



Swedish National Institute
of **Public Health**

From news to everyday use

The difficult art of implementation

A literature review by Karin Guldbrandsson

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FOREWORD

This report is about implementation. It presents and discusses scientific surveys of how innovations, i.e. new methods and products, are introduced, realised and disseminated. When a method, perhaps after many years' of research, is deemed effective and suitable, we might expect it to be brought into use relatively promptly. But this is seldom the case. At this stage, the method is more likely to be merely at the start of a long process on its way to everyday use.

Speeding up the process from finished research findings to the practical use of new methods is an important task. Awareness of the importance of using evidence-based interventions in the field of public health has increased in recent years and there are now quite a few health-promoting methods that are based on high-quality research. There is however a lack of knowledge as to how these methods can best be implemented in different activities. We could say that there is a lack of *evidence-based methods for implementing evidence-based methods*. It is important to improve the current state of knowledge and this must be achieved by the research community and practitioners in municipalities, county councils, voluntary organisations, companies and central government agencies working together.

Our hope is that this report will act as a support for public health planners, prevention coordinators and others with similar working tasks, i.e. for people who occasionally face the challenge of implementing new methods to promote public health. There is a comprehensive checklist at the end of this report with some research-based reminders to support the implementation of health-promoting and disease-preventing interventions. Readers are free to copy and use this checklist.

The report was written by Karin Guldbbrandsson at the Swedish National Institute of Public Health. Valuable comments on the report have been received from Sven Bremberg, Lena Bergman and Jenni Niska at the Swedish National Institute of Public Health, Johannes Dock and Hjärdis Rooth Möller at Västernorrland County Council, Peter Allebeck and Lena Kanström at Stockholm County Council, and Knut Sundell and Karin Tengvald at the National Board of Health and Welfare.

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SUMMARY

Once new health-promoting methods have been presented, sometimes after years of research, it often takes a long time for them to come into daily use. This delay means that possible health gains are not achieved as quickly as we would perhaps like. The aim of this report is to facilitate the work of public health planners, prevention coordinators and other who sometimes face the challenge of disseminating and implementing new methods in the field of public health.

The implementation process starts with someone having *an idea* about *a new method* that can be used to meet *a need* or solve a problem. The idea may originate in the organisation where the need arose or come from the person providing the new method or someone else who has both noticed the problem and is familiar with the method. The idea is presented and a *decision* is taken, normally on a high level within the organisation. The next step is the *planning, preparation and implementation* of the activities needed to achieve the sought-after change. Once the new method has been integrated from both a practical and organisational point of view, it is then *evaluated* and *any necessary local adjustments are made*. Finally, the method is considered *institutionalised*, i.e. it is taken for granted regardless of reorganisations, personnel turnover and political changes.

There is research enabling us to distinguish components that have significant bearing on the implementation result. These components are presented in a checklist at the end of this report. The most basic requirements are that there is an explicit need and that the proposed method is the right one in the context. There are certain features common to methods that have been successfully implemented. These features are that the method: has visible benefits; is in line with the norms, values and working methods of the organisation implementing it; is easy to use; can be tested on a small scale; can be adapted to the needs of the recipient; and, finally, gives rise to knowledge that can be generalised in other contexts.

Oral or written information is normally offered when a new method is to be introduced. Offering only information, education or practical training is usually not enough. It is instead a question of combining several measures, e.g. education *and* practical training *and* feedback, to continuously offer high-quality support and guidance, to set aside time and resources and to involve the users at an early stage of the process.

If a new method does not lead to the anticipated effects, it should be possible to find out whether it was the method itself that did not work or whether it was down to unsuccessful implementation. In order to carry out a complete evaluation, therefore, it is necessary to be clear about what are method components and what are implementation components. In order to achieve the anticipated effects, *both* the method *and* the implementation must of course work.



DEFINITIONS

Implementation

When we normally talk about implementation, we often use phrases such as carry out, realise, bring about, launch, etc. The fact that there is no well-defined and common framework concept as regards implementation reflects the relatively undeveloped state of this area of research (1, 2). Dean Fixsen et al at the University of South Florida in the United States have performed a comprehensive review of implementation research, in which they define implementation as:

- a specified set of activities designed to put into practice an activity or program of known dimensions (2).

A similar definition is given by Trisha Greenhalgh who has compiled research on how new methods are disseminated in the health service. Greenhalgh and her colleagues define implementation as:

- active and planned efforts to mainstream an innovation (3).

Other definitions of the verb “to implement” are:

- introduce and put new ideas into use (4),
- establish and use a method in practice (1),
- realise, apply or put plans, ideas, models, norms or policies into operation (5).

Diffusion and dissemination

The idea of a new method must be spread before it can be implemented. Everett Rogers, author of the classic book *Diffusion of Innovations*, defined diffusion as “the process in which an innovation is communicated through certain channels over time among the members of a social system” (6). Dissemination, on the other hand, is defined by Trisha Greenhalgh et al. as “a planned and active process intended to increase the rate and level of adoption above that which might have been achieved by diffusion alone” (3). Thus, the word dissemination is normally used to describe more active spreading of a new idea than the word diffusion, or, as Greenhalgh puts it, “make it happen” rather than “let it happen”.



INTRODUCTION

“To implement – is easier said than done.”

Many people, not just in the field of public health, agree with this statement. Many of us have tried to realise ideas and introduce new methods, but after a while we have been forced to admit that things didn't turn out as we had originally intended and planned. Let's therefore begin this report on the difficult art of implementation with three fictitious examples of what can happen and what problems we may encounter when putting new methods into practice.

Some examples

► **Example 1**

Johanna is a public health planner at a Swedish county council. She has recently attended a seminar called “Inspiring better parent support”, organised by the county administrative board. The programme included a presentation of Komet - an evidence-based parent support programme. Johanna thinks that Komet seems to be a good programme and discusses the issue in the public health group of one of the municipalities in the county. This group is made up of civil servants

from different municipal departments, primary care representatives and the municipality's prevention coordinator. The group agrees that the Komet programme could be used by the social services and Johanna is given the task of investigating the issue further. She organises a training day for social services personnel. A lot of people enrol for the day and according to their evaluations, most seem to be satisfied with the training.

Outcome

A year goes by and nothing concrete has happened. The issue is discussed now and again, but has not gained a foothold in the organisation.

Explanation

The social services feel they have no obvious need for a parent support programme. Not enough influential opinion-makers within the municipality recommend the programme. No resources have been set aside for it.

Proposal for how to proceed

Johanna should find out whether social services are encountering problems that could be solved by using the method in question. If this is the case, she should clearly formulate the need and describe how the Komet programme can meet this perceived need. Johanna should also involve municipal decision- and opinion-makers in the process.

