HEALTH
SYSTEM
CHANGE
VIA DATA
ANALYTICS
TO ENABLE

L.I. Ruijs

COLLABORATION
The case of Decentralised
Assisted Living in the Netherlands

Master Thesis EPA (EPA2942)
Faculty of Technology, Policy and Management

Health system change via data analytics to enable collaboration: the case of decentralised assisted living in the Netherlands

Master thesis submitted to Delft University of Technology in partial fulfilment of the requirements for the degree of Master of Science in Engineering and Policy Analysis, Faculty of Technology, Policy and Management. To be defended in public on Friday December 23, 2022 .

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Executive Summary

For many years, the gap between planning and budgeting has been a problem for improving health systems. Decentralisation of the health systems has been promoted as an organisational measure to challenge this gap. In health care policy, decentralisation is a top-down process in which authority, resources, and responsibilities are moved from central actors (i.e. national government) to more peripheral actors (i.e. municipalities). This would allow sub-national governments to better match resource allocation to local needs, promoting care access. However, it also has the added risk of creating silos within sub-national governments, creating the need for collaboration in some form.

Data analytical forecasting tools, such as prognosis tools, may facilitate planning for health care service implementation from a technical perspective. They pre-inform to guide organisational and managerial processes and have been applied to planning problems across different domains (i.e. transport, water management). Prognosis tools may be considered intermediary or boundary objects when they operate on the interface between actors. Additionally, as a boundary object, prognosis tools may also mitigate the risk of fragmentation and isolation associated to decentralisation by enabling collaboration. To fill this academic gap and provide a practical mean for implementation, this thesis aims to answer the following main research question: *"How can a prognosis tool can enable collaboration for decentralised health care services?"*

This is studied within the context of the implementation and elimination of facilities for decentralised Assisted Living in the Netherlands. In Assisted Living in the Netherlands ("Beschermd Wonen") citizens dealing with psycho-social problems, are unsuccessfully able to participate in society and receive guidance to help them. The regional program manager of *Region R* as formal problem owner has requested an independent advisory to provide an implementation/elimination plan for decentralised Assisted Living facilities. The three newly responsible sub-regions which together form *Region R* want to provide facilities for their own citizens but have limited resources (facilities and funds). If citizens are not able to access care in their own sub-region they seek out other sub-regions. This may results in not achieving their ambitions to provide adequate care to their citizens as well as incurring costs. The coordinated implementation and elimination of facilities to ensure access to care is thus pivotal. To plan these, the researcher, as part of the independent advisory has designed and developed a prognosis tool for the three sub-regions.

A literature review was conducted on decentralisation in of health care services globally. Consequently, the technical design and development of the prognosis tool for *Region R*, and observations during these are studies. Finally, interviews with the actors involved in the prognosis tool were analysed to asses if and how collaborating was enabled.

From the literature, we found a lack of research on the implementation of decentralisation for health services, or the use of prognosis tools for this purpose. Additionally, the risk fragmentation resulting from independent processes and lack of system focus and the need for collaboration were highlighted. This justified the opportunity to use a prognosis tool and test if and how it would enable collaboration amongst the three sub-regions of *Region R.* The design of the tool was therefore intentional: colour codes stimulated usability, the three sub-regions sub-files were stored in one

place to promote transparency, and standardisation was stimulated by representing all sub-regions' demands and resources into a general fitting categorisation and identical calculations from input to results for all sub regions. The tool can be used for agreements with care suppliers (procurement) or housing and enables organisation through agreements between sub-regions.

Finally, the overarching meta-analysis from the interviews after tool development, resulted in the following perception of how collaboration was enabled between the sub-regions.
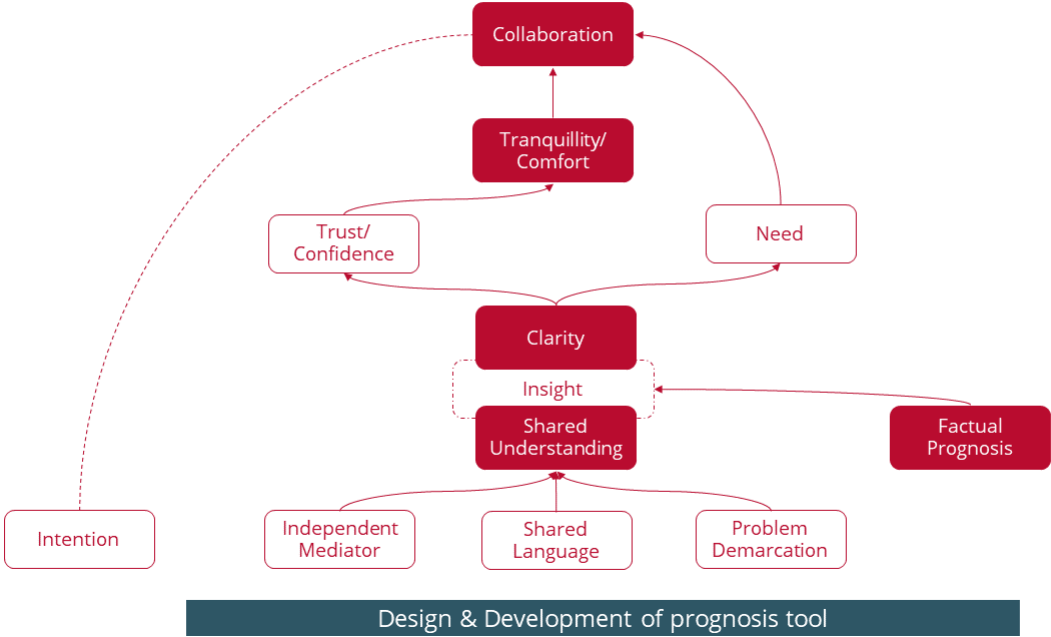
Figure 1: Proposed mechanism from the design & development of a prognosis tool for enabling collaboration

As visualised in Figure 1 (7.1 in the main report) above, from the design and development of the prognosis tool for *Region R* a shared understanding emerged *"It does not really matter tzhat the perception of the task is concrete until the number behind the comma but about the fact that you have a shared idea about it. That you make the same assumptions"* through shared language *".. are we talking about the same thing, do we understand each other correctly?"* and an extensive problem demarcation *"..discuss then build: talk about what we are actually talking about together, and then developing the model afterwards"*.

These were mediated by an independent expert to translate when needed and stay close to the task at hand *"..the logical thinking from an independent expert together with our input of how it fits reality best, you need both"*. The shared understanding regarding the design, together with the factual outcome of the prognosis tool have led to insight and clarity into what the task entails within their own and for all other sub-regions.

This has induced trust and confidence in the relation and in achieving their own and shared goals even if these will be hampered in the future. This trust and confidence

has led to tranquillity, peace and comfort setting the atmosphere for collaboration *"So that feeling of having insight or yes having insight into what everyone's task are and where everyone stands now. That was what I think was important for the trust and collaboration. And that provide governmental tranquillity"*. Also by clarifying the uncertainties, inter-dependencies and the task a clear need, where or why collaboration may be needed (the identified risk) has stimulated collaborative action. *..I think that especially the unrest/agitation is gone and it is now clear what we are going to work on and that by itself had improved the relationship"*. Notably, these may have been facilitated by the intention of collaboration of some of the involved actors.

This prognosis tool seems to enable collaboration for decentralised health services by addressing both "socio" and "technical" aspects. The technical design and development of the prognosis tool integrate the effected sub-systems, ensuring the outcome can be used for organising future steps (such as procurement). Extensive problem demarcation and shared language emerged a shared understanding of the system. In combination with the factual outcome (prognosis), insight and clarity was created into the actual need and to enable trust and comfort, enabling collaboration.

Regional, sub-regional and municipal decision makers are invited to consider prognosis tools that integrate sub-systems and other facilitators that establish a shared understanding as a mean to contribute to the implementation of health care decentralisation. In using this tool in other settings such as different municipalities, it is advised to give extra attention to creating shared assumptions/understanding between actors, setting agreements, transfer knowledge and update & monitor the newly accounted for information.

Future research is needed to establish the validity of this prognosis tool by studying its function in other settings or for other purposes. Additionally, an overview (or assessment) scheme of the decentralisation's extent, the corresponding implementation of (decentralised) health services is urgently needed in order to enrich the academic literature.

This research provides three contributions. It delivers new insight into the practical implementation of decentralised health care services thereby fulfilling a gap in the academic literature as well as answering a call to foster co-operation in public policy. It demonstrates how a prognosis tool can service a dual socio-technical function as both a technical planner (prognosis) and as enabler of collaboration, building upon existing evidence of prognosis tools' isolated technical function and "socio" function of boundary objects. Last but not least, it provides a new application for boundary objects in literature through the prognosis of Assisted Living. Thereby addressing the unfilled gap the between planning and budgeting and mitigating fragmentation through collaboration to improve health planning.

CONTENTS

8

Part I

Foundation

Introduction

1.1 Health System Decentralisation

Health system decentralisation has been promoted as an organisational measure for many years to challenge the gap the between planning and budgeting to improve health systems (Bossert, 1998; Mills et al., 1990). First, allow us to take a step back. *What is decentralisation?*

The concept of decentralisation takes many forms (Abimbola et al., 2019b; Bodó et al., 2021; Dardanelli and Wright, 2021). In network typology systems or networks can be classified into centralised, decentralised and distributed (Baran, 1964). In networks nodes are connected through edges, if one central node is connected to all peripheral nodes, the network is deemed central. In decentralised networks, a hierarchy of nodes is established. Many nodes only have one edge which connects them to a mini-network (low in hierarchy). Their more central nodes are connected to other mini-networks (these are higher in hierarchy). In distributed networks, all nodes have roughly the same number of edges (connections) to other nodes. A visual representation is provided in Figure 1.1 below.

The less central a network, the more resilient it is to disturbance and thus also to the power of any particular operator (i.e. person, organisation). For example, the internet was build with the idea of minimising power exertion. In spite of that, the internet is in fact decentralised and not distributed, government and tech companies have more power and control over the internet than anticipated (Baran, 1964; Galloway, 2004; Kaiser, 2019; Walch, 2019).

1.1.1 Decentralisation in health care policy

Decentralisation as an intervention is a top-down process in which generally speaking authority, resources and responsibilities are reassigned to more peripheral actors (non-central nodes) from more central actors such as governments (central nodes in

Fig 1. Baran's typology of communication networks (1964)
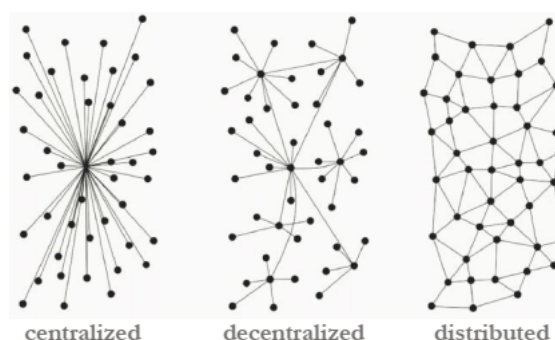
Figure 1.1: Baran's topology of networks (1964)

network) (Abimbola et al., 2019a).

Further classifications of decentralisation as an intervention consist of "devolution (creation or strengthening of sub-national government levels substantially independent of national level in respect to functions), de-concentration (peripheral offices within the administrative structure of the central government), delegation (managerial responsibility outside of the central government structure and only indirectly controlled), and privatisation (to private for-profit or non-profit entities using contracts" (Mills et al., 1990).

1.1.2 Why could decentralisation be effective?

Resource allocation (1) and production (2) in decentralised health care services are argued to improve efficiency. Local knowledge and local decision making would reflect and connect better to local needs, matching services to preferences (1) (Collins, 1989; Rondinelli, 1981). Decreased bureaucracy, increased accountability between governments and citizens and more increased understanding of local costs are argued to improve productive efficiency (Lanyi and Kahkonen, 2015).

1.1.3 Challenges in decentralisation

Decentralised systems, like any other, raise challenges. If we look at Baron's image of decentralisation, logically speaking a risk of decentralisation may be the isolation of knowledge, resources due to a lack of connections between nodes (or actors). Additionally, the lack of a single centre or centres of control limits the possibility of coordination and imposes.

This fragmentation is acknowledged as a risk in the policy domain. The international intergovernmental Organisation for Economic Co-operation and Development (OECD), a mature policy knowledge platform has identified the following risk:

"Decentralisation may result in loss of certain economies of scale and fragmentation of public policies. This could happen especially if subnational governments are unable to co-operate with each other. Determining optimal subnational unit size is a context-specific task; it varies not only by region or country but by policy area, as well. National governments have an important role in establishing legal, regulatory arrangements and incentives to foster co-operation across jurisdictions, in particular within functional regions" (OECD, 2019).

In general terms, collaboration may be a possible solution, in Baron's theory, limiting the isolation of nodes. Similarly, in the OECD's viewpoint, limiting the fragmentation of public policies, especially for governments unable to co-operate with another, are pressed to fostering co-operations across jurisdictions.

This leaves us with the question, *what could be a possible mean to enable collaboration and planning of health care services?* Let us address which means may be suitable for planning and have the additional characteristic of enabling collaboration.

1.2 Prognosis tool as a means to enable collaboration

From a technical perspective, a solution for planning problems may be found in prognosis tools. Prognosis and prediction often used interchangeably, are both data analytical forecasting methods (Soyiri and Reidpath, 2012). The former refers to a forecast without intervention, the latter to forecast the effect of a specific intervention. These pre-inform to guide organisational and managerial processes (Soyiri and Reidpath, 2012) and have been applied to planning problems across domain. Within health care amongst other for the demand for hospital services (Ordu et al., 2019) and emergency care (Cheng et al., 2021). Other domains stretch from transport (Dombalyan et al., 2017), to financial management (Mishra, 2018), and water management (Bach et al., 2013).

1.2.1 Boundary Objects

Prognosis tools used on the interface between actors may be considered intermediary or boundary objects. Boundary objects, introduced by (Star and Griesemer, 1989) are physical or abstract artefacts delineated by time and space. They function as a mediator between multiple actors and can bridge or translate perceptual and practical differences. Boundary objects are plastic to adapt to local needs and constraints by users but also robust in maintaining a common perception (Karsten et al., 2001). Originally they were described to enable coherence across actors by providing a vehicle to explain how and why actors are or information is connected and disconnected (Star and Griesemer, 1989).

The theory of boundary objects has spread to multiple research domains from management (Briers and Chua, 2001) to information science (Huvila et al., 2017), public policy (Egmond and Zeiss, 2010) and has taken many shapes such as simulation games (van Pelt et al., 2015), air traffic systems (Landry et al., 2009), documents

(Østerlund, 2007 and concepts (Brand and Jax, 2007). Often enabling collaboration through their use (Keshet et al., 2012; Landry et al., 2009; Marheineke et al., 2016).

In this context, a prognosis tool as boundary object may facilitate a two-fold process. The technical and factual forecasting of health care services. And as socio-organisational mediating vehicle between the actors using the tool to enable collaboration. This is in line with the aforementioned organisational and informational division by Soyiri and Reidpath (2012). By addressing the socio-technical system of decentralised health care service planning as two-fold, logically a need is to address interventions serving both the social and technical aspects.

If we integrate the theories above, decentralisation and prognosis tools may both improve health care planning better allocation, production and matching. Additionally, as a boundary object, prognosis tools may also mitigate the risk of fragmentation and isolation associated to decentralisation by enabling collaboration.

1.3 Main Research Question

This research aims to answer the following formal research question:

How can a prognosis tool enable collaboration for decentralised health services?

Research Scope

This research question will be in a single deep case: the decentralisation of Assisted Living in the Netherlands.

Assisted living clients, citizens dealing with psycho-social problems, are still unsuccessfully able to participate in society. Currently, clients still have to seek care wherever available instead of where they are expected to recover best. Simultaneously, municipalities lack the possibility to organise fitting facilities for all clients, because they are not provided with the resources. Striving towards an inclusive society with accessible care, further decentralisation of financial resources and responsibilities to municipalities is in place.

Risks and opportunities for decentralisation of assisted living in the Netherlands

In light of this decentralisation a set of risks for the municipalities, health care suppliers and clients, have been identified (Andersson Elffers Felix, 2022). The implementation capacity of municipalities to abide their responsibilities (1), the influence of the housing shortage (2), financial risks as a consequence of fluctuations in clients particularly for smaller municipalities (3), administrative burden for municipalities that organise care supply individually (4) and the definition of "beschermd wonen" in light of the financial deficits that may follow from citizens from other municipalities

seeking care for 'in-between' care form that do not comply with the legal definition of "beschermd wonen" (5). For four of the five risks (1,3,4,5), intra-regional collaboration has been identified as a key measure to mitigate the chance (or impact) of these risks. These are further elaborated.

The local implementation of assisted living provision (1) will require municipalities to formulate a vision how to best support care seekers, how they want to shape assisted living, what the position of assisted living is within the wider care environment and how it the connection to other facilities is shaped. Additionally, the implementation of procurement, contracts with suppliers, contract management, monitoring, quality control and financing suppliers have to be established. As well as organising the access to assisted living regionally or locally. This is a lot, especially for smaller municipalities. To ensure a versatility and complete provision of care and establish agreements about for example the outflow of clients municipalities will have to collaborate regionally.

The fluctuation in client population (3) may result in relative extreme fluctuations in costs considering the relatively small population of assisted living clients. The impact of one client fluctuating has a smaller or larger impact in relation to the size of a municipality (under the assumption that the number of clients is dependent on municipality size). Smaller municipalities will be impacted more than larger municipalities or whole regions. When municipalities within a region collaborate to account for these fluctuation for example by contributing to a shared fund according to their share of financial assets received from the objective distribution model, they mitigate the impacts of these fluctuations.

Incurring administrative tasks (4) for health care provides may be a results of individual municipalities enacting differing terms and condition than neighbouring municipalities in their contracts with care providers. For example (in the perspective of care suppliers), the period of declaration, prices, product categories or how much/ which information is needed. Collaboration can enable municipalities within sub-regions or regions to enact the same terms and conditions to minimise the administrative and thus work force burden of care providers.

Differing definitions of what "beschermd wonen" entails (5) may lead to a number of problems. Since the decentralisation and enactment of the social support act in 2015, the legal definition of assisted living has become less clear and a continuum of in-between forms of assisted living have developed. This can results in financial risks for municipalities with many in-between forms, since care seekers may go specifically to these municipalities if they are more attractive and fitting to their needs. Also disagreements about the need for care of a citizen could occur between municipalities through their differing criteria. Citizens' access to care could be hampered or delayed. To establish a shared idea of eligibility conditions for assisted living regional municipalities would have to collaborate.

These findings were recently voiced by the state secretary (Ministry of Health) in a letter to parliament pressing the importance of collaboration as a mitigation for the risks above (Van Ooijen, 2022).

The case of Region R: implementation and elimination of facilities

Within this context, *region R* in the Netherlands (formal problem owner) has requested a plan for the elimination/implementation of assisted living facilities with an independent advisory.

One of the perceived challenges resulting from the decentralisation is the elimination and implementation of assisted living facilities, previously organised on a regional level. Newly responsible sub-regions want to provide facilities for their own citizens but have limited resources (facilities and funds). If citizens are not able to access care in their own sub-region they seek out other sub-regions. This may results in not achieving their ambitions to provide adequate care to their citizens as well as incurring costs. The coordinated implementation and elimination of facilities to ensure access to care is thus pivotal. The independent advisory has provided the sub-regions within this region with a prognosis tool to enable further decentralisation. An in depth case description is provided in section 5.2.1.

The following section 'Background Information' provides back ground information about the decentralisation of Assisted Living in the Netherlands.

Suitability of the case

This specific case is suitable, for the following reason: *region R* is undergoing a health care system reform, namely the decentralisation of the health care service of assisted living. An independent advisory was asked to help the region to further enable achieving this reform. The advisory has provided the three sub-regions within this region with a prognosis tool to enable further decentralisation of assisted living services. It thereby services multiple actors such as the individual sub-regions represented by policy advisers and project managers, the region formerly responsible and assisted living care seekers.

1.4   Sub-Questions

This research aims to study the role of data analytical in enabling collaboration in decentralised health services. The main research question will be studied using the following three formal sub-questions:

- SQ1: How is decentralisation of health care services implemented globally?

- SQ2: How can the planning of decentralised Assisted Living in the Netherlands be facilitated by a prognosis tool?

- SQ3: How does this prognosis tool act as a boundary object to enable collaboration for planning decentralised Assisted Living in the Netherlands?

