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Implementation analysis of primary care interventions

Unraveling the underlying mechanisms that affect implementation outcomes

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List of abbreviations

DoI	Diffusion of Innovations (theory)
EBP	Evidence-Based Practice
FPP	Flemish Patient Platform
GOC	Goal-Oriented Care
KBF	King Baudouin Foundation
NPT	Normalization Process Theory
PCA	Primary Care Academy
PCP	Primary Care Provider

Summary

In response to the changing and complex landscape of primary health care, many interventions are being developed in scientific research, in an effort to cope with these challenges. However, the majority of successful evidence-based interventions either does not get implemented at all, or takes a very long time before they get implemented. There appears to be a large gap between what research prioritizes and recommends, and what actually happens in practice. Reducing this evidence-practice gap is the main aim of implementation science, a relatively new but growing scientific field that combines insights from various disciplines.

Implementation science is concerned with how we can translate a promising innovation in real-world practices. It consists of many frameworks, models, theories and ideas that respond to this challenge. However, the landscape of implementation science is rather fragmented, and it is difficult to navigate throughout the many existing insights. Furthermore, one of the core concepts within implementation science is “*context*”, but there is no consensus on what this context exactly consists of and on how it should be taken into account. Implementation strategies should ideally be tailored towards the specific intervention and the context in which it is carried out, but for that, more insight is needed in the underlying mechanisms of implementation processes. Our research responds to these challenges in implementation science, and contributes to the knowledge needed to define adequate, tailored implementation strategies.

Throughout our studies, we demonstrate the relevance of using theories to guide implementation processes. Depending on the theory that is used as a lens, different aspects of implementation processes become apparent which enables us to identify actions to support the uptake of innovations. In the end, implementation processes in primary healthcare are always complex and multifaceted which implies that the actions to introduce change will equally require a flexible and versatile approach.

In our [first study](#), we aimed to make sense of the fragmented landscape of implementation science by describing the main building blocks of implementation processes. These building blocks are the common thread on which different implementation frameworks and models seem to be build and that can help understand implementation processes. We conducted a narrative review of a variety of implementation frameworks and models, and we identified three main phases (development, translation and sustainment) and three main components (intended change, context and implementation strategies). Subsequently, for each of the following research articles we zoomed in on each of these components to learn more about how they relate to the mechanism of change and how we can act upon them to enhance implementation outcomes. For this, we consider context to be a dynamic and relational variable that affects how the intended change is interpreted and shaped, and that steers the choice of implementation strategies.

In our [second study](#), we utilized the Normalization Process Theory (NPT) to investigate initial implementation efforts for Goal-Oriented Care (GOC). Participants of a community meeting on GOC completed a survey in which NPT constructs were investigated: their views on how GOC would impact their work, their expectations and whether it could become a routine part of their work. Results showed that coherence (the sense-making work) and cognitive participation (relational work) were already positively affected for implementation of GOC. In contrast, collective action (operational work) and reflexive monitoring (appraisal work) need further efforts to trigger implementation.

In our [third study](#), we zoomed in on the experiences and actions of various meso- and macro-level actors that are actively engaged with implementing GOC on an organizational or policy level. Three main drivers for implementation were identified: recognition, commitment and coordination. On top of that, results were interpreted through Rogers' Diffusion of Innovations (DoI) theory in which five attributes are discussed that contribute to or hinder implementation success: compatibility, observability, trialability, complexity and relative advantage.

In our [fourth study](#), we investigated how organizational theories can contribute to our understanding of the ways in which external context variables shape implementation processes by looking at the implementation of GOC on a meso- and macro-level. We demonstrated how institutional theory helps to understand the mechanisms that steer and facilitate the implementation of GOC through regulatory and policy measures. Three other organizational theories describe both counteracting or reinforcing mechanisms: resource dependency theory, network theory and contingency theory. These increased insights in the macro-level variables (regulatory factors, fiscal factors, inter-organizational context, technological context, social and economic pressure and change) lead to a better understanding of external context variables as dynamic and steering forces.

In our [fifth study](#), we explored the motivations behind implementation strategies for GOC in various primary care organizations. Different types of motivations or considerations for deploying certain implementation strategies were identified. They were either linked to the nature of the intervention (concretization or embeddedness), or to the context (needs, resources, values, current routines and practices, external facilitators).

The different results of our five studies contribute to the creation of a sustainable implementation plan. They demonstrate how the different components (intended change, context, implementation strategies) can be investigated through different theoretical lenses. This provides knowledge about the main drivers and pitfalls in implementation processes, and on how to respond to them.

Samenvatting

Als reactie op het veranderende en complexe landschap van eerstelijnsgezondheidszorg bestaat er een grote hoeveelheid aan wetenschappelijk onderzoek om tegemoet te komen aan deze uitdagingen. Een groot deel van de evidence-based interventies raakt echter niet geïmplementeerd in de praktijk. En wanneer het wel in de praktijk belandt, duurt het implementatieproces ontzettend lang. Dit betekent dat er een kloof is tussen hetgeen onderzoek vaststelt en aanbeveelt en wat er uiteindelijk in de praktijk wordt gerealiseerd. Het dichten van deze kloof is de belangrijkste doelstelling van implementatiewetenschap. Dit is een relatief nieuw, maar sterk groeiend wetenschapsgebied dat inzichten vanuit verscheidene disciplines combineert.

Implementatiewetenschap zet in op het vertalen van innovaties naar praktijken in *“de echte wereld.”* Het omvat een grote waaier aan kaders, modellen, theorieën en ideeën als antwoord op deze uitdaging. Het landschap van implementatiewetenschap is echter gefragmenteerd en het is moeilijk om in de veelheid van bestaande inzichten wegwijs te raken. Eén van de kernconcepten binnen implementatiewetenschap is *“context.”* Ondanks dat het een alomtegenwoordig concept is, is er geen consensus over wat de context precies omvat en hoe ermee omgegaan dient te worden. Implementatiestrategieën zijn idealiter gericht op de specifieke interventie en de context waarin het plaatsvindt, maar om hierin gerichter keuzes en acties in te nemen is een breder begrip nodig van de onderliggende mechanismen binnen implementatieprocessen. Ons onderzoek gaat aan de slag met deze uitdagingen binnen implementatiewetenschap en draagt bij aan de kennis die nodig is om geschikte, gerichte implementatiestrategieën te formuleren.

Doorheen de verschillende studies tonen we de meerwaarde aan van het gebruik van theorieën om implementatieprocessen te begeleiden. Afhankelijk van de theorie die als lens gebruikt wordt zullen verschillende aspecten van implementatieprocessen op de voorgrond komen, wat ons toelaat om bepaalde acties te definiëren die implementatieprocessen faciliteren. Dergelijke processen zijn steeds complex en veelzijdig, hetgeen impliceert dat de acties om verandering te introduceren eveneens een flexibele en meerzijdige aanpak vereist.

In onze [eerste studie](#) is onze opzet vooraleerst om een breder begrip te verkrijgen van het gefragmenteerde landschap van implementatiewetenschap door de voornaamste bouwstenen van implementatieprocessen te identificeren. Deze bouwstenen zijn de rode draad waarop verscheidene implementatiekaders en modellen opgebouwd zijn en die bijdragen aan ons begrip van implementatieprocessen. We voerden een narrative review uit waarbij we een groot aantal implementatiekaders en -modellen onder de loep namen, om zo de voornaamste fasen (ontwikkeling, vertaling en verankering) en de voornaamste componenten (beoogde verandering, context en implementatiestrategieën) vast te leggen. Vervolgens verdiepen we ons in elk van de volgende artikels in één van de bouwstenen om zo meer te leren over de componenten die centraal staan in implementatieprocessen.

Hierbij beschouwen we de context als een dynamisch en relationele variabele die beïnvloedt hoe de beoogde verandering geïnterpreteerd wordt en vorm krijgt en we erkennen het richtinggevende karakter van context bij het kiezen van implementatiestrategieën.

In onze [tweede studie](#) gebruikten we de Normalization Process Theory (NPT) om inspanningen voor de implementatie van Doelgerichte Zorg (DGZ) te bekijken. Deelnemers aan een lokale netwerkmeeting waarbij DGZ werd voorgesteld vulden een vragenlijst in waarin NPT constructen bevraagd werden. Daarbij werd ook gepolst naar hun beeld over hoe DGZ hun werk zou beïnvloeden, hun verwachtingen en of het al dan niet een deel van hun dagelijkse praktijken zou kunnen worden. Resultaten leerden ons dat coherentie (het bevatten van de innovatie) en cognitieve participatie (het relationele proces rond de innovatie) reeds positief getriggerd waren voor implementatie van DGZ. Daarentegen hadden de constructen collectieve actie (het operationele werk) en reflexieve monitoring (het evaluerende werk) meer impuls nodig om implementatie te triggeren.

In onze [derde studie](#) zoomden we in op de ervaringen en acties van verscheidene meso- en macroniveau actoren die actief betrokken zijn met de implementatie van DGZ op organisationeel of beleidsniveau. We identificeerden drie voorname drijfveren voor implementatie: erkenning, verbintenis en coördinatie. Daarbovenop interpreteerden we de resultaten met Rogers' Diffusion of Innovations theorie als lens, waarbij vijf attributen bediscussieerd worden die bijdragen aan implementatiesucces: compatibiliteit, waarneembaarheid, experimenteerbaarheid, complexiteit en relatief voordeel.

In onze [vierde studie](#) onderzoeken we hoe organisatietheorieën kunnen bijdragen aan beter begrip van de wijze waarop externe contextvariabelen implementatieprocessen vormgeven. We doen dit door de implementatie van DGZ op meso- en macroniveau te onderzoeken. We tonen aan hoe de institutionele theorie ons begrip kan vergroten over de mechanismen die de implementatie van DGZ faciliteren doorheen regelgevende en beleidsmaatregelen. Drie andere organisatietheorieën beschrijven tegenwerkende of versterkende mechanismen: resource dependency theorie, netwerktheorie en contingentie theorie. Deze inzichten in macro-level variabelen (regelgevende factoren, fiscale factoren, inter-organisationale context, technologische context, sociaal en economische factoren) zorgen voor een beter begrip van externe contextfactoren als dynamische en sturende krachten.

In onze [vijfde studie](#) verkennen we de motivaties onderliggend aan implementatiestrategieën voor DGZ in verschillende eerstelijnsorganisaties. Verschillende types motivaties of overwegingen werden geïdentificeerd. Ze waren oftewel gelinkt aan de aard van de specifieke interventie (de noodzaak om DGZ te concretiseren en in te bedden) oftewel aan de context (noden, middelen, waarden, huidige routines en praktijken, externe facilitatoren).

De resultaten van ons onderzoek dragen bij aan het creëren van duurzame implementatieplannen. Ze tonen aan hoe de verschillende componenten (beoogde

verandering, context, implementatiestrategieën) onderzocht kunnen worden aan de hand van verschillende theoretische invalshoeken. Dit leidt tot verhoogd inzicht in de belangrijkste drijfveren en valkuilen in implementatieprocessen en hoe hierop te reageren.

General introduction

General introduction

1 Translating research into practice

The changing and complex landscape of healthcare is confronted with numerous challenges. Worldwide, the number of people with complex and long-term care needs is growing. There is an increase in people with chronic conditions, functional and cognitive impairments, mental health challenges and social vulnerability (1, 2), which puts a lot of pressure on health systems. At the same time, current healthcare systems are rather fragmented, resulting in a lack of coordination and alignment (3). In an effort to respond to these challenges, a large amount of research is conducted to gain a better understanding in how to cope with these changing circumstances, how efficiency can be increased or how different outcomes are improved. A search string in PubMed, with key words 'intervention' and 'development' and 'evidence based' shows that in the last 12 months alone, over 12,000 papers were published on the development of evidence-based interventions.

However, only one in seven evidence-based interventions is actually implemented in practice. And for those that do get translated into practice, the average time for implementation is 17 years (4). This means there is a large gap between what research has identified to be contributory to the quality of healthcare and what practice in real life is conducted. The fact that research evidence does not make it to actual practices leads to research waste (5). Research waste can be divided in two types (6). A first type of research waste happens when the research design is flawed, fails to reference to existing evidence, reporting is insufficient or when it does not get published (7). This implies that not all initiated research leads to high-quality scientific evidence. A second type of research waste relates back to the translational gap between research evidence and real-world settings, in which only a fraction of research finds its way into daily practices (6). This is commonly referred to as the evidence-practice gap (8, 9).

Reducing this evidence-practice gap is the main aim of implementation science. In order to enhance the field of public health, it does not suffice to merely focus on developing the best possible interventions for improving quality of healthcare. One also has to understand the process of translating research evidence into real-world settings. Most of the evidence base in research derives from highly controlled trials, in which studies minimize the complexity of context (10, 11). This leads to an oversimplification of reality. In real-world settings, implementing the intended change is not a process in which there is a clear pathway to go from A to B. Instead, a large number of factors affect the implementation process. Implementation science recognizes the complexity of interventions and accepts that the path to success will not follow a simple logic model (12). The main aim of this field of science is to ensure that studies are relevant and responsive to practice and policy (13). It emphasizes the crucial role of context variables that influence how an innovation will take shape in real-world settings. In order to introduce and support meaningful change,

one consequently has to understand and tailor implementation efforts towards the specific context in which it will be implemented.

1.1 Implementation science as a growing discipline

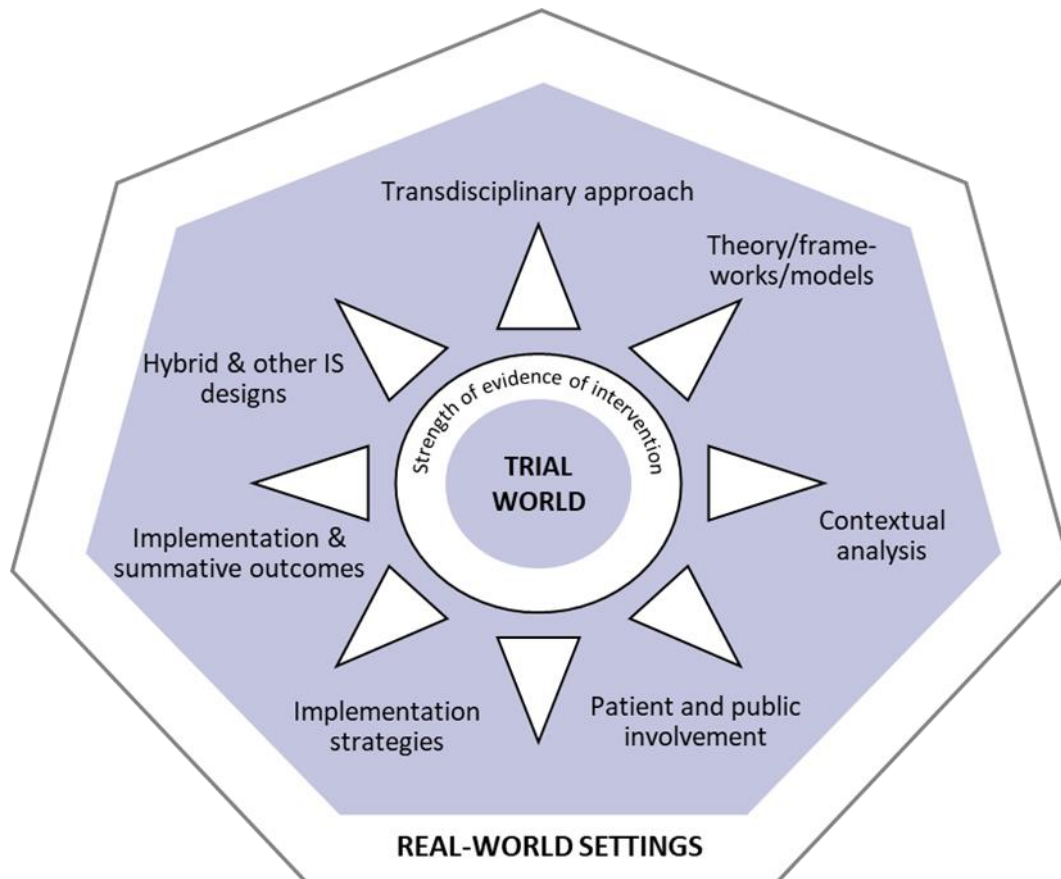
The problems of research waste and the failure to convert evidence based research findings into real-world practices have been known for some time. Rogers' Diffusion of Innovation (DoI) theory, developed in 1962, is commonly viewed as the starting point for knowledge development in the area of implementation research. The theory provides insights in *"the process by which an innovation is communicated through certain channels over time among the members of a social system. (14)"* It identifies innovators, early adopters, early majority, late majority and laggards and tries to explain why different actors pick up innovations at different speeds. Rogers' work was ground-breaking in studying diffusion across disciplines and building theoretical foundations to study and understand diffusion processes (15). Even now, its insights are still highly valuable in the field of implementation science.

Later in time, early implementation research from the 1970's up-to the early 1990's was mostly characterized by a focus on behavioral change, viewing individual decisions as the main driver for implementation outcomes (16). Much of this research investigated the outcomes of passive information dissemination and conventional educational strategies. Later on, this focus was expanded to examining the role of social influence, an aim to improve quality and a growing interest in the role of organizational structures and policy systems in the 1980's and 1990's. This shifted the overall focus of implementation research from the intend to *"change individual physician practices"* to *"quality improvement research."* This period of time also was characterized by a significant growth in quality improvement research funding. Overall, the field of implementation science expanded based upon the influence of a wide variety of perspectives and disciplines to the study of implementation processes and the development of conceptual frameworks that often show parallels with quality improvement techniques (16).

1.2 The key elements of implementation science

As of today, implementation science is a growing field of research in which various disciplines are represented. It can be defined as *"the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services and care (17)."* In order to cross from the trial world to real-world settings, Figure 1 summarizes seven important considerations for implementation science:

Figure 1 Key elements of implementation science to successfully cross from the trial world to real-world settings



Based on (6) - De Geest S, Zúñiga F, Brunkert T, Deschodt M, Zullig LL, Wyss K, Utzinger J. Powering Swiss health care for the future: implementation science to bridge “the valley of death”. Swiss medical weekly. 2020;150(3738):w20323-w.)

First and most importantly, implementation science requires a *transdisciplinary approach*. Research questions within this field incorporate a broader scope than traditional clinical research, with the patient level, provider level, organization level and policy level all being relevant for investigating how to translate evidence into practice. A transdisciplinary approach begins with the development of transdisciplinary research teams that establish partnerships with the appropriate partners, in policy as well as in practice. Research teams should reflect the multilayered scope of implementation challenges in the disciplines they consist of. Besides a transdisciplinary angle, research teams also benefit from an *interdisciplinary approach*. This means that different relevant fields are represented: health services research, economy, sociology, social work, anthropology, organizational science (18). The elaboration of transdisciplinary and interdisciplinary research presupposes a variability of goals as well as a variability of criteria and indicators (19). According to Klein (19, p. 116): “*interdisciplinary and transdisciplinary research performance and evaluation are both generative processes of harvesting, capitalizing, and leveraging multiple expertise.*”

Individual standards must be calibrated, and tensions among different disciplinary, professional, and interdisciplinary approaches carefully managed in balancing acts that require negotiation and compromise.”

Second, various theories, frameworks and models are used in implementation science to guide implementation processes and studies. According to Nilsen (20): such theoretical approaches generally have one or more of three aims: to describe and/or guide the process of translating research into practice; to understand and/or explain what exactly influences implementation outcomes and to evaluate the implementation of interventions. These theoretical approaches, frameworks and models offer conceptual guidance to understand and guide implementation processes (21).

Third, implementation science strongly emphasizes the importance of context affecting implementation outcomes. Context variables can be defined as: *“the set of circumstances or unique factors that surround a particular implementation effort* (22).” Most frameworks and models in implementation science consider contextual variables and prompt researchers and implementation actors to intentionally screen the context in which implementation efforts take place to identify barriers and facilitators. This allows for the tailoring of implementation strategies to the specific setting in which an intervention is introduced (23).

Fourth, ensuring high quality research that finds its way into real-world practices requires patient and public involvement. Research that fails to include the public and patient perspective is linked to having an unsuitable research design and overall its relevance is often questionable (24). This is why patients should undertake key roles in the research process in areas such as co-applicancy, project management and as co-researchers (24). This ensures that the perspective of the end-user is included from the start and implementation and the introduction of innovations doesn’t happen over their heads.

Fifth, suitable implementation strategies need to be chosen in order to enhance the uptake of an intervention. Although it is widely believed that implementation strategies should be tailored towards the characteristics of a specific context (25), guidance on how to do this is currently limited (26). An overview of implementation strategies can be found in the Expert Recommendations for Implementing Change (ERIC) study (27) and further research has been carried out to cluster them (28) and to link strategies to relevant contextual variables (29, 30).

Sixth, implementation science is also concerned with assessing implementation and summative outcomes. Given the complex and multifaceted nature of implementation processes, the evaluation of outcomes should take its complexity into account. In this respect, an example to evaluate comprehensively is to utilize a taxonomy of Proctor et al. (31) in which they propose to evaluate based on eight implementation outcomes: acceptability, adoption, appropriateness, cost, feasibility, penetration and sustainability. Another example is to utilize the RE-AIM framework (32, 33). It stands for reach (the proportion of the target population that is reached), effectiveness (examining the positive

and negative outcomes of an intervention, whether the intended objectives are reached), adoption (the participation rate of organizations or individuals), implementation (assessing whether the intervention is implemented as intended and its quality), maintenance (focusing on the sustainability and embeddedness of an intervention over time). These types of evaluation frameworks ensure that evaluation takes into account different types of outcomes.

Seventh, implementation research often has specific designs such as hybrid designs, combining the evaluation of the effectiveness of an intervention and the outcomes of implementation efforts (6). A mixed methods approach is a methodology that implies the collection and analysis of both quantitative and qualitative data, allowing for a better understanding of a research problem than either approach on itself (34). Both quantitative and qualitative research can respond to different types of implementation questions. On the one hand, quantitative research methods are generally suitable to assess the overall impact of implementation strategies on salient outcomes (35). On the other hand, qualitative research methods address complex “*how*” and “*why*” questions of implementation (36). Combining quantitative and qualitative methods allows to compensate for the weaknesses of one methodology with the other set of methods (34).

1.3 Challenges in implementation science

As a relatively new discipline, today’s landscape of implementation science is rather fragmented. There is a wide variety of theories, models and frameworks, deriving from various disciplines. At the same time, there is a lack of guidance for the selection of implementation frameworks and models that would best fit one’s research and/or implementation objectives (37). This fragmented landscape of implementation research reflects the inherent complexity of implementation processes. It is difficult to gain a comprehensive view on implementation processes. This is why Braithwaite et al. (38) suggest linking implementation science with insights deriving from complexity science. Furthermore, authors such as Nilsen et al. (39) argue that we should indeed devote to more exchange between disciplines, and they in particular deem it necessary to bridge the silos between improvement science and implementation science. The multidisciplinary nature of implementation science on the one hand is a strength, as it recognizes and responds to the multifaceted character of implementation processes. On the other hand, it poses a challenge to harmonize insights from various angles.

Another challenge in implementation science is the conceptualization of context. There is a broad consensus that contextual variables highly influence implementation outcomes (25, 40), yet the concept itself is difficult to grasp. Despite the importance of context, researchers are challenged by the lack of a clear definition of context. Pfadenhauer et al. (41) refer to context as a “*partially mature concept*” for which different interpretations exist on what it exists of. The most common ways in which contextual variables are taken into account in implementation research is to identify barriers and facilitators that are expected to affect implementation efforts (37). Implementation frameworks and models often lack a definition of context but are limited to describing categories or elements that

are relevant, without capturing context in its entirety. In addition, these variables tend to be treated as fixed characteristics of a particular setting, which overlooks the dynamic and relational character of contextual variables (42). On top of that, there is an overrepresentation of organizational determinants (23), while determinants macro level tend to be overlooked (43).

Furthermore, the field of implementation science still has to grow its insights and guidance into implementation strategies and linking them to specific contextual variables and expected outcomes. This requires first a comprehensive way to screen and identify relevant contextual variables. Subsequently, more knowledge and guidance is needed on how to prioritize these variables. Then, research is needed on how to tailor implementation strategies, in order to define the most suitable strategy given the specific intervention and context in which it is introduced. Deciding upon implementation strategies requires an understanding of the (expected) mechanisms underlying implementation processes. Salter & Kothari (44) refer to this as a challenge to *“open the black box of knowledge translation.”*

2 Implementing interventions in primary health care

Our research aims to contribute to the enhanced uptake of interventions in primary health care. In doing this, we must recognize the unique and changing characteristics of the primary care landscape.

2.1 What is a primary care intervention?

Throughout our studies, we define a primary care intervention as any intentional change that is being initiated into current practices of PCPs, which is expected to answer to a care or quality gap (45). This can be given form by a task-oriented change in practice (46), requiring behavioural change (47) either at individual or group/team level (48) and/or can have a broader organizational impact whereby a more complex transformational change is initiated (46). A primary care intervention that is introduced will generally be an innovative practice within the setting to which it applies, making the concept closely related to the notion of an innovation.

When addressing innovation in the health sector, we recognize that the concept is characterized by a multitude of meanings and nuances. Gomes Chaves, Briand & Bouabida (49) look into various definitions of an innovation. Several characteristics are mentioned repeatedly throughout the various definitions: the character of *novelty* of products, services, processes and ideas is underlined, the notion of *change* or *transformation*. Following Gomes Chaves, Briand & Bouabida (49, p. 3) we adopt the vision of an innovation as *“a complex social process in constant development, aiming to create more value for stakeholders.”* Interventions or innovations that we will look into are mostly complex interventions. This complexity points to the fact that an intervention consists of multiple components for which it is difficult to indicate ‘the active ingredients’ that lead to certain outcomes (23). They consist of many interdependent sub-processes that do not tend to follow a clear path to success (22).

Throughout our studies, we often zoom in on an intervention that is introduced within an organization. We view an organization as a purposeful aggregation of individuals which combines skills, knowledge and resources to meet certain shared objectives. According to institutional theory (50), organizations adopt a given set of value, norms and assumptions which lead to a certain behavior. When talking about context, the organizational context can also refer to the organization of the primary care landscape.

2.2 The Flemish primary care landscape

Primary care is usually the first point of access to the care system; thus it can be the foundation of a strong and effective healthcare system. Healthcare nowadays tends to be approached by an acute care model, which focuses on the primary care provider responding to pathology and physiology of body functions (45). It has little emphasis on (psycho)social and functional dimensions of health care and is therefore often seen as ineffective when it comes to chronic illnesses and preventive care (52). There is however a growing recognition that in order to respond to current challenges in the primary landscape, a shift towards a more patient oriented approach towards health care is desirable (51, 53). This should also include a better alignment of key stakeholder that are involved with the care of persons with complex and long-term care needs (54), taking into consideration the experience and well-being of both formal and informal care providers (55). Thus, further investments are required to strengthen primary care (56), as well as an overall shift in vision whereby primary care is seen as fundamental to improve overall public health (57).

Our research is situated in the primary care landscape of Flanders, the Dutch-speaking region in Belgium. Belgium is a federal state with three regions (Flanders, Wallonia and Brussels-Capital) and three language-based communities (Flemish, French and German). Flanders is a region with 6.5 million inhabitants and is an active member of the Regions for Health Network (RHN), which operates in the WHO European region (58). Coordination and financing of healthcare in Flanders derives from different levels, reflecting the political structure of Belgium. This means that there is both federal, regional and local policy for health-related subjects. This fragmentation of responsibilities of different levels of government is a challenge for achieving integrated care (59), in which health services are managed and delivered in a way that people experience continuity in care (60).

In order to strive for more person-centered, integrated care, a primary care reform was initiated in Flanders in 2015-2019. This reform led to the division of 60 primary care zones in Flanders, for which care councils are established as governing bodies. On top of that, the Flemish Institute of Primary Care (VIVEL) was created as a supporting institution, strengthening the collaboration between PCPs and welfare actors. This reform aimed to tackle several challenges, such as budget restrictions, the existing fragmentation and bureaucracy, growing pressure on healthcare by the growing ageing population and the increased prevalence of chronic conditions. Furthermore, changing expectations throughout society, scientific innovation and new communication possibilities pose challenges but also opportunities for improvement (58).

2.3 Zooming in on goal-oriented care in Flanders

In our research aims to develop understanding and guidance for implementing interventions in primary health care, we zoom in on the implementation process of Goal-Oriented Care (GOC) as a case.

GOC is an approach in health care that places a patient personal life goals and its underlying values at the core of care. Instead of focusing on disease and problem-oriented targets, GOC encourages a shift from *“what matters with the patient”* to *“what matters to the patient.”* Redefining health in terms of patient-centered goals could redirect decisions and care plans towards more meaningful outcomes, therefore expected to result in improved quality and a better cost efficiency (61). On top of that, GOC can be viewed as a possible strategy towards more integrated, patient-centered care (62). Its approach seems to have the potential to foster stronger patient-provider relationships when addressing personal goals across all domains of life. A concept analysis on GOC by Boeykens et al. (63) describes GOC as an approach in care that is characterized by a multifaceted, dynamic and iterative process that is guided by the patient context and its personal values. Three stages mark a GOC approach: goal-elicitation, goal-setting and goal-evaluation (63). Putting a goal-oriented approach into practice implies a paradigm shift and requires PCPs and organizations to experiment with the approach, in order to embed it in their daily practices.

In Flanders, the Dutch-speaking region of Belgium, the concept of GOC has gained interest both on policy level as well as by individual organizations and PCPs. It was included in the most recent Flemish primary care reform (2015-2019) as one of the principles to go towards more integrated care. Furthermore, various organizations have taken initiatives to adopt the principles of GOC. For example, the fund Dr. Daniël De Coninck that is managed by the King Baudouin Foundation (KBF), a philanthropic foundation, has launched multiple project calls for organizations that want to take actions to implement GOC. Another example can be found in the Flemish Patient Platform (FPP) that for a long time has demonstrated their interest in GOC by developing tools to support its approach. As various initiatives are being put into practice in the Flemish primary care landscape from different angles, the implementation efforts for GOC offer an interesting case to study implementation processes.

3 Thesis outline and objectives

The main aims of our study is to increase our understanding of implementation processes and to acquire insights that can help unravel the mechanism of change underlying these implementation processes. Instead of setting up a delineated intervention and zooming in on its roll-out, we zoom in on what happens during real life implementation efforts. This presents opportunities to grasp the complex reality of implementation efforts and how we can (not) steer processes and improve implementation outcomes. To make sense of the fragmented landscape of implementation science, we first obtained an overall understanding on how to structure implementation processes. This leads to the main building blocks (phases and components) of implementation processes, as depicted in Figure 2, on which our further research is based.

Figure 2 Overview of research objectives

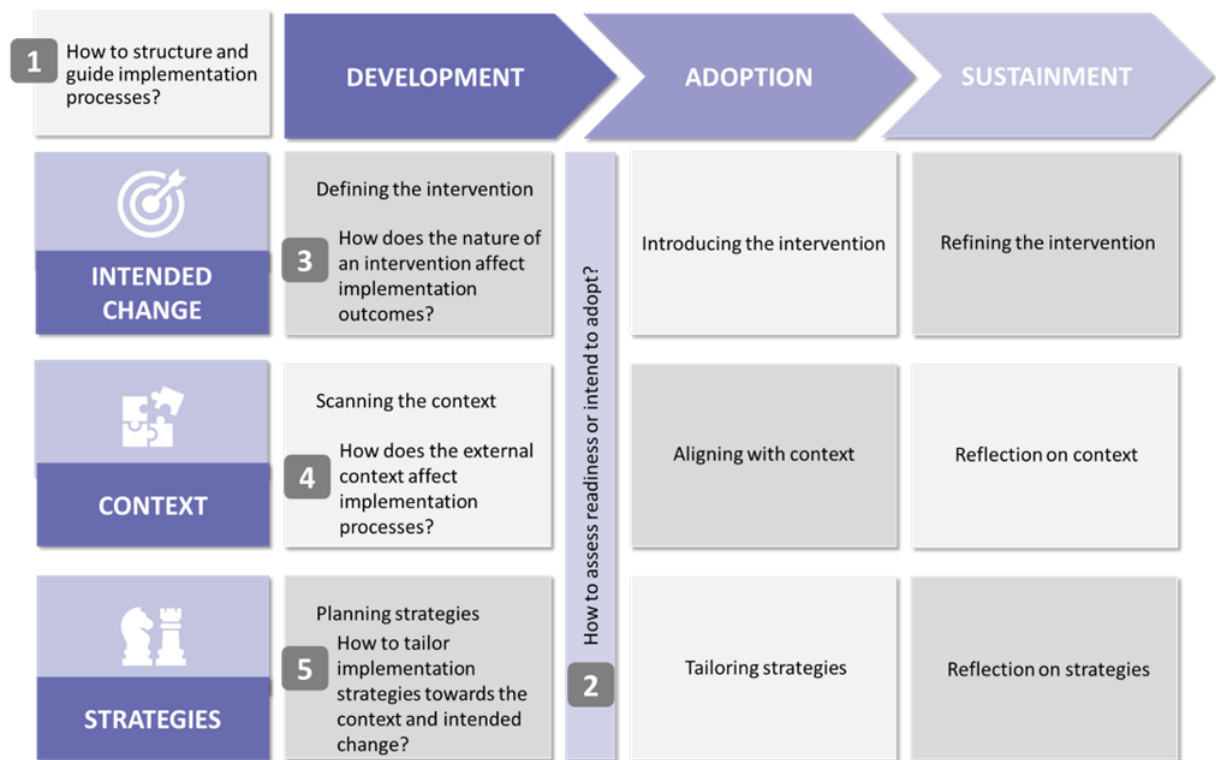


Figure 2 provides an overview of our research objectives and of our activities. In what follows, we zoom in on the implementation of GOC in the Flemish primary care landscape and investigate the actions and mechanisms surrounding these implementation efforts. We focus on the development phase and zoom in on how each of the components (intended change, context, strategies) is handled. In doing this, our research responds to the main challenges described in implementation science (see: 1.3). When looking at context, we zoom in on external context variables as this is least studied throughout existing implementation research and thus constitutes a large research gap. In particular the way in which these external context variables affect the mechanism of change of

implementation processes has not yet been studied or described throughout existing literature. As described earlier, context variables tend to be treated as fixed variables and overlooks their dynamic character. Furthermore, throughout our research, results and findings are connected with possible adequate implementation strategies. This research aims to increase our understanding of the (expected) mechanisms underlying implementation processes, which is necessary to define practical, tailored implementation strategies.

