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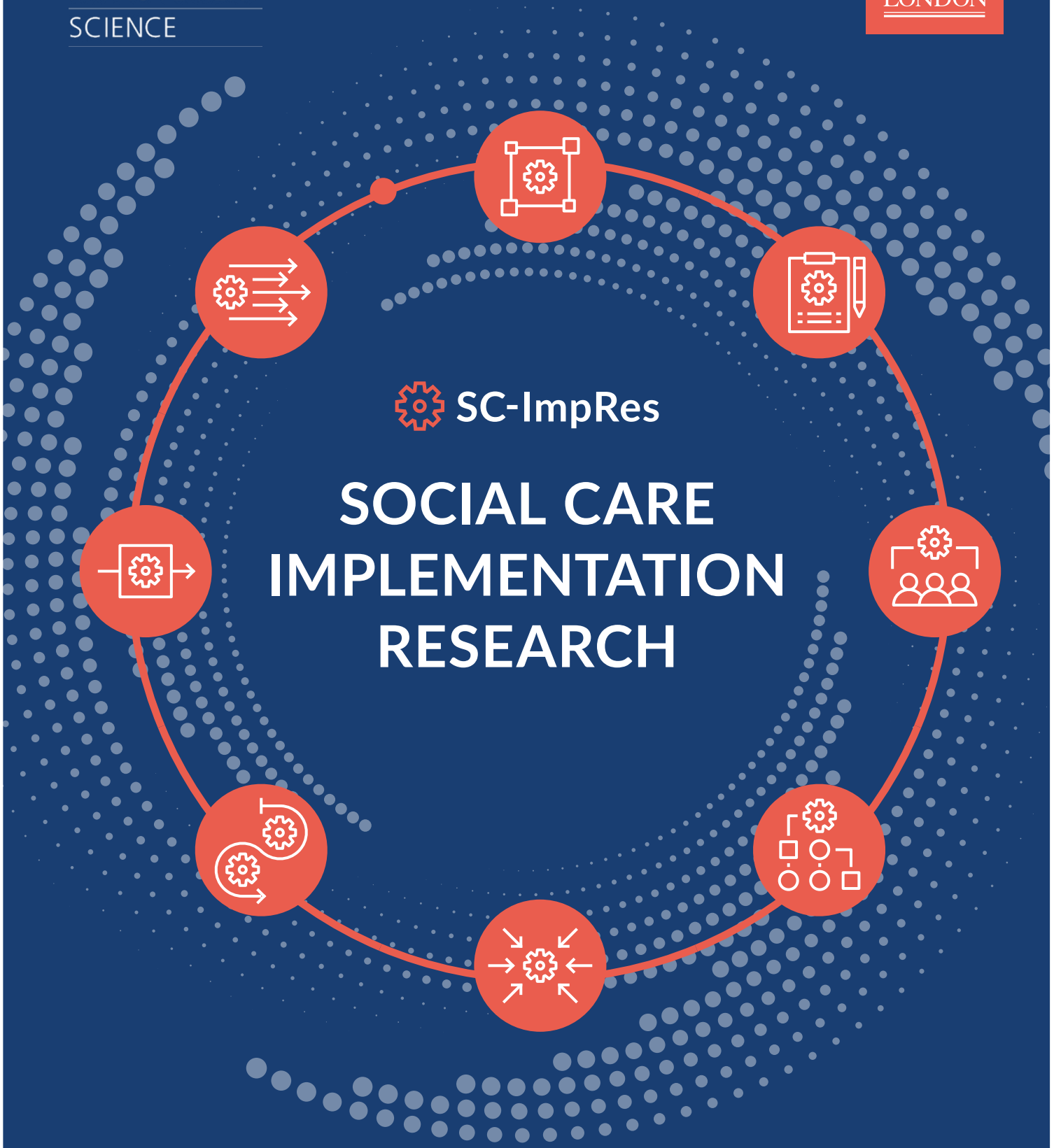

SC-ImpRes

SOCIAL CARE IMPLEMENTATION RESEARCH

A practical guide to designing and conducting implementation research in social care

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About this guide

This guide provides a step-by-step approach to designing and conducting implementation research in social care. The guide contains eight sections, each of which introduces key terms and concepts relevant to implementation research in social care and includes reflective questions and statements to consider when designing and conducting implementation research.

This is an interactive pdf with active links. Click the segments to navigate to the relevant section

What is implementation research?

Implementation research explores, describes, explains and/or predicts implementation. It's objective is to improve the adoption (take-up) of effective practices, with appropriate adaptation and modification if necessary. It aims to support the implementation and sustainment of worthwhile services, interventions, programmes, policies, initiatives or other things by providers, organisations, communities and systems of care. It can be descriptive/exploratory, evaluative, theory-building or can develop methodologies. This guide refers to the focus of the research as 'The Thing Being Implemented' (TTBI) as this encompasses the wide variety of interventions within implementation-focused social care research. Implementation is a process, not an event, that takes place within a complex and changing context.

This guide aims to:

- Support social care researchers and practitioners to **design and conduct research** about implementation (rather than **to do implementation**) of social care programmes and interventions.
- Define commonly used implementation science terminology.
- Provide an overview of common practices and underlying concepts of implementation science that are relevant to the social care field.
- Signpost research teams to relevant literature and resources to support the design of implementation research in social care.

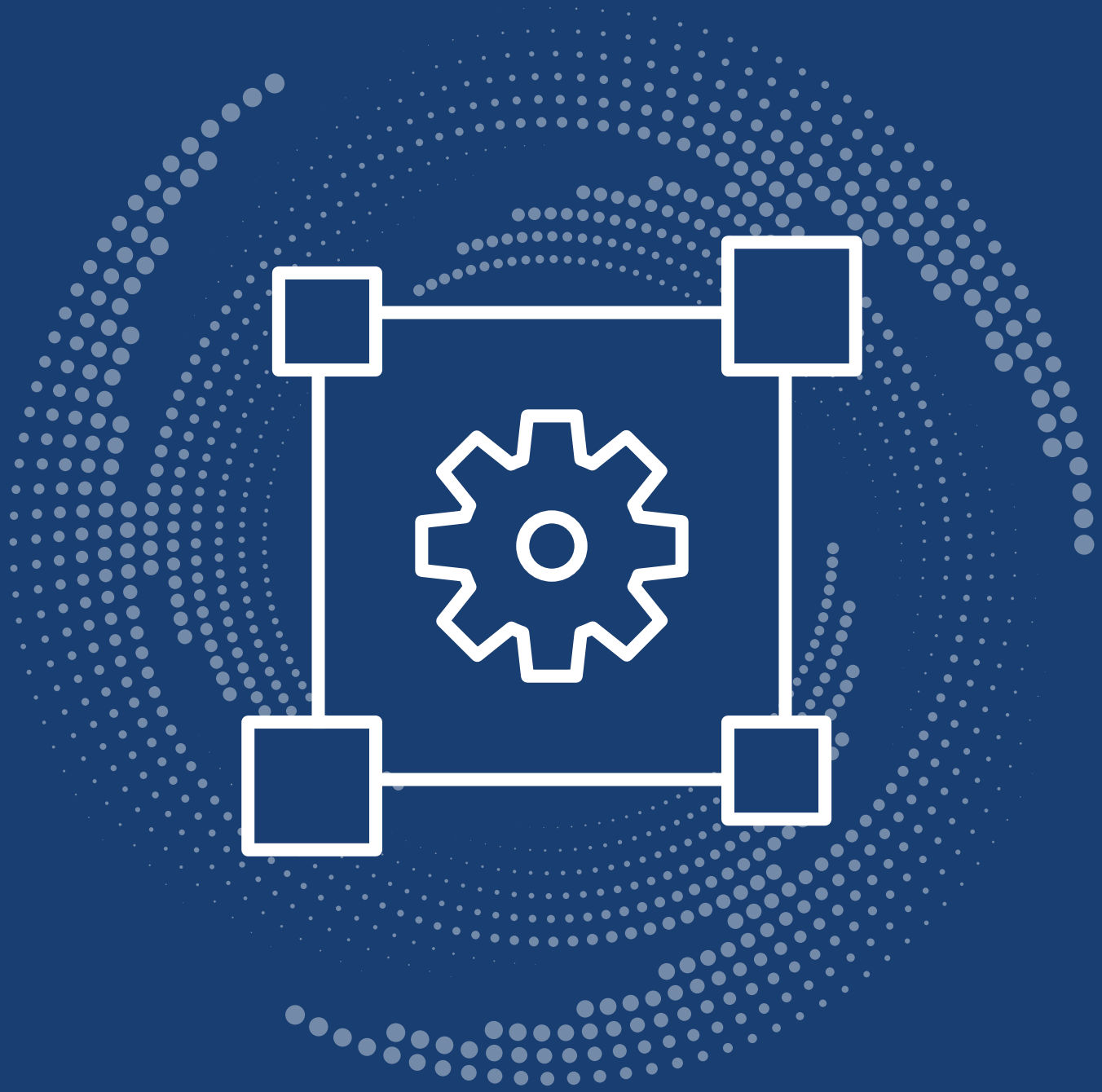
Who is this guide for?

Social care researchers and practitioners designing and conducting implementation **research** (but **not** primarily performing implementation of a programme or intervention in practice).

Social care researchers and practitioners with varying levels of expertise in implementation science (including beginner, intermediate and advanced levels).

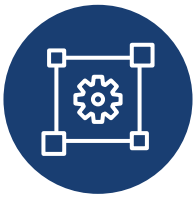
Background

Social Care ImpRes belongs to the wider ImpRes family of resources (including the Implementation Science Research development (ImpRes) tool and guide (Hull et al., 2019), the Implementation Research Proposal Assessment Criteria (ImpResPAC) tool (Sweetnam et al., 2022) and the Implementation Science Research Glossary. Its development was informed by the original ImpRes tool and guide and by an Expert Advisory Group, consisting of 13 social care and implementation science experts.



Characteristics of The Thing Being Implemented

The Thing Being Implemented (TTBI)
Potential gaps in knowledge relating to TTBI
Ethics and inclusion
Conceptual parameters (why?) and operational parameters (what? how?) of TTBI
Implementation stages of TTBI
Implementation stages resources



1. Characteristics of The Thing Being Implemented

This section of the guide focuses on the conceptual and operational aspects of The Thing Being Implemented (TTBI). It is intended to help you unpack what you already know about TTBI. In implementation research/practice, when you start to explore TTBI in detail, it often becomes apparent that some elements are unclear.

