finally, providing PA professionals with training on oncology-specific PA, increasing HCPs' confidence in their expertise and their involvement in the cancer care pathway, encouraged patient referrals, thereby reinforcing interprofessional recognition and legitimacy.

Implementing the PA project within a multidisciplinary team was identified by participants from services with a high level of PA integration as a key determinant for its successful integration *(Verbatim L*, Table 2*)*. A determinant of successful implementation was the alignment of the PA project with the roles, responsibilities, and existing workflows of all professionals involved. Integration did not rely solely on the professional delivering the program, but on the coordinated involvement of the entire care team. In centers with high PA integration, implementation relied on embedding PA activities within patients' care pathways, across medical follow-up stages, while considering patients' needs, capacities, and treatment schedules. This alignment facilitated patient engagement by ensuring PA fit seamlessly into existing care routines *(Verbatim M*, Table 2*)*, although it required substantial flexibility and adaptation of pathways.

Participants from services with a high or medium level of PA integration reported that collaborative project design with a multidisciplinary team was essential to ensure alignment with the practices and constraints of each professional group, with formal meetings structuring planning, improving coordination *(Verbatim N*, Table 2*)*, thereby fostering collective sensemaking, as well as psychological ownership and investment in the implementation process. Embedding a PA professional within the service and involving them in these meetings was considered essential for the implementation of the PA intervention, as they play a central role in its operationalization. Clearly defining team roles and aligning the program with professionals' workloads helped clarify responsibilities, thereby reduced role ambiguity. Practical procedures to streamline workflows, such as facilitating information transfer, clarifying referral processes, and organizing resource sharing, reduced cognitive and operational burden. Finally, establishing a diversified and flexible PA offer—including different activity types, multiple delivery modalities, and adaptable scheduling aligned with treatment appointments—accommodated heterogeneous patient profiles and ensured feasibility within the care pathway. These strategies enhanced perceived feasibility with existing workflows. Through these combined processes, the intervention facilitated its acceptability and its adoption.

Project planning was identified as a determinant of successful integration into clinical practice, particularly regarding its practical organization *(Verbatim O*, Table 2*).* Centers with lower levels of organizational maturity were characterized by less structured and less standardized projects, making integration into routine practice more challenging.

The PA coordinator played a central role in an over strategy involving rigorous upstream planning, including anticipating operational procedures and clarifying professional roles and time allocation, thereby enhancing perceived organizational feasibility. This strategy enhanced acceptability of the intervention among stakeholders.

The quality of communication and relational link within the service emerged also as a determinant for successful implementation of the PA project. Maintaining regular and effective communication among professionals ensured that all stakeholders, whether directly or indirectly involved, felt informed and included in the project. Conversely, participants from services with a low or medium level of PA

integration reported that insufficient or inadequate communication led to a limited understanding of the project, thereby constraining referrals, engagement, and long-term sustainability, highlighting the importance of relational connections and communication *(Verbatim P*, Table 2*)*. Implementation strategies included integrating the PA professional fully into the team and ensuring their presence at existing multidisciplinary meetings (e.g., staff meetings, departmental meetings). This presence allowed the PA professional to contribute to clinical discussions, stay informed about patients' status, and regularly communicate their role, activities, and available PA opportunities *(Verbatim Q*, Table 2*)* thereby fostering interprofessional recognition and legitimacy, as well as facilitating access to expertise. Strengthening relational links involved organizing PA-related activities directly within the department, such as supervised sessions or team-based challenges. These initiatives created informal opportunities for interaction thereby fostering collective sensemaking and reinforcing interprofessional recognition and legitimacy. Collectively, these processes enhanced the intervention's adoption.

The availability of a dedicated space for PA activities was identified as a determinant of implementation. Accessible and appropriately located spaces facilitated professional coordination, communication, and patient engagement, whereas lack of space or inconvenient locations were major barriers. A corresponding strategy involved adapting existing infrastructure to meet PA needs, emphasizing flexibility and accessibility, for example by using nearby external facilities or repurposing rooms and common areas. This could include using nearby external facilities or modifying existing rooms and common areas to better accommodate PA activities. These adaptations reduced environmental barriers, enhanced organizational feasibility, and supported the adoption and sustainability of the intervention.

