

From news to everyday use – the difficult art of implementation

A report on implementation in the public health sector, version 3.0

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About the publication

This report is about implementation. Here, we present and discuss how new interventions, work practices, and products can be disseminated and implemented. When something new, sometimes after many years of research, is deemed reasonable and appropriate, there may be an expectation that it will be brought into use relatively promptly. But this is rarely the case. At this stage, the new is more likely to be at the start of a long process on its way to everyday use. Speeding up the process "from news to everyday use" is therefore an urgent task.

This report is a second revision of *From news to everyday use – the difficult art of implementation* which was originally published by the then Swedish National Institute of Public Health in 2007. The first revision in 2016 supplemented the original material with the Quality Implementation Framework and the results of a scoping review. This second revision (2023) is also based on searches of the scientific literature from 2017 to 2022. To provide concrete support for implementation in practice, the report is supplemented by *Checklist for high-quality implementation and E-guide Implementation*.

The report was prepared by Karin Guldbrandsson, Anja Romqvist, and Annika Frykholm, investigators at the Unit for Mental Health and Suicide Prevention, with Johanna Ahnquist as responsible Head of Unit.

Our hope is that this report will act as a support for decision-makers responsible for public health matters, as well as for development managers, strategists, and practitioners with coordinating tasks in different fields. Meaning, this is for people who occasionally face the challenge of implementing new interventions and work practices to promote public health.

Public Health Agency of Sweden

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Summary

From news to everyday use – the difficult art of implementation

This is an updated version of a report about the implementation of new methods in the field of public health.

Several important factors influence whether the introduction of an innovation will be successful in the long term. First and foremost, potential users must be aware of the innovation's existence, i.e., information about it must be disseminated. In the next step, the new method must be actually taken into use, i.e., be implemented.

The most basic requirement for successful implementation is that there is an explicit need and that the proposed method is suitable in the context. There are certain common denominators of methods whose implementation process has been successful. These fundamental features are that the new method has relevant and visible benefits, is in line with the recipient's values, is easy to understand and use, can be tested on a small scale, has observable effects, and can be adapted to the recipient's needs. Fidelity, i.e., how well the users comply with the method in practice, is also important. Regarding the execution of the implementation itself, it is beneficial to combine different components, for example, education, practical training, coaching and the option of consultation. Evaluation and feedback to the users are also important. Implementation research has shown that oral and written information as individual components are seldom sufficient in themselves.

Individual persons, for example, opinion leaders, and formal and informal networks can all impact the results of an implementation process. The culture and climate of the organisation and its preparedness for change, and leadership are key factors for successful implementation. Circumstances in the organisation or society generally, for example political, economic or organisational changes, can also impact an implementation process.

There are a number of research-based frameworks which describe important phases and steps of an implementation process. In this report, we have used *Quality Implementation Framework*. This framework consists of four phases which in turn are divided into 14 different steps. The eight steps of the first phase entail a careful assessment of needs and method, and the two steps of the second phase entail developing a structure for the implementation. In other words, the first ten steps of the framework consist of preparations and identifying and handling factors which may obstruct or facilitate implementation. The actual implementation only starts in the third phase. The fourth and last phase entails analysing lessons learned in order to improve future implementation processes.

This report is supplemented with two support materials, *Checklist for high-quality implementation* and *E-guide Implementation*, both of which offer inspiration and concrete support in implementation processes.

Implementation public health

Introduction

"Implementation – easier said than done."

Many people probably agree with the above statement, not only in the field of public health. Too many have tried to realise ideas and introduce new interventions, only to eventually be forced to realise that things did not turn out as they had originally thought and planned. But new interventions, work practices, and products are still being introduced, and the implementation process is actually successful in many cases. The challenge is to succeed even more often and to speed up the process from new research results and new ideas to practical use.

To support implementation in the field of public health, the then Swedish National Institute of Public Health published in 2007 the report *From news to everyday use - the difficult art of implementation*. Interest in and research on implementation has increased in recent decades, as has the realisation that more knowledge about implementation is needed to achieve effective public health work. Therefore, the original report has been updated, first in 2017, and then again in 2023.

In the first revision in 2017, the original material was complemented by the *Quality Implementation Framework* (QIF), which is a scientific compilation of 25 implementation models (1), and by the results of a scoping review. The second revision, in 2023, is also based on searches of the scientific literature, from 2017 to 2022. In connection with the first revision, *Checklist for high-quality implementation*, based on QIF, was produced with the aim of offering a concrete and practical support in implementation processes. The checklist was revised in 2023 and supplemented with another support material: *E-guide Implementation*.

Our hope is that the report, together with the checklist and e-guide, will act as a support for people who are occasionally faced with the challenge of implementing new interventions and new work practices to promote good and equal public health.

Structure of the report

General principles for implementation are addressed in the first chapters. This is followed by a chapter on a practical implementation framework, a chapter on the outcome of the 2016 and 2023 scoping reviews, and a short description of methodology. The reader with a mainly theoretical interest in dissemination and implementation can thus concentrate on the first part, while those with a more practical interest can go directly to the second part, starting on page 36.

Implementation - a part of a whole

There are several examples of working models, both for development work in general and for public health work specifically. The "cogwheel system" is a simple model with four key steps: needs analysis, planning, implementation, and follow-up (2). In this report, we focus on the pink Implementation cogwheel in Figure 1, i.e. the step where implementation takes place.

Figure 1. The cogwheel system - key steps in public health modelling.



The illustration provides a theoretical picture of a complex process. In practice, each individual cogwheel consists of several steps or phases. In order to decide on informed and effective interventions to reach or maintain a desired state, a needs analysis and perhaps a needs prioritisation (the purple cogwheel) are necessary. Once the need has been identified, the next step is to gather knowledge about which interventions could meet the need (the green cogwheel). This can range from simple, delimited interventions to larger, complex change work. Then it's time for implementation (the pink cogwheel). This includes implementing and maintaining the intervention in the long term. The final step (the blue cogwheel) is about following up whether the intervention chosen in step two and implemented in step three has been able to meet the need identified in step one.

The cogwheel system describes the whole process that systematic work should follow and usually follows, although practice is not always as linear as theory. In the field of public health, it is sometimes difficult to find concrete interventions in the research literature, especially at the policy level. This is simply because the research methods used to get the most reliable results involve randomised controlled trials, i.e. randomly grouping individuals and subjecting them to different interventions, such as when testing different medical treatments. In the field of public health, this may involve comparing different measures to stop smoking or different methods of parental support. But it is not possible to evaluate an intervention at the societal level, such as a tobacco law or sugar tax, in the same way. This means that it is more difficult to assess whether an intervention at the policy level is effective. Here you must think differently, e.g. based on theoretical models for programme logic, and take extra care to follow all the steps of the cogwheel system.

Terms and definitions

Despite decades of research, there is no well-defined, common and established conceptual framework for implementation. Different terms are used synonymously, while the same or similar terms are used in different contexts. However, several initiatives have been taken to standardise and define the terminology and theoretical underpinnings in the area of implementation (3–6). The scientific journal *Implementation Science*, which published its first articles in 2006, has contributed to this development (7–9). Three key concepts used in this report are defined below: intervention, dissemination, and implementation.

Intervention, measure, method, work practices – there are many names for the same thing!

"Establishing effectiveness of an innovation does not guarantee its uptake into routine use." (6)

In this report, we often use the term intervention, which includes work practices,

programmes, interventions, innovations, ideas, knowledge, products, and other names for things that might be subject to implementation. In the book *Evidensbaserat folkhälsoarbete [Evidence-based public health work]*, the implementation object, i.e. what is to be introduced or implemented, is called *some form of intervention with the aim of achieving improved public health* (10).

We recommend the implementation of interventions that have been evaluated by researchers and shown to have the expected effects. Sometimes there are no evaluations and you cannot be sure of achieving the desired results, even if the implementation process itself is well-executed. At best, a well-executed implementation of an untested intervention can have positive effects. However, the opposite is also true, i.e. a well-executed implementation of an untested intervention can have negative effects, or no effects at all. When implementing not yet evaluated or insufficiently evaluated interventions, it is particularly important to follow up.

In many cases, particularly in the field of public health, it is difficult to fulfil the requirements for evaluating the effects of interventions. Here you must take a pragmatic approach and, as we write under Figure 1, the cogwheel system, think differently. You may have to accept simplified evaluations, reports, or guidelines, or build your arguments based on theoretical models or programme logic. The main thing is that you can reasonably assume that the intervention you choose to implement will work, i.e. contribute to achieving the desired outcome.