→ The Thing Being Implemented (TTBI)

Because of the wide variety of interventions within implementation-focused social care research, we have taken the decision to use a generic term – and will refer to the THING being implemented. Wherever we refer to TTBI we mean the service, programme, policy, evidence-based intervention, volunteer initiative or any other thing being implemented that is the focus of your research. The first thing that needs to be decided on is TTBI. The reflective questions below will inform your decision:

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- What is being implemented? Describe the relevant features; be as specific as you can.
- Describe what is (or will be) done or provided as part of TTBI.
- What does it aim to achieve (what are the aims or goals of TTBI, why is it being implemented)?
- Is TTBI an established activity, a new innovation or a mix? Does TTBI involve a particular approach or technique? Is there a manual or written guidance about how to deliver it?
- Is TTBI part of a mandated, statutory or court-ordered activity? Do beneficiaries have to be referred or recommended to TTBI or can they self-refer?
- Consider the resources being deployed to enable TTBI, and the possible implications for implementation.

→ Potential gaps in knowledge relating to TTBI

Gaps in knowledge might simply reflect the early stage of implementation: perhaps some of the practical details are yet to be agreed, or perhaps some degree of 'learning by doing' is anticipated. Sometimes, however, important elements have been unrecognised or have been overlooked.

In many cases it can be unavoidable for research to commence before all details of TTBI are known. Capturing an unfolding or evolving model of practice may even be part of the reason for the research. However, as this section should begin to make clear, implementation research cannot ask sensible questions about the quality of the implementation process if key questions about what is being done, and how it is being done, remain unanswered.

At the preliminary stages of implementation and of implementation research, remember that these questions are about intentions and expectations only. Implementation is a process, not an event, and as we go on to explore, it is always taking place within a complex and changing context. It would be unrealistic and counter to what we know about effective implementation practice to expect every detail to be set in stone before implementation in practice has started.

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Are there any gaps in knowledge relating to TTBI?

→ Ethics and inclusion

After you have decided on TTBI and considered any gaps in knowledge, the next thing to do is consider the concept of 'ethical innovation', which is beginning to receive more attention in the social care literature (Hampson et al., 2021). This explicitly recognises that not all innovations or interventions are necessarily positive from all perspectives, and that researchers may sometimes be asked to evaluate implementation efforts about which there may be ethical questions or dilemmas.

Questions may be obvious from the beginning, or they may emerge as implementation proceeds. Ethical questions may be raised by issues of inclusivity, exclusion from services, service provision that is tied to acceptance of various conditions or to legal sanctions, or services that are predicated on ideological or policy positions held by funders or providers. So too do services that are misguided in design or so poorly implemented that they do not achieve their outcomes or consume disproportionate resources that might be better deployed. Services can do harm even when that may

not have been the intention or expectation. Hampson et al.'s discussion of 'trustworthy innovation' is an important contribution to the implementation-relevant literature.

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Has TTBI been required to undergo any kind of ethical review process or approval prior to delivery? (Note, this question asks about TTBI, not the ethics of your own research study, which is discussed in section 2.)
- Consider how inclusive TTBI is. Are there any people or groups of people that ideally should have access to it but who do not/will not? For what reasons might access be restricted?
- If there have been (or in your view should/could be) any ethical concerns, dilemmas or inclusivity limitations in relation to TTBI, how are they likely to affect the research (e.g., setting research priorities and questions, selecting methods, defining outcomes) and implementation of TTBI, and eventual outcomes?

→ Conceptual parameters (why?) and operational parameters (what? how?) of TTBI

To design robust implementation research, we must start with some known parameters of TTBI, even if these change as the research progresses. These parameters are collectively known as the conceptual and operational models.

A conceptual model captures the ideas underlying what is being implemented. It describes the constructs (ideas, assumptions, expectations) that underlie the activities and resources being contributed. For example: WHY is it needed? WHY is this expected to help solve a particular problem?

An operational model of TTBI identifies its components in practical terms. You might think of this as the WHAT and the HOW elements of TTBI (what is being done, and how will it be delivered?). Operationalisation translates how the core elements of TTBI are 'glued together' into the specific activities and identifies where, how and when these are performed and by whom.

The key elements that need to be conceptualised and operationalised are:

- Goals and purposes
- Target audiences
- Content
- Key activities
- Mode of service delivery
- Duration and 'dosage' or intensity
- Expected outcomes

Metz et al. (2013)

A useful methodology to operationalise TTBI is Practice Profiles, see Metz (2016).

The conceptual model should closely inform the operational model, and for this reason, it is helpful to think of both aspects together. When close-coupled in this way, and with logical sequencing of key elements and hypothesised causal pathways and outcomes additionally elaborated, one can describe the resulting combination as a theory of change.

Once we have a theory of change for TTBI, we can then start to formulate meaningful implementation research questions, including: did it work, how did it work and what, if

anything, could have made it work better? With a robust theory of change to test, we stand a better chance of formulating solid conclusions about the critical ingredients of failure/success and replicability.

In Section 4, we discuss theories of change in more detail and introduce implementation theories, models and frameworks, which are different but complementary to theories of change.

→ Implementation stages of TTBI

Implementation can be viewed as an iterative process. As part of this process, implementation passes certain stages, which have a unique set of activities and structures that support moving to the next stage effectively. The influence of these stages on TTBI needs to be considered (e.g., the potential adaptations of TTBI).

Two major frameworks (Active Implementation Frameworks (AIF) and Exploration, Preparation, Implementation, Sustainment (EPIS)) describe functional implementation stages/phases, and you might consider using either.

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Has thought been given to the different stages of implementation (i.e., exploration, preparation, implementation and sustainment) of TTBI?
- Which stages of implementation are likely to prove most straightforward and especially challenging for TTBI and its implementing team? Why?

Implementation stages resources

National Implementation Research Network have developed the Implementation Stages Plannning Tool that provides a flow chart to determine a stage of implementation, a list of appropriate stage-based activities and an outline of expected stage-based outcomes.

See the Active Implementation Hub for a summary of the activities associated with each implementation stage.

See the Action Implementation Research Network for a description of implementation stages.

See the Centre for Effective Services (CES) guide to implementation structured in accordance with implementation stages.

Your implementation study

Aims and objectives of implementation research
Implementation research questions
Implementation research design and methods
Implementation research ethics
Implementation research ethics resources

2. Your implementation study

This section of the guide focuses on the features of your implementation study, with the aim of helping you to identify specific implementation research questions, aims and objectives, make design decisions relevant to researching implementation and consider research ethics.

→ Aims and objectives of implementation research

The aim of implementation research is to improve the adoption (take-up) of effective practices, with appropriate adaptation and modification if necessary, and to support the implementation and sustainment of worthwhile services and interventions by providers, organisations, communities and systems of care (Brown et al., 2017).

Peters et al. (2013) identified the overarching objectives of implementation research as to explore, describe, influence, explain or predict.

When formulating the aims and objectives of your research it is essential to consider the nature of research that needs to be carried out (i.e., descriptive/exploratory, evaluative, theory-building, methodological development).

→ Implementation research questions

It is important to be as specific as you can about the implementation questions your research study aims to answer. The question “was TTBI implemented well?” needs to be broken down into its constituent elements to be really useful. The rest of the Social Care ImpRes guide should help you identify in more detail what these elements could be, in relation to your own research.

Examples of implementation-focused social care research questions:

- **What are the barriers and facilitators to the adoption and implementation of TTBI?**

  Social care research example: A stakeholder centred exploration of the current barriers to the uptake of home care technology in the UK (Clark & McGee-Lennon, 2011).

- **How acceptable, feasible and appropriate is TTBI from the perspective of key implementation stakeholders?**

  Social care research example: Is it worth it? Carers' views and expectations of residential respite for people living with dementia during and beyond the COVID-19 pandemic (Samsi et al., 2022).

REFLECTIVE CONSIDERATIONS AND QUESTIONS

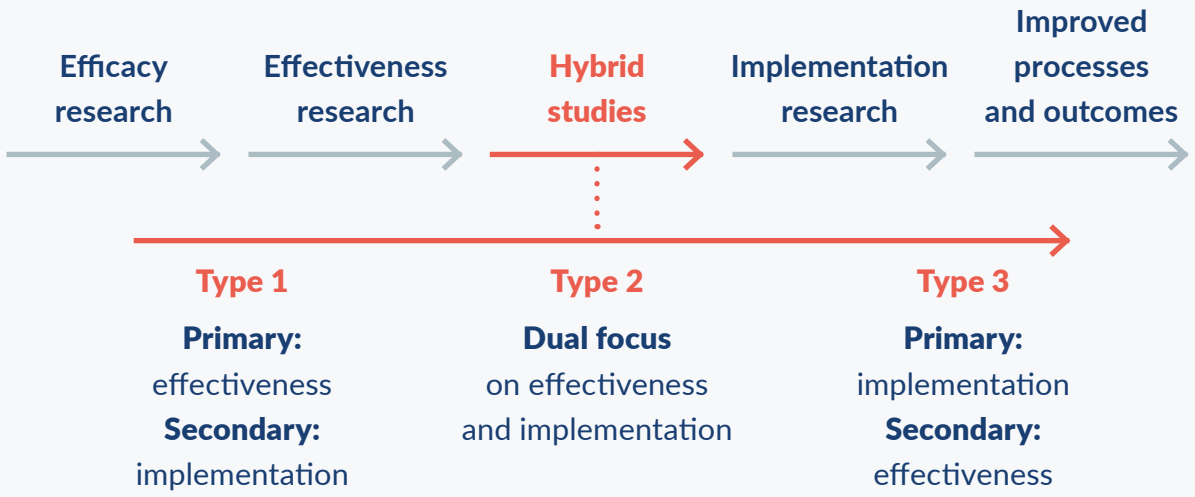
- What is/are the overarching aim(s) of the research? Consider which aims relate to implementation element(s) and which aims relate to other elements (e.g., effectiveness).
- What is/are the question(s) that you hope to answer by carrying out the research? Consider which questions relate to implementation and which questions relate to other elements (e.g., effectiveness).