3.1 Research questions

1

How to structure and guide implementation processes?

In our [first study](#), we aim to identify the core building blocks of existing implementation frameworks and models, as a foundation to further structure and guide implementation processes. Throughout implementation research, a wide variety of frameworks and models are available to support the uptake of innovative practices, guidelines and tools. However, it is difficult to navigate through this landscape and to decide which frameworks or models best align with specific implementation objectives and challenges. This is why we aim to synthesize what already exists and to look for commonalities in the existing material. Therefore, we refine our research question as follows:

What are the main components of implementation frameworks and models in order to structure and guide implementation processes?

This results in an overview of the core building blocks; the main phases and components of implementation processes, as depicted in Figure 2. From then on, we utilize the implementation process of GOC in Flanders as a case to learn more about each of the components of implementation processes. We focus on the development phase (and to a certain extent also the adoption phase), as implementation efforts for GOC are still in an early phase of implementation.

2

How to assess readiness or intend to adopt?

In our [second study](#), we investigate the extent to which the intent to adopt or to implement GOC is already triggered by rather minimal implementation efforts. This will teach us more about PCPs readiness for adopting GOC. In doing this, we utilize the Normalization Process Theory (NPT). This theory views an implementation process as a process in which innovations have to be normalized. It places emphasis on how actors individually and collectively interpret and act upon innovative practices. It does this by putting forward four

constructs that all play a vital role in the normalization of innovations and explain important mechanisms: coherence, cognitive participation, collective action and reflexive monitoring (64). Given the specificities of the NPT, our overall research question can be refined accordingly:

What mechanisms are already triggered for GOC to be embedded in routine practices and what mechanisms still need further incitement when developing a sustainable implementation plan for GOC?

3

How does the nature of an intervention affect implementation processes?

In our [third study](#), we aim to identify the main drivers for implementation as well as those characteristics of GOC itself that affect implementation outcomes. In doing this, we utilize Rogers' DoI theory as a frame of reference. This theory puts forward five attributes of an intervention that strongly affect implementation outcomes: compatibility, observability, relative advantage, complexity and trialability (65). These attributes will teach us more about the nature of the intended change and how this relates to implementation success. The research question for this study can be specified as follows:

How do the attributes of GOC affect its implementation process?

4

How does the external context affect implementation processes?

In our [fourth study](#), we zoom in on the context surrounding implementation efforts for GOC and how it affects implementation outcomes. We delineate our research on contextual variables to the macro-level, as this is remarkably less often studied than micro- and meso-level variables and most uncertainty exists about its actual impact on implementation processes (43). We aim to grasp the mechanism of change underlying these external level context variables and in order to do this we call upon several organizational theories, inspired by Birken et al. (66). These organizational theories contribute to our understanding of the complex interactions between organizations and their environment, which provides insights in the mechanism of change on the macro-level. Our research question can be refined as follows:

What can organizational theories tell us about the influence of external context variables on the implementation process of GOC?

In our [fifth study](#), we want to learn more about implementation strategies for GOC and how they relate to the nature of the intended change and the context in which an intervention takes place. In doing this, we zoom in on seven organizations that aim to implement GOC in their setting. We explore how implementation actors contemplate and decide upon implementation strategies and to what extent they consider contextual variables in this process. Our research question can be refined as follows:

What considerations do organizations have for the deployment of their implementation strategies? In what way will the specific context of an organization come into play when considering such strategies?

3.2 Overarching research methods

To better understand implementation processes and their underlying mechanisms, most of our studies will be grounded in qualitative research methods. They respond best to the complex nature of implementation challenges as they seek to answer ‘why’ and ‘how’ questions (36). We will look at real life implementation efforts in Flanders for GOC in order to zoom in on the perceptions and experiences of various stakeholders and to identify difficulties and opportunities throughout an implementation process. In first instance, from a meso- and macro-level perspective, we will learn more about the broader context and tendencies that affect implementation processes. To this end, we will perform in-depth interviews in which purposive sampling is done to include a variety of healthcare/social care organizations that have committed themselves to projects supporting the adoption of GOC. In second instance, we will zoom in on several cases in which primary care organizations are taking actions to implement GOC into their practices. These organizations received seed funding to experiment with the translation of GOC into one or more concrete actions within their setting. For this study, a combination of in-depth interviews, non-participatory observations and document analysis will ensure that insights are gathered from different angles.

For the analysis, we will use a combination of inductive and deductive methods. Inductive analysis will allow the researcher to identify emerging patterns and themes. This way, the main drivers and challenges for implementation can be identified. For deductive analysis, we will call upon several theories deriving from social sciences as a frame of reference, using a sensitizing concept approach (67). This will strengthen the interpretation of our findings and will help to better understand the underlying mechanisms that can be identified. In the end, a theory-driven approach will also enhance the transferability of our research findings as we learn how to apply theories to identify drivers, challenges and pitfalls throughout implementation processes. Furthermore, throughout our research we collaborate with various stakeholders to gain feedback on our findings and conduct member checking (68). The embeddedness of our research project in the Primary Care

Academy (PCA) (see: 3.3) led to a learning community that provided various opportunities to get into contact with different stakeholders to reflect upon research findings.

3.3 Our research as a part of the Primary Care Academy

Our research is derived from the objectives of the PCA, a research and teaching network of four Flemish universities, six university colleges, the nursing home care organization White-Yellow Cross and patient representatives. The PCA was established with the support of the Fund Dr. Daniël De Coninck, administered by the King Baudouin Foundation. Its focus lies on building inclusive, proactive and person-centered primary care for people with moderately complex care needs. The project of the PCA exists of multiple work packages (WPs). A first WP consisted of a needs assessment in primary care, investigating the needs, preferences, barriers and facilitators from the point of view of care receivers, informal caregivers and formal care providers. Content-wise, three subsequent WPs cover the main research topics: WP3 on goal-oriented care, WP4 on self-management support and WP5 on interprofessional collaboration and integration. On top of that, WP2 on implementation analysis is a horizontal WP that addresses the difficulty and complexity of translating research results into practice.

In the elaboration of this research project (WP2), close collaboration was established with WP3 on GOC. Whereas their focus was to better understand the concept of GOC and its translation to a practice-based intervention, the focus of WP2 is on how we can better understand and guide the process of putting a concept such as GOC in practice. This way, both WPs are complementary to each other in terms of research objectives. Learnings from the analysis of the implementation process of GOC can subsequently be utilized to expand our overall knowledge of implementation processes. How can we better understand the mechanisms of change underlying implementation processes? And how can we steer and improve implementation outcomes?

This thesis consists of five research articles:

The building blocks of implementation frameworks and models in primary care: a narrative review

Ine Huybrechts, Anja Declercq, Emily Verté, Peter Raeymaeckers, Sibyl Anthierens & on behalf of the Primary Care Academy
Published in: Frontiers in Public Health
A1, Q1, IF 2022 = 5.2

Exploring readiness for implementing goal-oriented care in primary care using normalization process theory

Ine Huybrechts, Dagje Boeykens, Agnes Grudniewicz, Carolyn Steele Gray, An De Sutter, Peter Pype, Dominique Van de Velde, Pauline Boeckxstaens, Sibyl Anthierens, & on behalf of the Primary Care Academy
Published in: Primary Health Care Research and Development
A1, Q4, IF 2022 = 1.6

Will the implementation process for goal-oriented primary care succeed? A qualitative study investigating five perceived attributes of goal-oriented care

Ine Huybrechts, Anja Declercq, Emily Verté, Pauline Boeckxstaens, Peter Raeymaeckers, Sibyl Anthierens & on behalf of the Primary Care Academy
Published in: Social Science & Medicine
A1, Q1, IF 2022 = 5.4

How does the external context affect an implementation process? A qualitative study investigating the impact of macro-level variables on the implementation of goal-oriented primary care

Ine Huybrechts, Anja Declercq, Emily Verté, Peter Raeymaeckers, Sibyl Anthierens & on behalf of the Primary Care Academy
Published in: Implementation Science
A1, Q1, IF 2022 = 7.2

What implementation strategies to choose in a specific context? A qualitative study following 7 projects aiming to implement goal-oriented primary care

Ine Huybrechts, Lotte Vanneste, Anja Declercq, Emily Verté, Pauline Boeckxstaens, Patricia De Vriendt, Dominique Van de Velde, Peter Raeymaeckers, Sibyl Anthierens & on behalf of the Primary Care Academy
To be submitted in an A1 journal

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The building blocks of implementation frameworks and models in primary care: a narrative review

Ine Huybrechts, Anja Declercq, Emily Verté, Peter Raeymaeckers, Sibyl Anthierens & on behalf of the Primary Care Academy

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Abstract

Background: Our aim is to identify the core building blocks of existing implementation frameworks and models, which can be used as a basis to further develop a framework for the implementation of complex interventions within primary care practices. Within the field of implementation science, various frameworks and models exist to support the uptake of research findings and evidence-based practices. However, these frameworks and models often are not sufficiently actionable or targeted for use by intervention designers. The objective of this research is to map the similarities and differences of various frameworks and models, in order to find key constructs that form the foundation of an implementation framework or model that is to be developed.

Methods: A narrative review was conducted, searching for papers that describe a framework or model for implementation by means of various search terms, and a snowball approach. The core phases, components or other elements of each framework or model are extracted and listed. We analyze the similarities and differences between the frameworks and models and elaborate on their core building blocks. These core building blocks form the basis of an overarching model that we will develop based upon this review and put into practice.

Results: A total of 28 implementation frameworks and models are included in our analysis. Throughout 15 process models, 67 phases, steps or requirements are extracted and throughout 17 determinant frameworks 90 components, constructs or elements are extracted and listed into an Excel file. They are categorized using NVivo and synthesized into three core phases and three core components as common elements of most implementation frameworks or models. The core phases are a development phase, a translation phase and a sustainment phase. The core components are the intended change, context and implementation strategies.

Discussion: We have identified the core building blocks of an implementation framework or model, which can be synthesized in three core phases and three core components. These will be the foundation for further research that aims to develop a new model that will guide and support intervention designers to develop and implement complex interventions, while taking account contextual factors.

1 Introduction

Initiating and sustaining change within primary care is challenging (1). Most change that is introduced in primary care takes the form of a complex intervention, meaning that it involves concepts that are rather difficult to measure, and its components are often interconnected (2, 3). Nowadays, there are increased efforts to shift towards a more patient-centered approach (1), as this proves to improve disease outcomes and quality of life (4). However, such a shift highly challenges current primary care practices and there is therefore no consensus on how to best implement it (5). This indicates a gap between scientific evidence and actual practice: an evidence-to-practice gap (3). This can also be referred to as *“the black box of knowledge translation”* (6), meaning that much uncertainty exists about understanding why evidence-based practices do not find their way into real world settings and investigating how such complexities can best be approached.

Concrete initiatives and strategies for implementation often do not match with targeted problems (7). In the end, too much is expected from practitioners’ ability and goodwill to consult, interpret and adapt their practices in line with best evidence of research findings (8). The World Health Report 2008 stated that *“providing a sense of direction to health systems requires a set of specific and context-sensitive reforms that respond to the health challenges of today and prepare for those of tomorrow.”* It is thus key to carefully define specific interventions that aim to transform current practices, while at the same time tailoring them to local circumstances (9, 10). To do this, it is essential to gain insight in the process of implementation as well as in potential barriers and facilitators that might hinder or support the implementation process. This is studied in the field of implementation science, which is *“the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice (11)”*. The goal of implementation science is to close the gap between evidence-based practices and the extent to which research findings are integrated into real world settings and practices (3, 12).

Within the field of implementation science, many theories, models and frameworks have been created by various disciplines. Moreover, there is a variety of guidelines and tools aimed at facilitating the integration of knowledge of implementation science into either the development or the initiation of interventions and how to document this process. Examples are the ImpRes tool (13), NCEC Implementation Guide & Toolkit for National Clinical Guidelines (14), RNAO Toolkit: Implementation of Best Practice Guidelines (2nd ed). (15), STaRi Standards for Reporting Implementation Studies (16) and Implementation Research Logic Model (17). However, the landscape of implementation science is rather difficult to navigate, as there is a lack of guidance for selecting theories, frameworks, models or tools that best fit specific implementation objectives (18). A first step towards a better comprehension of such guidance on implementation efforts and to focus on concepts that are more meaningful to the actors in the field, is to gain better understanding in the common thread throughout the wide variety of models and frameworks that form the basis of such tools.

Current approaches to guide the implementation process are mainly characterized by a single-discipline, medical perspective in which a limited number and types of barriers are taken into account (19). This is insufficient to provide a deeper understanding of implementation success or failure or to increase the chance of success of the implementation (20). Existing frameworks and models tend to incorporate a selection of barriers, but do not allow to give more guidance about their validity or relative importance in specific contexts (20). Moreover, many frameworks and models remain very abstract and fall short in giving concrete guidance for intervention designers on how to navigate the implementation process (21). As many of such frameworks or models remain untested, this again questions their operability (7).

Therefore, an overarching framework is needed that provides both an explanatory approach (3), but also allows to prioritize those variables that are essential to achieve implementation success (22). This means that such a framework should provide a pathway that clarifies the core phases and steps throughout an implementation process and that highlight the core constructs that, within each phase, need to be defined, acted upon and reflected upon. These phases and constructs should be accessible and meaningful to actors that will conduct implementation efforts. It is key for such framework to transcend disciplines and to bundle insights from different approaches (7).

This research is a first step in the development of a generic framework that incorporates such an approach. We therefore looked into existing theories, models and frameworks from implementation science and combined insights across various disciplines. The similarities and differences between various frameworks informed us about the main building blocks of such frameworks and about how and why they differ. In doing this, we were guided by a rather broad research question: *“What are the main components of implementation frameworks and models in order to structure and guide implementation processes?”* This resulted into the identification of core building blocks that form a common thread throughout implementation models and frameworks. Such synthesis will in future research help to develop an overarching model that puts forward clear and meaningful constructs for intervention designers, and that provides both a pathway as well as an explanatory structure to define, act and reflect upon each component of a complex intervention.

2 Methods

To determine the building blocks of an overarching implementation framework, we conducted a literature review. Various disciplines were represented in the included literature, for which the initial search had been conducted by a multi-disciplinary team of medical researchers, sociologists, social work and agogic sciences. We opted for a narrative review, which can be defined as *“comprehensive narrative syntheses of previously published information (23)”* and which helps to *“pull many pieces of information together into a readable format (23).”* This reviewing technique is particularly helpful for grasping a broad perspective on a topic; it enables us to transcend a purely medical view on primary

care and incorporate other perspectives such as social welfare. Moreover, since the field of implementation science is rather fragmented and consists of a wide range of sources, it requires a wider scoping (24). Instead of focusing on a more rigor methodology to answer a very specific, narrowly focused research question (24), a narrative review allows for interpretation and critique, aiming to deepen the overall understanding of the subject specifically targeted at our problem (24). This corresponds to our goal to identify and possibly simplify the complexities of implementing an intervention by extracting the core phases and components that are common in most models. According to Green, Johnson & Adams (23), a successful narrative review synthesizes available evidence in relation to a topic and present it in a structured way, conveying a clear message. Our aim is thus to provide an overview of existing implementation frameworks and models and to analyze how they are structured and build.

Our initial search started with articles that were key in identifying other models and frameworks: Nilsen (25) which categorized many frameworks and models and Damschroder et al. (26) which provided a list of references on which the consolidated framework for advancing implementation science was based. Our search continued with consulting the three databases PubMed, Web of Science and Google Scholar, which are most commonly used in this type of literature. The key words that were used are listed in Table 1. Article titles and abstracts were screened for references about a specific framework, model or theory for implementation, followed by an additional search for theoretical papers on these frameworks, models or theories. Subsequently, the search terms were adapted and redefined based upon our findings, thus creating an iterative process that ensures covering literature in a comprehensive way (27). Also, a snowball approach was used, and additional literature was found in the references of the papers.

Table 1 Overview of the process of searching articles

1) References in key articles	
Nilsen (2015), (25)	Provides a categorization of frameworks and models and gives many examples of each type.
Damschroder et al. (2009), (26)	Provides a list of references on which the consolidated framework for advancing implementation science was based.
2) Database search	
Databases (Between 2000 and May 2020)	List of search terms
PubMed Web of Science Google Scholar	'Primary care' or 'primary care interventions' or 'health services' AND 'implementation framework' or 'implementation model' or 'implementation science'
3) Adaptation of search terms based on findings	

Articles were searched for and consulted between October 2019 and May 2020. They were mostly published between the years 2000 and 2020, but we did include some older source material if a model or framework was considered to be relevant (e.g., the paper was often referred to by other relevant articles). All articles were available as full text in English. We looked for articles which primarily consisted of a theoretical elaboration (and/or application) of a specific framework or model. Frameworks and models that were highly targeted towards a single case or strategy were excluded, as they were difficult to generalize for overall primary care settings.

To compare and analyze the frameworks and models, they were listed and classified according to Nilsen's (25) categorization (see: Table 2).

Table 2 Five categories of theories, models and frameworks used in implementation science

Category	Description
Process models	Specify steps (stages, phases) in the process of translating research into practice, including the implementation and use of research. The aim of process models is to describe and/or guide the process of translating research into practice. An action model is a type of process model that provides practical guidance in the planning and execution of implementation endeavors and/or implementation strategies to facilitate implementation.
Determinant frameworks	Specify types (also known as classes or domains) of determinants and individual determinants, which act as barriers and enablers (independent variables) that influence implementation outcomes (dependent variables). Some frameworks also specify relationships between some types of determinants. The overarching aim is to understand and/or explain influences on implementation outcomes, e.g. predicting outcomes or interpreting outcomes retrospectively
Classic theories	Theories that originate from fields external to implementation science, e.g. psychology, sociology and organizational theory, which can be applied to provide understanding and/or explanation of aspects of implementation
Implementation theories	Theories that have been developed by implementation researchers (from scratch or by adapting existing theories and concepts) to provide understanding and/or explanation of aspects of implementation
Evaluation frameworks	Specify aspects of implementation that could be evaluated to determine implementation success

Categorization and definitions by Nilsen P. Making sense of implementation theories, models and frameworks. Implementation science. 2015;10(1):53

We built our analysis upon process models and determinant frameworks, as they allowed to extract clear steps, actions, barriers and facilitators that can be transformed into guidance for intervention designers, which was the main aim of our research. For additional understanding of the component evaluation that came up in several models and frameworks, we also looked into three evaluation frameworks. Several classic theories (e.g., Theory of Diffusion (28)) and implementation theories (e.g. Normalization Process Theory (29)) were initially identified, but were not included in our analysis as their approach and structure did not match with our goal to extract clear building blocks of an implementation process that could be used to reconstruct a generic framework.

To analyze, all relevant frameworks and models were listed in an Excel file, with an overview of how they were constructed. For process models, their main phases (steps, stages) were listed, together with relevant details or components within the process they described. For determinant frameworks, the main components (constructs, elements) were listed, together with any details or further clarification about each of the components described. The first step to analyze was to bundle each of the phases or components that had a similar approach or meaning. This was done by the main researcher and validated by the three senior researchers. An overarching concept was appointed to each group of concepts. Then, NVivo 12© was used to structure the main themes and concepts and to analyze their similarities and differences. The overarching concepts were entered as the main nodes in NVivo 12©, whereby details or explanation about each concept from the different models and frameworks were again coded when we noticed overlap with approaches from different frameworks or models. By structuring the phases and components this way and by analyzing the details that were given for each component, we could synthesize it into core building blocks.

3 Results

Fifteen process models and seventeen determinant frameworks were identified. Four models had characteristics of both a process model as well as a determinant framework: the Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors (22), the Consolidated Framework for Implementation Research (26), The Ottawa Model of Health Care Research (30) and the Generic Implementation Framework (19). The frameworks or models focus on various domains. They were either developed specifically to apply within a certain research domain or development was based upon a single discipline. Table 3 gives an overview of the process models and determinant frameworks that were incorporated in our analysis per research domain. As we have only included English literature, this is largely represented in the geographical distribution of the included literature: 18 articles derive from authors affiliated with institutions located in the United States of America, 5 in the United Kingdom, 2 in Canada, 1 in Australia (in collaboration with a Spanish and Portuguese institution), 1 in Ireland and 1 in Sweden.

Table 3 Overview of process models and determinant frameworks per domain

Domain	Process models	Determinant frameworks
Implementation science or interdisciplinary	Consolidated Framework for Implementation Research (CFIR) (26), Advancing Understanding of Mechanism of Change in Implementation Science (37); Quality Implementation Framework (40), Ottawa Model of Health Care Research (30); Generic Implementation Framework (GIF) (19)	Consolidated Framework for Implementation Research (CFIR) (26), Integrated Promoting Action Research in Health Services Framework (i-PARiHS) (32), Understanding User Context Framework for Knowledge Translation (56) ; Interdisciplinary Conceptual Framework of Clinicians' Compliance with Evidence-based Guidelines (58); A Practical, Robust Implementation and Sustainability Model (PRISM) (55); Determinants and Consequences of Implementation Effectiveness (59); Conceptual Framework (3), Generic Implementation Framework (GIF) (19)
Medical sciences	Medical Research Council guidance (36); A Model for Large Scale Knowledge Translation (34)	Four levels of change for improving quality (51); Translating Research into Practice (57), Barrier Assessment (20)
Nursing	IOWA Model (41); Stetler Model of Research Utilization (43); ACE Star Model of Knowledge Transformation (33)	
Pharmacy	Active Implementation Frameworks (42)	
Public health or prevention research	The NCCDPHP Knowledge to Action Framework for Public Health (31); Research Utilization Model (modified from Rogers) (35)	Ecological Framework – Interactive Systems Framework for Dissemination and Implementation (54)
Organization research or service innovations	Organizational model for transformational change in health care systems (39)	Conceptual Model for Considering the Determinants of Diffusion, Dissemination, and Implementation of Health Service Delivery and Organization (60)

Social and behavioural sciences		Theoretical Domains Framework (V2.0) (38)
Social work	Conceptual Model of Evidence-Based Practice Implementation in Public Services Sectors (22)	Conceptual Model of Evidence-Based Practice Implementation in Public Services Sectors (22), the CAIMeR Theory (52)

Through analysis of both process models and determinant frameworks, we were able to grasp 1) a logical pathway in which different actions need to be taken in order to successfully implement a complex intervention, and 2) the main building blocks of which the intervention consists.

Table 4 gives an overview of the 15 process models with the main phases, steps or requirements we could detract in each model (67 in total) and Table 6 gives an overview of the 17 determinant frameworks and the main components, constructs or elements that were put forward in these frameworks (90 in total). This served as a basis on which we detracted the common thread in each of these models and frameworks. We identified three main phases which most models have in common: a development phase, a translation phase and a sustainment phase. Throughout all process models, 54 phases, steps, or requirements could directly be linked to these three phases. We also identified three main components: the intended change, the context and the implementation strategies. A total of 67 components, constructs or elements from all determinant frameworks could be directly linked to these three main components (see: Table 6). 13 components from 10 different process models could also be linked to these three main components (see: Table 4). Additionally, 17 components from 10 different determinant frameworks could indirectly be linked to the three main components as either outcomes, actors or processes (see: Table 6), leaving only 6 components that were not linked to the core phases and components we identified.

Table 4 Overview of process models with their main phases, steps or requirements

	Framework	Phases/steps/requirements
MODELS WHO DISTINGUISH BETWEEN PHASES OF THE IMPLEMENTATION PROCESS	Medical Research Council guidance, Craig et al. (2008), (36)	<u>Development</u> <u>Feasibility and piloting</u> <u>Evaluation</u> <u>Implementation</u>
	Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors, Aarons, Hurlburt & Horwits (2011), (22)	<u>Exploration</u> <u>Adoption Decision/Preparation</u> <u>Active Implementation</u> <u>Sustainment</u>
	Consolidated Framework for Implementation Research (CFIR), Damschroder et al. (2009), (26)	<u>Planning</u> <u>Engaging</u> <u>Executing</u> <u>Reflecting and evaluating</u>
	NCCDPHP Knowledge to Action Framework for Public Health, Wilson, Brady & Lesesne (2011). (31)	<u>Research phase</u> <u>Translation phase</u> <u>Institutionalization phase</u>
	Research Utilization Model (modified from Rogers), Davis et al. (2007), (35)	<u>Stage 0. Research Development</u> <u>Stage 1. Dissemination</u> <u>Stage 2. Intent to adopt</u> <u>Stage 3.a Implementation</u> <u>Stage 3.b Adaptation</u> <u>Stage 4. Institutionalization</u> <u>Stage 5. Diffusion and replication</u>
	Active Implementation Frameworks, Blanchard et al. (2017), (42)	<u>Exploration</u> <u>Installation</u> <u>Initial implementation</u> <u>Full implementation</u>
	Stetler Model of Research Utilization, Stetler (2001), (43)	<u>Phase 1: Preparation</u> <u>Phase 2: Validation</u> <u>Phase 3: Comparative Evaluation</u> <u>Phase 4: Decision making</u> <u>Phase 5: Translation/application</u> <u>Phase 6: Evaluation</u>
	Generic Implementation Framework (GIF), Moullin et al. (2015), (19)	<u>Pre-implementation</u> <u>Process of implementation</u> <u>Post-implementation</u>

ACTION MODELS WITH A STEP-WISE APPROACH	ACE Star Model of Knowledge Transformation, Stevens (2013), (33)	<u>1. Discovery Research</u> <u>2. Evidence Summary</u> <u>3. Translation to Guidelines</u> <u>4. Practice Integration</u> <i>5. Process, Outcome Evaluation</i>
	A model for large scale knowledge translation, Pronovost, Berenholtz & Needham (2008), (34)	<u>1. Summarise the evidence</u> <u>2. Identify local barriers to implementation</u> <i>3. Measure performance</i> <u>4. Ensure all patients receive the interventions</u>
	Advancing Understanding of Mechanism of Change in Implementation Science, Lewis et al. (2018), (37)	<i>Step 1: Specifying Implementation Strategies</i> <i>Step 2: Generating Strategy-Mechanism Linkages</i> <i>Step 3: Identifying Proximal and Distal Outcomes</i> <i>Step 4: Articulating Effect Modifiers</i>
	Organizational model for transformational change in health care systems, Lukas et al. (2007), (39)	<u>Impetus to Transform</u> <i>Leadership</i> <u>Improvement Initiatives</u> <u>Alignment</u> <u>Integration</u>
	The Ottawa Model of Health Care Research, Logan et al. (1998), (30)	<u>1. Assess: Practice Environment, Potential Adopters, Evidence-Based Innovation</u> <u>2. Monitor: Transfer Strategies, Adoption</u> <u>3. Evaluate: Outcomes</u>
	Quality Implementation Framework, Meyers, Durlak & Wandersman (2012), (40)	<u>1. Initial considerations regarding the host setting</u> <u>2. Creating a structure for implementation</u> <u>3. Ongoing structure once implementation begins</u> <u>4. Improving future applications</u>
	IOWA Model, Doody & Doody (2011), (41)	<u>1. Selection of a topic</u> <u>2. Forming a team</u> <u>3. Evidence retrieval</u> <u>4. Grading the evidence</u> <u>5. Developing an EBP Standard</u> <u>6. Implement the EBP</u> <u>7. Evaluation</u>

*** The underlined phases/steps/requirements are those that are directly incorporated into the three main phases we put forward as common thread in these models.**

*** The phases/steps/requirements in italics are linked to the three main components.**

The three core phases we identified simplify the implementation process and are relevant to distinguish between different actions that need to be taken at different points in the process. The three components we identified are the core building blocks of the intervention: the way these components are approached and interact with each other will determine implementation success. Therefore, intervention designers need to reflect on how to approach each of the components within each of the phases.

3.1 Phases of an implementation process

To examine different phases of an implementation process, we look at process models, as defined by Nilsen (25). Such models are built to make sense of the different phases or steps of the implementation process of an intervention (25). The goal is to construct and clarify a 'logical pathway' that can give concrete guidance for intervention designers. Many models were designed with the objective of translating research evidence into real world practice (31-34) or the so called shift from knowledge to action (cfr. Wilson et al. (31)). They tend to depart from an evidence base that needs to be translated into real world settings (31-34). Other models incorporate a research development phase (31, 35, 36) in which best practices are still to be defined.

We find variation among models as to what is viewed as the main process of implementation. In some models such process takes the form of a stepwise approach to ensure successful implementation of an intervention (30, 37-41). Nilsen (25) calls these action models. They are built upon critical steps or phases that need to be followed or focused upon in order to reach successful implementation. These main phases or steps can either be aimed at the implementation process itself (37, 40) or at the process of using research to initiate change (38, 41). In such models, key drivers or components tend to be highlighted that are necessary for change (32, 39) and/or they have a thorough focus on those strategies that will lead to sustainable change, which is referred to as general implementation strategies (37), transfer strategies (30), capacity-building strategies (40) et cetera.

Another approach for describing a process is to have models differentiate between the main phases of how implementation efforts takes form, in order to make sense of the implementation process itself (22, 31, 35, 36, 42, 43). These models describe similar phases. They distinguish between either a development (35, 36), preparation (43) or exploration phase (22, 42), a pre-adoption phase (such as piloting (36), installation (42), or the intent/decision to adopt (22, 35, 43)), an actual implementation- (22, 35, 36, 42) or translation phase (31, 43) and a sustainment (22) or institutionalization (31, 35) phase. We reduce these models to three core phases: a development phase, a translation phase and a sustainment phase – as depicted in Table 5. This is a simplification that is relevant for intervention designers and practitioners, as these phases make most sense to them as distinct phases that require other types of action from them.

Table 5 Overview of process models in relation to a development phase, translation phase and sustainment phase

	Framework	Development phase	Translation phase	Sustainment phase
MODELS WHO DISTINGUISH BETWEEN PHASES OF THE IMPLEMENTATION PROCESS	Medical Research Council guidance, Craig et al. (2008), (36)	Development	Feasibility and piloting Implementation	-
	Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors, Aarons, Hurlburt & Horwits (2011), (22)	Exploration Adoption Decision / Preparation	Active Implementation	Sustainment
	Consolidated Framework for Implementation Research (CFIR), Damschroder et al. (2009), (26)	Planning Engaging	Executing	-
	NCCDPHP Knowledge to Action Framework for Public Health, Wilson, Brady & Lesesne (2011). (31)	Research phase	Translation phase	Institutionalization phase
	Research Utilization Model (modified from Rogers), Davis et al. (2007), (35)	Research Development Intent to adopt	Implementation Adaptation	Institutionalization Diffusion and replication
	Active Implementation Frameworks, Blanchard et al. (2017), (42)	Exploration	Installation Initial Implementation	Full implementation
	Stetler Model of Research Utilization, Stetler (2001), (43)	Preparation Validation Comparative evaluation Decision making	Translation/application	-
	Generic Implementation Framework (GIF), Moullin et al. (2015), (19)	Pre-implementation	Process of implementation	Post-implementation

ACTION MODELS WITH A STEP-WISE APPROACH	ACE Star Model of Knowledge Transformation, Stevens (2013), (33)	Discovery Research Evidence Summary Translation into Guidelines	Practice Integration	-
	A model for large scale knowledge translation, Pronovost, Berenholtz & Needham (2008), (34)	Summarize the evidence Identify local barriers to implementation	-	Ensure all patients receive the interventions
	Advancing Understanding of Mechanism of Change in Implementation Science, Lewis et al. (2018), (37)	-	-	-
	Organizational model for transformational change in health care systems, Lukas et al. (2007),(39)	Impetus to Transform	Improvement Initiatives Alignment	Integration
	The Ottawa Model of Health Care Research, Logan et al. (1998), (30)	Assess (practice environment, potential adopters, evidence-based innovation)	Monitor (transfer strategies, adoption)	-
	Quality Implementation Framework, Meyers, Durlak & Wandersman (2012), (40)	Initial considerations regarding the host setting Creating a structure for implementation	Ongoing structure once implementation begins	Improving future applications
	IOWA Model, Doody & Doody (2011), (41)	Selection of a topic Forming a team Evidence retrieval Grading the evidence Developing an EBP Standard	Implement the EBP	-

3.1.1 Development phase

The development phase is the initial phase in which preparatory activities are conducted in order to successfully introduce the intervention. In the different models, various elements are considered to be relevant in this initial phase, which leads to a variety of actions that can be taken to prepare for and develop an intervention. Overall, the development phase comprises:

- 1) Synthesizing or collecting research evidence on which an intervention can be based;
- 2) Exploring the host setting;
- 3) Considering the overall fit of an intervention within a particular setting;
- 4) Ensuring readiness and intend to adopt the intervention.