To understand how this case's challenge is situated in a global perspective and to extract lessons learned from similar contexts, a literature review is conducted to identify how decentralisation is implemented globally. Given the socio-technical characteristics, both are further researched. To identify how a prognosis tool may facilitate the planning of decentralised assisted living a tool is build with the involved actors, grasping it's core mechanics. Finally, to evaluate if and how the prognosis tool has enabled collaboration a set of semi-structured interviews with actors is undertaken and analysed. Together these will answer the main question by providing a knowledge base, a prototype and thorough understanding of the prototype as a tool and if and how it enables collaboration.

1.5 Suitability for the Engineering & Policy Analysis Master Program

This research aims to study how prognosis tools can enable collaboration for decentralisation of health care services. The implementation of decentralised assisted living in the Netherlands provides us with a real-world, concrete case with which to study this universal question.

This contributes to efficient care provision to promote accessibility and quality of care refraining care-seekers from incurring psycho-social problems (people), contributes to sustainable development by minimising relocation, over consumption of resources and services (planet & profit) and provides unprecedented knowledge (science). It is therefore a suited component for studying of the Engineering and Policy Analysis Master Program

1.6 Thesis Outline

The following chapter (2.1) provides background information on the decentralisation of assisted living in the Netherlands. Chapter 3 outlines the research approach per sub-question. Section 4, 5 and 6 provide the results of sub-question 1, 2 and 3 respectively. In chapter 7 the key findings and interpretation per sub-question are discussed, together with the overall implications and limitations. Chapter 8 concludes this research, provides an answer to the main question and provides recommendations for practitioners and researchers. .

BACKGROUND INFORMATION

2.1 Assisted living: "Beschermd Wonen"

Assisted living in this thesis encompasses the Dutch concept of *"Beschermd Wonen"*. Assisted living is described in the Social Support Act 2015 as: ""Living in an institution's accommodation with accompanying supervision and support, aimed at promoting self-reliance and participation, psychological and psychosocial functioning, stabilisation of a psychiatric illness, prevention of neglect or social nuisance or averting danger for the client or others" and is "intended for persons with psychological or psychosocial problems, who are unable to maintain themselves in society by their own efforts" ("Art. 1.1.1, Social Support Act", 2015). In this context Assisted Living merely entails temporary care, lifelong assistance falls under the Long-term Care Act (Wlz). Before 2021, this was not the case and clients with psychological care could fall under lifelong Bescherm Wonen instead of through the Long-term care act. Notably, temporary is an arbitrary term for periods from days or months up to multiple years (BWN, 2020).

The actors involved in the system of assisted living are the 'clients, housing corporations, cares suppliers, neighbourhood teams, welfare organisations and potentially citizens' initiatives' (VNG, 2022a). Additionally, municipalities are inherently involved as they are responsible for providing adequate care to their residents ("Art. 1.2.1, Social Support Act", 2015). By jurisdiction (VNG, 2021b), when a client applies for Assisted Living (step 1), the municipality which facilitates this application is responsible for the following process steps:

2 determining whether the municipality is indeed responsible on the basis of the "principle of residence", in Dutch: "Woonplaatsbeginsel"

3 if rejected, the client is transferred to the right municipality (the following steps are operated by the responsible municipality).

4 if affirmative, within six weeks the municipality researches the need for Assisted

Living.

5a if affirmative, the municipality researches the best location for recovery. Potentially this may be in another municipality.

5b if affirmative, the researching municipality consulates the selected municipality, all within the aforementioned period of 6 weeks.

5c after both *5a* & *5b*, the municipality provides a proposal, formal application and set out an order within 2 weeks.

6 a suitable care provider (and location) is determined. In the absence of suitable care, go back to *5a*.

7 in case of care supply a location different from the responsible municipality, the responsible municipality initiates an outflow-consultation at least 6 months previous to the intended outflow-date. The consultation prepares all parties and focuses on the wants, needs and their preferred location after outflow (ie. housing or out-patient care).

2.2   Decentralisation of Assisted Living

Within the Netherlands, the Ministry of Health, Welfare and Sports (VWS) is the national public committing the health and quality of life of its citizens. One of the four missions the Ministry of VWS has put forward is the mission "Access to Health". It constitutes of the following goal: *"In 2030, care will be organised 50% more (or more often) in one's own living environment (instead of in care institutions), together with the network around people"* (RIVM, 2019). Likewise, the ministry *"seeks to support people with a physical or mental limitation and promote social participation"* (VWS, 2022).

These ambitions provide the next step after a longer historical perspective of the ambulantization of intramural mental health care and the three big decentralisations in 2015, changing the Social Support Act, Youth Act Participation Act.

The most recent ambitions are now combined in the transformation of social care. Commision Dannenberg (2015) has put forward the vision to transform "Beschermd Wonen (BW)" to "Beschermd Thuis (BT)" (Dannenberg, 2015). Both the former and latter constitute of forms of assisted living. In assisted living citizens with psychological or psychosocial problems, who are not 'independently' able to maintain themselves in society but are not eligible to care in conventional treatments (included in the Health Insurance Act (ZvW) and Long-Term Care Act (Wlz)) receive additional guidance. The transformation from more intramural BW in which clients receive guidance within a facility outside of their prior living situation to more extramural care ("Beschermd Thuis"), where clients receive assistance within their own living environment is partly tooled by decentralisation, the shift of resources and responsibilities from more central to more local bodies.

The theoretical framework behind this vision is supported by previous findings of "Housing First" projects in which homeless individuals with psychiatric disabilities and addiction receive intensive and personal, multi-dimensional assisted living together with housing. These housing facilitates are spread throughout the city to avoid exclusion, separation or integration and stimulate normal living conditions by inclusion (Tsemberis and Eisenberg, 2000). For a visualisation see Figure 2.1 below.
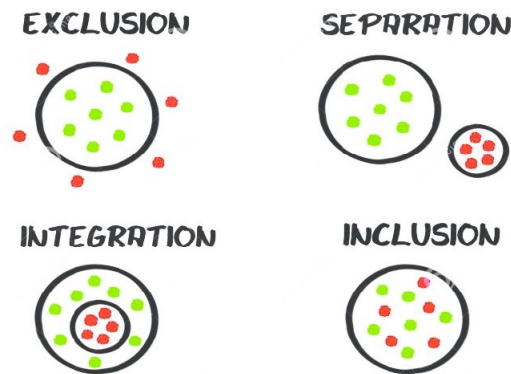
Figure 2.1: Diagram of Exclusion, Segregation, Integration and Inclusion

The central idea of inclusion by providing a stable housing situation is mapped onto "Beschermd thuis". Naturally, for non-homeless residents this means providing assistance at home in their own environment instead of moving the assistance seekers. This is thought to stimulate the stability of clients' competences, social network and increase their sense of empowerment (Dannenberg, 2015).

This shift is a great concern to municipalities, they are confronted with extra responsibilities, new tasks, staff shortages and incurring prices. One region in the Netherlands (for confidentiality reasons name is not mentioned) has put forward the request to shape the implementation and elimination of services for its underlying sub-regions (and their municipalities). Currently, "central-municipalities", municipalities that serve a central function for connecting municipalities, receive the financial assets for their region. The governmental funds allocated to these central-municipalities are calculated on the basis of a historical distribution model based on the costs regions made in 2013 (VNG, 2021a).

By 2024 the financial assets for new assisted living clients are redistributed to individual municipalities (Bruins Slots, 2022). Current clients still fall under the financial distribution of "central-municipalities". The redistribution government funds is increasingly driven by a prediction model, the "objective distribution model" which predicts the amount of clients a specific municipality expects based on demographic, socio-economic and physical characteristics. The process of the financial transition from "central-municipal" takes a step-wise approach since current clients still fall under the old agreement of "central municipal" and the funding of new clients will fall under the newer "objective distribution model". The transformation to solely municipal funds is expected to take up to about 10 years (VNG, 2022b).

Historically speaking the development of supply of care follows a clustered distri-

bution meaning many citizens have had to relocate to areas with high supply of services and thus leave their preceding living environment (VNG, 2021a). To ensure municipalities can provide assisted living to their registered citizens accordingly, supplying for the so called natural demand, the time-appropriate implantation and elimination and thus redistribution of supplied services is essential.

METHODOLOGY

3.1 Research Approach

The research adopts a design science approach adapted from de Boer et al. (2019). A deep case study is conducted within the approach. The approach, associated sub-questions (surfaces) and phases (blocks) are summarised in Figure 3.1 below.
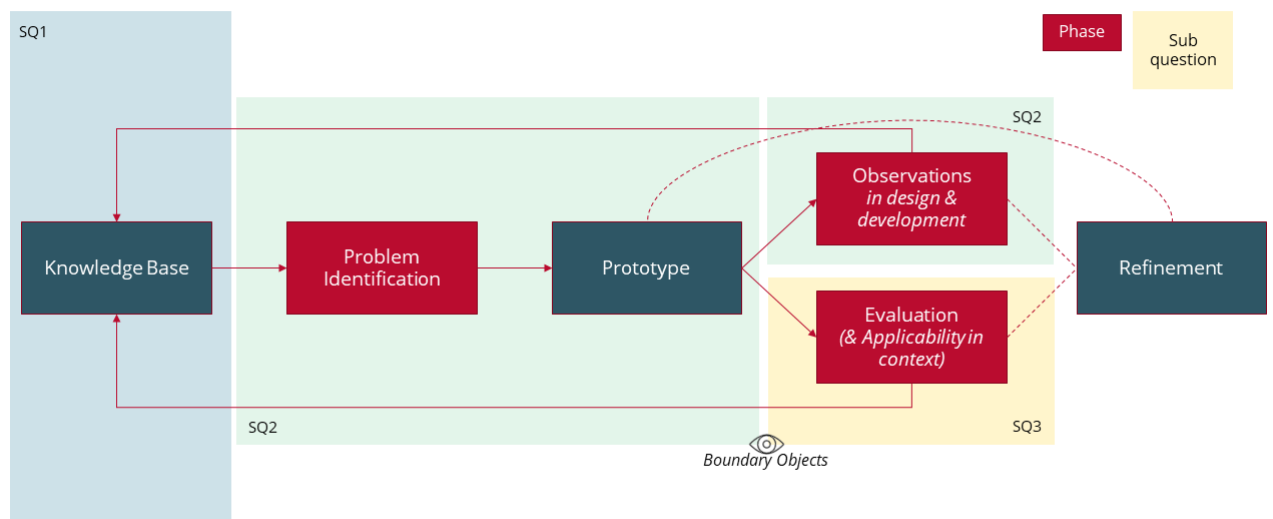
Figure 3.1: Overview design science research approach

Rational for design science and single deep-case study

The rational for adopting a design science approach follows the personal drive to perform the purpose full act of building a solution. A solution, not only for the direct problem owner but also for other actors who may encounter a similar problem. Moreover, the design science approach follows the natural process of tool design in a systematic manner. As good design enriches our lives, creating value, solving problems, limiting negative effects and bad design simply does the opposite, a systematic understanding of design in essential. Thereby it shares possibilities of good and bad design to create a world we want to live in together. The rational for a single deep case study follows two reasons. First, the timeliness. The case was offered to the independent advisory and thus researcher with the notion of this case's pioneering position as the first region in the Netherlands to implement decentralisation of assisted living this far. This resulted in the idea that more actors would encounter a similar problem in the future.Curiosity in eluding the underlying mechanism was fuelled to be able to help others encountering the same problem. Therefore, secondly, a single deep-case study is suited as it provides detailed insights to answer 'the *how*' in a non-constrained (experimental) setting(Yin, 2013).

General Overview

In phase one (SQ1) the academic *knowledge base* is provided to situate the prototype (the prognosis tool) in. In the second phase the *problem is identified* (SQ2), in the third phase the *prototype* is *designed & developed*. The fourth phase (top) provides *observations in design & development* by examining the building and refining iterations of the prototype (SQ2). Additionally, it involves empirical validation through interviews *evaluating within case-context and applicability in a wider context* of the aforementioned case study (SQ3). In the final phase, *refinements* to the prototype based on the evaluation are implemented. This phase falls outside the scope of this research.

The methodologies and data collection per sub-question are summarised in Figure 3.2 below. Each sub-question (surface) matches the identical surface (and associated phases) in the previous figure (3.1). In-depth methodologies are provided in section 3.2.
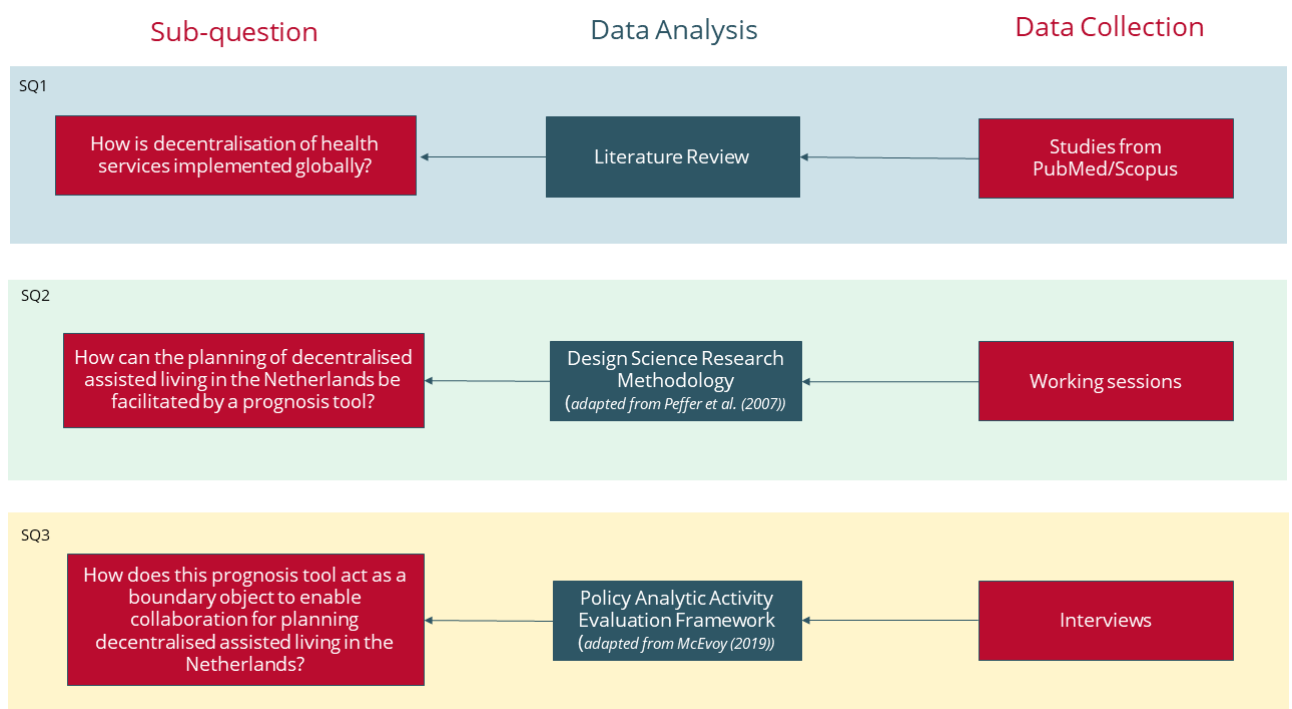
Figure 3.2: Overview of the sub-questions, their corresponding methodologies and primary source of data collection. From right to left, each arrow represents the input of primary data to the methodology and the methodology practised to answer the sub-question.

Content

To understand how the case-specific decentralisation of assisted living and social care in the Netherlands is positioned in a wider context, first we need to establish an understanding of fundamental knowledge on how decentralisation is implemented globally, how prognosis can enable collaboration in health care system reform and to establish whether there are examples of similar cases. Therefore, Chapter 4 studies the implementation of health care service decentralisation globally by performing a *literature review* (see first row Figure 3.2).

Secondly, to understand how such a prognosis functions, the prognosis tool built by the independent advisory is studied using a *design science research methodology (DSRM)*, in which the technical design and process of tool construction are studied from the experience of the researcher which was one of the modellers (as part of the independent advisory) in the *working sessions* with the sub-regions (see middle row Figure 3.2).

Thirdly, to evaluate if and how the prognosis tool functions within the actor network (the sub-regions) to enable collaboration a *policy analytical activity evaluation framework* is conducted on a set of *interviews* with the involved actors (see bottom row Figure 3.2).

Combined the findings of these sub-chapters will juxtapose the aforementioned case of decentralised assisted living and social care within a specific region in the Netherlands to answer *how a prognosis can tool enable collaboration for decentralised health services*.

Of note: To promote anonymity of the region and sub-regions, these are referred to as Region R and all sub-regions as sub-region xxx.

3.2 Methodology Sub-Questions

3.2.1 Sub Question 1
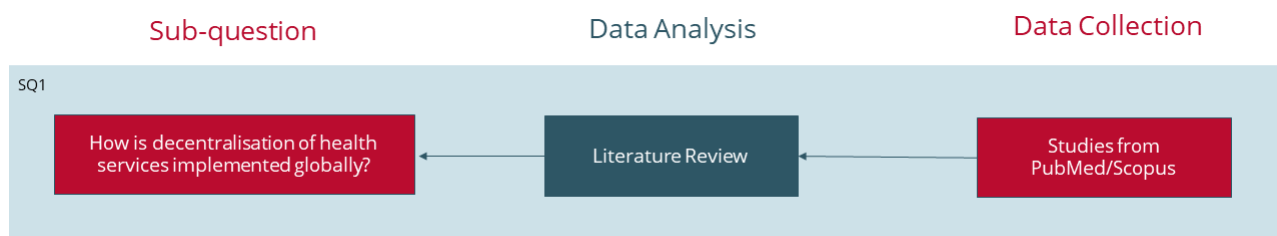
Figure 3.3: Methods SQ1

To start, the current state of academic knowledge is researched to establish *whether* and *how* health decentralisation has been implemented globally. Thereby, the aim is set to be able to compare the case of region R to a wider context. A literature review inspired by the commonly practised systematic review method is conducted. This review focuses on the core concepts of the overarching research question. The core concepts relevant to the main research question *(How can a data analytic tool act as a boundary object to enable collaboration as a feature of health care system reform?)* and thus indirectly also to the sub-question are *Decentralisation, Health Care (delivery), Data Analytic* and *Collaboration*. A narrow to wider search method will be adopted.

The narrow search aims to find highly similar cases, providing the same type of care (non-elderly, non-medical focused assisted living) supported/stimulated by the use of a data analytical tool with or without a focus on collaboration as in the Dutch-region case study.

Search Methods

On 31-8-2022, MEDLINE and Elsevier were searched through both PubMed and Scopus databases. Two different sets of searches, each containing a broader and highly specified search were conducted (4 in total). The initial narrow search (A) included the concepts of *Decentralisation, Data Analytic, Health Care (Delivery) and Assisted Living relatable care*. The second (B) included *Collaboration, Decentralisation, Health Care (Delivery) and Assisted Living relatable care*. Given the low number of

available publications for both narrow searches (search 1: n pubmed = 1, n scopus = 2, search 2: n pubmed = 8, n scopus = 9) the level of granularity was broadened to more generic searches. The third search (C) encompassed all themes from search 1 excluding *Data Analytic*. Correspondingly search 4 (D) entailed the themes listed in search 1 excluding *Assisted Living relatable care*. The search strings are listed in Table 3.4 , the overall themes are summarised from left to right as: *Decentralisation, Collaboration, Health Care (Delivery) and Data Analytic*.

A	(Decentral*)		AND ("supply and distribution" OR "Delivery of Health Care" OR "Health Services" OR "Health Care*")	AND ("Home Care" OR "Assisted Living*" OR "Residential Facilities" OR "Ambulatory Care" OR "Elderly Care")	AND ("Data Analytic* " OR "Data Science" OR "Software Tool*")
B	(Decentral*)	AND (Collaboration)	AND ("supply and distribution" OR "Delivery of Health Care" OR "Health Services" OR "Health Care*")	AND ("Home Care" OR "Assisted Living*" OR "Residential Facilities" OR "Ambulatory Care" OR "Elderly Care")	
C	(Decentral*)		AND ("supply and distribution" OR "Delivery of Health Care" OR "Health Services" OR "Health Care*")	AND ("Home Care" OR "Assisted Living*" OR "Residential Facilities" OR "Ambulatory Care" OR "Elderly Care")	
D	(Decentral*)	AND (Collaboration)	AND ("supply and distribution" OR "Delivery of Health Care" OR "Health Services" OR "Health Care*")		

Figure 3.4: Search String Overview

Eligibility Criteria

Publications were included if they met the following criteria:

- *Decentralisation:* The process or mechanism of decentralisation in political, fiscal or infrastructural/geographical sense was described in detail. Decentral computing such as block-chain methods were excluded.

- *Data Analytic:* Any software tool aimed at improved provision of health care.

- *Assisted Living relatable:* Any type of health care similar in organisational design or target group, for example, ambulatory, home or elderly care.

