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ABSTRACT

In this article, we discuss the importance of leadership when implementing innovations. A particular focus point is the seminal work by Everett Rogers on the spread and upkeep of new ideas. Furthermore, we examine current scientific works on implementation leadership in relation to initiating and maintaining health enhancing physical activity programs. Among other things, we point out how many people and groups are sympathetic towards new innovations if they meet a recognized need, contribute to relevant developments, make sense in concrete situations, and can be mastered individually and collectively. Implementation leaders need to ensure that premises such as these are met while taking into account that innovations are absorbed at different speeds and ways by different stakeholders. Rogers' five adopter categories can be used by implementation leaders to develop effective change communication that is meaningful to differentiated groups. First-line leaders can, for instance, use their dense knowledge of the organization's needs and circumstances to support staff and manage stakeholders during the implementation process. Delegating substantial implementation responsibility to early adopters can also prove beneficial in keeping the process on track.

Key words: leadership, innovation of diffusion theory, implementation, physical activity programs

Background

Promoting a health behavior like physical activity among diverse groups, living their lives in different contexts, requires innovative interventions that address complex problems[1-3]. Such complex problems are characterized by not having one definite solution, being multifaceted and in need of coordinated actions from multiple actors and entities. This, in turn, calls for broad-based implementation approaches involving a number of settings, strategies, stakeholders and end-users. On the research side, this has led to combinations of approaches from the social and natural sciences, applying both qualitative and quantitative data and analyses, in order to strengthen our understanding of how innovations are developed and realized; under what circumstances; and through the use of which resources[3,4].

Implementation Theories, Models and Frameworks

Over the last decades, a multitude of models and frameworks have been developed for studying either entire implementation processes or specific parts thereof [5,6]. Some of the more solid and well-known of these are: The Consolidated Framework for Implementation Research (CFIR)[7]; the Exploration, Preparation, Implementation, Sustainment (EPIS) Framework[8]; and various ecological frameworks like Durlak and DuPre's on understanding effective implementation[9]. An example of a more general approach is The Integrated Implementation Model[10], which combines a number of contributions from social science and policy studies to implementation research. Common to the mentioned models and frameworks is that they greatly add to our understanding of implementation processes, determinants and evaluation and, on the whole, the systematic analysis of what influences implementation of health promoting physical activity[11-16]. Despite the great value of models and frameworks as the one mentioned, insufficient implementation of measures and initiatives, and difficulties in achieving expected practice changes, still remains a huge challenge for many health promotion initiatives[17]. This is also the case when focusing on PA-programs[18,19]. Dealing better with issues related to implementation barriers requires capabilities to work with, for instance, characteristics of the proposed innovation (e.g., a

new physical education program, updated training equipment or a state policy on physical activity), implementer and organizational capacities, delivery strategies and a host of wider contextual factors.

Implementation Leadership

The above makes it clear that many factors – among these the characteristics of the innovation itself; the people, groups and/or entities delivering the innovation; the structures maintaining the innovation; and the inner and outer contexts in which the innovation is to work – affect implementation depth and reach. Increasingly, the influence of leadership on the quality of both implementation planning, execution and results has been stressed[20] and empirically examined[21–23]. Drawing on selected parts of this body of knowledge, the following discusses key dimensions and findings concerning implementation leadership. Reference is made to both early and current scientific works directly on or relevant to implementation leadership.

Leadership and implementation

Implementation is, in this article, regarded as learning processes that bring about change. It concerns developments where new activities, programs and measures are set into motion and sustained over time. By extension, implementation leadership is understood as a deliberate sequence of activities that energizes a process aiming to bring about permanent changes.

Leaders and leadership support implementation by coordinating, supporting, and empowering key implementation actors. Also, effective leaders secure managerial, administrative support and oversee processes to resolve the challenges and complexities that inevitably arises during change processes embedded in implementation activities. Furthermore, leadership is critical for making sure that innovations, that are suggested and prioritized for implementation, are aligned with the overall strategy and ambitions of the organization. Effective leadership is crucial for implementation at any organizational level, by setting the tone and providing necessary guidance, organizational robustness and direction. In this way, maximum followership for the idea and the set objectives can be created. This calls for leaders who are not only able to plan and make decisions but also have the skills to inspire and unlock creativity.