Most models require that intervention designers synthesize existing evidence (33, 34, 36, 41), or that they conduct their own (discovery) research (31, 33). This will lead to either a theory (36), approach or practice (31), or research findings that can be translated into an evidence based practice (EBP) standard (41) or guidelines (33). Other models have a different focus and depart from the idea of planning (26) for an intervention or a more general exploration phase (22, 42). This is less focused on research translation and more intended to gain awareness of an issue (22), and to explore practices and implementation strategies that might respond to this issue (22). Exploration could also refer to assessing the feasibility of implementation intentions or examining the readiness of the setting in which an intervention should take place (42). This is in line with Meyers, Durlak & Wandersman (40) who mention the importance of *“initial considerations regarding the host setting”*, which refers to exploring whether there is a fit between an intervention and the host setting.

The fit between an intervention and the host setting (40, 42) can be linked to the need to assess contextual factors in this initial development phase (10, 44). The Ottawa Model of Health Care Research refers to *“assess”* as a first step, which means that the implementation environment, potential adopters and the evidence-based innovation itself have to be examined (30). This is relevant when trying to assess the feasibility and compatibility of the intervention within a specific context. Pronovost, Berenholtz & Needham’s (34) model mention a barrier assessment, which is a similar approach as the Conceptual Model of Evidence-Based Practice Implementation in which much emphasis is placed on mapping various hindering and promoting context variables in order to increase implementation success (22). These models recognize the importance of scanning contextual variables to identify barriers and facilitators that will affect implementation efforts.

Lastly, some models incorporate the decision or intend to adopt as a key element of the initial phase (22, 30, 35, 43). Lukas et al. (39) refer to this as the *“impetus to transform”*, which indicates that the decision to adopt a certain intervention is affected by various

elements (22). This relates back to overall practitioner readiness (42), and the fit between the intervention and the setting in which it will be implemented (40, 43). According to the Quality Implementation Framework, a key step in the initial phase is also to create a structure for implementation (40). This can mean having a plan for implementation (40), but also to form a team that is dedicated to ensure implementation of an intervention (40, 41). The CFIR also recognizes the importance of engaging different actors that are involved in the intervention and views it as one of the core activities in the first phases of developing an intervention (26).

3.1.2 Translation phase

Many frameworks refer to an implementation phase (22, 35, 36, 41, 42). It can also be called executing (26), adoption (30), improvement initiatives (39) or practice integration (33). Following the definition of Blanchard et al. (42), the core of this phase is to integrate the intervention into everyday practice, relying on the preparatory work started in the initial phase. We decided to follow the approach of the NCCDPHP Knowledge to Action Framework for Public Health (31) and the Stetler Model of Research Utilization (43) in which this phase is called the translation phase. They view the implementation process as translating research into practice. The core of these phases is however similar: it refers to the entire process of putting research into practice (31), thus implementing change into real world settings. In short, the actions that are key within the translation phase are:

1) Introducing the intervention by applying the strategies as defined in the development phase; 2) Monitoring how different components interact with each other to ensure continuous improvement.

All models with a translation phase will agree that key activities within this phase are applying those strategies (30, 42) or types of support (31, 41) that have been defined in the development phase, in order to introduce the intervention. For example, training or coaching is organized (31, 42), leadership- or communication structures are put in place (39, 41), technical assistance is provided, or financial resources are made available (31). The Ottawa Model of Health Care Research (30) sees this as a monitoring phase, which means that strategies for introducing and implementing the intervention are to be observed and adjusted if necessary. Within the Research Utilization Model (35), the term ‘adaptation’ is introduced, which means that *“over time, an innovation, the social system into which it is introduced, or both, may change or be modified to facilitate use of the innovation.”* This suggests that interaction is expected between the intervention, the strategies used and the context or setting in which the intervention takes place.

3.1.3 Sustainment phase

Seven process models that we included in our analysis mention some form of sustainment phase. Aarons, Hurlburt & Horwitz directly incorporate a sustainment phase and define it as *“the continued use of an innovation in practice.”* This corresponds with what is named the *“institutionalization phase”* in the NCCDPHP Knowledge to Action Framework for Public

Health (31) and the Research Utilization Model (35). Institutionalization of an intervention means that the intended change within an intervention becomes an established activity or norm within the setting it is implemented (31). It becomes integrated into the routines and practices of this setting (35), and it should be ensured that the intervention is applied to all of whom it is aimed (34). Central in the sustainment phase is: 1) Applying the strategies as defined in the development phase to help sustain the intervention; 2) Reflecting upon the actions taken and ensuring continuous improvement.

Indeed, the aim of the sustainment phase of an intervention is that the intended change is maintained and becomes part of the daily routines and practices. This goes beyond a mere adoption of an intervention. The Organizational model for transformational change in health care systems (39) incorporates a similar idea, which is referred to as integration. Blanchard et al. (42) also speak of integration of new learnings into practice, which they call full implementation. All of these imply that an intended change is adopted and in time harmonizes with or replaces previously existing practices and activities.

A sustainment phase is also the phase in which continuous improvements ensure a fit between the intervention and the setting in which it is implemented. The Quality Implementation Framework (40) sees the improvement of future applications as the core of this final phase. This is learning from experience. Through reflection and feedback from the setting in which the intervention is introduced, strengths and weaknesses of the intervention can be detected and acted upon (40). For Blanchard et al. (42) this implies achieving fidelity and improving outcomes. This phase can directly be linked to evaluation, which four process include as a separate phase.

This notion of continuous improvement can be linked to reflection and evaluation as a part of the process. Several process models include evaluation or measuring performance and outcomes as a phase of the implementation process, for example in the Medical Research Council guidance (36), the CFIR (26), the Ottawa Model of Health Care Research (30), the IOWA model (41), the ACE Star Model of Knowledge Transformation (33), the Stetler Model of Research Utilization (43) and Advancing Understanding of Mechanism of Change in Implementation Science (37), and the model for large scale knowledge translation (34). These frameworks or models generally include minor guidance about how to assess success or failure. There are however also frameworks that are designed specifically to guide the evaluation process, examples of which are the RE-AIM framework (45), the PRECEDE-PROCEED model (46) and the Implementation Outcomes Framework (IOF) (47).

Table 6 Overview of determinant frameworks with their main components, constructs or elements

Determinant framework	Components/constructs/elements
Consolidated Framework for Implementation Research (CFIR), Damschroder et al. (2009), (26)	<u>Intervention Characteristics</u> <i>Individuals involved</i> <u>Inner setting</u> <u>Outer setting</u> <i>Process</i>
Integrated Promoting Action Research in Health Services Framework (i-PARiHS), Stetler et al. (2011), (32)	<u>Evidence/Evidence and EBP Characteristics (revised version)</u> <u>Context/Contextual readiness for targeted EBP implementation (revised version)</u> <u>Facilitation</u> <i>Successful Implementation (revised version)</i>
CAIMeR Theory, Blom & Morén (2009) (52)	<u>Contexts</u> <i>Actors</i> <u>Interventions</u> <i>Mechanisms</i> <i>Results</i>
Barrier Assessment, Cochrane et al. (2007), (20)	<u>Cognitive-behavioral barriers</u> <u>Attitudinal or rational-emotional barriers</u> <u>Professional barriers</u> <u>Barriers embedded in the guidelines or evidence</u> <u>Patient barriers</u> <u>Support or resources</u> <u>System and process barriers</u>
Ecological Framework – Interactive Systems Framework for Dissemination and Implementation, Durlak & DuPre (2008), (54)	<u>Community Level Factors</u> <u>Provider Characteristics</u> <u>Characteristics of the Innovation</u> <u>Factors Relevant to the Prevention Delivery System: Organizational Capacity</u> <u>Factors Related to the Prevention Support System</u>
Conceptual Model for Considering the Determinants of Diffusion, Dissemination, and Implementation of Health Service Delivery and Organization, Greenhalgh et al. (2004), (60)	<u>The Innovation</u> <u>System Antecedents for Innovation</u> <u>System Readiness for Innovation</u> <i>Adopter</i> <i>Assimilation</i> <i>Implementation process</i> <i>Linkage</i>

	<u>Outer context</u> <u>Communication and influence</u> <u>Diffusion and Dissemination</u>
Understanding User Context Framework for Knowledge Translation, Jacobson et al. (2003), (56)	<i>The user group</i> <u>The issue</u> The research The researcher-user relationship <u>Dissemination strategies</u>
The interdisciplinary conceptual framework of clinicians' compliance with evidence-based guidelines, Gurses et al. (2010), (58)	<u>System Characteristics</u> <u>Provider Characteristics</u> <u>Guideline Characteristics</u> <u>Implementation Characteristics</u>
Four levels of change for improving quality, Ferlie & Shortell (2001), (51)	<u>Individual change</u> <u>Group/team change</u> <u>Organizational change</u> <u>Larger system/environment change</u>
A practical, robust implementation and sustainability model (PRISM), Feldstein & Glasgow (2008), (55)	<u>Program (Interventions)</u> <u>External Environment</u> <u>Implementation and Sustainability</u> <u>Infrastructure</u> <i>Recipients</i>
Translating Research into Practice, Bradley et al. (2004), (57)	<u>Top-down support</u> <u>Leadership</u> <u>Credibility of evidence-based practice</u> <u>Organizational culture</u> <u>Coordination of different stakeholders</u> <u>Intervention infrastructure</u> <u>Dissemination</u> <u>Diffusion</u>
Determinants and Consequences of Implementation Effectiveness, Klein & Sorra (1996), (59)	<u>Climate for Implementation</u> <u>Skills</u> <u>Incentives and disincentives</u> <u>Absence of obstacles</u> <u>Innovation values fit</u> Commitment Strategic accuracy of innovation adoption <i>Implementation effectiveness</i> <i>Innovation effectiveness</i>
Conceptual Framework, Lau et al. (2015), (3)	<u>External context</u> <u>Organisation</u> <u>Professional</u> <u>Intervention</u>

Generic Implementation Framework (GIF), Moullin et al. (2015), (19)	<u>Innovation</u> <u>Context Domains</u> <u>Strategies</u> <u>Factors</u> <i>Evaluations</i>
The Ottawa Model of Health Care Research, Logan et al. (1998), (30)	<u>Practice Environment</u> <i>Potential Adopters</i> <u>Evidence-Based Innovation</u> <u>Transfer Strategies</u> Adoption <i>Outcomes</i>
Theoretical Domains Framework (v2.0), Atkins et al. (2017), (38)	<u>Knowledge, Skills, Social/professional role and identity, Beliefs about capabilities, Optimism, Beliefs about Consequences, Reinforcement, Intentions, Goals, Memory, attention and decision processes, Environmental context and resources, Social influences, Emotion, Behavioral regulation</u>
Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors, Aarons, Hurlburt & Horwits (2011), (22)	<u>Outer Context</u> <u>Inner Context</u> <i>Interconnections</i>

* The underlined components/constructs/elements are those that are directly incorporated into the three main components we put forward as common thread in these frameworks.

* The components/constructs/elements in italics are linked to the three main components, as either outcomes or evaluation (linked to intended change), actors (linked to context) or process (linked to strategies).

3.2 Framework components

Throughout the three phases of the implementation process, we distinguish components that have to be taken into account within each phase. Therefore, we looked into what Nilsen (25) calls determinant frameworks. These are designed with the intent to understand and explain what influences implementation outcomes, and thus provide information on which components to focus for implementation success. Some frameworks tend to mainly focus on enlisting relevant context variables (e.g. Theoretical Domains Framework 2.0 (38)), while others also specify the relationships and interactions between types of determinants (25). These frameworks provide valuable input when describing different types of context variables that might hinder or facilitate intervention efforts.

Table 7 gives an overview of how various determinant frameworks refer to the three components that we have extracted: intended change, context and/or strategies. They will

provide further guidance on how to understand and work with these elements and how they can affect implementation outcomes.

Table 7 Overview of determinant frameworks that incorporate intervention, context and strategies as components

Determinant framework	Intended change	Context	Strategies
Consolidated Framework for Implementation Research (CFIR), Damschroder et al. (2009), (26)	Intervention characteristics	Inner setting Outer setting	-
Integrated Promoting Action Research in Health Services Framework (i-PARiHS), Stetler et al. (2011), (32)	Evidence / Evidence and EBP Characteristics	Context / Contextual readiness for targeted EBP implementation	Facilitation
CAIMeR Theory, Blom & Morén (52)	Interventions	Contexts	-
Barrier Assessment, Cochrane et al. (2007), (20)	<i>Barriers embedded in the guidelines or evidence</i>	Cognitive-behavioural barriers Attitudinal or rational-emotional barriers Professional barriers Patient barriers System and process barriers	Support or resources
Ecological Framework – Interactive Systems Framework for Dissemination and Implementation, Durlak & DuPre (2008), (54)	Characteristics of the innovation	Community level factors Provider characteristics Factors relevant to the prevention delivery system: organizational capacity	Factors related to the prevention support system
Conceptual Model for Considering the Determinants of	The innovation	System antecedents for innovation	Communication and Influence

Diffusion, Dissemination, and Implementation of Health Service Delivery and Organization, Greenhalgh et al. (2004), (60)		System readiness for innovation Outer context	Diffusion and Dissemination
Understanding User Context Framework for Knowledge Translation, Jacobson et al. (2003), (56)	The issue	-	Dissemination strategies
The interdisciplinary conceptual framework of clinicians' compliance with evidence-based guidelines, Gurses et al. (2010), (58)	Guideline characteristics	System characteristics Provider characteristics	Implementation characteristics
Four levels of change for improving quality, Ferlie & Shortell (2001), (51)	Individual change Group/team change Organizational change Larger system/environment change	-	-
A practical, robust implementation and sustainability model (PRISM), Feldstein & Glasgow (2008), (55)	Program (interventions)	External environment Implementation and sustainability infrastructure	-
Translating Research into Practice, Bradley et al. (2004), (57)	Credibility of evidence-based practice	Top-down support Leadership Organizational culture Intervention infrastructure	Coordination of different stakeholders Dissemination Diffusion
Determinants and Consequences of Implementation	-	Climate for Implementation Innovation values fit	Skills/Incentives and disincentives/Absence of obstacles

Effectiveness, Klein & Sorra (1996), (59)			
Conceptual Framework, Lau et al. (2015), (3)	Intervention	External context Organization Professional	-
Generic Implementation Framework (GIF), Moullin et al. (2015), (19)	Innovation	Context Domains Factors	Strategies
The Ottawa Model of Health Care Research, Logan et al. (1998), (30)	Evidence-based innovation	Practice Environment	Transfer strategies
Theoretical Domains Framework (v2.0), Atkins et al. (2017), (38)	-	<i>Provides a list of domains that can be incorporated as context variables.</i>	-
Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors, Aarons, Hurlburt & Horwits (2011), (22)	-	Outer context Inner context	-

3.2.1 Intended change

The intended change deals with any conscious change into current practices of primary care providers or any actions that actors undertake (48), which are expected to solve a care or quality gap (49). This can take the form of a task-oriented change in practice (32), require behavioral change (50) either at individual or group/team level (51) and/or have a broader organizational impact whereby a more complex transformational change is initiated (32). The intended change derives from the objectives of the intervention, with the assumption that the initiated change will contribute to realizing these objectives (49).

Twelve of the determinant frameworks mention a component similar to the intended change as part of the implementation process. This is referred to as (characteristics of) an intervention (3, 26, 52), innovation (19, 30, 53, 54), change (51), program (55) or issue (56), or involves an evidence based practice (20, 30, 32, 57) or guidelines (20, 58). Determinant frameworks that do not mention the intervention as a separate component either focus on

context variables (51), domains (38) or barriers (20), or incorporate intervention aspects in general implementation characteristics (58, 59).

The CFIR (26), the Interactive Systems Framework for Dissemination and Implementation (54) and i-PARiHS specifically zoom in on the characteristics of such an intended change (in these models referred to as intervention, innovation or evidence-based practice). This indicates that an intervention or intended change is complex, multi-faceted and different components will be interacting with each other (26). Characteristics that are mentioned are among others compatibility (32, 54, 58), adaptability (54, 55), complexity (26, 32, 55, 58) and/or relative advantage (32, 58). Such inherent characteristics of the intervention will have an impact on its overall implementation success.

As the intended change is expected to contribute to realizing the objectives of the intervention, it is important to define what outcomes are expected from the intended change. Four determinant frameworks incorporate results (52), output (52), outcomes (30), (implementation or innovation) effectiveness (59) or successful implementation (32) as separate components. This helps focusing on the objectives that are set when defining an intervention and the benefits that arise when implementation is successful (59). The time frame in which results can be observed, can differ majorly. Certain results are obtained early on, while others only exist in the long-term even after the intervention is finished (52). When defining the intended change, it is thus key to not only define the behavioral or organizational change that is expected, but also the expected results and how this can be evaluated.

3.2.2 Context

Context variables can be defined as *“the set of circumstances or unique factors that surround a particular implementation effort* (26).” They are dynamic factors that interact, influence, modify and facilitate or constraint intervention and implementation efforts (44). Context variables are most prominent in what Nilsen (25) defines as determinant frameworks, in which the main objective is to gain insight in those barriers and facilitators that impact implementation outcomes (25). Some are built with the interaction of context variables (51), context domains (38) or barriers (20) as a main focus. Most frameworks indeed incorporate some form of context variables as an essential part of the implementation process. i-PARiHS (32), the Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors (22), the CFIR (26), the CAIMeR theory (52) and the GIF (19) directly incorporate context, contextual readiness, inner and outer context, context domains, setting or factors as a component of the framework. A distinction is sometimes made between inner- and outer context or setting (22, 26), which mentions inner context variables as being specific to a person, team or organization (on micro- and meso-level), while outer context variables are broader in nature such as socio-economic or policy variables (on macro-level).

When referring to context, some frameworks only incorporate context variables on the macro level. They zoom in on the so called outer context (60), external context (3) or

external environment (55). Elements on an organizational or individual-adopter level are then incorporated under a different name. For example, organizational aspects can also be referred to as system characteristics (58), system antecedents or system readiness for innovation (60), practice environment (30), system and process barriers (20), implementation and sustainability infrastructure (55), organizational culture (57) or climate for implementation (59), intervention infrastructure (57), or factors relevant to the prevention delivery system (54).

When it comes to the micro context, individual adopter characteristics are mentioned by fewer frameworks. They are referred to as professional (3), or provider characteristics (54, 58), or more specifically as cognitive-behavioral barriers, attitudinal or rational-emotional barriers or professional barriers (20), which indicates that individual adopter characteristics can cover a wide range of micro level aspects. This is also noticeable in the Theoretical Domains Framework (38), in which a wide variety of 'domains' is mentioned, many of which are individual adopter characteristics such as professional role, beliefs about capabilities, etc.

On the micro level, context variables highly relate to the actors to which the intended change concerns. Greenhalgh et al. state that *"people are not passive recipients of innovations."* The dynamic interplay of how individuals relate to the organization in which they work (26) and their general assumptions about people, society and their profession (52) influences their perception and the way in which they make sense of an intended change. Six determinant frameworks include actors (52), individuals involved (26), potential adopters (30, 60), recipients (55) or the user group (56) as a core component. Incorporate actors as one of the components strengthens the view that actors have an impact on the way an intervention is realized. In five determinant frameworks, the influence actors have on implementation success is recognized by including individual attitudes, cognitions or professional characteristics as a context variable (3, 20, 38, 54, 58). The component actors can thus be incorporated as a separate component of an implementation model, but it can also be included as a micro level context variable.

Overall, there is a wide belief that the context in which a primary care intervention takes place highly determines implementation success (10). This makes scanning and taking into account the context key for each phase of the implementation process. When determining implementation strategies, context variables must be taken into account in order for strategies to be tailored and fit local circumstances (10). This is in line with realist evaluation, whereby the general aim is to find out *"what works, for whom, and under what conditions (6)?"* In this approach, context variables are the conditions in which an intervention takes place.

3.2.3 Strategies

Implementation strategies can be defined as the approach(es) and means that are used to ensure or enhance the adoption of the target behaviors and other requirements of the primary care intervention by the targeted actors (10, 61). Whereas the intended change

refers to what is to be implemented, the strategies refer to how they are to be implemented and is linked to the process or mechanism that intervention designers want to trigger in order to accomplish implementation.

Implementation strategies are directly referred to in few process models, such as Advancing Understanding of Mechanism of Change in Implementation Science (37), whereby a first step to implementation is to specify the implementation strategies; the Ottawa Model of Health Care Research (30) in which transferring strategies is a part of monitoring the uptake of the intervention and in the GIF (19), in which the strategies are viewed as the approaches to respond to barriers and facilitators. Throughout other determinant frameworks, a component similar to implementation strategies is included in eight of the models we included in our analysis, either in the form of facilitation (32), support (e.g. training, assistance) (20, 54), implementation characteristics (58) and dissemination and/or diffusion of strategies (56, 57, 60). Frameworks also tend to incorporate those elements that are considered to be most decisive as strategies, such as communicational aspects (60), coordination of different stakeholders (57) or the use of incentives and disincentives (59).

Implementation strategies are discussed more in-depth in the Expert Recommendations for Implementing Change (ERIC) study, in which a compilation of 73 implementation strategies was made (62, 63). This can serve as a guide for when the most fitting implementation strategies have to be selected for the implementation of a certain intervention. To make more sense of the wide diversity of implementation strategies, they often are categorized. For example, Powell et al. (64) distinguishes between strategies that are related to either planning, educating, financing, restructuring, managing quality and/or attending to policy context. Another categorization can be found in Charif et al. (65), who differentiate strategies that are related to either the health infrastructure, policy and regulation, financing, human resource or patients (65).

Implementation strategies can be very different depending on the type of change that is initiated, and should ideally be tailored to fit the inner and outer context (10, 66), making use of the facilitators or barriers that are observed in order to ensure a fit between the intervention and its context (3). When defining implementation strategies to implement one's intervention, Proctor et al. (67) have set up guiding principles to name, define and operationalize implementation strategies by firstly specifying the following elements: 1) actor, 2) action, 3) action target, 4) temporality, 5) dose, 6) implementation outcome affected and 7) justification. These can support intervention designers in defining implementation strategies.

In short, implementation strategies are expected to lead to an intended change in a given context. This means that there is an underlying process that will bring about this change. Three determinant frameworks include this (implementation) process (26, 53) or mechanism (52) as one of the core components. These frameworks have a more explanatory approach and put more emphasis on understanding the process of change. For complex interventions, this consists of many interdependent sub-processes that may or

may not follow a clear path to success (26). The process involves decision making activities, the use of resources, communication and collaboration and (60). Blom & Morén (52) view this as an either social, socio-psychological or psychological mechanism that is at the base of change. Greenhalgh et al. (60) and Lewis et al. (37) also refer to linkages or effect modifiers and Aarons, Hurlburt & Horwits (22) speak about interconnections, referring to the fit between an innovation and a system or organization that comes into play when introducing a change. These frameworks thus incorporate the process or mechanism of change as a core element that needs to be understood in order to fully know how to target certain interventions in specific settings. When choosing implementation strategies, it is thus recommended to make explicit the assumptions of how a certain strategy will lead to the intended change in a given context.

4 Discussion

We have identified the core building blocks of an overarching implementation framework for complex interventions in primary care services. Throughout our narrative review, three core phases are detracted that describe the process of implementation in relation to three core components. This process can roughly be divided in a development phase, a translation phase and a sustainment phase. For each phase, three main components are essential to define, tailor and manage to successfully implement an intervention in a specific setting. These are the intended change, the context and the implementation strategies. Other related components that are closely linked to these three components may still be relevant, such as actors, the process or mechanism, and the outcomes and evaluation of the intervention.

An overarching implementation framework is needed to transcend the solely theoretical models and to aim for a model that is both explanatory as well as actionable. Context variables should be given a prominent place in this, as tailoring interventions to local circumstances is considered key for reaching implementation success (9, 10). By focusing on the core components intended change, context and strategies we propose meaningful concepts to intervention designers and practitioners for reflecting upon the interactions of these components. The next step is synthesizing these core building blocks into a framework that consists of a clear and actionable pathway for intervention designers, and which enables them to prioritize and reflect upon those actions that need to be taken for the implementation of complex interventions.

Our research is part of a larger project that intends to make progress in three main research areas: to improve goal-oriented care, self-management, and inter-professional collaboration. In each of the three areas, one or more interventions will be used for developing and evaluation the implementation of interventions in these three areas. The model that we will further develop will allow to develop and implement interventions with broad consideration of the setting or context in which they will be introduced, and how this interacts with the intended change and the implementation strategies that are used.

A limitation of our review is that we did not gather and include our sources in a systematic way. We used a more intuitive approach whereby sources were gathered mainly through expertise from our research team, by database searches with a set of different key words and by further use of a snowball approach that led to the most prominent frameworks and models that exist. Furthermore, as we have only included English literature, there seems to be a slight overrepresentation of literature deriving from native English authors and/or institutions. Moreover, we have no view on grey literature or literature written in foreign languages, which might further limit our scope.

Although there is no assurance that we have covered all relevant literature, the methodology of a narrative review allowed us to explore the broad range of implementation literature and interpret various approaches in the light of interventions that aim towards pro-active, person-centered primary care. This way, we could harmonize literature into insightful constructs and phases which are to be made concrete when further applying them in the defining and execution of interventions.

5 Conclusion

An overarching implementation model is needed to bridge the gap between scientific evidence and actual practice in primary care. Through a narrative review, we have identified the core building blocks that form the common thread of existing implementation frameworks or models and we synthesized it in three core phases (a development phase, a translation phase and a sustainment phase) and three core components (the intended change, the context and the implementation strategies). These core building blocks can be used to develop an overarching implementation model that is both explanatory, as well as actionable. The main phases and components are the basis on which further guidance for intervention designers will be elaborated. A strength of the model that we will develop based upon this research is that it will be further developed and refined in collaboration with three research teams that will actively use the model to develop and introduce one or more interventions in primary care. This allows for direct feedback on its applicability and therefore ensures its actionability.

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Exploring readiness for implementing goal-oriented care in primary care using normalization process theory

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Abstract

Aim: To use Normalization Process Theory to build a strategy for the implementation of goal-oriented care (GOC) in primary care in Flanders, Belgium.

Background: GOC is a possible approach to more coordinated and integrated care and tailors care to patients' personal life goals. The concept has gained interest among policy makers and researchers but the main drivers for successful implementation are the Primary Care Professionals (PHCPs) who need to see added value of GOC in order to embed it into their daily practice. Normalization Process Theory (NPT), developed to understand the processes of implementing new ways of organizing care, offers a useful lens to understand adoption of GOC in primary care practice.

Method: PHCPs (n=131) who participated in a 2-hour community meeting on GOC were asked to complete the Normalization Measure Development survey (NoMAD) survey. This 23-item survey is based on NPT and describes participants' views about how an intervention would impact their work, their expectations about it, and whether it could become a routine part of their work.

Findings: The NPT-constructs coherence (sense-making work) and cognitive participation (relational work) showed positive tendency towards implementation of GOC. The participants had an initial understanding on GOC and there was much interest in supporting and start working with this approach. The other constructs collective action (operational work) and reflexive monitoring (appraisal work) will need further efforts to trigger implementation. A common ground is needed to integrate GOC as a common practice which can be achieved by intensive interprofessional collaboration.

1 Introduction

Primary healthcare providers (PHCPs) around the world often care for patients with numerous health and social needs. The increasingly complex combinations of diseases and social problems make it challenging to provide optimal care (1, 2). Patients with multiple problems require care across diverse organizations and healthcare professionals leading to a risk of fragmented care (3). Additionally, caring for patients with multiple problems can be burdensome and may not be centered around the patients' personal needs. Consequently, the care provided to these patients can be at odds with what is actually needed: an integrated and patient-centered approach (3-6). One of the possible strategies to more integrated, patient-centered care for patients is goal-oriented care (GOC), which tailors care to the patient's personal life goals instead of to disease and problem-oriented targets (4-7). If professionals explicitly focus on the patient's personal life goals, care could potentially be better aligned with what is most important to patients and lead to better integration of the care provided across the system (8, 9).

While GOC is gaining interest in research and policy as a potential catalyst for integrated care (9-13), it remains unclear how primary healthcare professionals (PHCPs) in the field feel about GOC and whether they would be willing and able to implement and embed – or normalize – GOC in their daily practice. Gaining insights in the perceptions of PHCPs about GOC is important to work towards successful implementation of this approach in the long term.

Normalization Process Theory (NPT) has been specifically developed to help understand and explain the processes of implementation and normalization of complex interventions, such as GOC (14-19). NPT suggests that four constructs or mechanisms play a central role in embedding new processes of care: 1) coherence (whether the intervention makes sense to PHCPs), 2) cognitive participation (how PHCPs engage with it), 3) collective action (how they enact it), and 4) reflexive monitoring (how they appraise the ways that a new set of practices affect them and others around them) (Supplementary Table 1 NPT Core Constructs (14)). Studies that use NPT can identify which elements need the most effort and resources for the intervention to be successful from the development phase to the implementation phase. For example, NPT has been previously used as a theory to better understand implementation efforts for the implementation of person-centered care (20), for a complex intervention targeted at compassionate care (21), and for the implementation of integrated care (22).

NPT states that practices become routinely embedded – or normalized – as the result of people working, individually and collectively, to enact them. NPT emphasizes the contribution and roles of individuals and groups in the implementation of new ways of organizing care. As the theory focuses on action rather than more intentions or attitudes (23), it can provide insight into how GOC is interpreted individually and collectively by PHCPs and how this is reflected in their routine practices.

This study aims to explore the potential for the implementation of GOC in primary care in Flanders, Belgium through an NPT lens. NPT allows to look into the mechanisms of change that are at stake when planning a local initiative to support the implementation of GOC in primary care. This study will capture how these limited implementation efforts will affect the four different constructs of NPT. What mechanisms are already triggered for GOC to be embedded in routine practices and what mechanisms still need further incitement when developing a sustainable implementation plan for GOC?

2 Methods

2.1 Context

In Flanders, Belgium primary care is characterized by many self-employed PHCPs (such as family physicians, nurses, and physiotherapists), as well as attached PHCPs working in different organizations (community health centers, group practices), who are all organized and financed at different levels (local, regional, federal). As part of primary care reform efforts, in 2010, the Flemish government introduced local multidisciplinary networks to support PHCPs in implementing chronic disease management programs. As of December 2018, the local multidisciplinary network and clinician-researchers at Ghent University worked together to organize two-hours interprofessional meetings about GOC. These meetings (all similar) contained two parts: 1) an introduction on the concept of GOC relating to the disease-oriented paradigm, and 2) a workshop using cases and role plays to complement the theoretical knowledge with practice-based examples and tools. It should be emphasized that these meetings were not considered as an intensive training on GOC, but they did offer a first impression on the topic which could have triggered participants to apply GOC in their practice. Attendance at these meetings was completely voluntary.

2.2 Sample

For this study, purposive sampling was used; PHCPs working in Ghent were recruited at the end of the interprofessional community meeting on GOC. These PHCPs had limited experience or knowledge about GOC but showed interest in GOC as an innovative approach. Given this context and the intent of the survey described in the next section, these PHCPs were well-suited to reflect on the items of the NoMAD-survey.

2.3 Data collection

The survey was introduced in three local community meetings in 2019. Immediately after the PHCPs attended one of the meetings, they were asked to complete the NoMAD survey on paper before they left the meeting (24). The NoMAD survey has been developed to assess the perspective of PHCPs who need to embed a new practice into their daily work through an NPT lens. The instrument is used to describe participants' views about how a new practice would impact their work, their expectations about whether it could become a routine part of their work, and how it would influence collaboration within and outside of their organization (24).

Firstly, demographic data were collected, including the participants' profession, gender, and age. Place of employment was not asked to assure anonymity. Secondly, three general statements on GOC were assessed and 22 items of the NoMAD were completed. These 22 items reflected the four NPT constructs: coherence (4 items), cognitive participation (4 items), collective action (9 items), and reflexive monitoring (5 items). Two questions were added on top of the original NoMAD survey (collective action) to make it more applicable for the context of this study. These items were assessed by a 5-point Likert-scale. Participants indicated an item as 'not applicable' when it was not relevant to their role, at this stage in their career, or for the intervention.

A validated Dutch version of the NoMAD survey was used (25). The survey has been established as highly reliable (20 items, $\alpha = 0.89$), with a construct validity for coherence (4 items, $\alpha = 0.71$), collective action (7 items, $\alpha = 0.78$), cognitive participation (4 items, $\alpha = 0.81$), and reflexive monitoring (5 items, $\alpha = 0.65$) (26).