- *Health Care (Delivery):* Any type of health care or its delivery described from a political, fiscal or infrastructural or organisation perspective.

- *Setting:* To resemble the setting of this case study in the Netherlands, exclusively publications researching high-income countries according to the World Bank income bracket classification were included.

- *Practice:* Only studies or reviews published between 2000-2022 were included to resemble current political and societal context. Pilots and non-reviewed publications were excluded.

Of note, the first four are theme specific and only relevant if the theme is present in the search, the last two are general and valid for all searched.

Study Selection

All publications were imported to, and de-duplicated by, reference manager Zotero 6.0.15. All abstracts and titles were screened to meet the eligibility criteria.

Similarly, after abstract screening, all remaining articles were screened full-text to meet the same eligibility criteria. The reason for inclusion of full-text screening was recorded and reported. To provide a general overview of the available research, the same approach was conducted for a number of excluded records.

Data Extraction & Synthesis

A spreadsheet was designed to extract the core concepts of the article, whether the study concerned high income countries, the type of health care was relatable to assisted living, an analytical tool was used, the process of decentralisation was explained in detail. Additionally, column were included for the year, title, authors, main findings of the study, secondary findings, methodology and notes for inclusion. All eligible publications and examples of publications that were excluded were saved to unique spreadsheets. No systematic quality checks were conducted due to the limited amount of included articles. In case of doubt of scientific maturity, impact factors and amount of citations were researched. Articles were excluded when a impact factor was below 3 or the number of citations was below 15.

3.2.2 Sub Question 2

Figure 3.5: Methods SQ2

Secondly, to asses how the planning and organisation of decentralised assisted living in the Netherlands can be facilitated by a prognosis tool, an appropriate modelling approach was to be set. This section starts with a clarification on the modelling choice adopted after which the remaining methodology is described.

Modelling choice prognosis tool

Different modelling approaches have been adopted to model health care systems. Depending on the specific problem and description of the system at hand, either System Dynamics (SD), Discrete-Event Simulation (DES) or Agent-based modelling (ABM) are regularly used. The former can be used to study large (feedback) systems over time by describing them in a set of differential equations (Esensoy & Carter, 2018; Homer & Hirsch, 2006; Rashwan et al., 2015). DES has the capability to study sequences or queues of events (event-based) and agent attributes over time (Allen et al., 2015), but only snapshots in time can be analysed. In ABM, there are also individuals, like in DES and unlike in SD, yet these are capable of making individual, active 'decisions' by interacting with their environment (and one-another) according to their assigned attributes (Alibrahim & Wu, 2016; Huynh et al., 2012; Yousefi et al., 2018). The majority of SD and ABM modelling and simulation research focus on acute health care, elderly/long-term care and the spread of infectious diseases (Cassidy et al., 2019). Likewise, DES focusses on multiple healthcare settings and are especially popular in emergency departments in which they seek to improve time and efficiency-related metrics (Vázquez-Serrano et al., 2021). Additionally a fourth, less complex but more feasible modelling method, spreadsheet modelling (Hermans, 2012), has been less studied in health care.

By nature the identified health care problem has the following three important characteristics: accumulation [1], feedback loops[2] and time-delays[3]. These are manifested in the accumulation of patients within care facilities and on waiting lists [1], the negative feedback of political actions [2] and time-delays in treatment duration and time-management of waiting-lists [3]. The nature of this problem in combination with the aim to guarantee usability by municipalities, means that a less complex modelling method than system dynamics is adopted, namely, spreadsheet modelling. This still captures the essential relations and considered modelling capacity of municipalities. The conceptual model designed in this thesis may also be valuable to inform future more complex modelling methods if necessary.

A set of *Automated Spreadsheets* was designed and implemented in *Excel* by two modellers (the researcher and an employer of the independent advisory) in collaboration with three sub-regions (together region R) in the Netherlands and project leader (the aforementioned case study, see section 1). The tool was designed in the time-span of two months (0.5 fte) in which the modellers participated in semi weekly *working sessions* with the aforementioned sub-regions.

Design Science Research Methodology Process Model

The (collaborative tool) design is described in relation to an adaptation of the design cycle formulated by Peffers et al. (2007). Initially, this design cycle research methodology has been created for information system research. Given the informative characteristics of the current tool as in information systems, this methodology is deemed appropriate. The design cycle applied couples Peffers et al. (2007)'s six

phases (see Figure 3.6) to four phases. These four phases overlap with the sketched general approach (see Figure 3.1) phase two until five.

1. **Problem Identification:** combines Pfeffers's first two phases *Identify problem & Motivate* and *Define objective of solution*. In the first phase the problem to be solved is identified and sharply formulated through describing the output of the interactive *working session* between the modellers and sub-regions. The importance of a solution is clarified and thereby ensures added value. Additionally, it outlines how a new artefact can stimulate a solution and mitigate the problem addressed.

2. **Prototype**: is similar to Pfeffer's third phase *Design & Develop*. The artefact is created by determining the desired functionalities, rules of calculation and sketching the architecture (similarly based on researchers experiences in *working sessions* attendance). Thereafter the artefact itself is created and its use is demonstrated by reflecting on the extend to which the objectives are met.

3. **Evaluation**: combines Pfeffer's fourth and fifth phase *Demonstrate* and *Evaluation*. In this phase the artefacts functionality is assessed by observing and measuring how well the artefacts supports the solutions to the addressed problem. The former is addressed in this sub-question, evaluating within prototype design by the researchers *observations of the iterative steps during the design and development* of the artefact. The latter, empirically measures how the tool performs in real-life is addressed in SQ3 by *interviewing* all stakeholders.

4. **Refine**: This phase includes process iteration by incorporating the findings of the evaluation phase to refine the first prototype. This phase is considered out of scope in this research.
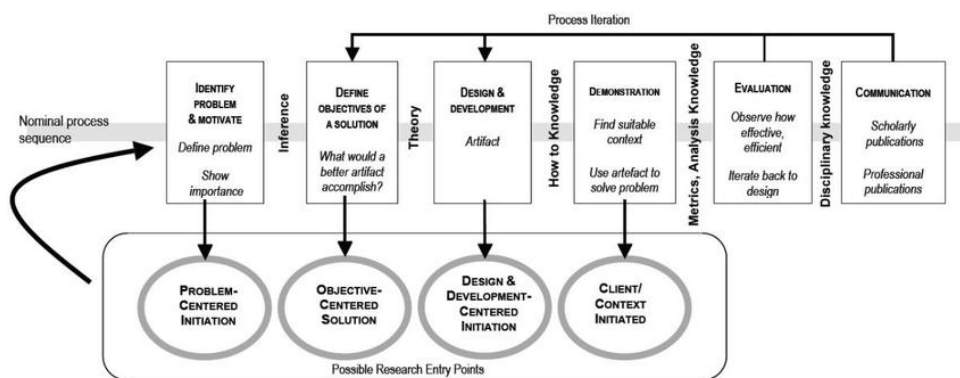
Figure 3.6: Design Cycle Research Methodology (Peffers et al., 2007)

Following Peffers et al. (2007), a design cycle has four different *entry points* depending on whether the problem identification is included, the research is initialised from the objectives, merely focuses on the artefact design or is client/context initiated (see bottom box Figure 3.6.

This design science research follows an *objective centred approach* since the researcher was not herself present in the first phase (identify problem & motivation). Also, secondary, (not primarily collected by the researcher) knowledge was provided to the researcher. Therefore, a short description to elude the first phase will be provided to give a fuller overview of the prototype design.

3.2.3 Sub Question 3

Figure 3.7: Methods SQ3

Lastly, this sub-question focuses on the empirical validation by *evaluating within case-context and applicability in a wider context* through *interviews* post-prototype development (phase 5 in Figure 3.1).

Data Collection

Seven semi-structured interviews (Kallio et al., 2016) were conducted in Dutch taking account and promoting linguistic expressive capacity of the interviewees. All but one attendee of the working sessions for (collaborative) tool design were interviewed. Additionally, to include a meta perspective and the non-attendee, the company project executive was included. Thereby the representatives of all actors involved in the case study described have been included. Their roles and reason for inclusion are listed in the table in Figure 3.8 below.

The semi-structured interviews were guided by 6 principal questions aimed at answering all sub-research questions (see Appendix A). Based on the answers deepening *How* and *Why* questions were asked to provide more insight into the reasoning of the interviewees. The interviews lasted between 30-45minutes each and were considered finished when all questions were answered.

All interviews were recorded and automatic transcripts were produced using Microsoft Teams Software.

Role	Added Value
Regional Program Manger Social Care (Problem Owner & External Project Leader)	➤ Overarching Insight ➤ Domain expert ➤ Promotor/Stimulator of collaboration – insights on process of collaboration since building/usage of the tool
Sub-Region A1: Policy Advisor Social Development Subregional project leader Social Care Project leader procurement Social Services/Shelters, Assisted Living	➤ Sub-regional, user insight on tool utility ➤ Sub-regional, participant perspective collaboration ➤ Medium and semi-mature sub-region
Sub- Region A2: Policy Advisor Social Development	➤ Sub-regional, user insight on tool utility ➤ Sub-regional, participant perspective collaboration ➤ Medium and semi-mature sub-region
Sub-region B: Program manager Social Support Act region municipalities	➤ Sub-regional, user insight on tool utility ➤ Sub-regional, participant perspective collaboration ➤ Large and mature sub-region (potentially different challenges/pitfalls than smaller regions)
Sub-region C: Policy advisor Social Care	➤ Sub-regional, user insight on tool utility ➤ Sub-regional, participant perspective collaboration ➤ Small sub-region, differential needs
Project leader Tool (company)	➤ Insight on technical limitations & strengths ➤ Semi-neutral perspective on dynamics of collaboration ➤ Field expert (Assisted Living), findings put in to 'historical' context due to history with region.
Project Supervisor (company)	➤ Domain Expert able to provide expert opinion but without the inherent bias of the modellers/ tool builders

Figure 3.8: Overview of the interviewees roles within the case and rational for their inclusion with focus on their individual their added value.

Data Analysis

The interviews were analysed in three phases. In the first, inductive phase each interview was scanned to identify thematic patterns to develop familiarity with the content and asses important individual themes.

In the deductive second phase each individual interview was manually mapped by manually categorising the identified themes and associated quotes to an evaluation framework adapted from McEvoy (2019), see Appendix **??**. This evaluation framework was used to study (the use of an adaptation support tool in) collaborative planning workshop or designing sustainable urban water management measures. The framework was inspired by the original and more general evaluation scale for policy analytical activities proposed by Thissen and Twaalfhoven (2001). In this framework, policy analytical activities were defined as "specific analytical effort delineated in time and scope and oriented towards a specific policy issue". To the researcher's knowledge no evaluation framework for the tool design and development within a planning process with stakeholder exists. In the current research the activity is defined as multiple smaller engagements, a series of working sessions in which the tool in being designed and development with the aforementioned actors.

Factors	Indicators
Context	Local setting; Institutional setting; Project process
Input	Aim and role of activity
Process	Organization of the activity; Procedures of the activity; Communication in the activity
Content	Quality and type of data and information used
Results	Outcomes of the activity; Value and relevance for stakeholders
Use	Direct use of results; Indirect use of results
Effects	Effects on problem situation; Effects on planning process; Effect on atmosphere
Wider Applicability	Boundary conditions; Strengths; Limitations; Future Refinements

Table 3.1: Tool Evaluation Framework (adapted from McEvoy (2019)

The adoption of this evaluation framework follows a pragmatic approach capturing a structured method for the evaluation of a boundary object in the combined form of tool and process in a policy setting. Additionally, the proposed framework splits process and content of the activity. This is particularly interesting since the tool aims to support both. It also enables the in-depth analysis of the whole spectrum of a set of working sessions with a tool as outcome. The evaluation framework was slightly expanded to more closely fit the research design. A key difference is the stage in which the framework is applied. In McEvoy's research the tool as a finished product is studied within workshops within a planning process. In this research the tool is studies within an earlier phase, in the design and development as well as a finished prototype within working sessions (all phases of the tool) within a larger planning process. The validating interviews have been conducted post-activity, looking back on the activity.

The adapted evaluation framework consists of eight factors, the original factor plus the addition of "wider applicability". These factors are all formalised by measurable indicators similarly adapted from McEvoy (2019). To fit the current research approach and case with its earlier stage of the prototype, some indicator were removed or newly added. To illustrate, as an indicator the factor *content*, "tool or methodology used in the activity" was removed since the previous chapter provided an in-depth description. The indicator "Effects on atmosphere" for factor *effect* was added since atmosphere played a key role in this case-study. The factors and indicator used for analysis in this research are depicted in Table 3.1 below.

The *Context* refers to the specific characteristics which may influence the activities and have implications for the outcome possibilities (what can be achieved). These can be political, physical, social, technical, ecological. The *Input* relates to all entities provided for the activity to take place, such as the actors and their aims. It is not to be confused with their input. The *Process* of the activity encompasses the procedures,

organisation and communication during the activity. 'Typically tools intend to support the process of an activity" (McEvoy, 2019). The materials used during the activity are referred to as *Content*, such as the data or the tool itself. The *Results* of an activity refer to the direct outcomes of the activity (such as direct process outcomes or more tangible outcomes such as maps) and their value to the stakeholders. The model as result is not a specific focus in analysis because chapter 5 describes this tangible result, in this framework the focus of results is rather on the value of the results to the interviewees and the direct percieved results of the activity by the interviewees. The *Use* of the results includes both direct and indirect use of the results as a product of the activity. The *Effects* can either be a direct impact of the activity or an indirect impact of the activity through the results or use of the results on the system and actors. They can take upon several forms, being unrestricted to spatial or temporal scales, these could be feelings, relationships or agreements or contribute to these. These are categorised by the effect on the problem situation, planning process and atmosphere. As opposed to McEvoy's original framework direct effects of an activity are not split from indirect effects. As a set of working sessions is reflected by the interviewees in hindsight as opposed to directly after a singular working session, the direct effects of one workings session may be hard to detach from the effects later in the process. For this reason the choice was made to group direct and indirect effects together. The *Wider Applicability* refers to any characteristic of the activity or tool that could be important outside the scope of the case's activity. These can be both process or content driven such as mediating (process) or categorising (content). Factors are more general than *indicators*. Some *Themes* may therefore be appointed to a general *factor* instead of a specific *indicators*. Additionally, some quotes may contain highly condensed information on several themes, indicators (or factors). If they loose their key message when decomposed, the same unique quote may be used as whole for several themes and thus have multiple instances. In these cases, where possible, the key sub-information to support a theme, instance or factor will be highlighted by underlining the specified part.

The third and final phase consist of a meta-analysis in which all individually analysed articles are manually analysed for overlapping or differing themes per indicator (and factor). To allow for an in-depth analysis, quotes exemplifying and nuancing the identified differences or similarities in themes will be included (see Chapter 6).

This framework's structure envisions a nested structure (McEvoy, 2019). In the original structure the tool is embedded within a activity, which is part of a planning process and is carried out in a context. In this case, the prognosis tool and its (design & development) is embedded within working session which are part of a planning process which take place in a wider context (see Figure 3.9 below). This sub-question mainly addresses how the prognosis tool transcends in multiple working sessions as part of the planning process. Nevertheless, the eight-factor framework described above also explores the context.
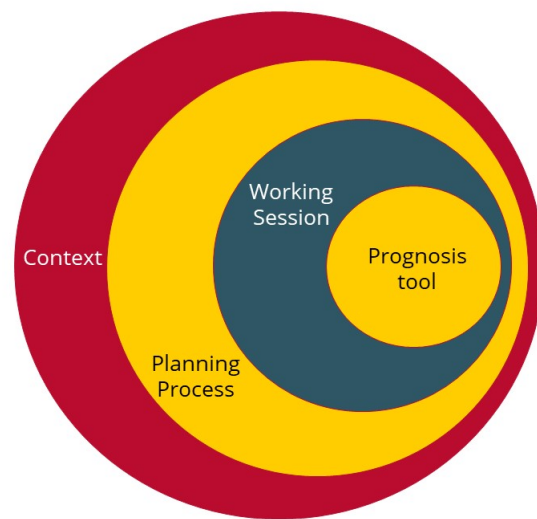
Figure 3.9: Schematic overview of the nested structure of the tool within working session, planning process and its context

3.2.4 Role of the researcher

To clarify the role of the researcher we take the nested structure above (see Figure3.9). In the first part of this research (section 3.2.1), the researcher takes a pure researcher role outside of the nested circles. In the second part (section 3.2.2) the researcher takes a dual-role. In and outside of the working sessions, the researcher is part of an independent advisory commissioned by the regional program manager of *Region R* (see Figure 3.8). The researcher in their role of advisor modelled and build the tool together with the advisory's project lead based on information reviewed in the working sessions, in which they both participated. Additionally, the researcher in their role of researcher observed and described the process and content of the design and development of prognosis tool. Therefore, in this part the researcher as researcher is positioned within the prognosis tool but also has previous knowledge (as advisor) through experience working sessions part of the planning process and content. In the third part (section 3.2.3) the researcher has takes upon a pure researcher role again. Positioned outside of the tool, working session or planning process, the researcher analysed the experience of the actors completely independently of the advisory.

Part II

Results

HOW IS DECENTRALISATION OF HEALTH SERVICES IMPLEMENTED GLOBALLY?
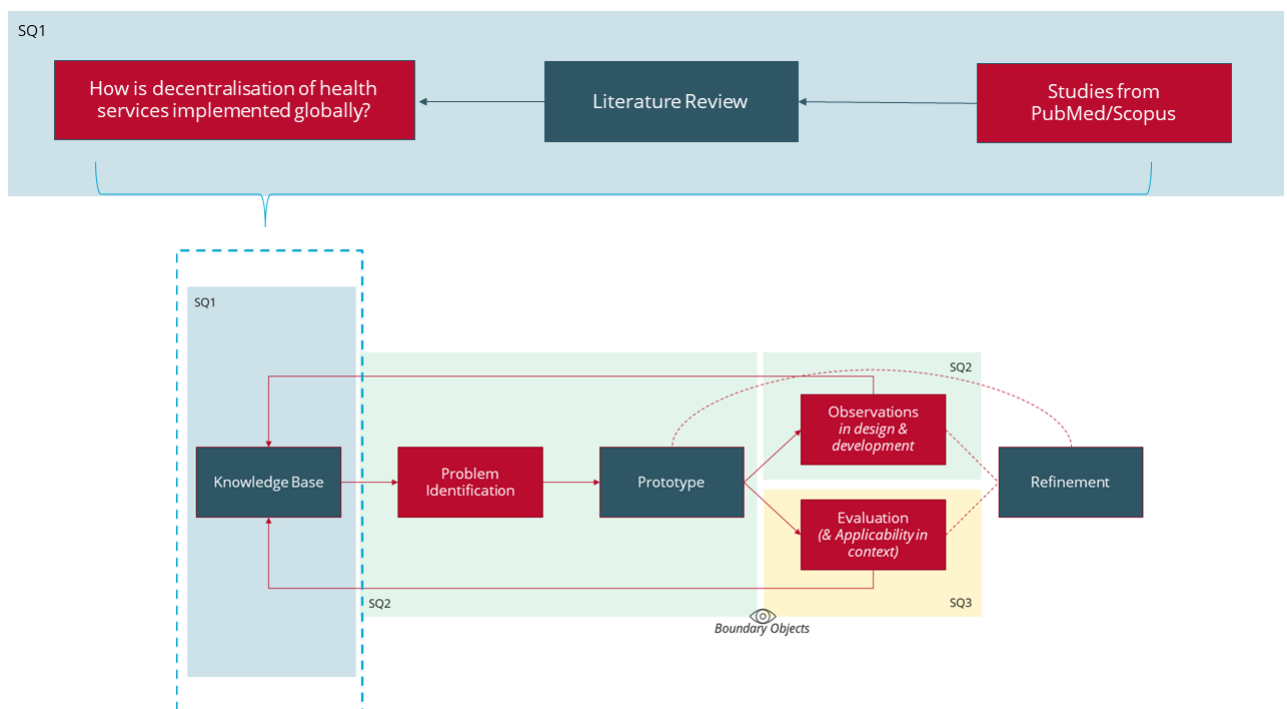
Figure 4.1: Research Flow SQ1

4.1 Introduction

In section 1 and 2.1 we have referred to the problem in the context of assisted living in the Netherlands. No we look into the challenge more globally. This section thereby outlines the current state of academic knowledge to provide insight on similar settings through a systematic review inspired approach. It asses how decentralisation of

health services is implemented globally to establish how the current decentralisation of assisted livings falls in the the larger scope of global decentralisation. Ultimately to be able to integrate the lessons learned and reflect on the current case study in a larger context.