Implementation leadership informed by Diffusion of Innovation Theory

Within implementation science Everett Rogers' Diffusion of Innovations is perhaps the most frequently used theoretical approach[24]. Among other aspects, Rogers highlights the importance of leadership in promoting the adoption and implementation of innovations[25].

The Diffusion of Innovations Theory was developed and regularly updated by Rogers from the 1960´s and onwards. It seeks to explain how, why, and at what rate new ideas, products, and technologies spread through social systems.

The Five Factors Influencing Innovation Diffusion

The theory states that the progress of a given innovation is in particularly influenced by five factors: Relative advantage; Compatibility; Complexity; Trialability; and Observability (Figure 1)[26]. The first factor, relative advantage, concerns the degree to which a given innovation is perceived as beneficial in relation to current practice. This could be about a leader judging whether a presented innovation will add value to important objectives related to PA levels among significant target groups[15,27]. The second factor is compatibility; centered around the extent to which an innovation is perceived as compatible with existing norms, values and current needs. Via this factor, it is underscored that implementation leaders must engage involved parties in tailoring the innovation to existing conditions[11,28]. The third factor is complexity, concerning the perception of the innovation along a continuum from simple to complex as regards issues related to understanding and application. What is sometimes called complexity management is to be recommended in order to motivate key actors to engage adequately in actual implementation processes. One often mentioned key actors is so-called frontline workers. The capabilities, willingness and interests among members of this group is essential for implementation, as they are in direct contact with the intended target groups. To a high degree, such groups have independent significance for what is ultimately delivered[29]. The fourth factor is trialability, concerning the possibility of testing the innovation on a small scale before either taking it further, adjusting or rejecting it. This is often done by dividing the innovation
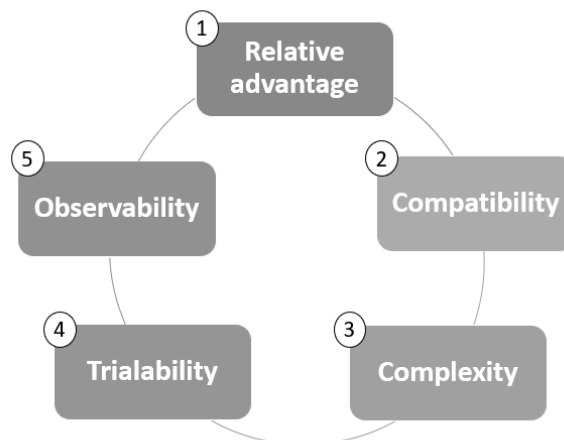

Fig. 1: Rogers' five factors influencing innovation diffusion.[26]

into smaller parts that are gradually tried out and subsequently implemented[30]. The fifth and final factor is observability, which includes the extent to which the value of the innovation and its results is recognized by a sufficiently wide range of stakeholders. This can relate to the priority of the innovation (e.g. from leaders) in relation to other assignments[31] or concern promoting achieved outcomes of the innovation to visualize value creation[27].

With these five factors in mind, leadership teams can use Rogers' theory to consider important implementation issues such as:

- What types of knowledge do involved stakeholders need, with what frequency, through which communication channels and who do they need to hear it from?
- Which stakeholders require particular handling?
- What does it take to get relevant stakeholders to become engaged?
- How much further adaptation is allowed in connection with local implementation processes?
- What exactly do different stakeholders need to know in order to feel convinced that things are going in the right direction?

Five adopter categories

Rogers also identified five adopter categories based on the pace at which they adopt innovations: innovators, early adopters, early majority, late majority, and laggards[32]. *Innovators* are adopters that find it exciting to try out new possibilities and are comfortable with uncertainty about exact content and end goals. *Early adopters* are risk takers but are attentive to possible downsides of new concepts. They are often a group that the rest of the field looks to for direction. The *early majority* need more time for decisions on whether to join the innovation. They are in close dialogue with colleagues but are not (unlike early adopters) opinion leaders (i.e. individuals/groups whose opinions and behaviors are markedly noticed and followed by others[25]). The *Late majority* is typically rather skeptical and/or change-reactive in relation to new, major initiatives. This group does not like to take risks – either on their own behalf or on behalf of others. The late majority often needs to be influenced by colleagues and leadership to become active players. *Laggards* rarely have any specific opinion role. Their preference is to hold on to past practice and they generally struggle with innovators and early adopters – including highly visible implementation leaders.