Thus, for the final outcome to be successful, both the intervention and the implementation must work. An ineffective intervention will not produce results even if it is properly implemented. The same applies if the implementation of a basically well-functioning intervention fails, see Table 1.

	Effective implementation	Ineffective implementation
Effective intervention	Produces results	Does not produce results
Ineffective intervention	Does not produce results	Does not produce results

Table 1. Effective implementation of effective interventions delivers results – nothing else (5).

Intervention research and implementation research differ. The difference is that while intervention research focuses on the effects of an intervention, implementation research focuses on how the intervention is initiated, absorbed, and institutionalised.

Dissemination

In the English-language literature, the term *dissemination* is divided into two different meanings. One is *diffusion*, which describes a passive, unplanned and uncontrolled dissemination without a specific target audience (3). The other is *dissemination*, which is an active form of dissemination via selected channels and planned strategies to specific target groups (3). In Everett Rogers' book *Diffusion of Innovations*, diffusion is defined as the process by which an innovation is communicated over time among members of a social system using specific channels (11).

Implementation

The term *implementation* is used in the field of public health, but also in many other fields such as agriculture, education, marketing, communication, management, and healthcare (12).

In the medical field, Rabin and colleagues define implementation as the process of putting to use or integrating evidence-based interventions within a setting (3). Examples of Swedish definitions include realising ideas and plans into concrete action (13), and the procedures used to introduce new methods to a regular activity and to ensure that the methods are used as intended and with sustainability (14).

When talking about implementation in everyday life, words such as execute, adopt, introduce, or realise are often used.

Quicker implementation – an urgent task

"We must make sure that no lifesaving discovery is locked up in the laboratory." (15)

It can take many years of development before an intervention is deemed effective and appropriate, and once this is done, you would expect it to be brought into use relatively immediately. However, this is rarely the case (6, 16–18).

One historical example is the fight against scurvy (17). In 1601, Captain James Lancaster showed that lemon juice prevents scurvy. All the sailors on the Lancaster's "trial ship" were given lemon juice and survived, while 40 per cent of the crew of three "control ships" died of scurvy. However, this experiment did not lead to any changes in the Navy's diet. A study with similar results was conducted 146 years later by James Lind, a doctor in the British Navy. Lind's trial did not lead to any changes either. It was only after another half a century that daily intake of vitamin C was introduced into the Navy's diet, and scurvy among sailors disappeared almost immediately.

Sudden infant death syndrome (SIDS) is another example of how it sometimes takes far too long to translate research results into practice (18, 19). A systematic literature review with 25 studies combined in a so-called metaanalysis clearly shows that the prone position increases the risk of sudden infant death (18). The review was published in 2005, but there were much earlier individual scientific studies showing the risks of prone positioning. If researchers in the 1970s and 1980s had conducted systematic literature reviews using the methods used today, they would have found convincing evidence that the prone position increases the risk of SIDS sooner. Different countries' authorities issued information and recommendations to the profession and the population at different times, and it is clear that the reduction in SIDS occurred at different times, related to the timing of each country's interventions (19, 20). For example, national risk reduction campaigns were initiated in Norway in 1990, in Denmark in 1991, and in Sweden in 1992 (20). Gilbert and colleagues have estimated that over 60 000 cases of SIDS in Europe, the United States, and Australia could have been

avoided if knowledge of the risks of prone positioning had been disseminated and implemented sooner (18).

The question of the importance of implementation research for practical activities has been raised by Westerlund and colleagues (21). They call for user-friendly tools for implementation in practice, and ask whether the target audience for the results of implementation research is other researchers rather than healthcare practitioners. Westerlund and colleagues highlight *Quality Implementation Framework* (1) as an example of a so-called "action model", i.e. a model that supports the translation from research to practice.

Implementing complex interventions in complex contexts

"Complexity is not only inherent in the intervention but also a consequence of interactions between the intervention and its implementation in context." (22)

Public health work is more often about complex interventions at the local, regional, or national level, rather than specific limited interventions in simple contexts. One example of a comparatively simple intervention could be the introduction of a new medical record system at an individual health centre where you can make your own decisions. One example of a complex intervention could be a major change work, such as implementing a new national grading system, involving students, school staff, school management, education administration, and parents.

Public health work is based on the Swedish public health policy framework, which consists of an overall national public health policy objective and eight target areas (see Figure 2). The overall objective of public health policy has a clear focus on equal health. The aim of public health policy is to create the social conditions for good and equal health throughout the population and to close the preventable health gaps within one generation. The overall national target areas are complex and challenging to achieve, partly because of the involvement of many stakeholders and levels of society. Implementing the overall public health policy objective thus involves a high degree of complexity both in terms of intervention and context.



Figure 2. The eight target areas of the Swedish public health policy.

In an opinion article in the scientific journal *Implementation Science*, Brownson and colleagues write that every implementation project should include a focus on equality (23). According to Brownson and colleagues, if researchers, research funders, decision-makers and practitioners in the field of implementation were to strengthen their commitment to reducing health inequalities, we could reap the benefits in terms of increased health equity (23).

Implementing a complex intervention in a complex context presents challenges (22, 24–27). Different professions with different roles at different levels, inside and outside an organisation, may need to work together. For example, national guidelines that affect many stakeholders and arenas place great demands on collaboration during an implementation process.

The aspects addressed in this report, both in general and under the heading *Quality Implementation Framework* also apply when implementing complex interventions in complex contexts. You could say that the higher the complexity, the more important it is to carefully consider whether to start an implementation process. The initial questions and the initial assessment (which we present in the chapter *Quality Implementation Framework*) are therefore particularly important here.

Dissemination

"Knowledge alone makes no difference. It must be communicated, translated, utilised and made implementable so that it can make a difference in the real world." [Translated from Danish] (28)

For a new intervention to be brought into use, those who might use the intervention must be aware of its existence. Everett Rogers' classic theory *Diffusion of Innovations* has long provided a basis for research on the diffusion of innovations in many fields, such as agriculture, manufacturing, healthcare and public health (11). Key factors in Rogers' theory are the innovation itself, the recipients of the innovation, the social system, the process, and the dissemination system.

The characteristics of the innovation, and in particular the recipients' experiences thereof, are usually categorised as follows:

- effectiveness
- cost-effectiveness
- compliance
- usability
- observability
- testability (11).

The recipients' attitude towards new interventions also plays an important role in dissemination and implementation. The recipients of the innovation are influenced both by the social system, such as a geographical, political, or professional delimitation, and by the stakeholders running the actual change work. The individual process of adopting something new is described by Rogers in the following steps:

- knowledge
- persuasion
- decision
- implementation
- confirmation (11).

However, this is a rather mechanical description of a complicated process.

Active and passive dissemination

Dissemination activities can be divided into active and passive strategies (3). Examples of passive dissemination (diffusion) strategies include information measures in the form of publications and presentations without a specific target audience. Active dissemination strategies can include targeted support and targeted information efforts to specific target audiences. Disseminating complex interventions or work practices is likely to be more difficult than disseminating a product, such as a new technology in industry or a new crop in agriculture, although the principles of dissemination are the same.

Information about a new product, such as a new mobile phone model, is often first actively disseminated by the company or organisation selling the new product. If customers are satisfied, active dissemination will be complemented by passive dissemination, i.e. satisfied customers telling friends and colleagues about the product and its benefits. One example of a very rapid and successful dissemination is the Swedish mobile payment system Swish, which was introduced in Sweden in December 2012. In 2019, almost 80 per cent of the Swedish population used Swish (29).

One dilemma in the public health field is that it sometimes takes a long time to see the effects of a new intervention and that it is sometimes difficult to know whether the effects are due to the new intervention.

This is in contrast to the Swedish mobile payment system Swish, for example, where users could immediately see the benefits. Thus, for an intervention to be widely disseminated, it must either fill a gap or be better, preferably much better, than competing interventions in neighbouring areas. If a new intervention is perceived as sufficiently good by potential users, less resources are needed to spread awareness of the intervention, and dissemination is to some extent spontaneous.

Implementation – a difficult art

"Everything went right. What went wrong?" (6)

A classic in implementation research is Pressman and Wildavsky's 1973 book, *Implementation. How great expectations in Washington are dashed out in Oakland* (30). In this book, researchers describe how a seemingly simple and already funded plan to reduce unemployment in Oakland evolved into a complex programme involving many complicated decision-making situations and countless stakeholders with different perspectives.