4.2 Results

4.2.1 Overview of the Literature

From the initial 553 retrieved records, 22 scientific studies were selected for inclusion based on the eligibility criteria as described in section 3.2.1. Additionally four "Health System Review" reports of high quality by the WHO have been included to build upon and enhance the scope of the scarce academic literature. These provide information about the implementation of decentralisation in practice. Of the included articles, only four include both the concepts of *Collaboration* and *Decentralisation* and/or *Assisted Living relatable forms of care* in *High Income Settings*. All others solely include the concepts of *Decentralisation* and *Health Care* of which very few articles focused on forms of care related to *Assisted Living*. No articles researched the use of a *Data Analytical Tool* nor *Assisted Living* specifically (for a schematic overview see Figure 4.2 below).
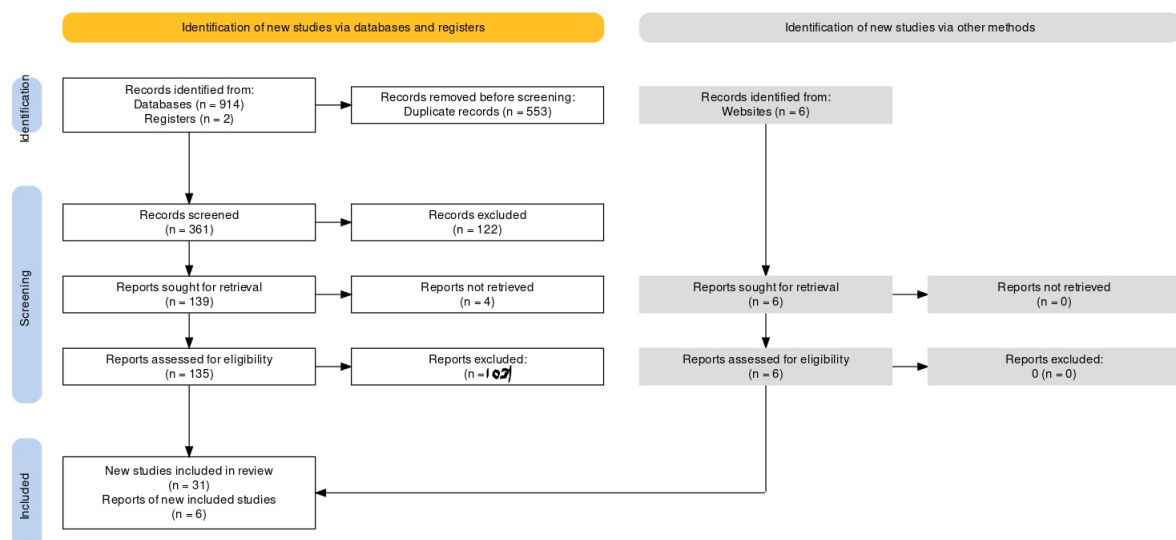
Figure 4.2: PRISMA Flow Diagram Literature Search

This research is therefore novel: it addresses a gap in the academic literature by contributing research on *The use of a Data Analytical Tool for Collaboration in Decentralisation within Assisted Living in a High Income setting.*

From the excluded literature most focused on one specific health intervention, such as HIV treatment and mostly in Low-Middle Income Countries (Hippner et al., 2019; Tsui et al., 2017; van der Elst et al., 2020). Notably, there seems to be a trend in

academic literature for the decentralised *distribution* of Tuberculosis (TB) (Daru et al., 2018; Zawedde-Muyanja et al., 2021) and aforementioned HIV treatments in LMIC. These finding are in line with the state of the literature reviewed by Abimbola et al. (2019b).

4.2.2   Key findings from included studies

Decentralisation: an ambiguous concept

Decentralisation in academic literature is an ambiguous concept. Studies refrain from explicitly defining their practised definition of decentralisation (Jiménez-Rubio and García-Gómez, 2017; Polin et al., 2021), provide broadly interpretable definitions (Saltman, 2008) or provide detailed extensive but differing definitions in other contexts such as providing details on the relations between governmental bodies and financial flows (Wenzel et al., 2016) or in the context of service delivery and healthcare provision describing the distribution of responsibilities but not the associated tasks or concrete implementation.

This critique is highlighted by Abimbola et al. (2019b). The review found the definition of decentralisation in different setting to be treated as the same concept, creating ambiguity of results of evaluations of health system decentralisation. Supplementary to the different uses of decentralisation, the literature does establish the general consensus that decentralisation entails the reallocation of some sort of power from more central actors to more peripheral actors. Nevertheless, the high variety in explicitness and meaning of the definition of decentralisation yet the abundant use of decentralisation as a concept in decentralisation in health care literature causes ambiguity, difficulty in comparison of systems and thus mixed results.

The definition of decentralisation in health care practised in this research is therefore clearly stated as the shift of (financial and organisational care provision) responsibilities from central governmental actors to more peripheral actors in line with the general adoption of the concept in academic literature.

Decentralisation resonates in fiscal, infrastructural and governance of service provision

Decentralisation seems to resonate in many different system facets but how this should be integrated remains a challenge. In the Netherlands social care and health care have been isolated in separate sub-systems for many years but now, for assisted living, they will have to cooperate. The following examples provide an attempt to identify in which subsystems decentralisation resonates and whether this differs per country.

The ambiguity and comprehensiveness associated with decentralisation (in health care) resonates in the amount of different pursuits for categorisation. The categori-

sations found include the division between governance, finances, service delivery and resource generation (WHO, 2022). The division of political, fiscal and administrative/managerial ((Saltman, 2008)), Service delivery and Systems ((Ohrling et al., 2021)), governmental (system-wide) and organisation/management of a specific diagnose or treatment (Abimbola et al., 2019b), fiscal and through hospital distribution ((Pandolfi et al., 2022)). Articles often also describe decentralisation within one of the above categories such as fiscal ((Jiménez-Rubio & García-Gómez, 2017)), provision of health care services in hospital and aftercare infrastructure (Ohrling et al., 2021; Wenzel et al., 2016) . Again often practicalities are not thoroughly presented.

To illustrate, Spain, a country well studied in decentralisation literature, has implemented fiscal decentralisation in a region dependent manner and that has been altered over time. It is assumed Spain has been relatively well studied due to its long running decentralisation period of 20 years (1988 - 2008). Some regions raise own taxes (i.e. Basque county), others receive national funding. Some regions were already fully fiscally autonomous (i.e. the Basque Country and Navarra) and in non-foral regions the Ministry of Health (central government body) together with each autonomous region jointly decided on the annual budget. Later this system was replaced by general grant blocks transferred to regional governments as opposed to previous earmarking (Jiménez-Rubio and García-Gómez, 2017). This can be interpreted as fiscal decentralisation and is often linked to a countries division between regional (ie county councils, cantons, provinces), sub-regional (ie municipalities) and central government. In this division the central actor (partly) provides the sub-divisions with financial assets and freedom of expenditures at the lowest level. The exact dynamic of receiving financial assets differs per country.

Spain also holds some regional variation in public provision of services (i.e. sex change surgery). The central government holds power over setting minimum standards, norms (health care provision and coordinates whole health care sector). Regions do shape provisions to their own local population (i.e. more beds for long-term patients in areas with bigger elderly population) (Jiménez-Rubio & García-Gómez, 2017).

Somewhat similar to the Netherlands, in Sweden primary and secondary care are both funded and delivered at county (regional) level. Municipalities in both Sweden and the Netherlands are responsible for residential and nursing homes, home care and social services (Wenzel et al., 2016). It is thought the health care system is highly decentralised and organised which results in variable care provision.

The literature points towards a general division between fiscal (which organisation has the financial budgets) and infrastructural (hospital, GP geographical locations), governance of service provision (types of care authority/responsibilities).

It is worth mentioning, the focus in literature is rather on the effect of decentralisation on certain outcome measures, such as the assessment of health system performance (WHO, 2022), equity, efficiency and resilience Abimbola et al. (2019b) than on the practicalities of implementation of decentralisation, a practical comparison with the Dutch system is therefore at the time of writing not grounded in literature.

Mixed notions whether countries are re- or decentralising

To asses who the potential users of a prognosis tool in health care decentralisation scenario's are, insight into which countries are going through a similar reform is addressed.

Assisted living relatable care in most researched high-income countries is decentralised (Sweden, Spain, Italy, Netherlands respectively) (Jiménez-Rubio and García-Gómez, 2017; Maarse and Jeurissen, 2016; Pandolfi et al., 2022; Wenzel et al., 2016). Some countries are re-centralising, but the findings as well as the definitions of re- and decentralisation are mixed, an overview is provided below.

Moreover, on de-(centralisation) a brief overview is provided. In 2018 and 2019, there have both been four centralisation and two decentralisation health systems reforms reported in the light of governance in high income countries (Polin et al., 2021).

In 2018 Canada, Lithuania, Austria and Finland have put (re-)centralising policies into effect wheres Portugal and Denmark have decentralised. The exact actions differ largely from: merging nine regional health service funds (Austria, centralising), shifting the responsibility from 170 primary healthcare authorities to 20 joint health and social care authorities (Finland, centralising) or giving the central government the right to own providers, and giving the Ministry of Health oversight authority for approving the provider network (Lithuania, centralising) to passing laws for the transfer of primary care competences to municipalities (Portugal, decentralising) and a government proposal to create 21 integrated care clusters merging responsibility for hospital, general practice, and municipal care to decentralise regional governance of providers (Denmark, decentralising).

In 2019, Finland's strategy to centralise was abolished by the admission of a new government. Likewise, Lithuania's and Denmark's actions were abandoned. Newly (de-)centralised actions were taken by France ("law on the organisation and transformation of the health system introduced a major reorganisation, assigning responsibility for primary care teams to the local level, supporting the development of local hospitals (focusing on day care provision), and reinforcing territorial hospital groups for specialised care" (decentralisation), Ireland ("establishment of Health Regions, responsible for provision and financing of primary and hospital care from a common budget" (decentralising) and Portugal by giving municipalities more responsibility for the provision of primary healthcare (decentralising) whilst controversially underlining the "central role of the NHS in the Health Basic Law" (centralising).

Additionally, in light of hospital care: Finland, Norway and Sweden have centralised highly specialised and emergency care. There is no clear trend in hospital/primary care on the right level of administration. The Netherlands has arguably made a step towards centralisation by making sectoral agreements for acute care sector and expanded to other care sectors, including home nursing, prevention, paramedical care.

In Norway (2002) the central government regained political and administrative/managerial by taking responsibility for all hospitals away from 19 regions and moving it to 5 newly

created regions. At the same time, fiscal responsibility remained national. The same shift was seen in Denmark (2006): a reduction of the amount of regional governments and municipalities, and regional power. Both fiscal and political responsibilities were reallocated to central level. Interestingly, responsibility for prevention and chronic care was moved to (the reduced amount of) municipalities. The same reduction of number of regions or municipalities, yet not their individual power was announced to take place in Finland and Sweden. In the UK a similar process was stated to reduce the number of Primary Care Trusts. A point of critique is the fact that Saltman (2008) states a reduction in amount of regions/municipalities and not the explicit transfer of power is enough to call a transition a centralisation or decentralisation. This phenomenon is not bound to Scandinavia, also in Poland (2003), the Ministry of Health took away control of the social health insurance system from regional funds. In Germany a fiscal centralisation of national pooling of social health insurance contributions, which were previously dedicated to private not-for-profit institutions, and redistributing these to sickness funds was planned in 2009.

Additionally, the Dutch strategy in 2006 to restructure the health insurance fund from partly employee paid to fully individually paid minimum supplemented by social assistance funds for low income citizens and the national pressure for funds to manage their money efficiently, is also argued to be part of re centralisation. This is in direct opposition to the perception of strategic action of the Dutch Government which has been argued to be decentralising, not re-centralising (Wallenburg et al., 2022).

In contrast to the sketched re-centralisation in Europe, both Spain and Italy are argued to continue decentralisation. Also countries with extreme ethnic conflicts (i.e. Bosnia-Herzegovina or Belgium) are exempted from the stated pattern.

Saltman (2008) concludes with the notion of an expected weakening of regional and municipal power to administrative and managerial tasks and an increase in political and fiscal authority to central governments. The responsibilities shifting from regions to sub-regions/municipalities for assisted living in the Netherlands (years after this Viewpoint was written) does not resonate with this notion. The fiscal authority to some extend does still lie at the national level as the government is redistributing financial assets to municipalities. Yet, how municipalities spend these financial assets (or combine these with others) is the responsibility of the municipalities themselves.

Re- and decentralisation seems to be an ongoing, dynamic phenomenon lacking clear consensus on which actions belong to the former or latter. A general trend on high-income countries decentralising is not clearly evident in literature, some are decentralising, others re-centralising and both can be present within one country on different health system levels (emergency care vs. elderly care), which may be influenced by the difference in adopted definitions.

Health Care Decentralisation in The Netherlands

The implementation of health care decentralisation in the Netherlands entails the shift of responsibilities from the central government to municipalities. Marangos et al. (2018) states the aim of the Dutch Government to decentralise is driven by the assumption that municipalities are able to organise care and social support more efficiently and effectively than the central government. The underlying assumption: municipalities are best informed about their locality, and in addition to more efficient and effective, also are most able to provide tailor-made or client-centred solution (Maarse and Jeurissen, 2016). In practice this has meant local policy differences between municipalities. In light of the decentralised social support, policy municipalities practice differing visions on the role of (in)formal home care. They have freedom in their focus on the ratio of encouraged informal / provided formal care, the amount (and form) of informal care provided. And they "have the tools to influence the use and cost of formal care (for example by setting criteria for eligibility, fixing amounts of out-of-pocket contributions and governing tender procedures for home care provider)" Marangos et al. (2018). Furthermore, municipalities posses the freedom to formulate, design and implement their own types and extent of assistance delivered (Maarse and Jeurissen, 2016). For example, each municipality can design its own assessment to establish the already available personal social network and to which extent informal care is provided. The influence of municipal local policy on the use of informal domestic help has not been established nor has the relationship between the use of informal or formal care and policy differences .

In fiscal terms, funding is provided by the central government and allocated to municipalities, based on population characteristics such as (population size and % elderly inhabitants) comparable with Norway (Saunes et al., n.d.). Both the decentralisation of social care and non-residential care within long-term care are driven by expenditure cuts (Marangos et al., 2018)(Maarse & Jeurissen, 2016). In legislative terms, the decentralisation of non-residential care (in LTC) is devolved from regional care offices to insurers (ZVW) and municipalities (WMO 2015) in the Netherlands.

Negative effects of health care decentralisation

The decentralisation of non-residential care in long-term care in the Netherlands has had several negative effects, including lower tariffs contracted by municipalities leading to deficits, the failure of municipalities to provide tailor made solutions, worsened employment conditions, increased admin costs, overoptimistic assumptions on efficiency gains, and increased ICT & administrative tasks (Maarse and Jeurissen, 2016). The reasoning that intergovernmental fiscal transfer could compensate for these entail the risk of under stimulating local governments to reduce costs in combination with the complexity to identify and penalise causes of local inefficiencies ((Jiménez-Rubio & García-Gómez, 2017)).

Other negative effects include the fragmentation of care resulting from, the division

of secondary care by regions and nursing homes by municipalities, independent processes, high degrees of specialisation and lack of system focus outside of the responsibilities within ones profession (Wenzel et al., 2016). An example of a proposed method or rather boundary condition to counter these negative effects is a clear division of responsibilities and transparent system of accountability (Jiménez-Rubio & García-Gómez, 2017).

Coordination and Collaboration

The literature on collaboration and decentralisation is scarce. Nevertheless, the challenges for coordination are emphasised (Wenzel et al., 2016) . An enabler for coordination could be collaboration. In Sweden, to facilitate coordination for optimal resource use, a pathway is created to facilitate collaboration between different care levels by introducing 'chains of care' . In Switzerland, each canton (region) is independent in formulating policies and organising the health sector, a very clear form of decentralised governance. Naturally, this allows for heterogeneity or diversity in integrating or implementing tools such as the health impact assessment (HIA). (Mattig et al., 2017). The cantons introduced the HIA at different times, focusing on different themes (sustainable development in Ticino and WHO European Health Cities Networks in Geneva) and different approached (Geneva: legislative and experimental, Jura: procedural and experimental). The first national HIA took place 12 years after the introduction in Ticino in 2000. For cantons to be able to learn from each other's experience the Swiss HIA has aimed to spread knowledge between cantons at national level through a horizontal inter-cantonal level. The HIA in Switzerland gives an example of how institutionalisation at federal level is hampered or unsuccessful. HIA has been implemented with great variability and different levels of success on a regional level. The inter-cantonal collaborative structure is manifested in conferences' (i.e. conference of cantonal director of health) in which cantonal governments coordinate. These are however mostly a subset of the cantons as a consequence of, amongst other, language discrepancies. Two lessons to improve collaboration in decentralised health care settings are extracted from this example. Firstly, a knowledge platform to share experiences and strategies is institutionalised in Switzerland by 'conferences'. Secondly, the importance of a shared language, whether it is a national language or the standardisation of definitions used for sub-groups. Users have to be able to communicate to collaborate effectively.

In light of managerial functioning in a decentralised health care service provision setting enables of collaboration have been found to include loyalty and trust improve managerial capacity, accountability, increased overview will strengthens managers decision ability with top management as "air traffic control tower" and adopting a system perspective to support collaboration and learning (Ohrling et al., 2021).

4.3 Summary

The literature on decentralisation of assisted living on a global level is scarce. No evidence of other tools exists to build upon in a highly similar setting. Nevertheless, many countries are decentralising several forms of care, some are thought to centralise. However, the ambiguity of practised definitions provides for a complex comparison. Moreover the literature is focused on effects of decentralisation rather than the fundamental structure and implementation of practicalities. There have been notions of unexpected negative effects associated with decentralisation. Generally speaking the implementation of decentralisation globally does follow, as in the Netherlands, a responsibility and assumed power shift from central to more peripheral actors. The need for collaboration is not explicitly found in academic literature but the grey literature (chapter 1) does voice a need for collaboration. So, why we need collaboration is clear. Now, we make our way to the *How*. This will be explored by designing and developing a tool that might suffice. The following section thereby outlines one practical implementation of decentralised assisted living in the form of a planning & organisational tool.

