THCS Transferability and Implementation Framework

A methodological framework for supporting the transfer and implementation of practices across the health and care systems

WP4

Document Summary

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Executive Summary

This deliverable reports the first draft of the THCS framework for supporting transferability and implementation of practices across the health and care systems. The scope of the framework includes all the key activities from identifying a challenge to creating sustained change when adopting a solution developed elsewhere.

The framework defines 1) the paradigmatic commitments on which the framework, and its understanding of development activity, transferability and implementation, are based, 2) the principles of how to perform development activities when transferring and adapting solutions developed elsewhere, 3) the means for describing solutions, and 4) the key development activities (what to do) when adapting and implementing a solution developed elsewhere.

The framework encourages the original developers of a solution to describe and model their solution, through clarifying the purpose, outcomes / change to be achieved, and the theory / hypotheses of how the outcomes / changes will be achieved by the actors, activities and elements mobilised. These descriptions can be used by other systems and organisations which decide to adopt the solution.

The framework provides a frame and means for research, development, and innovation (RDI) programmes and projects, and their coordinators, to plan and perform different activities and tasks for transferring, adapting, and implementing solutions across the contexts. It can also be used as a conceptual frame when planning and performing research on the transfer and implementation of solutions. This kind of research can contribute to the further development of the THCS framework.

The different means of the framework can also be used individually: to describe and model the original solution for supporting its transferability and implementation in other sites and settings, to perform a transferability analysis and / or feasibility analysis, and to plan implementation.

In the further development of the framework practical tools and methods for performing the different tasks of the framework will be mapped as well as developed.

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Glossary

Adaptation refers to the modification or adjustment of a healthcare solution when transferring it from one healthcare context to another.

Evaluation of implementation refers to the evaluation of the process of putting a proposed solution into action within a healthcare setting.

Evaluation of outcomes/change refers to the evaluation of the outcomes/change achieved by the implemented solution.

Evaluation of workability refers to the evaluation of how the implemented solution works in the context.

Feasibility analysis refers to the systematic assessment of whether a solution is practical, viable, and achievable within a specific healthcare setting.

Theory of change consists of the purpose, of the outcomes/change to be achieved, and of the theory/hypotheses of how the outcomes/change will be achieved by mobilising the needed actors, activities, and elements.

Implementation of a solution in healthcare refers to the process of putting a proposed solution into action within a healthcare setting.

Practice are ways to do things repeatedly in the same way. Practices have a purpose, e.g., to prevent the deterioration of health. They are constituted by human actors, tasks, tools, technologies, rules, norms, regulations, laws, etc. and their interactions. Every kind of health and care solution, for example, service, process, structure, strategy, and system, can be studied as practice(s). They are enacted, re-enacted, and maintained in the practices.

Solution refers to any kind of object of development, such as, service, process, structure, strategy, and system.

Transferability analysis refers to the process of assessing whether a solution can be effectively transferred and adapted from a context to another. Transferability analysis looks at the broad context, including cultural, economic, and health care system factors that might influence the success of transferring a solution.

1   Introduction

Health and care systems across Europe are facing similar challenges, such as, the demographic and epidemiological changes (population ageing with an increasing incidence and prevalence of chronic diseases) (Omran 2005; Bongaarts 2009), the multiplication of health and social problems, and the diminishing of budgets (OECD/European Union 2020; European Union 2019; European Commission 2017; Nuño-Solinis & Stein 2015). These challenges can be met by sharing, transferring, and implementing evidence-informed solutions and practices of organising, delivering, and providing services and care across the health and care systems.

To meet these challenges The European Partnership on Transforming Health and Care Systems (THCS) aims to support the transformation of health and care systems with innovative solutions driven by knowledge and evidence. The general objective of THCS is to contribute to the transition towards more sustainable, efficient, resilient, inclusive, innovative, and high-quality people-centred health and care systems equally accessible to all the people.

THCS aims not only to create new knowledge and scientific evidence, but to co-design novel solutions and support their transfer and implementation across organisations, regions, and countries. However, the principal challenge is not the shortage of workable solutions, but rather that solutions which have worked and been successful in certain contexts only minimally scale and transfer across the organizations, regions, and countries, where they could be adapted and implemented into regular use. This challenge is a bigger issue for complicated and complex solutions which involve several interconnected actors, activities, and elements.

Transferring existing solutions over developing new ones can offer several advantages in terms of efficiency, reliability, and cost-effectiveness. By adopting existing solutions, it may be possible to save time and reduce development costs. (Moore et al. 2021.)

Health and care systems need means and support to transfer and implement solutions and practices from one system to another. To meet this need one of the key development activities of the THCS partnership is to develop a methodological framework for supporting transferability and implementation of solution and practices to be used by the different actors and stakeholders of health and care systems, such as, policy makers, health and care authorities, management, researchers, and professionals.

This deliverable reports the first draft of the THCS framework for supporting transferability and implementation of solutions and practices. The scope of the framework is on the entire process from challenge to sustainable change. The main purpose of the framework is to support the transfer and implementation of solutions across the contexts. The framework also encourages the original developers of solutions to describe and model the solutions in the way that they are easily transferable across the systems with the support and help of the descriptions.

2   Development of the framework

2.1   Background review

The background review on the existing frameworks for supporting transferability and implementation defined several needs for the further development of these kinds of frameworks. The paradigmatic and theoretical commitments of the frameworks are often implicit and not discussed – there is no framework without this kind of commitments. Also, the basic principles and values of how to perform development activities should be defined. There is a need to define the whole operational picture of transferring solutions from the original contexts to other contexts, that is, the different perspectives, actor groups/stakeholders and their roles, and phases, tasks, etc. The diverse knowledge needed in the distinct phases and tasks of transferring solutions from a system to other systems should also be clarified and defined. Furthermore, the original solutions should be described and modelled in the way that supports their transfer across the systems. This kind of description should define the key transferable features and elements of the solution to be enacted in every context where they are adopted to achieve the expected outcomes/change.

2.2   Aims

The aim of this development activity was to develop the first preliminary draft of THCS framework for supporting the transferability and implementation of solutions across the systems. The aim was to develop an outline framework of the entire development process from challenge to sustainable change when a solution developed elsewhere is adapted and implemented in a new context. In the further development of the framework the key parts of it will be deepened.

2.3   Developing the first draft of the framework

The first draft of the THCS framework was developed during September 2023 - January 2024 in a core team of several THCS partners. In addition to the background review the development process was based on other literature and on the knowledge and experiences of the partners. The co-development process consisted of several working meetings and commentary rounds. Also, a larger group of THCS partners commented the draft in its distinct phases.