► **Example 2**

Laila is a local councillor in a metropolitan municipality. She is on the education committee and has always been strongly committed to child and youth issues. She is an experienced, well-read politician. She has heard that the "Olweus method" seems to be the most successful anti-bullying method, according to research on the subject. The education committee instructs Erik, the head of the local education authority, to look into whether the Olweus method could be introduced in the municipality. An inquiry is carried out advocating the use of the Olweus method in local schools.

Outcome

A year goes by and nothing concrete has happened, despite the inquiry having been presented to the education committee and its conclusions gaining the support of local politicians.

Explanation

The schools have already invested in other anti-bullying methods. There is hence neither the interest in nor the resources for another anti-bullying method on the local level.

Proposal for how to proceed

Erik should ensure that the existing methods are evaluated and compared to the proposed Olweus method as regards their efficacy and cost-efficiency. Could these existing methods perhaps be adapted to the Olweus method? Opinion-makers in schools must be involved in the process and the necessary resources must be made available.

► **Example 3**

Peter works as the head of the works department in a suburban municipality. Along with Göran, a local politician and chairman of the works committee, he has participated in a training day on road traffic injury prevention. The reason why Peter and Göran enrolled for the training at the National Road Administration was that the unsafe traffic environment outside local preschools and schools as a result of large-scale construction had been brought to their attention. There had been a number of near-accidents and local residents had contacted the works department in this matter. Peter and Göran highlight the issue of local speed-restricting measures at a works committee meeting. The committee decides that local speed-restricting measures should be implemented in accordance with Peter and Göran's proposal.

Outcome

Speed bumps and chicanes have been installed after one year. No further near-accidents have been reported.

Explanation

There was an obvious, ready-formulated need. The solution proposed by Peter and Göran seemed reasonable in relation to the need. The solution was well within the works department's normal remit and was deemed cost-efficient. The organisation has both the knowledge and the resources to implement the measures. Decision-and opinion-makers were involved in the process at an early stage.

Proposal for how to proceed

The works department should evaluate the measures and learn from the results.

There is a crucial difference between Example 3 and Examples 1 and 2 in that Example 3 is more a question of adapting the environment rather than changing people's behaviour. Examples 1 and 2 relate to what might be termed "soft" departments, in this case the social services and education authority, that are given the task of introducing new and relatively complex working methods, whilst in Example 3, it is the works department that is tasked with installing "new products". It is probably more difficult to successfully implement a complex method involving many people and requiring a change in behaviour than implementing a comparatively uncomplicated product, the success of which depends on an adaptation of the physical environment, in this case local roads. The principles of implementation are the same, however.

New methods and products are introduced and disseminated, and implementation is successful in many cases. The challenge lies in succeeding even more often and in speeding up the process from completed research findings to the practical use of new methods.

How are decisions taken in Swedish municipalities and county councils?

Regardless of where in an organisation an idea to introduce something new is conceived, a formal decision is required to realise it. Minor changes obviously don't need decisions on the highest level, but changes that require more resources or a redistribution of existing resources require formal decisions on the highest level within the organisation.

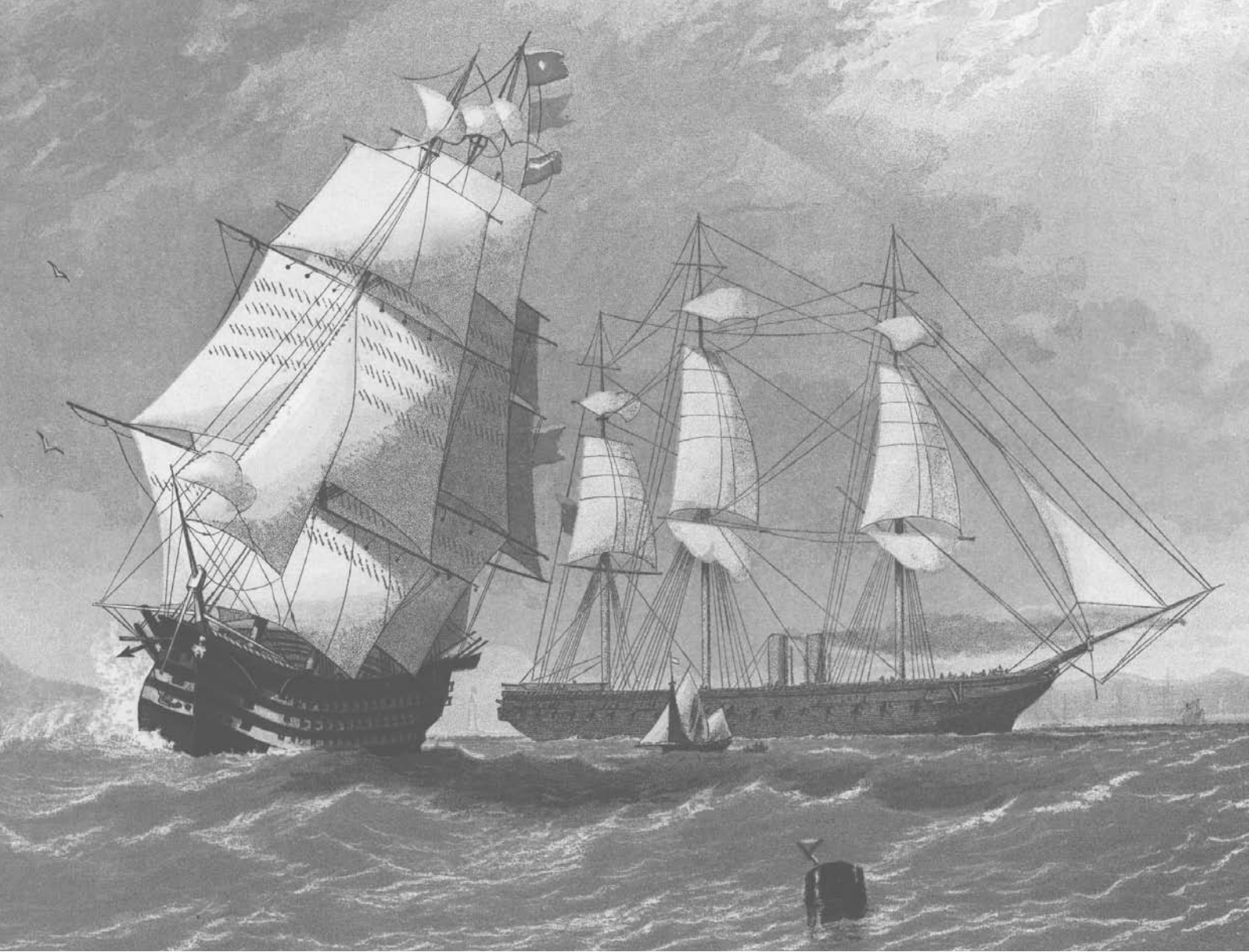
The municipal or county council assembly takes the decisions in major, overarching issues within municipalities and county councils, relating e.g. to the budget. Prior to an issue being presented to the assembly for a decision, it has firstly been prepared by civil servants within the administration and then discussed by a political committee, board or council, e.g. the education committee or healthcare board. Support on the political level is a precondition for implementing changes in democratically governed organisations like municipalities and county councils. Without political support and a formal decision, it is difficult to realise new ideas, since no resources will be set aside for preparations, implementation or follow-up.