Table 2
Participants' Verbatim Quotes

N°	Verbatim Quotes
A	P02 (PA professional-Medium) "There has to be a head of department behind it who sets it up, because as a physical activity professional, you don't have control over that. We're just a small pawn in all this."
B	P21 (PA coordinator- High) "We are supported both, well, let's say politically by our director and financially because there are internal calls for projects that are organized […] A new deputy director arrived, and likewise she is fully committed to physical activity, and so that helps us politically and institutionally to put this kind of thing in place."
C	P22 (PA coordinator-High) "But I have the advantage of having this medical partnership with [head of department] and me from the very beginning, and that has clearly made it possible to find solutions and levers. And today, I don't have many barriers"
D	P22 (PA coordinator- High) "With our results, our statistics, and our research activity, we managed to convince the directors to also fund dedicated time for APA professionals within their oncology departments."
E	P10 (PA coordinator-High) "Among the barriers, we also find a threat, namely dependence on external funding, which in order to develop or even simply maintain an activity requires time to be allocated […] And this remains a threat in any case, because we are not protected from the possibility of not always finding funding."
F	P22 (PA coordinator- High) "So the advantage that healthcare institutions have, at least here in [region], is that this coordination time is actually funded by my institute, my position, my time, to coordinate and carry out all the groundwork that ultimately keeps the whole system running. And today, that's really the main challenge: having someone who is able to develop projects, secure funding, train professionals, and bring everything together […] The challenge for all institutions wishing to implement physical activity programs is that, for every adapted physical activity initiative they develop, a substantial amount of coordination time is needed to build partnerships, engage partner organizations, secure funding, and so on. And currently, medical and paramedical teams simply don't have the time, nor the expertise, to take this on."
G	P17 (physician-Low) "Overall within the team, I think some colleagues are not sufficiently aware of how beneficial it is for patients, and they see it as a kind of gimmick."
H	P17 (physician-Low) "bad messages that are counterproductive because, in the end, the patient thinks the doctor is nice but is saying nonsense, and it discredits the prescription."
I	P11 (PA professional- High) "I have conducted several training sessions in different departments—radiotherapy, day hospital care—to provide more information and draw attention to what exists and how to refer patients toward regular practice."
J	P12 (Healthcare manager-Medium) "And also for the profession to be more recognized so that it would allow there to be more professionals, and for their profession to be recognized, because clearly there is a more than positive impact on patients. And if we compare PA professionals with physiotherapists, there is, in my view, an importance that is the same. […] And in this case, the recognition of the profession is not the same."
K	P21 (PA coordinator- High) "Having people on permanent contracts facilitates the sustainability of many things, so, let's say, sustainable jobs."
L	P16 (PA coordinator- High) "It's really the multidisciplinary aspect—I think that's our strength, truly—that we're able to respond to all of patients' needs."

N°	Verbatim Quotes
M	P19 (PA professional-Medium) “We’re also flexible because of their different appointments—even when they’re hospitalized, they sometimes have to go down for a scan or similar. So we adapt a lot; it has us running around everywhere, but we adjust as much as possible to the patients.”
N	P16 (PA coordinator- High) “Multidisciplinary meetings so that everyone can find their place. Because the times when we see the patients are carefully planned […] all these times were planned in advance by a panel of surgeons and doctors, and by us as well.”
O	P19 (PA professional-Medium) “I would say that the basic organization, when we want to create things […] is to have well-structured projects.”
P	P04 (PA professional-Medium) “We mainly communicate by email, which is somewhat regrettable, because we only meet briefly—we close the door, we open the door, so to speak. We don’t really have time for exchange within the team.”
Q	P10 (PA coordinator- High) “There are monthly staff meetings, and multidisciplinary tumor boards that we can attend. […] it is in our interest to participate for the management of patients.”

PA= Physical activity; Low = low level of PA integration; Medium= medium level of PA integration; High= high level of PA integration

Based on these findings, a logic model was developed to illustrate the relationships between determinants, strategies, mechanisms, and outcomes (Fig. 1).

CFIR = Consolidated Framework for Implementation Research; HCPs = Healthcare professionals; PA = Physical activity

DISCUSSION

Based on variations in PA integration maturity across centers, our findings suggest that successful implementation does not rely on isolated determinants, but rather on the alignment between determinants, implementation strategies, and the mechanisms through which these strategies operate. While previous studies have extensively documented barriers and facilitators to PA promotion (22), our results shift the focus toward understanding how specific strategies address these determinants and generate mechanisms that influence implementation outcomes.

Successful implementation of PA requires, first, that it is perceived as appropriate and, second, as acceptable, in order to ensure its adoption. Its integration into routine practice, reflected by organizational penetration, subsequently supports its long-term sustainability.

Appropriateness

Appropriateness was explored at two levels: individual and institutional. At the individual level, the integration of PA promotion into routine practice requires HCPs to perceive it as appropriate within