All stakeholders agreed on the basic idea that jobs must be provided to unemployed minorities in Oakland, and funding was arranged. Nevertheless, the programme encountered many obstacles. Pressman and Wildavsky list seven points that may have played a role in the lack of results:

- The programme was not compatible with other commitments.
- Stakeholders preferred other programmes.
- Stakeholders were busy with other projects.
- Stakeholders were dependent on others who did not see the programme as particularly important.
- Leadership was weak and organisation poor.
- There was a lack of consistency between laws, regulations, and the programme.
- Stakeholders had insufficient political and administrative power.

In a more recent study from Canada, a new treatment for bipolar disorder was found to be more effective than standard treatment, but without increasing costs (6). The new treatment for bipolar disorder was included in the national guidelines. However, the follow-up one year later showed that all hospitals that had started using the new method for bipolar disorder had reverted to standard treatment (6). This finding is not unique, rather the opposite. Just because a new intervention has been shown to be effective does not guarantee that it will be adopted in practice (31).

One example from Sweden is a study of the implementation of the alcohol prevention method *Ansvarsfull alkoholservering* [*Responsible Beverage Service*] in Swedish municipalities (32). In a qualitative study, informants highlighted a number of obstacles to the implementation: short-term funding for project manager positions, lack of knowledge of the method's

sub-components, difficulties recruiting representatives from the restaurant industry, difficulties combining the role of exercising official authority and partner, as well as increased costs for the restaurant industry (33).

This example shows the importance of identifying possible obstacles in a planned implementation process and being prepared to deal with them. Hasson and von Thiele Schwarz write in their book Implementeringsboken. Så inför du nytt som gör nytta [The book on implementation. How to introduce innovations that work?] about identifying and managing obstacles (34). They write, among other things, that different types of obstacles or problems may be due to a lack of skills, opportunities, or motivation and that different strategies are needed to address these obstacles. According to Hasson and von Thiele Schwarz, skills shortage, i.e. not knowing how to implement, can be addressed either by simplifying the intervention to be implemented or by training and support. This is true at individual, group, and organisational level. The *inability to* implement, i.e. lacking opportunities, can be addressed by creating conditions for implementation. An unwillingness to implement, i.e. lacking motivation, can be addressed by making the new more appealing than the old (34). In the example of Responsible Beverage Service further training and more resources were needed to address identified obstacles (33). Obstacles outside your own organisation, such as a change of policy at national or international level, are of course more difficult to deal with than obstacles within your own organisation.

One factor in implementation processes that cannot be overemphasised is the preparatory work and the initial phase. Albers and colleagues, who have studied parental support programmes in Australia, write that *The early implementation stage was fragile and characterized by three distinct phases* (35). The researchers describe the three phases as follows: 1) something that was initially "arranged" by someone, 2) everyone involved was required to rapidly and intensely learn new skills until 3) a consolidated, realistic understanding of the innovation was achieved (35).

Considering all the difficulties highlighted in implementation research, it may seem strange that new interventions are implemented at all. But they are. Examples of successful implementation include the general vaccination programme for children in Sweden (36), tobacco and nicotine prevention (37), and the recommendations given during the COVID-19 pandemic, such as hand washing and keeping a distance. Specific examples from the healthcare sector include insulin treatment for diabetes and antiretroviral treatment for HIV infection (6).

Implementation – a process

"Full implementation occurs when most practitioners are routinely providing the new method with good fidelity." (38)

Implementation is a process, not a single event. The process is rarely linear, sometimes you have to backtrack or take a different path than you originally intended. At the end of the day, it is still important to have gone through all the steps. The very first step is simply that someone, based on an identified need, gets an idea to use a new intervention to meet this need. The idea is presented, it is assessed whether the intervention in question can meet the need, and *a decision* is made. For the decision to lead to actual change, it should be made at the right level in the organisation. If the decision is to incorporate the new intervention into the organisation, the next step in the implementation process is to *plan and organise* what is needed to make the idea a reality. This may include hiring staff, adapting procedures, and organising premises and equipment. This step should also identify and address any hindering and enabling factors, which may require significant resources. The next step is about actual change, such as raising the level of knowledge or improving organisational capacity. For this to happen, there is a need for education, further training, and practice, as well as time to let the new mature. Eventually, the intervention has been *integrated* into the organisation, both practically and organisationally, and is considered evident. The intervention is followed up or evaluated, if possible based on defined objectives. Any local adaptations are made, perhaps in several stages. The intervention is considered *institutionalised* when its long-term survival is taken for granted, regardless of staff turnover, internal and external reorganisations, policy changes, new forms of funding, etc. Only then can the implementation finally be considered successful.

The term implementation can be understood as top-down, i.e. it is decided and directed by a management function. This is true to some extent, especially when it comes to the implementation of new interventions that require significant resources or reorganisation. However, implementation of simpler interventions can take place within and between professional networks without management action, i.e. more of so-called bottom-up.

In addition to the implementation of concrete measures, development work is often underway in most organisations to test, evaluate and improve the quality of various aspects of the activities. This is not about the implementation of a specific intervention, but rather the implementation of new elements in a work in progress.

A term close to implementation, which is often seen in the research literature, is knowledge translation. Grimshaw and colleagues define the term as follows: *ensuring that stakeholders are aware of and use research evidence to inform their health and health care decision making* (9). The following five questions frame the concept of knowledge translation, and are useful in implementation processes:

- What knowledge should be translated or transferred?
- To whom should the new knowledge be translated or transferred?
- By whom should the new knowledge be translated or transferred?
- How will the new knowledge be translated or transferred?
- What effects should the new knowledge have?

The role of the individual

"The work of successful implementation to achieve desired change takes knowledge, skills, professional courage, and personal commitment. This work is not for the naïve or faint of heart." (39)

People are not passive recipients of innovations. Rather, different people search for new interventions and products to different degrees, experiment and evaluate, discuss and assess, develop opinions, adapt and try to improve, often in dialogue with others (40).

In Rogers' theory *Diffusion of Innovations* (see also the section *Dissemination*), recipients of something new have different roles, leading to an S-shaped diffusion curve (11, 41). A slow spread results in a flat diffusion curve, while a fast dissemination, as in the example of the Swedish mobile payment system Swish, or the fact that we quickly learnt to wash our hands and keep our distance during the COVID-19 pandemic, results in a steeper diffusion curve (see Figure 3).



Figure 3. Examples of fast, slow, and stalled diffusion according to Rogers (11).

Before introducing a new intervention, it is important that users are actually aware of its introduction, have sufficient knowledge of the intervention in question, and understand how it may affect their work situation (40). Once the process has started, it is important that users have access to ongoing information, training and support in their daily work. Dearing and Kee write: *If potential adopters of innovations feel that they have been involved in the creation of or refinement of an innovation, their adoption and implementation is more likely* (41).

Some individuals are more able to influence their colleagues than others. Some of them act as "opinion leaders" by virtue of their authority and expert status, and others because they have a high level of trust capital (40, 42, 43). Opinion leaders can be found in municipalities, regions, activities, organisations, and companies. They can have both positive and negative impact, i.e. either support or hinder the implementation of a new intervention.

Formal and informal social networks

Individuals are mostly part of both formal and informal social networks, the structure and quality of which influence the dissemination of innovations (40). Informal networks are considered most effective for disseminating peer-to-peer information, while formal networks are more often used to disseminate official information. Individuals from different groups in society thus access information in different ways. A network can have both positive and negative impact in terms of absorbing ideas and implementing new interventions.

Social networks can be studied using a so-called network analysis (44). In a classic study of the spread of a new grain among farmers in Iowa in the 1950s, the authors used a network map to clearly show how and when the spread had started and accelerated (45). The farmer who first started using the new grain did so in 1948. But it wasn't until two years later, when farmer number two introduced the new grain, that dissemination gained traction. This farmer was in closer contact with other farmers in the region and thus played a more important role as opinion leader within the network (45).

The role of the organisation

There are some common features of organisations that adopt innovations faster than others (40). These include structural factors, such as the size and level of development of the organisation. Large and developed organisations generally find it easier to adopt innovations than small or newly formed organisations. Innovative organisations are positive about change in general and have clear strategic visions, strong leaders, visionary staff in key positions, a working environment that encourages experimentation and risk-taking, and effective systems for following up activities (40).

Organisational factors that influence implementation can be divided into organisational culture, organisational climate, organisational readiness for change (12) and leadership (46).

Organisational culture and climate

According to Rabin and Brownson, organisational culture is about workplace norms and values, while organisational climate is about employees' experiences and reactions to the work environment (12). Organisational climate includes implementation climate, i.e. employees' shared perceptions and experiences of the organisation's implementation policy and practice (46). Thus, implementation climate is not the same as innovation climate, which refers to the extent to which an organisation encourages and supports the development of new ideas, but without a specific focus on implementation (46).