2.4 Data analysis

The answers on the three general NoMAD items scored with the VAS-scale were converted to the 5-point Likert scale (categories 0 and 1 were integrated, as well as categories 2 and 3, 4 to 6, 7 and 8, and 9 and 10). Applicable for the 22 questions of the NoMAD, positive answers (agree or strongly agree) were compared to negative answers (disagree or strongly disagree) as depicted in Table 3. This approach eventually contributed to a better understanding of the results and is consistent with how the tool is meant to be scored (24).

The results are presented using frequencies. Based on these frequencies data was interpreted allowing the broadest insights of the participants on the items of the NoMAD survey. Scores ranging from 75% and above were considered high (or scores below 25%, for those items that were asked negatively). Scores ranging from 55% to 75% were considered to represent a mildly positive result. Scores below 55% were considered to have a low result, meaning that these items represent a shortcoming or barrier for implementation. When more than half of the items within an NPT construct showed positive results, we argue that this construct is already "*triggered*" which means that this will be beneficial towards GOC becoming a routinized and embedded practice. When several items within a construct showed more mixed or negative results, this means that the construct should still be triggered by further implementation efforts in order to normalize GOC as an approach. No further statistical analyses were conducted.

2.5 Ethics

Approval of the ethical committee of Ghent University was obtained (approval number 2018/1489) and written informed consent of all participants was given before the start of the survey.

3 Results

3.1 Demographics

In total, 131 PHCPs participated in one of the three community meetings that were selected for this study as they felt in the timeline. After the meeting, 104 completed the survey (response rate = 79%). Table 1 gives an overview of the participants' demographics.

Table 1 Demographics of participants (n=104)

Characteristics	n (% of valid responses*)
Profession (n=104)	
Nurse	18 (17.3)
Physiotherapist	18 (17.3)
General practitioner	15 (14.4)
Social worker	15 (14.4)
Pharmacist	9 (8.7)
Dietician	9 (8.7)
Certified nursing assistants	8 (7.7)
Other**	12 (11.5)
Gender (n=104)	
Female	85 (81.7)
Male	19 (18.3)
Age group (n = 101, 3 missing)	
≤ 35	43 (42.6)
36-50	35 (34.7)
≥ 51	23 (22.7)

* % of responses excluding missing

** 2 occupational therapists, 2 midwives, 2 psychologists, 2 community center coordinators, 2 policy staff members, 1 community police officer, 1 expert by experience in poverty

3.2 Initial experience and views on GOC

The questions and results for how PHCPs experience and evaluate GOC are presented in Table 2. Although the participants had limited knowledge on GOC as a concept, they often seem to recognize this way of working as an intrinsic part of their work: 53% of the participants reported feeling comfortable and familiar in using GOC and 59% felt that GOC is currently a normal part of their work. A majority of participants (90%) were optimistic that GOC will become a normal part of their work.

In what follows, the results of the four main constructs of the NPT (coherence, cognitive participation, collective action, and reflexive monitoring) are linked to the participants' GOC experiences and views (14).

3.3 Coherence

Coherence is *“the sense-making work that people do individually and collectively when they are faced with the problem of operationalizing some set of practices (24)”*. It tells whether PHCPs adequately understand the nature of the intervention and how it fits into their current practices. Table 3 illustrates that most participants felt they have a good idea about what GOC encompasses and how it can become an intrinsic part of their work. Most of them could clearly differentiate between a GOC approach and a traditional approach, with 86% of the participants reported that they recognize how GOC differs from usual ways of working. The large majority internalized the aims of GOC very well: 91% saw the potential value of GOC for their work. Individual specification (sense-making on the individual level (24)) was slightly lower: 72% of participants understood how GOC affects the nature of their own work. It appears that communal specification (collective sense-making (24)) is somewhat lower: 61% of participants believed that their network has a shared understanding of the purpose of GOC.

3.4 Cognitive participation

Cognitive participation is about *“the relational work that people do to build and sustain a community of practice around a new technology or complex intervention (24)”*. This sample of participants showed a high engagement for adopting a GOC approach. Almost all PHCPs (96%) believed that participating in GOC is a legitimate part of their role. In terms of further enrolment or implementation of GOC, as well as the effects of GOC on team interactions, 93% reported to be open to working with colleagues in new ways to use GOC. Ninety-two percent of participants were willing to continue to support GOC, which is beneficial for further activation of GOC as an innovative practice. Somewhat more uncertainty is noticeable when it comes to the presence of key people who drive GOC forward and get others involved: 76% believed such key people are present in their working environment. According to the NPT methodology, key people are essential for initiation of such an intervention.

3.5 Collective action

Collective action is *“the operational work that people do to enact a set of practices, whether these represent a new technology or complex healthcare intervention (24)”*. Seventy-eight percent of the participants reported they can easily integrate GOC into their existing work, meaning that interactional workability is rather high. When it comes to relational integration participants did not believe GOC disrupts working relationships with colleagues (84%) or patients (86%). Furthermore, 76% of the participants had confidence in other people’s ability to use GOC. Skill set workability, allocating the work to those who are most fit for the given task (24), is more questionable. Only 46% of participants believed that work is assigned to those with skills appropriate to GOC. Moreover, only 16% of the participants reported that there is sufficient training provided to enable PHCPs to implement GOC. Around half of the participants (42% and 44%) neither agreed nor disagreed with these statements.

There was most uncertainty on the contextual integration, which is about resources and the presence or absence of a supporting policy and/or management context. Only 16% of participants was convinced that sufficient resources are available to support GOC. 51% of participants neither agreed nor disagreed. Only 15% of participants believed that the policy context adequately supports GOC and 43% believed that management adequately supports GOC.

3.6 Reflexive monitoring

Reflexive monitoring is *“the appraisal work that people do to assess and understand the ways that a new set of practices affect them and others around them (24).”* This is an important measure for systemization, the work of collecting information to be able to assess the effectiveness and usefulness of GOC as an innovation. Only 8% was aware of reports on the effects of GOC (24). However, current evidence on the effectiveness of GOC is limited, which makes this measure rather irrelevant at this point. Individual appraisal gives a more positive image, with 69% of participants valuing the effect that GOC has had on their work. This is fairly similar to communal appraisal, with 66% of participants estimating that colleagues agree that GOC is worthwhile. According to how participants reported on the item representing reconfiguration, there seems to be openness when it comes to feedback about a GOC approach: 67% of participants believed that feedback about how GOC will be incorporated into daily practice can be used to improve it in the future. Moreover, 80% indicated that they will be able to modify how to work with GOC based on such feedback.

Table 2 General NoMAD statements on goal-oriented care

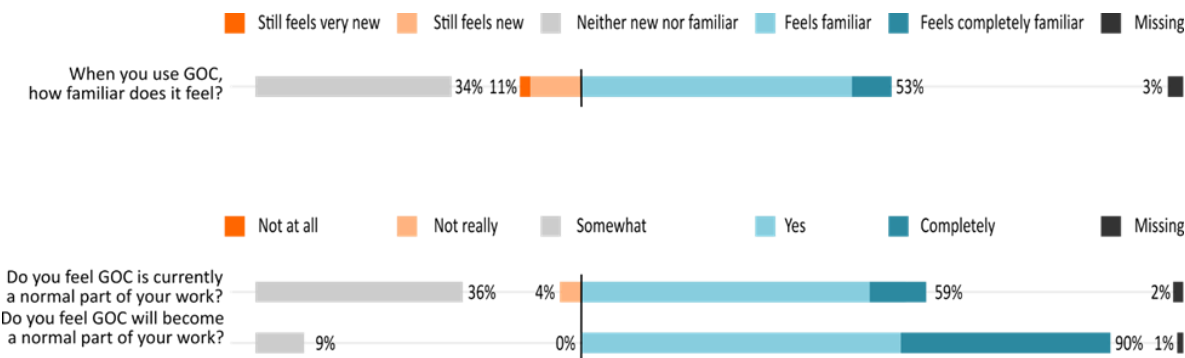
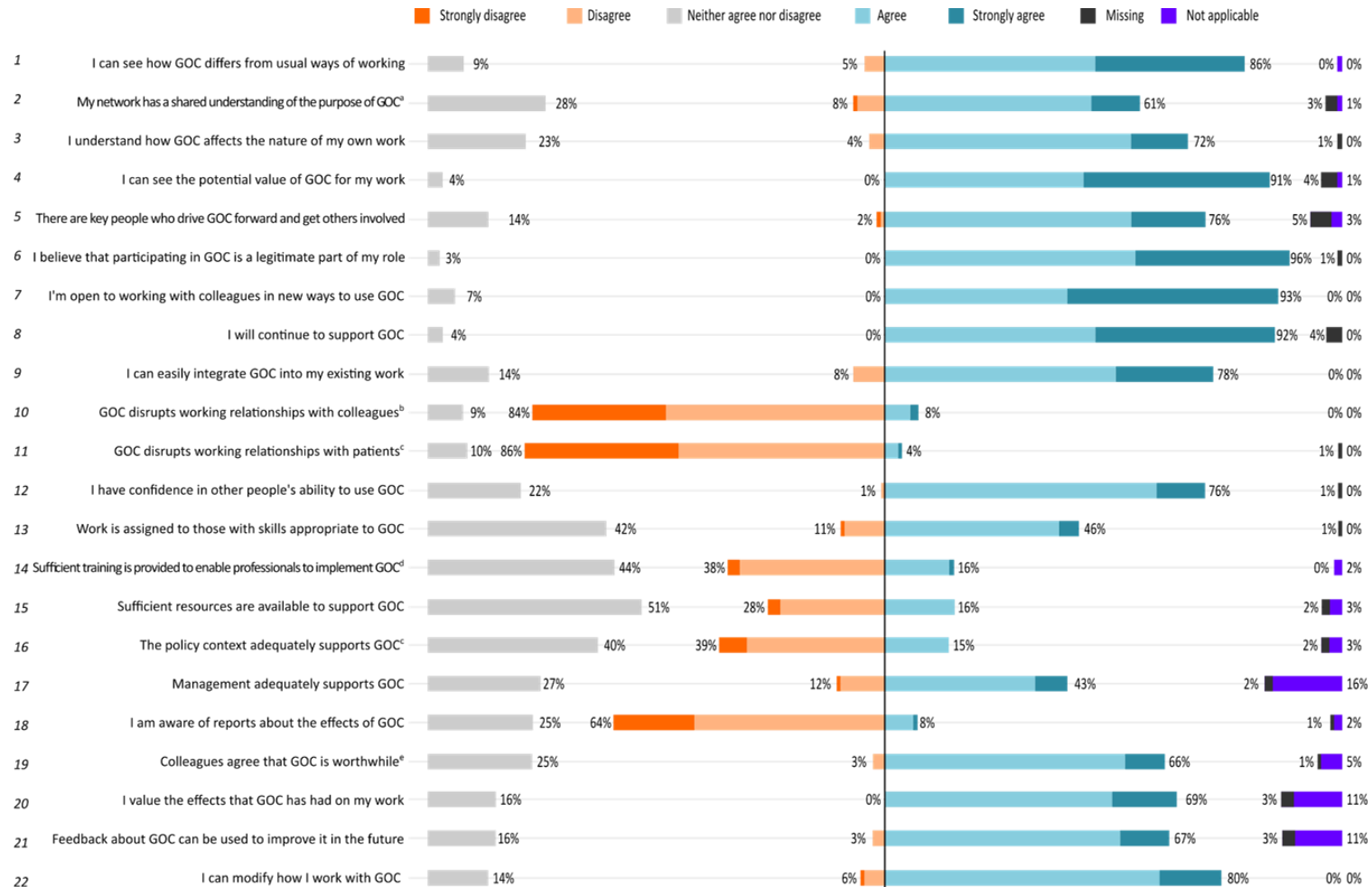


Table 3 NoMAD statements on goal-oriented care



^a question modified: 'staff in this organization' is adapted to 'my network'.

^b question modified: 'with colleagues' is added.

^c question added.

^d question modified: 'staff' is replaced by 'professionals'.

^e question modified: 'staff' is replaced by 'colleagues'.

4 Discussion

This study aimed to describe the potential for implementation of GOC in primary care in Flanders, Belgium using the NoMAD survey based on the NPT. The results of this study demonstrate that the multidisciplinary PHCPs in our sample showed understanding of and openness to implementing a GOC approach. First, coherence was rather high, as participants indicated that they have an initial understanding of GOC and recognize its potential value for their way of working. Second, cognitive participation was promising, as there was much interest coming from the PHCPs to support and start working with a GOC approach. Third, relating to collective action, PHCPs in the sample believed that GOC can easily be integrated into existing work without disrupting any working relationships with colleagues or patients. However, the resources needed to integrate GOC in their practices were rather unclear. Fourth, reflexive monitoring will be an area that needs consideration in a sustainable implementation plan, as participants scored it rather low. PHCPs should be encouraged to reflect and share experiences about how to use GOC in their daily practices. In short, the constructs collective action and reflexive monitoring presented mixed results, which suggests that these mechanisms should still be strengthened in implementation efforts to facilitate GOC in primary care.

The general questions of the NoMAD survey showed that more than half of the participants felt that GOC was already a normal part of their work. Looking at the literature, we learn that PHCPs often self-assess their practices as being in line with GOC, while they are in fact still focusing on health-related goals of their patients instead of life goals (27, 28). For our study, we did not collect data on how the participants would apply GOC in their practice. Future work should assess whether GOC was implemented after these meetings, and whether, with time, the collective action and reflexive monitoring mechanisms are important to that implementation. In our view, it is not surprising that coherence and cognitive participation are more likely to be triggered in an earlier stage (even pre-implementation), while collective action and reflexive monitoring are triggered in a later stage of implementation. First, the sense-making and relation work is needed to grasp a full understanding of the concept before concrete actions and monitoring can take place. This was also found in similar NPT studies (20).

The construct of coherence showed that most of the participants saw the potential of GOC, but reported that a shared understanding on the concept could be improved. Further growth in understanding could be facilitated through interprofessional collaboration. As in the construct of cognitive participation participants were open to working with colleagues to implement GOC, this interprofessional collaboration could be a step forward towards increasing understanding (29). One of the benefits of interprofessional collaboration is the fact that PHCPs with more knowledge on GOC could be appointed as champions to initiate and disseminate GOC in their practice and thus enhance cognitive participation. From our expectations, greater understanding or adoption of GOC as a common philosophy within an interprofessional context could also be beneficial to strengthening relational integration, leading to more collective action. Other studies confirm that GOC could

enhance collaboration in an interprofessional context and help PHCPs in their decision-making (4, 30). To further enhance collective action, policy and management activities must support PHCPs in implementing GOC in their work. As the participants did not perceive having this supportive context, it is important to make this one of the focal points for the future to make the implementation of GOC successful.

An interprofessional context could facilitate learning from each other as a means. To enable reflexive monitoring it is key to initiate formal or informal moments where PHCPs can reflect upon GOC after they have been given the chance to integrate the approach in their practices (31). This could provide opportunities to share experiences about cases in which they intentionally applied GOC and how this was assessed. In this way, PHCPs could see the value of GOC from others and incorporate feedback from others into their practice.

We recognize the importance of interprofessional collaboration throughout the findings of all four constructs. NPT allowed us to identify the gaps to promote integration and embedding of GOC in primary care, but did not propose guidance on how to overcome those gaps. Therefore, we suggest to develop interprofessional training so PHCPs can learn from and with each other and to build-up a common ground on GOC which enhances collective action and reflexive monitoring. While there is overall recognition that interprofessional training is needed, there is no consensus in how this training should be organized and what content it should include. Disagreement exists about the population that should be targeted by the training, the duration of the training, and the methods that need to be used (32, 33). There is also disagreement about the exact skills that need to be taught, although the development of certain personal skills (e.g., communication skills for active listening) is probably one of the cornerstones (32, 34-36). It is also recommended that GOC be translated into a more concrete intervention with specific guidelines to enable deeper understanding of the concept along with tools to provide GOC.

4.1 Strengths and limitations

This study captures how GOC is accepted and interpreted by PHCPs who have been introduced to the approach in a local interprofessional community meeting. A strength of this study is the diversity of the sample of professions, which gives captures the interprofessional nature of primary care settings in which GOC is introduced. However, no statistical comparison between professions was executed as the sample sizes were too small.

For this study, it is possible that participants might have shown more affinity or openness towards GOC as they voluntarily participated in this meeting. The study should be described as an exploratory study with PHCPs interested in GOC, which can contribute to determining and targeting further implementation strategies. However, as the survey was launched immediately after the community meeting, PHCPs did not have the opportunity to apply GOC in their daily practice. It was therefore too early to measure several of the NPT constructs, especially reflexive monitoring. However, it is remarkable that coherence and cognitive participation were already triggered after following one single interprofessional

meeting on GOC. At the same time, it is not surprising that there is a lack of collective action and reflexive monitoring given such limitation of implementation effort. This is powerful given GOC represents a paradigm shift in how care is to be delivered and perhaps could be the most significant hurdle.

Future research should focus on the follow-up with the participants after these meetings to see what sticks and what has dropped to guide the research outlines.

5 Conclusion

This study is a first step toward exploring the implementation gaps of GOC. It helps to define a strategy for implementing a GOC intervention and states the importance of developing interprofessional training. Initial results on how GOC is perceived by PHCPs are promising. Participants of the interprofessional community meeting recognized the value of GOC and showed willingness to apply the approach in their practices. This suggests that there is a foundation for further implementation efforts to successfully establish GOC as a normalized approach for patients with chronic conditions in primary care. To further enable GOC to become routine practice, several mechanisms of the NPT still require attention. Development of a concrete intervention will enable PHCPs to have a deeper understanding in how to get started with GOC.

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7 Annex

Supplementary Table 1 Normalization Process Theory Core Constructs

Core Construct	Definition	Components
Coherence	Sense-making work done individually and collectively during operationalization of a set of practices	• Differentiation • Communal specification • Individual specification • Internalization
Cognitive Participation	Relational work done to build and sustain a community of practice around a new practice	• Initiation • Enrolment • Legitimation • Activation
Collective Action	Operational work done to enact of new set of practices	• Interactional workability • Relational integration • Skill set workability • Contextual integration
Reflexive Monitoring	Appraisal work done to assess and understand the effects of new practices on themselves and others around them	• Systematization • Communal appraisal • Individual appraisal • Reconfiguration

Constructs and definitions as described by May C, Rapley T, Mair FS, Treweek S, Murray E, Ballini L et al. Normalization process theory on-line users' manual, toolkit and NoMAD instrument. 2015. Retrieved on the 18th of August 2020 on <http://www.normalizationprocess.org>.

Will the implementation process for goal-oriented primary care succeed? A qualitative study investigating five perceived attributes of goal-oriented care

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Abstract

Throughout the western world, goal-oriented care (GOC) is increasingly promoted as a strategy towards more person-centered, integrated care. The implementation of goal-oriented care not only takes place at the micro-level with individual primary care providers (PCPs) changing their approach, but also requires meso- and macro-level investment. In this study, we zoom in on experiences and actions of various meso- and macro-level actors that are actively engaged with implementing GOC, both within their organization or at the policy level. In-depth interviews were conducted with n=23 actors from a variety of different organizations (governmental institutions, provider organizations, patient organizations, health/social care organizations, primary care zones/care councils, etc.), using a semi-structured interview guide inspired by realist interviewing. Three main drivers for implementation were identified: recognition, commitment and coordination. On top of that, results were interpreted through Rogers' Diffusion of Innovations (DoI) theory in which five attributes are discussed that contribute to or hinder implementation success. Our findings can help define actions to support and facilitate the implementation process of an innovation such as GOC.

1 Introduction

Within various western countries, there is increased interest in goal-oriented care (GOC) as a strategy to more person-centered, integrated care (1, 2). Both on the provider level and the policy level, there is an increasing belief that patient goals instead of disease and problem-oriented targets should be the driving force of the process of care. Care that departs from patient goals will connect more to what matters to patients, which is especially important for the growing number of patients with complex care needs (3, 4). Moreover, GOC shows potential to increase patient satisfaction and to lower healthcare costs (5, 6).

At the clinical level primary care providers (PCPs) will need to acquire new skills in order to shift their current focus on disease and problem-oriented targets towards the patient's life goals (3, 7, 8). Introducing tools that support GOC can facilitate the uptake of a goal-oriented approach (9). Fostering common values among interdisciplinary teams can further support PCPs to achieve this (10). However, for sustainable implementation of GOC to be successful, adequate preconditions and structures need to be created. Implementing GOC care thus requires actions on the micro-level, but also meso- and macro-level preconditions need to be created. Valentijns conceptual framework for integrated care (11) described this as system integration and organizational integration.

Throughout this study, we investigate the implementation of GOC with a meso- and macro-level perspective. We adopt insights from Diffusion of Innovations (DoI) literature (12) to identify factors that explain how and to what extent GOC is adopted in primary care practices. We depart from the assumption that both the inherent characteristics of the innovation itself as well as the extent to which the innovation fits with the context in which it takes place is important in comprehending the adoption of innovative practices (13, 14). In this view, implementation efforts should be targeted towards the nature of the innovation itself and the context in which it is implemented.

1.1 The Flemish context

In Flanders, the Dutch-speaking region of Belgium, various initiatives on policy level as well as organizational level have been taken to support implementation of GOC. In particular, the concept of GOC was included in the Flemish primary care reform that was initiated in 2015-2019. With this reform, Flanders was geographically divided in 60 primary care zones in order to facilitate and support collaboration between local governments, PCPs and the person with care and support needs. Each primary care zone has a care council as its governing body. Additionally, the Flemish Institute of Primary Care has been established as the central contact point and as a platform for dialogue between primary care actors and the government. The implementation of GOC is supported by this institution, which has launched an open training course and piloted interprofessional trainings on GOC within different primary care zones, hereby disseminating this approach to local actors.

Moreover, the Fund Dr. Daniël De Coninck within the King Baudouin Foundation (KBF - a philanthropy foundation) invests in accessible, high-quality, humane primary care. In 2019, they initiated an International Learning Collaborative on GOC; a Summer Academy that for the first time did an in-depth exploration of the potential of GOC. Through their funding, the Primary Care Academy (PCA) was established: a research and teaching network of four Flemish universities, six university colleges, the White and Yellow Cross and patient representatives that has GOC as one of their main research topics. This fund also launched project calls specifically targeted to organizations in the field that aim to implement GOC. Furthermore, various organizations such as the Flemish Patient Platform (FPP) have been experimenting with GOC and tools have been developed to support its approach. As a consequence, the complex context of Flanders makes a good case to learn more about the implementation process of GOC.

1.2 Theoretical framework

Initiating a new approach and ensuring sustainable change is challenging. Implementation processes in primary care are complex and highly influenced by contextual variables (13, 15). Rogers' DoI theory (16) gives insight in the diffusion process of an innovation in which different actors pick up innovations at different speeds. Rogers identifies innovators, early adopters, early majority, late majority and laggards. Furthermore, assumptions are made on the determinants of why one innovation is successfully adopted, while others do not get picked up at all or only partially. According to Rogers et al. (16), 49 to 87 percent of the variance in adoption rate of an innovation is explained by five perceived attributes: relative advantage, compatibility, complexity, trialability, and observability. Both quantitative, qualitative and mixed methods research in primary care demonstrates how looking into these five attributes can provide insight into the factors that affect the adoption rate of innovations (17-21). Therefore, we explore the main drivers of implementation as well as how these five attributes are viewed when applying the DoI theory to GOC.

2 Methods

Our aim is to gain in-depth insight into implementation processes of GOC in Flanders: how is overall engagement for GOC fueled and what drives its implementation forward? We depart from the experience of various meso- and macro-level actors that are active in (the implementation of) GOC in Flanders. The perspectives of these actors are very relevant because they are involved with the agenda-setting and are facilitating and mobilizing PCPs to start engaging with GOC. Research questions that emanate from the lived experiences of various actors are best addressed with qualitative research methods (22), as these provide insight in the "*how*" and "*why*" questions of implementation (23). We thus have conducted qualitative research with in-depth, semi-structured interviews. Firstly, we want to achieve a broad understanding on the overall drivers for implementation: what are the prerequisites for implementation of GOC? Secondly, we interpret findings through Rogers' DoI theory, as this will help gain insight in how the nature of the intervention affects its implementation.

2.1 Sample selection

Within primary care in Flanders, a variety of healthcare/social care organizations are active in GOC. They either include the concept in their strategic plans or have committed themselves to projects supporting the adoption of GOC. Our aim was to study real life implementation efforts, hereby recruiting respondents with a meso- and/or macro-level perspective on the implementation of GOC. For our purposive sample, we used the following inclusion criteria: 1) working in a health/social care context in which initiatives are taken to implement GOC, 2) working within the Flemish primary care context, 3) having at least 6 months of experience. Respondents could have different backgrounds (not only medical) and adopt varying roles in primary care contexts, such as being a staff member, a project coordinator, a policy maker etc. We hereby aimed for a purposeful sample with a maximum variation in the type of organization respondents were working in, such as different governmental institutions (e.g., the Agency of Care and Health on the Flemish level) and a variety of healthcare/social care organizations (e.g., an autonomous and integral home care service).

For the recruitment process, an overview of all possible stakeholders was made through the network of the PCA and our cooperating research team in Ghent, which has an extensive network of stakeholders active in the area of GOC. Respondents were identified through the network of the PCA, through a participants list of the Summer Academy on GOC in 2019 and/or through involvement in a KBS funded project. Additionally, a snowballing approach was used in which respondents could refer to other relevant stakeholders at the end of each interview. In some cases, we conducted paired interviews (24) on condition they were complementary in terms of background, expertise and experience with the topic. Stakeholders were contacted by e-mail with information about the study and a request to participate. One reminder was sent in case of non-response.

Table 1 provides an overview of the respondents and their perspective on GOC.

Table 1 Overview of respondents and type of organization

Respondent ID	Gender	Type of organization	Perspective	Working in healthcare	Role
INT1	Male	Governmental institution	Macro-level	23 years	Staff member
INT2	Female	Governmental institution	Macro-level	1 year	Staff member
INT3	Male	Governmental institution	Macro-level	17 years	Policy officer
INT4	Male	Governmental institution	Macro-level	20 years	Policy officer

INT5	Female	Governmental institution	Macro-level	14 years	Policy officer
INT6	Male	Non-profit organization	Macro-level	20 years	Consultant
INT7	Female	Umbrella organization	Macro-level	6 years	Staff member
INT8	Female	Umbrella organization	Macro-level	13 years	Staff member
INT9	Female	Provider organization	Macro-level	5 years	Project manager
INT10	Female	Provider organization	Macro-level	13 years	Project manager
INT11	Male	Provider organization	Macro-level	21 years	Chair
INT12	Female	Patient organization	Macro-level	8 years	Policy officer
INT13	Female	Patient organization	Macro-level	15 years	Director
INT14	Female	Health/social care organization	Meso-level	3 years	Staff member
INT15	Male	Health/social care organization	Meso-level	35 years	Director
INT16	Female	Health/social care organization	Meso-level	16 years	Coordinator
INT17	Male	Health/social care organization	Meso-level	3 years	Counsellor
INT18	Female	Non-profit organization	Meso-level	2 years	Project coordinator
INT19	Female	Non-profit organization	Meso-level	9 years	Project coordinator
INT20	Female	Primary care zone/care council	Meso-level	17 years	Coordinator
INT21	Male	Primary care zone/care council	Meso-level	8 years	Staff member
INT22	Female	Primary care zone/care council	Meso-level	1 year	Staff member
INT23	Female	Primary care zone/care council	Meso-level	4 years	Coordinator

2.2 Data collection

All interviews were planned between January and June 2022 and conducted by the first author – a sociologist trained in qualitative research methods. The interviews took place online using Microsoft Teams software and were audio-recorded and transcribed verbatim. A semi-structured interview guide was developed through expertise of the research team and inspired by realist interviewing (25). The following themes were included: 1) how is GOC interpreted in your organization and/or professional function; 2) how did it become an agenda item; 3) what actions were taken to propagate the concept of GOC; 4) what barriers and facilitators are experienced when implementing initiatives for GOC. After the first, the second and the third interview, a debriefing with the entire research team was held to discuss the course of the interviews and to adjust the interview guide where it was deemed necessary. For all following interviews, an iterative approach was used in which the interview guide was slightly modified based on the topics and knowledge that came forward in initial analyses after the first data collection.

2.3 Data Analysis

All results were thematically analyzed, supported by the software NVivo 12 ©. A combination of inductive and deductive analysis was used. Firstly, implicit and explicit ideas that came forward within the qualitative data were identified and described (26). We used a thematic content analysis (27) to reduce the qualitative data by identifying core consistencies and meanings (28). These initial analyses and results were discussed with the broader research team (a multidisciplinary research team with backgrounds in sociology, medical sciences, social work, etc.) and further elaborated and analyzed by the main researcher. This resulted in the suggestion to utilize the DoI theory as described by Rogers et al. (16) as a frame for deeper understanding of the data. Therefore, a second, deductive analysis followed on the raw data according to a sensitizing-concept approach. Sensitizing concepts are used as a frame of reference and direction, offering interpretative value in the qualitative research (29). Thus, the attributes of an innovation (see: Table 2) as described the DoI theory provided a sense of direction as to what aspects of GOC are facilitating and/or hindering implementation. Frequent discussions within our multidisciplinary research team encouraged reflexivity: we all had our own lens to look at the data, but through dialogue and constant comparison with the data we made sure our analysis was grounded in the data. To enhance trustworthiness and credibility (30, 31), peer debriefing was done within our wider research team to explore whether the results correspond with their expertise and understanding of GOC processes. Furthermore, member checking was done by presenting our results in a summer school on primary care in 2022. As the audience consisted of actors with similar profiles as our respondents, their feedback on the presented results could be used to further reflect upon our results and to maintain credibility of our findings (32). Data analysis was done in the original Dutch language, but illustrative quotes were translated into English.

Table 2 Perceived attributes of an innovation and their definitions (according to Rogers, 2014)

Attribute	Definition
Relative advantage	The degree to which an innovation is perceived as being better than the ideas it supersedes.
Compatibility	The degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters.
Complexity	The degree to which an innovation is perceived as relatively difficult to understand and use.
Trialability	The degree to which an innovation may be experimented with on a limited basis.
Observability	The degree to which the results of an innovation are visible to others.

2.3.1 Ethical approval

The study protocol was approved by the Medical Ethics Committee of the University of Antwerp / Antwerp University Hospital (project ID: 2021-3542). All participants received verbal and written information about the purpose and methods of the study and gave written informed consent.

3 Results

In total n=23 respondents were interviewed, among which n=10 respondents were interviewed in duo-interviews and one interview with n=3 respondents representing the same organization. Interviews were conducted with more than one person affiliated the same organization when the perspectives of both respondents were considered as complementary. For example, a senior employee who had a general view on how GOC became a topic of interest within their organization, combined with a junior employee who had more hands-on experience with project(s) on GOC. We received n=6 refusals to participate: n=3 had limited availability of time, n=1 was detached to another organization, n=1 felt they had too little affinity with the topic and we had n=1 non-response. The interviews lasted between 47 and 72 minutes.

3.1 Overall drivers for implementation

As for the inductive part of our analysis, it became early on clear that there is not one single, effective way to implement GOC, but there are however some “*key ingredients*” that seem to drive implementation efforts: recognition, commitment and coordination. Also noteworthy is that the diffusion of GOC seems to have a demographic component as well: respondents situated in the provinces of West-Flanders and East-Flanders seemed to be

more aware of other actors' initiatives and were often embedded in either a formal or informal network. Many innovators and active networks on GOC are situated within these provinces, which seems to evoke interest in actors that are situated nearby. Although our respondents mainly had a meso- and macro-level perspective on the implementation of GOC, they mentioned drivers, challenges and events on all levels (micro-, meso- and macro-).

Recognition in the context of GOC means that there is some type of acknowledgement, either formal or informal, that GOC is indeed worthwhile. For GOC to be implemented, some notion of recognition was often mentioned in one way or another during the interviews. Informal recognition can be about a perception or belief shared by PCPs that GOC is "good care." It is about an overall conviction that this approach towards primary healthcare and towards their patients is desirable. More formalized, it can also be about a recognition of GOC as "quality of care" as defined on a policy level.

In the end, our task is to work on the Flemish health objectives. If there is something in there about GOC, more primary care zones are going to say: "This is our mission, so we have to do something with this." If on the federal or Flemish level nobody squeaks about GOC, then this choice has to be made individually. That's a much bigger step. – [INT20, coordinator primary care zone]

Commitment or being committed means that there is an agreement and active engagement to provide GOC and was seen as one of the main prerequisites for implementing GOC. This can be expressed on different levels. On the individual level, PCPs can be committed to integrate GOC within their way of working, but ideally commitment should also be expressed on an organizational and governmental level. Such commitment can be written down in strategic objectives of organizations and/or governmental institutions. But more importantly, commitment should be expressed and acted upon in concrete actions and initiatives.

The fact that it's written down gives us as a team credibility to thump the table and say: "we have all signed and endorsed this... so help us think with us on how we can make this a reality." – [INT4, policy officer governmental institution]

Coordination is about organizing people and/or practices to work harmoniously according to a GOC approach. Different forms of coordination were mentioned, with the intent to keep GOC on the agenda within an organization and to create a structure in which GOC can happen. Some organizations had a dedicated person who took on a coordinating role with a specific focus on GOC and this was viewed as highly facilitating. But coordination can also be established through structures or systems: many respondents had high hopes for a "digital care and support plan", a digital system that is being developed in Flanders that will include a section in which patient goals can be written down and information can be exchanged with other PCPs.