Someone who wants to introduce a new method but who does not have decision-making powers has to convince decision-makers that there is an unsatisfied need within the organisation and that the proposed method can satisfy this need. By way of example, let's imagine a school principal who finds out about a new anti-bullying method. To access the resources required to implement the new method in the school, the issue must be elevated from the local school level to the municipal education authority level. Other actors can also highlight the issue, e.g. representatives of central government agencies and interest groups, private individuals or representatives of the organisation that supplies the method. Getting the education authority to realise that bullying is a problem and that the proposed method could solve the problem is essential if the matter is to be discussed in

the right fora and a formal decision taken. A similar decision-making route also applies for county council operations, i.e. the idea may be hatched anywhere inside or outside the organisation, the matter is prepared at the civil servant level and the formal decision is taken by a democratically elected assembly.

Method

This report presents implementation research that is of interest from a public health perspective. The report is mainly based on two comprehensive, systematic literature reviews: *Implementation Research: A Synthesis of the Literature* by Dean Fixsen et al (2) and *Diffusion of Innovations in Health Service Organisations. A systematic literature review* by Trisha Greenhalgh et al (3). No other systematic searches have been carried out.



QUICKER IMPLEMENTATION – AN IMPORTANT TASK

The fight against scurvy

Knowledge of evidence-based methods has increased in recent years, not just in the field of public health. We know for example that structured parent support programmes can prevent alcohol use among young people and we know which measures work when it comes to combating bullying in schools (7, 8). On the other hand, we lack knowledge about how such methods can be successfully incorporated into everyday activities. When a method, perhaps after many years of research, is deemed effective and suitable, we might anticipate it being brought into operation relatively promptly. But this is seldom the case (9-14). Perhaps an over-explicit example is the fight against scurvy (15). In 1601, Captain James Lancaster showed that three teaspoons of lemon juice a day saved sailors from scurvy. All the sailors on Lancaster's trial ship survived whilst 40 percent of the crews on the three control ships died of the disease. This trial did not lead to any changes in the navy's diet, however. A study with similar results was carried out 146 years later by James Lind, a

doctor in the British Navy. Lind's trial didn't lead to any changes either. Not until another 48 years later was the daily intake of vitamin C introduced into the navy's diet and scurvy among sailors almost immediately eradicated.

The establishment, through research, of a method's usefulness is often only the beginning of a long process towards its everyday use. Speeding up the process from completed research findings to practical use is an important task that must be performed by the researchers and practitioners in municipalities, county councils, voluntary organisations, companies and central government agencies working together.

"We must make sure that no lifesaving discovery is locked up in the laboratory" (16).

Disseminating and implementing new methods

A precondition for a new method to be brought into use is for potential users to be aware of its existence. The book *Diffusion of Innovations* by Everett Rogers has long since constituted a basis for research into the diffusion of innovations in many fields, including agriculture, production, healthcare and health promotion (6). There are also comprehensive literature reviews of how innovations are diffused or disseminated within the healthcare sector (3, 17, 18). Research into the diffusion of innovations in organisations has until now mostly concentrated on products and not on complex interventions that require major changes in organisational structures and working methods (3). Public health promotion is often about complex interventions, e.g. change management in a housing area or new methods in schools that involve pupils, teachers and parents alike. Disseminating such complex programmes is probably more difficult than disseminating a new product, e.g. a piece of medical engineering equipment or new agricultural crops. But the principles of dissemination are the same – it is a question of marketing and of being discernible in a crowd of competing products and methods.

Firstly, information about a new product, e.g. a new mobile telephone or a new washing powder, is often actively disseminated by the company that produces it. If the customers are satisfied, they will tell their friends and colleagues about the product and its benefits, i.e. active dissemination is complemented by spontaneous diffusion. The same is of course true of new health-promoting methods. A dilemma in the public health field is that it often takes a long time to see the benefits of a new method. To achieve widespread dissemination, a health-promoting method must therefore be better, preferably much better, than any competing methods within similar fields.

The "seller" of a method can choose to try and reach the consumers directly or via various intermediaries. Advertisements are a way of reaching many consumers directly, e.g. the Swedish pharmacy monopoly Apoteket's advert for nicotine substitutes. An example of working through intermediaries might be if Apoteket trained doctors in smoking cessation methods. Advertisements reach a lot of people but the level of precision is low, i.e. most of those who see such adverts for nicotine substitutes are non-smokers. Doctors reach far fewer people, but the level of precision is high, i.e. they reach only smokers.

If a new method is good enough, it will only need few resources or even none at all to be diffused. It will happen spontaneously. But when it comes to the final stage in the dissemination process, i.e. when the new method is to be put to everyday use, more resources are generally needed. These should be detailed in a budget, e.g. for planning, purchasing of equipment, hiring personnel, training and evaluation.

The research is unanimous – implementation is an art in itself

A classic among implementation research publications is Pressman and Wildavsky's book from 1973, called *Implementation. How great expectations in Washington are dashed out in Oakland* (19). The book describes how a seemingly simple and ready-funded plan to reduce unemployment

in Oakland was developed into a complex programme involving countless actors with different perspectives and with many complicated decision-making situations. Despite all the actors agreeing with the fundamental premise; that jobs must be created for unemployed minorities in Oakland, and despite the funding being in place, the programme encountered many obstacles. Pressman and Wildavsky list seven explanations in their book: direct incompatibility with other commitments; no direct incompatibility, but a preference for other programs; simultaneous commitments to other projects; dependence on others who lack a sense of urgency in the project; differences of opinion on leadership and proper organizational roles; legal and procedural differences; and agreement coupled with a lack of power.

A Swedish example is a study of the implementation of a plan to reduce overweight among children and adults in a Swedish county council. It was shown that the plan led to little action in practice and that the people interviewed knew either nothing or very little about it (20). A lack of participation, local support, clarity and resources, too great a perceived distance between different levels, lack of investment in the implementation in practice and low priority were all seen as obstacles to the implementation of the plan.

Bearing in mind all the difficulties highlighted in implementation research, it may seem surprising that new methods are implemented at all (21, 22).