Depending on the aims and objectives of your research, it may be appropriate to undertake a 'pure' implementation study (i.e., the effectiveness of TTBI is not explored), or an effectiveness-implementation hybrid study (i.e. the effectiveness and implementation of TTBI are simultaneously examined). There are three types of effectiveness-implementation hybrid studies, and the differences between them are the degree of focus placed on evaluating the effectiveness of TTBI and the degree of focus on studying/evaluating implementation:

- **Type 1:** primary focus on effectiveness; secondary focus on implementation.
- **Type 2:** dual focus on effectiveness and implementation.
- **Type 3:** primary focus on implementation; secondary focus on effectiveness.

Figure 1 illustrates these designs.

Figure 1: Hybrid effectiveness-implementation studies as part of the research continuum



Adapted from Curran et al. (2022)

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Where does your focus lie in terms of effectiveness and implementation?

Table 1 below differentiates study features of social care effectiveness and implementation research (adapted from Curran et al. (2012)). For a comprehensive overview of hybrid effectiveness-implementation studies, see Curran et al. (2022).

Table 1: Study features of social care effectiveness and implementation research

	Effectiveness research	Implementation research
Aim: evaluate	TTBI	Implementation process and strategies; barriers and facilitators to implementation; implementation outcomes, identifying and developing and/or testing implementation theories
Typical unit of analysis	Service-user	Service-user, social care worker, social care team or unit, care system
Typical outcomes	Individual service-user outcomes (e.g., positive change in relevant indicator of wellbeing, behaviour or social functioning, cost effectiveness)	Provider and/or system level perceptions (e.g., acceptability of TTBI) and behaviours (e.g., rates of adoption, fidelity to TTBI)
Typical unit of randomisation (e.g., random allocation to intervention groups)	Service-user, social care unit	Social care professional, social care unit, system

→ Implementation research designs and methods

The appropriate design and method(s) for your implementation research (qualitative, quantitative or mixed-methods) will be dependent on the aims and objectives. Peters et al. (2013) identified typical implementation research questions (based on overarching objectives) and described a set of methods for each type of question.

? REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Consider what designs and methods you will use in your implementation study.

→ Implementation research ethics

Whilst implementation research may try to be value-neutral in the interests of open-mindedness about 'what works' and how, implementation researchers will probably want to think about how ethical standards and considerations interact with the implementation (and outcome) questions that are being investigated.

Implementation research in general involves a range of specific ethical considerations. They can be broadly divided into those that arise during the research planning phase, the research implementation phase and the post research phase (Gopichandran et al., 2016). Gopichandran et al. provide a detailed overview of each ethical issue and outline them relating to different implementation research designs. See also Sobočan et al's. (2018)'s overview of ethical considerations in social work research.

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Consider any ethical concerns and/or dilemmas that your research might raise.

Implementation research ethics resources

Tropical Disease Research and World Health Organisation's Global Health Ethics team have developed a training course for researchers and research ethics committees on the important ethical considerations in implementation research.

See the Implementation Research Toolkit – a practical guide for implementation researchers which aids clarity about the ethical implications throughout the research process.

Stakeholder engagement in implementation research

Key terms
Working with service users and the public
Knowledge mobilisation

3. Stakeholder engagement in implementation research

Initiatives and services to be implemented in the real world are increasingly being developed and researched in partnership with stakeholders beyond the providing agency. This section of the guide is intended to help you understand the importance and benefits of engaging, involving and developing partnerships with implementation stakeholders and how to go about doing so.

Key terms

- **Stakeholders** are 'individuals, organisations or communities that have a direct interest in the process and outcomes of a project, research or policy endeavour'.
- **Engagement** is 'an iterative process of actively soliciting the knowledge, experience, judgment and values of individuals selected to represent a broad range of direct interest in a particular issue, for the dual purposes of creating a shared understanding, and making relevant, transparent and effective decisions'.

Deverka et al., (2012)

One way to categorise stakeholders for effective relationship building is through the power/interest matrix (e.g., The Improvement Service Power/Interest Grid). Stakeholders are plotted on the grid in relation to the power and interest they have in respect of the research study. The grid categorises stakeholders into four groups: high power/high interest; high power/low interest; low power/high interest; low power/low interest. This categorisation can be used, for example, to create a stakeholder engagement plan.

The concept of power and who holds it is integral to any consideration of engagement. Arnstein's (1969) seminal paper, 'A Ladder of Participation', noted that above all else, genuine participation requires the redistribution of power from those who usually make the decisions to those who are affected by them.

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Consider who the stakeholders are in TTBI and the research. You should think broadly here about what individuals, groups or organisations may be stakeholders.

Boaz et al. (2018) put forward 15 design principles for stakeholder engagement in research, organised into three groups (organisational, values and practices). The activities that stakeholders can engage in may depend on their skills, attributes, capacity and wishes.

Engagement or participatory approaches are often discussed in the literature. They are mainly or exclusively raised in relation to research and gathering information/data, but these approaches are now making inroads into implementation design, planning and execution, often badged as co-creative or co-productive methods.

Participatory approaches are often effortful and take time and resources. However, the implementation process and the ultimate outcomes can be improved when there are high levels of genuine partnership (Boaz et al., 2021). Participatory methods also contribute to ethical development and promote social justice (Hampson et al., 2021).

When researching implementation, it is helpful to explore the nature and extent of any partnership or participatory working that may have contributed to the development and the ultimate format of TTBI. Implementation researchers should also ask themselves: "what are the implications for effective implementation if participatory methods are not used in the development of TTBI?" It may be helpful to include specific research questions about this.

As a researcher working in the field of social care, you might be in a particularly good position to do participatory research. The reflective practice skills of social care-related work are an asset when navigating its challenges. A social care researcher also tends to be accustomed to dealing with uncertain, unpredictable and unique personal situations that are common in the real world of service provision and care. They are used to dealing with ambiguity and complexity, both of which are features of co-produced participatory research as well as of situations being researched.

Participatory designs may present challenges for research ethics committees, members of which may be accustomed to methods that are more specific. Co-design and implementation research in the context of acknowledging and celebrating diverse research approaches which present challenges for ethics committees, and solutions to these, are discussed in Goodyear-Smith et al. (2015) and Locock et al. (2019).

REFLECTIVE CONSIDERATIONS AND QUESTIONS

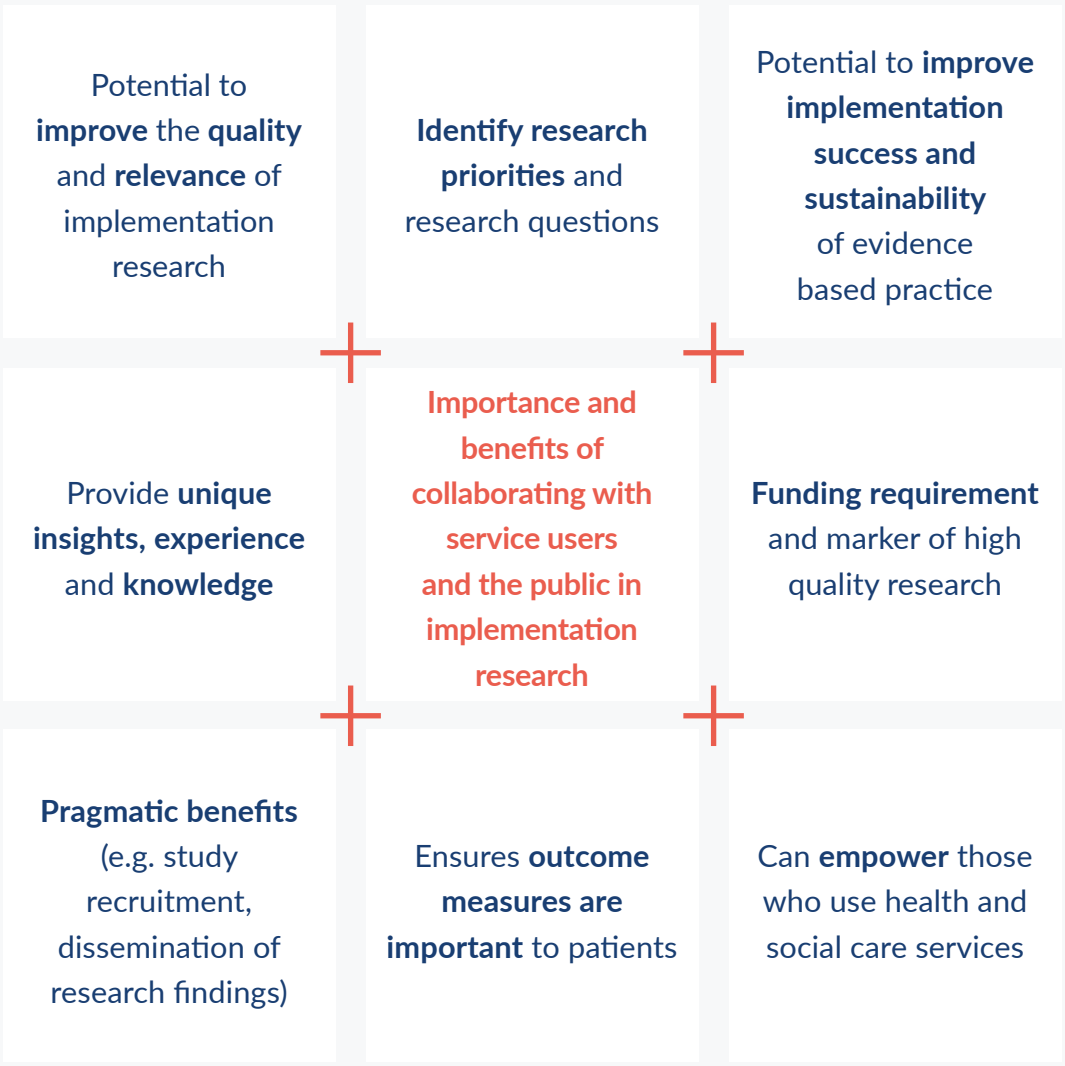
- Consider to what extent, and how, stakeholders participate in all aspects of the work. For instance, in TTBI (e.g., defining the need, designing TTBI), in its implementation and in the implementation research (e.g., defining research questions and research design, assessing outcomes).
- Consider how partnership and stakeholder recognition/involvement/participation (or lack of) is likely to affect the research (e.g., research priorities and questions, selecting methods, defining outcomes, co-analysis and knowledge mobilisation) and implementation of TTBI, as well as eventual outcomes.