It also stays alive because I have the role of care coordinator and I can put it on the agenda regularly. I think that's not to be underestimated. Because otherwise, as a

care provider, you quickly fall back into your old patterns. – [INT16, coordinator health/social care organization]

3.2 Use of the theory of Diffusion of Innovations

As for the deductive part of the analysis, the five attributes as described in the DoI were used as our frame of reference to identify further elements that affect implementation efforts.

3.2.1 Relative advantage

Relative advantage is *“the degree to which an innovation is perceived as being better than the ideas it supersedes (16).”* Its importance was highlighted in the interviews, as more than half of the respondents stated (either directly or indirectly) that for GOC to be truly picked up by PCPs, the *“what’s in it for me”* needs to be underlined. Both intrinsic as well as extrinsic relative advantages were mentioned. The intrinsic relative advantages were considered to be the most important, especially the ones on a psycho-social level: more satisfaction from their job and a better care relationship with their patients.

The organization is now fully on board, and they tell us: “this really benefits us. It improves our relationship with the patient. We spend less time on it... and the relationship with the caregiver is better.” – [INT1, staff member governmental institution]

As for the more extrinsic relative advantages, the financial aspects of GOC were mentioned several times. It however seemed difficult to express clear expectations on how GOC relates to financial efficiency, both on an individual level and on a societal level. In individual daily practice, some argue that GOC can lead to efficiency gains when focusing on patient goals. On a more societal level, the importance of financial incentives for PCPs to truly adopt GOC were mentioned several times. The GOC approach does not always align with the current performance-based financing systems. This is viewed as a challenge for governments to create a driver to financially reward focusing on patient goals.

Well, I don’t think we should be naïve about this if there is no funding in return. Those people are all working in a performance environment which is built upon receiving fees and so on. So people do expect something in return. – [INT3, policy officer governmental institution]

3.2.2 Compatibility

Compatibility is: *“the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters (16).”* Throughout our interviews, GOC came forward as a concept that strongly connects with both primary care organizations and individual PCPs. GOC was often described as a concept that expresses how one believes or feels primary care should be approached: *“it suits us to a tee.”* In this view, it is strongly compatible with the overall values and beliefs within a primary care setting. It was also argued that GOC makes abstract concepts such as person-centered care

more concrete by providing practical tools and views about how to approach patients according to such views.

People need to recognize it as valuable and meaningful... and they have to recognize themselves in it. They have to be like: "Yes, indeed. This is exactly what I stand for." – [INT17, counsellor health/social care organization]

Often, organizations that are engaged with (implementing) GOC have already shown interest in other related concepts such as integrated care, person-centered care, positive health, value based or experience-based care. GOC attracts those organizations that are already committed to shift away from a medical perspective or task-oriented approach towards a more person-centered approach.

I also believe GOC is not an island on its own. I think it is related to integrated care, interprofessional collaboration, local community care, person-centered care, etc. These are all concepts that are very much alive and if you elaborate on that, you tend to end up with GOC. It combines all of these things and provides a way to really engage with these concepts. – [INT22, staff member primary care zone]

As for compatibility with needs, respondents indicate that GOC can offer a perspective which can strengthen the vision of an organization that wants to offer person-centered care. GOC can provide guidance to actively carry such a vision and various respondents have ended up with GOC in search for a way to enhance collaboration within their organization and/or to build bridges between different PCPs. Furthermore, it was mentioned that GOC can offer an approach that helps PCPs dealing with more complex care demands. However, there is a pitfall in merely using GOC when encountering highly complex patient cases in which they feel "stuck." Lastly, GOC is seen as useful to address patients' needs such as the desire to be heard. Yet, patients are not used to this approach, and it was mentioned several times that a shift towards GOC requires a change in patient behavior as well.

And well, GOC... I'm not going to say that it is easy or that it's the key to every door, but it does give you tools to tackle this. First, to make it a bit more manageable for yourself. Second, to truly depart from what is important to your patient and to understand why he or she has resistance. – [INT16, coordinator health/social care organization]

3.2.3 Complexity

Complexity is: "The degree to which an innovation is perceived as relatively difficult to understand and use (16)." The more complex an innovation is perceived by PCPs, the less likely it is to be adopted. It seems difficult to determine if GOC is perceived as rather easy or somewhat difficult. Throughout the interviews, opposing views were expressed: some viewed GOC as relatively easy to achieve, while for other it remained unclear how to start working with this approach. On the one hand, all of our respondents gave similar definitions of GOC, whereby the core message was that the approach is all about listening to patients

and tailoring care to “*what matters to them.*” This is generally seen as something that comes quite natural to care providers. On the other hand, providing GOC does require a paradigm shift; PCPs have to detach from their focus on pathologies and have to shift their way of conversing with patients and how to enact upon their questions. This changes not only the type of conversations and treatment plans, but also how they position themselves as PCPs.

It never ceases to amaze me how much difficulty there is about implementing GOC, when it is actually quite simple. It is just about listening to people... and then translating that into a plan. And why is this so difficult? Because people are not used to it. – [INT6, consultant non-profit organization]

Our respondents overall expressed enthusiasm and belief in the core ideas of GOC, but they also noticed that it remains quite theoretical and unclear how to apply it in daily practice. Because of this uncertainty about the concept, a wait-and-see attitude is often noticed. Tools for GOC could give PCPs more concrete guidance for approaching their patient in a goal-oriented manner. However, the appropriate use of these tools are also questioned: which tool(s) best fits with the own needs? What tool should be used in what circumstances? Are these tools interchangeable?

In our project on GOC, we put a big question mark behind the tools. What is the correct value of these tools? And well, how do we have to approach this? We do know the tools... but what do they have in common? Are they alternatives for each other? Or do they complement each other? – [INT11, chair provider organization]

3.2.4 Trialability

Trialability is: “*the degree to which an innovation may be experimented with on a limited basis (16).*” Being able to try-out innovations and to find out how it fits into their own practices can win PCPs over to implement it. As there is still much unclearness on how exactly to integrate a GOC approach, this offers space to experiment with a “*trial-and-error*” attitude, benefiting the trialability of the intervention. By putting the approach into practice and finding out how it works within PCPs own way of working, the original concept gets further shaped by the PCPs themselves. To surface this attitude of trying out and experimenting with the concept, PCPs need to have the courage to come out of their comfort zone and to try out different conversational techniques that are new to them. In turn, organizations in which PCPs operate, are required to have a learning culture in which there is openness towards this approach and that there is psychological safety to experiment with this.

That time and space to make mistakes, to learn, is really needed to put a new care concept into practice. This may be missing a bit within our organization. Despite the will. Despite the priority. But this is something you can only achieve with your people. You can't go and do it alone. – [INT14, staff member health/social care organization]

The trialability of GOC can consist of experimenting with the wide variety of tools that exist. The tools can be a way to make the concept of GOC more concrete. The choice of a certain tool is often coincidental (the one they were introduced to), if been offered different tools they prefer the one that aligns with their way of working. Participants also mention that once they have enough experience and feel confident with their goal-oriented conversation, they can work without it.

We noticed that everyone chose the tool to which they had the most connection with. But often, those tools were also quickly released. They used it to start a conversation and then they went on and made their own conversation. – [INT1, staff member governmental institution]

According to several respondents, merely educating PCPs on a GOC approach is not enough. They have to incorporate it in their work and that of their colleagues. A helpful way is to connect GOC with concrete practices or systems within an organization, for example addressing it in multidisciplinary consultations or having a digital system to write down patient goals. It is also recognized that making the shift towards GOC is a process “in which the minds of people must grow.” Intervision in peer groups is also often mentioned as an important facilitator: real-life cases can then be discussed, and the way GOC can be of value can be stressed out more vividly.

What we experience to be tremendously facilitating are those care providers who are really on board. If you have colleagues within your organization who have integrated the approach, who are playfully experimenting with it, this has a very contagious and inspiring effect on others. – [INT15, director health/social care organization]

3.2.5 Observability

Observability is: “the degree to which the results of an innovation are visible to others (16).” In the context of this research, it means that GOC needs to be more than just a vision on how to provide care. According to our respondents, the concept of GOC is often intertwined with other concepts such as person-centered care or customized care, which tend to be viewed as less actionable. Our respondents generally experience that PCPs are in favor of the concept of GOC, but implementing it in practice is more difficult. Yet they are aware that it only becomes meaningful when it is actively applied within primary care practice.

The thing that I’m really allergic to are those entrance halls where you can find various posters that are basically meaningless. Values only become valuable when they are experienceable in practice. Otherwise, it’s bullshit. So, GOC only becomes purposeful if it is translated into practice. – [INT17, counsellor health/social care organization]

For GOC to become observable to the PCP, it is key that they experience its outcomes firsthand. There is the need for PCPs to interact with each other about specific encounters in which goal-oriented conversations were held. Another initiative is to share and discuss

“inspiring practices.” By collecting stories of how PCPs *“truly made a difference for their patient”* the different ways in which goal-oriented approaches can manifest itself are shown. They argue it will strengthen the belief in the value of the approach, which in turn will encourage PCPs to further experiment with it. Thus, observability is all about making the GOC approach actionable and the outcomes visible.

Above all, our health care providers now have the feeling that GOC can actually mean something. Before it was just a theoretical concept they stood behind of. But now we are at the tipping point of experiencing: “this actually means something throughout the care for my patient.” – [INT20, coordinator primary care zone]

4 Discussion

Implementing GOC requires implementation efforts that are targeted towards the nature of the intervention itself and the context in which it will be implemented. The implementation of GOC mostly takes place on the micro-level with PCPs focusing on patient goals and values, but it also requires meso- and macro-level investments. In this study, we zoomed in on real life implementation efforts of various meso- and macro-level actors with an organizational or policy perspective. In-depth interviews with n=23 respondents contributed to our understanding of the overall drivers of implementation as well as the attributes of the innovation itself that contribute to implementation success. Within our study, three overall drivers came forward to enhance the implementation of GOC, as well as five DoI attributes of GOC that are key when it comes to implementation success.

4.1 Drivers and attributes of GOC

The overall drivers are recognition, commitment and coordination and can be viewed on the micro-, meso-, and macro-level, as demonstrated in Table 3. Firstly, recognition refers to some type of acknowledgement that GOC is worthwhile. This can be informally, when there is a shared perception or belief that GOC equals *“good care.”* It can also be more formally, when GOC is recognized on the policy level as *“quality of care.”* Within literature, authors such as Mold (5) argue that if only we would define quality of care as *“care likely helps patients achieve their goals”*, GOC would be considered higher quality than disease or problem-oriented care. Recognizing that focusing on patients’ life goals is vital in providing *“good care”* emphasizes that GOC is indeed desirable, which promotes its adoption.

Second, an active commitment needs to be created, which can be expressed on different levels. It can be a written commitment when GOC is included in strategic objectives of organizations and/or governmental institutions. But to truly make it an active commitment, GOC should be acted upon in daily practices. In this respect, various research shows that collaboration of opinion leaders or local champions are a driving force in order to obtain the commitment of PCPs (19, 33-35). The innovators and early adopters can play a crucial role in further spreading the innovation.

Thirdly, some type of coordination has to be set up to facilitate a GOC approach. This should contribute to making GOC an agenda item in teams and in interactions between patient and PCP. A person can be committed to achieve this, or an organization can create structures in which GOC is facilitated within communication channels and routine practices. Coordination can also be achieved through intervision with peer groups and the sharing of best practices, which closely relate to the concept of Balint groups (36) or quality circles (37). Interaction in these kind of peer groups can positively influence professional role perception and thus facilitate the paradigm shift that is needed to provide GOC (36, 37).

Table 3 Integrated findings on the three main drivers for implementation of GOC

	Micro-level	Meso-level	Macro-level
Recognition	Recognition of GOC as an essential part of <i>“good care”</i> by individual PCPs.	Recognition of GOC by organizations as an essential part of <i>“good care.”</i> Expressed on strategic level and in daily practices.	Recognition of GOC as <i>“quality of care”</i> on policy level.
Commitment	Highly enthusiastic PCPs can become ambassadors or champions.	Explicitly including GOC in the strategic vision of the organization.	Representation of GOC in policy objectives.
Coordination	Individuals explicitly taking up the task to support and encourage GOC and put it on the agenda.	Providing time and means for individuals to take up activities to support and/or promote GOC.	Embedding GOC in existing systems and/or platforms.

Besides these three overall drivers for implementation, further actions to implement GOC can be targeted towards the learnings of each DoI attribute. A synthesis of our findings and how they can manifest on the micro-, meso- and macro-level is presented in Table 4.

Table 4 Integrated findings on the DoI attributes

	Micro-level	Meso-level	Macro-level
Relative advantage	Increased job satisfaction, better relationship with patients.	Efficiency gains at organizational level.	Efficiency gains at societal level.
Compatibility	Alignment with PCPs individual role perception and values. Fit with patient needs.	Alignment with the vision and values of an organization.	Alignment with the desire to go towards integrated, person-centered primary care.
Complexity	Defining what it means to a PCP to provide GOC.	Defining which tools best fit what settings.	Creating an overall paradigm shift.
Trialability	Further shaping the concept of GOC to fit with PCPs own way of working. Stepping out of the comfort zone.	An organizational culture that facilitates experimenting (psychological safety).	Creating structures that allow for interaction between PCPs about patient goals.
Observability	Stimulate interaction between individual PCPs about GOC.	Enabling discussion about GOC through intervision. Collection and sharing of inspiring practices.	Defining GOC as a stepwise process that facilitates integrated care.

The attribute relative advantage states the importance of conveying the “*what’s in it for me.*” PCPs need to be convinced about an innovation’s advantages. According to Richter et al. (38), what PCPs acknowledge as the benefits of an innovation is driven forward by their personal values. They distinguish between patient-oriented values and economic-oriented values. As the perceived advantages of GOC are mostly situated on a more intrinsic and psycho-social level, this would suggest that the innovation would mostly appeal to PCPs with mainly patient-oriented values. Relative advantage together with observability are arguably the attributes that are most explanatory for implementation success (39).

For compatibility, it implies that an innovation is more compatible with their way of working or thinking. High compatibility improves the chances of successful implementation. Shifting from a problem-oriented medical paradigm to a person-centered paradigm fits the current needs of patients and clinicians. According to Mold (40), this can provide answers to current burdens and challenges experienced in primary care, such as clinician burnout, patient dissatisfaction, non-adherence, overdiagnosis etc. Furthermore,

we learned that some organizations discover and start engaging with GOC as it strengthens interprofessional collaboration, care coordination and/or patient empowerment. The concept can also be linked or woven into guidelines or tools, such as the BelRAI or the SCIROCCO tool. To further support the implementation of GOC, initiatives should actively seek out connection with existing values, ideas and needs in the setting where it gets implemented. Throughout our analysis, the attribute of compatibility seemed very broad, as it can refer to compatibility with values and beliefs, with previously introduced ideas, with needs. Overall, the attribute connects strongly to the necessity to study contextual determinants in implementation research, which is underlined in many implementation research (13, 41, 42).

The attribute of complexity states that the more complex an innovation is perceived, the less likely it is to be adopted. This is why for each PCP it should be clarified *“what does it mean to me to provide GOC?”* Boeykens et al. (3) have unraveled different stages in GOC which could help PCPs to understand and act according to GOC principles: goal-elicitation, goal-setting, and goal-evaluation. The authors argue that further research should focus on the process of goal-setting and how this knowledge could be translated into a tangible workflow for GOC (3). This could eventually lead to a better sense of “what is expected of me?”, lowering the perceived complexity.

The attribute of trialability assumes that an innovation can only gain meaning when people actively try it out and experiment with it, hereby discovering how it can fit within their own way of working. This is especially important for the early adopters of an innovation (12). Experimenting with GOC can be explored by initiating a different type of conversation but can also be supported with existing tools that can guide these conversations. Different tools will connect to different types of patients and caregivers, depending on the style of the PCP, the setting where care takes place, interests/capabilities of the patient, etc. To enhance trialability, it is key to create a safe learning environment in which PCPs can experiment and interact with each other about what works for them.

When it comes to observability, it is important to make GOC outcomes visible by encouraging discussion of cases and best practices in intervision with peers. Furthermore, it is also argued that research evidence supporting the innovation must be clearly visible (39). For GOC this is however tricky, as hard evidence on the advantages of GOC does not exist yet. To enhance further observability and embeddedness in primary care practices, the concept of GOC should be translated into a practice-based intervention that allows for deeper understanding of the concept and a stepwise approach to get started with it.

4.2 Strengths and limitations of our research

A variety of respondents with different backgrounds and perspectives were interviewed in Flanders about their experience with real life implementation efforts for GOC. This allows for a meso- and macro-level perspective on GOC initiatives, enhancing our understanding of how an innovation gets adopted by different organizations and governmental

institutions and what is needed to further integrate the approach in primary care. However, data triangulation in which observations or document analysis complement the findings from in-depth interviews could have expanded our understanding of the implementation dynamics. Subjective perceptions of respondents could then be verified, and the overall dynamics and vision of the organization could be disconnected from any personal interpretations of GOC.

A great asset of this study is that our findings contribute to a better understanding of implementation processes in general and their success factors. Insight in the overall drivers and attributes of GOC can help defining further actions for sustainable implementation. However, an intervention can be viewed as having different components, with the intended change, the context and the implementation strategies as its main building blocks (14). In this manuscript, we have now focused on the broader drivers and how the nature of the intervention affects implementation success. To capture a more complete view on how to understand the implementation process of GOC, contextual factors should be examined as well. Such contextual factors can also be linked to certain attributes of an innovation: e.g., compatibility of GOC will be higher in a setting where there is already much interest in providing person-centered care.

Recent studies have already captured micro-level perspectives on our research subject, investigating how PCPs themselves view and operationalize GOC (43) and aiming to understand patient experiences of goal-oriented approaches (44). However, these studies are not focused on the underlying implementation processes. For a more complete understanding, a parallel study should be considered in which the views and experiences of both PCPs and patients are investigated within those organizations/settings that are experimenting with GOC. Furthermore, we should also consider that this study is limited to the Flemish landscape and that the dynamics of this region might differ from other regions or countries. A repeated study on a broader, international level can learn us whether similar drivers are identified in different countries and to what extent our findings are region-specific or can be generalized.

Another important consideration is that our sample only includes the innovators (e.g., those who have developed tools to facilitate goal-oriented conversations) and/or early adopters for GOC. Within the Flemish primary care landscape, the innovation of GOC has yet to be picked up by the early majority. Subsequently, we might have captured a more positive view of how the DoI attributes are perceived and interpreted. Previous research suggests that later adopters are less positive about the attributes of an innovation than earlier adopters (19). Future research could thus include early majority, late majority or laggards perspectives on the same innovation to compare in what way they view the attributes differently. This is especially important later on in the translation phase and the sustainment phase of the implementation process (14). Throughout our analysis, we were not able to distinguish how mature or experienced each of the represented organizations were in implementing GOC. This is firstly because the concept of GOC often intertwined with other concepts such as positive health or person-centered care, which it made it

difficult to pin-point when a focus on GOC was adopted. Secondly, a time span in which GOC was adopted often didn't correspond with how far in the implementation process they were. Thirdly, our sample consists of various types of actors and a maturity level on the implementation process was difficult to give for macro-level actors, who's main role was to facilitate implementation processes. A study design that made it possible to distinguish between the different implementation phases could have contributed to our understanding.

5 Conclusion

Implementation processes in primary care are complex and implementation success depends on several factors. Creating recognition, commitment and coordination appear to be three important ingredients that drive forward the implementation process of GOC. Furthermore, looking into the five attributes of an innovation as defined by Rogers et al. (16) can help us define actions to support and facilitate the implementation process of an innovation such as GOC. Further research can dive deeper in how the attributes of an innovation differ throughout different types of adopters (e.g., early adopters versus late majority) and how they relate to different contexts.

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How does the external context affect an implementation process? A qualitative study investigating the impact of macro-level variables on the implementation of goal-oriented primary care

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Abstract

Background: Although the importance of context in implementation science is not disputed, knowledge about the actual impact of external context variables on implementation processes remains rather fragmented. Current frameworks, models and studies merely describe macro-level barriers and facilitators, without acknowledging their dynamic character and how they impact and steer implementation. Including organizational theories in implementation frameworks could be a way of tackling this problem. In this study, we therefore investigate how organizational theories can contribute to our understanding of the ways in which external context variables shape implementation processes. We use the implementation process of goal-oriented primary care in Belgium as a case.

Methods: A qualitative study using in-depth semi-structured interviews was conducted with actors from a variety of primary care organizations. Data was collected and analyzed with an iterative approach. We assessed the potential of four organizational theories to enrich our understanding of the impact of external context variables on implementation processes. The organizational theories assessed are: institutional theory, resource dependency theory, network theory, and contingency theory. Data analysis was based on a combination of inductive and deductive thematic analysis techniques using NVivo 12.

Results: Institutional theory helps to understand mechanisms that steer and facilitate the implementation of goal-oriented care through regulatory and policy measures. For example, the Flemish government issued policy for facilitating more integrated, person-centered care by means of newly created institutions, incentives, expectations and other regulatory factors. The three other organizational theories describe both counteracting or reinforcing mechanisms. The financial system hampers interprofessional collaboration, which is key for GOC. Networks between primary care providers and health and/or social care organizations on the one hand facilitate GOC, while on the other hand technology to support interprofessional collaboration is lacking. Contingent variables such as the aging population and increasing workload and complexity within primary care create circumstances in which GOC is presented as a possible answer.

Conclusions: Insights and propositions that derive from organizational theories can be utilized to expand our knowledge on how external context-variables affect implementation processes. These insights can be combined with or integrated into existing implementation frameworks and models to increase their explanatory power.

1 Background

In this study, we integrate organizational theories to provide a profound analysis on how external context influences the implementation of complex interventions. There is a growing recognition that the context in which an intervention takes place highly influences implementation outcomes (1, 2). Despite its importance, researchers are challenged by the lack of a clear definition of context. Most implementation frameworks and models do not define context as such, but describe categories or elements of context, without capturing it as a whole (2, 3). Studies often distinguish between internal and external context: micro- and meso-level internal context variables are specific to a person, team or organization. Macro-level external context variables consist of variables on a broader, socio-economic and policy level that are beyond one's control (4).

Overall, literature provides a rather fragmented and limited perspective on how external context influences the implementation process of a complex intervention. Attempts are made to define, categorize and conceptualize external context (5, 6). Certain implementation frameworks and models specifically mention external context, such as The Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors (7), the Consolidated Framework for Implementation Research (8) or the i-PARiHS framework (9). However, they remain limited to identifying and describing external context variables. Few studies are conducted that specifically point towards the actual impact of macro-level barriers and facilitators (10-12), but only provide limited insights in how these shape an implementation process. Nonetheless, external contextual variables can be highly disruptive for an organization's implementation efforts, for example when fluctuations in funding occur or when new legislation or technology is introduced (13). In order to build a more comprehensive view on external context influences, we need an elaborative theoretical perspective.

1.1 Organizational theories as a frame of reference

To better understand how the external context affects the implementation process of a primary care intervention, we build upon research of Birken et al. (13) who demonstrate the explanatory power of organizational theories. Organizational theories can help explain the complex interactions between organizations and their environments (13), providing understanding on the impact of external context on the mechanism of change in an implementation process. We focus on three of the theories Birken et al. (8) put forward: institutional theory, resource dependency theory and contingency theory. We also include network theory in recognition of the importance of inter-organizational context and social ties between various actors, especially in primary care settings which are characterized by a multitude of diverse actors (meaning: participants of a process).

These four organizational theories demonstrate the ways in which organizations interact with their external environment in order to sustain and fulfill their core activities. All four of them do this with a different lens. Institutional theory states that an organization will aim to fulfill the expectations, values or norms that are posed upon them in order to

achieve a fit with their environment (14). This theory helps to understand the relationships between organizations and actors and the institutional context in which they operate. Institutions can broadly be defined as a set of expectations for social or organizational behavior that can take the form of formal structures such as regulatory entities, legislation or procedures (15). Resource dependency theory explains actions and decisions of organizations in terms of their dependence on critical and important resources. It postulates that organizations will respond to their external environment to secure the resources they need to operate (16, 17). This theory helps to gain insight in how fiscal variables can shape the adoption of an innovation. Contingency theory presupposes that an organizations' effectiveness depends on the congruence between situational factors and organizational characteristics (18). External context variables such as social and economic change and pressure can impact the way in which an innovation will be integrated. Lastly, network theory in its broader sense underlines the strength of networks: collaborating in networks can establish an effectiveness in which outcomes are achieved that could not be realized by individual organizations acting independently. Networks are about connecting or sharing information, resources, activities and competences of three or more organizations aiming to achieve a shared goal or outcome (19, 20). Investigating networks helps to gain understanding of the importance of the inter-organizational context and how social ties between organizations affect the implementation process of a complex intervention.

1.2 Goal-oriented care in Flanders as a case

In this study, we focus on the implementation of the approach Goal-Oriented Care (GOC) in primary care in Flanders, the Dutch-speaking region in Belgium. Primary care is a highly institutionalized and regulated setting with a high level of professionalism. Health care organizations can be viewed as complex adaptive systems that are increasingly interdependent (21). The primary care landscape in Flanders is characterized by many Primary Care Providers (PCPs) being either self-employed or working in group practices or community health centers. They are organized and financed at different levels (federal, regional, local). In 2015-2019, a primary care reform was initiated in Flanders in which the region was geographically divided into 60 primary care zones that are governed by care councils. The Flemish Institute of Primary Care was created as a supporting institution aiming to strengthen the collaboration between primary care health and welfare actors. The complex and multisectoral nature of primary care in Flanders forms an interesting setting to gain understanding in how macro-level context variables affect implementation processes.

The concept of GOC implies a paradigm shift (22) that shifts away from a disease or problem-oriented focus towards a person-centered focus that departs from "*what matters to the patient.*" Boeykens et al. (23) state in their concept analysis that GOC could be described as a healthcare approach encompassing a multifaceted, dynamic and iterative process underpinned by the patient's context and values. The process is characterized by three stages: goal-elicitations, goal-setting and goal-evaluation in which patients' needs

and preferences form the common thread. It is an approach in which PCPs and patients collaborate to identify personal life goals and to align care with those goals (23). An illustration of how this manifests at individual level can be found in Box 1. The concept of GOC was incorporated in Flemish policies and included in the primary care reform in 2015-2019. It has gained interest in research and policy as a potential catalyst for integrated care (24). As such, the implementation of GOC in Flanders provides an opportunity to investigate the external context of a complex primary care intervention. Our main research question is: what can organizational theories tell us about the influence of external context variables on the implementation process of GOC?

Box 1 Model case of Joseph to demonstrate GOC at the individual level

Joseph, 68- year old suffers from diabetes, hypertension and chronic obstructive pulmonary disease. Throughout his entire working life, he was a secondary school teacher. He has been retired for three years now (*patients' context*). Despite the fact that he is limited by his health condition, he loves spending time gardening and playing with his grandchildren (*patients' needs and preferences*).

A few years ago he was a passionate cyclist, but his racing bike has been stored for a long time now. His friends encourage him to cycle with them on a weekly base (*patients' context*). His wife supports this initiative and argues that this will be beneficial for his social contact (*patients' context*). Every month Joseph visits his family doctor for a check-up. For each consultation, he prepares a list of things he wants to discuss. He has the chance to share his story in an open communication in which trust and mutual respect are key components (*goal-elicitation*).

In his monthly check-up with his family doctor he suggests his wishes to cycle again with his friends (*patients' needs and preferences & goal-setting; interaction*). His doctor doubts whether this will be possible and after discussion and negotiation (*goal-setting; interaction*), they plan that he would join his friends in their weekly cycling trip but only for the first two hours (*goal-setting; foundation for SMART goal*). The group will be asked to adapt their pace and Joseph will make sure that he does not need to return back home on his own. The doctor makes adjustments to the medication scheme according to the increased efforts Joseph will make (*goal-setting; care plan*). He will also contact the cardiologist to inform him about the changes to the medication schema (*goal-setting; care plan*). The family doctor and the cardiologist will collaborate in order to succeed in Joseph's goal (*goal-setting; care delivery*). The family doctor and Joseph agree to discuss and evaluate the course after three months (*goal-evaluation; feedback & evaluation*). It is possible to increase or decrease the intensity depending on Joseph's health state and his own preferences (*goal-evaluation; evaluation*).

Model case borrowed from Boeykens, D., Boeckstaens, P., De Sutter, A., Lahousse, L., Pype, P., De Vriendt, P. & Van de Velde, D. (2022). Goal-oriented care for patients with chronic conditions or multimorbidity in primary care: a scoping review and concept analysis. *PLoS One*, 17(2), e0262843.

2 Methods

We assess the potential of four organizational theories to enrich our understanding of the impact of external context variables on implementation processes. The organizational theories assessed are: institutional theory, resource dependency theory, network theory, and contingency theory. Qualitative research methods are most suitable to investigate such complex matters, as they can help answer “*how*” and “*why*” questions on implementation (25). We conducted online, semi-structured in-depth interviews with various primary care actors. These actors all had some level of experience at either meso- or micro-level with GOC implementation efforts.

2.1 Sample selection

For our purposive sample, we used the following inclusion criteria: 1) working in a Flemish health/social care context in which initiatives are taken to implement GOC, 2) having at least 6 months of experience. For recruitment, we made an overview of all possible stakeholders that are active in GOC by calling upon the network of the Primary Care Academy (PCA)¹. Additionally, a snowballing approach was used in which respondents could refer to other relevant stakeholders at the end of each interview. This led to respondents with different backgrounds (not only medical) and varying roles, such as being a staff member, project coordinator or policy maker. We aimed at a maximum variation in the type of organizations which were represented by respondents, such as different governmental institutions and a variety of healthcare/social care organizations. In some cases, paired interviews were conducted (26) if the respondents were considered complementary in terms of expertise, background and experience with the topic. An information letter and a request to participate was sent to each stakeholder by e-mail. One reminder was sent in case of non-response.

2.2 Data collection

Interviews were conducted between January and June 2022 by a sociologist trained in qualitative research methods. Interviewing took place online using the software Microsoft Teams and were audio-recorded and transcribed verbatim. A semi-structured interview guide was used, which included (1) an exploration of the concept of GOC and how the respondent relates to this topic; (2) questions on how GOC became a topic of interest and initiatives within the respondent’s setting and (3) the perceived barriers and facilitators for implementation. An iterative approach was used between data collection and data analysis, meaning that the interview guide underwent minor adjustments based on proceeding insights from earlier interviews in order to get richer data.

¹ The Primary Care Academy (PCA) is a research and teaching network of four Flemish universities, six university colleges, the White and Yellow Cross (an organization for home nursing) and patient representatives that has included GOC as one of their main research domains.

2.3 Data analysis

All data were thematically analyzed, both inductively and deductively, supported by the software NVivo 12 ©. For the inductive part, implicit and explicit ideas within the qualitative data were identified and described (27). The broader research team, with backgrounds in sociology, medical sciences and social work, discussed these initial analyses and results. The main researcher then further elaborated this into a broad understanding. This was followed by a deductive part, in which characteristics and perspectives from organizational theories were used as sensitizing concepts, inspired by research from Birken et al. (13). This provided a frame of reference and direction, adding interpretive value to our analysis (28). These analyses were subject of peer debriefing with our cooperating research team to validate whether these results aligned with their knowledge of GOC processes. This enhances the trustworthiness and credibility of our results (29, 30). Data analysis was done in Dutch, but illustrative quotes were translated into English.

3 Results

In-depth interviews were performed with n=23 respondents (see: Table 1): five interviews were duo-interviews and one interview took place with n=3 respondents representing one organization. We had n=6 refusals: n=3 because of time restraints, n=1 did not feel sufficiently knowledgeable about the topic, n=1 changed professional function and there was n=1 non-response. Respondents had various ways in which they related towards the macro-context: we included actors that formed part of external context (e.g., the Flemish Agency of Care and Health), actors that facilitate and strengthen organizations in the implementation of GOC (e.g., the umbrella organization for community health centers) and actors that actively convey GOC inside and outside their setting (e.g., an autonomous and integral home care service). Interviews lasted between 47 and 72 minutes. Table 2 gives an overview on the main findings of our deductive analysis with their respective links to the propositions of each of the organizational theories that we applied as a lens.