Implementation is a process, not an event (23, 24). The very first step in the process is quite simply for someone in an organisation to get *an idea* about *a new method* that could be used to satisfy *a need* or solve a problem in the organisation. The idea is presented, an assessment is made of whether the method in question can meet the needs of the organisation and *a decision* is taken. In order for the decision to lead to actual change, it should be taken on the right level in the organisation. If the decision is taken to incorporate the new method into the organisation's activities, the next phase of the implementation process begins and what is needed to realise the idea is *planned and arranged*. This might be a question of hiring new personnel, adapting the organisation or arranging premises and equipment. As in subsequent stages of the process, resources, sometimes of an extensive nature, are required during this phase. The next step is about *actual change*, such as increasing the level of knowledge, improving organisational capacity or changing a prevailing culture. For this to happen, things like education, further and practical training, as well as time to allow the method to "mature", are needed. Gradually, the new method will have been *integrated* into activities, both practically as well as organisationally, and now be considered self-evident. The method is *evaluated* and any local *adjustments* are made, perhaps in several steps. Finally, the method is an integral part of the organisation's activities regardless of reorganisations, personnel turnover and political change. The method is then considered to have been *institutionalised*.

Key concepts in the implementation process

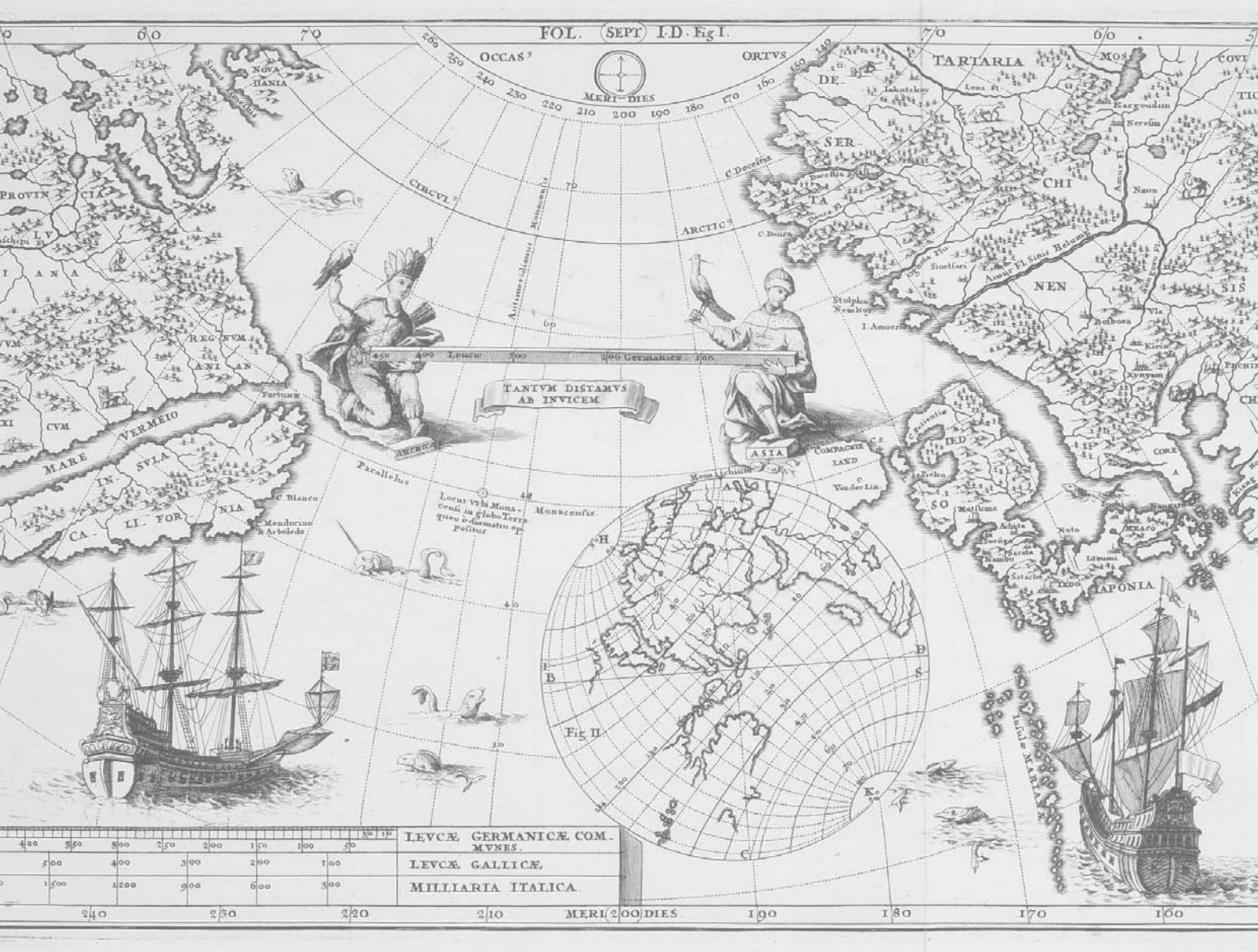
▶ NEED, METHOD, IDEA

▶ DECISION

▶ PLANNING, CHANGE, INTEGRATION

▶ EVALUATION, ADJUSTMENT

▶ INSTITUTIONALISATION



THE CONDITIONS OF SUCCESSFUL KNOWLEDGE DISSEMINATION AND IMPLEMENTATION

The end-result of an implementation process is determined by the interaction between those who want to introduce the new method, the intended users of the method, the new method itself and the prevailing conditions during the implementation period. Various research studies have indicated several different factors that seem to play a role in whether the implementation of a new method is successful or not in the long term. Different factors probably interact with each other, but how this happens has yet to be elucidated. Putting energy into all the aspects of implementation is seldom possible, due to a lack of resources. New methods that we are planning to implement often don't fulfil the most fundamental requirements – that there is an explicit need and that the proposed method is the right one in the context. A practical and methodical way of thinking is required here. The checklist at the end of this report is intended as a support when planning the implementation of new methods.

But *what* should we do to introduce a new method? And *if* we succeed in implementing it initially, what should we do to integrate and disseminate it and ensure it benefits our everyday work in the long term? If we return to Example 1 at the beginning of this report and assume that Johanna is successful in her efforts to implement the Komet parent support programme in the

social services. Can she then introduce the method in e.g. childcare services in her municipality? And can her colleagues in neighbouring municipalities implement the Komet programme in the same way as she has done?

The research gives no unequivocal answers to these questions, but we can at least draw some conclusions. These conclusions are presented in the rest of this report and are summarised in the final checklist. A good start when we have decided to implement a new method is to have a clear picture of which components belong to the method itself and which concern the implementation process.