→ Working with service users and the public

Service user and public engagement is a specific type of stakeholder engagement. See the Briefing notes for researchers - public involvement in NHS, health and social care research for definitions of involvement, engagement and participation.

In health care literature, collaborating with patients and the public has been hypothesised to bring an array of positive outcomes (see Figure 2 below):

Figure 2. Collaborating with service users and the public in social care implementation research



→ Knowledge mobilisation

Knowledge mobilisation aims to make research findings accessible, understandable and useful for the services and systems that can benefit from them. It refers to a dynamic and iterative process that includes synthesis, dissemination, co-deliberation, exchange and sense-making, and ethically-sound application of knowledge to improve outcomes in research (Canadian Institute of Health Research, 2016). See also NIHR knowledge mobilisation planning resource.

Consider how the implementation research findings can be shared with stakeholders. Is it useful to have a plan for knowledge mobilisation that goes beyond the production of a final report, academic journal publication and/or conference presentations (i.e., that goes beyond 'dissemination')?

Implementation theories, models and frameworks

Key terms
Identifying and selecting implementation theories, frameworks and/or models for your research
Resources to identify and select implementation theories, models and frameworks
Using existing theories, frameworks and models vs building your own
Theories of change and causal pathways: background and definitions
Benefits of having a theory of change

4. Implementation theories, models and frameworks

This section of the guide intends to help you consider and decide whether using an existing implementation theory, model or framework or developing your own, more implicit theory, to guide, understand and/or evaluate the implementation of TTBI is appropriate in your implementation study.

Key terms taken and adapted from Nilsen (2015)

- **A theory** is a set of analytical principles or statements designed to structure our observation, understanding and explanation of the world. A theory is made up of definitions of variables, a domain where the theory applies, a set of relationships between the variables and specific predictions.
- **A framework** is a structure, overview, outline, system or plan consisting of various descriptive categories, e.g. concepts, constructs or variables, and the relations between them that are presumed to account for a phenomenon. Frameworks do not provide explanations; they only describe empirical phenomena by fitting them into a set of categories.
- **A model** is a deliberate simplification of a phenomenon or a specific aspect of a phenomenon. Models need not be completely accurate representations of reality to have value.

→ Identifying and selecting implementation theories, frameworks and/or models for your research

Many theories, frameworks and models have been developed by researchers in various fields and settings that may provide a good basis for application in a social care research context. They can be used for three purposes (Nilsen, 2015):

- **To describe** and/or guide the process of translating research into practice (process models).
- **To understand and/or explain** what influences implementation outcomes (determinant frameworks, classic theories and implementation theories).
- **To evaluate** implementation (evaluation frameworks).

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Consider how applying an implementation theory, model or framework might be beneficial and give your research more focus and structure.

→ Resources to identify and select implementation theories, models and frameworks

The Dissemination & Implementation Models in Health website features a continuously revised list of theories, models and frameworks where you can select the ones most suitable based on the purpose, constructs of interest and socio-ecological model level of interest.

The T-CaST tool assesses the utilisation of one or more theory, model or framework in a particular project.

→ Using existing theories, frameworks and models vs building your own

Using existing theories, frameworks or models is not necessarily better than using common sense for guiding implementation (Nilsen, 2020), especially if these have been developed in settings or contexts that are very different to your own. Pre-existing common sense about how or why something works (or does not) also constitutes a theory, albeit an informal one.

Some of what an implementation researcher may be doing is helping those most closely involved in developing or delivering TTBI to articulate or formalise their implicit sense of 'how this works'. In this way, three types of theories can be identified (Nilsen, 2020):

- **Informal implicit theories** (theories we make up ourselves: "if I do this, that will happen").
- **Informal explicit theories** (informal theories made explicit through logic models and theories of change).
- **Formal (explicit) theories**.

The key criterion when deciding whether or not to use a particular theory, framework or model is the extent to which it provides an explanation of what is being studied. On the other hand, reinventing the wheel is never a good use of resources. Establishing explicit theoretical explanatory mechanisms of implementation (i.e., how and why the achievement of the goals is predicted to happen in real-world systems contexts (Ghate, 2015)) greatly increases the chances for successful implementation. It also helps to measure its effectiveness and may help to make the case for sustainment and scale-up of implementation.

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- If you are considering applying an existing theory, model or framework, consider whether you may need to adapt it. This may include adaptations to make it more applicable to the aims and objectives of your research, TTBI and/or setting.

The following implementation theories, models and frameworks have been applied in child, youth and family service settings (Albers et al. 2017)

- Active Implementation Frameworks (AIF)
- Availability, Responsiveness and Continuity Organisational and Community Intervention Model (ARC)
- Community Development Team (CDT)
- Consolidated Framework for Implementation Research (CFIR)
- Exploration Preparation Implementation and Sustainment (EPIS) framework
- Getting to Outcomes (GTO) framework
- Integrated Systems Framework (ISF)
- Practical, Robust Implementation and Sustainability Model (PRISM)

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- If you intend to apply an existing theory, model or framework, explain why you choose this particular theory/framework/model rather than any other(s).
- If you are not intending to apply an existing theory/framework/model but intend to use a custom-built approach instead, describe it and provide the rationale for this, applicable to the aims and objectives of your research, TTBI and/or setting.

→ Theories of change and causal pathways: background and definitions

A **theory of change** in implementation science and practice is an overarching articulation of a planned route to outcomes. It describes the logic, principles and assumptions that connect what an intervention, service or programme does, and why and how it does it, with its intended results (Ghate, 2018).

The term **logic model** is sometimes used interchangeably (but unhelpfully) with theory of change. A logic model, strictly speaking, is a pictorial representation of a theory of change (Hawe, 2015) usually in summarised, diagrammatic form. For example, Smith et al. (2020) developed the Implementation Research Logic Model. As its name suggests, a logic model can imply a degree of determinism and confidence that may be inappropriate in the context of social care, where high levels of complexity and unpredictability co-exist with (and often undermine) our best efforts to influence positive change.

A **causal pathway** sets out the intermediate steps and linkages between different elements in a theory of change. For example, it shows the cause-and-effect relationships between the problem, TTBI activities aimed to tackle it, and the desired outcomes.

→ Benefits of having a theory of change

A 'formal' theory of change is an essential frame for making explicit any implicit assumptions about TTBI and how it is intended to work. Without it, tacit, unspoken (and therefore unverifiable) assumptions are all we have to go on, making both implementation and evaluation design as much a matter of guess-work as proper planning.

A good theory of change should clarify the connections between elements within TTBI and in its context. It should help evaluators and implementers focus on the key elements of TTBI (including its implementation variables) that are most likely to be material to its success (or failure). It should also set out the developers' or implementers' ideas about causality, not least so that they can be tested. Finally, one way to keep a theory of change grounded and to make sure it is useable is to ensure that it is co-produced with stakeholders who will deliver it and who will benefit from it/participate in it.

Ghate (2018) summarises the benefits of developing a theory of change for researchers and evaluators of social programmes (adapted):

- The **evaluability** of the programme – both for implementation and outcomes – is facilitated, by signposting appropriate metrics.
- The original **intentions** of the programme developers are clearly set out, and are explicit and open to critique.
- The **underlying logic** of the assumptions made in the theory, for example, that undertaking a certain activity will lead to a particular outcome, can be scrutinised.
- The **realism** of the assumptions made by the programme developers can be checked against wider evidence of 'what works', to assess the likelihood of the programme being successful.
- Commissioners can check the programme meets their needs. Providers and practitioners delivering the programme can check their own assumptions and the **alignment of their expectations** against the original intentions of the programme developers.
- The **key parameters or boundaries** (e.g. who is the programme for, and under what specific circumstances) can be set out, reducing the likelihood that the programme is used inappropriately or ineffectively, and assisting in any future replication, adaptation or scaling.
- **Core components** (of TTBI, implementation, or both) that are believed to be essential to the programme's effectiveness can be identified.
- **Activity traps** (inefficient or ineffective practices carried on unthinkingly) can be identified and avoided.
- The most important features of the implementation model of the programme can be captured, enabling delivery that adheres to the original model and helping to **prevent programme drift** during maturation and scaling.

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Consider what the benefits of developing a theory of chnage or logic model for your research could be.
- If you plan to develop a theory of change or a logic model, consider specifying implementation determinants, implementation strategies (e.g., education and training), causal mechanisms and outcomes (including TTBI and implementation outcomes). Consider co-producing your theory of change or logic model with relevant stakeholders.

Implementation determinants

Contextual factors

Adaptation

Risks and mitigations

Implementation context resources

5. Implementation determinants

This section of the guide focuses on implementation determinants, including contextual determinants. It will help you consider potential (i.e., identified before implementation) and actual (i.e., identified during and/or post implementation) implementation determinants.

- **Implementation determinants:** factors that obstruct or enable changes in targeted professional behaviours or social care delivery processes. These factors have been referred to as barriers and enablers, barriers and facilitators, or problems and incentives (Krause et al., 2014).
- **Contextual determinants:** a sub-category of implementation determinants associated with the context in which implementation efforts are to take place, including, for example, organisational culture and climate, financial resources, and social relations and support (Nilsen & Bernhardsson, 2019).
- **Context:** the set of circumstances or unique factors that surround a particular implementation effort (May et al., 2016). Contextual factors can be overlooked and context is often used as a catch-all word to mean 'all those things in a situation which are relevant to the meaning in some sense, but which haven't been identified' (Williams, 2004).

→ Contextual factors

Context can be viewed as an environment, encompassing static (e.g., physical environment) and dynamic aspects (e.g., relationships, networks). On the other hand, it can be viewed as an unstable and unfolding process of interaction between the contextual factors and TTBI. In this process, many factors are likely to affect the successful implementation.

Without a clear understanding of contextual factors, such as relationships, or the environment, implementation strategies used to overcome barriers and maximise facilitators (See Section 6) may not work, and this will reduce the likelihood of implementation success.

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Consider how you will identify potential and actual implementation determinants, including contextual determinants. Which contextual aspects will you focus on?
- Consider how your organisation works together with wider services and communities and consider how they may be involved in the implementation process.
- Consider what resources your service depends on, and how these may affect implementation (e.g., source of funds, places of referral, operational facilities).

There are several frameworks, taxonomies and checklists that systematically identify contextual factors. One of the mostly widely used determinant frameworks is the Consolidated Framework for Implementation Research known as the CFIR. First published more than 10 years ago, it has now been revised following a literature review and survey of authors that have used it in their implementation research.