When using Rogers' adopter categories, it is important to remember that individuals and groups may change category from one implementation process or phase to another. That is, nobody falls – always and all the time – within a single category. Many factors – private, personal, and professional – play a role in this. We may tend to gravitate towards selected categories, but shifting from innovator to laggard and back again is quite possible. This is particularly true in extended processes such as the implementation of new strategies for entire organizations.

Leadership characteristics to support innovation diffusion

Rogers' work emphasizes the overall importance that leadership has in successful implementation of innovations. In recent years a number of studies have used this starting point to investigate the impact of specific leadership outcomes which, with reference to Drath et al., can be seen through the Direction, Alignment and Commitment model for leadership[33]. The model addresses Direction as centered around the process of jointly defining the task and building a shared, engaging vision with clear, operational objectives. Alignment is about clarifying roles and responsibilities, coordinating priorities, time frames and resources and agreeing on guidelines for communication and any cross-cutting functions. Finally, Commitment addresses the generation of meaning and ownership of the joint task; stresses the importance of establishing shared values and trusting relationships; as well as devising and maintaining approaches for managing conflicts, frustration and uncertainty.

From this perspective, it is crucial that implementation leadership contributes to the framing of a clear change vision and the important work of building a supportive and well-aligned implementation climate (understood as working milieus and cultures affecting e.g. implementers and organizational change capacities) that supports opportunities for continuous sense-making and ensures psychological safe environments for problem and conflict management[15,31,34]. Moullin et al. (2018) and McNeish et al (2020), for instance, both found that leadership characteristics significantly predicted the quality of implementation climate, which in turn affected implementation effectiveness and sustainability[21,35]. Specifically in relation to physical activity initiatives, implementation leadership has been shown to strengthen consistent program delivery with high levels of fidelity – i.e. that programs are delivered as intended[11,15,36].

Furthermore, clear and well-communicated ambitions for the value that a given implementation will entail for recipients etc. has been demonstrated to motivate and inspire implementation teams in achieving their own and wider organizational goals. Recent studies have shown that leaders who are able to create a sense of purpose and direction for their teams are more likely to perform in relation to stated goals and ambitions[21,37]. Leaders can, through methods of involvement, facilitate this by establishing meaningful and purposeful expectations for their teams [31,37]. Within implementation science there is a growing interest in assessing the importance of coordinated and leadership-supported implementation teams as a means of increasing organizational capacity to implement, adapt, maintain and scale both specific evidence-based interventions and more general initiatives. Research on the significance of implementation teams is at a preliminary stage. This is even more the case for empirical stud-

ies testing the role and influence of such entities. However, an increasing body of knowledge points to teams as playing a crucial role, not least in more comprehensive implementation processes[37].

Directions for Further Research

The exact relationship between different dimensions of implementation leadership (e.g., proactive problem-solving, fostering a positive implementation climate) and various outcomes such as participant engagement, intervention fidelity, and final outcomes on, for instance, physical activity and health, must be further researched[17]. Also, future studies could with great value explore the generalizability of findings on implementation leadership across different cultural, organizational, and wider societal settings[34]. Implementation leadership can play a crucial role in ensuring that innovations are sustained, further developed and integrated with practices and policies. Ultimately, by identifying usable implementation leadership strategies, the impact of, for instance, effective and scalable PA initiatives and programs can be enhanced[18].

More broadly, theoretical and empirical studies should be conducted on what effects leadership has on implementation processes, outputs and outcomes and under which circumstances. The assumption is that leadership effects are context-dependent and are conditional on other factors such as agreement between the objectives of first-line and team leaders and local-national policies, as well as the characteristics of frontline workers – including their knowledge, motivation and expectations of autonomy. Methods for measuring and assessing implementation leadership, like the Implementation Leadership Scale by Aarons et al., should be further tested and developed[20]. This is to meet a pronounced need for reliable and valid qualitative and quantitative measures of implementation leadership at several organizational levels (e.g. top, middle and operational) and in relation to a number of dimensions (e.g. relational leadership, leading organizational culture and change management).

Conclusion

In particular, Rogers' classic theory of Diffusion of Innovations has been used in this article to examine the importance of leadership when implementing new practices and initiatives. Perhaps the most fundamental reason why Rogers is central to the implementation literature is that he addresses the well-established realization that although people react differently to change, many of us accept new practices that a) meet a recognized need, b) are something we contribute to develop, c) make sense to us and our situation and d) can be mastered – individually and collectively [36]. It is very much a task of leaders to ensure that this four-part premise is acceded to. Furthermore, the effective implementation leader will take into account that people – in the form of employees, co-managers, stakeholders – embrace and absorb innovations at different speeds and in different ways.