3 First draft of the THCS transferability and implementation framework

3.1 Purpose and users of the framework

The purpose of the THCS framework is to support, promote, and speed up the transfer and implementation of solutions across the health and care systems. The framework defines 1) the paradigmatic commitments on which the framework and its understanding of development activity, transferability and implementation are based, 2) the principles of **how to perform** development activities (see section 3.3) when transferring and adapting solutions developed elsewhere, 3) the means for describing solutions (see section 3.4), and 4) the key tasks of development activity which define **what is done** when adapting and implementing a solution developed elsewhere (see section 3.5).

The THCS framework is primarily directed to those who coordinate and plan the development activities in health and care organisations. These kinds of development activities can be performed as part of programs, projects, and everyday practices.

Within the THCS partnership during 2023-2029 the THCS Transferability and Implementation Framework offers to the THCS funded research, development and innovation (RDI) projects a framework and means to perform development activities of transferring, adapting and implementing solutions across the systems. The framework is also available to the different RDI activities outside the THCS partnership which aim at transferring and implementing solutions across organisations, regions, and countries.

3.2 Paradigmatic commitments

The paradigmatic commitments of the THCS framework define **the commitments on which the framework and its understanding of development, evidence, transferability, and implementation is based.**

3.2.1 Iterative development activity

The THCS framework suggests an iterative (non-linear) approach on transferring, adapting, and implementing solutions. The approach emphasises that development activity does not start from research and proceed linearly phase by phase to the development of a new solution and then to the implementation, but rather starts from the challenges and problems of systems and/or from the health problems of people which will be met by involving and engaging multiple actors (practitioners, management, policy makers, patients and clients, researchers…) through the whole development process from challenges to sustainable change.

The approach is iterative, feedback driven, allowing research, development, testing, experimentation, and rapid prototyping to happen in parallel. Implementation is not a separate task which is started midway through the process, but something that is important from the beginning. Relevant actors and stakeholders for implementation should collaborate continually

throughout the development of the solution. Implementation of a solution is always a kind of organisational transformation and learning process. Furthermore, evidence can be generated through the process of adaptation and implementation of solutions in diverse settings to build the evidence base about "what works" and "how to make it work" in different contexts.

3.2.2 Practice-based approach

The THCS framework relies on a practice-based approach which means that the solutions under development are conceptualized and studied as practices. Generally, practices are ways to do things repeatedly in the same way. However, every single action is not a practice. Practices have a purpose, e.g., to prevent the deterioration of health. They are constituted by heterogeneous elements, such as, human actors, tasks, tools, technologies, rules, norms, regulations, laws, and their interactions (Figure 1). Every kind of health and care solution, for example, service, process, structure, strategy, and system, can be studied as practice(s). They are enacted, re-enacted, and maintained in the practices.

The line between practice and context is not clear cut and dualistic. It is difficult to say where a practice ends and where a context starts. Different practice theories conceptualize practices instead as systems, activity systems, and socio-material assemblages without a line between practice and context. However, there is not one uniform practice theory, but a family of practice theories (Cozza & Gherardi 2023; Miettinen et al. 2009).

The THCS framework emphasises the concept of "socio-materiality of practices" (see Koivisto & Pohjola 2015) which refers to an approach that acknowledges the intricate interplay of both social and material elements in shaping health and care practices and the organising and delivery of health and care services. This perspective recognizes that health and care practices are not solely determined by human actions and interactions but are also influenced by the material tools, technologies, and environments in which these practices take place. In other words, it highlights the dynamic relationship between people (social) and the physical world (material) within the health and care context. Figure 1 describes the socio-material elements of a single practice.
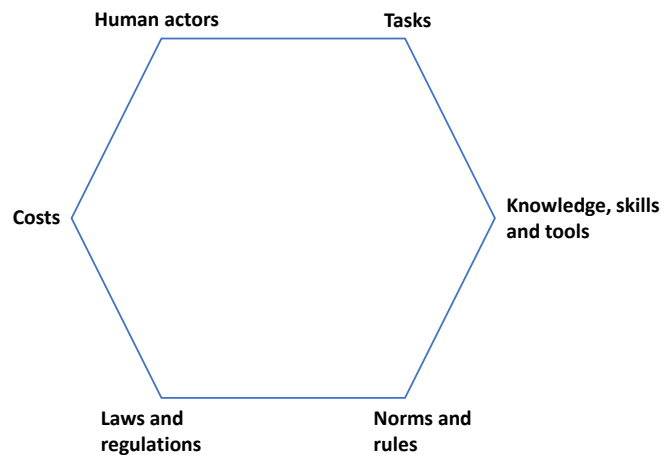
Figure 1. A conceptualization of the socio-material elements of a single practice

Understanding the socio-materiality of practices in health and care is essential for designing and optimizing health and care delivery systems as well as for transferring, adapting, and implementing practices across the systems. It encourages health and care providers, administrators, and researchers to consider not only the social dynamics and human interactions but also the role of material elements in shaping health and care practices. This perspective can lead to improvements in patient care, safety, and the overall effectiveness of health and care services by addressing both the social and material dimensions of health and care practices.

Practices are linked to, and mould, other practices and they are preconditions for the existence, workability and sustainability of each other. Practices produce, reproduce, and maintain social and organisational structures and health and care systems as their continuous consequences. (See Figure 2.)

The relationship between practices in health and care underscores the holistic nature of health and care delivery, recognizing that the quality of care is not solely determined by individual actions or treatments but by the complex web of relationships and interactions that exist within the health and care ecosystem. THCS framework encourages a more comprehensive and person-centred approach to health and care that considers the interconnectedness of all health and care practices.

Practices produce, reproduce, and maintain health and care systems and their organisational and social structures
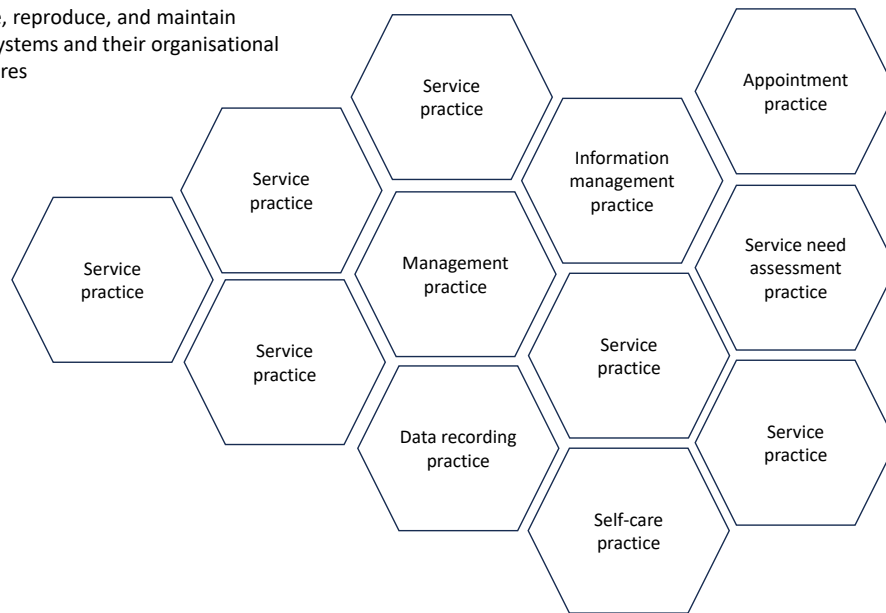