Table 1 Overview of respondents and type of organization

Respondent ID	Type of organization	Professional function	Role of respondents regarding GOC
INT1	Governmental institution	Staff member	Expanding awareness/knowledge
INT2	Governmental institution	Staff member	Expanding awareness/knowledge
INT3	Governmental institution	Policy officer	Creating preconditions
INT4	Governmental institution	Policy officer	Creating preconditions
INT5	Governmental institution	Policy officer	Creating preconditions

INT6	Non-profit organization	Consultant	Creating preconditions
INT7	Umbrella organization	Staff member	Expanding awareness/knowledge
INT8	Umbrella organization	Staff member	Expanding awareness/knowledge
INT9	Provider organization	Project manager	Expanding awareness/knowledge
INT10	Provider organization	Project manager	Expanding awareness/knowledge
INT11	Provider organization	Chair	Expanding awareness/knowledge
INT12	Patient organization	Policy officer	Developing/offering tools
INT13	Patient organization	Director	Developing/offering tools
INT14	Health/social care organization	Staff member	Developing/offering tools
INT15	Health/social care organization	Director	Developing/offering tools
INT16	Health/social care organization	Coordinator	Coordinating
INT17	Health/social care organization	Counsellor	Coordinating
INT18	Non-profit organization	Project coordinator	Expanding awareness/knowledge
INT19	Non-profit organization	Project coordinator	Expanding awareness/knowledge
INT20	Primary care zone/care council	Coordinator	Networking
INT21	Primary care zone/care council	Staff member	Networking
INT22	Primary care zone/care council	Staff member	Networking
INT23	Primary care zone/care council	Coordinator	Networking

Table 2 Overview of organizational theory and applications to the implementation of GOC

Perspective	Propositions	Application to the implementation of GOC	Illustrative quotes
Institutional theory	Change is prompted by norms, values and expectations deriving from the institutional environment.	Belgian policy steers primary care actors towards person-centered, GOC by creating structures and actors that support its uptake and regulations that tie in with GOC.	<i>This was a conscious effort to introduce it in primary care. An entire transition trajectory has been started since 2017. Integrated care, GOC are essential parts of that vision note. All our policies that we are rolling out are grafted on this. - INT04</i>
Resources dependency theory	Decisions and actions of organizations will be affected by the external resources they need to secure their activities.	The current financial system (fee for service) does not support interprofessional collaboration nor GOC.	<i>We will remain stuck as long as finances are based on the consult model and on performances... this doesn't promote GOC. – INT21</i>
Network theory	Actors that are connecting and working together to achieve a shared goal will attain outcomes more efficiently and integrated than actors working independently.	Interprofessional collaboration and a shared language between different disciplines is a prerequisite for providing GOC. The newly established care councils are facilitators as they connect different PCPs and hereby put forward GOC as a common goal. However, the current available technology does not allow PCPs to collaborate according to a GOC with other disciplines.	<i>The importance of this overarching part... I as a GP want to engage in GOC; you as a physiotherapist; a social worker wants to do it; a family care department wants to do it. But how do we do it together? – INT23</i>
Contingency theory	An organization adapts and	Social and demographic variables such as the aging	<i>This partly has to do with our ageing population.</i>

	responds to external context variables. The social and economic landscape can shape organizational decisions and actions.	population and the increasing pressure in terms of workload and complexity of patient profiles on healthcare can form the circumstances in which GOC can be a possible answer towards the emerging needs in the primary care context.	<i>We run into a shortage of capacity to provide care for them. And this will be the main driver towards change. – INT04</i>
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3.1 Institutional theory: laying foundations for a shift towards GOC

For the implementation of GOC in primary care, looking at the data with an institutional theory lens helps us understand the way in which primary care organizations will respond to social structures surrounding them. Institutional theory describes the influence of institutions, which give shape to organizational fields: *“organizations that, in the aggregate, constitute a recognized area of institutional life (31, p. 148).”* Prevailing institutions within primary care in Flanders can affect how organizations within such organizational fields fulfill their activities. Throughout our interviews, we recognized several dynamics that are being described in institutional theory.

First of all, the changing landscape of primary care in Flanders (see: 1.2) was often brought up as a dynamic in which GOC is intertwined with other changes. Respondents mention an overall tendency to reform primary care to becoming more integrated and the ideas of person-centered care becoming more upfront. These expectations in how primary care should be approached seem to affect the organizational field of primary care: *“You could tell that in people’s minds they are ready to look into what it actually means to put the patient, the person central. – INT01”* Various policy actors are committed to further steer towards these approaches: *“the government has called it the direction that we all have to move towards. – INT23”* It was part of the foundations for the most recent primary care reform; leading to the creation of demographic primary care zones governed by care councils and the Flemish Institute of Primary Care as supporting institution.

These newly established actors were viewed by our respondents as a catalyst of GOC. They pushed towards the aims to depart from local settings and to establish connections between local actors. Overall, respondents emphasized their added value as they are close to the field and they truly connect primary care actors. *“They [care councils] have picked up these concepts and have started working on it. At the moment they are truly the incubators and ecosystems, as they would call it in management slang. – INT04”* For an innovation such as GOC to be diffused, they are viewed as the ideal actors who can function as a facilitator or conduit. They are uniquely positioned as they are closely in contact with the practice field and can be a top-down conduit for governmental actors, but also are able to address the needs from bottom-up. *“In this respect, people look at the primary care*

zones as the ideal partners. [...] We can start bringing people together and have that helicopter view: what is it that truly connects you? – INT23” However, some respondents also mentioned their difficult governance structure due to representation of many disciplines and organizations.

Other regulatory factors were mentioned by respondents were other innovations or changes in primary care that were intentionally linked to GOC: e.g., the BelRAI² or Flemish Social Protection³. *“The government also provides incentives. For example, family care services will gradually be obliged to work with the BelRAI screener. This way, you actually force them to start taking up GOC. – INT23*” For GOC to be embedded in primary care, links with other regulatory requirements can steer PCPs towards GOC. Furthermore, it was sometimes mentioned that an important step would be for the policy level to acknowledge GOC as quality of care and to include the concept in quality standards. This would further formalize and enforce the institutional expectation to go towards person-centered care.

Currently, a challenge on institutional level as viewed by most respondents is that GOC is not or only to a limited extent incorporated in the basic education of most primary care disciplines. This leads to most of PCPs only having a limited understanding of GOC and different disciplines not having a shared language in this matter. *“You have these primary health and welfare actors who each have their own approach, history and culture. To bring them together and to align them is challenging. – INT10*” The absence of GOC as a topic in basic education is mentioned by various respondents as a current shortcoming in effectively implementing GOC in the wider primary care landscape.

Overall, GOC is viewed as our respondents as a topic that has recently gained a lot of interest, both by individual PCPS, organizations as well as governmental actors. The Flemish government has laid some foundations to facilitate this change with newly created institutions and incentives. However, other external context variables can interfere in how the concept of GOC is currently being picked up and what challenges arise.

3.2 Resource dependency theory: in search for a financial system that accommodates interprofessional collaboration

Another external context variable that affects how GOC can be introduced is the financial system that is at place. To analyze themes that were raised during the interviews with regards to finances, we utilized a resource dependency perspective. This theory presumes that organizations are dependent on financial resources and are seeking ways to ensure

² BelRAI = the Belgian implementation of the interRAI assessment tools; these are scientific, internationally validated instruments enabling an assessment of social, psychological and physical needs and possibilities individuals in different care settings. The data follows the person and is shared between care professionals and care organizations.

³ The Flemish Social Protection is a mandatory insurance established by the Flemish government to provide a range of concessions to individuals with long-term care and support needs due to illness or disability.

their continued functioning (16, 17). To a certain extent this collides with the assumptions of institutional theory that foregrounds organization's conformity to institutional pressures (32). Resource dependency theory in contrast highlights differentiation of organizations that seek out competitive advantages (32).

In this context, respondents mention that their interest and willingness to move towards a GOC approach is held back by the current dominant system of pay-for-performance in the healthcare system. This financial system is experienced as restrictive, as it does not provide any incentive to PCPs for interprofessional collaboration, which is key for GOC. A switch to a flat fee system (in which a fixed fee is charged for each patient) or bundled payment was often mentioned as desirable. PCPs and health/social care organizations working in a context where they are financially rewarded for a trajectory or treatment of a patient in its entirety, ensures that there is no tension with their necessity to obtain financial resources, as described in the resource dependency theory. Many of our respondents voice that community health centers are a good example. They cover different health care disciplines and operate with a fixed price per enrolled patient, regardless of the number of services for that patient. This promotes setting up preventive and health-promoting actions, which confirms our finding on the relevance of dedicated funding.

At the governmental level, the best way to finance and give incentives is said to be a point of discussion: *"For years, we have been arguing about how to finance. Are we going to fund counsel coordination? Or counsel organization? Or care coordination? – INT04"* Macro-level respondents do however mention financial incentives that are already in place to stimulate interprofessional collaboration: fees for multidisciplinary consultation being the most prominent. Other examples were given in which certain requirements were set for funding (e.g., Impulseo⁴, VIPA⁵) that stimulate actors or settings in taking steps towards more interprofessional collaboration.

Nowadays, financial incentives to support organizations to engage in GOC tend to be project grants. However, a structural way to finance GOC approaches is currently lacking, according to our respondents. As a consequence, a long-term perspective for organizations is lacking; there is no stable financing and organizations are obliged to focus on projects instead of normalizing GOC in routine practice. According to a resource dependency perspective, the absence of financial incentives for practicing GOC hinders organizations in engaging with the approach, as they are focused on seeking out resources in order to fulfill their core activities.

⁴ Impulseo = financial support for general practitioners who start an individual practice or join a group practice.

⁵ VIPA = grants for the realization of sustainable, accessible and affordable healthcare infrastructure.

3.3 A network-theory perspective: the importance of connectedness for the diffusion of an innovation

Throughout the interviews, inter-organizational contextual elements were often addressed. A network theory lens states that collaborating in networks can lead to outcomes that could not be realized by individual organizations acting independently (19, 20). Networks consist of a set of actors such as PCPs or health/social care organizations along with a set of ties that link them (33). These ties can be state-type ties (e.g., role-based, cognitive) or event-type ties (e.g., through interactions, transactions). Both type of ties can enable a flow in which information or innovations can pass, as actors interact (33). To analyze the implementation process of GOC and how this is diffused through various actors, a network theory perspective can help understand the importance of the connection between actors.

A first observation throughout the interviews in which we notice the importance of networks was in the mentioning of local initiatives that already existed before the creation of the primary care zones/ care councils. In the area around Ghent, local multidisciplinary networks already organized community meetings, bringing together different PCPs on overarching topics relating to long-term care for patients with chronic conditions. These regions have a tradition of collaboration and connectedness of PCPs, which respondents mention to be highly valuable: *“This ensures that we are more decisive, speaking from one voice with regards to what we want to stand for. – INT23”* Respondents voice that the existence of such local networks has had a positive effect on the diffusion of ideas such as GOC, as trust between different actors was already established.

Further mentioning of the importance of networks could be found in respondents acknowledging one of the presumptions of network theory: working collaboratively towards a specific objective leads to outcomes that cannot be realized independently. This is especially true for GOC, an approach that in essence requires different disciplines to work together: *“When only one GP, nurse or social worker starts working on it, it makes no sense. Everyone who is involved with that person needs to be on board. Actually, you need to finetune teams surrounding a person. – INT11”* This is why several policy-level respondents mentioned that emphasis was placed on organizing GOC initiatives in a neighborhood-oriented way, in which accessible, inclusive care is aimed at by strengthening social cohesion. This way, different types of PCPs got to know each other through these sessions on GOC and would start to get aligned on what it means to provide GOC. However, in particular self-employed PCPs are hard to reach. According to our respondents, occupational groups and care councils are suitable actors to engage these self-employed PCPs, but they are not always much involved in such a network.

To better connect PCPs and health/social care organizations, the absence of connectedness through the technological landscape is also mentioned. Current technological systems and platforms for documenting patient information don't allow for aligning and sharing between disciplines. In Flanders, there is a history of each discipline developing its own software, which lacks centralization or unification: *“For years, they have decided to just*

leave it to the market, in such a way that you ended up with a proliferation of software, each discipline having its own package. – INT06” Most of the respondents mentioning this were aware that Flanders government is currently working on a unified digital care and support platform and were optimistic about its development.

3.4 Contingency theory: how environmental pressure can be a trigger for change

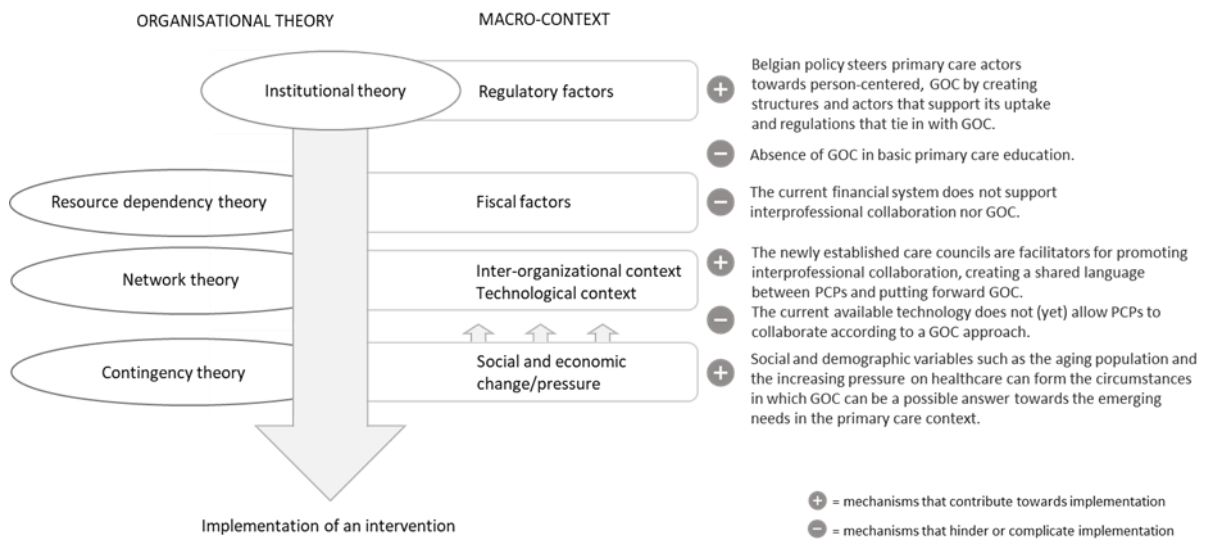
Our interviews were conducted during a rather dynamic and unique period of time in which the impact of social change and pressure was clearly visible: the Flemish primary care reform was ongoing which led to the creation of care councils and VIVEL (see: 3.1.1) and the COVID-crisis impacted the functioning of these and other primary care actors. These observed effects of societal changes are reminiscent of the assumptions that are made in contingency theory. In essence, contingency theory presupposes that *“organizational effectiveness results from fitting characteristics of the organization, such as its structure, to contingencies that reflect the situation of the organization (34, p. 1).”* When it comes to the effects of the primary care reform and the COVID-crisis, there were several mentions on how primary care actors reorganized their activities to adapt to these circumstances. Representatives of care councils/primary care zones whom we interviewed underlined that they were just at the point where they could again engage with their original action plans, not having to take up so many COVID-related tasks anymore. On the one hand, the COVID-crisis had however forced them to immediately become functional and has also contributed that various primary care actors quickly got to know them. On the other hand, the COVID-crisis has also kept them from their core activities for a while. On top of that, the crisis has also triggered a change the overall view towards data sharing. Some respondents mention a rather protectionist approach towards data sharing; while data sharing has become more normalized during the COVID-crisis. This discussion was also relevant for the creation of a unified shared patient record in terms of documenting and sharing patient goals.

Other societal factors that were mentioned having an impact on the uptake of GOC is the demographic composition of a certain area. It was suggested that areas that are characterized by a patient population with more chronic care needs will be more likely to steer towards GOC as a way of coping with these complex cases. *“You always have these GPs who blow it away immediately and question whether this is truly necessary. They will only become receptive to this when they experience needs for which GOC can be a solution. – INT11”* On a macro-level, several respondents have mentioned how a driver for change is to have the necessity for change becoming very tangible. As PCPs are confronted with increasing numbers of patients with complex, chronic needs and their work becomes more demanding, the need for change becomes more acute. This finding is in line with what contingency theory underlines: changes in contingency (e.g., the population that is increasingly characterized by ageing and multimorbidity) is an impetus for change for health/social care organizations to resolve this by adopting a structure that better fits the current environmental characteristics (34).

4 Discussion

Our research demonstrates the applicability of organizational theories to help explain the impact that macro-level context variables have on an implementation process. These insights can be integrated into existing implementation frameworks and models to add the explanatory power of macro-level context variables, which is to date often neglected. The organizational theories demonstrate the ways in which organizations interact with their external environment in order to sustain and fulfill their core activities. As demonstrated in Figure 1, institutional theory largely explains how social expectations in the form of institutions leads towards the adoption or implementation of innovation, such as GOC. However, other organizational theories demonstrate how other macro-context elements on different areas can either strengthen or hamper the implementation process.

Figure 1 How organizational theories can help explain the way in which macro-level context variables affect implementation of an intervention



Departing from the mechanisms that are postulated by institutional theory, we observed that the shift towards GOC is part of a larger Flemish primary care reform in which and new institutions have been established and policies have been drawn up to go towards more integrated, person-centered care. To achieve this, governmental actors have placed emphasis on socialization of care, the local context and establishing ties between organizations in order to become more complementary in providing primary health care (35). With various initiatives surrounding this aim, the Flemish government is steering towards GOC. This is reminiscent of the mechanisms that are posed within institutional theory: organizations adapt to prevailing norms and expectations and mimic behaviors that are surrounding them (15, 36).

Throughout our data, we came across concrete examples of how institutionalization takes place. DiMaggio & Powell (31) describe the subsequent process of isomorphism:

organizations start to resemble each other as they are conforming to their institutional environment. A first mechanism through which this change occurs is coercive isomorphism and is clearly noticeable in our data. This type of isomorphism results from both formal and informal pressure coming from organizations from which a dependency relationship exists and from cultural expectations in the society (31). Person-centered, GOC care is both formally propagated by governmental institutions and procedures and informally expected by current social tendencies. Care councils within primary care zones explicitly propagate and disseminate ideas and approaches that are desirable on policy level. Another form of isomorphism is professional isomorphism and relates to our finding that incorporation of GOC in basic education is currently lacking. The presumptions of professional isomorphism back-up the importance of this: values, norms and ideas that are developed during education are bound to find entrance within organizations as professionals start operating along these views.

Although many observations in our data back-up the assumptions of institutional theory, it should be noticed that new initiatives such as the promotion of person-centered care and GOC can collide with earlier policy trends. Martens et al. (12) have examined the Belgian policy process relating three integrated care projects and concluded that although there is a strong support for a change towards a more patient-centered system, the current provider-driven system and institutional design complicates this objective. Furthermore, institutional theory tends to simplify actors as passive adopters of institutional norms and expectations and overlook the human agency and sensemaking that comes with it (37). For GOC it is particularly true that PCPs will actively have to seek out their own style and fit the approach in their own way of working. Moreover, GOC was not just addressed as a governmental expectation but for many PCPs something they inherently stood behind.

Resources dependency theory poses that organizations are dependent on critical resources and adapt their way of working in response to those resources (17). From our findings it seems that the current financial system does not promote GOC, meaning that the mechanisms that are put forward in resources dependency theory are not set in motion. A macro-level analysis of barriers and facilitators in the implementation of integrated care in Belgium by Danhieux et al. (10) also points towards the financial system and data sharing as two of the main contextual determinants that affect implementation.

Throughout our data, the importance of a network approach was frequently mentioned. Interprofessional collaboration came forward as a prerequisite to make GOC happen, as well as active commitment on different levels. Burns, Nembhard & Shortell (38) argument that research efforts on implementing person-centered, integrated care should have more focus on the use of social networks to study relational coordination. In terms of interprofessional collaboration, to date Belgium has a limited tradition of working team-based with different disciplines (35). However, when it comes to strengthening a cohesive primary care network, the recently established care councils have become an important facilitator. As a network governance structure, they resemble mostly a Network Administrative Organization (NAO): a separate, centralized administrative entity that is

externally governed and not another member providing its own services (19). According to Provan & Kenis (19) this type of governance form is most effective in a rather dense network with many participants, when the goal consensus is moderately high; characteristics that are indeed representative for the Flemish primary care landscape. This strengthens our observation that care councils have favorable characteristics and are well-positioned to facilitate the inter-organizational context to implement GOC.

Lastly, the presumptions within contingency theory became apparent as respondents talked about the how the need for change needs to become tangible for PCPs and organizations to take action, as they are increasingly faced with a shortage of time and means and more complex patient profiles. Furthermore, De Maeseneer (39) affirms our findings that the COVID-19 crisis could be employed as an opportunity to strengthen primary health care, as health becomes prioritized, and its functioning becomes re-evaluated. Overall, contingency theory can help gain insight in how and why certain policy trends or decisions are made. A study of Bruns et al. (40) found that modifiable external context variables such as interagency collaboration were predictive for policy support for intervention adoption, while unmodifiable external context variable such as socio-economic composition of a region were more predictive for fiscal investments that are made.

4.1 Strengths and limitations

This study contributes to our overall understanding of implementation processes by looking into real-life implementation efforts for GOC in Flanders. It goes beyond a mere description of external context variables that affect implementation processes but aims to grasp which and how external context variables influence implementation processes. A variety of respondents from different organizations, with different backgrounds and perspectives were interviewed and results were analyzed by researchers with backgrounds in sociology, social work and medical sciences. Results can not only be applied to further develop sustainable implementation plans for GOC, but also enhances our understanding of how the external context influences and shapes implementation processes. As most research on contextual variables in implementation processes has until now mainly focused on internal context variables, knowledge on external context variables contributes to gaining a bigger picture of the mechanism of change.

However, this study is limited to the Flemish landscape and external context variables and their dynamics might differ from other regions or countries. Furthermore, our study has examined and described how macro-level context variables affect the overall implementation processes of GOC. Further research is needed on the link between outer and inner contexts during implementation and sustainment, as explored by Lengninck-Hall et al (41). Another important consideration is that our sample only includes the 'believers' in GOC and those who are already taking steps towards its implementation. It is possible that PCPs themselves or other relevant actors who are more skeptical about GOC have a different view on the policy and organizational processes that we explored. Furthermore,

data triangulations in which this data is complemented with document analysis could have expanded our understanding and verified subjective perceptions of respondents.

5 Conclusion

Insights and propositions that derive from organizational theories can be utilized to expand our knowledge on how external context variables affect implementation processes. Our research demonstrates that the implementation of GOC in Flanders is steered and facilitated by regulatory and policy variables, which sets in motion mechanisms that are described in institutional theory. However, other external context variables interact with the implementation process and can further facilitate or hinder the overall implementation process. Assumptions and mechanisms explained within resource dependency theory, network theory and contingency theory contribute to our understanding on how fiscal, technological, socio-economic, and inter-organizational context variables affect an implementation process.

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What implementation strategies to choose in a specific context? A qualitative study following 7 projects aiming to implement goal-oriented primary care

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Abstract

Background: This research explores the motivations behind implementation strategies of Goal-Oriented Care (GOC), in various primary care organizational settings. Strategies to implement an innovation such as GOC can take a variety of forms and should be tailored to the specific context. However, guidance is lacking on how to actually do this and what considerations are relevant.

Methods: In this qualitative research, we explore 7 in-depth cases in which primary care organizations are translating the principles of GOC into concrete actions which should lead to more person-centered GOC. Multiple sources of data were collected, including in-depth interviews, document analysis of project reports and non-participatory observations. Inductive and deductive thematic analysis was used with NVivo 12 as supporting software. The deductive analysis was based on the Expert Recommendations for Implementing Change (ERIC) study.

Results: Different types of motivations or considerations for deploying certain implementation strategies were identified. They were either linked to the nature of the intervention (GOC as an innovation requiring more concretization to put it into practice and embeddedness throughout daily practices), or to the context (various needs, organizational resources, values and norms, current routines and practices, external facilitators).

Conclusions: Both the nature of the intervention and the inner and outer context steer actors to opt for certain implementation strategies. Linking implementation strategies to the intervention and context goes further than responding to its identified barriers for implementation. Motivations on choosing the most suitable implementation strategies for a specific intervention should also include considerations with regards to the nature of the intervention and the context.

1 Background

Implementation of a complex intervention in primary care is not a straightforward process in which an intervention will follow a clear and direct pathway towards an expected result. An intervention can be viewed as having different components, with the intended change, the context and the implementation strategies as its main building blocks (1). These components of an intervention are interconnected and therefore measuring effects and knowing what causes what, becomes difficult (2, 3).

In this research article, we will look into the implementation of goal-oriented care (GOC) in Flanders within various organizational settings in order to learn more about the motivations and considerations to opt for certain implementation strategies and how this relates towards specific contexts. The concept of GOC has become of interest in Flanders to various organizations as well as to policy makers, in their aim to go towards more integrated care (4). Implementation efforts on different levels in the Flemish landscape result in an interesting case to learn more about the implementation process of GOC (5).

GOC is not a well-defined intervention in which clear (behavioral) guidelines prescribe what is expected from primary care providers (PCPs). How GOC is interpreted, approached and put into practice highly depends on how individual PCPs view their role as a caregiver. According to Boeykens et al. (6), GOC *“is a dynamic and iterative process of three stages: goal-elicitation, goal-setting, and goal-evaluation.”* The goals should always be driven by the patient’s values (7). Im et al. (8) suggest that to align different health care providers, it is key to constitute and emphasize the common values that are at the core of GOC: person centeredness, understanding the whole person, and team-based care.

Strategies to implement an innovation such as GOC can take a variety of forms, as demonstrated in the Expert Recommendations for Implementing Change (ERIC) study (9). Implementation strategies should ideally be tailored towards the characteristics of a specific context (10). However, guidance on how to do this is currently limited (11). Attempts are made to identify context variables and determining implementation strategies to respond to them (12, 13). However, these relationships are not unambiguous (12) and even more difficult to achieve in community public settings (14). As a consequence, more research is needed on the link between context and strategies.

We therefore zoom in on the process of considering and choosing implementation strategies. In doing this, organizations were free to translate GOC in one or more concrete actions in a way they deemed best. They were not specifically asked to take into account any contextual variables. Our main research question is: what motivations do organizations have for choosing their implementation strategies? In what way will the specific context of an organization come into play when considering such strategies? In learning how organizations consider implementation strategies, we aim to increase our understanding in how we can further develop guidance on choosing implementation strategies that best fit a specific context.

2 Methods

2.1 Setting

In this explorative qualitative study, we explore in-depth 7 cases in which organizations in primary care are experimenting with the translation of GOC into one or more concrete actions which should lead to more person-centered GOC. These projects are being funded by the King Baudouin Foundation, through the fund Dr. Daniël De Coninck. In October 2021, a project call was launched to encourage primary care providers and citizens to gain experience and accelerate the transition towards goal-oriented care. 13 Flemish projects were approved and received funding. These projects are situated at different levels (micro-, meso-, macro-). Some are small-scale projects deriving from local, non-profit organizations that want to introduce the concept of GOC within the functioning of their own activities. Others are different types of bigger scale projects in which provider organizations want to spread the concept of GOC among their members. We have excluded such that are primarily focused on spreading awareness and knowledge on GOC outside of their own organization and only included 7 projects that aimed to take actions to implement GOC within their own organizational setting and practices. Each of these projects had one or two main project leads who were contacted and invited to participate in the research.

2.2 Data collection

In-depth semi-structured interviews were carried out, combined with non-participatory observations and document analysis. The interviews were conducted online with the project manager(s) at the final stage of the project. A semi-structured interview guide was used in which the respondents were asked about the progress of their project, the obstacles they may have encountered and their subsequent reactions, the main achievements of their project etc. In exploration of these topics, the considerations or strategies that project actors utilized to introduce GOC, to overcome certain obstacles and to keep the project alive were questioned. Additionally, the final reports of all projects were analyzed. These contained information on the context in which the project took place, the process, the obstacles encountered, specific lessons learned and future plans. Information that derived from interviews and reports complemented each other: the interviews provided opportunities to deep dive into certain topics and to explore whether any other considerations or topics were underreported.

We also conducted non-participatory observations during which 2 projects were followed: one of the researchers (IH, with background in sociology and experienced in qualitative research methods) was invited to several key moments within the project intervention meetings (both internally as well as organized by the funder, strategic project meetings, trainings that are organized as part of the project, ...). The researcher had specific attention for how different actors interacted with each other, how they made decisions and what considerations or doubts were brought up during the process. This allowed for obtaining a more hands-on, direct insight in how strategic decisions were being made, what

motivations played a role, which difficulties were discussed, and so on. Detailed field notes were taken and analyzed complementary to the in-depth interviews and final report documents.

Table 1 provides an overview of the type of information that was collected throughout each source (in-depth interviews, final reports, observations). The strategies that were utilized throughout the project came forward in discussion of themes such as course of the project, lessons learned, obstacles and how to overcome, facilitators, good advice, etc.

Table 1 Overview of data collection through each source

	In-depth interviews	Final reports	Observations
Context in which project was started		X	
Target group and needs		X	x Trial of tool in which target group gave feedback on how they experienced it.
Project partners		X	x Strategic project meeting in which potential collaboration between two organizations was discussed.
Course of the project	X	X	x Several peer learning activities.
Lessons learned	X	X	x Workshops organized by the funder in which reflection upon the project activities took place.
Obstacles and how to overcome	X	X	x Several peer learning activities in which a professional facilitator (experienced in the tool) reflected upon obstacles and posed strategies to overcome them.
Facilitators	X	X	x Several peer learning activities in which facilitators were discussed.
Outcomes/effects	X	X	x Workshops organized by the funder in which reflection upon the project activities took place.
Good advice	X	X	x Meeting in which project results were shared with professional peers.
Target group involvement	X	X	
Continuity/sustainability	X	X	

2.3 Data analysis

Data triangulation was used to combine insights from in-depth interviewing, document analysis and non-participatory observations. The initial stage of data analysis consisted of an inductive thematic analysis of the transcripts of the in-depth interviews with the aim of identifying main themes within the data. Subsequently, we carried out a deductive analysis in which the codes were based upon existing contextual categories and the types of implementation strategies that are identified in literature: the ERIC strategies (9) and their clusters (15). Document analysis followed in which the final reports of the documents were coded in a similar way as the interviews, which allows to compare and complement insights. Finally, field notes from the observations were analyzed to identify additional information, with particular attention to any contradictions in stated intentions and actual actions. The initial inductive analyses were done by two different researchers (LV&IH) independent of each other.

Other members of the research team gave feedback upon the preliminary results and extra input. All data analysis was conducted with NVivo 12 © as supporting software. Data was analyzed in the original language Dutch, but illustrative quotes were translated into English.

3 Results

In total, n=9 respondents were interviewed from 7 different organizations which had a project on GOC. On top of that, n=6 evaluation forms and field notes from n=8 observations were analyzed. Table 2 gives an overview of the type of organizations, their size and the aim of their GOC project.

Table 2 Overview of the projects

Respondent ID	Report	Type of organization	Organization size	Aim of the project
INT01 [Followed in-depth]	REP01	Peer contact group	Small (>10 employees)	Introduction of a tool for patients based on positive health
INT02 [Followed in-depth]	REP02	Monodisciplinary healthcare center	Small (>10 employees)	Introduction of a tool for PCPs to question concerns, peer learning activities
INT03	REP03	Multidisciplinary primary healthcare center	Medium (10-100 employees)	Training for PCPs in the center and informal caregivers
INT04	MISSING	Multidisciplinary primary healthcare center	Medium (10-100 employees)	Training for PCPs in the center

INT05 INT06	REP04	Home care service	Large (>100 employees)	Training for PCPs
INT07	REP05	Home care service	Large (>100 employees)	Introduction of a tool to facilitate conversations between PCPs, patients and informal caregivers
INT08 INT09	REP06	Health insurance company	Large (>100 employees)	Adaption of processes Organizing a conference on GOC for social workers

3.1 Broad understanding

Organizations were not prompted to intentionally map and consider the specific facilitators and barriers within their setting. However, in search for a translation for the theoretical concept of GOC to a practice-based intervention that ties in with their specific activities, they did in fact bring up certain contextual elements. This indicates that to a certain extent, organizations already consider context variables when defining actions to initiate implementation.

First of all, we observed that the motivation for introducing GOC into their practices was often induced by the context in which they operate. For various projects, their interest in GOC was prompted by expectations at a policy level: *“We will need to do it anyway, so we better start thinking how it fits within our way of working – INT08.”* Developments such as BelRAI⁶, ALIVIA⁷, the obligation for home care services to formulate care goals were mentioned as developments that (if linked to GOC) steered organizations and PCPs towards GOC. Some respondents from medium to larger size organizations explained that a focus on GOC was also viewed as an opportunity to create a shared vision (or a shared language) within the organization.

Organizations also raised contextual considerations that affect the type of actions on how to implement GOC within their specific setting. First of all, the size of the organization

⁶ BelRAI = the Belgian implementation of the interRAI assessment tools; these are scientific, internationally validated instruments enabling an assessment of social, psychological and physical needs and possibilities individuals in different care settings. The data follows the person and is shared between care professionals and care organizations.

⁷ ALIVIA = a digital platform that allows PCPs to easily create a care plan in which they can set goals, divide tasks and exchange information. In this platform, the person in need of care and/or support is always central.

determined certain implementation strategies. Large size organizations had to seek out ways to delineate their target group (both in terms of patient profiles as well as PCPs that could participate in training) to gradually roll-out GOC. They also were confined to existing protocols or practices and had to find a way to harmonize this with a GOC approach: *“The fact that we are bound to a certain legal framework might still be an obstacle. This space you have to experiment can also be somewhat limited. Not everything is possible when it comes to transforming a methodology. – INT08”* In contrast, initial challenges that were raised by medium to smaller size organizations related towards finding a suitable angle or tool as a starting point. To develop their project on GOC, they called upon external facilitators and/or existing trainings. A tendency that most organization had in common was that they actively sought out ways to connect GOC to existing routines, practices or projects.