Intervention and implementation – which is which?

A precondition of being able to evaluate the extent to which the implementation has been successful is to be able to differentiate the method from the implementation process. There is therefore a need to clarify and distinguish between *intervention* processes and *intervention* outcomes and *implementation* processes and *implementation* outcomes (2, 3, 25).

A new method must be well defined, i.e. we have to know exactly what components it comprises. The Komet programme mentioned in Example 1 above is based on the following main components: a written manual, trained leaders, eleven meetings over eleven weeks focusing on attention and praise, video clips, role play, home assignments and written material for the parents. The effect of a new method on intended recipients must also be evaluated. In this case, an evaluation might show that the children of parents who participated in the programme behave more calmly and are happier at home and in school, i.e. the method leads to a positive change in behaviour.

We must also define the actual implementation of the new method in much the same way. What exactly is included? It may be a question of personnel training, funding or adjustment of routines. We should also clarify the effects we expect to achieve. The results of the implementation itself are measured by the end-users, i.e. by the practitioners who will use the method. We can for example measure how many people have been trained and how many actively use the method after they have completed the training. One important outcome when evaluating the implementation is the changes it has led to in knowledge level and professional behaviour. But this is also a question of changes in organisational routines in order to support the changes in professional behaviour we want to achieve.

Programme compliance, i.e. how well a method is followed in practice, is an important part of the evaluation (2). If we exclude one important component when introducing a new method, e.g. the video clips in the Komet programme or the contact with the pupils' parents in the Olweus anti-bullying programme, we have then deviated from the original, evaluated method. Whilst a new method must be adjusted to local conditions in order for the implementation to be successful, we must not exclude or change any of its most important components. This is a difficult balancing act in practice.

To achieve a good end-result, *both* the method and the implementation must obviously work well. A poor method will have no effect even if it is implemented correctly. The same applies if the implementation of a fundamentally well-functioning method fails.

There needs to be a need

When researchers have analysed the success factors of sustainable implementation, they have demonstrated that local needs are an important element (22, 26-28). We can distinguish between implied needs such as “*we are not satisfied with how bullying problems are being handled at local schools*” and explicit needs such as “*we need a new programme to combat bullying in local schools*”. When the needs are expressed explicitly, there is more chance of a successful implementation (29).

Methods that are both complex and resource-demanding are frequently offered to recipients who don't see they have a problem that can be solved using the method in question. This is particularly true of the public health sector, where interventions in one specific area, such as tobacco prevention in schools, have an impact in a completely different area, in this case mainly in the health service. Furthermore, the effects of interventions aimed at children and adolescents often manifest themselves later on in life, and those who developed and implemented the methods seldom get to take the credit for the end-results.

A conflict of interest emerges when the needs of the public health sector for other actors' arenas clash with these same actors' own needs. This conflict can be resolved by finding synergetic solutions. A good example of this is tobacco and alcohol prevention interventions in schools. Research has shown that children who do well at school smoke and drink less than children who perform badly (30, 31). Teaching methods that promote children's and adolescents' ability in school can therefore satisfy both the interests of the public health sector in preventing alcohol and drug-related injury and disease and the schools' interest in offering good education.

Method criteria

New methods that have been successfully implemented share certain common characteristics. These basic similarities are that the methods are relevant (32), have relative and visible benefits, are in line with the recipient's values, are easy to use, can be tested on a small scale and can be adjusted to the recipient's needs (3).

Relevance

Information technology research has shown that the relevance and applicability of a new product or method are more important for the end-result than how it has been implemented (32). We can interpret this as follows: if the new product or method is good enough, it doesn't matter too much how it is implemented. But since health-promoting methods, even if they are evidence-based, seldom produce rapid results, "being good" is not enough. Such methods must also be implemented effectively.

Relative benefits

New methods that have clear and tangible benefits compared to existing methods, either in terms of efficacy or cost-efficiency, are easier to implement (3, 6, 33, 34). If a potential user cannot see any benefits of a new method, there is obvious no reason to put time and resources into changing methods. Relative benefits do not guarantee dissemination of a new method and this is true even of evidence-based methods (1, 3, 35-39). For a decision to introduce a new method to be actually taken, the problems should weigh heavier than the costs of the intervention (29). The results are also influenced by the extent to which a new method is seen to convey risks and how manageable these risks are deemed to be (3, 24, 40).

Concordance

New methods that are concordant with prevailing individual, organisational and professional values, norms and working methods are easier to implement (3, 6, 25-28, 34, 35). It can, for instance, be difficult or impossible to directly transfer a method from one country to another, or from one professional activity to another. If, for example, a teaching method involves children being punished, it must obviously be adapted quite radically to be of any interest to teachers in Sweden.

Simple to use

New methods that are perceived as simple to use are easier to implement (3, 6, 24, 25). The likelihood of a new method being accepted, as well as implemented as planned, also depends on how great the differences are perceived to be between the "old" and the "new". If the new method is not all that different from existing methods, there is more chance of it being successfully

implemented (26). The “new” must therefore not be seen as too new or too difficult. Demonstrating a new method for the intended user, e.g. by showing a film where someone uses it, may lessen the perception of the method being difficult to understand or tricky to use (3).

Testability

New methods that can be tested on a small scale are easier to implement (3, 32). Allowing the intended user to try out the method without too great a risk and with no obligation to buy facilitates a future implementation process. Rogers proposes as follows: “One way to cope with the inherent uncertainty about an innovation’s consequences is to try out the new idea on a partial basis” (6).

Visible results

New methods where the benefits are quickly observable are easier to implement (3, 24, 25). This is worth considering from a public health perspective since the results of health-promoting interventions seldom manifest themselves in the short term. One way of dealing with this is to design the implementation so that certain results become quickly visible, e.g. by performing simple evaluations of what the participants think about the method.

Adaptability

New methods that can be adapted to local conditions are easier to implement (3, 6, 26). Resources are often plentiful during the time it takes to develop and test a new method. When the new method, which has worked well in experimental conditions, is later to be incorporated into everyday activities, resources may be scarcer, however. If it is possible to adapt the new method to local conditions without detracting from the basic concept, it can be implemented despite an apparent lack of resources. We must, however, ensure that these adaptations do not become so far-reaching as to fundamentally change the method and lessen or nullify the anticipated effects.

Knowledge that can be generalised

New methods requiring knowledge that can also be used in other contexts are easier to implement (3, 34). If, for example, a new teaching method is to be introduced in preschools, it is naturally an advantage if the knowledge gained by the staff through education and training can be used in other, similar contexts, perhaps in schools or after-school care.