Figure 2. Interdependency of practices

3.2.3 Practice-informed evidence and evidence-informed practice

The THCS framework calls for a relational understanding of knowledge and evidence. According to it, the workability and effectiveness of solutions and practices is not universal, nor local and unique, but rather relational. A practice might work and generate expected outcomes in different sites and settings when the necessary core elements and features of the practice and its context are mobilised in the new sites. We need knowledge of what kind of actors, elements, and activities must be mobilised to enact a given solution and to produce expected outcomes in different sites. Ability to read knowledge and evidence means to understand the various key features and elements of a solution and its context that are needed to achieve the expected outcomes. Often there is not enough this kind of knowledge and information of a solution.

Knowledge or evidence of the workability and effectiveness of a practice should be generated in real-life situations within a health and care system. Practice-informed evidence in health and care refers to an approach to health and care decision-making and research that emphasizes the use of real-world practices, experiences, and observations as a valuable source of evidence. While traditional evidence-based medicine (EBM) relies on rigorous clinical trials and systematic reviews, practice-informed evidence recognizes that clinical practice often presents unique challenges and variables that may not be fully captured in controlled research settings. Practice-informed evidence can be used by the system where it is generated for improvement and by other systems for adapting and implementing the original solutions.

Learning health systems (LHSs), which can be health systems, hospitals, practice networks, practices, or other health care organizations, improve quality and outcomes of care through a continuous cycle of evidence synthesis, implementation and generation. By integrating quality

improvement and implementation science, LHSs can generate real-world evidence about the effectiveness of solutions in different contexts (Bierman 2023)

Also, knowledge and evidence of workability and effectiveness generated in a laboratory is relational to and based on the conditions of the laboratory, it is not neutral and universal knowledge. To repeat the same workability and effectiveness outside the laboratory in another site requires mobilising and enacting the same laboratory conditions, such as, tasks, hygiene, timing, and quantity outside the laboratory in the other sites.

There is no universal hierarchy of methods for evaluating the workability and effectiveness of practices. The methods are chosen and tailored depending on, and in relation to, the solution and practice under evaluation.

While practice-informed evidence is valuable in providing insights into the effectiveness of health and care practices in real-world settings, it is not meant to replace traditional EBM. Instead, it complements EBM by offering a more comprehensive view of the complexities and nuances of health and care delivery. The goal is to bridge the gap between research and practice and ensure that health and care decisions are well-informed, person-centred, and contextually relevant.

3.2.4 Theory of change

The THCS framework tackles *theory of change* as the hypotheses of how the expected change/outcomes can be achieved by mobilising the transferable core elements and features of a solution and its context. A theory of change consists of the purpose, outcomes/change to be achieved, and the theory/hypotheses of how the outcomes/change will be achieved by mobilising the needed actors, activities, and elements.

The first version of the theory of change is typically created in the original development environment(s) of a solution. The more complex the solution is, the less mature and more general the theory of change usually is.

With the help of a theory of change, a solution can be shared and communicated between the systems, and adapted, tested, and implemented in different contexts. A theory of change is evolving constantly – the more implementations of a solution are made based on the theory of change and the more knowledge we have of the local implementations and their contexts, the more we understand of the workability and transferability of the solution. The original theory of change can be updated and refined basing on the experiences and evaluations of its implementation, workability, and effects in different contexts.

3.3 Principles of how to perform development activities

The THCS framework defines a set of principles of **how to perform** diverse development activities, including the transfer, adaptation, and implementation of solutions. The principles go through and are being enacted during the entire process from challenge to sustainable change.

3.3.1 Demand-based development

The THCS framework bases the different development activities on demand. Development activities and their efforts, goals, and objects of development are guided, shaped, and negotiated by considering the specific demands, needs, and preferences of patients/clients, health professionals, leaders and administrators, and other actors and stakeholders.

3.3.2 Person-centred development

The THCS framework calls for person-centred development of care which places the problems, needs, preferences, values and goals of patients and citizens at the forefront of development processes. It involves designing, adapting, and implementing solutions with a primary focus on improving the overall experience and outcomes for the individuals receiving care. The approach recognizes that patients are not just passive recipients of health and care services but active developers of them and participants in their own care. Also, where solutions other than treatments or services are developed, adapted, and implemented, for example, practices of management and leaderships, they should still ultimately generate value to the patients of health and care systems.

3.3.3 Multi-perspectivity

The THCS framework approaches development activity, the solution under development and its transfer, from multiple perspectives because the process is multifaceted and complex and influenced by various factors and stakeholders. Cultural, societal, and contextual factors can mould the solution under development and its implementation. Different values, norms, and expectations can influence the acceptance and success of a solution.

3.3.4 Co-creation

The THCS framework suggests, to achieve sustainable change, to enable the participation of the relevant actors and stakeholders e.g., health professionals, management, policy makers, patients and clients, and researchers, in development activity from the beginning and throughout the entire process. Each of these stakeholders have a unique perspective on the challenge and on solution under development, transfer, and adaptation.

The development activity requires a multidisciplinary core team for coordinating and performing key development tasks. The membership of the team can be updated when needed. Furthermore, when performing the different tasks, for example implementing a solution, other actors and stakeholders with different perspectives must be involved and engaged.

3.3.5 Restorative practices approach

The THCS framework emphasizes the significance of fostering connections and relationships among individuals, groups, communities, and systems within the health and care sector. By fortifying the bonds between health and care providers and the communities they serve, it aims to enhance the quality of care. The approach not only aids in preventing potential health and

care harms, but it also promotes proactive measures to ensure well-being, rather than merely reacting to adverse events post-occurrence. Within the health and care systems context, this approach goes beyond the traditional notion of sustainability, which is typically understood as being cyclic in nature, maintaining a balance without necessarily repairing past damage affected by our actions. (Alphen 2015) In practical terms, the restorative approach within THCS facilitates the resolution of harm or conflicts, not only among teams but also with patients. It emphasizes altering day-to-day communications to enhance working relationships, patient care, and safety (Foster 2022).

3.3.6 Mutual learning

The THCS framework aims to support mutual learning through the whole development process. In mutual learning, several actors and stakeholders engage in a collaborative and reciprocal exchange of knowledge, skills, and experiences whilst working on shared solutions and goals. It is a form of learning that occurs through interaction and dialogue where each participant has an opportunity to gain experience from the others. There is mutual learning within and between systems when transferring a solution from a system to another.