These initial observations demonstrate that context variables have an impact on the agenda-setting and decision-making processes within the projects. In what follows we will zoom in on the specific strategies that organizations utilize to implement GOC and subsequently, how contextual factors come into play in the underlying motivations of employing certain strategies.

3.2 Type of strategies

Table 3 provides an overview of the specific actions that were identified on how organizations attempt to facilitate implementation of GOC and to what ERIC strategy and cluster these actions relate.

Table 3 Overview of ERIC strategies used throughout the projects

ERIC Cluster	ERIC Strategy	Specific action(s)
Utilize financial strategies	Access new funding	All organizations received funding from KBS: utilized to hire professional trainers, to exempt staff for project activities, ...
Train & educate stakeholders	Make training dynamic	Connect training/education to the daily reality of PCPs (interviews, real case discussions,...)
Train & educate stakeholders	Develop educational materials	Tips & tricks lists, checklists, webinars, manual for choosing/utilizing tools, including in newsletters, training for new hires,...
Train & educate stakeholders	Work with educational institutions	Call upon existing trainings
Develop stakeholder interrelationships Train & educate stakeholders	Use advisory boards and workgroups Conduct educational meetings	Work groups representing a variety of profiles, regular feedback/reflection on the project

Develop stakeholder interrelationships	Identify and prepare champions	Training for select group of people (ambassadors, coordinators, case managers,...)
Develop stakeholder interrelationships	Organize clinician implementation team meetings	Intervision with regular feedback/reflection on how implementation goes
Develop stakeholder interrelationships	Build a coalition	Seek out connection with other projects/organizations in order to establish collective initiatives
Develop stakeholder interrelationships	Involve executive boards	Getting the buy-in from executives, interplay between top-down and bottom-up implementation efforts
Provide interactive assistance	<i>Facilitation</i>	Call upon an expert in the tool that is utilized, possibility to reach out in case of questions/concerns
Change infrastructure	Change record systems / <u><i>Change physical structure and equipment</i></u>	Adaptation of IT-systems (to communicate through patient goals), adaptation of blank reports for multidisciplinary consultation, ...
Use evaluative & iterative strategies	Develop a formal implementation blueprint	Flowchart describing the process, elaboration of the organization's vision on care
Use evaluative & iterative strategies Engage consumers	Conduct local need assessment Involve patients/consumers and family members	Focus groups with employers and target group, inviting patients and informal caregivers to training sessions, questioning about a GOC approach in intake conversations,...
Use evaluative & iterative strategies	Purposely re-examine the implementation	Trying to understand resistance and tailor actions towards experiences, launch a questionnaire to understand areas for improvement, ...
Use evaluative & iterative strategies	Stage implementation scale up	Start (training) with a select group and gradually expanding scope, demonstrate results to wider professional circle (outside the organization)
Adapt & tailor to context	<i>Tailor strategies</i>	Select a tool that is used at group level for an organization that centers around group discussions

The implementation of GOC was often viewed as a professional attitude or role that had to be taught to PCPs. Therefore, many of the strategies that were top of mind had to do with training and educating stakeholders. In doing this, many respondents underlined that training had to connect closely to the daily practices of PCPs, making education hands-on and relevant: *"It actually makes sense to depart from a real-life case and to organize training around this case. This way, we start from experiences they encounter first hand, and they can discover the added value of working with patient goals – INT05."* Subsequent to the trainings, most projects combined this with some kind of intervision: team discussions in which real-life cases were explored and difficulties that were encountered could be discussed. On top of that, it was notable that larger organizations tended to develop their own materials to support working with GOC: tips & tricks lists, checklists, webinars, manuals etc. Medium to smaller organizations within our sample tended to rely more upon existing materials and trainings.

Another ERIC category of implementation strategies they commonly called upon is the development of stakeholder interrelationships. For larger organizations, this meant bringing together different stakeholders within the own organization. Given the large number of employees, training was in first instance organized for a select group of profiles (e.g., coordinators, case managers). When they were interested and engaged, they often became champions to further propagate GOC. Additionally, larger organizations had to reflect within their project on how to get the buy-in of the executive board (if they were not already on board) and considered both top-down and bottom-up approaches to implement GOC. Medium to smaller organizations within our sample more often relied upon external facilitators and worked out their project by bringing in a trainer or facilitator experienced in GOC. There was also a project that actively sought connections with existing programs or projects, to strengthen each other in their activities.

Changing infrastructure was a strategy that came up for all medium and large organizations in one way or another. For home care organizations, IT-systems were adapted so that records were made, and communication was done through patient goals. Instead of putting specific tasks upfront, the IT-infrastructure now forces PCPs to write down reports starting from patient goals. Similar strategies were used by other organizations: *"One thing we did was to integrate the framework of [a GOC tool] into the blank template of the meeting – INT03."* This way, PCPs have no choice but to start certain activities with a GOC approach.

In several ways, evaluative & iterative strategies were used, mostly by medium to larger organizations. For example, focus groups were organized with both PCPs and the target group to question how they experience the changes that are being introduced. Multiple organizations underlined their perceived importance in involving the target group and thus invited patients and/or informal to training sessions or they were actively questioned in other ways. Two small/medium sized organizations chose to start implementation as a small project involving their own employees first. As they got more experienced and capable, they aimed to spread awareness and skills by demonstrating their experiences and results towards a wider public (for example their professional peers).

Overall, there was only limited attention from organizations towards mapping their specific context and identifying possible barriers and/or facilitators. However, to some extent, organizations did tailor certain implementation strategies towards contextual variables. For example, many organizations actively sought out connections with existing practices (e.g., their multidisciplinary consultation) or innovations (e.g., the BelRAI screener). It was believed to be a good way to truly embed the innovation in PCP's way of working: *"We incorporate patient goals in our client records and in the smartphone app of our caregivers. It became the starting point from which we provide care."* On top of that, some organizations recognized that some tools might be better suitable for some settings than others: *"Each organization has a unique culture and structure, so we did not blindly adopt the methods and visions of this tool, but we redesigned it in a way that best fits our organization – REPO4."* One small organization deliberately chose for a tool that focuses on group-level, as this best tied in with their vision to offer peer-to-peer-contact. This way, contextual variables were taken into account to a certain extent without actively screening for barriers or facilitators.

3.3 Motivations to opt for certain strategies

Throughout the various different projects within our sample, some organizations had a much more procedural and strategically delineated way of elaborating their project. Strategies then derive from project management insights and planned change trajectories. In particular larger organizations started by identifying and gathering stakeholders and collaboratively concretizing ideas: *"We have learned to go from an ideal scenario in mind to concretizing these ideas on paper and to create a plan with concrete objectives and make people co-owners of this – INT08."* Some respondents from large and medium sized organizations also mentioned the project made them reflect upon the vision of the organization and in one case even adapting this vision. Most medium to small organizations had a more limited capacity within the organization to draw out larger projects themselves. They relied upon existing trainers or projects (external facilitators) to shape their initiatives. For most medium to small organizations, this was intentional and planned. However, one small organization had a more ad-hoc approach and responded to opportunities along the way: *"Someone told us about a pilot project and advised us to connect with them. And well, we don't have to reinvent the wheel. If a project is ongoing, and it is doing well then it might be nice to get in touch with them. – INT01"*

Three of the organizations within our sample started their project by intentionally questioning and mapping existing needs within their setting, both from PCPs as well as patients and informal caregivers. This way, they could try to respond to these needs by GOC as an innovative approach. For example, a community health center received signals from PCPs that they had very little time for patients with chronic diseases. To meet these concerns, they focused on shifting the consultations with these patient groups to question patient goals and efficiently match care according to what they found important. For many organizations, a lack of time was viewed as a main barrier. Therefore, organizations tended to focus on quick wins: *"How can we offer something to our colleagues to keep this*

approach alive, without giving the impression that it is something that comes on top of everything else. – INT05”

Some strategies can be linked to the nature of GOC, which is mostly viewed as an abstract concept rather than a practice-based intervention. Organizations had the need to make the concept more tangible: most organizations chose to focus on one tool to introduce to their employees. Other (mostly larger) organizations explored the concept of GOC and sought out ways to integrate its rationale into existing practices or systems. Overall, GOC was seen as a type of innovation that takes time to implement, to truly incorporate in daily practices: *“It is a shift in culture, a different way of looking at people. This is not something you achieve overnight – INT05.”* This is why many respondents underlined the importance of combining multiple strategies to keep the approach alive and to actually embed GOC within their daily/routine practices.

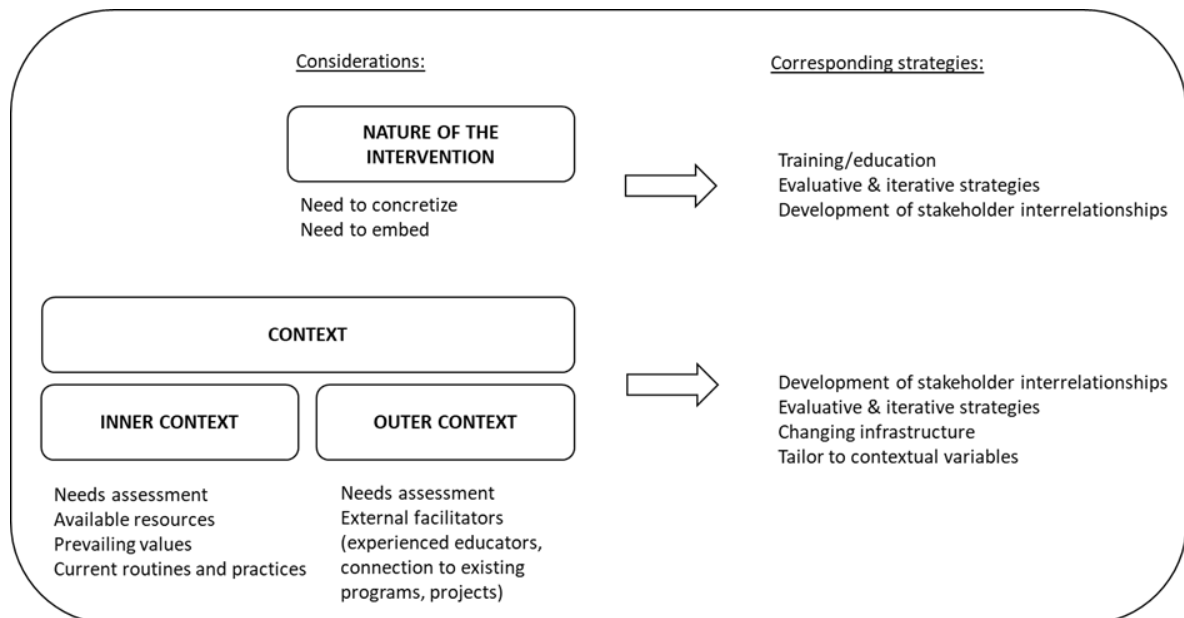
Strategies for implementation also derived from certain values that were put upfront. For example, one organization placed much emphasis upon the need to experiment and learn from each other: *“We wanted to stimulate that intrinsic motivation that comes from within, instead of making it just an imposed project – INT08.”* One project was characterized by the collaboration of different actors, in which some were believed to have more clout than others. Their emphasis on equality as a core value led them to select certain implementation strategies, in which interrelationships and meetings were built in which all actors had an equal say. Furthermore, one organization placed particular emphasis on the notion that to work goal-oriented, a trusting relationship between PCP and patient needs to be established. This led them to strategically focus their implementation efforts on certain profiles of caregivers, those which were believed to be best suited to establish this type of trust.

As already briefly discussed, some organizations responded to contextual elements when elaborating their GOC project. Respondents from two of the organizations within our sample mentioned that their organization underwent structural changes. At the one hand, this was viewed as an opportunity to adopt an adjusted vision on care (e.g., when two organizations merged). On the other hand, such turbulent times caused little headspace from their employees to adopt yet another change. *“In our practice, a lot has changed recently. This doesn’t help to introduce new things, as the to do lists are already quite long. Everything that is not really necessary tends to slip away a bit. – INT02”* However, the broader context was for some experienced as a facilitator: *“All those neighborhood-oriented projects are popping up like mushrooms these days. This is interesting, as we are able to jump on that bandwagon. – INT01”* Animo for GOC and related initiatives (such as community-oriented care) provided a dynamic in which organizations could connect their activities to.

4 Discussion

This study looked at implementation efforts of various projects aiming to implement GOC: 7 different primary care organizations received funding to develop actions in order to translate GOC into a practice-based intervention and to introduce it in their own setting. Our research argues that organizations spontaneously consider certain contextual elements when looking at ways to implement GOC. Their motivation to participate in GOC actions was often linked to actions or visions deriving from the organizational context and the size and capabilities of their organization was considered. When deciding upon implementation strategies, both elements linked to the nature of the intervention and the inner and outer context are reflected upon. Figure 1 gives an overview of what type of implementation strategies can be linked to certain categories of ERIC implementation strategies.

Figure 1 Overview of the motivations for implementation strategies that came forward in the data



When it comes to the nature of the intervention, implementation actors recognize the need to concretize the concept of GOC into actions that make GOC more tangible. As GOC was viewed as a more comprehensive shift in how care is perceived and approached, there was also a need to profoundly embed the intervention in current practices. To achieve this, different strategies were applied that related to training and education, evaluative and iterative strategies and the development of stakeholder interrelationships. In order to respond more comprehensively to the nature of the intervention, it is key to examine the innovation in terms of its compatibility, trialability, observability, relative advantage and complexity (5).

When it comes to the context, both inner and outer context variables were considered in the elaboration of implementation strategies. Inner context variables come forward in the form of a needs assessment, an assessment of the available means and resources within the organization, and its values and common practices. Outer context variables can also imply to conduct a broader needs assessment, to screen for external facilitators such as existing projects or programs that can be joined or any other types of connection to similar initiatives. These considerations led to strategies that had to do with the development of stakeholder interrelationships, evaluative and iterative strategies, changing infrastructure and tailoring to contextual variables. The way that context was considered throughout the projects remained rather limited with a focus on individual and organizational determinants, leaving macro-level context variables and their underlying mechanisms underexposed (16, 17).

This research contributes to our knowledge on one of the main challenges in implementation science: to develop guidance to link implementation strategies in response to contextual variables (12, 14). There is an overall consensus that screening the context or setting in which an intervention is introduced is pivotal to enhance implementation outcomes (18-20), but it remains unclear how to respond to barriers and facilitators that are identified. Throughout implementation research in healthcare, attempts are made to develop matching tools that identify which strategies best address context barriers. Waltz et al. (12, 15) have sought out connections between barriers described in the Consolidated Framework for Implementation Research (CFIR) and ERIC implementation strategies. Kwok et al. (13) have investigated which implementation strategies were reported to resolve barriers as described by the domains of the Theoretical Domains Framework (TDF). For both studies, concept mapping was used as a way to engage stakeholders in selecting and tailoring implementation strategies. Another way to link strategies to contextual variables is to look into behavioral change theories in order to consciously deploy behavior change techniques in response to certain barriers (21, 22).

However, despite the large added value of these studies that aim to uncover how to tailor implementation strategies, they tend to be mainly focused on responding to contextual barriers. Our research demonstrates that there are other motivations that can successfully lead to various types of implementation strategies. These motivations can be linked to the nature of the intervention (the need to make concrete, understanding that GOC requires a paradigm shift and embeddedness of the concept in the role perception of PCPs is necessary) or the context (responding to identified needs, utilizing available resources, the values and functioning of the organization, connection to existing initiatives). These insights ought to be included in research on the tailoring of implementation strategies. Adequate implementation strategies can, as we observed, result from motivations other than the identified barriers. Overcoming expected barriers is just one of the many considerations that are relevant when tailoring implementation strategies.

4.1 Strengths and limitations

Our exploratory study followed real life implementation efforts for GOC, which enhances our understanding of how decisions are made and how actions are defined when aiming to introduce an innovation. It offers insights in how context is currently dealt with, that we can utilize in the further development of guidance on how to scan contextual variables and link them to implementation strategies. Our sample includes implementation actors who are representing organizations that are small (>10 employees), medium (10-100 employees) and large size (>100 employees). This allowed us to discover certain differences in how different sizes and types of organizations differed in the elaboration of their project. However, the categorization between small, medium and large size organizations is debatable and findings related to the size of the organization might be linked to the professional and/or procedural character of the organization rather than its size. In addition, we should consider that this study is limited to the Flemish primary care landscape and that macro-level dynamics were very little mentioned. It is possible that certain dynamics are specific to the Flemish primary care landscape and might differ from other regions or countries. On top of that, our sample consists of individuals that are highly motivated to put this innovation in practice. We should consider that other dynamics might be present when the study goes beyond the innovators and early adapters of an innovation.

Another strength of our research is the methodology, in which data triangulation made sure that we drew conclusions from both in-depth interviewing, document analysis and non-participatory observations. This enriches the credibility and trustworthiness of our study (23). However, we had some limitations in our data as one final report was missing and non-participatory observations were only conducted for two organizations. This was due to a shift in our research design. Our initial research plans consisted of following the actions of two smaller size organizations in-depth and to confine ourselves to those two cases. In the end, we decided to include 7 out of 13 organizations as this data was already collected and available and gave more opportunity to compare implementation strategies and underlying motivations.

Future research is recommended in which implementation efforts of various organizations are followed. In contrast to our research, in which organizations were free to elaborate implementation strategies in the way they deemed fit, we would recommend that implementation strategies should then be determined after consciously scanning their context. On top of that, zooming in on the nature of the intervention and the different attributes of the innovation would strengthen the process of defining adequate implementation strategies. Subsequently, assumptions can be made on how to respond to these contextual variables and to seek out the best fit for their intended change and organization. Realist methods are most suitable to investigate such real-life implementation efforts (24). More specifically, program theories should set forth presumptions on how, why and in what circumstances complex interventions will work. Throughout the research activities, these assumptions require targeted testing and

evaluation. This way, the mechanisms that link contextual variables and implementation strategies can be unraveled.

5 Conclusion

This study explored how implementation actors contemplate and decide upon implementation strategies and to what extent they consider contextual variables in this process. We observed that both the nature of the intervention and the inner and outer context steer certain implementation strategies to be employed. We conclude that to link implementation strategies with contextual variables, it is not sufficient to merely respond to identified barriers for implementation. In addition, it is relevant to respond to elements such as identified needs, the overall values and prevalent practices inside an organization and various facilitators such as available resources and existing projects inside or outside the organization. In order to develop further guidance on how to link implementation strategies to contextual variables, these motivations must be included instead of focusing solely on overcoming barriers.

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General discussion

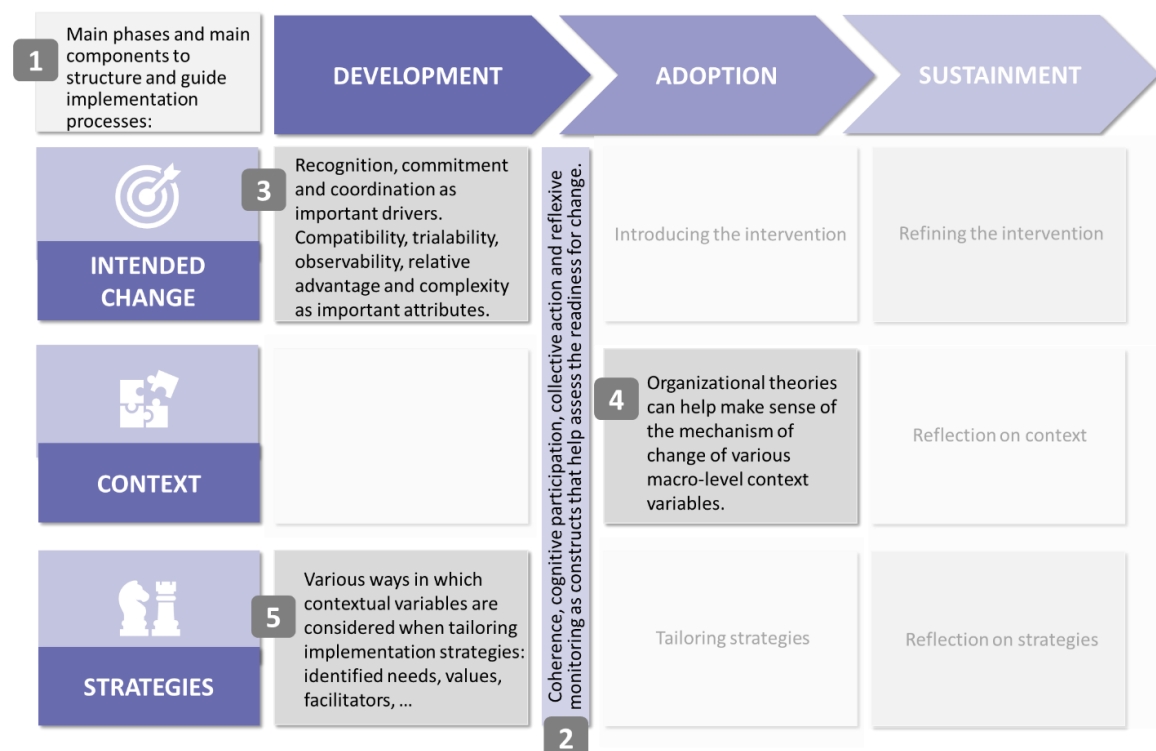
General discussion

1 Summary of findings

The evolving landscape of primary health care is confronted with complex and multifaceted challenges. A wealth of research exists to respond to these challenges, but there is a gap between evidence-based interventions that are recommended by research and their actual implementation in practice. Implementation science is a growing discipline that aims to bridge this gap between best practices according to research and their translation to actual innovations in the real-world. However, the landscape of implementation science is rather fragmented and many underlying mechanisms for implementing innovation remain unexplained.

Our research contributes to the overall understanding of the key components of implementation processes. First, we identified the main building blocks in implementation processes and we then zoomed in on each of the building blocks. Figure 1 provides an overview of the phases and the components of implementation processes, and of the aspects that we studied in-depth within our research in order to respond to certain knowledge gaps for each of these components. To learn more about each of the components, we looked into the implementation process of Goal-Oriented-Care (GOC) in Flanders as a case.

Figure 1 Overview of research findings



In our [first study](#) (1), a narrative review was conducted in order to synthesize 28 implementation frameworks and models. This led to the identification of different phases, steps or requirements and various components, constructs or elements. They were categorized using NVivo 12 and synthesized into three core phases and three core components that form the main building blocks of implementation frameworks and models. As depicted in Figure 1, the main phases (horizontally) are the development phase, the adoption phase and the sustainment phase. The main components (vertically) are the intended change, the context and the implementation strategies. Throughout each of the phases, attention needs to be paid to defining, planning, tailoring and reflecting on each of these components. Moreover, the components are interrelated, meaning that the way in which the components take form affect each of the other components. For example, the way the intended change is defined, will influence the implementation strategies needed for obtaining the intended change. This study provides foundations on which implementation processes are built. The results guide formulating an implementation plan.

Our [second study](#) (2) assessed the readiness of primary care providers (PCPs) to implement GOC and to what extent minimal implementation efforts already trigger mechanisms of change to implement or normalize GOC as an intervention. The study is based on the Normalization Process Theory (NPT) as a lens to observe how PCPs interpret and to take actions for adopting GOC as an approach. The results of this study demonstrate an initial understanding and intend to adopt GOC. First, coherence was high, meaning that PCPs indicated their understanding of GOC and recognizing its potential value for their practices. Second, cognitive participation was promising: there was interest and willingness to support and start working with a GOC approach. Third, collective action yielded a mixed result: PCPs believed that GOC could easily be integrated into the existing workflow, without disrupting current social ties with colleagues or patients. However, in terms of resources, there was still uncertainty. Fourth, reflexive monitoring will be an area that needs additional thought: PCPs need to be encouraged to reflect and share experiences about how to integrate GOC in their daily practices. Results of this study can be utilized to assess which mechanisms still need to be triggered and to formulate further steps in an implementation plan.

In our [third study](#) (3), Rogers' Diffusion of Innovations (DoI) theory was used as a lens to examine the concept of GOC. We looked into the main drivers that steer the implementation of GOC and the attributes of the intervention itself that might contribute to or hinder implementation success. Three main drivers for implementing GOC were identified: recognition, commitment and coordination. Moreover, examining the attributes (relative advantage, compatibility, complexity, trialability and observability) and how GOC relates to these, can help us define actions to further support and facilitate the implementation process of innovations such as GOC. In order to facilitate the uptake of GOC, the relative advantage or the "*what's in it for me*" needs to be underlined. Furthermore, compatibility implies that implementing GOC will be easier if the innovation is compatible with the context; which can encompass the existing way of working, the prevailing values and the needs within a certain setting. The attribute of complexity states

that the easier GOC is perceived, the more likely it will be adopted. Trialability is an attribute that assumes that GOC as an innovation can only gain meaning and engagement when PCPs have the chance to actively experiment with it. Finally, the attribute of observability implies that it is important to make GOC outcomes more visible; for example by encouraging reflection of cases and best practices in intervision with peers.

Results of our [fourth study](#) (4) demonstrates the way in which organizational theories can contribute to our understanding of the influence of external context variables on implementation processes. A first observation was that health and/or social care organizations adapt to prevailing norms and expectations that derive from institutions. As the Flemish government has issued policy for facilitating more integrated, person-centered care by newly created institutions, incentives and other regulatory factors, organizations are steered towards GOC. The underlying mechanism in which this happens can be explained by institutional theory. At the same time, three other organizational theories describe both counteracting or reinforcing mechanisms. Resource dependency theory contributes to our understanding of how the financial system hampers interprofessional collaboration, which is key for GOC. Network theory provides insights in how networks between PCPs and health and/or social care organizations on the one hand facilitate GOC, while on the other hand adequate technology to support interprofessional collaboration is lacking. Lastly, contingency theory adds to our understanding on how contingent variables such as the aging population and increasing workload and complexity within the primary care landscape creates circumstances in which GOC can be presented as a possible answer.

Finally, our [fifth study](#) explored how implementation actors contemplate and decide upon implementation strategies and to what extent they consider contextual variables in this process. To investigate this, we looked into the implementation efforts of seven primary care organizations that aimed to implement (a tool or approach for) GOC within their own setting. Results demonstrated that both the nature of the intervention and inner and outer context variables are considered for deploying certain implementation strategies. This teaches us that linking implementation strategies with contextual variables should not be limited to merely respond to barriers for implementation that are identified, which is nowadays the main consideration. In addition, other valuable considerations need to be taken into account: identified needs, the overall values and prevalent practices inside an organization and various facilitators such as available resources and existing material and projects.

Our research is part of the activities of the Primary Care Academy (PCA). This is a research and teaching network of four Flemish universities, six university colleges, the White-Yellow Cross and patient representatives. Its extensive network allowed to easily connect with PCPs and patients throughout our research activities.

1.1 Key elements of implementation science throughout our research

Referring back to the seven key elements of implementation science to successfully cross from the trial world to real-world settings (5), we reflect on how well we have included each of these key elements throughout our research in Table 1. This will help us evaluate the strengths and weaknesses of our research, which we will elaborate further on at the methodological level in section 4.

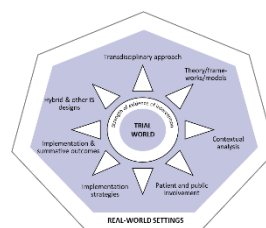


Table 1 Key elements of implementation research and a reflection of how they were acted upon throughout our research

Key element	Reflection on how it was addressed throughout our research
Transdisciplinary approach	Throughout our research, we created several opportunities to connect our findings with PCPs in practice as well as on patient level (member checking, dissemination activities). The embeddedness of this project in the activities of the PCA contributed to this. However, our research was initially not set up to engage actively with PCPs and patients.
Theory/frameworks/models	28 different frameworks and models were synthesized in our first study to extract the core building blocks. Most of the following studies utilized an existing theory as a lens: NPT in our second study , DoI theory in our third study , various organizational theories in our fourth study .
Contextual analysis	The concept of context was at the core of most of our research. It was identified as one of the core building blocks in our first study . Our fourth study specifically zoomed in on external context variables and their influence on implementation processes.
Patient and public involvement	Research results were shared through the Flemish Patient Platform (FPP) and several workshops were held during the PCA Summer Academy in 2023 in which patients have joined. Overall, our studies could have benefited from additional patient and public involvement to examine their role in the development, implementation and embedding of an innovation.
Implementation strategies	Implementation strategies were identified as one of the core building blocks in our first study . Our entire fifth study zoomed in on implementation strategies in real-life

	implementation efforts for GOC. Results from our second study , our third study and our fourth study can be utilized to reflect on implementation strategies tailored to the attributes, mechanisms and processes that we unraveled.
Implementation & summative outcomes	As we were not able to not follow the implementation process of a primary care intervention in the long term, research on the outcomes of implementation efforts is limited. The evaluation of an intervention did come up in the results of our first study as an important element to consider already prior to the actual translation phase.
Hybrid & other IS designs	Most of our studies used qualitative methodologies, as our research questions mostly related to “ <i>why</i> ” and “ <i>how</i> ” questions for which qualitative methods are most suitable. For implementation research in which a full implementation process of a primary care intervention is studied, more hybrid designs and mixed methods are necessary.

2 The use of theory to guide implementation processes

In the past, research on knowledge translation was dominated by only a small amount of widely known theories, such as Rogers’ DoI theory. Nowadays, implementation research is characterized by a wide variety of theoretical approaches to address implementation challenges (6). These approaches derive from different fields and disciplines, giving implementation science an interdisciplinary and multi-professional character (7). The use of theories, frameworks and models in implementation research contributes to the sensemaking and interpreting of study findings and ensure that the nature of the innovation itself, contextual variables and strategies are considered during an implementation process (8). It offers conceptual guidance to researchers and implementation actors to identify and respond to important elements of implementation processes and to understand their outcomes (9). These implementation theories do not propose fixed explanations on the mechanisms of change in an implementation process. Instead, the use of theories should be viewed as an iterative process in which researchers and implementation actors actively utilize theory for interpreting implementation processes (10). After all, implementation processes are non-linear and require flexibility in order to respond to real world complexity (11).

There is a general believe that the use of theory contributes to implementation success. For example, there is evidence to support that public health interventions that are based on social and behavioral science theories are more effective than those without a theoretical approach base (12). Davidoff et al. (13) argue that some form of theory is always

used in implementation efforts, possibly even unconsciously, but it comes down to making explicit and well-founded the theories that are built upon.

Theory takes many forms, some informal, some highly structured: explanatory maps and models that make sense of complex situations; statements that call out testable causal relationships; sweeping generalizations that cover broad areas of interest; concrete descriptions of intervention methods and their mechanisms of actions (13, p. 236).

Thus, many different frames of reference were developed in the field of implementation science. Each of the existing frameworks, models or theories presuppose and underline certain presumptions, mechanisms or variables. The lens through which an implementation process is viewed, determines the aspects of an implementation process that will be at the forefront and frames how these aspects will be interpreted. Wensing et al. (6) argue that there often is a misfit between the type of implementation challenges that are faced and the approaches that are utilized to look at these challenges. For example, introducing change in medical protocols requires insights from behavioral change techniques (14), while a shift towards more integrated care will benefit from insights from organizational theories (15). We would advocate for a conscious use of implementation theories, frameworks or models to help guide implementation processes, hereby making a conscious choice in what theory to apply.

2.1 Different lenses used throughout our studies

As viewed throughout the different chapters in our study, we utilized different theories as a lens to examine implementation processes. In doing this, different aspects of the implementation process that are important for the adoption of an intervention were unraveled.

In our [third study](#), the main lens through which we analyzed data was Rogers' Diffusion of Innovation theory. This theory explains the diffusion process of an innovation in which people adopt innovations at different speeds (16). Diffusion is a social process in which potential adopters learn about an innovation such as GOC and whether or not they pick it up. It involves communication about an innovation through certain channels within a social system, which takes time (17). Failures are an important study component, as many innovations do not diffuse throughout the social system in which the innovation is launched. This led to the studying of factors that affect diffusion: an innovation's attributes, characteristics of potential adopters and the larger social and political context (17). Criticism is however given that instead it is actually the interaction among the innovation, the intended adopters and a particular context that determines the adoption rate (18).

A theory that emphasizes these interactions with the adopters, the innovation and the setting in which an intervention is launched to a greater extent, is the Normalization Process Theory (NPT), utilized as a lens in our [second study](#). NPT focuses upon the contributions and roles of individuals and groups in the implementation or normalization of innovative practices (19). This provides insight in the sensemaking of an innovation by its potential adopters, their readiness and willingness to take action and how they reflect

upon the new way of working. However, NPT is less sensitive to contextual factors outside of the organization in which an innovation takes place, for example regulatory factors or policy trends (20). To account for these external contextual variables, another lens is needed.

These broader, macro-level context variables were investigated in our [fourth study](#) by means of the use of several organizational theories. These theories contribute to our understanding of the complex interactions between organizations and their environments (15). Focusing on organizational theories offered a way to gain insight in the underlying mechanism of macro-level context variables that shape implementation processes. Results of this study demonstrated how the mechanisms of organizational theories could be applied to learn more about the influence of external context variables on implementation processes. Organizational theories offer highly relevant insights that can be integrated into existing implementation frameworks and models to enhance their explanatory power.