oncology care. Nevertheless, the promotion of PA remains limited by several well-documented barriers, including time constraints and insufficient knowledge (22–26). While our findings are consistent with this literature, they provide a more nuanced understanding of the role of HCPs' knowledge of PA benefits in the implementation process. More specifically, knowledge appears to be a necessary but insufficient condition for change, as its impact depends on whether HCPs not only acquire knowledge about the benefits of PA but also recognize its relevance. In this sense, training may function not only as a means of knowledge acquisition but also as a strategy operating through intermediate mechanisms such as capability development. This finding extends previous work identifying training as a implementation facilitator by suggesting that its effectiveness depends on its capacity to actively engage professionals and support confidence in real-world clinical interactions with patients (25, 27). In our study, some participants emphasized the added value of interactive, face-to-face training formats over passive dissemination approaches. This finding suggests that these formats may have contributed to facilitating professionals' engagement with and appropriation of knowledge. This perception aligns with continuing professional education literature suggesting that passive dissemination of information alone is generally insufficient to support meaningful changes in professional practice. Instead, educational approaches that actively engage participants and promote discussion and skills development appear more likely to facilitate knowledge uptake. Recent evidence highlights that interactive dissemination strategies may be particularly effective in enhancing healthcare professionals' ability and motivation to apply evidence in practice, compared with approaches relying solely on the provision of information (28).

To address time constraints in consultations, brief motivational communication techniques, as described in the literature, may constitute a pragmatic strategy for promoting PA within routine clinical encounters. This interpretation is supported by evidence that motivational interviewing-based approaches can effectively enhance patient engagement in PA even in standard care settings (29, 30). This may suggest the relevance of providing HCPs with training in brief communication techniques. Given the strong influence of medical recommendations on patients' PA engagement (31, 32) strengthening HCPs' competencies may represent a critical lever for improving both the perceived relevance and the routine integration of PA into oncology care. Embedding these competencies within both continuing professional development and initial academic curricula may therefore support more equitable and sustained implementation over time (33, 34).

At the institutional level, the perceived appropriateness of PA interventions among high-level decision-makers also appears essential to support their integration into oncology care pathways. In this regard, providing high-level decision-makers with robust scientific evidence may represent an important strategy for reinforcing the perceived appropriateness of PA interventions within oncology care settings. This is consistent with the literature, which shows that scientific evidence supports the entire innovation adoption process in cancer care settings, particularly in the early stages where it informs professionals' conviction and the promotion of innovations. At decision-making levels, they continue to influence decisions, notably through the assessment of expected patient impact, which constitutes one of the main criteria used by decision-makers to make decisions (35).

Additionally, the integration of a PA professional within the service may provide essential expertise. These findings are in line with proposals in the literature suggesting that integrating PA professionals within clinical services may facilitate the implementation of PA within care setting (23).. In parallel, our findings indicate that ensuring PA professionals receive oncology-specific training may reinforce the recognition of their expertise and facilitate referrals from HCPs by strengthening their legitimacy within oncology care pathways.

Acceptability

While perceiving PA as appropriate is an important prerequisite, its sustained integration into oncology care also depends on the extent to which it is perceived as acceptable by professionals at both clinical and institutional levels. This acceptability is closely linked to how the intervention is organized within care structures. Multidisciplinary organization and integration into existing care pathways have been identified as key conditions for implementing complex healthcare interventions (23, 27). Participants in our study emphasized that the multidisciplinary structure of the PA programme strongly influenced how the intervention was perceived and enacted in practice. Implementing the project within a multidisciplinary team has been identified as an important implementation strategy in previous research, particularly through structured collaboration processes aimed at improving engagement and coordination (36, 37). In our study, organizing team meetings involving all professionals engaged in the patient's care pathway was described as essential to the development of the PA project. Providing time for each professional to express their perspectives, expectations, and constraints appeared to foster shared ownership of the intervention and strengthen collective engagement. Our findings suggest that these processes may reflect collective sensemaking and psychological ownership of the implementation process. In line with this, identifying and engaging all relevant stakeholders (i.e., HCPs, PA professionals, service users) has been described as a fundamental principle to enhance systemic and strategic buy-in (37). Within this framework, integrating a PA professional into the oncology care team emerged as a particularly relevant strategy (24, 38). Their participation in multidisciplinary meetings may have enabled a better understanding of clinical constraints and patient needs, while also facilitating feedback on patient engagement and outcomes.

Alignment with care pathways has been identified as a determinant of successful implementation (27, 38). Coordinating PA sessions with patients' scheduled hospital visits appeared to reduce logistical burden, thereby embedding PA within routine oncology care rather than positioning it as an additional intervention. Alignment with professional practices was further supported through the development of clear implementation procedures the integration of PA prescription into electronic medical records, and the clear definition of roles within the institution. These structural adaptations reduced cognitive and operational constraints, thereby improving compatibility with routine clinical workflows. The importance of early and detailed planning was also highlighted by participants in our study, and is consistent with previous literature (38, 39). They emphasized that defining roles and identifying required resources prior to implementation were essential strategies to reduce role ambiguity and improve perceived organizational feasibility. These findings suggest that intervention acceptability is closely linked to its

compatibility with existing organizational and clinical routines. Such integration supports sustainability by minimizing additional workload and enhancing feasibility in daily practice (39).