3.3.7 Openness and transparency

The THCS framework is based on the idea of open innovation that emphasises collaboration, knowledge sharing, and integration of external ideas and resources into development activity. Open innovation encourages sharing information on the development activity, the developed solution, and the workability and effectiveness of a solution, to promote the transfer and implementation of knowledge across the systems. Transfer of solutions across the systems is possible only if this kind of knowledge is shared.

3.3.8 Utilisation of existing solutions

The THCS framework aims to promote and speed up the utilisation and transfer of existing evidence-informed solutions across systems. The challenge is that solutions which have worked and been successful in certain contexts only minimally scale and transfer across the organisations, regions, and countries, where they could be adapted and implemented into regular use. Therefore, the THCS framework encourages searching for, utilising, and localising existing evidence-informed solutions to save time, money, and other resources. Only if a solution cannot be found that meets local needs it is recommended to design a novel solution from scratch.

3.3.9 Agility

The THCS framework encourages adopting an agile development approach (see Boustani et al. 2018) which is characterized by flexibility, adaptability, and focus on delivering value quickly and efficiently. An agile approach is a response to the need for organisations to be more responsible and adaptive in a rapidly changing environment.

According to the agile approach, development activity is broken into smaller manageable iterations that allows for regular reassessment and adaptation based on feedback and changing requirements. The approach calls for creating a minimum viable solution, which allows for quick development and testing sprints. However, agile development is not always possible for distinct reasons, for example, for patient safety, ethical considerations, or complexity.

3.3.10 Evidence generation

There are many gaps in the evidence-base on the effectiveness of interventions to improve access, quality, outcomes and effectiveness of care in different contexts, settings of care, and populations as well as how to spread and scale these interventions. By "learning while implementing" through evaluation of improvement and transformation evidence can be generated to fill these gaps.

3.4   Describing the original solution

The main purpose of this THCS framework is to support the transfer and implementation of solutions across the systems and contexts, but this kind of transfer is not possible if there is not enough information or evidence on the original solutions, their core features and elements, the contextual elements needed, and the outcomes achieved in the original contexts.

If a novel solution is being developed, the THCS recommends starting to describe the solution under development in an early phase of the development process. This way, it can be communicated within your organisation and to the adopters in other contexts and settings. You can improve and refine the description during the development process based on the evaluation of the implementation, workability, and effects of the solution. Furthermore, the description can be refined based on the adoptions of the solution in other contexts and settings.

The THCS framework encourages the original developers of a solution to describe the purpose of the solution, the outcomes/change to be achieved, and the theory/hypotheses of how the outcomes/change will be achieved by mobilising and enacting the needed actors, activities, and elements. With the help of a description and theory of change, a solution can be shared and communicated between systems and adapted and implemented in different contexts. Every kind of solution can be described in this way, for example, treatment, service, work process, teamwork, policy, organising the delivery of services, knowledge management activity, health insurance, and community-based health care.

3.5   Key tasks of transferring, adapting, and implementing solutions

The THCS framework defines the key tasks to perform development activities (what to do) for proceeding from challenges to sustainable change when transferring, adapting and implementing a solution developed elsewhere. The development process is not a linear and strict step by step process in the sense that when you have performed a task you can move to the next task. There is no right order for performing the different tasks. You rather iterate between the diverse tasks until the entire process is finished and sustainable change achieved.

The framework groups the key development tasks to three interconnected sets of tasks (Figure 3): 1) aligning and organising development activity, 2) adapting a solution developed elsewhere, and 3) implementing the adapted solution. The tasks are based on the paradigmatic commitments defined in the section 3.2, and the principles of development (see section 3.3) define how the tasks are performed.
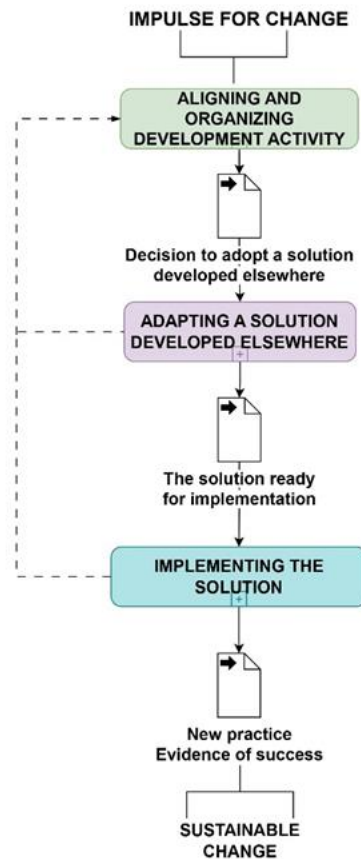
Figure 3. The THCS Transferability and Implementation Framework

3.5.1 Aligning and organising development activity

There is no right point where or how the development activities should start in an organisation. The THCS framework suggests a set of key tasks of aligning and organising the development activity for achieving sustainable change (Figure 4). These tasks are common in every organisation who are performing development activities until then you either find a suitable solution developed elsewhere for adoption or you do not find a solution and start to design a novel solution.
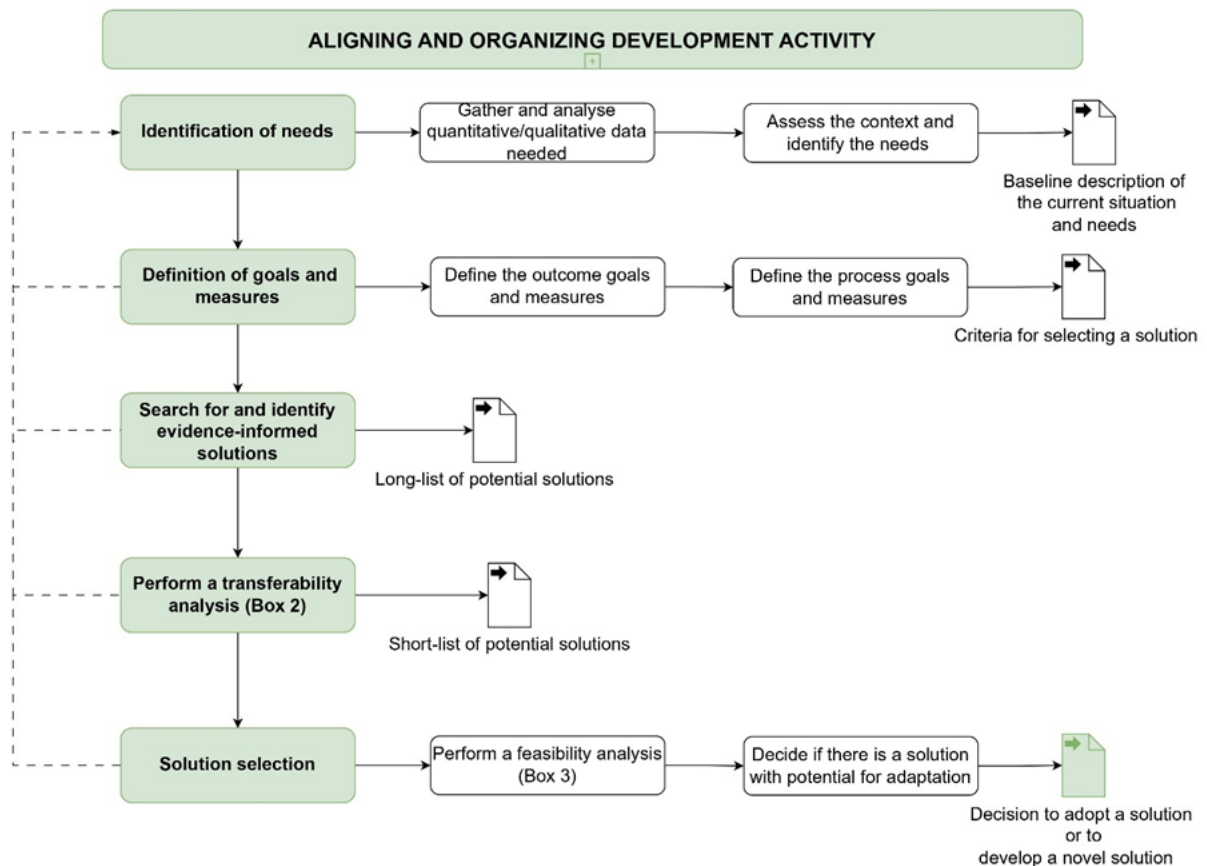
Figure 4. Key tasks of aligning and organising development activity