How can the planning & organisation of decentralised assisted living in the Netherlands be facilitated (by a data analytical tool)?
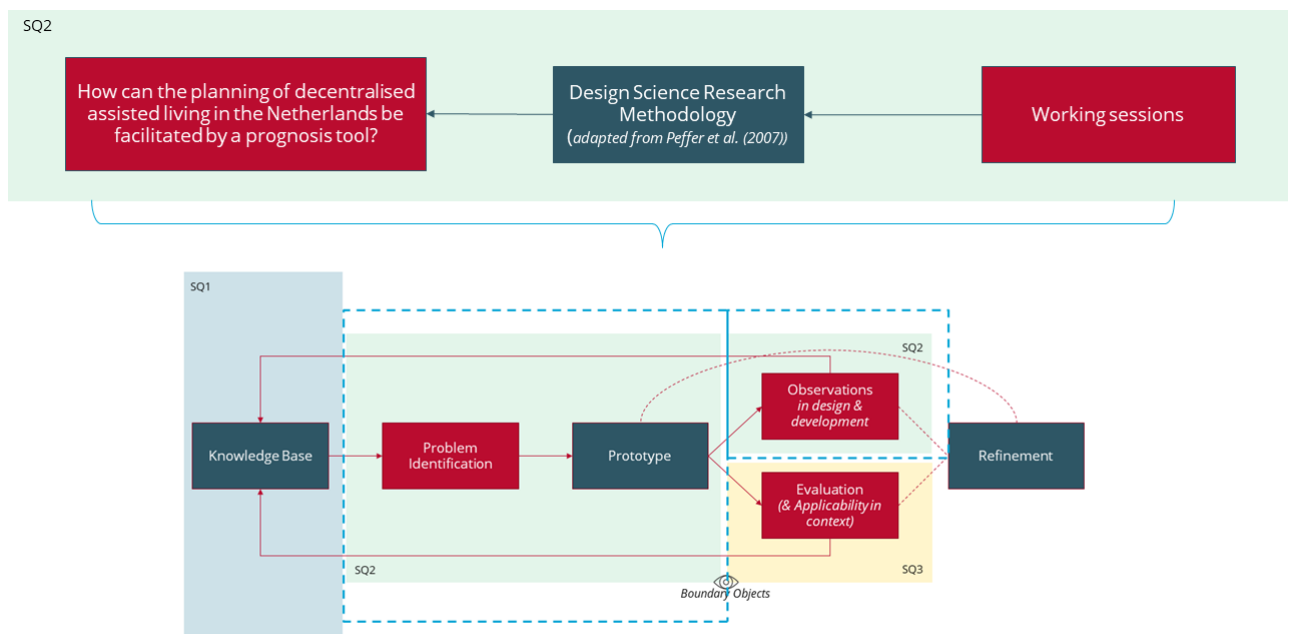
Figure 5.1: Research Flow SQ2

5.1   Introduction

This section outlines the design of a prognosis tool for the planning of assisted living in a region in the Netherlands, according to an adaption of Peffers et al. (2007)'s design science research methodology. It informs us of one possible way of implementation to facilitate health care system reform as a consequence of decentralisation efforts. Therefor its main focus is on the most inner circle (prognosis tool) in the nested circle of McEvoy (McEvoy, 2019), see Figure 5.2 below.
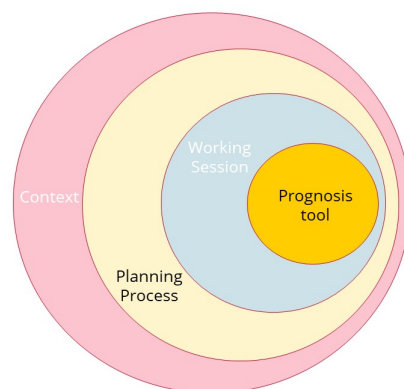
Figure 5.2: The prognosis tool as the inner and central nested component

5.2   Results

5.2.1   Problem Identification

The case study *region R* has followed the vision of the national government to decentralise assisted living ambitiously for some years. They are, so to say, front runners. The national government has delayed the decentralisation on and off for some years. It was clear that one of the themes to be focused on was the implementation and elimination of facilities for the separate sub-regions, since these sub-regions will gain the responsibility for planning & organising assisted living within their own sub-region. This was previously a responsibility of the central municipality in the region. *Region R* was however already preparing for this transformation during the years of central indecisiveness. But because of the *absence of clarity regarding what the task at hand concretely means for the implementation and elimination of assisted living facilities*, the process has been hampered. More clarity is required in preparation for a policy meeting between the board of the sub-regions later in the year, agreements between the sub-regions around the implementation and elimination task have to be made. The urgency of coming to these agreements will intensify by the time the scheduled board meeting is ahead. Without having an overview of the elimination and implementation task individual municipalities will not be able to provide adequate care to their citizens in the future (as mandated by law). Additionally, the sub-regions

will be subject to financial risks. The financial budget will be redistributed to sub-regions. Without having knowledge of the expected costs, some sub-regions may end up with incurring too many costs. An accelerator is the possibility of citizens seeking care, and thus inducing costs, in neighbouring sub-regions when their initial sub-region does not have space. An interdependence in the provision of adequate care in each sub-region creates increased interdependence between the sub-regions. The problem can be formulated as How can insight be provided for the sub-regions of *region R* into their individual and collaborative implementation and elimination task providing assisted living during their efforts to pursue decentralisation whilst taking account of their inter-dependencies.

By developing a solution, the financial stability of sub-regions can be safeguarded and citizens can be provided with adequate care in terms of assisted living and social care. Potential consequences of not developing such solutions are as broad as more homeless people without shelter, citizens with ASS not receiving adequate guidance, or municipalities facing incurring costs.

The formal problem identified is twofold. On the one hand it manifests in a specific question, how many physical places need to be created/ eliminated. On the other hand, it just could be a question of how to shape the transition process in a multi-actor arena. Agreements, or, working rules for the transition have to be made between these actors to account for potential consequences. *An overview into the current and expected use of assisted living facilities is required to be able to make agreements in preparation of the aforementioned scheduled board meeting.*

Objectives & Requirements

The solution as intended by the designers should provide an overview of the current and expected populations in assisted living and social care and the available places for each individual sub-region for the next 10 years. The provided solution should be comprehensible and fit with potential local differences whilst providing the same overarching structure for all sub-regions. Additionally, given the novelty of this approach and the uncertainty regarding the future, the solution should be adaptable to 'demand' changes in either incoming client populations, due to for example policy strategies or external factors such as a pandemic, or to changes on the 'supply' side by realising more facilities for different types of care or taking down current facilities.

The result in the following set or *requirements*:

- Usability by the sub-regions to account for changes in the future

- Transparency between the sub-regions on data provision

- Standardisation to the extend that they fit all sub-regions' demands and re-sources

5.2.2 Prototype

Design

The design was split into two consecutive phases. Firstly, a conceptual model was formulated, followed by a set of calculation rules underlying the conceptual model.

The first phase consisted of explicating a mental model inspired by a system dynamics causal loop diagram. The most important building blocks (sub-systems), performance measures and their relations, accumulations and feedbacks were identified. The conceptual model is not mapped in normal system dynamic pictograms because of the present knowledge within the sub-regions being limited to use of Excel (see Figure 5.3 - 5.6).

Drawing on expert knowledge from within the independent advisory panel on assisted living and social care in combination with general complex system modelling knowledge by the researcher, a conceptual model was created. As the provision of assisted living and social care are similar on a meta level these terms are used interchangeable in the modelling unless stated otherwise.

The demand is defined as the amount of clients (per sub-type of care) probable for a sub-region for a reasonable amount of time. The supply is denoted as the amount of filled places for each of these sub-types. The figures below give a step wise description of the model highlighting the most important structures and processes. A "+" denotes a positive causal relation and "-" a negative causal relation. Light red boxes indicate starting values as these factors influence the systems but are not included as internal system variables. Dashed lines indicate processes of interest which are deemed important, yet not included in quantitative model because of a lack of available data and the size of the effect .

The *supply* of assisted living at time *t* is determined by:

- *Inflow (t)*: the number of clients that newly start assisted living in a *year t*. If more clients started assisted living, more places will be occupied.

- *Outflow (t)*: the number of clients that finish assisted living in a year *t*. If more clients leave, less places will be occupied.

- *Ambition Waiting lists*: The shorter a sub-region aims for the length of a waiting list, the higher the supply of facilities needs to be.

- *Clients at start*: The amount of clients at the start, the higher the initial number of clients, the larger the amount of clients in the future.

The *outflow(t)* of assisted living is determined by:

- *Duration trajectories* : the amount of time (in years) a client is assisted per sub-type of care. The longer clients are assisted, the lower the outflow.
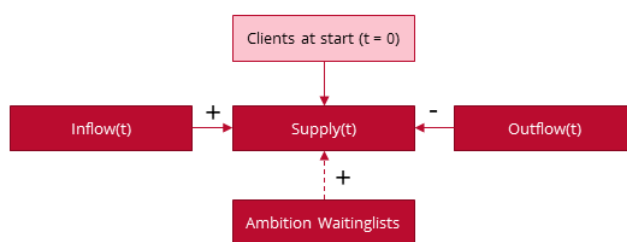
Figure 5.3: Conceptual Model Assisted Living Supply (1/4)

- *Housing shortage*: The unavailability of independent housing has an inhibitory effect on clients finishing with assisted living as clients can not return to regular housing.

- *Ambition waiting list*: the ambition to shorten the waiting list could be a driver to shorten the duration of care trajectories or decrease the housing shortage to increase the outflow of clients.
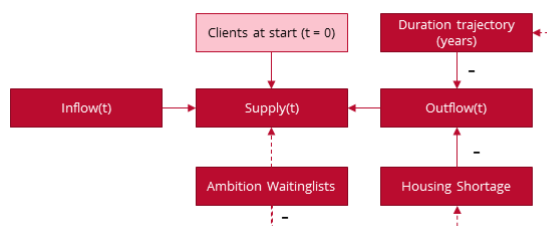
Figure 5.4: Conceptual Model Assisted Living Outflow (2/4)

The *inflow(t)* is determined by:

- *Registrations (t)* : the number of new client registrations in a sub-region.

- *Direct Inflow (t)*: the number of registrations that can start assisted living directly, for example in case of urgency or the absence of a waiting list for certain care types.

- *Waiting list (t)*: the number of clients that cannot start assisted living directly are placed on the waiting list. The waiting list is therefore a measure for the balance of supply and demand of care, the primary system performance indicator. For calculative purposes and to reduce modelling complexity this measure can be both positive and negative. Where positive denotes a shortage of supply over demand and negative (hypothetical) shows an excess of supply over demand.

- *Start size Waiting list (t)*): the number of clients on the waiting list or shortage/excess of needed places at the start.
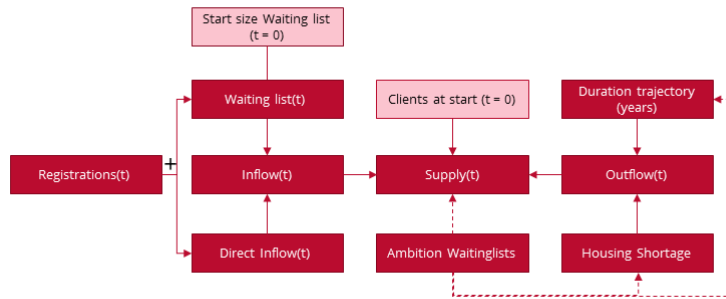
Figure 5.5: Conceptual Model Assisted Living Inflow (3/4)

The expected amount of *Registrations (t)*: is determined by:

- *Expected registrations derived from the objective distribution model*: A proxy for the expected number of registrations derived from the national funding scheme (objective distribution model for the decentralisation of assisted living).

- *Prevention*: The amount of clients in percentage of prevented registration. The sub-regions share the ambition to stimulate different preventative measures. The larger this ambition (and effective implementation) for prevention, the smaller the amount of registration for assisted living. This is included because of its importance as a policy measure in the decentralisation.

- *Inflow to other sub-regions* : The amount of clients seeking care in other sub-regions. When there is a shortage of supply over demand of care ('too' positive waiting list) this could lead to clients seeking care in neighbouring sub-regions.

Together this shapes the full conceptual model depicted in Figure 5.6 below. This conceptual model is identical for each sub-region and sub-type of care.
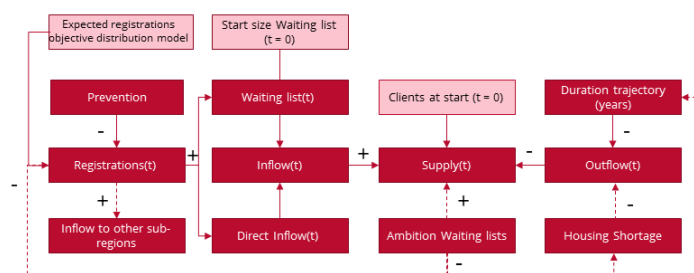
Figure 5.6: Full Conceptual Model Assisted Living Registrations (4/4)

Conclusively, each structure and its underlying process is described in a set of formal rules of calculation which are used in the development phase. These have been categorised in main structures, constants, start values.

Main structures

- *Supply (t) = dtime form start/ total time model * expected places t=10 + (dtime form model end / total time model * supply(t=0)*

- *Outflow (t) = supply(t) / duration trajectory (t)*

- *Inflow (t) = outflow(t) + (supply(t) - supply (t - 1))*

- *Registrations (t) = expected registration objective distribution model(t) * (1 - prevention factor (t))*

- *Waiting list (t+1) = waitlist(t - 2) + registration (t) - inflow (t)*

Constants

- *Duration trajectory = in number of clients per year derived from weighted average of amount of clients out flowing after different duration (i.e. 0-0,5 years; 1-1,5jr and >5 years)*

- *Prevention factor = percentage less registration assigned by sub-regions*

- *Price index = yearly percentage of price increase*

- *average price/place(t) = average price/place(t-1) * (1+ price index (t))*

Start values

- *Expected amount of registration objective distribution model*: the distribution model outlines the financial funds each municipality receives gradually over the next 10 years. An average price per placement was calculated based on the summation of the region's municipalities current costs and number of places. The current cost were indexed over 10 years, the model duration time and length of objective distribution model, with a price-indexation of 3%. The expected price in 10 years was divided by the region's expected budget in 2032, this is the total amount of expected clients based on the objective distribution model. To provide an estimation for each sub-region and sub-type of care, the current percentage of regional clients (not all care is provided sub regionally) in relation to the total client population (regional and sub-regional) is then subtracted from the total amount of expected clients. The remaining (non-regional) clients are then assigned to the corresponding sub-region based on the percentage objective distribution model funding each sub-region receives in relation to the total regional funding.

- *Wait list at start: derived from data provided by sub-regions*

- *Number of clients at the start: derived from data provided by sub-regions*

Development

The tool was developed in Excel to ensure future usability by the sub-regions. A ReadMe file explaining the tool, its functionalities and a 'how to use' guide were provided to ease functionality. The model consisted of three main parts: the *results* ("Uitkomsten") , *input*("Voeding") and *guiding sheets* ("Hulptabladen").

The *results* consisted of an overview of the waiting list for all sub-regions per target group for assisted living and social care (see Figure 5.7 below).

Figure 5.7: Output Excel Results Overview

Additionally, for each sub-region two separate sheets were provided, one for assisted living (Figure 5.8, 5.9, 5.10 and 5.11) and one for social care (Figure 5.12). These outlined each year the number of places (supply), outflow, inflow, registrations, waiting list, constants (trajectory duration, prevention factor,yearly price index, average price/place) and overview of the expenses minus costs.
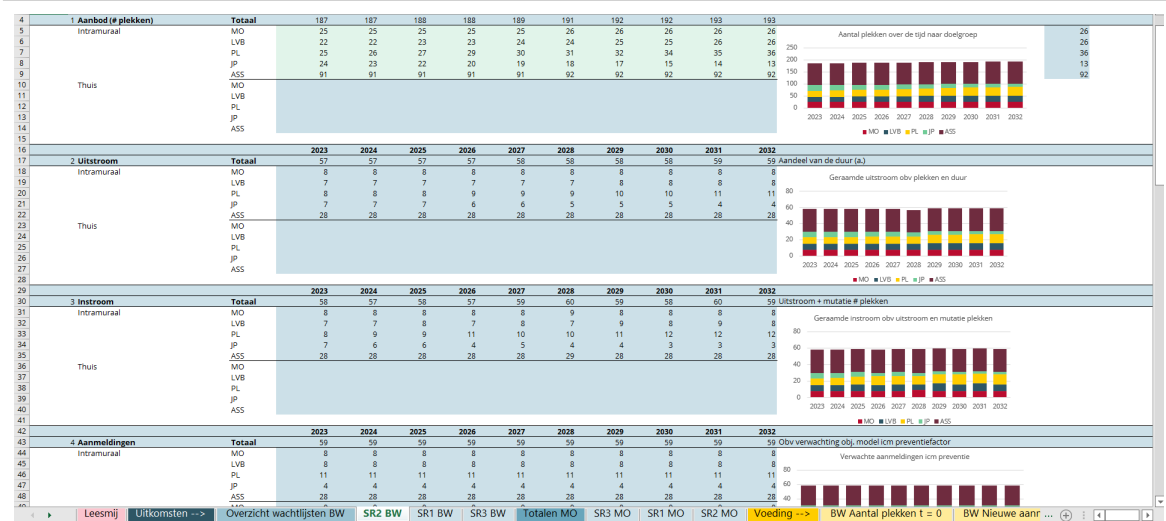
Figure 5.8: Results Assisted Living Sub Region 1 (1/4)
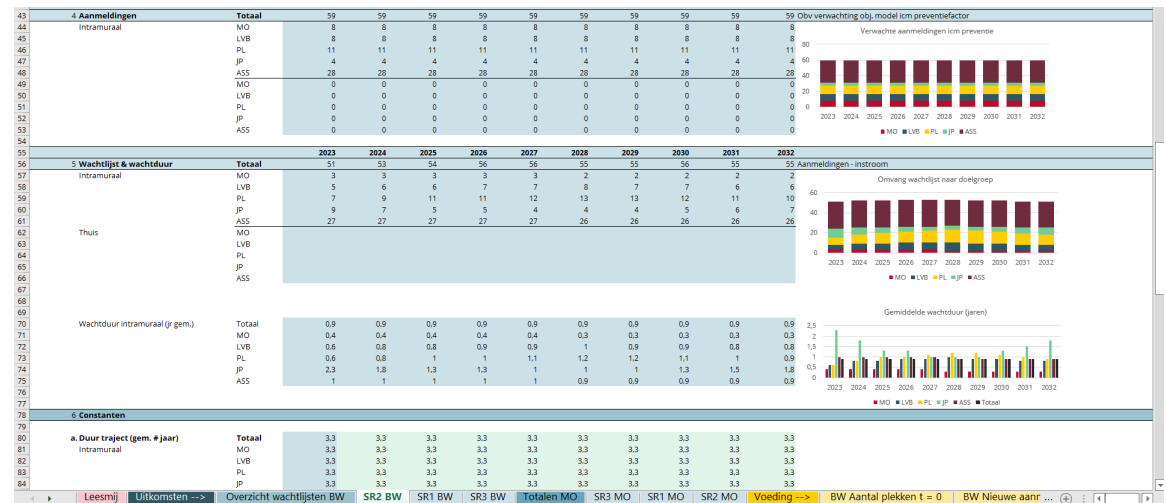
Figure 5.9: Results Assisted Living Sub Region 1 (2/4)
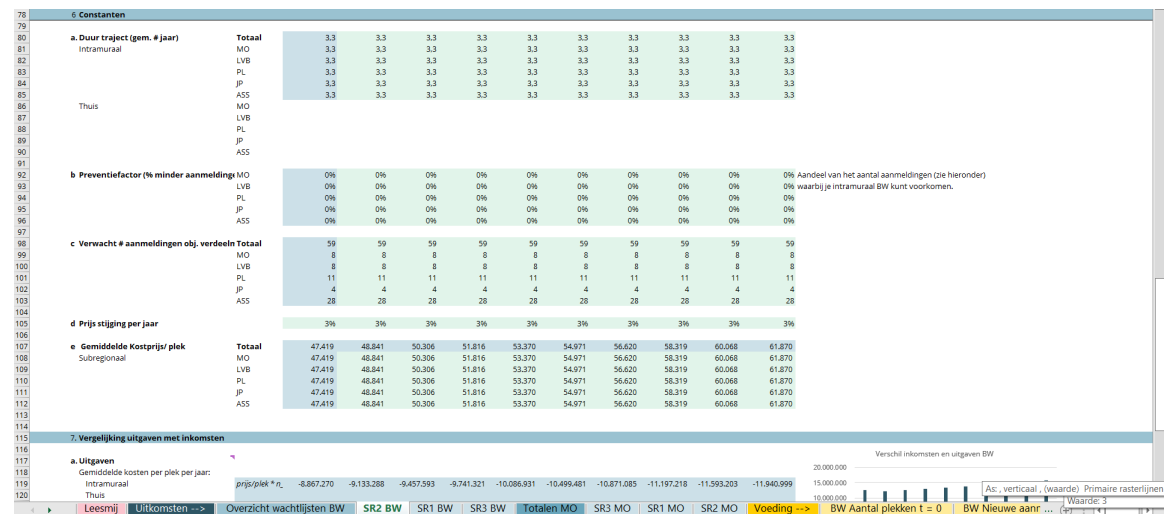
Figure 5.10: Results Assisted Living Sub Region 1 (3/4)
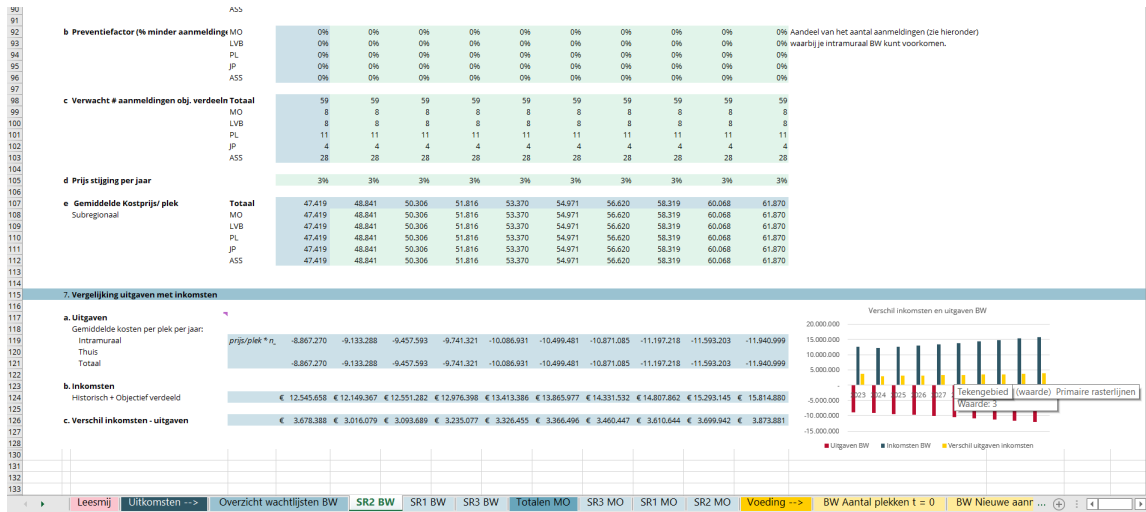
Figure 5.11: Results Assisted Living Sub Region 1 (4/4)
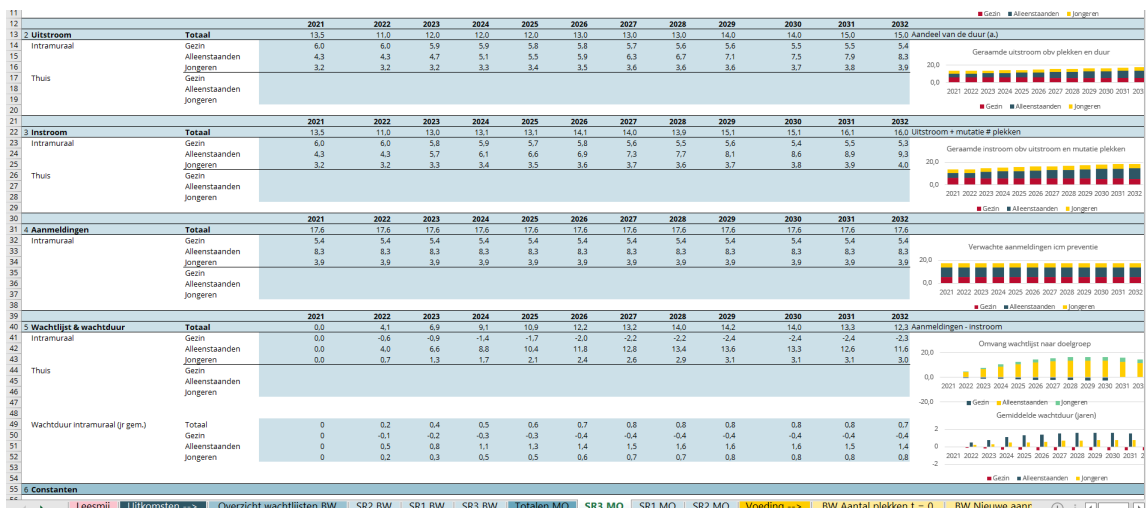
Figure 5.12: Results Social Care Sub Region 3

The last section was added upon request to provide an overview of the costs and expenses.