Adoption

Poor communication within services has been identified as a major barrier to the implementation of PA in oncology (23). Continuous communication within teams is recognized as a facilitator of innovation implementation in healthcare systems, whereas inadequate communication is consistently reported as a frequent obstacle (40). Our findings are consistent with this perspective, as both communication processes and relational dynamics within the department emerged as important determinants of effective collaboration, which in turn appeared to facilitate the adoption of the intervention. Participants notably highlighted the involvement of PA professionals in multidisciplinary team meetings and the integration of PA into electronic medical records as strategies that structured communication and information sharing across the care pathway, thereby facilitating the adoption of PA into routine care. In parallel, more informal initiatives — such as PA challenges or PA sessions organized for HCPs — were described as fostering interpersonal relationships and informal exchanges within teams.

Participants also highlighted the importance of establishing trust in both the PA intervention and the PA professionals involved in its delivery within the local clinical setting to support. In this regard, conducting scientific studies within the service was described as a strategy to support the implementation of PA in routine care. Implementing the intervention within the local clinical context enabled teams to test the intervention under real-world conditions. This pragmatic approach helped demonstrate the intervention's benefits, safety, and compatibility with existing care practices, thereby facilitating its adoption and integration into the care pathway. In addition, generating local evidence provided context-specific data that strengthened the intervention's credibility and legitimacy among HCPs and institutional stakeholders, supporting its longer-term integration into routine practice.

In addition, physical space also emerged as a determinant, both for initial adoption and for the further development of PA provision (41). While dedicated spaces facilitate safe and sustainable PA delivery, their absence should not necessarily prevent implementation. Healthcare organizations may initially adapt existing infrastructures and progressively develop suitable spaces as service needs increase. This approach aligns with adaptive reuse, whereby existing spaces are repurposed to support new services while optimizing resources (42). Physical resources should therefore be considered as dynamic assets evolving alongside PA programme maturation.

Penetration

In our study, hierarchical engagement emerged also as a key determinant of penetration. Participants highlighted the importance of opinion leaders and, more specifically, the development of a partnership between the PA professional and an opinion leader, identified as a physician. This partnership was described as enhancing the credibility of the intervention both among HCPs within the service and among institutional decision-makers. High-level decision-makers were also reported to play an important role in supporting the legitimacy of the PA intervention within oncology care settings. This suggests that

leadership engagement may contribute to reducing uncertainty and strengthening alignment with organizational priorities, thereby facilitating early penetration of the intervention. Overall, these findings suggest that leadership engagement helps align the intervention with institutional priorities while reducing uncertainty regarding its implementation, thereby facilitating early penetration. This is consistent with previous literature showing that leadership engagement has previously been identified as a determinant of implementation climate and integration of new practices (39, 43). When supervisors support an intervention, frontline professionals are more likely to implement it and adhere consistently to its protocols (43).

Sustainability

Finally, for sustainability, stable resource emerged as a central determinant in our study. Although resources are essential to support the initial integration, its long-term sustainability depends on the availability of stable resources. Consistent with this, financial resources were frequently identified as a major constraint, with lack of funding representing a significant barrier (39). However, participants highlighted that multiple funding opportunities may exist at local, regional, or national (French) levels. Accessing these opportunities appears to require specific expertise, knowledge, and dedicated time to identify calls for proposals and prepare applications. In this regard, our findings point to the role of time allocated to PA development as an important, yet frequently overlooked, determinant of integration. Establishing a dedicated PA project coordinator, responsible for overseeing the implementation and development of the programme, may therefore represent a critical strategy for supporting successful sustainability. This role could facilitate programme expansion, ensure continuity, and improve access to financial resources with particularly funding linked to day hospital activities. In addition, creating permanent positions for PA professionals may be important to support workforce stability and enhance the long-term sustainability of PA interventions in healthcare settings. The lack of long-term funding often limits the creation of permanent positions, resulting in fixed-term employment for many PA professionals. This may contribute to perceived job insecurity, which has been consistently associated with lower job satisfaction, reduced organizational commitment, poorer psychological well-being, and higher turnover intentions (44).

STRENGTHS AND LIMITATIONS

A key strength of this study is the use of established implementation science frameworks, including CFIR, ERIC, and Proctor’s implementation outcomes, which provided a structured approach to identifying determinants, strategies, and mechanisms influencing implementation. The development of an IRLM-based logic model further strengthened the study by clarifying relationships between these elements and supporting translation of findings into practical guidance for PA implementation in oncology settings.

The diversity of stakeholders interviewed also represents a strength, as it captured perspectives from professionals involved at different levels of the oncology care pathway and enhanced understanding of the implementation process.

The involvement of another researcher in discussing identified themes further contributed to the rigor of the qualitative analysis.

However, patients were not included in the interviews, limiting insight into patient-related barriers and facilitators. In addition, the limited representation of decision-makers may have restricted exploration of organizational-level challenges. Finally, participants were likely to be professionals already engaged or interested in PA promotion, which may have reduced the representation of more critical perspectives and potentially led to underestimation of implementation barriers.