Organisational readiness for change

Organisational readiness for change is described by Weiner as a multi-level phenomenon (47). Readiness can be high, low, or somewhere in between, it can be at individual, group or departmental level, and at an overall organisational level. In short, organisational readiness is about how ready an individual, group, or organisation is to do something or face something that will happen in the future. Implementing something new in an organisation has been described as a team sport, and if some people in the organisation are ready but others are not, problems arise (47). According to Weiner, some important conditions for joint readiness are that those involved have the same information, the same experiences, and the same values prior to an implementation process (47).

Rabin and Brownson describe organisational readiness for change as the extent to which members of an organisation are psychologically and behaviourally ready to implement new interventions (12). Aarons and colleagues highlight four key factors for an organisation to achieve readiness for change (46):

- Employees must perceive the change as favourable to themselves.
- Employees must perceive that they are capable of implementing the change.
- Employees must perceive that the change will lead to a desirable outcome.
- Both formal and informal leaders must be committed to the change.

Organisations that systematically identify, interpret, and link new knowledge to existing knowledge, known as learning organisations, are more likely to adopt innovations (46). Local networks aimed at exchange and co-operation within and between different professions facilitate knowledge development and dissemination. Before new knowledge can contribute to change, it must be accepted and generalised among those concerned, for example through discussions within and between different networks. When those involved feel that the organisation and colleagues are ready for change, they put in more effort and are more persistent in the implementation process (46).

An organisation's decision to start using a new intervention is influenced by external phenomena, such as the fact that comparable organisations are already using the intervention or plan to start doing so (40). This reflects Rogers' description of the increase in use of a new intervention that occurs when enough people have adopted the intervention in question (11). Further dissemination then takes place without any further efforts by the "seller". However, even if an organisation is generally open to innovation, it is not obvious that it will adopt all new interventions and products presented (47).

Community Readiness Model

One model for measuring readiness for change at the organisational level that can be used to advantage in implementation processes is the Community Readiness Model (CRM) (46, 48, 49). CRM addresses change readiness in nine stages, describing how aware and ready an organisation is to start working on a specific topic area, and providing strategies to reach the next stage (see Fact box 1).

Step 1. No awareness of the problem or possible solutions

Strategy: Raise awareness of the problem by contacting key people and potential supporters.

Step 2. Low awareness of the problem or possible solutions

Strategy: Create awareness that the problem exists in the organisation through meetings with key people, by pointing to incidents that demonstrate the problem, and through other information.

Step 3. Some awareness of the problem and possible solutions

Strategy: Raise awareness that the problem exists in the organisation and emphasise that the problem can be solved.

Step 4. Planning to solve the problem

Strategy: Provide concrete ideas on how to solve the problem.

Step 5. Preparation to solve the problem

Strategy: Collect information on local conditions relevant to the structuring of the work.

Step 6. Initiation of intervention to solve the problem

Strategy: Offer specific information, training and support to practitioners, seek funding.

Steg 7. Sustainment of the implemented intervention

Strategy: Plan to sustain the use of the new intervention through e.g. evaluation and adaptation of the intervention and networking.

Steg 8. Confirmation/expansion of the implemented intervention *Strategy:* Expand and enhance the intervention by, for example, formalising networks.

Step 9. Professionalisation of implemented intervention *Strategy:* Maintain the intervention through, for example, support for diversified funding and external evaluation.

Applying CRM in practice is essentially a matter of asking questions to relevant persons in the organisation. Responses are scored according to the stages (stage 1 = 1 point, stage 2 = 2 points, etc., see Fact box 1) the organisation are in within the following six dimensions:

- The organisation's interventions in the area concerned.
- The organisation's awareness of the interventions.
- Leadership.
- Working environment.
- The organisation's knowledge in the area concerned.
- Resources for interventions.

Interviews are conducted and scores are compiled, both per dimension and in total. For example, if an organisation has no interventions or is unaware of any interventions in a specific area, the organisation is at stage 1 or 2 (no or low awareness of the problem or possible solutions) on the dimensions of Organisation's interventions in the area concerned and Organisation's awareness of the interventions. For example, if the organisation is ranked at level 3 (some awareness of the problem) or level 4 (planning to solve the problem) on the dimensions of Leadership, Work Climate, and Knowledge in the area in question, the overall score for readiness for change in that specific area will be higher. If the final score is 3, for example, it means that the organisation has some awareness of the problem and its possible solutions. The strategy is then to raise awareness that the problem exists and that it can be solved (see Fact box 1, step 3). Knowing the organisation's readiness for change thus facilitates the planning of a specific implementation process.

CRM can be compared to the so-called *Stages of Change Model* (50), which can determine where, at the individual level, an individual is on the scale of *not at all aware of the problem* to *stable behavioural change*. The Stages of Change Model facilitates support for behavioural change at the individual level. Similarly, an organisation can be "diagnosed" using CRM, and once it is clear where the organisation is in the process, work can be adapted accordingly. For example, there is no point in trying to implement a bullying prevention programme in schools in a municipality that is not aware of the existence of bullying in its schools. Similarly, it is pointless to offer smoking cessation to someone who does not experience any problems with their smoking. Note that movement can happen in both directions in a process of change, i.e. a person or organisation can become either more or less ready for change. CRM is used in Sweden in areas such as parental support and limiting the availability of alcohol (51).

Leadership

Leadership is a key factor for successful implementation, as emphasised in the implementation literature (1, 38, 52, 53). It is not only about top management, but all levels of the organisation need to be involved in order for a message to carry throughout the organisation. For example, if the education administration in a municipality wants to introduce a new intervention in the municipality's schools, the administration needs the support of head teachers and other local school leaders. Otherwise, the intervention is unlikely to be used by teachers. Leaders, whether they are regular managers or project managers in a specific implementation process, have several important functions (52). They should not only create conditions for implementation. They must also collect data, monitor the process, and feed back results to those involved in the implementation (52). Leadership also includes setting and following up targets and ensuring a sustainable budget. First-line managers are usually the leaders closest to the practical implementation work, but according to Aarons and colleagues, they sometimes lack the ability and power to develop a positive organisational and implementation climate (46). In a study of first-line managers in social services and elderly care in Swedish municipalities, Mosson and colleagues show that the managers felt they have a key role in implementing evidence-based interventions in their respective areas (54). However, implementation was completed ad hoc rather than systematically and managers expressed a strong need for support.

Decision on implementation in municipalities and regions

No matter where in an organisation an idea to introduce something new arises, a formal decision is needed to make it happen. Small changes, of course, do not require decisions at the highest level, but changes that require new resources to be added or existing resources to be reallocated require formal decisions at a higher decision-making level in the organisation.

For major and general issues in municipalities and regions, the decision is taken by the municipal or regional council. Before a matter comes before the council, it has first been prepared by officials in the administration and then processed by a political commission, a board or a committee, such as the Board of Education or the Healthcare Board. Political support is necessary to implement changes in democratically governed organisations such as municipalities and regions. Without political support and without a formal decision, it is difficult to realise new ideas as no resources will be allocated for preparation, implementation, or follow-up. Political prioritisation also means that decisions are made based on ideological values of need.

Conditions for successful implementation

The final outcome of an implementation process is determined by the new intervention itself, the implementation components used, the stakeholders involved, and the circumstances at the time of implementation (12).

Several different factors thus appear to be important for the long-term success of the implementation of a new intervention. But sometimes a planned implementation does not fulfil even the most basic requirements – that there is a stated need and that the proposed intervention is right for the context. If the basic requirements are not met, it is probably better to postpone plans for implementation. The support material *Checklist for high-quality implementation* and *E-guide Implementation*, which supplement this report, can act as a support in the planning for implementation of new interventions.

Need is needed

Anyone who wants to introduce a new intervention, but who is not in a decision-making position, must show the decision-makers that there is a problem or need within the organisation that can be addressed by the proposed intervention. For example, a head teacher in a school where bullying is a problem learns of a new bullying prevention intervention. The intervention is supported by research, but requires resources beyond the school's budget. To access the resources needed to implement the new intervention in the school, the issue needs to be elevated from the local school level to a matter for the municipal education administration. Other stakeholders may also raise the issue, such as representatives of governmental authorities and interest groups, private individuals, or representatives of the organisation providing the intervention. Those working in the education administration must be aware of the existence of bullying in the school in question and assume that the proposed intervention can solve the problem, otherwise the case will not be considered and no formal decision will be taken. The same decision-making process also applies to regions, i.e. the idea can be raised from anywhere within or outside the organisation, the matter is prepared at official level, and the formal decision is taken by a political body.