CFIR is a 'meta-theoretical' framework that contains 48 constructs and 19 subconstructs across five domains, which include innovation, individuals, inner setting, outer setting and implementation process. Complex interactions exist both within and between the domains that will influence implementation success. The authors advise that the CFIR should be sufficiently operationalised before the social care project commences, to:

1. **Define the subject** for each domain.
2. **Replace the constructs** with language that works for the social care setting.
3. **Add any other constructs** which will capture themes most relevant to social care.

As a determinant framework, the CFIR explains and predicts barriers and facilitators, but also informs the choice of implementation strategies to address the contextual factors. This can help researchers to **prospectively** guide prediction of outcomes or **retrospectively** explain implementation outcomes by assessing differences in determinants across the settings (Damschroder et al., 2022).

→ Adaptation

Adaptations are the changes made to TTBI's to align them with the context in which they are implemented.

A critical question to answer when evaluating TTBI' effectiveness is to what extent it was implemented as intended, and did variations in implementation impact the outcomes?

To make this assessment, the core components of TTBI and the implementation process that comprise the theory of change need to be identified. These are the key aspects that must be in place for TTBI to function. The conceptual model lays out the sequence of TTBI components and subsequent outcomes expected under ideal conditions. Operational logic model represents the components in terms of practical activities.

For instance, Sandhu et al's. (2022) scoping review identified and categorised the core components of link worker social prescribing schemes in the United Kingdom. They found extensive variations in intervention components such as activities and procedures conducted by primary care staff and link workers, organisational and staffing configurations, and use of tools and financing approaches to facilitate the service-user adoption.

The core elements of TTBI and the implementation process can be presented compositionally (as components), or functionally (as functions of the change process that TTBI seeks to achieve). Core components are 'the forms that functions take'. For instance, core functions of a social care intervention to tackle depression in care recipients may be ways to inform and educate about depression tailored to local

literacy, language, culture and learning styles. These can take forms of a written information booklets (i.e., presented as core components). Some authors suggest that core functions should be prioritised over core components, as they provide more flexibility (e.g., Hawe et al., 2004).

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Consider which way of presenting core elements of TTBI and/or the implementation process (i.e., as core components or as core functions) would be more useful for your research.

Adaptation encompasses any changes made to TTBI either deliberately and proactively, or in reaction to unanticipated contextual challenges. Ideally, adaptations can improve the fit of an intervention with a new organisation, population or context. However, a single adaptation may affect multiple outcomes, in both intended and unintended ways.

For example, an adaptation intended to increase acceptability may have unintended 'ripple effects', such as increasing costs or decreasing fidelity (see also Section 8). A Framework for Reporting Adaptations and Modifications – Evidence-based interventions (FRAME) was developed by Stirman et al. (2019). It can support research on the timing, nature, goals, and reasons for impact of modifications to TTBI and the implementation process.

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- If you intend to modify TTBI to make it fit the local context, describe how and in what ways. Consider how this may have implications for implementation.

→ Risks and mitigations

Implementation activities and research need to involve a comprehensive consideration of the key influences that might facilitate or hinder the process. These influences can be the 'assumptions' – factors that are relied on to achieve the outcomes, and 'risks' - the factors that could compromise the hoped-for change or the process. It is critical to do the assessment collaboratively with relevant stakeholders to ensure that many different perspectives and degrees of control over the context are considered (Ghate, 2022).

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- In light of potential or actual implementation determinants, consider how challenging it may be to implement TTBI.
- Consider the risks to implementation and how they can be mitigated (e.g., funding withdrawal, staffing changes).

Some authors point out that the field of social care implementation and implementation research can be preoccupied with fearfulness and structured risk assessment, and strongly inclined to risk avoidance (e.g., Stevens & Hassett, 2012). Risk avoidance might be prioritised over meeting the important needs. Such an approach should be prevented, as it can leave little room for professional judgement and may inhibit implementation.

A positive example of risk management is a two-part guidance for social care managers (Orellana et al., 2020a, 2020b), which covers the practicalities of re-opening day care centres for vulnerable people after the Covid-19 lockdowns. The guidance focuses on critical risk appraisal, thoughtful risk management and building resilience through higher tolerance of acceptable levels of risk.

Implementation context resources

Health Foundation Perspectives on context: A selection of essays considering the role of context in successful quality improvement.

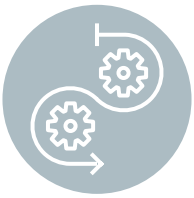
Health Foundation webinar Quality Improvement and the role of context and how to manage it. The webinar explores the importance of context when attempting improvement, and what skills best help professionals to manage the context effectively.

ADAPT guidance for adapting and transferring interventions to new contexts considers implementation as a mutual process where both TTBI and the environment endure adaptation by Moore et al. (2021).

The Context and Implementation in Complex Interventions (CICI) framework by Pfadenhauer et al. (2017).

Implementation strategies

Selecting and tailoring implementation strategies



5. Implementation strategies

To improve implementation success, SC-ImpRes encourages social care research teams to select and tailor implementation strategies to address barriers and facilitators to implementation. This section of the guide is intended to help you identify and select implementation strategies to improve adoption, implementation and promote longer term sustainability of TTBI.

Implementation strategies are 'methods or techniques used to improve adoption, implementation, sustainability' of TTBI (Proctor et al., 2013).

- Discrete implementation strategy is a 'single action or process' (e.g. reminders, educational materials) (Proctor et al., 2013).
- Multifaceted implementation strategy encompasses 'two or more discrete strategies' (Proctor et al., 2013).
- Implementation strategies have been described as the active ingredients of the implementation process and the 'how to' component of changing practice (Proctor et al., 2013).
- Waltz et al. (2015) identified nine categories of strategies (see Table 2 overleaf).

Table 2: Implementation strategy categories and discreet strategies

Implementation strategy categories	Examples of discrete categories
Use evaluative and iterative strategies	Assess for readiness and identify barriers and facilitators; audit and provide feedback; develop a formal implementation blueprint
Provide interactive assistance	Facilitation; provide local technical assistance; provide clinical supervision
Adapt and tailor to context	Tailor strategies; promote adaptability; use data experts
Develop stakeholder relationships	Identify and prepare champions; inform local opinion leaders; identify early adopters
Train and educate stakeholders	Conduct ongoing training; distribute educational materials; create a learning collaborative
Support clinicians and healthcare professionals	Remind clinicians; develop research sharing agreements; revise professional roles
Engage patients/ service users	Involve patients/consumers and family members to be active participants; increase demand
Utilise financial strategies	Alter incentive/allowance structures; use other payment schemes; increase demand
Change infrastructure	Mandate change; create or change credentialing and or licensure standards; change liability laws

Leeman et al. (2017) outlined five conceptual classes of strategies:

- **Dissemination strategies** target staff and stakeholder knowledge, awareness, attitudes and intentions to adopt TTBI.
- **Implementation process strategies** enable TTBI to be planned and delivered over the different stages of implementation.
- **Integration strategies** aim to integrate a specific TTBI into a specific setting.
- **Capacity-building strategies** increase the motivation and self-efficacy of people to engage in implementation, such as the delivery of training.
- **Scale-up strategies** aim to build capacity to implement TTBI in multiple settings.

In social care, Ghate (2022) charted two levels of capacity-building strategies:

- A **higher level** that concerns with building and strengthening the systems-level infrastructure.
- **A level closer to operations on the ground** that focuses on agencies, organisations, communities, and individuals within the wider system, and addresses itself to "effective delivery of improved ways of working" (p.7).

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- What implementation strategies will you use to improve implementation and long-term sustainability?
- Who will deliver the implementation strategies, who will be targeted (e.g. social care users, carers, social care commissioners, workforce), and at what implementation stage? Try to be as specific as possible.

Understanding how and why implementation strategies work, and the conditions under which they work well, is important for selecting implementation strategies. For instance, Lewis et al. (2018) developed a four-step approach to developing causal pathway models for implementation strategies.

→ Selecting and tailoring implementation strategies

Selecting and developing an appropriate implementation strategy is very much dependent on the context of a given implementation effort and on systematic identification of implementation determinants (i.e., barriers and facilitators). There are several guiding principles to help in the selection:

1. Select strategies that have an adequate and relevant evidence base.
2. Engage stakeholders (e.g., social care professionals, service users) in selecting and tailoring of strategies.
3. Select strategies based on expert ratings of importance and feasibility. For instance, most important strategy: assessing readiness and identifying barriers and facilitators; least important strategy: changing liability laws; most feasible strategy: developing educational materials; least feasible strategy: changing liability laws.
4. Select strategies that can be bundled and packaged together, to reinforce one another, see Mayne & Guijt. (2020).
5. Implementation strategies should target and improve implementation outcomes (e.g. developing training resources for staff may increase implementation fidelity).

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Why have you chosen the implementation strategies you plan to use? Consider how your implementation strategy/strategies will function to bring about the desired changes. Justify your rationale.

Aarons et al. (2010) gave examples from the public sector service of why specific factors are likely to be important at each implementation phase (exploration, adoption/ preparation, implementation, sustainment). These can guide the choice of implementation strategies.

Waltz et al. (2019) engaged expert implementation stakeholders in identifying discrete Expert Recommendations for Implementing Change (ERIC) implementation strategies that would best address specific barriers based on the 39 Consolidated Framework for Implementation Research (CFIR) contextual determinants of implementation. The authors developed a tool that allows users to specify high-priority CFIR based barriers and receive a prioritised list of strategies based on endorsements provided by participants.

Powell et al. (2017) showed four methods (concept mapping, group model building, conjoint analysis and intervention mapping) of matching implementation strategies to barriers and facilitators for TTBI (and provided examples from the behavioural health field).

Identifying how the support system actors deal with the changes the implementation implies enables the selection and design of more relevant and effective strategies.

Using appropriate theories and methods to underpin the choice of strategies allows for clearer justification/rationale behind the choices. This helps to make informed decisions about the sequencing, intensity, fidelity and ongoing modification of strategies. A useful Framework for Reporting for documenting modifications to implementation strategies was developed by Miller et al. (2021).

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Have you considered any contingencies to your plan in case your implementation strategy is ineffective? Make a list of the risks and mitigations, prioritising them in order of magnitude. Consider and detail the likelihood the risks will happen and what the result may be.
- Consider how you will document any adaptations and modifications (i.e., tailoring over time) to the implementation strategy/strategies.