CONCLUSION

Our study highlights the key determinants to be leveraged and the strategies that need to be implemented to facilitate the integration of PA within an oncology department. A central finding is the importance of identifying a PA coordinator, or dedicated coordination time for the PA professional. This coordination role is crucial for overcoming key barriers, particularly the lack of time for implementation, which is a central determinant for the successful adoption of other strategies. Another key strategy is to engage decision-makers and opinion leaders early, and to design the PA program within a multidisciplinary team, ensuring alignment with both the patient care pathway and professional practices.

Abbreviations

CFIR
Consolidated Framework for Implementation Research
ERIC
Expert Recommendations for Implementing Change
HCPs
Healthcare Professionals
IRLM
Implementation Research Logic Model
PA
Physical Activity

Declarations

Clinical trial number: not applicable

Ethics approval and consent to participate:

This study was conducted in accordance with the ethical principles of the Declaration of Helsinki. All participants received a written information sheet before participation. Participation was voluntary, and participants were informed that they could decline participation or withdraw from the study at any time

without consequence. The study was reviewed and approved by the Ethics Committee of the University Hospital of Saint-Étienne (CHU de Saint-Étienne) under reference number IRBN162025/CHUSTE.

Consent for publication:

Not applicable

Competing interests:

The authors declare that they have no competing interests.

Funding

No funding was received for the preparation of this manuscript

Funding:

None

Author Contribution

EF, DH, and AB contributed to the study conception and design. EF developed the interview guide, which was reviewed by AB. EF conducted and analyzed the interviews. AB independently analyzed two interviews. EF and AB contributed to the development and refinement of themes. EF drafted the manuscript. All authors critically reviewed the manuscript, provided feedback, and approved the final version.

Acknowledgement

The authors would like to thank all participants for their valuable contributions to this study. The authors also thank Florence Colin for her methodological support in developing the interview guide.

Availability of data and materials:

Not applicable

References

1. Global cancer burden growing, amidst mounting need for services [Internet]. [cité 25 févr 2026]. Disponible sur: https://www.who.int/news/item/01-02-2024-global-cancer-burden-growing--amidst-

mounting-need-for-services

2. HAS (Haute Autorité de Santé). Prescription d'activité physique et sportive Cancers: sein, colorectal, prostate [Internet]. 2019. Disponible sur: https://www.has-sante.fr/upload/docs/application/pdf/2019-07/app_247_ref_aps_cancers_cd_vf.pdf
3. INCa (Institut National Du Cancer). Activité physique et traitement des cancers [Internet]. 2022 [cité 26 mars 2026]. Disponible sur: https://www.cancer.fr/professionnels-de-sante/prevention-et-depistages/prevention/activite-physique/activite-physique-et-traitement-des-cancers
4. Farì G, Fai A, Quarta F, Pitruzzella M, Sconza C, Leoni MLG, et al. The Effects of Physical Exercise on Depression and Anxiety in Cancer Patients: A Systematic Review. Clin Pract. 28 sept 2025;15(10):180. doi:10.3390/clinpract15100180 PubMed PMID: 41148778; PubMed Central PMCID: PMC12563091.
5. Wang Y, Wang Y, Cui Y, Su W, Xue Y. Comparative efficacy of exercise interventions for managing cancer-related symptoms and enhancing quality of life: A systematic review and network meta-analysis. Eur J Oncol Nurs. 1 déc 2025;79:103022. doi:10.1016/j.ejon.2025.103022
6. Patel AV, Friedenreich CM, Moore SC, Hayes SC, Silver JK, Campbell KL, et al. American College of Sports Medicine Roundtable Report on Physical Activity, Sedentary Behavior, and Cancer Prevention and Control. Med Sci Sports Exerc. nov 2019;51(11):2391. doi:10.1249/MSS.0000000000002117
7. Kwan ML, Sternfeld B, Ergas IJ, Timperi AW, Roh JM, Hong CC, et al. Change in Physical Activity During Active Treatment in a Prospective Study of Breast Cancer Survivors. Breast Cancer Res Treat. janv 2012;131(2):679–90. doi:10.1007/s10549-011-1788-4 PubMed PMID: 21953007; PubMed Central PMCID: PMC3273453.
8. Elshahat S, Treanor C, Donnelly M. Factors influencing physical activity participation among people living with or beyond cancer: a systematic scoping review. Int J Behav Nutr Phys Act. 6 avr 2021;18(1):50. doi:10.1186/s12966-021-01116-9 PubMed PMID: 33823832; PubMed Central PMCID: PMC8025326.
9. Décret n° 2023 – 234 du 30 mars 2023 relatif aux conditions de prescription et de dispensation de l'activité physique adaptée. 2023 – 234. 30 mars 2023.
10. Eccles MP, Mittman BS. Welcome to Implementation Science. Implement Sci. 22 févr 2006;1(1):1. doi:10.1186/1748-5908-1-1
11. Nilsen P. Making sense of implementation theories, models and frameworks. Implement Sci. 21 avr 2015;10(1):53. doi:10.1186/s13012-015-0242-0
12. Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. Implement Sci. 2009.
13. Damschroder LJ, Reardon CM, Opra Widerquist MA, Lowery J. Conceptualizing outcomes for use with the Consolidated Framework for Implementation Research (CFIR): the CFIR Outcomes Addendum. Implement Sci. 22 janv 2022;17(1):1. doi:10.1186/s13012-021-01181-5