Some interventions are easier to implement than other

There are some common denominators among interventions where implementation has been successful. These basic features are that the new intervention

- has relative and visible advantages
- matches the values of the recipient
- is easy to understand and use
- can be tested on a small scale
- has observable effects
- can be adapted to the needs of the recipient (11, 12, 40, 41).

It is easier to implement new interventions that have clear benefits, such as being easier to use, cheaper, or more effective than other interventions. Of course, if a potential user cannot see any benefits from the new intervention, there is no reason to spend time and resources on changing. Interventions that align with current individual, organisational, and professional values and standards are also easier to implement. For example, it may be difficult or impossible to transfer an intervention directly from one country to another, or from one organisation to another.

If an intervention is perceived as easy to use, it is more likely to be accepted and implemented as planned. Moreover, it is easier to implement interventions that can be tested to a limited extent, as well as interventions with observable effects. Public health interventions rarely show short-term effects, which means that the positive implementation aspect of observable effects does not always apply here.

Furthermore, the process is facilitated if the intervention can be adapted to local circumstances. It is not uncommon for resources to be comparatively plentiful during the time it takes to develop and test a new intervention. However, resources are likely to be scarcer when the new intervention, which may have worked well during a project period, is to be integrated into regular activities. If it is then possible to adapt to local conditions, the new intervention can be implemented with sufficient success, despite scarce resources. However, care must be taken to ensure that the change is not so far-reaching as to alter the intervention in a decisive way, as the expected effects may not materialise. Adaptation to local circumstances must therefore be balanced against the aspect of programme fidelity.

Programme fidelity

Programme fidelity refers to how well the original intervention is followed in practice, and is an important component of implementation processes (39, 55–58). Adaptations may involve departing from the original and evaluated intervention. It is therefore important to try to identify and describe the so-called core components, i.e. the components that contribute to the expected result. Hasson and von Thiele Schwarz describe core components as the ingredients required for the benefit to be realised (34). Deviating from the basic principles of the intervention, for example by halving the number of sessions in a structured parental support programme or organising digital rather than face-to-face sessions in an organisation offering social support to a specific group, may not yield the desired results. While the key components must not be excluded or changed, sometimes a new intervention needs to be adapted to local conditions for the implementation to be successful. In practice, this is a difficult balancing act.

The implementation of the method Responsible Beverage Service is an example of lack of programme fidelity. One evaluation showed that alcoholrelated violent crime was reduced by 29 per cent when the Responsible Beverage Service method was used in Stockholm municipality (59). Later, an implementation study was conducted to investigate the extent to which the method was used in the country's municipalities (55). According to the evaluation, 235 municipalities reported working with Responsible Beverage Service, but of these, only one in seven (13 per cent) fully met the requirements for the three main components of the method: education, supervision, and collaboration. The implementation study showed a lower reduction in alcohol-related violent crime than the original study (9 per cent). The reason for this may be that not all components of the method were used (60). This shows both that it can be difficult to fully apply a method developed in research to everyday practice and that the level of programme fidelity can affect the results.

Implementation components

Once a suitable intervention has been carefully selected on the basis of identified needs and taking into account the above aspects, it is time to plan the actual implementation, preferably through an implementation plan. What is often offered when introducing a new intervention is oral and written information. However, as individual components, these have little support in the implementation literature (5, 34, 61). Incomplete or inaccurate material, inadequate distribution of the material, lack of trained and interested staff, lack of support and insufficient evaluation also naturally reduce the chances of successful implementation (61).

Nevertheless, there are ample opportunities to implement new interventions. Research has shown that a combination of several implementation components can yield better results, such as distributing guidelines for new routines, providing education, hands-on training, coaching, feedback, and opportunities for consultation (1, 5, 61, 62). It is also important to identify hindering and enabling factors for implementation and to choose the right strategies to deal with them (34). It is an advantage if those who will be responsible for the actual implementation of a new intervention are involved at the planning stage to discuss the pros and cons. This allows potential problems and concerns to be identified at an early stage and addressed constructively (40).

Circumstances in the activity, organisation, or society at large, such as political, economic, or organisational changes, can also influence an implementation process.

The difference between intervention and implementation

When you have decided to implement a new intervention or new work practices, it is a good start to clarify which parts belong to the intervention itself and which parts are about the implementation process. This makes it easier to recognise where the problems lie if the intended effects do not materialise. If the lack of impact is due to the ineffectiveness of a specific intervention, it should of course be discontinued. However, if the lack of impact is likely to be due to incomplete implementation, a redesign of the implementation process can correct the deficiencies and ensure that the expected effects of the new intervention are realised.

In order to assess the extent to which an implementation has been successful, it must therefore be possible to separate the intervention from the implementation. In other words, you must clarify and distinguish *intervention* processes and *intervention* outcomes from *implementation* processes and *implementation* outcomes (5, 40). A new intervention must be well defined so its components are clear. For example, a new parental support programme could be based on the following components: a written manual, trained parent group leaders, ten meetings over five weeks, homework and written materials for parents. The intervention is evaluated for its impact on the recipients. In this case, an evaluation could show that the new parental support programme leads to positive behavioural change in the children of parents participating in the programme. Monitoring the components is also a prerequisite for calculating cost-effectiveness.

Similarly, the actual implementation of the new intervention must be defined. What exactly is included? This may involve staff training, funding, or adapting organisational procedures. The outcome of the implementation process itself is measured at the execution level, i.e. the practitioners who will use the new intervention. One way is to measure how many people have been trained and how many actively use the intervention after completing the training. Important outcomes when evaluating an implementation process also include changes in the level of knowledge, professional behaviour, and organisational procedures.

Thus, the combined result of the effectiveness of the intervention *and* the execution of the implementation process provides the final outcome, such as behavioural change in the children of parents who participated in a parental support programme, or changes in the tobacco habits of students in a school that has introduced a new tobacco and nicotine policy.

When implementing complex interventions, the same applies as when implementing more limited interventions – but it becomes a bit more difficult. You may have to break down both the intervention and the implementation process into smaller parts to distinguish what is what, and thus what is possible to follow up. Using an example from the world of education, the *intervention* could be a multi-component bullying prevention policy, such as concrete training material for all staff and clearly described measures when bullying occurs. *The implementation* could in turn consist of practical support for the actual implementation of the bullying prevention programme, such as developing a plan and appointing those responsible for its implementation. It may be necessary to rearrange schedules, organise training sessions, and ensure that the implementation of bullying prevention is followed up.

Quality Implementation Framework

"Classic studies indicate that it takes 17-20 years to get clinical innovations into practice." (31)

Several decades of implementation research have resulted in a number of theories, models, and frameworks in the field (4). In a literature review, Meyers and colleagues have identified 25 theoretical frameworks for implementation (1). By compiling key components from these frameworks, the researchers have identified four overall phases and 14 critical steps for planning, assessing, and succeeding in implementation processes. The new framework was named *Quality Implementation Framework* (QIF) (see Fact box 2). According to the authors, QIF takes implementation research one step further by focusing on concrete activities to achieve quality implementation. Meyers and colleagues have supplemented the QIF with an implementation tool (*Quality Implementation Tool, QIT*) (63).

In this chapter, we describe the *Quality Implementation Framework*, phase by phase and step by step. Note that the first ten steps (phases 1 and 2) of the *Quality Implementation Framework* are about planning, i.e. thinking ahead. It is only in the last four steps that implementation, follow-up, and learning for the future are addressed.

Fact box 2. Quality Implementation Framework.

Note that the first ten steps are about carefully assessing whether the proposed intervention meets a real need, whether it fits or can be adapted to the organisation's conditions.

Phase 1. Initial assessment

Step 1. Describe the need - why are we doing this?

Step 2. Assess the intervention (a) – does the new intervention fit our organisation, culture, needs, and values?

Step 3. Assess readiness for change – is our organisation ready for the new intervention and are we ready for change?

Step 4. Assess the need to adapt the intervention – should and can we adapt the new intervention to our organisation?

Step 5. Assess the need to adapt the organisation – do we need to strengthen the infrastructure, motivation, or level of knowledge?

Step 6. Assess the organisational support – does the new intervention have the support of key stakeholders in the organisation?

Step 7. Designate implementers – have we identified who will carry out the implementation in practice?

Step 8. Train implementers - can we provide sufficient education and training?

Meaning, Phase 1 and the first eight steps are only about preparing for implementation. In the next phase, preparation continues, but now with a focus on structure.

Phase 2. Structure for implementation

Step 9. Identify those responsible for the implementation process – appoint people with organisational responsibility and specify roles and responsibilities.