Outcomes of The Thing Being Implemented

7. Outcomes of The Thing Being Implemented

This section of the guide focuses on TTBI outcomes and on thinking about the specific changes that will ultimately be brought about through the implementation of TTBI. The evaluation of TTBI outcomes should hopefully help to achieve a more comprehensive understanding of the effectiveness and impact of TTBI.

There are two types of outcomes that are usually measured: TTBI outcomes and implementation outcomes (see the next section for the latter). Selecting and measuring both types of outcomes should be informed by involving stakeholders, and this can have a significant impact on adoption, implementation and sustainment of TTBI.

TTBI outcomes are considered the overall goal of TTBI.

They target different levels: system; agency/organisational; service/team/social care worker (including volunteers and informal carers); community, family, and individual; and economic (costs/benefits).

An example of the outcomes framework in the field of children's social care is provided by the Early Intervention Foundation.

The primary outcome is the main change that TTBI was designed to generate and is the endpoint of its theory of change. Identification of the primary outcome measure is central to the design of TTBI. For instance, Zetlin et al. (2004) investigated the effectiveness of intervention by the Educational Specialist on the school performance of children receiving liaison services, by examining school performance data from foster youth for the year prior to intervention and the year immediately following intervention.

Secondary (or intermediate) outcomes would usually measure the effects expected to follow from the primary outcome. For example, Henderson et al. (2023) measured the impact of the Intensive Care Syndrome: Promoting Independence and Return to Employment (InS:PIRE) programme. The primary subjective outcome was health-related quality of life. The secondary subjective outcomes included self-efficacy, depression, anxiety and pain.

It can also be useful to think about the TTBI outcomes longitudinally. For instance, short-term outcomes of a social care mental health intervention might be improvement in psychological symptoms, and long-term impacts might be employability or happiness.

In social care, identifying and measuring outcomes can be a challenge. The expected outcomes and measurements need to be clear, based on the needs and wishes of the recipients. But they can involve balancing different rights and duties owed to people, their carers and others, and managing tensions between support and control while maintaining relationships with the recipients. Feelings, emotional responses, and patterns of interactions need to be considered.

Qureshi (1999) found that, in general, social care stakeholders (e.g., managers, carers) found the collection and use of outcome information important and valuable in improving accountability and informing the decisions and activities of both purchasers and providers. However, significant barriers to measuring outcomes included performance anxiety (outcome measurement perceived as a threat); conceptual issues (ambiguity around the meaning of an outcome); technical difficulties in achieving reliable, valid, and sensitive measures; professional and organisational culture being against assessment; resource constraints and the emphasis on assessment at the expense of review. These issues need to be considered and addressed when identifying and measuring TTBI outcomes.

Overleaf are some considerations to help you think about the possible outcomes at each level. It may be useful to consider them in the planning phase. For each level, you may consider what is the intended outcome and whether there are any other outcomes that could possibly occur from TTBI.

REFLECTIVE CONSIDERATIONS AND QUESTIONS

System level:

- Consider policy, systems and infrastructure that support TTBI. Consider the effectiveness of TTBI in creating partnerships across organisations and sectors.
- Consider the role TTBI will play in shaping new policies or initiatives in the sector.

Agency/organisational level:

- Consider how TTBI will impact on the agency/organisation and its operations. Consider how TTBI will affect the agency's/organisation's capacity to deliver services and achieve its goals.
- Consider how TTBI will influence the organisation's resource allocation and budgeting.
- Consider the impact of TTBI on staff morale and motivation.

Service/team/social care worker level (including volunteers and informal carers):

- Consider the impact of TTBI on the social care workers, including volunteers and informal carers. What changes will occur in the day-to-day work practices of these workers?
- Consider the effectiveness of TTBI in supporting social care workers to deliver services and meeting the needs of care recipients.

Community, family, and individual level:

- Consider the impact of TTBI on the communities, families and individuals it serves.
- Consider evaluating TTBI effectiveness in improving the health and well-being of these groups/individuals.

Economic level:

- Consider the economic impact of TTBI, including costs and benefits.
- Consider evaluating whether TTBI has delivered a positive return on investment and if it is sustainable in the long term.

It is important to consider the goals and objectives of TTBI, the context in which it operates, and not only the outcomes that are intended, but all the possible outcomes that can be foreseen, whether intended or not. This will help you evaluate the effectiveness of TTBI and identify areas for improvement.

Implementation outcomes

Importance of implementation outcomes
Measurement
Implementation outcome measurement resources
Implementation outcomes measurement considerations
Interrelations and unintended consequences

8. Implementation outcomes

This section of the guide focuses on implementation outcomes and is intended to help you identify which implementation outcomes are important to evaluate in your research.

Implementation outcomes have been defined as 'the effects of deliberate and purposive actions to implement new treatments, practices and services, and are distinct from service and client outcomes' (Proctor et al., 2011).

In Section 2 we highlighted that implementation research and effectiveness research are distinct in their focus and seek to answer different research questions. While the assessment and measurement of TTBI outcomes at different levels are essential to determine the effectiveness of TTBI (see Section 7), they are not sufficient for understanding implementation success or failure.

The focus placed on TTBI outcomes, in addition to implementation outcomes, in implementation research should be guided on the strength and quality of the evidence base for TTBI. For example, if there is strong evidence that TTBI is effective, less focus can be placed on measuring TTBI outcomes in favour of more focus on implementation outcomes. See Curran et al. (2012) for additional guidance.

Proctor et al. (2011) propose eight conceptually distinct, but interrelated, implementation outcomes (see Table 3 overleaf for the adapted version):

Table 3. Implementation outcomes, definitions and commonly used synonyms

Implementation outcome and definition	Commonly used terms
Acceptability: the perception among implementation stakeholders that TTBI is agreeable, palatable or satisfactory.	Satisfaction with various aspects of TTBI (e.g. content, complexity, comfort, delivery and credibility)
Appropriateness: the perceived fit, relevance or compatibility of TTBI for a given practice setting, provider or consumer; and/or perceived fit of TTBI to address a particular issue or problem.	Perceived fit; relevance; compatibility; suitability; usefulness; practicability
Feasibility: the extent to which TTBI can be successfully used or carried out within a given agency or setting.	Actual fit or utility; suitability for everyday use; practicability
Adoption: the intention, initial decision or action to try or employ TTBI.	Uptake; utilisation; initial implementation; intention to try
Fidelity: the degree to which TTBI was implemented as it was prescribed in the original protocol or as it was intended by its developers.	Delivered as intended; adherence; integrity; quality of TTBI delivery
Cost (incremental or implementation cost): the cost impact of an implementation effort.	Marginal cost; cost-effectiveness; cost-benefit
Penetration: the integration of TTBI within a service setting and its subsystems.	Level of institutionalisation; spread; service access
Sustainability: the extent to which TTBI is maintained or institutionalised within a service setting's ongoing, stable operations.	Maintenance; continuation; durability; incorporation; integration; institutionalisation; sustained use; routinisation

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Consider which implementation outcomes are important to evaluate.

→ Importance of implementation outcomes

Proctor et al. (2011) suggest that implementation outcomes serve three functions:

- They serve as indicators of implementation success.
- They are proximal indicators of implementation processes.
- They are key intermediate outcomes in relation to service, system or individual outcomes in TTBI effectiveness and quality of research.

Because TTBI will likely be ineffective (or, at best, partly effective) if poorly implemented, implementation outcomes serve as necessary preconditions for attaining desired and/or hypothesised changes in TTBI outcomes.

→ Measurement

Each implementation project is unique, and an important decision is **which implementation outcomes to measure,** which are most relevant and most indicative in

your case. When the selection is done, the next question is **how to measure** the outcomes. They can be measured quantitatively (e.g. surveys, audit, administrative data) and/or qualitatively (e.g. interviews, focus groups).

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Consider how you will evaluate implementation outcomes (e.g., interviews, surveys).
- Consider involving relevant stakeholders to identify appropriate measurement methods (e.g., qualitative, quantitative, mixed-methods).

Implementation outcome measurement resources

Clinton-McHarg et al's. (2016) review identified 51 quantitative implementation outcome instruments validated in public health and community settings.

Hall et al. (2022) evaluated measures of sustainability and sustainability determinants for use in community, public health and clinical settings.

See the Dissemination and Implementation Toolkit developed by the Institute of Clinical and Translational Sciences, Washington University in St. Louis. The toolkit contains implementation outcome definitions, recommended search strategies for identifying measures of implementation outcomes, and resources for further study.

King's College London's Implementation Outcomes Repository includes 55 instruments, developed, and validated in physical healthcare settings (based on Khadjesari et al's. (2020) systematic review).

→ Implementation outcomes measurement considerations

Quality of instruments: whether you are considering using pre-existing instruments, or intending to develop your own, it is important to evaluate the psychometric and methodological quality as well as the usability of an instrument. However, you can go beyond that and evaluate the robustness of an instrument using a more qualitative approach. At the end of the day, evaluation of the outcome measures, just like the evaluation of the outcomes per se, is partially based on assessor's perceptions (Damschroder, 2009).

Stakeholder groups: evaluation judgements about implementation outcomes are socially constructed in local settings. Therefore, capturing perceptions from diverse settings, i.e., across stakeholder groups (e.g., service-users, carers, providers, organisations, specific workforces) is extremely important to achieve implementation success, scale-up and sustainability. What might be perceived as an acceptable TTBI among one stakeholder group might not be perceived as favourably across another. Similarly, implementation costs might not be perceived as equally important across all stakeholder groups (e.g., care recipients versus care organisation managers).

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Consider involving relevant stakeholders in identifying the important implementation outcomes to evaluate.
- Consider assessing implementation outcomes from different stakeholder perspectives.
- Consider evaluating implementation outcomes at different levels (e.g., provider, community, policy) methods (e.g., qualitative, quantitative, mixed-methods).

Stage of implementation: specific implementation outcomes are likely to be of greater importance at certain and multiple stages of implementation (See Section 1). For instance, acceptability, appropriateness, feasibility and cost were deemed most prominent during the exploration phase; appropriateness and feasibility were also salient during preparation; and acceptability and cost during implementation and sustainment (Lewis et al., 2018). Thus, it is recommended that implementation outcomes should be evaluated at multiple stages of implementation.

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Consider evaluating implementation outcomes over time (i.e., at multiple time points).