Expenses and costs

- *Expenses(t) = total supply (t) * price/place*

- *Income (t) = Funds Historical(t) + Objective Funds (t)*

- *Shortage/Excess = Income(t) - Expense(t)*

Dynamics

The requirements (see section 5.2.1) were addressed by the following actions.

Each results sheets was build in such a way that it was highly automatised and that if the input data for a given sub-region was adjusted in one of the input sheets, it was automatically altered in the results sheets without having to adjust any of the underlying calculations or names. To provide *transparency*, one file was created containing the output and input of all three sub-regions instead of three separate files. This also stimulates *standardisation*: the input data from all sub region's is translated to results in the same manner.

To stimulate *usability* and limit the chances of unintended mistakes cells were colour coded based on whether they are input by users, analysis outcomes (not to be altered) and external input (only to be altered if one is absolutely certain).

Given the constraints of Excel and availability of data, for example funds being provided on a yearly basis and fitting policy horizons of the sub-regions, a time step of one year was chosen.

Input data was generally provided by the sub-regions, for example: *Wait list at start* was derived from data provided by sub-regions per re-assigned to more general division. For example some places are combined (LVBASS) which is reassigned to only one (ASS) in coordination with the sub-regions to asses which more general category they fit. Data provided by sub-regions was either collected first hand by the sub-regions or collected from the providers of different care types. This was an ongoing process since the modellers noticed not all data seemed to be collected under the same assumptions. Whenever this was noticed a discussion was opened with the working group to ensure the delivery of comparable data collected under the same assumptions.

5.2.3   Observations in design & development

Observations in the design and development of the prognosis tool within the context of *region R* are provided by outlining an overview of the iterative steps of the design and development of the model.

Project Approach

The project approach of the advisory with the clients was anticipated to entail three sequential steps. In step 1: Discuss the approach and qualitatively determine risks. In step 2: Review the plans and determine the size of the identified risks.In step 3: Formulate agreements to mitigate the risks. In reality this process did not follow a sequential approach but rather a simultaneous one.

Design

The first delineated system solely produced by the independent advisory without intensive input of the researcher consisted of a flow diagram to illustrate the system components and their relation. This was the starting point for the tool (structure) and working sessions (process). See figure 5.13 below.
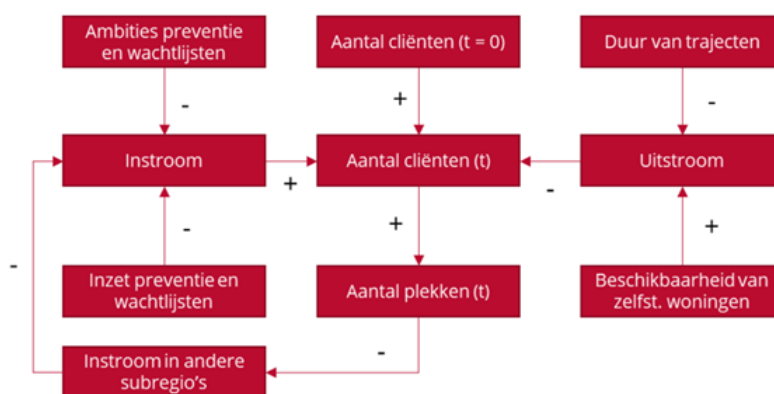
Figure 5.13: Initial System Perception

The conceptual model was altered by the modellers after input from the working sessions with the sub-regions and informed by the researcher's systems engineering & modelling knowledge. An overarching system performance measure (*Wait lists*) capturing the essence of the problem was added. Combined structures/processes were split to single structures (i.e. ambition prevention, inflow and registrations), separate starting values were added and non-obtainable data was removed (inflow to other sub-regions). To ensure compatibility with Excel constraints, all within a year feedback loops were deleted and complexity reduced where possible.

Development

The tool was developed iteratively. After each step, the new findings and dynamics were communicated to the working group. When the working group understood the dynamics and supported the development unanimously, the changes were implemented. This resulted in the following approach. To start, the development for one sub-region for assisted living for one target group was implemented. Secondly, this was expanded to ad more target groups (*LVB, PL, JP, ASS*). Thirdly, this was implemented for all sub-regions. Lastly the same methodology was translated to social care *MO*, which consist of different target groups (*Households, One-person households, Youth*) but the inner dynamics remained the same. The last addition was only decided upon later in the process after extensive discussions in the working group whether to include this type of care or not. Due to the generally applicable

conceptual model and implementation thereof (in the spreadsheets), including this extra set of care was not complex.

Communication

The way in which the dynamics and results were communicated were also evaluated within the process. This led to adopting an iterative approach in communicating the model dynamics (see section Design), adding a layer of complexity step by step. Additionally, to enable an understanding for all participants, extensive written text explaining each factor was added next to images of the conceptual model and results. The tone of communication was altered to a more positive connotation (for example risk was changed to inter-dependencies). The description of the results was also altered after evaluation from an in/decrease communicated in percentages to absolute number to increase comprehension and tangibility. For further complexity reduction, the model explanation was moved to the appendixes and only the main results were communicated in the main report, all results other were provided in the appendices.

5.3   Summary

This section has provided a concrete example of decentralised assisted living's practical implementation. A prognosis tool was developed in a collaborative process to plan & organise assisted living in three sub-regions. Their individual needs and sub-systems were combined to shape one standardised tool to inform all sub-regions.

It forecasted the expected amount of clients in need of and shortage/abundance assisted living places per sub-type of care out of several sub-types of assisted living. The collective design by independent advisory and policy advisors of the sub-regions of the prognosis tool identified the following core system elements: *Expected Registrations, Inflow, Outflow and Waiting list.* The input (and logically also output) of the Excel model is adaptable over time to implement the following effect: *newly created/eliminated facilities, duration of care trajectories, preventative measures, the costs of care,* amongst others. These elements were considered to give a realistic representation of the system by actors from the sub-regions.

Additionally, to provide *transparency*, one file was created containing the output and input of all three sub-regions instead of three separate files. This also stimulates *standardisation*: the input data from all sub region's is translated to results in the same manner. To stimulate *usability* and limit the chances of unintended mistakes cells were colour coded based on whether they are input by users, analysis outcomes (not to be altered) and external input (only to be altered if one is absolutely certain).

The prognosis tool together with the outcome of the prognosis and a set of agreements were communicated in a PowerPoint report to all engaged actors. Now the question arises how this specific tool and process have enabled collaboration. This is explored in the following chapter.

How does this tool act as a boundary object to enable collaboration for planning decentralised assisted living in the Netherlands?
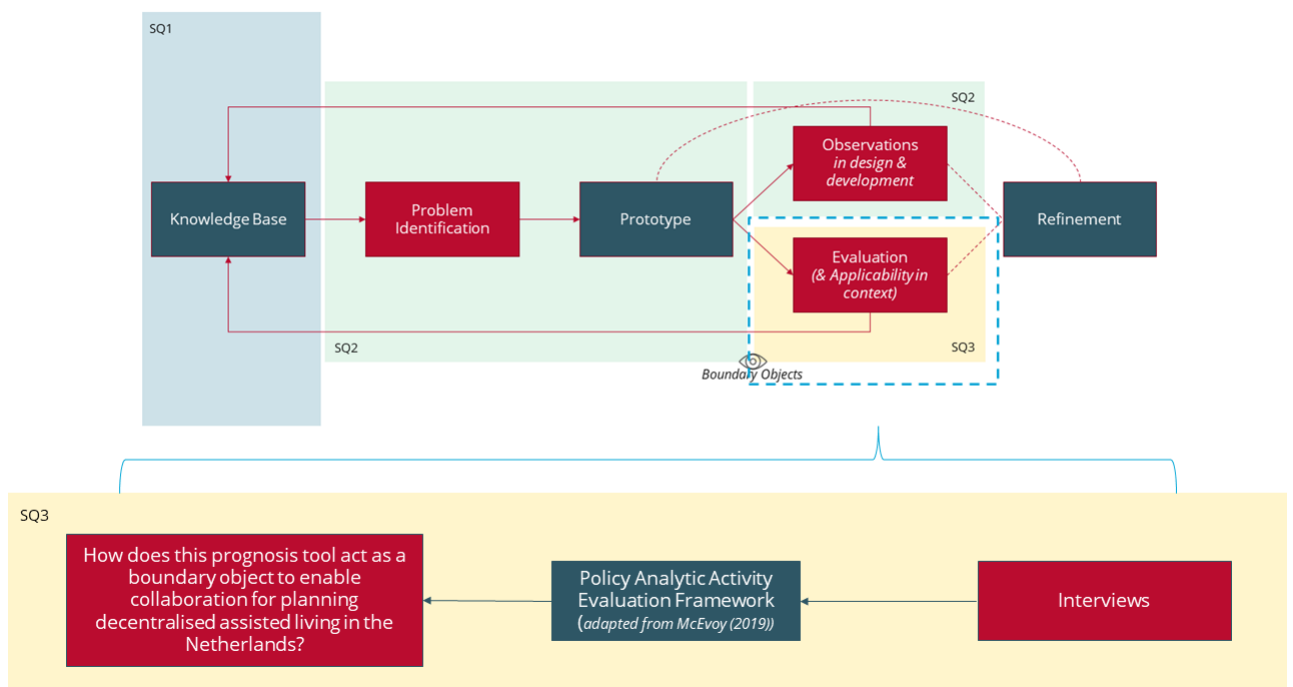
Figure 6.1: Research Flow SQ3

6.1   Introduction

This chapter assesses how this prognosis tool acts as a boundary object to enable collaboration for planning decentralised assisted living in the Netherlands. Seven interviews with the actors involved in the design and development of this tool were analysed using an adaptation of McEvoy (2019)'s policy activity evaluation framework (see chapter 3). Then an overarching meta-analysis of the seven individually analysed interviews was conducted applying the same framework. In total eight factors were analysed (see Table 3.1). These evaluate and test the applicability within the case context and outside of the case's context. All interviews were conducted after the design and development to enable reflection on the activity using the six sub-questions (see Appendix A). This main focus of this section is on how the interviewees experiences the workings sessions, how the tool has transpired in the working sessions and how it has effected the planning process. Nevertheless, also contextual information is eluded by the analysis frameworks. (see Figure 6.2 below). As Chapter 5's main focus is on the tool and the observations within tool design an development, the factors *process* and *content* are less represented in the current chapter and more in the the previous chapter.
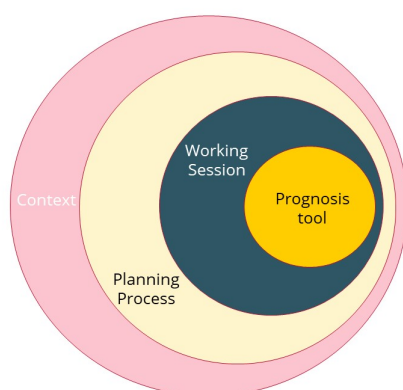
Figure 6.2: The prognosis tools' effects transcending in the working sessions are the main focus of this section. They are embedded within a larger planning process which takes place in the case's context.

6.2   Results

See Appendix [B - H] for all indicators, associated themes and matched quotes per interview. Some exemplar quotes are provided in this chapter to give more insight into the identified themes. Pseudo-names have been assigned to the quotes to show different viewpoints associated with the actors and to stimulate equal frequency of quote usage mitigating the chance of over or under-representation of the interviewees and their visions.

The following sections follow the order of factor analysis in the policy analytical evaluation framework (Table 3.1) and the process order, from pre-desgin (context), design & development (input, process, content, results) to post-design (use, effects,wider-applicability) (Figure 3.1). Identified themes are highlighted in **bold**. Themes may be represented by several factors (for example insight as a pre-determined aim in input and as an achieved result). If a quote contains multiple themes which are inseparable due to the failing logical structuring of a sentence, the theme of interest is underlined.

6.2.1 Context

Theme	Interviewees (n)
Local Setting	
Unclarity & Perceived Issues	6
Unrest/Fear/Frustration	6
Differing backgrounds/strategies	5
Already collaboration	4
Ambitious & Intrinsic motivation	4
Far in process	2
Against deep dive	1
Demanding & complex task	1
Project process	
Time Pressure	3
Financial friction	3
Extrinsic	1
Institutional Setting	
Front-runner	2

Table 6.1: The number of interviewees (n) that discussed a theme related to the Context. Themes are appointed to three indicator. The *local setting* relating to characteristics specific to these sub-regions. The *project process*, characteristics important to how this project was formed. The *institutional setting* relating to the sub-region's position as institutions in a larger setting

Local Setting

Most interviewees noted the **perception of issues** or the **absence of clarity** in the task for other sub-region's than their own. These were also experienced as causal relation, where the absence of clarity in each other's tasks resulted in disbelief not grounded in facts regarding the size of others task and thus associated risks.

"..they were stating that we were not delivering adequately, which has been said for years..we have always said that we have been working on it..but we could never clearly show that and if we said that it was never believed" - interviewee 4

"You keep each other caught in these ideas and perceptions" - interviewee 7

Moreover there was notion of presence of a lot of **uncertainties**.

"Uncertainties had grown to sort of megalomaniacal proportions in everyone's mind, and that put enormous pressure on that cooperation" - interviewee 3

All but one interviewee described a context of **fear, unrest, frustration** prior to starting the tool design process together. For some this came through past baggage.

One participant feared a project breach (cancellation) at some point pre-design. This is contradictory to the previous notion of 'we always find a way' together.

"..punishments if we would not implement quickly, they would not continue decentralising. And at some point in June there was a moment where we were doubting if it would continue."
- interviewee 6

Some experienced this within their own local sub-setting whereas others felt this fear in other sub-regions. This seemed to mainly be driven by **lack of insight, changes in employees, strategies and financial hick-ups**.

"There was of course a kind of panic in sub-region xxx by some employees" - interviewee 4

"We had the feeling that the risk was disproportional" - interviewee 6

One interviewee noted the level of strictness in agreements previous to this project was quite rigid and conflicted with the idea of open borders between the sub-regions.

For others this **fear** was manifested more in the actual implementation/elimination task.

"Fear from sub-regions that other sub-regions won't take the task seriously. Too slow or quick implementation of facilities which will result in problems" - interviewee 1

All but two interviewees described some sort of **difference in backgrounds or strategies** between sub-regions. One sub-region noted the dynamics of going back and forth between **strategies** within one-sub-region was perceived to be one of the drivers of **unease** between the sub-regions.

"Due to changes in personnel, the historical awareness was lost.. one thinks you're all going left and suddenly the other turns out to have gone right" - interviewee 3

"Everyone was always very certain everything would turn out okay. But then there were lots of changes in employees and this certainty decreased" - interviewee 3

Specifically different organisational and implementation styles were mentioned,

"The centre municipality wants to organise everything centrally wheres we want to start working in a task-oriented way again"- interviewee 4

"We have different implementation styles but I mean, we are decentralising right for a reason. But we don't have large differences in overall goals" - interviewee 6

albeit through their urban or more rural locations.

"There are substantial differences, especially in MO, between city and agricultural areas. For example homeless citizens, that functions differently."- interviewee 4

Additionally changes in employees, led to a loss of knowledge and change in **strategies.**

"There had been some changes in employees and previously they had an agreement on not pursuing the 'residency principle', one of the sub-regions did want to pursue this. But they were not aware that that was contradictory to the previously made agreement" - interviewee 3

All sub-regions (four interviewees) mention the presence of **previous collaborations** to differing extents. Also, the shared notion of the **goal of wanting to smoothen collaboration again**, implies **previous presence of collaboration** between the sub-regions, which also fits their historical context.

"Years ago we have decided to do this together" - interviewee 6

Four of seven interviewees described the health care system reform or their implementation to be **ambitious** or result from **intrinsic motivation** from themselves or from other system actors above them. Only one sub-region stated having **motivated** board members, whereas two (non sub-regions) meta level players claimed their strategy to be **ambitious**, being the **front runner.** This however was never verified (one participant responded that this idea lives that they are the front runner but also is not certain about how this is implemented elsewhere).

"What sets the sub-regions apart is that they have fairly quickly concretised which care types are regional and which are more local and also have strongly substantiated their decisions. They were really looking for a way to objectify like okay, but this, this really does have to be regional, because this cannot be done in the municipality and so this just has to be.., the fact that they are thinking about it, that makes them ahead of the curve now." - interviewee 3

"There are a number of board members whio have a lot of intrinsic motivation to do this, it's about what agreements are we going to make about it" - interviewee 5

Two interviewees described the fact that they are too **far down the process** to go back as their motivation and argument for having trust that the sub-regions will find a way forward together. In other words having trust in future cooperation/collaboration. Only one interviewee described the task as **demanding** for the project group due to the absence of many managerial layers, resulting in lot of responsibility for the project group. This however also enables quickly making decisions and running through a process more quickly.

"..the regional project group has quite a heavy task, there is little bureaucracy, lacking all kinds of management layers, so there is quite a direct line between the board and the project group. Which makes them have a very big responsibility.. work very fast.. take big steps quickly" - interviewee 7

One interviewee mentioned **resistance** to starting the process of building a tool together, being against such a **deep dive**.

"We were never really in favour of doing a deep dive" - interviewee 4

Project Process

Three sub-regions noted that due to **time-pressure**, wanting to decentralise before the 1st of January next year has enabled this project to take off.

"..all these years they have actually done very little so far.. now that discussion is on high alert because they can no longer avoid it.. to decentralise by January 1st.. , that did make our directors pay more attention to it.. more support - interviewee 2

"You have to imagine that we are realising something under extreme time pressure"- interviewee 5

Three participants noted a hurdle in **finances** to be a driver of this project albeit to provide financial clarity.

"..it wasn't concrete everyone was on the same page and committed..when.. more financial.. complicates collaboration" - interviewee 1

".. to resolve the hick up caused by the hurdle of financial agreements." - interviewee 2

"Then the directors said of if we want to move forward together, we do need clarity on finances. .. how will you scale up and down and how will you do that? Because those finances mean money."- interviewee 7

One sub-region noted the reason they participated was **extrinsic**, only because one of the other sub-regions was really motivated to do pursue this project.

"We only agreed to this project because sub-region xxx wanted it so badly.." - interviewee 4

Institutional setting

The sub-regions have been stated to be the first to decentralise this far and having adapted ambitious strategy to do so, two interviewees remarked this. One sub-region also acknowledged the role as **front-runner**.