Step 10. Produce an implementation plan – the plan should describe concrete tasks and time for implementation, including in the long term.

Note that it is only the third phase that deals with actual implementation.

Phase 3. Implementation

Step 11. Offer support to implementers.

Step 12. Follow up the implementation.

Step 13. Provide feedback to all involved.

Phase 4. Lessons learned and improvements

Step 14. Lessons learned for the next implementation process.

(a) The term "intervention" here includes new work practices, approaches, methods or products – in short, things you want to change. New elements of ongoing work can also be considered for implementation.

Four initial questions

Several factors play a role in the long-term success of the implementation of a new intervention. But sometimes a planned implementation does not fulfil even the most basic requirements – that there is a stated need and that the proposed intervention is right for the context. Answering the four questions below is therefore a good start – and a prerequisite for assessing whether to start an implementation process at all.

1. What need has been identified?

Describe the need to be met, e.g. reducing the proportion of young people who smoke or increasing the proportion of the population who are physically active.

2. What intervention (if any) should be implemented?

Indicate which intervention will meet the need. The term 'intervention' covers, e.g., new work practices, approaches, methods, or products - in short, what you want to change. New elements of ongoing work can also be included here.

3. To what extent is there support to suggest the intervention can meet the need? Describe the knowledge support that backs the choice of intervention, for example by referencing a relevant report, guideline, evaluation, or scientific article.

4. Where should the implementation take place?

Establish the location where the implementation will take place, geographically or organisationally. An implementation process can be carried out entirely or partially within the organisation or in collaboration with other organisations.

Phase 1. Initial assessment

The first phase in the *Quality Implementation Framework* is about carefully assessing whether the proposed intervention fulfils an actual need and whether it is suitable for, or can be adapted to, the organisation (e.g. a municipality, region, county administrative board, authority, or other organisation). This is a more thorough assessment than the four initial questions. Phase 1 consists of eight steps, each containing questions that should be answered to the best of your ability before moving on to Phase 2. The questions are in the digital tool *Checklist for high-quality implementation*.

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The questions that cannot be answered in a sufficiently specific manner show where there are issues or weaknesses that need to be addressed before proceeding to the next phase. Sometimes you don't "cross the finish line". The answers to the questions in Phase 1 may show that the organisation does not actually need the proposed intervention, or that the organisation is not ready, at least not at the moment. You may then decide, for good reason, to stop or pause the work as important aspects of the implementation process have not been met.

Step 1: Describe the need - why are we doing this?

"We" refers to the person(s) planning the implementation process and working on the checklist, but not necessarily those who will use the new intervention.

Step 1 involves a thorough needs assessment. Who would gain from implementing the new intervention? An overview of the organisation and other stakeholders involved may be helpful. If the implementers do not consider the intervention necessary, there are probably only two options: to increase the motivation for the proposed change and the understanding of its value, or to stop the implementation process. Early involvement of those who will carry out the implementation, i.e. the implementers, can help increase motivation.

Step 2: Assess the intervention – does the new intervention fit our organisation, culture, needs, and values?

Step 2 assesses how well the new intervention fits into the organisation. This means, for example, that the new should be consistent with the culture, values, and vision of the organisation, i.e. the context. As political values and priorities vary, a specific intervention may fit one time and context but not another. The new must also match the needs and values of users and final recipients.

Step 3: Assess readiness for change – is our organisation ready for the new intervention and are we ready for change?

Step 3 assesses whether the organisation is "ready" for the new intervention. Is there willingness and means, such as sufficient resources, knowledge, and motivation? An organisation often has multiple levels, different roles and activities. Sometimes the organisation that will carry out the actual implementation is not even part of the organisation itself.

Step 4: Assess the need to adapt *the intervention* – should and can we adapt the new intervention to our organisation?

Step 4 assesses whether the new intervention can and should be adapted before starting any implementation process. Adaptation may involve, for example, simplifying or delimiting a large or complex intervention to make it more manageable for those implementing it in practice, i.e. the implementers. It is important not to "adapt out" those parts of an intervention that are assumed to be effective. Any adaptations should be monitored and documented.

Step 5: Assess the need to adapt *the organisation* – do we need to strengthen infrastructure, motivation, or knowledge levels?

In Step 5, the organisational capacity is reviewed. Can the organisation be adapted in terms of infrastructure, motivation, and level of knowledge? And if so, are there resources for this? If there is no support and motivation for implementation, you may need to consider whether it is worth going ahead.

Step 6: Assess the organisational support – does the new intervention have the support of key stakeholders in the organisation?

Step 6 is about assessing whether there is a supportive climate in the organisation for implementing the new. This step includes ensuring that there is support from decision-makers and that relevant stakeholders are positive about the implementation process and feel that the new intervention is "worth it". If there are particularly driving stakeholders, it is good to think about how they could be used as resources, but also about what happens if they leave the organisation. It is also important to assess the need for resources in terms of time, money, and staff. Thus, it is important to identify both hindering and enabling factors for implementation.

Step 7: Designate implementers – have we identified who will carry out the implementation in practice?

Step 7 involves identifying and recruiting those who will undertake the practical implementation work – the implementers – and the people who will support them. Implementers need to understand the benefits of the new intervention itself, know how to use it, and have the skills to use it. The people, internal or external, supporting the implementers should also have knowledge and understanding of the value of the new intervention, as well as knowledge of implementation processes and follow-up.

Step 8: Train implementers – can we provide sufficient education and training?

Step 8, the final step in Phase 1, is about practical training. Implementers may need education and training, followed by continued support and supervision for as long as needed. The organisation must therefore be able to offer training and upskilling so that the implementers feel knowledgeable and confident in the new system.

Phase 1 and the first eight steps are thus all about preparing for implementation. In the next phase, preparation continues, but now with a focus on structure.

Phase 2. Structure for implementation

The second phase of the *Quality Implementation Framework* is about developing a structure for implementation of the new. The long-term "survival" of the new intervention should also be part of the implementation plan. An intervention is perceived as institutionalised, i.e., fully integrated into ordinary activities, only when employee turnover, internal and external reorganisations, political changes, new methods of financing, etc. do not affect the intervention. Before concluding Phase 2, there should be a clear plan of what will happen and when, as well as who is responsible for different parts of the implementation process.

Step 9: Identify those responsible for the implementation process

In Step 9, a team with a clear responsibility and mandate to plan, implement, and follow up the implementation process, is created. Individual members of the team are appointed as organisational leaders and support persons for different parts of the work, and roles and responsibilities are specified. Note that the implementation team is responsible for the implementation process, but rarely for using the new intervention (see Step 11). The members of the implementation team should be well aware of the need and understand why the new intervention is needed. It is also an advantage if the implementation team is trusted within the organisation.

Step 10: Produce an implementation plan

Step 10 involves producing an implementation plan that describes concrete tasks and deadlines, also in the long term. It sets out the different parts of the implementation process, when they must be completed, and who is responsible for getting it done. The plan also clarifies what may need to be in place before the implementation of the new intervention begins, such as the need for education and training of staff, and the development of tools and local procedures. The implementation plan should also address follow-up.

Phase 3. Implementation

It is only in the third phase of the *Quality Implementation Framework* where actual implementation is covered. Structure and support for the work are important parts of this phase, as well as practical and technical support for the implementers, follow-up of the implementation process, and feedback to all involved.

Step 11: Offer support to implementers

Step 11 includes concrete support during the implementation. This can range from providing supervision and technical support to producing materials and rearranging schedules. It may also involve newly identified needs for education and training or further adaptation of the new intervention.

Step 12: Follow up the implementation

In Step 12, the implementation process is followed up. What has worked well? Have any weaknesses emerged that should and can be addressed? Information on how different parts of the implementation process have been carried out is collected and compiled.

Step 13: Provide feedback to all involved

Step 13 is about continuously feeding back the results of follow-up reviews of the implementation process to all involved. Often, a large number of people are involved in an implementation process, such as decision-makers, administrators, practitioners, and support staff, which means that feedback may need to be provided in different ways and at different times.

Phase 4. Lessons learned and improvements

The fourth and final phase of the *Quality Implementation Framework* involves only one step. It is about learning from experiences.

Step 14: Lessons learned for the next implementation

Step 14 is about learning for the future. What lessons can be learned from this implementation process for future implementations?