Implementation criteria

Offering only one element of support when introducing a new method, e.g. oral and written information or training, is seldom successful enough according to the research (2, 41, 42). Several studies have shown that information, education or training on its own does not necessarily result in a change in behaviour (14, 43-45). Bad materials, inadequate distribution of materials, poorly trained or disinterested personnel, lack of support and inadequate evaluation naturally reduces the chances of a successful implementation (27).

Despite this, however, there is still a good chance of putting new methods into practice. When the basic conditions have been fulfilled, i.e. when a need has been identified and clearly expressed and a suitable method has been carefully chosen, there are still a few factors that may have a positive influence on the implementation result.

A combination of measures

Research has shown that a combination of several implementation measures leads to better results (1, 2, 27, 36, 43, 44, 46-51). This is a question of different combinations, e.g. of distributing guidelines for new routines, offering education, practical training, coaching, feedback and the option of consultation. There is also evidence suggesting that quality is more important than quantity as regards support measures during an implementation process. One type of support is visits to organisations combined with feedback. It has been shown that feedback from colleagues in the same profession has a better effect than feedback from people who do not have the same

professional background (52). It seems therefore as if education, training, support and feedback are good, not as individual components but in combination. But here the research is not unequivocal (53, 54).

Early involvement of the users

Involving those who will be responsible for actually implementing a new method in the planning stage to discuss its benefits and drawbacks will help to identify potential problems and misgivings at an early stage and allow them to be resolved constructively (3). Allowing those responsible for the implementation to remain in the process to support and enthuse others after the initial phase will also increase the chances of a successful outcome in the long term (26).

Resources

The likelihood of a new method being accepted and implemented depends partly on what kind of organisational and financial support it receives (27, 28, 55). If there is a budget and if adequate, long-term resources are allocated to the process, the chances of a successful implementation will increase (3, 6, 39).

An example of full-scale support on the national level is the implementation of a parent support programme aimed at combating behaviour problems among children in Norway. The programme was called Parent Management Training, Oregon Model (PMTO) (56). A decision at ministerial level was followed up by full funding of a national plan for implementation and a national centre for implementation and research was established. Training of instructors began in 1999 and 6 years later all but 4 of the 117 certified instructors were still practising the method on a regular basis and 1 800 Norwegian families had gone through the programme. As regards the training of instructors and use of the method, this large-scale investment seems to have paid off; the implementation was in other words successful.

It is worth pointing out here that the massive financial and organisational support given by the Norwegian government in this case is exceptional. The opposite is much more common, i.e. new methods have to be implemented within existing economic frameworks. As far as public health promotion is concerned, it is also common for new methods to have to be accommodated within someone else's economic framework.

Feedback

Precise information at the right time on how the implementation process is progressing, through the collection and compilation of relevant information, increases the chances of a successful implementation (2, 3).

Summary

It seems as though massive practical, organisational and financial efforts are required for implementation to be successful (2). The more sub-components there are, e.g. education, training, coaching and support, the better. Perhaps even an idea about "canned porridge" could be disseminated and implemented as long as we add enough implementation components! On the other hand, perhaps an innovative idea presented at the right time, that meets a relevant need and that is better than existing methods, i.e. that fulfils certain basic requirements, does not need too much to be disseminated and implemented.



THE INDIVIDUAL AND THE ORGANISATION

The role of the individual

People are not passive recipients of innovations. It is more a case of different people to various extents looking for new methods and new products, experimenting and evaluating, discussing and assessing, formulating views, adjusting and trying to improve, often in dialogue with others (3, 39). Individuals with similar socioeconomic, professional, cultural and educational backgrounds are more likely to exchange ideas with each other than with people with a different background (3). Individuals who quickly adopt a new idea are, according to Rogers, less dogmatic and more empathic, have a higher formal education and a higher social status, and have a more positive attitude to science and change than individuals who adopt an innovation comparatively late (6).

Some individuals can influence their colleagues to a greater extent than other people can. Some become opinion-makers because of their authority and status as experts, whilst others become opinion-leaders because they have more credibility (3, 39, 57, 58). Opinion-leaders can have both a positive and a negative impact, i.e. they can both support and oppose the implementation of a new method. The research provides no unequivocal evidence as regards the value of opinion-leaders in practical activities (57).

Before a new method is introduced, it is important for those who are going to use it in practice to be aware that the method is to be introduced, that they have enough knowledge of the method in question and that they understand how the new method might affect their own work situation (3). When the process is underway, it is important for those using the method in practice to have regular access to information, training and support in their daily work.

The structure and quality of the social networks an individual belongs to affect how innovations are spread (3, 39). Some individuals belong to informal networks, others to formal networks. Informal networks are, according to Greenhalgh, the most effective channel for the diffusion of information among colleagues, whilst formal networks are more often used to disseminate official information (3). People in different groups in society therefore have access to information in different ways. A network can of course have both a positive and a negative effect as regards adopting ideas and implementing new methods.

The role of the organisation

Organisations that adopt innovations more quickly than others share certain common characteristics. These include structural factors, such as size and level of development. Large, well-developed organisations find it easier to adopt innovations than small, recently formed ones. Other structural factors that promote interest in innovations include organisations being divided up into departments and units with decentralised decision-making functions, and there being scope within the organisation to reallocate resources (3, 59). Innovative organisations are positive to change in general, have clear strategic visions, strong leaders, visionary personnel in key positions, a work environment that stimulates experimentation and risk-taking, and efficient activity monitoring systems (3). Since it is difficult in practice to change structures in the short term and thereby make an organisation more innovative, it may seem optimistic to suggest, as Greenhalgh does, that structural factors only affect the variation between comparable organisations by as little as 15 percent. We should remember that an organisation displaying the characteristics of one that is generally open to innovations does not necessarily adopt all new methods and products it is presented with.

Organisations that systematically identify, interpret and link new knowledge to already existing knowledge, i.e. what we sometimes call “learning organisations”, find it easier to take in innovations (3). Local networks aimed at knowledge exchange and cooperation within and among different professional groups facilitate knowledge development and dissemination. Before new knowledge can contribute to change, it must be adopted and disseminated. This happens via discussions within and among different networks (3).

It is important to have systems and knowledge to measure and evaluate the effects of new methods (3, 6, 60). Positive feedback generally leads to further positive development, what systems analyst Meadows calls “positive feedback loops” (61). The Swedish National Agency for School Improvement has developed a national system to facilitate quality assessments in preschools and schools, called BRUK. Another example is the Swedish National Institute of Public Health’s database “Basic Public Health Statistic for Local Authorities” (BPHS), which reports statistics on the important public health determinants in Swedish municipalities. These two databases are, just like regional and local public health reports, examples of systems that facilitate quality assessment on the local level and can thereby stimulate development.