→ Interrelations and unintended consequences

Implementation outcomes are interrelated in dynamic ways and are likely to change throughout the process of TTBI implementation. For example, perceived appropriateness, feasibility and implementation cost associated with TTBI will likely bear on ratings of its acceptability. Acceptability, in turn, will likely affect adoption, penetration and sustainability.

REFLECTIVE CONSIDERATIONS AND QUESTIONS

- Consider examining the correlation (i.e., relationship) between different implementation outcomes and TTBI outcomes.
- Consider examining the causality (i.e., impact) of implementation outcomes on each other and TTBI outcomes.
- Consider examining the effectiveness of implementation strategies for achieving important implementation outcomes.

Apart from the types of outcomes that are anticipated, you should be mindful of and explore the potential unintended consequences of implementation efforts. They represent another facet of the complex nature of implementations in social care (and beyond). Three types of unintended consequences exist:

- **Unexpected benefit:** a positive, unexpected benefit.
- **Unexpected drawback:** a negative, unexpected detriment occurring in addition to the desired effect.
- **Perverse result:** a perverse effect contrary to what was originally intended (when the solution makes the problem worse).

Even if the anticipated benefits of an implementation project are achieved, it is very likely that unanticipated and undesirable consequences will also occur. Unintended outcomes often happen because of adaptations made to TTBI or the implementation process. For instance, an adaptation intended to increase feasibility may have unintended 'ripple effects', such as decreasing fidelity or appropriateness. Kirk et al.'s (2020) Model of Adaptation Design and Impact (MADI) allows for systematic consideration of potential impacts of adaptation on a range of implementation and TTBI outcomes.

Engaging in thoughtful discussion with stakeholders about the likely interrelations between implementation outcomes and unintended outcomes can aid better planning (e.g., design implementation strategies to mitigate any negative impacts, anticipate outcomes that should be monitored in evaluation). This can increase the likelihood of overall positive outcomes.

The unintended outcomes may occur in process of implementation and in process of implementation research (unintended research outcomes, e.g., when research interferes with the implementation). The research projects should be designed to allow for the identification and effective management of unintended consequences. For instance, Gruß et al. (2020) investigated how collecting qualitative research data about implementation activities affected implementers' engagement, and thus implementation activities and study outcomes.

References

About this guide

Hull, L., Goulding, L., Khadjesari, Z., Davis, R., Healey, A., Bakolis, I., & Sevdalis, N. (2019). Designing high-quality implementation research: development, application, feasibility and preliminary evaluation of the implementation science research development (ImpRes) tool and guide. Implementation Sci, 14, 80. https://doi.org/10.1186/s13012-019-0897-z

Implementation research glossary. Available at https://arc-sl.nihr.ac.uk/news-insights/latest-news/new-resource-help-researchers-navigate-implementation-terms-and-concepts

Implementation Science Research development (ImpRes) tool and guide. Available at https://kingsimprovementscience.org/resources/

Sweetnam, S., Goulding, L., Davis, R.E., Khadjesari, Z., Boaz, A., Healey, A., Sevdalis, N., Bakolis, I. & Hull, L. (2022). Development and psychometric evaluation of the Implementation Science Research Project Appraisal Criteria (ImpResPAC) tool: a study protocol. BMJ Open, 12(12):e061209. doi: 10.1136/bmjopen-2022-061209.

Characteristics of the thing being implemented

Hampson, M., Goldsmith, C. & Lefevre, M. (2021). Towards a framework for ethical innovation in children's social care, Journal of Children's Services, 16(3): 198-213. DOI: 10.1108/JCS-12-2020-0080

Metz, A., Halle, T., Bartley, L., & Blasberg, A. (2013). The key components of successful implementation. In T. Halle, A. Metz, & I. Martinez-Beck (Eds.), Applying implementation science in early childhood programs and systems (pp. 21–42). Paul H Brookes Publishing Co.

Metz, A. (2016). White Paper: Practice Profiles – A Process for Capturing Evidence and Operationalizing Innovations. National Implementation Research Network

→ Your implementation study

Brown, C.H., Curran, G., Palinkas, L.A., Aarons, G.A., Wells, K.B., Jones, L., Collins, L.M., Duan, N., Mittman, B.S., Wallace, A., Tabak, R.G., Ducharme. L., Chambers, D.A., Neta, G., Wiley, T., Landsverk, J., Cheung, K. & Cruden, G. (2017). An Overview of Research and Evaluation Designs for Dissemination and Implementation, Annu Rev Public Health, 38: 1-22. DOI: 10.1146/annurev-publhealth-031816-044215

Clark, J. & McGee-Lennon, M. (2011). A stakeholder-centred exploration of the current barriers to the uptake of home care technology in the UK, Journal of Assistive Technologies, 5(1):12-25. DOI: 10.5042/jat.2011.0097

Curran, G.M., Bauer, M., Mittman, B., Pyne, J.M. & Stetler, C. (2012). Effectiveness-implementation hybrid designs: combining elements of clinical effectiveness and implementation research to enhance public health impact, Med Care, 50(3):217-26. DOI: 10.1097/MLR.0b013e3182408812

Curran, G.M., Landes, S.J., McBain, S.A., Pyne, J.M., Smith, J.D., Fernandez, M.E., Chambers, D.A., & Mittman, B.S. (2022). Reflections on 10 years of effectiveness-implementation hybrid studies. Front. Health Serv. Sec. Implementation Science, 2. DOI: 10.3389/frhs.2022.1053496

Gopichandran, V., Luyckx, V.A., Biller-Andorno, N. et al. (2016). Developing the ethics of implementation research in health. Implementation Sci 11, 161. DOI: 10.1186/s13012-016-0527-y

Nadeau, M.E., Henry, J.L., Lee, T.C., Bortolussi-Courval, É., Goodine, C. & McDonald, E.G. (2021). Spread and scale of an electronic deprescribing software to improve health outcomes of older adults living in nursing homes: study protocol for a stepped wedge cluster randomized trial, Trials, 22(1):763. DOI: 10.1186/s13063-021-05729-0

Peters, D.H., Adam, T., Alonge, O., Agyepong, I.A. & Tran, N. (2013). Implementation research: what it is and how to do it. BMJ, 347: f6753. DOI: 10.1136/bmj.f6753

Samsi, K., Cole, L., Orellana, K. & Manthorpe, J. (2022). Is it worth it? Carers' views and expectations of residential respite for people living with dementia during and beyond the COVID-19 pandemic. Int J Geriatr Psychiatry, 37(2): 1-9. DOI:10.1002/gps.5680

Sobočan, A.M., Bertotti, T., & Strom-Gottfried, K. (2018). Ethical considerations in social work research, European Journal of Social Work, 22(5):805-818. DOI: 10.1080/13691457.2018.1544117

Stark, S., Somerville, E., Keglovits, M., Conte, J., Li, M., Hu, Y.L. & Yan, Y. (2017). Protocol for the home hazards removal program (HARP) study: a pragmatic, randomized clinical trial and implementation study, BMC Geriatrics, 17(1):90. DOI: 10.1186/s12877-017-0478-4

Wong, A.K.C., Wong, F.K.Y., Wong, M.C.S., Chow, K.K.S., Kwan, D.K.S. & Lau, D.Y.S. (2022). A community-based health-social partnership program for community-dwelling older adults: a hybrid effectiveness-implementation pilot study, BMC Geriatrics, 22(1):789. DOI: 10.1186/s12877-022-03463-z

→ Stakeholder engagement in implementation research

Arnstein, S.R. (1969). A Ladder Of Citizen Participation, Journal of the American Institute of Planners, 35(4): 216-224. DOI: 10.1080/01944366908977225

Boaz, A., Hanney, S., Borst, R., O'Shea, A., & Kok, M. (2018). How to engage stakeholders in research: design principles to support improvement, Health Res Policy Syst., 16(1):60. DOI: 10.1186/s12961-018-0337-6

Boaz, A., Borst, R., Kok, M. & O'Shea, A. (2021). How far does an emphasis on stakeholder engagement and co-production in research present a threat to academic identity and autonomy? A prospective study across five European countries, Research Evaluation, 30(3): 361–369. DOI: 10.1093/reseval/rvab013

Canadian Institute of Health Research (2016). Knowledge Translation at CIHR. https://cihr-irsc.gc.ca/e/29418.html#2

Deverka, P.A., Lavallee, D.C., Desai, P.J., Esmail, L.C., Ramsey, S.D., Veenstra, D.L. & Tunis, S.R. (2012). Stakeholder participation in comparative effectiveness research: defining a framework for effective engagement, J Comp Eff Res, 1(2): 181-194. DOI: 10.2217/cer.12.7

Goodyear-Smith, F., Jackson, C., & Greenhalgh, T. (2015). Co-design and implementation research: challenges and solutions for ethics committees. BMC Medical Ethics, 16(1): 78. DOI: 10.1186/s12910-015-0072-2

Hampson, M., Goldsmith, C. & Lefevre, M. (2021). Towards a framework for ethical innovation in children's social care, Journal of Children's Services, 16(3): 198-213. DOI: 10.1108/JCS-12-2020-0080

Locock, L., & Boaz, A.B. (2019). Drawing straight lines along blurred boundaries: qualitative research, patient and public involvement in medical research, co-production and co-design. Evidence & Policy: A Journal of Research, Debate and Practice, 15(3):409-421. DOI: 10.1332/174426419X15552999451313

→ Implementation theories, models and frameworks

Albers, B., Mildon, R., Lyon, A.R. & Shlonsky, A. (2017). Implementation frameworks in child, youth and family services – Results from a scoping review, Children and Youth Services Review, 81: 101-116, DOI: 10.1016/j.childyouth.2017.07.003

Ghate, D. (2015). From programs to systems: Deploying implementation science and practice for sustained real world effectiveness in services for children and families. Journal of Clinical Child & Adolescent Psychology, 45(6):812-826. DOI: 10.1080/15374416.2015.1077449

Ghate, D. (2018). Developing theories of change for social programmes: co-producing evidence-supported quality improvement, Palgrave Commun, 4:90. DOI: 10.1057/s41599-018-0139-z

Hawe, P. (2015). Lessons from complex interventions to improve health. Annu Rev Public Health, 36:307-23. DOI: 10.1146/annurev-publhealth-031912-114421

Nilsen, P. (2015). Making sense of implementation theories, models and frameworks. Implement Sci., 10:53. DOI: 10.1186/s13012-015-0242-0.