14. Powell BJ, Waltz TJ, Chinman MJ, Damschroder LJ, Smith JL, Matthieu MM, et al. A refined compilation of implementation strategies: results from the Expert Recommendations for Implementing Change (ERIC) project. Implement Sci. 12 févr 2015;10(1):21. doi:10.1186/s13012-015-0209-1
15. Proctor E, Silmere H, Raghavan R, Hovmand P, Aarons G, Bunger A, et al. Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda. Adm Policy Ment Health. 2011;38(2):65–76. doi:10.1007/s10488-010-0319-7 PubMed PMID: 20957426; PubMed Central PMCID: PMC3068522.
16. Lewis CC, Klasnja P, Powell BJ, Lyon AR, Tuzzio L, Jones S, et al. From Classification to Causality: Advancing Understanding of Mechanisms of Change in Implementation Science. Front Public Health. 7 mai 2018;6. doi:10.3389/fpubh.2018.00136
17. Fernandez ME, Ten Hoor GA, van Lieshout S, Rodriguez SA, Beidas RS, Parcel G, et al. Implementation Mapping: Using Intervention Mapping to Develop Implementation Strategies. Front Public Health. 2019;7:158. doi:10.3389/fpubh.2019.00158 PubMed PMID: 31275915; PubMed Central PMCID: PMC6592155.
18. Smith JD, Li DH, Rafferty MR. The Implementation Research Logic Model: a method for planning, executing, reporting, and synthesizing implementation projects. Implement Sci IS. 25 sept 2020;15(1):84. doi:10.1186/s13012-020-01041-8 PubMed PMID: 32988389; PubMed Central PMCID: PMC7523057.
19. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006;3:77–101. doi:10.1191/1478088706qp063oa
20. Waltz TJ, Powell BJ, Matthieu MM, Damschroder LJ, Chinman MJ, Smith JL, et al. Use of concept mapping to characterize relationships among implementation strategies and assess their feasibility and importance: results from the Expert Recommendations for Implementing Change (ERIC) study. Implement Sci. 7 août 2015;10(1):109. doi:10.1186/s13012-015-0295-0
21. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups | International Journal for Quality in Health Care | Oxford Academic [Internet]. Disponible sur: https://academic.oup.com/intqhc/article-abstract/19/6/349/1791966?redirectedFrom=fulltext
22. Alderman G, Semple S, Cesnik R, Toohey K. Health Care Professionals' Knowledge and Attitudes Toward Physical Activity in Cancer Patients: A Systematic Review. Semin Oncol Nurs. 1 oct 2020;Exercise in Cancer Care36(5):151070. doi:10.1016/j.soncn.2020.151070
23. Kennedy MA, Bayes S, Newton RU, Zissiadis Y, Spry NA, Taaffe DR, et al. Implementation barriers to integrating exercise as medicine in oncology: an ecological scoping review. J Cancer Surviv Res Pract. août 2022;16(4):865–81. doi:10.1007/s11764-021-01080-0 PubMed PMID: 34510366; PubMed Central PMCID: PMC9300485.
24. Ramsey I, Chan A, Charalambous A, Cheung YT, Darling HS, Eng L, et al. Exercise counselling and referral in cancer care: an international scoping survey of health care practitioners' knowledge,

practices, barriers, and facilitators. Support Care Cancer. 1 nov 2022;30(11):9379–91. doi:10.1007/s00520-022-07342-6