The research is fairly unanimous

The Public Health Agency of Sweden has conducted two scoping reviews, in 2016 and 2023, focusing on the *Quality Implementation Framework* (QIF). The literature searches resulted in ten relevant articles in 2016 and 16 relevant articles in 2023 (see description of methodology on page 50). The studies identified in the Public Health Agency of Sweden's scoping reviews show a high degree of consistency with QIF (see Table 2). All the studies in both scoping reviews (2016 and 2023) have identified aspects that can be placed in the QIF. Twelve of the fourteen steps in the framework are supported by at least five of the ten studies from 2016 and by at least ten of the 16 studies from 2023. None of the studies, either from 2016 or from 2023, contradict the content of the framework.

Steps in QIF	Support from number of supplementary studies in 2016 (10 studies in total)	Support from number of supplementary studies in 2023 (16 studies in total)
Step 1	7/10	16/16
Step 2	9/10	15/16
Step 3	7/10	14/16
Step 4	4/10	13/16
Step 5	7/10	15/16
Step 6	8/10	15/16
Step 7	5/10	7/16
Step 8	5/10	11/16
Step 9	8/10	13/16
Step 10	6/10	12/16
Step 11	10/10	10/16
Step 12	10/10	14/16
Step 13	10/10	15/16
Step 14	4/10	6/16

Table 2. Summary of the extent to which the supplementary studies support the steps of the *Quality Implementation Framework* (QIF).

The 2023 literature search also revealed that QIF and the *Quality Implementation Tool* (QIT) had been used in intervention studies in many different areas, such as screening of dental health in paediatric cardiac clinics (64), digital reporting of symptoms by dialysis patients (65), planning of clinical practice for students in various health care programmes (66), and evaluation of a mental health and well-being project targeting children and young people "where they are" (67). The studies of the usability of so-called action models (e.g. QIF) that Westerlund and colleagues called for in 2019 (21) are thus beginning to appear in the scientific literature.

The scoping reviews also included searches in the National Implementation Research Network (NIRN) (http://nirn.fpg.unc. edu/). In 2005, NIRN published the report *Implementation research: A synthesis of the literature* (5). This report was very widely disseminated and is one of the implementation models of the QIF.

In several of the supplementary studies from the 2016 and 2023 scoping reviews, some aspects of Meyer's QIF have been developed. Some new aspects have also been identified. Below are some examples of new or developed aspects.

Focus on scientific support

Armstrong and colleagues refer to "evidence informed decision making" as an important part of implementation processes (68). This can be briefly summarised as increased access to science-based knowledge, as well as the ability to use such knowledge for local decision-making. However, as Spoth and colleagues write, researchers, decision-makers, and practitioners may not share the same views on what grading evidence means and how evidence should be assessed (69). It is therefore important that different dissemination channels such as websites, reports, and factsheets indicate the criteria used to assess the scientific quality of the information provided. The Swedish Agency for Health Technology Assessment and Assessment of Social Services (SBU), the National Board of Health and Welfare, and the Public Health Agency of Sweden are examples of authorities that compile international research in Swedish, both in reports and in shorter and more accessible material, such as web texts and fact sheets.

Focus on the intervention

Several of the supplementary studies address issues specific to the intervention being implemented. Several studies also delve into the area of programme fidelity (62, 70–72), i.e. how well the original intervention

is followed in practice. Programme fidelity is an aspect closely related to adaptability. However, programme fidelity is rarely measured and reported in scientific studies. Durlak and DuPre have shown in a literature review of nearly 500 published scientific articles that only 59 of these studies assessed the relationship between programme fidelity and effects (62). More than 75 per cent of the 59 studies reported that programme fidelity had a significant positive effect on the outcome. Albers and colleagues highlight the concept of high-fidelity implementation (71). Programme fidelity can be improved by, for example, identifying the components of an intervention that are likely to have an impact (70), conducting site visits some time after a new intervention has been introduced in the organisation (68) and assessing concrete performance (38). However, the importance of programme fidelity must be balanced against the importance of adaptability. Absolute programme fidelity can hamper implementation opportunities (73). It may be that an intervention developed under optimal conditions, for example in a well-planned and financed development programme, becomes too complicated or too expensive to use in regular activities. Here, as always, it is important to look at the needs and conditions of the recipients.

Focus on long-term sustainability

"We suggest that implementation efforts begin with sustainment in mind." (57)

Many studies specifically highlight the importance of long-term sustainability (26, 27, 56, 57, 74). Several studies emphasise that planning and activities for long-term sustainability must be included from the outset, both in terms of funding and methodological support (27, 56, 57, 74). Rusch and colleagues suggest that a specific plan focusing on long-term sustainability be developed (56).

Spoth and colleagues highlight the following issues to support planning for long-term sustainability (69):

- What factors related to leadership, motivation, organisation, training and technical support can support long-term sustainability?
- What funding strategies can support long-term sustainability?
- What kind of organisational leadership can support long-term sustainability?
- What national, regional and local networks and system for technical assistance can support long-term sustainability?
- Which policies are most successful in achieving stable funding?

Many have experienced the disappointment of seeing well-functioning projects cancelled due to lack of funds. This can and should be avoided by good planning early in the implementation process and by not abandoning the implementers too early. It is therefore necessary to consider from the outset how a new intervention will be managed in the long term and in regular activities. Van Dyke and Naoom describe successful long-term implementation as the phase when all components of the implementation process are integrated into the organisation and work as intended (39). The organisation is then adapted to the new work practices or the new intervention, the staff have knowledge and skills, and the new has become routine.

Focus on data in decision-making processes

Van Dyke and Naoom emphasise the importance of using data-driven decision-making and quality assurance (39). Data-driven decision-making means using facts, metrics, and data to make strategic decisions in line with the organisation's goals. An implementation process is facilitated by access to IT support systems that can continuously support decisions and continued work. To support operations and avoid the development of parallel systems, centralised IT support should be provided. Common systems provide greater assurance of quality and enable comparisons (39).

Focus on engagement, processes, and problem solving

Engagement is key to implementation processes. As Lu and colleagues write: *stakeholder engagement sits at the core of successful implementation*, and everyone who is in some way effected by the implementation are *stakeholders* (75). The key to engagement is to identify who will be implementing, what will be implemented, and how this can be of interest to the relevant stakeholder. Lu and colleagues also emphasise the importance of early process mapping and creating opportunities and motivation for problem solving along the way. Overall, researchers describe that motivated stakeholders need to work together to engage interested parties, understand work processes, and overcome obstacles to succeed in implementation (75).

Focus on complexity

Several studies highlight the complexity that often occurs in implementation processes, both in terms of intervention and context (22, 24, 26, 27). For example, Pfadenhauer and colleagues have developed the *Context and Implementation of Complex Interventions* (CICI) framework, which includes

geographical, epidemiological, socio-cultural, socio-economic, ethical, legal, and political aspects (22). These contextual aspects matter for execution and location of implementation. CICI aims to simplify and structure the complexity of implementing interventions to increase understanding of how to successfully implement an intervention. Pfadenhauer and colleagues also emphasise the importance of careful preparation and planning and collaboration between different arenas, professions, and levels of the organisation (22). Huybrechts and colleagues highlight that complexity is a contributing factor to a gap between research and practical implementation (26). They have therefore developed a model that can serve as a basis for further research on the development and implementation of complex interventions. Kahlil emphasises the importance of social relations and staffing issues in making complex interventions feasible in practice (27).

Bridging factors

Moullin and colleagues highlight the importance of bridging factors in implementation processes (57). The researchers examined the *Exploration*, *Preparation*, *Implementation*, *Sustainment* (EPIS) framework in a systematic literature review. EPIS consists of four main components: the intervention to be implemented, an external context, an internal context, and bridging factors. The internal context is close to the intervention to be implemented, for example, it can be about the organisation and leadership of the organisation, while the external context is about things outside the organisation that may still affect the organisation. Bridging factors link the internal and external context and aim to make them interact. According to Moullin and colleagues, taking bridging factors into account can facilitate successful implementation (57). One example of a bridging factor is an active cooperation between key people in the internal and external context in an implementation process.

National Implementation Research Network (NIRN)

The additional searches on the NIRN website in 2016 also supported the aspects of the Meyer framework. This is not surprising, as one of NIRN's key reports (5) is one of the implementation models in Meyer's *Quality Implementation Framework*. An update of the NIRN report in the form of a scientific article (38) and tools to support implementation processes were available on the NIRN website in 2016. The repeat search of the NIRN

website in 2023 showed that the development of implementation support has continued, for example with online courses and digital tools.

There are now many theories and models that can support practical implementation and implementation research (4). The Public Health Agency of Sweden's implementation support, i.e. this report, *Checklist for high-quality implementation* and *E-guide Implementation* are primarily based on the *Quality Implementation Framework* (1) and on aspects identified in the supplementary scoping reviews of 2016 and 2023.