The impulse for change and development can come from diverse sources, for example, bad outcomes of a service, increased costs of service delivery, weak access on services, challenges in work processes, increased health and social challenges of population, and changes in laws and regulations.

Create opportunity for co-creation activities by identifying, involving, and engaging to the development team the key actors and stakeholders who are related to the challenge, such as, health professionals, patients/clients, managers, researchers, and administrative staff.

Gather the quantitative and /or qualitative data needed

Study the current situation surrounding the challenge and monitor the demand on, and need for, novel solutions and change by gathering and analysing quantitative/qualitative data. The extent and depth of the analysis depends on the challenge or problem you are tackling and analysing. The analysis should produce a baseline description of the current situation in the system in relation to the challenge, and of the need for novel solutions and change.

Sometimes new and promising technologies, models and solutions available are seen as possibilities for change and development activities are initiated without a clear-cut challenge or problem as a starting point. You must ensure you are solving a problem that truly exists.

Identify the needs

The needs of different actors and stakeholders connected to a specific challenge can be diverse, conflicting, and changing. Negotiate and translate the diverse needs of the actors and stakeholders into a shared starting point for development activity. This may require reconciling differing needs and bringing together varying expectations. The final needs should be a consensus achieved in the negotiations.

Define the goals and measures

Translate the needs into shared **outcome goals** and **process goals**. Outcome goals define the goals to achieve with the solution, for example better health and decreased costs. Process goals define the features of the solution with which the outcome goals are tried to achieve, for example easily accessible, patient centred, culturally and linguistically sensitive, and the solution promotes healthy behaviour and lifestyle. Do not define features too precisely as this can hinder from finding/developing innovative solutions. This process is not a rigid procedure, but rather a negotiation process where the shared goals are defined. These goals define the criteria for searching for existing evidence-informed solutions.

Define the measures and indicators for following and evaluating the achievement of the outcome and process goals. You need these measures throughout the process.

Search for and identify evidence-informed solutions

There is a high probability that a solution already exists that has already been tested and meets your needs. The challenge is identifying these solutions. Search for evidence-informed solutions developed elsewhere to achieve your goals. Identify a long list of potential solutions. You can find solutions from several sources: THCS Knowledge Hub, other practice databases, articles and reviews, practice guidelines, and other organisations and systems.

Perform a transferability analysis

When you have found potential solutions, perform a transferability analysis (Box 2) on each one. Transferability analysis refers to the process of assessing whether the solution you found can be effectively transferred and adapted to your organisation and/or population. It helps to understand the difference between the original context and your context. It involves assessment of the applicability of the solution beyond the original context in which it was developed. (Schloemer & Schröder-Bäck 2018; Nolte & Groenewegen 2021.)

Transferability analysis is crucial for evidence-informed decision-making in health and care, as it helps to avoid the uncritical application of solutions that may not be suitable in a different context. It also contributes to more effective and efficient health and care service delivery and policy development by considering the nuances and specific requirements of diverse patient populations and health and care systems.

In this THCS framework, the transferability analysis looks at the broader context, including cultural, economic, and health care system factors that might influence the success of transferring a solution. Feasibility analysis (Box 3) in this framework is more specific and concentrates on factors such as available resources, cost-effectiveness, organisational capabilities, and time constraints. It assesses the feasibility of implementing a particular solution within a specific organisation, facility or community.

The possibility to perform a transferability analysis depends on whether there is enough knowledge and information about the core elements and features of the original solution and its context and about the evidence of the achieved outcomes. As a result of the transferability analysis, you may have a shorter list of potential solutions to adopt.

Transferability analysis can be repeated when needed during the development activities. The diverse aspects of transferability analysis are described in the Box 2 (see also Schloemer & Schröder-Bäck 2018; Baxter et al. 2019).

Box 2. Performing a transferability analysis

Choose and assess the key aspects of transferability which you see as relevant to the solution you have found. Each aspect is not always relevant.

1) **Population Characteristics**: Assessing the similarities and differences in the characteristics of the patient populations involved in the original context and your context. Considerations may include age, gender, and health status. The socioeconomic status of the target population can affect their access to and acceptance of healthcare solutions. Consider whether the solution is affordable and accessible to the population in question.

2) **Cultural, Social, and Linguistic Considerations**: Recognizing the impact of cultural and social norms on healthcare behaviours and patient preferences. These factors can influence the acceptability and effectiveness of solutions. Language barriers can significantly impact the transferability of solutions. Consider whether the solution is culturally sensitive and whether materials and information are available in languages relevant to the target population.

3) **Market and Demand Feasibility**: Assessing whether there is a sufficient demand for the proposed services in the target population or community. It considers the demographics of the population, patient preferences, values, and needs, and market dynamics.

4) **Acceptance and Buy-In**: Assessing the acceptance and support for the solution among healthcare providers, administrators, and the community. Buy-in is crucial for successful implementation.

5) **Health Disparities**: Examining health disparities and equity issues in the target population. Ensure that the solution addresses these disparities rather than exacerbating them.