Organisational capacity for change

Possessing “Community readiness” is when an organisation has the capacity to implement change (62). Models for measuring community readiness on the municipal or organisational level have been developed, e.g. Modern Stage Theory (63) and Community Readiness Model (64). The latter of these highlights the following steps and provides proposals for strategies.

▶ **No awareness of the problem or possible solutions**

Strategy: Create awareness of the problem through personal meetings with key persons and contact with potential supporters.

▶ **Denial of the problem or possible solutions**

Strategy: Create awareness of the problem occurring in the municipality or organisation through personal meetings with key persons, through highlighting events that demonstrate the problem and through information in the local media.

▶ **Poor awareness of the problem and possible solutions**

Strategy: Increase awareness of the problem occurring in the municipality or organisation and emphasise that the problem can be solved.

▶ **Planning to solve the problem**

Strategy: Give concrete ideas on how the problem can be solved.

▶ **Preparations to solve the problem**

Strategy: Collect information on local conditions that are important for the design of the strategy.

▶ **Implementation of a method to solve the problem**

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

▶ **Stabilising the implemented method**

Strategy: Plan to maintain the method by evaluating and adjusting it and by networking.

▶ **Strengthening and expansion of the implemented method**

Strategy: Strengthen and expand the method by e.g. formalising networks.

▶ **Professionalise the implemented method**

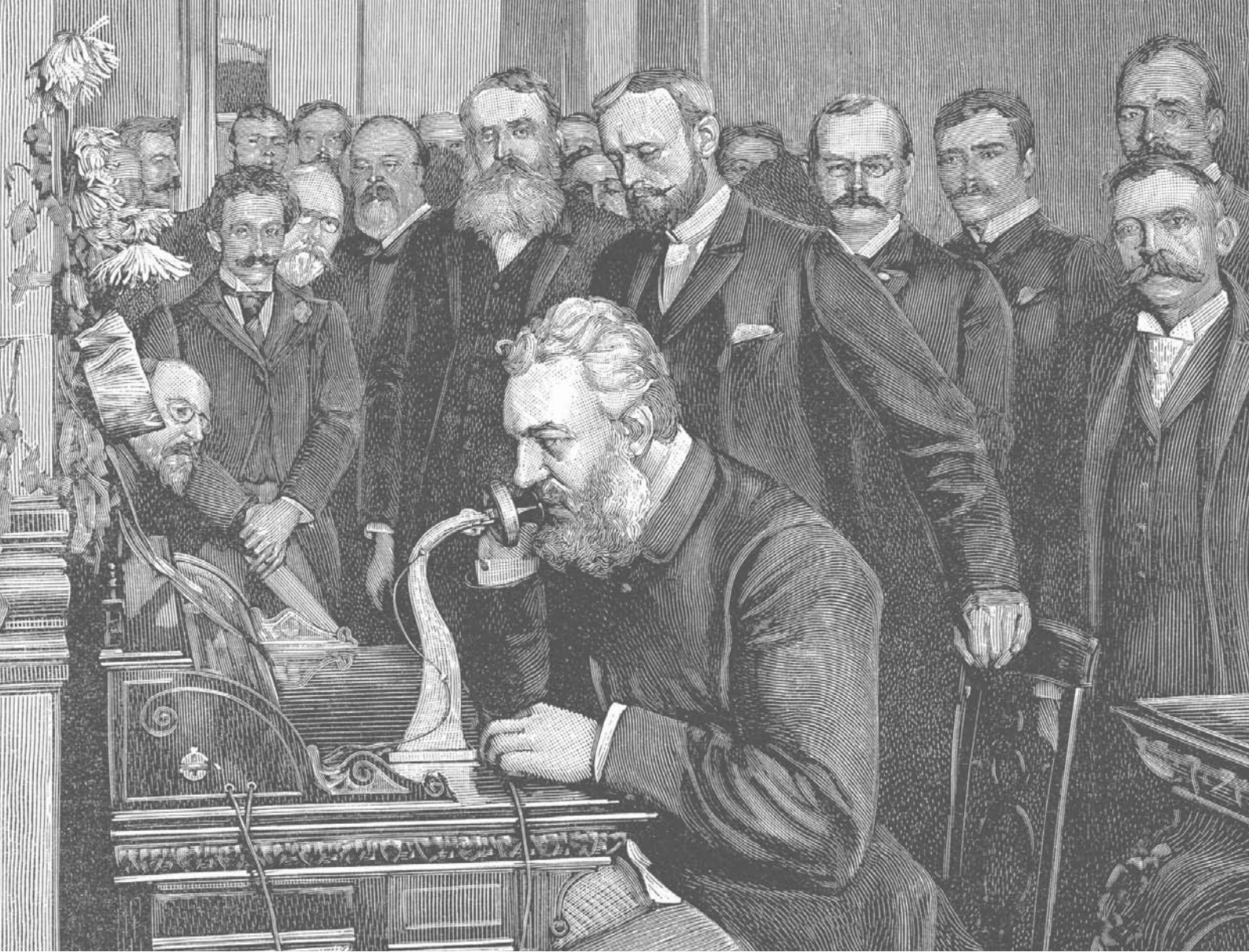
Strategy: Maintain the method via e.g. support to varied funding and external evaluation.

The Community Readiness Model on the organisational level can be compared to the Stages of Change Model on the individual level (65). This model makes it possible to diagnose where an individual is on a scale between “totally unaware of the problem” and “stable behavioural change”. Hence, the Stages of Change Model facilitates support for behavioural change on the individual level by establishing where in the change cycle an individual is. An organisation can be “diagnosed” in the same way. When it is clear where the organisation is in the process, the process can be adapted accordingly (63, 64). There is, for instance, no point in trying to implement an anti-bullying method in a municipality that is unaware of the occurrence of bullying in its schools, just as it is meaningless to offer a smoking cessation programme to someone who doesn’t see their smoking as a problem.

An organisation’s decision to start using a new method is influenced by external factors, such as comparable organisations already using or planning to use the method (3, 66). This reflects the exponential increase in the use of a new method that occurs when a large enough number of organisations have adopted it (6). Continued diffusion then occurs without any further efforts from the “seller” of the method.

The British National Institute for Health and Clinical Excellence (NICE) has developed broad plans for the implementation of different types of interventions (67, 68). The example below concerns smoking cessation.

- Identify those responsible for the implementation.
- Disseminate information about the new method within the organisation via e.g. presentations and workshops.
- Carry out a baseline assessment that includes a comparison between the existing method and the new one.
- Assess the costs and savings of implementing the new method.
- Draw up an implementation plan.
- Identify key factors for a successful implementation.