Leaders at all levels can benefit from making use of Rogers' previously discussed distinction between five main groups of approaches to innovation. Firstly, as a tool for developing effective change communication. In this respect, effectiveness is equal to diversity. For example, the same message about a 'need for increased focus on physical activity and health' needs to be communicated differently to different groups. Innovators may only need to know that physical activity and health are now something that is systematically addressed at organizational level. The laggards, on the other hand, must be offered tangible guidance on how to put the new strategic aspect into practice. Early adopters may be able to help generate such examples. In any case, it is crucial that the message of the new reinforced focus on health enhancing physical activity is communicated in a way that is meaningful to the intended target group. What makes sense to the high- or mid-level leader, who has been part of the process for a long time, is not necessarily easy to understand for large parts of the remaining stakeholders. It is the concept of meaningfulness that needs to be recognized here. While it may well be the case that a large proportion of the organization's partners can see the point of taking an active part in 'the new concept', it is far less clear whether broad-based information campaigns, designed to meet a requirement to appeal to all, will do much to strengthen the incentives for particular groups to participate. This requires a much more specific design of generalized messages, together with in-depth knowledge of the perceived needs and motivations of different target groups. In particular, first-line leaders have, or have the opportunity to build up, deep and broad knowledge of such needs and motivational factors within the organization. The same tier of leadership can use this knowledge for staff support and organization, together with general stakeholder management – crucial tasks, not least in the context of implementation processes involving larger parts of the organization and its surroundings.

There is a possibility to capitalize on the strategic handles offered by the diffusion perspective, by delegating responsibility to, for instance, staff and other implementers, who often both identify problems and offer solutions. Such groups are exhibiting innovator behavior. Similarly, experience has shown that it is a good idea to give early adopters a visible and important role throughout the implementation process[38]. Early adopters are often actors who enjoy or quickly build up respect in wider circles. They can therefore prove invaluable in the endeavor to keep a tight rein on the innovators, who sometimes run faster than is good for the overall process, and to get the large majority group onboard with the implementation. Laggards should also be listened to. Firstly, their foot-dragging may be rooted in genuine misgivings either about the objectives being pursued or the way in which objectives are being pursued. Secondly, it is the

task of (first-line) leaders to counteract processes whereby laggard practices start to spread to larger parts of the organization. In a nutshell: Diffusion theory supports different tiers of leadership in the task of managing change and maintenance – in short, to carry out full and effective implementation.

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ULOGA VODSTVA U PROVEDBI ORGANIZACIJSKIH INOVACIJA – POVRATAK NA KLASIČNI MODEL

SAŽETAK

U ovom članku, raspravljamo o važnosti vodstva kod provedbe inovacija. Specifična fokusna točka je utjecajni rad Everetta Rogersa o širenju i održavanju novih ideja. Nadalje, razmatramo aktualne znanstvene radove na temu vodstva u provedbi u odnosu na pokretanje i održavanje programa tjelesne aktivnosti za poboljšanje zdravlja. Između ostalog, naglašavamo da većina ljudi i grupa pokazuje naklonost prema novim inovacijama ukoliko navedene ispunjavaju uočenu potrebu, doprinose relevantnim poboljšanjima, smisleno funkcioniraju u konkretnim situacijama, te ih je moguće savladati pojedinačno i grupno. Voditelji promjena moraju osigurati da pretpostavke poput ovih spomenutih budu ispunjene, istovremeno uzimajući u obzir da različite interesne skupine prihvaćaju inovacije različitom brzinom te na raznovrsne načine. Voditelji promjena mogu upotrijebiti Rogersovih pet kategorija „usvojitelja" kod planiranja učinkovite komunikacije o navedenoj promjeni koja je smislena u odnosu na različite grupe. Na primjer, voditelji na najvišoj razini mogu iskoristiti svoje bogato znanje o potrebama organizacije i motivacijskim čimbenicima kako bi dali podršku osoblju te upravljali dionicima tijekom postupka provedbe. Delegiranje značajne odgovornosti u provedbi pojedincima koji su rano usvojili inovaciju također se može pokazati korisnim tijekom održavanja cjelokupnog napretka.