6) **Epidemiological Factors**: Exploring the prevalence of specific diseases or health conditions between the original and your context as these may vary. This can affect the relevance and impact of the solution.

7) **Healthcare System Variations**: Analysing the variations in healthcare infrastructure, financing, and delivery models between the original and your healthcare system. This is important because the availability of resources and organisational structures can affect the feasibility of implementing a specific healthcare solution.

8) **Healthcare Infrastructure**: Exploring whether the availability and quality of healthcare facilities, equipment, and healthcare professionals in your setting differs from the original context. Assess whether the infrastructure can support the solution.

9) **Health Technology and Information Systems**: Assessing the compatibility of health information technology and information systems in your setting to ensure data exchange, privacy standards, be and integration with the solution.

10) **Economic Considerations**: Evaluating the cost-effectiveness and financial implications of implementing the solution in your context. Different healthcare settings may have varying budgets and funding mechanisms.

11) **Geographic and Location**: Assessing the suitability of the geographical location for the healthcare solution. Factors may include accessibility, proximity to target populations, transportation infrastructure, and environmental considerations.

12) **Regulatory, Legal and Policy Framework**: Exploring whether differences in healthcare policies and regulations could impact the transferability of solutions. Ensure that the solution complies with local policies, laws, and regulations, including licensing requirements, ethical considerations, and legal constraints.

13) **Patient and Provider Education**: Determining whether education and training materials are available for both patients and healthcare providers to support the solution.

14) **Community and Stakeholder Engagement**: Engaging with the local community and stakeholders to gather their input, build support, and ensure that their concerns are addressed during the transfer of the solution.

Perform a feasibility analysis

After the transferability analysis, perform a feasibility analysis (see Baxter et al. 2019; Wang et al. 2005) on each of the solutions on your list (Box 3). Feasibility analysis refers to the systematic assessment of whether a solution is practical, viable, and achievable within a specific health and care setting. It involves evaluating several factors to determine whether the intended solution can be successfully implemented and sustained. The feasibility analysis is a critical step in health and care planning and decision-making to ensure that resources are allocated efficiently and that the solution can produce the expected and desired outcomes.

A feasibility analysis is essential to minimize the risks associated with health and care initiatives, prevent wasted resources, and increase the likelihood of success. It provides decision-makers with the information needed to make informed choices about whether to proceed with a solution. Successful feasibility analyses contributes to more efficient and effective health and care service delivery and resource allocation.

Decide based on the feasibility analysis whether to adopt a solution. Repeat the feasibility analysis when needed. Only start to develop a novel solution if the feasibility analysis does not support to proceed with any of the solutions.

Box 3. Performing a feasibility analysis

Choose and assess the key aspects of feasibility which you see relevant in respect to the solution under adaptation. Each aspect is not always relevant.

1) **Patient Outcomes**: Evaluating the expected patient outcomes and assessing whether the solution aligns with the desired quality of care and patient safety goals.
2) **Operational Feasibility**: Exploring whether the solution can be practically implemented within the existing healthcare system or organization. It considers factors such as available infrastructure, staffing, technology, and workflow. Operational Feasibility analysis helps to determine whether the solution can be integrated into existing processes and systems.
3) **Technical Feasibility**: Assessing whether the required technology and resources are available or can be developed or acquired for the solution. Technical feasibility assesses the compatibility of the solution with existing information systems and technical infrastructure.
4) **Clinical Feasibility**: Assessing whether the solution is medically sound and can be safely and effectively administered within the clinical setting. In healthcare, Clinical Feasibility considers factors like clinical evidence, provider expertise, and patient safety.
5) **Human Resources and Capacity building**: Assessing the availability and qualifications of healthcare professionals and support staff necessary for the solution. This includes evaluating recruitment and training requirements.
6) **Data and Evaluation Methods**: Considering whether the data collection and evaluation methods used in the original context are suitable for your setting. Adjustments may be needed to capture relevant outcomes and measure effectiveness.
7) **Risk Assessment**: Identifying and evaluating potential risks and challenges associated with the solution, including financial, operational, clinical, and legal risks. Developing risk mitigation strategies is an essential part of this analysis.
8) **Interoperability**: For health information technology projects, ensuring that systems are interoperable with other healthcare systems to support data sharing and continuity of care.
9) **Environmental and Sustainability Impact**: Assessing the environmental impact of the solution and exploring ways to make it more sustainable and eco-friendlier.
10) **Timeframe**: Estimating the time required for planning, implementation, and achieving desired outcomes. A clear timeline is crucial for project management.
11) **Patient Education and Engagement**: Assessing the feasibility of educating and engaging patients in the initiative, including their ability to understand and participate in their care.
12) **Financial Feasibility and Cost-Benefit Analysis**: Assessing whether the solution is financially viable. It involves estimating the costs associated with the project, as well as the potential sources of funding. Financial feasibility analysis helps to determine whether the solution can be funded and sustained within the available budget. Conduct a detailed analysis of the costs and potential benefits associated with the solution, which includes both financial and non-financial outcomes.
13) **Sustainability**: Evaluating the long-term sustainability of the solution beyond the initial implementation phase. This includes considerations of ongoing funding, resource availability, and the ability to adapt to changing healthcare needs.
14) **Exit Strategy:** Planning for the end of the solution's lifecycle, including how it will be phased out or transitioned to other providers if necessary.

3.5.2 Adapting a solution developed elsewhere

In the context of health and care, adaptation of a solution from one setting to another (Figure 5) refers to the modification or adjustment of a health and care solution when moving it from one health and care context or environment to another (Wiltsey Stirman et al. 2019; Moore et al. 2021). This process recognizes that what works effectively in one health and care setting may not be directly applicable or appropriate in another due to variations in patient populations, staffing, technology, workflow, and other resources or factors. Therefore, adaptation is essential to ensure the successful implementation of a solution in a new health and care context.