25. Cantwell M, Walsh D, Furlong B, Moyna N, McCaffrey N, Boran L, et al. Healthcare professionals' knowledge and practice of physical activity promotion in cancer care: Challenges and solutions. Eur J Cancer Care (Engl). 2018;27(2):e12795. doi:10.1111/ecc.12795
26. Nadler M, Bainbridge D, Tomasone J, Cheifetz O, Juergens RA, Sussman J. Oncology care provider perspectives on exercise promotion in people with cancer: an examination of knowledge, practices, barriers, and facilitators. Support Care Cancer. 1 juill 2017;25(7):2297–304. doi:10.1007/s00520-017-3640-9
27. White GL, Kennedy MA, Cunningham BJ, Dunn R, Martin J, Walker M, et al. Facilitators to the implementation of exercise into cancer care: a systematic review. J Cancer Surviv Res Pract. 4 janv 2026. doi:10.1007/s11764-025-01948-5 PubMed PMID: 41484497.
28. Flynn R, Cassidy C, Dobson L, Al-Rassi J, Langley J, Swindle J, et al. Knowledge translation strategies to support the sustainability of evidence-based interventions in healthcare: a scoping review. Implement Sci. 4 déc 2023;18(1):69. doi:10.1186/s13012-023-01320-0
29. Lamming L, Pears S, Mason D, Morton K, Bijker M, Sutton S, et al. What do we know about brief interventions for physical activity that could be delivered in primary care consultations? A systematic review of reviews. Prev Med. 1 juin 2017;99:152–63. doi:10.1016/j.ypmed.2017.02.017
30. Green ET, Cox NS, Arden CM, Warren CJ, Holland AE. What is the effect of a brief intervention to promote physical activity when delivered in a health care setting? A systematic review. Health Promot J Austr. 2023;34(4):809–24. doi:10.1002/hpja.697
31. Kettle VE, Madigan CD, Coombe A, Graham H, Thomas JJC, Chalkley AE, et al. Effectiveness of physical activity interventions delivered or prompted by health professionals in primary care settings: systematic review and meta-analysis of randomised controlled trials. BMJ. 23 févr 2022;376:e068465. doi:10.1136/bmj-2021-068465 PubMed PMID: 35197242.
32. Avancini A, Tregnago D, Rigatti L, Sartori G, Yang L, Trestini I, et al. Factors Influencing Physical Activity in Cancer Patients During Oncological Treatments: A Qualitative Study. Integr Cancer Ther. 2020;19:1534735420971365. doi:10.1177/1534735420971365 PubMed PMID: 33349064; PubMed Central PMCID: PMC7758643.
33. Jones PR, Brooks JHM, Wylie A. Realising the potential for an Olympic legacy; teaching medical students about sport and exercise medicine and exercise prescribing. Br J Sports Med. 1 nov 2013;47(17):1090–4. doi:10.1136/bjsports-2013-092386 PubMed PMID: 23787360.
34. Pugh G, O'Halloran P, Blakey L, Leaver H, Angioi M. Integrating physical activity promotion into UK medical school curricula: testing the feasibility of an educational tool developed by the Faculty of Sports and Exercise Medicine. BMJ Open Sport Exerc Med. 3 juin 2020;6(1). doi:10.1136/bmjsem-2019-000679 PubMed PMID: 10.1136/bmjsem-2019-000679.
35. Urquhart R, Kendell C, Geldenhuys L, Ross A, Rajaraman M, Folkes A, et al. The role of scientific evidence in decisions to adopt complex innovations in cancer care settings: a multiple case study in

Nova Scotia, Canada. Implement Sci. 12 févr 2019;14(1):14. doi:10.1186/s13012-019-0859-5

36. Prades J, Remue E, van Hoof E, Borras JM. Is it worth reorganising cancer services on the basis of multidisciplinary teams (MDTs)? A systematic review of the objectives and organisation of MDTs and their impact on patient outcomes. Health Policy. 1 avr 2015;119(4):464–74. doi:10.1016/j.healthpol.2014.09.006
37. Rossiter E, Southall-Edwards R, Gladwell V. Healthcare professionals and physical activity, working together for exercise referral: a scoping review. J Public Health. 15 sept 2025. doi:10.1007/s10389-025-02593-z
38. Ezenwankwo EF, Nnate DA, Usoro GD, Onyeso CP, Anieto IB, Ibeneme SC, et al. A scoping review examining the integration of exercise services in clinical oncology settings. BMC Health Serv Res. 21 févr 2022;22(1):236. doi:10.1186/s12913-022-07598-y PubMed PMID: 35189864; PubMed Central PMCID: PMC8859567.
39. Adsul P, Pergolotti M, Schmitz KH. Implementation Science as the Secret Sauce for Integrating Exercise Screening and Triage Pathways in Oncology. Am Soc Clin Oncol Educ Book. 12 juin 2025;45(3):e472854. doi:10.1200/EDBK-25-472854
40. McGuier EA, Kolko DJ, Aarons GA, Schachter A, Klem ML, Diabes MA, et al. Teamwork and implementation of innovations in healthcare and human service settings: a systematic review. Implement Sci. 15 juill 2024;19(1):49. doi:10.1186/s13012-024-01381-9
41. IJsbrandy C, Hermens RPMG, Boerboom LWM, Gerritsen WR, van Harten WH, Ottevanger PB. Implementing physical activity programs for patients with cancer in current practice: patients' experienced barriers and facilitators. J Cancer Surviv. 2019;13(5):703–12. doi:10.1007/s11764-019-00789-3 PubMed PMID: 31347009; PubMed Central PMCID: PMC6828940.
42. Elrod JK, Fortenberry JL. Adaptive reuse in the healthcare industry: repurposing abandoned buildings to serve medical missions. BMC Health Serv Res. 11 juill 2017;17(1):451. doi:10.1186/s12913-017-2339-4
43. Bunger AC, Birken SA, Hoffman JA, MacDowell H, Choy-Brown M, Magier E. Elucidating the influence of supervisors' roles on implementation climate. Implement Sci IS. 25 oct 2019;14:93. doi:10.1186/s13012-019-0939-6 PubMed PMID: 31653254; PubMed Central PMCID: PMC6815002.
44. De Cuyper N, De Witte H. The impact of job insecurity and contract type on attitudes, well-being and behavioural reports: A psychological contract perspective. J Occup Organ Psychol. 2006;79(3):395–409. doi:10.1348/096317905X53660