Nilsen, P. (2020). Overview of theories, models and frameworks in implementation science. In Nilsen, P. & Birken, S. A., eds. Handbook on Implementation Science, pp. 8-13. DOI: 10.4337/9781788975995.00008

Smith, J.D., Li, D.H. & Rafferty, M.R. (2020). The Implementation Research Logic Model: a method for planning, executing, reporting, and synthesizing implementation projects. Implementation Sci, 84. DOI: 10.1186/s13012-020-01041-8

→ Implementation determinants

Damschroder, L.J., Reardon, C.M., Widerquist, M.A.O. et al. (2022). The updated Consolidated Framework for Implementation Research based on user feedback, Implementation Sci, 17: 75. DOI:10.1186/s13012-022-01245-0

Ghate, D. (2022). Theory of Change for Making Children's Rights Real in Scotland: Rapid Review of the Change Process no. 2. Making children's rights real by building cross-sector capacity and capability to integrate rights-based ways of working. The Colebrooke Centre for Evidence and Implementation

Hawe, P., Shiell, A. & Riley, T. (2004). Complex interventions: how "out of control" can a randomised controlled trial be? BMJ; 328: 1561 DOI: 10.1136/bmj.328.7455.1561

Krause, J., Van Lieshout, J., Klomp, R., Huntink, E., Aakhus, E., Flottorp, S., Jaeger, C., Steinhaeuser, J., Godycki-Cwirko, M., Kowalczyk, A., Agarwal, S., Wensing, M., & Baker, R. (2014). Identifying determinants of care for tailoring implementation in chronic diseases: an evaluation of different methods. Implementation science, 9, 102. DOI: 10.1186/s13012-014-0102-3

May, C.R., Johnson, M. & Finch, T. (2016). Implementation, context and complexity. Implementation Sci, 11:141. DOI: 10.1186/s13012-016-0506-3

Moore, G., Campbell, M., Copeland, L., Craig, P., Movsisyan, A., Hoddinott, P., Littlecott, H., O'Cathain, A., Pfadenhauer, L., Rehfuess, E., Segrott, J., Hawe, P., Kee, F., Couturiaux, D., Hallingberg, B., & Evans, R. (2021). Adapting interventions to new contexts – the ADAPT guidance. BMJ (Clinical research ed.), 374, n1679. DOI: 15(4): 503-513/bmj.n1679

Nilsen, P., & Bernhardsson, S. (2019). Context matters in implementation science: a scoping review of determinant frameworks that describe contextual determinants for implementation outcomes. BMC Health Serv Res, 19, 189. DOI: 10.1186/s12913-019-4015-3

Orellana, K., Manthorpe, J., Samsi, K., & Emmer De Albuquerque Green, C. (2020a). Helping adult day centres to 'unlock lockdown': Part 1: Planning practically for re-opening. NIHR Policy Research Unit in Health and Social Care Workforce, The Policy Institute, King's College London

Orellana, K., Manthorpe, J., Samsi, K., & Emmer De Albuquerque Green, C. (2020b). Helping adult day centres to 'unlock lockdown': Part 2: Reflecting about what has happened, our 'journey' during closure and the future of our service . NIHR Policy Research Unit in Health and Social Care Workforce, The Policy Institute, King's College London

Pfadenhauer, L.M., Gerhardus, A., Mozygemba, K. et al. (2017). Making sense of complexity in context and implementation: the Context and Implementation of Complex Interventions (CICI) framework, Implementation Sci, 12:21. DOI: 10.1186/s13012-017-0552-5

Sandhu, S., Lian, T., Drake, C., Moffatt, S., Wildman, J., & Wildman, J. (2022). Intervention components of link worker social prescribing programmes: A scoping review. Health & social care in the community, 30(6), e3761–e3774. DOI: 10.1111/hsc.14056

Stevens, I., & Hassett, P. (2012). Non-linear perspectives of risk in social care: using complexity theory and social geography to move the focus from individual pathology to the complex human environment. European Journal of Social Work, 15(4): 503-513. DOI: 10.1080/13691457.2012.702309

Stirman, W.S., Baumann, A.A. & Miller, C.J. (2019). The FRAME: an expanded framework for reporting adaptations and modifications to evidence-based interventions. Implementation Sci, 14: 58. DOI: 10.1186/s13012-019-0898-y

Williams, N.R. (2004). How to get a 2:1 in media, communication and cultural studies. London: SAGE. Quoted in Rogers, L., De Brún, A. & McAuliffe, E. (2020). Defining and assessing context in healthcare implementation studies: a systematic review. BMC Health Serv Res, 20:591, DOI:10.1186/s12913-020-05212-7

→ Implementation strategies

Aarons, G.A., Hubert, M., & McCue Horwitz, S. (2010). Advancing a Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors. Adm Policy Ment Health, 38:4–23. DOI: 10.1007/s10488-010-0327-7

Ghate, D. (2022). Theory of Change for Making Children's Rights Real in Scotland: Rapid Review of the Change Process no. 2. Making children's rights real by building cross-sector capacity and capability to integrate rights-based ways of working. The Colebrooke Centre for Evidence and Implementation

Leeman, J., Birken, S., Powell, B.J. et al. (2017). Beyond "implementation strategies": classifying the full range of strategies used in implementation science and practice, Implementation Sci, 12:125. DOI: 10.1186/s13012-017-0657-x

Lewis, C. C., Klasnja, P., Powell, B. J., Lyon, A. R., Tuzzio, L., Jones, S., Walsh-Bailey, C., & Weiner, B. (2018). From Classification to Causality: Advancing Understanding of Mechanisms of Change in Implementation Science. Frontiers in public health, 6: 136. DOI:10.3389/fpubh.2018.00136

Mayne, R. & Guijt, I. (2020). Inspiring Radically Better Futures: Evidence and hope for impact at scale in a time of crisis, Oxfam Research Reports

Miller, C., Barnett, M.L., Baumann, A.A. et al. (2021). The FRAME-IS: a framework for documenting modifications to implementation strategies in healthcare. Implementation Sci, 16, 36. DOI: 10.1186/s13012-021-01105-3

Powell, B. J., Beidas, R. S., Lewis, C. C., Aarons, G. A., McMillen, J. C., Proctor, E. K., & Mandell, D. S. (2017). Methods to Improve the Selection and Tailoring of Implementation Strategies. The journal of behavioral health services & research, 44(2):177–194. DOI: 10.1007/s11414-015-9475-6

Proctor, E.K., Powell, B.J. & McMillen, J.C. (2013). Implementation strategies: recommendations for specifying and reporting. Implement Sci. 8:139. DOI: 10.1186/1748-5908-8-139

Waltz, T.J., Powell, B.J. & Matthieu, M.M.et al. (2015). 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. Implementation Sci 10:109, DOI: 10.1186/s13012-015-0295-0

Waltz, T.J., Powell, B.J., Fernández, M.E. et al. (2019). Choosing implementation strategies to address contextual barriers: diversity in recommendations and future directions, Implementation Sci, 14:42 DOI: 10.1186/s13012-019-0892-4

→ Outcomes of the thing being implemented

Henderson, P., Quasim, T., Shaw, M., MacTavish, P., Devine, H., Daniel, M., Nicolson, F., O'Brien, P., Weir, A., Strachan, L., Senior, L., Lucie, P., Bollan, L., Duffty, J., Hogg, L., Ross, C., Sim, M., Sundaram, R., Iwashyna, T. J., & McPeake, J. (2023). Evaluation of a health and social care programme to improve outcomes following critical illness: a multicentre study, Thorax, 78(2):160–168. DOI: 10.1136/thoraxjnl-2021-218428

Qureshi, H. (1999). Outcomes of social care for adults: attitudes towards collecting outcome information in practice. Health & Social Care in the Community, 7:257-265. DOI: 10.1046/j.1365-2524.1999.00188.x

Zetlin, A., Weinberg, L., & Kimm, C. (2004). Improving Education Outcomes for Children in Foster Care: Intervention by an Education Liaison. Journal of Education for Students Placed at Risk (JESPAR), 9(4):421–429. DOI: 10.1207/s15327671espr0904_5

→ Implementation outcomes

Clinton-McHarg, T., Yoong, S.L., Tzelepis, F. et al. (2016). Psychometric properties of implementation measures for public health and community settings and mapping of constructs against the Consolidated Framework for Implementation Research: a systematic review, Implementation Sci, 11: 148. DOI: 10.1186/s13012-016-0512-5

Curran, G.M., Bauer, M., Mittman, B., Pyne, J.M. & Stetler, C. (2012). Effectiveness-implementation hybrid designs: combining elements of clinical effectiveness and implementation research to enhance public health impact, Med Care, 50(3):217-26. DOI: 10.1097/MLR.0b013e3182408812

Damschroder, L.J., Aron, D.C., Keith, R.E. et al. (2009). Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. Implementation Sci, 4:50. DOI:10.1186/1748-5908-4-50

Gruß, I., Bunce, A., Davis, J. et al. (2020). Unintended consequences: a qualitative study exploring the impact of collecting implementation process data with phone interviews on implementation activities, Implement Sci Commun, 1:101. DOI: 10.1186/s43058-020-00093-7

Khadjesari, Z., Boufkhed, S., Vitoratou, S., Schatte, L., Ziemann, A., Daskalopoulou, C., Uglik-Marucha, E., Sevdalis, N., & Hull, L. (2020). Implementation outcome instruments for use in physical healthcare settings: a systematic review. Implementation science, 15:1, 66. DOI: 10.1186/s13012-020-01027-6

Kirk, M.A., Moore, J.E., Wiltsey Stirman, S. et al. (2020). Towards a comprehensive model for understanding adaptations' impact: the model for adaptation design and impact (MADI). Implementation Sci, 15, 56. DOI: 10.1186/s13012-020-01021-y

Lewis, C.C., Mettert, K.D., Dorsey, C.N. et al. (2018). An updated protocol for a systematic review of implementation-related measures. Syst Rev 7, 66. DOI: 10.1186/s13643-018-0728-3

Proctor, E., Silmere, H., Raghavan, R., Hovmand, P., Aarons, G., Bunger, A., Griffey, R., & Hensley, M. (2011). Outcomes for implementation research: conceptual distinctions, measurement challenges, and research agenda, Administration and policy in mental health, 38(2):65–76. DOI: 10.1007/s10488-010-0319-7

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