Engaging with local health and care providers, administrators, and community stakeholders helps in the adaptation process, as they have a deep understanding of the local context and can provide valuable insights. Use participatory design methods for enabling the participation of all the relevant actors and stakeholders in the adaptation activity.
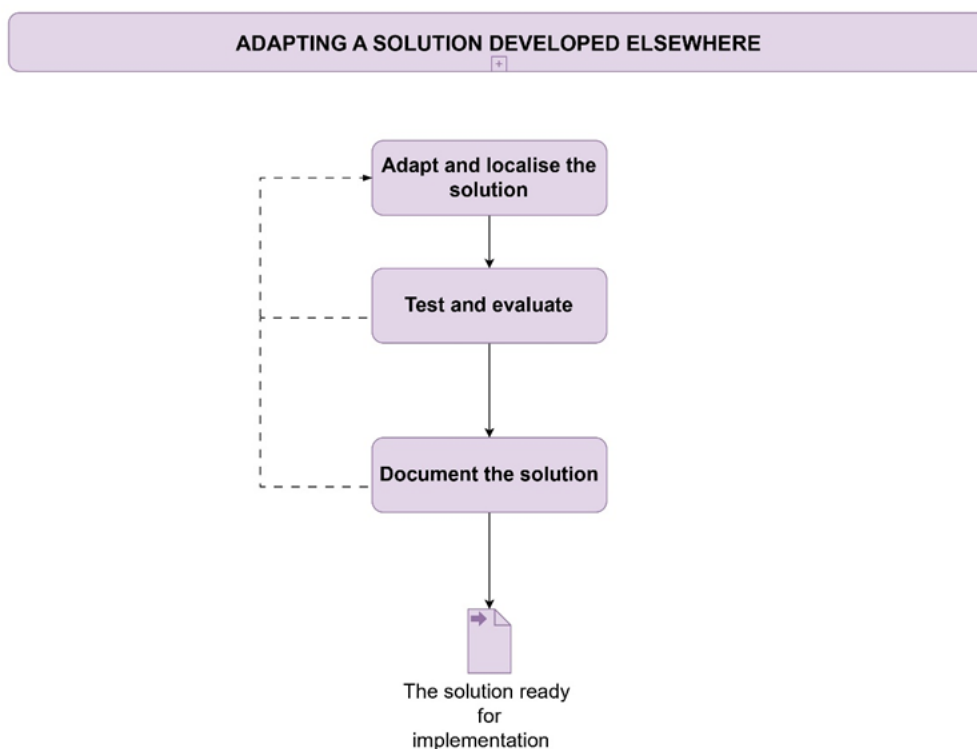

Figure 5. Key tasks of adapting a solution developed elsewhere

Adapt and localise the solution

When adapting and localising a solution developed elsewhere, the goal is to achieve a viable local solution and sustainable change. After performing the feasibility analysis your understanding of how to adapt and localise the solution in your setting has increased.

Design based on the original solution a minimally viable solution to achieve your goals. Take care of including in your solution all the core elements and features of the original solution and the contextual elements needed. Consider whether modifications or adaptations to the original solution are necessary to align with your setting's unique characteristics and needs. This may involve modifying certain elements of the solution and/or some elements of your context.

Consider the history, structure, cultural and social aspects, values, strategies, and goals of your organisation and adapt the solution to them. Be aware that when localising and adapting a given solution some contextual elements must be changed to support the workability of the solution under adoption. (Moore et al. 2021.)

Test and evaluate

Testing and evaluation of a prototype in health and care refers to the systematic process of evaluating and analysing a preliminary or early version of a solution to determine its workability, safety, effectiveness, and usability. During testing, you are focusing on the theory of change of a solution. This process is crucial in the development of a novel solution to ensure that the final health and care solution meets the needs and intended goals. Existing solutions are already tested and evaluated, and therefore the process of implementation might be faster, more straightforward, and more cost-effective. When adapting a solution developed elsewhere, the need for testing depends on what solution is in question and how much it has been tailored and modified from the original version. Sometimes testing is not needed, but this is not always the case.

Plan the testing and evaluation of your minimally viable solution. Use the outcome and process measures you defined earlier when aligning and organising the development activity. Use participatory evaluation methods.

Test the solution as rapid testing sprints. Evaluate the solution by using the process and outcome measures. Adapt and repair the solution based on the evaluation results. The sprints continue iteratively until all the involved agree that no further improvements can be made to the solution.

Document the solution

Document the adapted and localised solution to support implementation within your organisation. Describe the solution as practice, that is, the expected outcomes, and the elements and features that must be mobilised to achieve the expected outcomes, such as, human actors, their tasks, tools, technologies, rules, norms, laws, etc. and their interactions. Describe how the work tasks are performed in the future. Also, describe the evaluation results of the testing focusing on the workability and/or effects of the solution. When you have made adaptations to the original solution developed elsewhere, also describe these adaptations (Wiltsey Stirman et al. 2019).

This kind of documenting works as training material when implementing the solution into practice in your organisation. This documentation is also useful to the other adopters of the same solution.

3.5.3 Implementing the adapted solution

Implementation of a solution in health and care refers to the process of putting a proposed solution into action within a health and care setting and it becoming a routine practice (Figure 6.). This process involves translating the knowledge and information about a solution into real-world practice with the aim of achieving defined goals (see Moullin et al. 2015; Nilsen & Bernhardsson 2019; Powell et al. 2012).
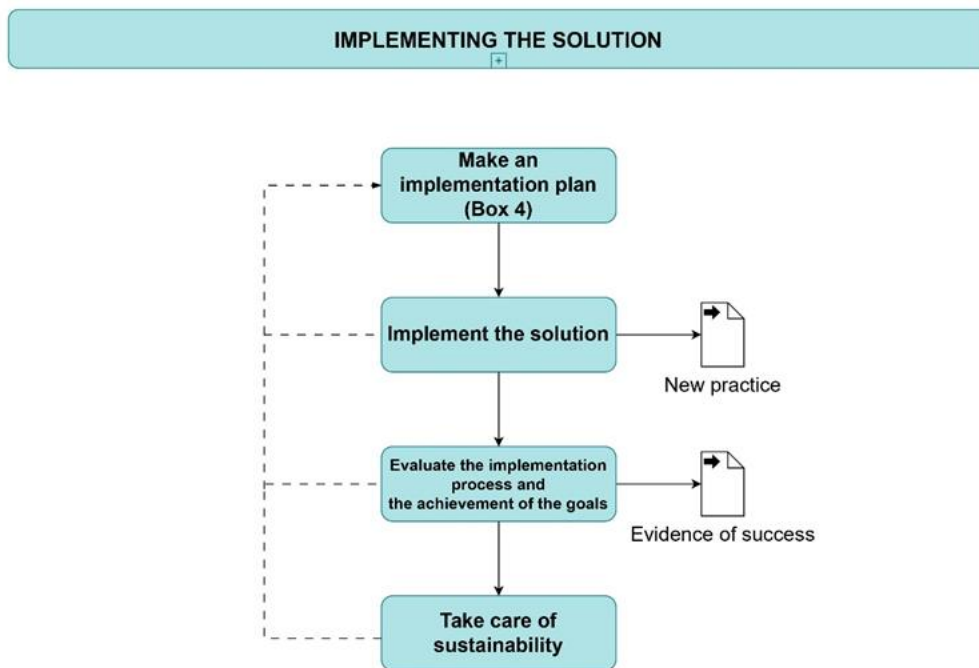
Figure 6. Key tasks for implementing a solution

Plan the implementation

After testing and achieving consensus on the adapted solution, prepare a plan to implement the solution in the entire organisation (see Box 4). An implementation plan for a solution should be comprehensive and well-structured to ensure the successful deployment of the solution.