We are now the first region which is decentralising this far within assisted living, we are in that sense the front runner.." - interviewee 6

6.2.2 Input

Theme	Interviewee (n)
Insight	6
Comfort	4
Collaboration	2
Customization	1

Table 6.2: The number of interviewees (n) that discussed a theme related to the Input (aim/role of the activity).

All but one interviewee stated a form of **insight** to be the aim of the activity. Some generally named **insight** into the task or where they stand.

...create insight into where everyone stands." - interviewee 7

"..create insight into our task together and individually." - interviewee 2

Others focused on more specific **insights** , for example determining the number of places to be realised the coming years.

"..determine how many places have to be realised where." - interviewee 6

"..quantify our task and come to a balanced supply" - interviewee 5

One interviewee considered that **insight** into the task was not the aim but insight into the presence of **uncertainties** was the aim.

" providing insight is never an end in itself..now they have enough insight into the uncertainties to feel comfort in the exciting step they are going to take , they now understand that it's truly uncertain, and this model has surely provided comfort in the collaboration" - interviewee 3

Four interviewees stated that the aim of the tool was to take away worry, or rather to provide **comfort** between sub-regions.

".. to have comfort in the steps they are going to take .. " - interviewee 3

"..create governmental tranquillity" - interviewee 7

It was also noted this was especially applicable to one sub-region.

"mainly to take away worry in sub-region xxx" - interviewee 6

Two interviewees explicitly stated that smoothing **collaboration** was a set aim of the activity.

"..strive for collaboration again" - interviewee 6

"..to give them a kind of foundation for collaboration again.." - interviewee 1

One sub-region specifically stated the aim of the tool was to improve **customisation** in care provision. This is aimed at a set of models and extends beyond this tool.

"..more customisation..support and guidance for complex clients with complex demands" - interviewee 4

6.2.3 Process

Organisation, procedures and communication of/in the activity

Theme	Interviewees (n)
Organisation	
Independent Expert/Advisory	4
Time Pressure	1
Procedures	
Shared language & Problem Demarcation	5
Decomposing	2
Categorisations	1
Communication	
Guiding Questions	1
Communication	1

Table 6.3: The number of interviewees (n) that discussed a theme related to the Process. Themes are appointed to three indicators. The *organisation* relating to the structuring of the activity (the what). The *procedures*, characteristics important to how the methods are used in the activity (the how). The *communication* relating to information exchange

Four interviewees mentioned the added value of an **independent expert** due to their capacities in logical meta thinking,..

> *"..the logical thinking from an independent expert together with our input of how it fits reality best, you need both." - interviewee 5*

translating, creating uniformity/clarity..

> *"..from the uniformity make the translation to ensure everyone talks about the same thing." - interviewee 6*

enabling support and acceptance of the model and it's results.

> *"..not a stakeholder in the process, that mattered greatly" - interviewee 2*

> *"independent agency that is trusted, makes this story supported and excepted" - interviewee 7*

Five interviewees mentioned creating a **shared language**.

> *".. are we talking about the same thing, do we understand each other correctly?" - interviewee 2*

"..they do not need to have the same end goals but they have a shared foundation.." - interviewee 1

Clearly **demarcating the problem** together before the model was built was highlighted by the interviewees.

"..spend a lot time in the start to clarify what the task is and what the question is?" - interviewee 7

"..discuss then build: talk about what we are actually talking about together, and then developing the model afterwards." - interviewee 4

"..we came to assumptions together." - interviewee 5

Two working session participants individually stated **breaking down the process step by step** and having insight into these mechanics as a key feature of the process. One of these spoke about a conversation between themselves and another participant. Which means it was valid for at least three participants.

"break it down into smaller pieces.. what are the parts we need to decide on..working structure.. finances..etc" - program regional manager

"taking the along step by step through the uncertainties" - interviewee 3

One participant added that also during the process the **time pressure** helped because it created *"fluidity"*, positioning it as a catalyser.

"What in this case also helped was time pressure, under pressure everything becomes fluid" - interviewee 2

One participant experienced making **categorisation** between different care groups as **problematic** and clash with their sub-region's vision.

"We were against this deep dive..The margin error becomes larger... People aren't categories." - interviewee 4

One interviewee highlighted the use of **guiding questions** which were sent prior to the working sessions as supportive of the process. These stimulated participants to formulate explicit answer.

"Really pleasurable.. it structured." - interviewee 5

The themes in **communication** were tri-fold. One participant noted that the focus on objective, not highly complex questions was highlighted by one participant to stimulate a good atmosphere during the process.

"objective questions.. not to fan the flames by asking complicated question which would have polarised" - program regional manager

The addition of substantial extra written text and focusing on how the message of the charts is conveyed in written text for policymakers and administrators was deemed important.

"we are more readers of texts than tables and the written-out texts have helped enormously" - interviewee 7

Extra care was given to the tone of writing in the report to ensure a good atmosphere.

"..risk or agreements..tone determines how you interact with each other..matters a lot" - interviewee 7

6.2.4 Content

Quality and type of data and information used

The only content mentioned was the suspicion that one sub-region was not delivering completely sound data, questioning the **data quality**. There was at the time however no way of assessing how this data was collected or if the final data delivered was correct.

".. don't completely trust the data.. by one sub-region .. two different sets .. seemed a bit contradicting. First ..a set ..too little places, then I sent.. amount of places.. wanted to work towards ..then they had added..kind of match the desired placed. . . lowered that again, but I don't know how and I cannot asses that properly..." - interviewee 1

6.2.5 Results

To stay as close to the interviews as possible, some results in this section are referred to as *Direct Effects* in McEvoy's framework (see chapter 3).

Outcomes of the activity

The results are two-fold. In the process the work product is both the prognosis tool itself (1) and the outcomes of the prognosis tool (the prognosis for all sub-regions), risks and agreements which are discussed in a report (2). This agrees with the design science approach which produces an artefact (1) via a sound design process (2).

Theme	Interviewees(n)
Insight	7
Collaboration	3
Tangible Task	2
Transformation	1
Trifold	1

Table 6.4: The number of interviewees (n) that discussed a theme related to the outcomes of the activity.

All interviewees stated **insight** to be a direct work product results. Some kept this quite high level as just stating insight was created.

"..insight.. into where we really stand.." - interviewee 5

"We have achieved the goal, we have insight..." - interviewee 2

Others specified **insight** into the amount of places per sub-group or insight into the uncertainties.

"..clarity into how many places per sub-type of care." - interviewee 6

Three interviewees stated **collaboration** was explicitly an achieved result. Two of these had previously stated it to be the aim of the activity as well.

"..the functional goal, namely enabling collaboration, has been achieved." - interviewee 1

"..get back to..collaboration, I think that has been successful.." - interviewee 6

The latter did not state it as an aim but nonetheless as a result.

"..achieved the goal, we have insight and the collaboration has improved." - interviewee 2

Two participants specified concretising and making the **task tangible** in factual terms as a direct work product.

"..we knew we had a task but this just makes it a lot more concrete and solid." - interviewee 6

"..Its written down, documented.. I think that provides the governmental tranquillity/peace by making it tangible." - interviewee 7

One participant noted that some sub-region's tasks consisted of a conversion (**transformation**), rather than an implementation or elimination task. This was for cases where the absolute number of places was sufficient but the division amongst sub-types of care wasn't.

".. also found valuable.. the conversion task..not necessarily expected as a result.." - interviewee 7

One interviewee described this multi-facetted outcome as a **trifold** work product. The prognosis tool, the risks/interdependencies determined and the agreements to meet those.

"In this case we adopted a trifold of the model, risks/interdependencies and agreements to meet those." - interviewee 1

Value and relevance of results

Theme	Interviewees (n)
Satisfied	7
Objectification	2
Hurdle passed	1
Instrument for peace	1
Written text	1

Table 6.5: The number of interviewees (n) that discussed a theme related to the value and relevance of the results of the activity.

All participants valued the results and were **satisfied** in terms of the model and report (and their consequences).

"I'm just very happy with the result.. positively surprised what the report it concretely delivered for ourselves.. we can conceptually speak about it later.. it is reusable" - interviewee 6

"..my colleagues are happy, they had been waiting for a quantification for years." - interviewee 5

Two participants highlighted the value of the report because it had been agreed upon by the directors ensuring that they have taken notice of the newly provided knowledge and by documenting the results to create an **objectification**.

"..this is now objectified. It is written down, documented.. I think that provides the governmental tranquillity/peace" - interviewee 7

One participant specified having **passed a hurdle** to now be able to continue on good terms again.

"Simply the fact that they have now passed a certain hurdle with each other makes they like each other again for a while and could can go on." - interviewee 1

One interviewee described the result as an **instrument to provide comfort peace**, and a stimulant to work together.

> ""*An instrument to establish comfort or peace between municipalities and directors and policy makers that they know they are working on the same task and have similar tasks. But also that they also have to do something with one another to work on that task*" - *interviewee 1*

The addition of substantial extra **written text** and focusing on how the message of the charts is conveyed in written text for policymakers and administrators was deemed important.

> "*charts..policymaker and administrators find that very difficult.. we are more <u>text readers</u> than table readers..*" - *interviewee 7*

6.2.6 Use

Theme	Interviewees (n)
Procurement	6
Future Agreements	3
Support	1
Conversation Starter	1
More diversity and Assisted Living places	1
Model Synthesis	1

Table 6.6: The number of interviewees (n) that discussed a theme related to the (in-)direct use of the results of the activity.

Six interviewees stated that the tool and its outcomes would be used in the **procurement** of care process, and to improve the bargaining position of the municipalities since they all have the same information and can tell the same story to suppliers. Also the results have been used to start reaching out to suppliers of care types where large task have been identified.

> "*..ensure you tell the same story.. they can out-play us... regularly happens.. to tell a mutual story is very important for this - - interviewee 5*

> "*..now they have more insight what exactly they have to procure.. decision making in procurement now and in the future..*" - *interviewee 1*

> "*..better story to tell the suppliers.. bargaining position of the municipality is better. But also for providers.. unfortunate for them to invest in a facility which won't be needed in a couple of year's time.*" - *interviewee 7*

Three participants mentioned the whole process will be used to make **future agreements** between the sub-regions on for instance the use of the output data, how the prognosis will be implemented and monitored.

""*We have to make further agreements along the way about the use of numbers (the output).
Now we have made a sort of start picture based on the available resources. Later we will of
course really see which resources will be available and how it will all look"" - interviewee 2*

One participant noted the use of the outcome of the prognosis tool to create **support**
for the model with care suppliers.

"*..start sharing the outcome with the contracted suppliers. We cannot restrict them so we
want a pathway where you create support for the model". - interviewee 5*

One participant highlighted the use of the model as an incentive and **conversation
starter** between all partners.

"*..hey these are the number.. this is what we're working towards.. how can we best do that?
It's a clear incentive to start conversations with our partners.. in the end we have to do it
together." - interviewee 6*

One participant noted the model will be used in **combination with other models** to
provide a holistic overview of the care system.

"*Because both at the client level we have everything on the housing task side and at the facility
level, that has to align. And this model was the last picture and cost model was the first. So I
don't see that as separates." - interviewee 4*

Also **more diversity in places** could be realised due to the model outcomes.

"*..there will be more diversity and BW places." - interviewee 4*

6.2.7 Effects

Theme	Interviewees (n)
On Problem Situation	
Clarity	7
Shared Perception	4
On Atmosphere	
Comfort/Peace	6
Improved Relation	3
Trust/Confidence	2
On Planning process	
Collaboration	4
Smooth Conversation	3
Closeness	1
Support	1

Table 6.7: The number of interviewees (n) that discussed a theme related to the effects that the activity induced on the *problem situation, atmosphere and the planning process.*

Effects on problem situation

All participants noted the process induced **clarity**.

"..we just know better what we want.." - interviewee 6

"..the model makes it visible. It just makes it clear.. now it's clear what we have to build" - interviewee 7

"..provides clarity for everyone.." - interviewee 2

Some noted this took away mis-assumptions and gut feelings by objectifying, changing the so called mental model.

"..it's always been kind of a gut feeling.. did not help the relation.. nuancing the perceptions helped" - interviewee 5

"..the idea lives inside heads.., people don't know.. now it is objectified" - interviewee 7

Four participants nuanced that clarity providing a **shared perception** by having the same fact available, speaking the same language, sharing assumptions and having a shared foundation to improve the collaboration.

"we all had the same facts..speak the same language" - interviewee 6

"not really matter if the number behind the comma is clear but the fact that you have a shared idea about it, that you make the same assumptions" - interviewee 5

"Having a shared perception of what the joint task at hand is, and what is needed to give jointly give substance to this and how you implement that concretely. This can help to get collaborating take-off" - interviewee 1

"It has been very good to arrive at the same information levels again" - interviewee 5

Effects on atmosphere

All but one interviewee named either an effect of **comfort, peace, rest or tranquillity** between the participants and also their directors as an effect of the process together.

"comfort or peace between municipalities, director, policymakers" - interviewee 1

"comfort for the largest risk-holder" - interviewee 2

Or in the general collaboration,

"..this model has surely provided comfort in the collaboration." - interviewee 3

and by taking away worry.

"take away worry in sub-region b.." - interviewee 6

Some pointed towards the actual prognosis outcomes whereas most focussed on the fact that regardless of the exact outcomes going through this process together, making agreements together has enabled this comfort.

Three participants linked overcoming this hurdle together as a enabler for **improving their relation**.

"..passed a hurdle together has made them they like each other again for a while and continue together.." - interviewee 1

"..I think that especially the unrest/agitation is gone and it is now clear what we are going to work on and that by itself had improved the relationship." - interviewee 5

Two interviewees highlighted improved **confidence in each other and trust** as an enabler of the aforementioned comfort or peace.

"confidence in yourself and the relationship that we are going to do this together" - interviewee 5

"feeling of having insight into what everyone's task are and where everyone stands now..important for the trust.." - interviewee 7

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Effect on planning process

Four interviewees described enabling **collaboration** as an effect. One of which had previously also described it as an aim and result (the same theme, but with different connotations for different phases).

> *"..it was also a tool to smoothen the conversation because you work together to achieve a shared goal and that strengthens the collaboration" - interviewee 2*

One as enabler of more robust other collaborations than the already present collaboration. The interpretation of other is the relation between directors.

> *"..the collaboration was and is still very good on a lot of different levels..this has made the other collaboration robust" - interviewee 4*

And others only as effect.

> *"This brings peace and an overview so that contributes to the collaboration" - interviewee 7*

> *"..now understand that it's truly uncertain, and this model has surely provided comfort in the collaboration." - interviewee 3*

Three participants highlighted the **conversation smoothed**.

> *"..there is more insight and clarity in where we really stand and because of that the conversation flows better again./" - interviewee 2*

Two participant highlighted the activity has improved keeping each other **close** and the incentive to continue to keep each other close in the future again.

> *"..the project group very clearly stated we want to keep this together, please keep each other close... if one falls behind..take each other along.." - interviewee 7*

One participant highlighted the process of building a model together with the sub-regions created **support** for the prognosis tool and its outcomes.

> *"..having collaboratively designed the model helps the support.. - interviewee 5*

6.2.8 Wider Applicability

Reflection on the hypothetical use of this boundary object in different settings. These entail the boundary conditions for all seven factors. They are not mapped on this specific activity (working sessions with these specific sub regions) but inform potential

boundary conditions in a larger planning process and potentially outside this case's context. They could be interpreted as learning effects as categorised by McEvoy (see 3.2.3) in the wider network: larger planning process and even outside the context circle (see 3.9). The results are categorised according to the nested circular schematic overview of the tools position in a hypothetical activity within a hypothetical planning process and context. This categorisation fitted the boundary conditions, highlighted by the interviewees, better than the more granular framework adopted up to this point (division of context, input, process, content, results, use and effects). These are depicted in Figure 6.3 below.

Theme	Interviewees (n)
Context	
Need for decentralisation implementation	3
Capacity	2
Support	1
Planning Process	
Knowledge Transfer	4
Update & Monitor	4
Accountability/Ownership	2
Planning Process & Activity Process	
Shared assumptions/understanding	6
Set agreements	4
Flexible Interpretation	3
Shared Goal	1
Activity - Process	
Independent Expert	2
Flexibility participants	1
Activity - Content	
Transparency & Data Quality	1
Tool	
Law of small numbers	2
Local adjustments	2

Table 6.8: The number of interviewees (n) that discussed a theme related to boundary conditions for the Wider Applicability of the prognosis tool (in other settings than this case). These have been categorised to represent the different layers of the tool in a planning process. The categories adopted entail the wider context, the larger planning process, the activity process, the activity content and the tool itself.

Context

Three interviewees stated the fundamental **need for implementing decentralisation** as a boundary condition. Two interview noted labour **capacity** as a challenge and

boundary condition for use. Especially to enable that the model is updated regularly, providing relevant and up-to-date data.

"The labour capacity may be a challenge the next year..for example for providing data" - interviewee 2

One participant noted that **support** from the organisations or individuals that will have to work with the model or its results.

"support from the parties that have to work with it..board member have to support the task..if not you can't use it for implementation..same goes for suppliers and housing corporations.." - interviewee 5

Planning Process

Four interviewees noted **knowledge transfer** (how is the newly established knowledge embedded) both as a boundary condition and a general challenge .

"How do you organise continuity? A lot of models end up in a drawer somewhere.. it's about everybody still understanding what it means..you have to go through a similar process..many places it's only well anchored because one person understand it..when they leave..the knowledge is also gone. . . it's time intensive..a culture thing" - interviewee 3

Four interviewees state that **updating and monitoring** the model is a boundary condition. One also highlighted the need to update the agreements.

"need to track.. recalibrate based on developments.otherwise..totally outdated picture..especially sensitive parameters like the objective distribution model" - interviewee 1

"we have to re-use the model and every 6 months check how the municipalities are doing, make monitor agreements with each other" - interviewee 2

Two interviewees state the importance of holding an actor **accountable** for the future developments of the model to ensure its quality in the future.

"you need someone to take ownership, like a business controller" - interviewee 2

Planning Process & Activity Process

All but one interviewee stated it is crucial to establish a **shared understanding** of both **assumptions, expectations and the interpretation of the outcome**. During the design phase this means: what are we talking about when we talk about care, and post-development, what do the outcomes mean. It was also noted it is important to document these assumptions.

"take time to establish what you are talking about conceptually.. what do you want to quantify..all over the Netherlands..everyone has different terminology..ambulatory..ambulatory plus..intramural. . . make it explicit in an early stage before everyone provides different data" - interviewee 5

Four interviewees noted that the **agreements** made within this process and the governance around the agreements is a boundary condition for the model to function effectively.

"the agreements capture it..fixed..a boundary condition" - interviewee 7

"a structure.. to keep meeting..keep talking and keep implementing" - interviewee 2

"formulate agreements.. a boundary condition" - interviewee 1

Three interviewees pressed the importance of **interpreting the output** as model output which never translated to reality identically. Also the importance of not translating the results without taking of the real life conditions such as the amount of places you can realise in a facility are emphasised. They also give caution against using the model as a coercive measure.

"..use the model as guidance..not to rigidly..chance you risk not connecting to reality..if..wants to build provision for young homeless people, you need a certain size,. You need at least so to say 4 people sharing spaces in a single-household house, otherwise you can't afford the facility.." - interviewee 2

"..people are tempted to think..these numbers„that is the truth..models are never completely true.." - interviewee 3

Only one interviewee noted the **need for a shared goal**, could be inherent to the need to decentralise.

Activity - Process

Two participants noted the need for an **independent expert** who is not a stakeholder to guide the process. This was deemed especially important when financial agreements would not be in place yet. This is due to the assumption there is a tipping point of unclarity to clarity in the establishment of financial arrangements. One interviewee highlights that the model is most useful in situations with a lot of **unclarity**.

"..when there is an abundance of unclarity.. this can create order in the chaos.." - interviewee 1.

"..independent guidance.,when there are diverging interest..no financial cooperation agreements..when risk management is clear it becomes less necessary" - interviewee 2

One participant noted the behavioural boundary condition of the **flexibility of the participants** to be a boundary condition.

"..what could have limited the collaboration, if everyone would have been extremely rigid.." - interviewee 6

Activity - Content

One interviewee noted the boundary condition of **transparency** amongst sub-regions to deliver data and ensure data of high quality.