Short description of methodology

This report is an update of *From news to everyday use – the difficult art of implementation*, published by the Swedish National Institute of Public Health in 2007. The update is based on the original report, the implementation framework *Quality Implementation Framework* (1) and two scoping reviews, conducted at the Public Health Agency of Sweden in 2016 and 2023 respectively.

Original material

The original report *From news to everyday use – the difficult art of implementation* is mainly based on two literature reviews, *Implementation Research: A Synthesis of the Literature* by Fixsen et al. (5) and *Diffusion of Innovations in Health Service Organisations. A Systematic Literature Review* by Greenhalgh et al. (40).

Quality Implementation Framework

Meyers and colleagues have developed a framework that aims to facilitate the implementation of new methods and work practices (1). The researchers conducted a systematic literature review to identify studies describing implementation models. They searched six different databases and initially received 1 945 hits. After an assessment of relevance and quality, 25 implementation models remained, two of which were described in two studies each. There were many similarities between the models even though they had been developed in different sectors, such as healthcare, public health, and education. Based on a compilation of the models, four overall phases and 14 critical steps for planning, assessing, and succeeding in implementation processes were identified. Meyers and colleagues finally summarised the phases and steps into a framework called the *Quality Implementation Framework* (QIF).

Scoping reviews

The *Quality Implementation Framework* is a key part of this report. The database search underpinning the original *Quality Implementation Framework* (1) was finished in mid-2011. The Public Health Agency of Sweden has therefore supplemented the data with two scoping reviews, in accordance with *the Public Health Agency of Sweden's Manual for literature reviews* (76). In this section, we describe the execution of each scoping review. Two separate more comprehensive methodological reports are available on the website of the Public Health Agency of Sweden (In Swedish).

Scoping review 2016

The supplementary literature search in 2016 yielded 1 407 hits and included a database search (Scopus), manual search, citation search, and review of reference lists. Following relevance assessment of titles and abstracts, 46 fulltext articles remained to be read. Of these, another 36 were excluded, mainly because they reported no or only an incomplete implementation framework. Finally, the following ten articles were included in the analysis:

- 1. Armstrong et al. Knowledge translation strategies to improve the use of evidence in public health decision making in local government: intervention design and implementation plan. Implementation Science 2013, 8:121. (68)
- 2. Berkel et al. Putting the pieces together: An integrated model of program implementation. Prevention Science 2011, 12:23–33. (70)
- 3. Bertram et al. Improving programs and outcomes: Implementation frameworks and organization change. Research on Social Work Practice 2015, 25(4) 477–487. (38)
- 4. Fixsen et al. Statewide Implementation of evidence-based programs. Exceptional Children 2013, 2:213–230. (77)
- Foster-Fishman and Watson. The ABLe Change Framework: A conceptual and methodological tool for promoting systems change. American Journal of Community Psychology 2012, 49:503–516. (78)
- 6. Gagliardi et al. Developing a checklist for guideline implementation planning: review and synthesis of guideline development and implementation advice. Implementation Science 2015, 10:1–9. (79)

- Harvey et al. The NIHR collaboration for leadership in applied health research and care (CLAHRC) for Greater Manchester: combining empirical, theoretical and experiential evidence to design and evaluate a large-scale implementation strategy. Implementation Science 2011, 6:96. (80)
- Metz and Albers. What does it take? How federal initiatives can support the implementation of evidence-based programs to improve outcomes for adolescents. Journal of Adolescent Health 2014, 54:92–96. (74)
- Spoth et al. Addressing core challenges for the next generation of Type 2 translation research and systems: The Translation Science to Population Impact (TSci Impact) framework. Prevention Science 2013, 14:319–351. (69)
- Wandersman et al. Toward an evidence-based system for innovation support for implementing innovations with quality: Tools, training, technical assistance, and quality assurance/quality improvement. American Journal of Community Psychology 2012, 50:445–459. (81)

All the complementary studies identified aspects in line with the QIF, while none of the studies contradict the content of the framework. Some of the studies have identified and delved into aspects not covered by the QIF.

The supplementary scoping review also included searches on the National Implementation Research Network's website (http:// nirn.fpg.unc.edu/). In 2005, NIRN published the report *Implementation research: A synthesis of the literature* (5). This report was widely disseminated and is one of the implementation models of Meyer's QIF. The supplementary database search also identified an update of the NIRN report in the form of a scientific article (38).

Scoping review 2023

The supplementary search in 2023 yielded 4 222 hits and included a database search (Scopus), manual search of scientific journals, and review of reference lists. Following relevance assessment of titles and abstracts, 265 full-text articles remained to be read. Of these, another 245 were excluded, mainly because they reported no or only incomplete implementation frameworks. Finally, 20 articles were included in a review based on Meyer's QIF and after this review, the following 16 articles remained:

- 1. Blanchard et al. The Active Implementation Frameworks: A roadmap for advancing implementation of comprehensive medication management in primary care. Research in Social and Administrative Pharmacy. 2017, 13:922–29. (72)
- 2. Huybrechts et al. The building blocks of implementation frameworks and models in primary care: A narrative review. Frontiers in Public Health 2021, 9. (26)
- 3. Khalil and Kynoch. Implementation of sustainable complex interventions in health care services: the triple C model. BMC Health Services Research 2021, 21:143. (27)
- King et al. Planning for implementation success using RE-AIM and CFIR frameworks: A qualitative study. Frontiers in Public Health 2020, 8. (58)
- Lu et al. Implementation strategies for frontline healthcare professionals: People, process mapping, and problem solving. Journal of General Internal Medicine 2021, 6:506–510. (75)
- Merlo et al. Applying an implementation framework to the use of evidence from economic evaluations in making healthcare decisions. Applied Health Economics and Health Policy 2019, 17:533–543. (82)
- Moullin et al. Systematic review of the Exploration, Preparation, Implementation, Sustainment (EPIS) framework. Implementation Science 2019, 14:1. (57)
- 8. Peters et al. Facilitating guideline implementation in primary health care practices. Journal of Primary Care & Community Health Volume 2020, 11:1–9. (83)
- 9. Pfadenhauer et al. Making sense of complexity in context and implementation: the Context and Implementation of Complex Interventions (CICI) framework. Implementation Science 2017, 12:21. (22)
- Pollastri et al. The value of implementation frameworks: Using the active implementation frameworks to guide system-wide implementation of Collaborative Problem Solving. Journal of Community Psychology 2020, 48:1114–1131. (84)
- Rusch et al. A roadmap to inform the implementation of evidencebased collaborative care interventions in communities: Insights from the Michigan Mental Health Integration Partnership. Frontiers in Public Health 2021:9. (56)

- 12. Shoemaker et al. Application of the Consolidated Framework for Implementation Research to community pharmacy: A framework for implementation research on pharmacy services. Research in Social and Administrative Pharmacy 2017, 13:905–913. (25)
- Tucker et al. Implementation science: Application of evidence- based practice models to improve healthcare quality. Worldviews on Evidence-Based Nursing 2021, 18(2):76–84. (85)
- Van Dyke and Naoom. The critical role of state agencies in the age of evidence-based approaches: The challenge of new expectations. Journal of Evidence-Informed Social Work 2016, 13:45–58. (39)
- Vincenten et al. Factors influencing implementation of evidence-based interventions in public health systems – a model. Central European Journal of Public Health 2019, 27(3):198–203. (24)
- Weeks. Important factors for evidence-based implementation in child welfare settings: A systematic review. Journal of Evidence-Based Social Work 2021, 18(2):129–154. (73)

In all the supplementary studies, we identified aspects in line with the QIF, while none of the studies contradicted the content of the framework. Some of the studies have identified and delved into aspects not covered by the QIF.

The repeat search of the NIRN website in 2023 showed continued development of implementation support, such as online courses and digital tools.

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This report is about implementation. Here, we present and discuss how new interventions, work practices, and products can be disseminated and implemented.

When something new, sometimes after many years of development, is deemed reasonable and appropriate, there may be an expectation that it will be brought into use relatively immediately. But this is rarely the case. At this stage, the new is more likely to be at the start of a long process on its way to everyday use. Speeding up the process "from news to everyday use" is therefore an urgent task.

Our hope is that this report will act as a support for decision-makers responsible for public health matters, as well as for development managers, strategists, and practitioners with coordinating tasks in different fields. Meaning, this is for people who occasionally face the challenge of implementing new knowledge and interventions to promote public health.

The Public Health Agency of Sweden is a national knowledge authority that works to improve public health. The authority does this by developing and supporting society's work to promote health, prevent ill health, and protect against health threats. Our vision is a public health that strengthens the development of society.



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