An implementation plan is a dynamic document that may need adjustments as the implementation progresses. Regularly review and update the plan to ensure it aligns with the

evolving needs and circumstances of the implementation. Communication and collaboration among stakeholders are key to successful implementation.

Box 4. Preparing an implementation plan

Consider the key components that should be included in an implementation plan:

- **Executive Summary**: Provide a concise overview of the implementation plan, including the goals, objectives, and the intended outcomes of the solution.
- **Introduction**: Explain the background and context that necessitates the implementation of the solution, including any relevant problems, challenges, and needs.
- **Stakeholder Analysis**: Identify all the stakeholders to be involved in the implementation, both internal and external, and describe their roles, responsibilities, and interests.
- **Implementation team**: Create an "implementation team(s)" to the different sites where the practice will be implemented that will be responsible of the strategies to get people change their current ways of working.
- **Goals and Objectives**: Clearly state the specific goals and objectives that the implementation of the solution aims to achieve. Make sure these goals are smart (Specific, Measurable, Achievable, Relevant, Time-bound). State also the goals of its own for the implementation process.
- **Barriers and Facilitators**: Assess what the barriers and facilitators are for the implementation.
- **Scope and Timeline**: Define the scope of the implementation, specifying what will be included and what will not. Create a detailed timeline with milestones and deadlines.
- **Resource Allocation**: Outline the necessary resources for the implementation, including personnel, budget, technology, equipment, and any external support.
- **Risk Assessment and Mitigation**: Identify potential risks and challenges that may arise during the implementation process and develop strategies to mitigate or address them.
- **Communication Plan**: Describe how communication will be managed throughout the implementation, including how progress will be reported, who the key communicators are, and what channels will be used. Identify the stakeholders that need to be communicated, what needs to be communicated to each of them, frequency of that communication and channels to be used.
- **Training and Education**: Detail the training and education requirements for the individuals involved in the implementation, including staff, end-users, and any necessary training programs.
- **Quality Assurance and Testing**: Explain the quality assurance and testing procedures that will be conducted to ensure the solution works correctly and meets established standards.
- **Workflow and Process Changes**: Document changes if the implementation involves changes to existing workflows or processes, and explain how they will be managed.
- **Monitoring and Evaluation**: Define the measures and indicators that will be used to measure the success of the implementation and describe the monitoring and evaluation process.
- **Sustainability Plan**: Describe how the solution will be sustained and maintained in the long term, including ongoing support and updates.
- **Documentation and Reporting**: Specify the documentation requirements, including reporting formats and intervals for status updates and progress reports.
- **Legal and Compliance Considerations**: Address any legal and regulatory requirements that must be met during implementation and describe how compliance will be ensured.
- **Change Management:** Discuss strategies for managing and addressing resistance to change among employees or stakeholders affected by the implementation.
- **Dependencies and Interdependencies**: Identify any dependencies on other projects, initiatives, or external factors that may impact the implementation.
- **Contingency Plan**: Develop a contingency plan that outlines what actions will be taken in case of unexpected setbacks or failures during implementation.
- **Approval and Sign-off**: Include a section for obtaining approvals and sign-off from relevant stakeholders, confirming their commitment to the implementation plan.
- **Appendices**: Attach the documentation of the solution to be implemented for enhancing the understanding of the implementation plan.

Implement the solution and evaluate

Perform the implementation process according to the plan. Ensure that all the core elements and features of the solution and its context needed are enacted. Ensure that staff get the support they need to successfully implement the solution.

Monitor and evaluate the implementation process. Use the measures defined in the implementation plan for evaluating the success of the implementation. This evaluation can report, for example, the successes, challenges and barriers in the process. Adapt and repair the process when needed.

Evaluate the achievement of the outcome (impact, effects) and process (workability of the solution) goals which you defined when organising the development activity. This is useful to perform after an appropriate time from the implementation has passed.

Take care of sustainability

Sustaining the adapted solution involves ongoing efforts to support, update, and refine the adapted solution over time. Health and care environments are dynamic, and changes may be necessary due to evolving practices, technological advancements, regulatory requirements, or shifts in patient demographics. It is not just about maintaining the status quo but also continually improving and optimizing the adapted solution. This may involve leveraging data analytics, feedback from users, and incorporating advancements in technology to enhance efficiency, effectiveness, and overall performance.

Involving a range of stakeholders from the start of the process maximises the likelihood of long-term sustainable implementation. Hence, developing capacity, forming plans for implementation and maintenance, and identifying dedicated resources for maintenance will be a focus of these processes. Plans for long term maintenance will ideally be developed incrementally through adaptation, testing, and evaluation. (Moore et al. 2021.)

Establishing systems to monitor long term implementation and effects will be useful to maintain high quality delivery at scale. If the solution has been implemented elsewhere, implementation teams could consider whether harmonisation of monitoring systems is appropriate to enable comparisons across different contexts. As context changes over time, the process of making responsive adaptations will continue after solutions are taken to scale. (Moore et al. 2021.)

4 Testing and further developing the framework

This first draft of the THCS Transferability and Implementation Framework will be tested and developed iteratively during 2024. The testing aims for a framework which could be embedded into the THCS Knowledge Hub and would be available to use in THCS partner countries, and further afield.

The framework provides a frame and means for RDI programmes and projects to plan and perform different activities and tasks of transferring, adapting, and implementing solutions across the contexts. It can also be used as a conceptual frame when planning and performing research on transfer, adaptation, and implementation of solutions. This kind of research can contribute to the further development of the THCS framework.

The different means of the framework described in the boxes 1-4 can be tested individually: to describe an original solution for supporting its transferability and implementation in other sites and settings, to perform transferability analysis, to perform feasibility analysis, and to plan implementation.

Testing of the draft framework will be prepared during February – June 2024. The testing phase will start from July 2024, the outcomes of which will inform the further refinement and development of the framework as well as the potential functionalities of the Knowledge Management Hub.

The testing process of the draft framework will be clearly described and discussed with the potential users for their feedback.

Practical materials and tools for supporting the testing phase of the framework will be developed. The criteria for the selection of the testers will be clearly defined, involving the THCS Consortium as well as other relevant European, international, and national initiatives.

Internal awareness-raising event (webinar) will be organised to explain the testing process and engage with the first pioneers interested in testing of the framework in May 2024. Further, a learning network of pioneers will be established to exchange their experiences in testing the framework and informing its improvement and further development.

A preliminary plan for incorporating the framework and its tools into the THCS Knowledge Hub is prepared in June 2023. The plan will later be updated based on the testing of the framework.

In the further development of the framework practical tools and methods for performing the different tasks of the framework will be mapped as well as developed.

The second draft of the framework will be developed based on the comments, expectations, and the early testing, and it will be published in December 2024.

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