RECIPIENTS, SENDERS AND CHANGE AGENTS

The scientific literature on dissemination and implementation uses the concepts of recipient, sender and change agent. The recipient could, for example, be a school or a municipal authority, whilst the sender could be a central government agency or a county council public health unit. Organisational units like these may also have double roles. A municipal education authority could, for example, be the recipient of a new teaching method recommended by the National Agency for Education (the sender). In the next phase, the education authority acts as the sender of the method, disseminating it to local schools, who then become the recipients in the next stage.

The change agent is an individual, either inside or outside the organisation, who “lobbies” a recipient to adopt and implement new methods (3, 6, 38). Change agents can be found in different arenas and occupy different positions. Common for all of them, however, is that they constitute the connecting link between a recipient who has a specific need and a sender who can offer a solution, see Table 1. An important task for the change agent is therefore to facilitate recipient-sender communication. As regards new methods for health-promoting measures, public health planners and prevention coordinators often take on the role of change agents.

The work of a change agent consists of seven main areas (6):

- Helping the recipient to become aware of a problem or a need.
- Establishing a trusting relationship with the recipient.
- Helping the recipient to analyse why the problem or need cannot be dealt with using existing methods.
- Motivating the recipient to choose a specific method to deal with the problem or need.
- Helping the recipient to go from “words to action”, i.e. providing practical support to implement the method.
- Supporting the integration of the new method into daily activities in the long term.
- Bringing her own role to a conclusion and handing over completely to the recipient.

Table 1. Recipient, change agent and sender in an ideal implementation process

	Recipient	Change agent	Sender
Conditions			
	The recipient experiences a need	The change agent understands the recipient's need and the sender's method and mediates contact	The sender has access to a method that meets the recipient's need
Process			
Phase 1. Knowledge	The recipient finds out that the information exists, underlying principles and how the method is used	The change agent mediates contact between the sender and recipient	The sender offers information that the method exists, underlying principles and how the method is used
Phase 2. Conviction	The recipient is convinced that the method is the right one	The change agent supports the process, by e.g. lobbying opinion-leaders	The sender offers clarification and more detailed information
Phase 3. Decision	The recipient decides to use the method	The change agent supports the decision process	
Phase 4. Practical implementation	The recipient implements the method in daily activities	The change agent supports the implementation process	The sender mediates the method components
Phase 5. Confirmation	The recipient evaluates the method and seeks confirmation that it works	The change agent supports evaluation, concludes her own role and hands over completely to the recipient	

Ideally, the recipient experiences a need *at the same time* as the sender can supply a method that meets this need. The recipient and sender “find” each other, perhaps with the help of a change agent. If the recipient does not experience a need, there will be no desire to change. Often, and quite naturally, the sender's starting-point is the method she wants to disseminate rather than a specific need experienced by the recipient. Discovering and exposing implied needs and then expressing these as explicit needs is a way for change agents and senders to increase the recipient's interest in the solution that the sender is offering. Concluding one's own role as a change agent and handing over completely to the recipient is easier said than done, unless this has been borne in mind from the very beginning. If the change agent, advertently or inadvertently, has taken on or been allocated too great a responsibility, this may make the hand-over more difficult at a later stage.

If the sender, or change agent, has a selection of methods to offer, this will increase the chances of satisfying needs as soon as they are expressed. The Swedish National Institute of Public Health has developed a web-based encyclopaedia with short texts about research-based health-promoting interventions for children and adolescents (www.fhi.se/childhealth). The encyclopaedia may be of use to change agents looking for methods, recipients looking for senders and to senders with a method to offer.



SOCIAL MARKETING

Social marketing refers to the transfer of methods used for commercial marketing to an area such as public health (69-73). Contacts with individual decision-makers are an important component of marketing. When making these contacts, it is often better to try to understand the recipient's needs and discuss solutions to these rather than use one's own method or product as a starting-point. Why, for example, would a school principal choose to invest in a method to increase physical activity among pupils if it was merely a question of preventing overweight, regardless of how good the method is? What children and adolescents weigh is not the school's explicit responsibility. If increased physical activity can on the other hand be linked to fewer behavioural problems among children, there is a strong incentive for the principal to invest in a method that promotes physical activity in school.

Using a need or a problem as the starting-point involves the sender or change agent adopting the recipient's perspective. The sender or change agent should discuss with the recipient whether the method in question actually does offer an opportunity to solve the latter's problems instead of merely informing about the method. Discussing the costs of introducing the method, e.g. purchase of materials and training of personnel, versus the costs incurred as a result of the problem if it

remains, is also an important part of marketing a new method. This is especially true in the field of public health, where it often takes time to reap the benefits. Perhaps a genuine discussion with a few key persons at schools or at the education authority will produce better results than snazzy brochures and Powerpoint presentations when we want to introduce a new health-promoting method in schools.

A classic description of the principles of marketing in the commercial field is given in Neil Rackham's book *SPIN-selling* (29).

CRITERIA FOR IMPLEMENTATION – A CHECKLIST

You are free to copy and use this checklist.

There are locally defined needs Yes No Don't know

Needs : _____

The proposed method can meet these needs Yes No Don't know

Method: _____

The method is:

- relevant Yes No Don't know
- better than current methods Yes No Don't know
- effective (evidence-based) Yes No Don't know
- cost-efficient Yes No Don't know
- consistent with prevailing values and attitudes Yes No Don't know
- easy to use Yes No Don't know
- possible to test on a small scale Yes No Don't know
- possible to adapt to local conditions
without altering its central components. Yes No Don't know

Any risks there may be with the method can be dealt with. Yes No Don't know

The results of the method can be quickly observed. Yes No Don't know

Knowledge about the method can be generalised
to other areas. Yes No Don't know

The users have been involved at an early stage. Yes No Don't know

Everyone involved is aware of the method and
has access to continuous support in their daily work. Yes No Don't know

There are resources in the form of time, money and staff. Yes No Don't know

There is an adequate and long-term budget. Yes No Don't know

There are systems for monitoring and feedback. Yes No Don't know

There are plans to hand over to the users for everyday use. Yes No Don't know

The method components have been defined

Yes No Don't know

The method consists of:

- _____
- _____
- _____
- _____
- _____
- _____

Anticipated effects: _____

The implementation components have been defined

Yes No Don't know

Several different implementation measures have been combined (e.g. information, education, practical training, coaching, feedback and consultation)

Yes No Don't know

The implementation consists of:

- _____
- _____
- _____
- _____

Anticipated effects: _____

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This report is about implementation. It presents and discusses scientific surveys of how new methods can be disseminated and implemented.

When new health-promoting methods have been presented, it often takes a long time for them to come into daily use. This delay means that possible health gains are not achieved as quickly as we would like. Our hope is that this report will act as a support for public health planners, prevention coordinators and others with similar working tasks, i.e. for people who occasionally face the challenge of implementing new methods to promote public health.



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