The way in which each of these studies have incorporated a different theory as a lens demonstrates that each theory allows to focus on certain aspects of an implementation process. Thus, each theory contributes to our understanding certain aspects of the implementation process. As implementation processes are complex and multifaceted, forming an understanding about its underlying mechanisms will require the use of multiple lenses to constitute a comprehensive understanding. In order to advance research and knowledge on this topic, it is recommended that researchers and implementation actors explicitly document their rationale for choosing a specific theoretical framework to guide and understand implementation efforts.

3 Core messages in implementation science

Implementation processes are highly complex, and their outcomes are dependent on numerous variables. This renders a comprehensive way to tackle implementation questions challenging. However, core messages extracted from implementation research that are relevant to those aiming to design and introduce an innovation can be summarized as followed:

3.1 At the development phase of an innovation, attention should already be given to how an innovation will be introduced, implemented and embedded in practice.

3.2 The context of an innovation highly impacts if and how implementation will take place. Therefore, it is key to find a way to screen and map the context in which an innovation will be introduced.

3.3 Implementation processes are complex, dynamic and multifaceted. Understanding them requires multiple angles to study them, identifying relevant context variables and determining tailored implementation strategies.

3.1 Implementation starts at the development phase

Traditionally, studies within the field of public health tend to be focused on establishing internal validity in highly controlled settings. Within such randomized clinical trials (RCTs), the design of such studies minimizes the complexity of context to the extent possible (8). This leads to evidence based practices that have to be translated afterwards in real-world settings. The notion of implementation only receives attention after the intervention is fully defined, which overlooks the formative and directive character of contextual variables in establishing an intervention. Within our view on implementation processes, the development phase of an innovation, tool or new practice should already include attention on how to translate it to real world settings. Some implementation frameworks incorporate this idea specifically and consider the overall fit of an innovation within a particular setting (21, 22), which relates to the need to assess contextual variables before any steps to implement the innovation are taken (23, 24).

The notion of readiness for change or organizational readiness is also often mentioned in this respect. This is viewed as the willingness and capacity of relevant stakeholders to adopt change (25). To enhance organizational readiness, different actions are suggested. Planning for implementation requires knowledge on the organizational capacity and structure in order to assess how to create an optimal pre-implementation context (26). Vax et al. (25) have constructed a typology of readiness-development strategies. The strategies proposed are raising awareness about the need for change, developing enthusiasm for change, encouraging leadership engagement and developing a culture of innovation (27). Swindle et al. (28) also place emphasis upon the formation of a local team of partners and experts and prioritizing implementation determinants based on existing literature/data in a pre-implementation phase. Ellis et al. (26) argue that an optimal context for introducing an intervention varies across different settings. Their research suggests that some settings are more influenced by socio-political variables, whereas other settings were more influenced by the prevailing values. This means that strategies to enhance readiness for change will also differ depending on the setting in which an innovation is introduced.

Throughout our entire study, we have mostly focused on the earlier phases of implementation: the development phase and to certain extent the translation phase. In this study, the efforts to implement GOC were mostly situated in the development phase or at an early translation phase. We hereby have identified actions that can support researchers and implementation actors to better understand how an innovation can be translated into practice and to take steps to better manage this process. In our [second study](#), we demonstrated how NPT can help assess readiness for change in PCPs by looking into how they score in terms of the sense-making work (coherence), the relational work (cognitive participation), the operational work (collective action) and the appraisal work (reflexive monitoring). In our [third study](#), we demonstrated how assessing the attributes of an innovation as described by the DoI theory can help define actions to enhance the uptake of an innovation. How does an innovation score in terms of relative advantage, compatibility, complexity, trialability and observability? Assessing this can help determine

strengths and weaknesses related to the nature of the innovation itself and help define strategies to overcome this. In our [fourth study](#), we demonstrated a way to better understand the impact of macro-level context variables and how they can shape implementation processes. Understanding these mechanisms before the actual implementation is needed in order to determine how to cope with these macro-level context variables. In our [fifth study](#), we argue that implementation strategies should be decided based on multiple considerations; not only as a respond to the expected barriers towards implementation. This leads to implementation strategies that are not only tailored towards the specific barriers in a certain setting, but also towards the needs of multiple stakeholders, the values of an organization, available means and expertise, the structure of an organization, etc.

All of these learnings from the four mentioned studies can be applied and acted upon before the actual implementation of an intervention takes place. It can provide insight in how to approach certain elements of the intended change, the context and the implementation strategies in order to better prepare for actual implementation, thus enhancing implementation success. Overall, it is crucial to consider implementation science principles early in the development phase of an innovation, to ensure that innovations are designed in a way that makes it feasible and compatible for implementation into real-world settings (29).

3.2 Context as a dynamic and relational feature

The importance of context is widely discussed in implementation science research (30). It was identified in our [first study](#) as one of the main building blocks of implementation frameworks and models. However, although context is frequently described as being crucial to screen and take into account in implementation processes, it is still debatable what the context of a primary care intervention is exactly built of (30). Pfadenhauer et al. (24) even refer to implementation and context as “*partially mature concepts*”, by which they imply there is no consensus on their meaning. Context is often approached as being “*a problem*” for implementation, given its interference with the implementation process (31). It creates uncertainty in how an intended intervention is interpreted and adopted and makes implementation outcomes unpredictable.

Greenhalgh & Manzano (32) identify two key “*narratives*” in how context is conceptualized: either as observable features or as relational and dynamic features. Following the idea of context as observable features, context can be captured as something concrete, yet passive (33). This makes it easier for researchers and implementation actors to grasp and understand contextual variables. In this view, context can be identified and documented in the form of barriers and facilitators for implementation. This is how context is mostly dealt with. Implementation strategies can then be tailored towards specific barriers and facilitators that are expected or encountered. However, this approach overlooks the dynamic and relational character of contextual variables. This view makes the concept more abstract (33) and recognizes that the meaning and influence of contextual elements can change over time (34). This probably mostly resembles the true nature of context, but

makes it very difficult to research and evaluate interventions and implementation processes in a real life setting (31).

Our [fourth study](#) comes closest to approaching context as a dynamic feature: external context variables were analyzed using organizational theories that could help explain the complex interactions between organizations and their environments. Each of the organizational theories could help explain a mechanism that is underlying certain macro-context variables. This way, regulatory factors, fiscal factors, inter-organizational context, technological context and social and economic change or pressure were related to a mechanism related to the implementation process. In this approach, the dynamic features of external context variables were recognized. Understanding these underlying mechanisms is key to adequately respond to context variables and tailor implementation strategies. However, it poses challenges in terms of how to cope with such dynamic features. Further research on how to develop guidance to deal with context variables is needed. A realist approach is most suitable to investigate the complex nature of these mechanisms, which will be further discussed in 4.2.2.

Although our [second study](#) did not specifically mention contextual variables, the NPT emphasizes how people individually and collectively act to make sense of an innovation and fit it in their own practices. This happens in relation to their surroundings. This is most visible in the construct “*collective action*” in which the availability of training, resources and management support is listed as important. This way, contextual variables are not interpreted as fixed features but are viewed in relation to how individuals perceive them and act upon them.

In our [third study](#), context mostly comes forward in the attribute compatibility, that is: “*the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters* (16).” It does not specifically refer to context as a dynamic feature, but recognizes the importance of a certain fit of an intervention with a particular setting.

In our [fifth study](#), we investigated how implementation actors consider contextual variables in determining implementation strategies for an intervention. It was observed that the context has a formative character and that it can steer and induce motivation for a certain innovation. The context also largely defines what is possible in terms of resources, trialability of an innovation, prevailing values, facilitators, etc. These variables may change over time, hereby causing a shift in what is possible and what is needed to (further) implement an innovation.

3.3 Implementation processes are complex, dynamic and multifaceted

Despite the various attempts in the field of implementation science to structure and guide implementation processes through frameworks, models and theories, we have to recognize their inherently complex nature. The relationship between implementation strategies and implementation outcomes, mediated through contextual variables, remains largely unclear (35, 36). Implementation strategies that are highly successful in one setting,

might have difficulty to achieve similar results in a different setting. Proctor et al. (35) conducted a scoping review on implementation outcome research and concluded that only very few studies report hypothesis-based tests or models that can demonstrate how implementation outcomes are affected or intervened upon. According to Williams & Glisson (36), these are the main gaps in implementation knowledge: they suggest that more work is needed to specify mediation models that can link implementation strategies, dimensions of context and implementation outcomes.

Thus, implementation research mostly refers to complex interventions (37-39), multicomponent interventions (40) or multifaceted interventions (39, 41). All of these notions indicate that an intervention is not just about defining a mere (behavioral) change in practice, but any change that is introduced will interact with actors that give meaning to it and with the context in which the innovation takes place. Braithwaite et al. (42) argue that complexity science can be a useful theoretical approach to help understand interconnections among actors and how they give rise to emergent, dynamic, system-level behaviors. This field of study embraces the complex nature of processes and rejects the linear thinking that is put forward in a traditional knowledge pipeline. They discuss what complexity science can add to implementation science:

Complexity science forces us to consider the dynamic properties of systems and the varying characteristics that are deeply enmeshed in social practices, whilst indicating that multiple forces variables, and influences must be factors into any change process, and that unpredictability and uncertainty are normal properties of multi-part, intricate systems (42, p. 1).

Throughout our research, both the notion of the complexity, as well as the dynamic and multifaceted nature of implementation processes came forward in several ways. In our [first study](#), the wide variety of steps, requirements, components, constructs and elements that were identified throughout the different frameworks and models give away that implementation processes can be understood in various ways. Our research synthesized these frameworks and models in order to find their core building blocks, but we still recognize the large complexity behind implementation by stating the importance of seeking out the underlying mechanisms. In our [second study](#), the different constructs of the NPT were a perspective through which we could identify different dynamics in the normalization process of GOC. Although NPT is less sensitive to contextual factors on a broader level (20), the complex dynamics come forward in how people relate to an innovation. Zooming in on the constructs of coherence, cognitive participation, collective action and reflexive monitoring is a way to make sense of how people interpret and take actions when adopting an innovation. In our [third study](#), the different attributes of GOC were looked upon. This demonstrates the multifaceted nature of an intervention: its compatibility, trialability, relative advantage, observability and complexity all have an influence on implementation outcomes. In our [fourth study](#), we utilized organizational theories as a lens to look at the influence of external context variables on the implementation process. The need to call upon different theories to examine these

mechanisms affirms the fact that implementation processes are not linear and require a multifaceted approach. This lens of looking at macro-level context variables also acknowledges the dynamic character of context variables. In our [fifth study](#), we looked at the various considerations that spontaneously arise when choosing implementation strategies. This reflects that actors who want to introduce an innovation also recognize that they need to employ strategies in multiple areas and that change must be initiated on different levels.

4 Methodological strengths and limitations

4.1 Qualitative research methods

Most of our studies were grounded in qualitative research methods. To conduct implementation research, qualitative research methods are particularly suitable since they are most fitted to answer complex questions such as why and how implementation processes take shape the way they do (43-45). They allow to gain an understanding of the experiences and views of various primary care stakeholders and to identify both difficulties and opportunities within implementation processes as well as the perceptions and considerations that lie behind implementation efforts. Since implementation research is mostly about aiming to grasp the mechanism of change of implementation processes, these are complex questions that cannot be fully captured with quantitative methods.

Despite the strengths of qualitative research methodologies in implementation research, several challenges must be addressed: the need for reflexivity, trustworthiness and credibility and transferability.

First of all, there is the need for reflexivity. This implies that the researcher is continuously aware of their own position and perceptions with which they may shape research findings (46). This is necessary because in qualitative research, the background and frame of reference of the researcher affect how they conduct research and what they focus on. One way to induce introspective reflexivity (consciousness of the self) is to write down immediate observations, thoughts and interpretations after each interview (47). This was done when conducting semi-structured interviewing for our [third study](#) and our [fourth study](#). It allowed to capture the main messages that were remembered and any immediate thoughts that are evoked during the interview (47). Subsequently, these initial messages were analyzed alongside the full transcripts of the interview as structured analysis was conducted. On top of that, frequent discussions within our multidisciplinary research team further encouraged reflexivity. The multidisciplinary character of our research team (with backgrounds in sociology, medical sciences, social work public health and social gerontology) implied that each of the researchers had their own lens to look at the data. Through dialogue and comparison with the data we ensured that the analyses were thoroughly grounded in the data. On top of that, we also conducted peer debriefing with a wider group of researchers mostly working on GOC within the PCA. Their expertise and understanding of GOC processes allowed for an additional perspective from which the results could be critically examined. In our [fifth study](#), triangulation of data sources was

utilized (in-depth interviews, document analysis and observations), which further contributed to the testing of validity. In this respect, finding and statements of document analysis and observations could be verified and further clarified in in-depth interviews. For example, during the non-participatory observations some actions and considerations were recognized which were then further questioned during the in-depth interviews. Similarly, the documents that were analyzed consisted of information on the trajectory of each project which could be further elaborated upon during in-depth interviews.

Reflexivity closely ties in with the trustworthiness and credibility of research findings (48, 49). This refers to the truth of the data and whether the researcher has correctly interpreted and presented the results stemming from the data (50). Credibility is enhanced as the researcher sufficiently engages with reflexivity and examines one's own position, and when research findings are verified with the participants. The latter was taken into account by conducting member checks on various occasions (51). The wide network and dissemination activities of the PCA created multiple opportunities to receive feedback on the results of our research by a target audience with profiles and backgrounds similar to the respondents within our research: policy makers, representatives from various health and/social care organizations, etc. We presented our research findings on two summer schools organized by the PCA: one in July 2022 and one in July 2023. The second one was accompanied by a workshop in which participants were asked to apply the results presented to real-life cases that matched their own experiences with initiating change, which led to increased interaction. Their feedback on the presented results and the way they got to work with the materials offered was highly valuable in further reflection on the analyses and findings, enhancing the credibility of our findings (51).

Another consideration is the transferability of research findings to other contexts or settings. This is particularly challenging yet meaningful in implementation research, considering the premise that the context of an intervention highly influences implementation outcomes. For qualitative research, assessing generalizability is usually not an expected attribute as studies are mostly aimed at investigating a specific phenomenon in a certain population or particular context (52). However, for implementation matters, it is highly valuable to be able to assess the applicability of research findings to other settings. Improved reporting, with a particular emphasis on contextual information, is the main recommendation to ensure this can be adequately assessed (53-55). Throughout the research process, we focused on the implementation of GOC in Flanders as a case to learn more about implementation processes and how we can better understand their dynamics. In describing our research design, we have paid particular attention to outline the specificities of the Flemish primary care landscape. This allows the reader to better assess the context in which this research took place, and to what extent it resembles other primary care landscapes. Still, repeated studies on a broader, international level can reveal to what extent our findings are region-specific or can be transferred.

4.1.1 Conducting in-depth interviews in times of a pandemic

Not long after the start of our research project (October 2019), the global pandemic COVID-19 disrupted planned research activities. In-depth interviews that would normally have been conducted face-to-face, could not continue as social distancing became the norm. On top of that, the workload of PCPs increased significantly, which impacted their willingness to participate in research activities. The reality of the COVID-19 pandemic required flexibility and innovativeness. The main change in our research design was consequently altered and in-depth interviews were conducted online through Microsoft Teams. The shift to online interviewing called into question some valuable characteristics of good qualitative interviewing. For example, the possibilities to build rapport between the interviewer and interviewee are challenged, which is believed to affect the information that is entrusted during the interview (56, 57). As our interview questions did not contain any personal, sensitive information, we expect that the impact of the information gathered will be relatively small. However, throughout our interviews it was often mentioned that the pandemic had an impact on the planned implementation efforts related to GOC. Priority was often given to COVID-related tasks, which led to GOC related actions being postponed or watered down. Throughout our studies, we indicate in our results and discussion sections the identified impact of the pandemic on the implementation process. Ultimately, this also provides valuable insights in how the macro-level context affects actions and decisions within implementation processes. In addition to the concerns and challenges the shift to online interviewing entailed, we should also highlight some opportunities with regards to these online methods (58). The threshold to participate decreased, given the accessibility and comfort of online interviewing as well as a lower time investment. This is reflected in a high participation rate for our fieldwork.

4.2 Realist methods

Most of our research was inspired by a realist perspective. This perspective is particularly applicable for implementation research, as it presupposes that *“we can never assign a causal effect to any intervention without assessing the whole context of that intervention (59, p. 217).”* Generalizable knowledge can only be established when adopting a research approach that acknowledges the influential forces related to contextual variables (59). Thus, one of the core messages within implementation science, namely that implementation success highly depends upon contextual variables, is responded to in a realist approach. Regardless of this, the challenge to conceptualize context and find ways to tailor implementation strategies still exists.

The main purpose of a realist approach is to develop and investigate hypotheses that outline configurations between context (C), mechanisms (M), and outcomes (O) (60). Analyses are based on the assumptions that are made in programme theories, which presume how, why and in what circumstances complex interventions work (61). Throughout our research, we did not capture well-defined programme theories that we could subsequently test and verify or reject. This is mainly because we ended up conducting exploratory research with the implementation of GOC in Flanders as a case. This departs

from a very broad contextual landscape, in which a multitude of contextual variables affect implementation processes, what made it very difficult to pinpoint very concrete context – mechanism – outcomes hypotheses. In addition, implementation efforts that we looked into were mostly in the process of being introduced and implemented and did not go full circle to reach specific implementation outcomes. Therefore, our observations have mostly grasped *“how things are put into motion”* rather than *“how certain outcomes are achieved.”*

Our [fifth study](#), in which we followed more demarcated implementation projects inside various primary care organizations did grant itself to formulating more explicit programme theories. However, the purpose of this study was again exploratory and to observe (without any interference) how actors are handling context without directing them in any particular direction. A follow-up study would be recommended in which we do expect these organizations to formulate programme theories that indicate context – mechanism – outcomes presumptions which can be tested. This would make it a true realist evaluation study, which would be highly valuable for future implementation research.

Davidoff et al. (13) assume that some form of informal theory is always utilized in innovation activities, but implementation actors often fail to make this explicit. A programme theory can help specifying the components of an intervention that are believed to contribute to certain outcomes. Assumptions are made about the mechanisms that are at the root of an implementation process, as well as the conditions that are necessary for implementation success (13) *“Ideally every improvement effort should have one (13, p. 230).”* Wong et al. (62) have developed reporting standards for realist evaluations, with the aim of improving consistency and rigor of reporting and to help implementation actors to make their findings more accessible and usable. This contributes to the need to make assumptions about the mechanism of change more explicit. This related back to our [first study](#), in which we identified the core building blocks of implementation frameworks and models. Concluding this study, we also call for a more grounded way to cope with intervention components: paying focused attention to the defining of the intended change, scanning the context in which an intervention takes place and tailoring implementation strategies that are used to introduce, adopt and embed the intervention. When defining implementation strategies that are tailored towards the nature of the intended change and specific context variables that are expected to come into play, one naturally ends up with hypotheses about the mechanism of change.

Given the importance of context that was given throughout our all of our studies, a realist perspective was never far off. In some instances, we directly turned to realist methods. For example, in our [third study](#) and our [fourth study](#), the semi-structured interview guide was inspired by realist interviewing (63). However, we would advise further implementation research to deep dive in realist methods. These methods respond allow to cope with the complexity that is inherent to initiating change in a primary care context (59).

5 Recommendations and implications

When discussing the core messages from implementation science, we already touched upon some good practices and implications for those who are involved with implementing change. In this final part, we will summarize the lessons learned from our studies and how different actors can utilize these insights in any efforts to introduce, implement and/or embed an innovation in primary care practices.

5.1 Recommendations for implementation actors

** With 'implementation actors' we refer to all individuals who take steps to or are involved with the implementation of an intervention.*

- A. Start outlining an implementation plan at the development phase of an intervention.
- B. Utilize an implementation framework or model to guide implementation efforts.
- C. Consciously screen and respond to contextual barriers and facilitators.
- D. Tailor implementation strategies towards the specific context in which change takes place.

Box 1 Recommendations for implementation actors

A. Start outlining an implementation plan at the development phase of an intervention.

At the initial phase of intervention development, attention should be given to how an innovation will be introduced, adopted and embedded into practice. This means that the process of defining, devising and elaborating on the form, content and requirements of an innovation should include considerations on the implementation process. In what type of setting will the innovation be introduced? What are possible barriers and facilitators? How can we respond to the expected pitfalls? How can we utilize any reinforcing variables? As these questions are already considered at the initial stage of intervention development, this offers more opportunities to respond to real-life settings. For example, the intervention itself can be slightly adapted to better fit the needs, current practices, expectations or skills of those actors who are expected to adopt the innovation.

B. Utilize an implementation framework or model to guide implementation efforts.

An implementation framework or model allows us to define and elaborate actions within the implementation process in a more structured and comprehensive manner. It emphasizes important phases, elements or mechanisms within an implementation process, in order for implementation actors to elaborate and tailor implementation efforts more focused. Utilizing frameworks and models should be viewed as an iterative process in which implementation actors actively engage with its theoretical assumptions and the reality they encounter. It is important to recognize that each implementation framework or model will have its own premises, accents and assumptions. The chosen framework or model thus

frames your way of perceiving reality in a particular way. For example, some models emphasize the barriers and pitfalls inside an implementation process, which makes implementation actors focus primarily on overcoming these. Wensing et al. (6) suggest that implementation science would benefit from the testing, refinement and integration of theories. Hereby, it is key to utilize theories that best respond to the specific implementation challenges that are posed.

C. Consciously screen and respond to contextual barriers and facilitators.

A general consensus in implementation science is that the context in which an intervention takes place highly influences implementation outcomes. This is why it is key to screen and map the context in which an intervention takes place, anticipating actual implementation efforts. Guidance on how to screen and map contextual variables is still something that requires further research. Yet, bringing different stakeholders together and discussing expected barriers and facilitators can already lead to an initial assessment of which variables require response. For example, through consultation of the PCPs to whom an intervention applies one can form an idea about their attitudes, concerns, needs and expectations with regards to an innovation. This information can then be considered in the further development and elaboration of the planned intervention. Philips et al. (55) argue that it is key to improve reporting of contextual variables in implementation research which allows for better interpretation of study findings and results. This is needed so that interventions can be transferred to other settings and different populations in primary care. An integrative coding framework for evaluating context within implementation science can support the monitoring of implementation progress, facilitate contextual changes and help tailor to different settings (64).

D. Tailor implementation strategies towards the specific context in which change takes place.

This recommendation connects to the previous one which recommends to screen and respond to contextual barriers and facilitators. Being aware of which contextual variables are likely to affect implementation outcomes is a first step. The next step is to tailor strategies to best fit the nature of the intervention and the context in which it takes place. When it comes to context, on the one hand, specific actions can be defined on how to tackle expected barriers. For example, resistance from PCPs is expected as they view the innovation as yet something new in addition to their current workload. A strategy to counter this can be to launch the innovation as an attachment to something already existing, so that it is not perceived as something that increases the workload. On the other hand, specific actions can be defined on how to utilize expected facilitators. If there is already a good practice of having an interprofessional meeting periodically, this can be used as an opportunity to introduce an innovation.

E. Integrate insights from theory and practice into a sustainable implementation plan

It is key to call upon theoretical insights and good practices that are identified in research, in order to create a sustainable implementation plan. As described by Davidoff et al. (13),

the use of theory in implementation efforts contributes to the understanding of various mechanisms that lie beneath implementation processes and can offer guidance to act upon important elements (barriers, facilitators, pitfalls, needs, ...). Recognition, commitment and coordination are key ingredients for implementation (3) and should be considered when defining actions for implementing change. In addition, reflecting upon the constructs described in NPT (2) and the attributes that are posed in DoI theory (4) offer insights and guidance that can help define actions to steer forward implementation processes.

5.2 Recommendations for policy

- A. Aim to understand the complexity and nature of implementation processes.
- B. Be conscious about macro-level dynamics that affect implementation processes.
- C. Respond to the dynamics and needs that occur in the field of primary care.

Box 2 Recommendations for policy

A. Aim to understand the complexity and nature of implementation processes.

Implementation processes are complex and multifaceted. Whether implementation outcomes are successful depends on various variables and the underlying mechanism are not always understood. However, a general understanding of implementation processes is needed to successfully initiate and support the desired change. The main phases and building blocks of implementation frameworks and models put forward those elements that are important to assess and respond to. Insight into these building blocks will help make assumptions about how change can be induced. In the end, it is important to recognize the complexity behind all of this and to acknowledge that creating valuable change requires time.

B. Be conscious about macro-level dynamics that affect implementation processes.

Implementation outcomes do not only depend on micro-level interactions and variables, but are influenced by broader dynamics. When performing a context scan, one should not focus purely on individual and organizational level but also take into account regulatory factors, fiscal factors, socio-economic variables, the inter-organizational environment and the technological context. The learnings of our [fourth study](#) are particularly relevant for policymakers and overarching health and social care services. In various ways, macro-level context variables shape implementation processes. In particular, the dynamics that are posed within institutional theory demonstrate how organizations respond to social structures surrounding them, hereby conforming to the expectations that are placed upon them. Other organizational theories contribute to our understanding of both counteracting or reinforcing mechanisms. For example, a resource dependency theory perspective describes how organizations are always seeking out resources in order to ensure their continued functioning. In this respect, the financial system can either enhance or hamper implementation efforts in either providing a financial reward for any implementation efforts or not.

C. Respond to the dynamics and needs that occur in the field of primary care.

In order to define an intervention that is expected to introduce a meaningful change in practice, it is key to depart from a well-described care or quality gap (65). This is a discrepancy between a desired way of providing or receiving primary care and how actual practices within primary care are delivered or experienced nowadays. This gap or need can derive from one or more facets of the quintuple aim (66, 67): 1) improving overall population health, 2) enhancing the experience of care for care receivers and their caregivers, 3) rationalize the per capita costs, 4) improving professional well-being and provide added value for PCPs, 5) advancing health equity. Directly departing from the needs that are observed in real-life settings will lead to more desirable, compatible changes.

5.3 Recommendations for future research

- A. Further elaborate on how context can be conceptualized, screened and prioritized.
- B. Seek out how to tailor implementation strategies to contextual variables.
- C. Make sure evaluation of implementation success takes into account contextual variables.

Box 3 Recommendations for future research

A. Further elaborate on how context can be conceptualized, screened and prioritized.

Although the importance of context is emphasized strongly in implementation science, knowledge and guidance on how to handle contextual variables is still limited. Throughout different implementation frameworks, models and studies, different types of possible barriers and facilitators are put forward. There tends to be a focus on internal context, leading to an overrepresentation of organizational determinants (23, 33, 68). A comprehensive synthesis of contextual variables is needed, which gives implementation actors some guidance on how to screen a specific setting in which one aims to introduce an innovation for possible barriers and facilitators. Furthermore, additional research is needed on how to prioritize barriers and facilitators that are identified. How can we decide what context variables are essential to target? That is, what context variables have to be acted upon in order for the intervention to have any chance of being adopted as intended? And what context variables can be dealt with as secondary variables? Some variables might have such a small influence on implementation efforts, that they not necessarily need to be acted upon.

B. Seek out how to tailor implementation strategies to contextual variables.

Although there are some attempts to link implantation strategies to contextual variables (69-71), knowledge and guidance on how to tailor implementation strategies is still limited. It is however essential for implementation actors to know how they can respond to contextual variables in order to enhance implementation outcomes. In doing this, it is first

required to define a way in which the context or setting in which an intervention is introduced can be screened and captured comprehensively. Then, assumptions need to be made about what implementation strategies are expected to effectively respond to certain contextual variables. Following a realist perspective, this can be elaborated by program theory (61), which presumes how, why and in what circumstances complex interventions work. Subsequently, these assumptions need to be tested and evaluated. To obtain such information through research, we would suggest to conduct implementation research that follows real-life implementation efforts as cases.

C. Make sure evaluation of implementation success takes into account contextual variables.

Evaluation of implementation efforts is an area of research that is underexposed in our research. However, highlighting the complexity of implementation processes and the importance of context has implications for the evaluation of implementation efforts as well. In fact, this means that the evaluation of an intervention is likewise complex and multifaceted, and we should treat it as such. This means that evaluation research and measures should take into account contextual variables and their influence on the implementation process. The RE-AIM framework is one example of an evaluation framework that is viewed as well-positioned to address realist evaluation questions and takes into account contextual influences (72). It proposes five dimensions for planning and evaluation: reach, effectiveness, adoption, implementation and maintenance. The framework provides a roadmap with the components that need to be considered (73). Guidance is developed for introducing qualitative methods to address each of the RE-AIM dimensions (74), which allows to address complex, contextual variables while evaluating the intervention. Further research is needed to build upon these developments and to decide how we can best *“measure what matters.”* This implies that context variables are taken into account and not only outcome measures are considered, but also process indicators.

6 Conclusion

Our research is situated in the field of implementation science, in which findings contribute to the translation of research evidence into real-world practices. Throughout our studies, we have demonstrated the relevance of using theories to guide implementation processes. Depending on the theory that is used as a lens, different aspects of implementation processes have become apparent which enables us to identify actions to support the uptake of innovations. In the end, implementation processes in primary healthcare are always complex and multifaceted which implies that the actions to introduce change will equally require a flexible and versatile approach. In doing this, the context or setting in which an innovation is introduced should be carefully examined. Strategies to introduce, implement and embed an innovation are ideally tailored towards the nature of the intervention and the specific circumstances in which the implementation efforts are taking place. Our research uncovers how insights from NPT, DoI and organizational theories can support our understanding of the mechanisms underlying implementation processes and how we can move the implementation process forward. Future research can build upon these insights and examine how these processes carry on in the sustainment phase of an implementation process.

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Annex

Interview guide

Utilized to gather data from our [third](#) and our [fourth study](#)

PART 1: INTRODUCTION

INTRODUCTION BY MODERATOR

- Introduce yourself.
- Introduce the broader project: Primary Care Academy, three thematic work packages: goal-oriented care, self-management and interprofessional collaboration. One horizontal work package on implementation analysis of primary care interventions.
- Describe the objectives of this research: we are conducting research on the implementation of goal-oriented primary care. Specify why the respondent is selected.
- Information on anonymity and confidentiality.
- Ensure that the informed consent is signed before the start of the interview.
- Give the respondent opportunity to ask further questions.

- Could you **introduce** yourself?
 - What is your professional function?
 - In what type of organization / setting do you work?
 - What specialization(s) do you have?
- In what ways have you **encountered the topic of goal-oriented** care recently?
- How would you **describe goal-oriented** care?

PART 2: GOAL-ORIENTED CARE AS AN AGENDA ITEM

- What has caused goal-oriented care to be an **agenda item** in [organization]?
 - Where did the **initiative** come from?
 - What has **contributed** to goal-oriented care becoming an agenda item?
- Do you expect that goal-oriented care will **continue to be an agenda item** in the future?
 - Within your **position**?
 - Within your **organization / setting**?
 - Within the **Flemish primary care landscape**?
- What would **sustain continued attention** for goal-oriented care?
- What would cause attention for goal-oriented care **to wane**?

PART 3: INITIATIVES FOR GOAL-ORIENTED CARE

- In what way(s) is your organization engaged in **bringing goal-oriented care into practice**?
- To whom are these initiatives **targeted? Who is influenced** by these initiatives?
 - Are some stakeholders easier to get on board? How does this differ?

- What is needed to reach out towards other stakeholders?
- What is **needed to spread awareness** for goal-oriented care?
 - How do you **encourage** people to adopt the approach?
- Is **follow-up** foreseen throughout your actions to implement goal-oriented care? In what way?
 - What is needed to anchor this change in current primary care practices?
- With what **partners do you collaborate** with regards to the initiatives for goal-oriented care?
 - How did this collaboration take form?
 - What other partners would be interesting to collaborate with?
 - With what type of partners is collaboration easier/more difficult? Why is this?
 - What could facilitate further collaboration?
- What **drives forward** initiatives for goal-oriented care?
 - In your opinion, what should we **focus** on in the implementation of goal-oriented care?
- What **complicates** the implementation of goal-oriented care?
 - Are there certain prerequisites?
 - **Meso-level?**
 - **Macro-level?**
 - Do you expect **resistance**? Where is this coming from?

PART 4: GOAL-ORIENTED CARE IN THE BROADER PRIMARY CARE LANDSCAPE

We have now discussed how your organization engages with goal-oriented care.

- What is needed to enroll goal-oriented care in the **broader primary care landscape** in Flanders?
 - What is the role of the **government**?
 - How can they support?
 - What is the role of the **Flemish Institution for Primary Care (VIVEL)**?
 - In what way do you liaise?
 - What is the role of the **care councils / primary care zones**?

PART 5: WRAP-UP

- **How fare along are we today** in the intention to implement goal-oriented primary care?
 - What indicates **positive changes**?
 - What is **still needed** to further spread the approach?
- Has the **concept of goal-oriented care changed** during the implementation process?

- How the concept is **interpreted?**
- How the concept is **approached?**

- Do you have **anything else to add?**
- Is there **someone else who we should contact** to interview for our research?

THANK YOU.

Dankwoord

Dankwoord

Aan een doctoraat werken betekent vaak dat je achter je laptop aan het lezen, tokkelen en mijmeren bent. Toch is dit resultaat in het bijzonder tot stand gebracht vanwege de vele interacties, steun en inzichten die allerlei mensen om me heen hebben geboden. Daarom maak ik graag even ruimte om een aantal personen en organisaties in de bloemetjes te zetten.

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