Figures

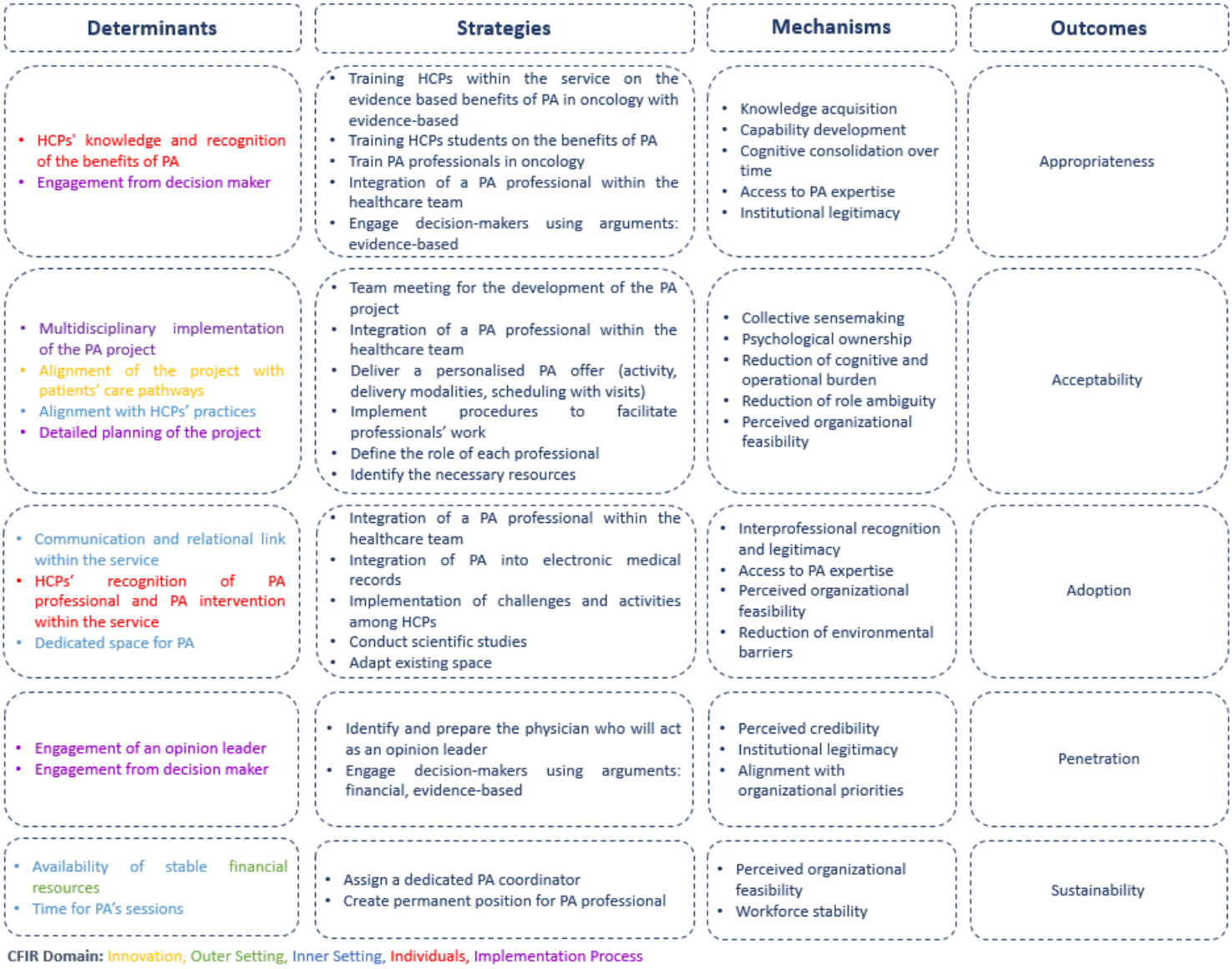


Figure 1

Logic model of PA integration in oncology

CFIR = Consolidated Framework for Implementation Research; HCPs = Healthcare professionals; PA = Physical activity