"Transparency to one another, so the will to share data to/with other sub-regions" - interviewee 1

Tool

Two interviewees highlighted the **law of small numbers** in both categorisations of care and size of municipalities. Two interviewees highlighted the **local situation** should be included in the model and the model **adjusted** where necessary.
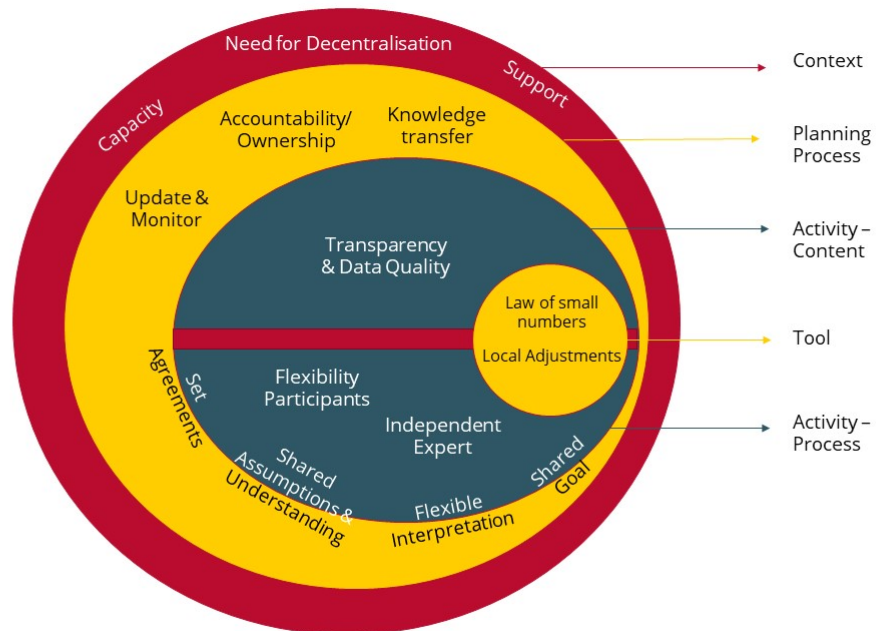
Figure 6.3: The identified themes as boundary conditions for the use of this prognosis tool in a wider setting. These are portrayed in their relation to the nested structure of the tool within an activity, as part of a planning process carried out in a context.

Next to boundary condition in the wider applicability of the tool, the following themes were highlighted as strengths, limitations and future refinement.

Strengths

Four participants explicitly stated the **conceptual model** was in their perception applicable to larger audience.

"The knobs you turn, I think they're the same for every municipality in the Netherlands" - interviewee 2

"we are the front-runners decentralising to this extent but I think there will be more that want to get this insight too" interviewee 6

"..this problem occurs in many more municipalities..you could replicate this.." - interviewee 7

Limitations

Theme	Interviewees (n)
Adaptability	1
Restrict policy freedom	1
High level outcome (macro)	1
Uncertainty social care	1

Table 6.9: The number of interviewees (n) that discussed a theme related to the Limitations

The **adaptability** of the model by the participants themselves is seen by one participant as a potential weakness. Because it can undermine the credibility if they can change any parameter themselves. A limiting factor for enabling collaboration could be the **restricting policy freedom** due to having to confine to shared assumptions in for example determining the division of care-types addressed in the model. One participant stated it only provides **high level insight** and does not include client level information. One participant noted that in the population of social care, there are a lot of fluctuations and the model does not account for that **uncertainty**.

Future Refinements

Two participants provided future refinements namely **including sub-systems** (adding specific preventative measures and their effect), and specifying a **trajectory duration per care type**. Another advised to always give good care to not **over-complexifying** information.

6.3 Summary

The meta-analysis to evaluate the tool('s role) in a set of working sessions (activity) using an adaptation of McEvoy's policy analytical framework (see 3.2.3) has indicated the following. The identified themes were both highly distributed (high prevalence of different themes per factor) with some highly central (specific themes had a high prevalence). Seven themes were identified across all or most (6/7 or 7/7) interviewees (*Unclarity & Perceived Issues, Unrest/Fear/Frustration, Insight, Clarity, Comfort/Peace, Shared Assumptions/Understanding*). Four themes were identified across factors (*Time-pressure, Shared perception/understanding, Future/set arrangements, Independent Expert*).

The context for the sub-regions is set by an ambitious goal and a front-runner role. But with some fear resulting from past baggage (i.e. due to frequently changed strategies), the actual task (implementation and eliminating of facilities) and their consequences. There is a presence of uncertainty. However there is some trust that they will find a way together even though there is also some resistance to do this project together. The project was initiated through a financial hick up and took place under a lot of time pressure.

The general aim was to provide insight in the factual realisation of the amount of places (the implementation task) and what the situation other sub-regions was regarding the progress and size of the task. Additionally, it was stated by some the aim was to provide comfort or take away worry. Collaboration did not seem to be a widely present aim, only two interviewees named collaboration explicitly as an aim.

In the process of the activity, shared language through problem demarcation in the absence of interest, through the translating capacity of am independent body were highlighted. There was doubt in the delivered data quality from one sub-region. Unanimously insight was the main outcome of the activity (the granularity various from, where we stand to number of places. Collaboration was perceived to be a direct result by some participants, which had previously also stated it to be the aim or intention to enable collaboration. The outcome of the activity was valued by all.

Two interviewees nuanced the documentation has led to objectification and contributed to tangibility of the task. The outcome of the activity was said to be used for procurement (6/7) and make future arrangements. Others noted support from the suppliers and to the outcome to be used as a conversation starter. The activity induced an effect of clarity, comfort, peace, enabled collaboration and shared perceptions. It also seemed to has served as a conversation smoother and improved the relation for some.

The following boundary conditions for applicability of the tool in a wider context were mentioned by 4 or more interviewees: *Shared assumptions/understanding, Setting Agreements, Knowledge Transfer and Update & Monitor*. These relate to the larger planning process (latter two) or reside on the border of the planning process and the process within the activity (former two).

Part III

Discussion & Conclusion

DISCUSSION

This section provides an inference of the results, the interpretation of key findings per sub-question, followed by their combined scientific contribution and this research's limitations.

7.1 Inference

This has research examined grey policy literature (see chapter 1) and academic literature (see chapter 4). In the latter a lack of research on the implementation, unanimous movement towards of decentralised in health care services or prognosis tools in this setting was found. Additionally, from the grey political literature the risk fragmentation and the need for collaboration were highlighted. These were also recognised by the academic literature.

We had previously learned a tool may be considered a boundary object which have the potential to enable collaboration 1. This allowed us to justify to build (design and develop) a prognosis tool for the implementation of decentralised assisted living as a potential mean to enable collaboration (see chapter 5).

Evaluating if and how collaboration was enabled by the prognosis tool design and development in working sessions has resulted in the following mechanism depicted in Figure 7.1 below.
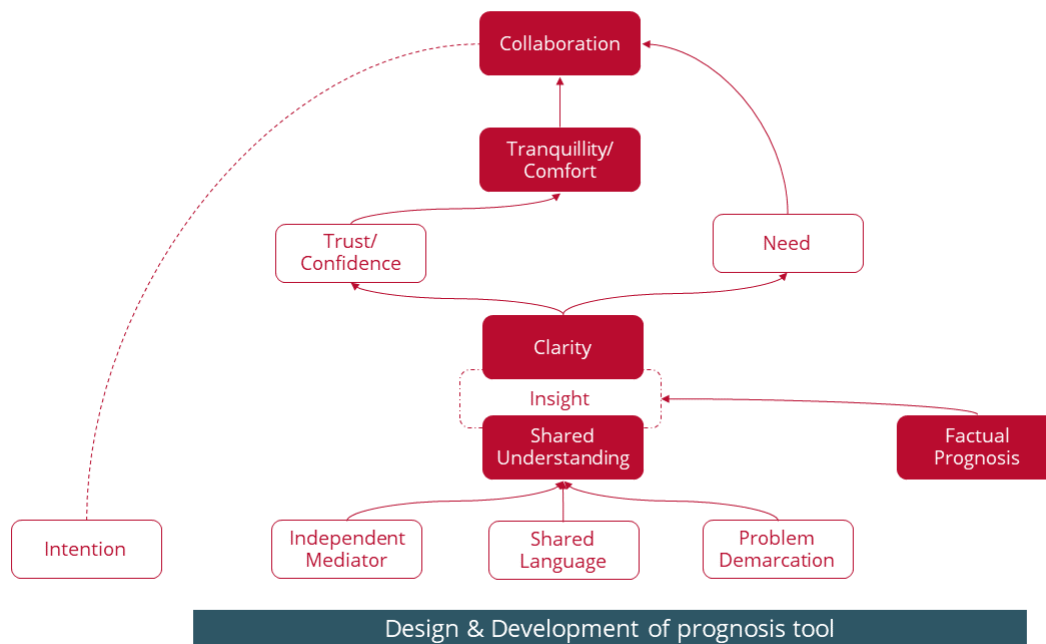
Figure 7.1: Proposed mechanism from the design & development of a prognosis tool for enabling collaboration

A shared understanding seems to have emerged *"It does not really matter that the perception of the task is concrete until the number behind the comma but about the fact that you have a shared idea about it. That you make the same assumptions"* through shared language *".. are we talking about the same thing, do we understand each other correctly?"* and an extensive problem demarcation *"..discuss then build: talk about what we are actually talking about together, and then developing the model afterwards"*.

These were mediated by an independent expert to translate when needed and stay close to the task at hand *"..the logical thinking from an independent expert together with our input of how it fits reality best, you need both"*. The shared understanding regarding the design, together with the factual outcome of the prognosis tool have led to insight and clarity into what the task entails within their own and for all other sub-regions.

This has induced trust and confidence in the relation and in achieving their own and shared goals even if these will be hampered in the future. This trust and confidence has led to tranquillity, peace and comfort setting the atmosphere for collaboration *"So that feeling of having insight or yes having insight into what everyone's task are and where everyone stands now. That was what I think was important for the trust and collaboration. And that provide governmental tranquillity"*. Also by clarifying the uncertainties, inter-dependencies and the task a clear need, where or why collaboration may be needed (the identified risk) has stimulated collaborative action. *..I think that especially the unrest/agitation is gone and it is now clear what we are going to work on and that by itself had improved the relationship"*. Notably, these may have been facilitated by the intention of collaboration of some of the involved actors.

7.2   Interpretation per sub-question

This research aimed to understand how a prognosis tool can enable collaboration for decentralised health care service by studying the real-life case of decentralised Assisted Living the Netherlands (*Region R*). The overall research followed a design science approach. First, a literature review was conducted assessing how health care service decentralisation is implemented globally. Secondly, the technical design and development cycle of a prognosis tool for the implementation and elimination of assisted living facilities for the sub-region of *Region R* was studied from the experience of the researcher as modeller. Thirdly, a policy analytical activity evaluation was conducted on a set of semi-structured interviews with the involved actors.

These answer the following sub-questions:

1. How is decentralisation of health care services implemented globally?

2. How can the planning and organisation of decentralised Assisted living in the Netherlands be facilitated by a prognosis tool?

3. How does this prognosis tool act as a boundary object to enable collaboration for planning decentralised Assisted living in the Netherlands?

7.3   Interpretation of key findings Sub-question 1

How is decentralisation of health care services implemented globally?

This section provides a knowledge base for the implementation of decentralised health care service planning.

7.3.1   Lack of implementation & Risk of fragmentation

Within global academic literature on health care decentralisation the fundamental structure and implementation of practicalities remains scarcely studied. Findings do indicate health care service decentralisation resonates in fiscal (who has the financial budgets), infrastructural (hospital, GPs, geographical locations) and governance of service provision (types of care, who has authority/responsibilities) sub-systems (Abimbola et al., 2019b; Jiménez-Rubio and García-Gómez, 2017; Ohrling et al., 2021; Pandolfi et al., 2022; Saltman, 2008; Wenzel et al., 2016). The focus is placed rather on effects of decentralisation (Abimbola et al., 2019b; WHO, 2022) which makes a practical comparison with the Dutch system not grounded in literature. Several negative effects are associated with decentralisation including municipality deficits due to lower contracted tariffs, overestimated efficiency gain, failure of municipalities to provide tailor made solutions and fragmentation of care resulting from independent processes, lack of system focus (Maarse and Jeurissen, 2016; Wenzel et al., 2016).

The risk of fragmentation and negative effects of both financial risks for sub-regions and risk of decreased a care access for their citizens are highlighted in the problem identification. The specificity of this care does contain more globally found concerns as a consequence of decentralisation of health care services. Moreover, the lack of research on implementation is directly addressed in the solution by providing detailed observation in the tool design and development to an extend that it could inform other future tools.

7.3.2   Need for collaboration is expressed & System focus

The results reveal that decentralisation resonates in multiple sub-systems and drives negative effects as a result of independent processes and lack of system focus.

First, both the muliticiply of actors and the isolation suggest a need for collaboration between different areas. The identified areas where decentralisation resonates (fiscal, infrastructural, care provision) provide a potential starting point to focus on enabling collaboration. Since these areas are all affected by decentralisation they may be confronted with the associated negative effects. Additionally, they also serve a larger sub-system, namely the health system. The functioning in any of these sub-systems may therefore influence another sub-system and their shared goal in the larger health system. The risk of fragmentation may also manifest between these sub-systems and their public policies. Each-subsystem's independent, albeit fragmented, processes all have an effect on the larger, holistic, health system. A solution relief fragmentation may be collaboration through clarifying and influencing the inherent inter-dependencies between sub-system process.

7.3.3   No sharp movement towards decentralisation or prognosis tools

Several countries are decentralising but the outcomes are mixed. This show a lack of a sharp movement towards decentralisation or homogeneous effects. And raises the question whether decentralisation are effective in every context, if they are driven by objective measure or rather political context. A possible explanation at be that decentralisation may not be a effective measure in every circumstance but rather highly dependent on the specific location and (political) context. It also makes identifying in which context decentralisation could be effective and in which not a next step. Another explanation may be that the negative outcomes of decentralisation may result from not having the right means or tools to achieve the goals of decentralisation successfully. This point to an implicit unmet need to provide means for successful implementation.

No demand for research on prognosis tools as a means to for the implementation of decentralised health care service was found. This points towards the lack of awareness on prognosis tools as a possible mean.

Efficiency gains have been overestimated through decentralisation. Giving more attention to further improve allocation and productive efficiency may be addressed with a prognosis tool. But awareness of the possibilities is yet to be established.

A personal reflection entails the question whether decentralisation of health care services is desirable at all. This research was conducted within the context where decentralisation was a given. Given the added challenges through decentralisation it is truly questionable whether this philosophy truly holds the capacity to instantiate the changes and desired positive effects it has promised. Time will tell whether the anticipated outcomes will fall in place or how extensive the additional measures to mitigate negative effects must be. And then, but the question is actually when, and how will the consequences of decentralisation be compared to previous more centralised systems. And will our political system dare to reform again if the results are not up standard?

7.4 Interpretation of key findings Sub-question 2

How can the planning (and organisation) of decentralised Assisted living in the Netherlands be facilitated by a prognosis tool?

By addressing the socio-technical system of decentralised health care service planning as twofold, consequently there is a need to address interventions serving both the social and technical aspects. This section focuses on the technical aspect of the socio-technical system of decentralised health care service planning.

A successful prognosis tool - by interpretation of the users and developers - forecasts the expected amount of clients in need of and shortage/abundance assisted living places per sub-type of care of several sub-types of assisted living. The collective design (independent advisory and policy advisors of the sub-regions) of the prognosis tool identified the following core system elements: *Expected Registrations, Inflow, Outflow and Waiting list.* The input (and logically also output) of the Excel model is adaptable over time to implement the effect of amongst others: *newly created/eliminated facilities, duration of care trajectories, preventative measures, the costs of care.* These elements were considered to give a realistic representation of the system by the sub-regions. The prognosis tool together with the outcome of the prognosis and a set of agreements were communicated in a PowerPoint report to all engaged actors.

To promote usability (for sub-regions to account for changes in the future), Transparency (between the sub-regions on data provision) and Standardisation to the extend that they fit all sub-regions' demands and resources the following key characteristics were implemented. To promote *transparency*, one file was created containing the output and input of all three sub-regions instead of three separate files. This also stimulated *standardisation*: the input data from all sub region's is translated to results in the same manner. To stimulate *usability* and limit the chances of unintended mistakes cells were colour coded based on whether they are input by users, analysis outcomes (not to be altered) and external input (only to be altered if one is absolutely

certain).

The planning facilitated by the prognosis tool was deemed successful through creating insight and overview into the shortage/abundance of assisted living places per sub-type for all sub-regions for the next ten years. The findings of sub-question 3 indicate this resulted from the inclusion of a shared understanding of the most important system components and their relation.

The design of the prognosis tool included components from the three sub-systems (fiscal, infrastructural and provision of care) where health service decentralisation was found to resonate in. This implies a design requirement which matches the conceptualisation of decentralisation in academic literature. This was captured both in the observation during design and development and in the evaluation of the tool process with the involved actors.

The policy analytical activity evaluation has indicated this project arose through fiscal friction and hampered the governance of service provision by a question of infrastructural worry (do we have enough facilities in sub-region x,y,z? Where should we de-construct more, of what type of care?). Moreover, the prognosis tool accounts for the integration of fiscal (expected registrations are based on the received funds and the costs of care to provide budgetary insights), infrastructural (the actual amount of places and the amount of places needed in each sub-region) and the governance of service provision (by the arrangements established between the sub-regions after tool development).

The results of the prognosis tool were used for procurement as a means of organising care. Confidence and Trust that there is a shared perception of the task and others will not cause problems because there is a shared understanding of the system and, due to set agreements.

Successful in prototype design and development, it is yet to be established whether the aforementioned characteristics are also drivers for the successful future steps in implementation. Policy processes often take a long time, most certainly reforms. Nevertheless, the shared and documented conceptual model may provide at least a starting point for future adaptation. It is believed the conceptual model was a good starting point for discussing amongst actors to challenge their assumptions. In case of future adaptations, changes should be relatively easy to discuss and implement given the spreadsheet was designed to be adaptable and easy-to use. These are also the key take away messages for personal future spreadsheet modelling.

By calculating the expected client inflow and measuring the actual inflow, fluctuation in client populations could easily be identified and monitored. The applied categorisation of sub-types of care within assisted living may provide an preliminary solution for differing definitions of "beschermd wonen". Unknown differing definitions could lead to financial risk for municipalities Andersson Elffers Felix, 2022. The categorisation and identification of which different sub-types of care provided are provided by which sub-region may also help to promote a versatile and complete provision of care. These tool component therefor address the challenges emphasised by the Dutch state secretary of the Ministry of Health (Van Ooijen, 2022).

7.5   Interpretation of key findings Sub–question 3

How does this prognosis tool act as a boundary object to enable collaboration for planning decentralised Assisted living in the Netherlands?

This section focusses on the "socio" aspect of the socio-technical system of decentralised health care service planning.

Collaboration was also stated to be an effect as opposed to an aim or result which was deliberately achieved. Mostly this was explicitly stated. The post-hoc analyses of one interviewee resulted in the added interpretation of implicit collaboration through a combination of improved relations and the ability to make co-operation agreements together. Meaning all interviewees acknowledged collaboration was enabled.

This research suggests collaboration was enabled through the process of establishing shared language/understanding, problem demarcation and decomposing. Clarity was thought to provide a shared perception by having the same facts available, speaking the same language, sharing assumptions and having a shared foundation to improve the collaboration. Also transferring the established knowledge, updating and monitoring the prognosis tool and agreements, interpreting the outcome as non-absolute and setting agreements together are indicated to be boundary conditions by more than half of the interviewees.

Main associated factors are having insight into one's own and other's task, clarity (into actions to be organised), having a shared language & understanding (do we mean the same thing, are we talking about the same, are we providing the same data), removing worry and establishing tranquillity, comfort by trust and confidence to take the next step by decomposing uncertainties, making agreements and time pressure.

The prognosis tool has acted as a boundary object by bridging between the different sub-regions. The tool and information resulting from the tool building process has created a shared reference between the actors of the sub-regions. Their assumptions (boundaries) have been challenged and through this they have seemed to emerged a shared understanding. The tool is useful and has meaning in each individual sub-region, but still has a shared perception between the sub-regions.. And the prognosis tool has been a vehicle across to explain how and why actors or information is connected and disconnected. These are all characteristics of how a boundary object functions (Karsten et al., 2001; Star and Griesemer, 1989). Since the interviewees provided boundary conditions based on their experience within this project, the boundary conditions may not merely be applicable in other situations but may reflect their as well. And thus are useful focus point for the remainder of their planning process. Moreover, the most mentioned boundary conditions in a wider context were either in the larger planning process or the process of the activity rather than the tool content. This points towards a greater importance of process rather than content in enabling this tool use for other sub-national governments.

The findings of the component that have contributed to enable collaboration as depicted in Figure 7.1 are partially resembled by previous findings in the literature.

As in the current research *trust* in another and in ones own goal seems to have a positive effect on *collaboration* (Brunetto and Farr-Wharton, 2007; Eriksen and Heimestøl, 2017; Ha et al., 2011) and vise versa collaboration seems to have a positive effect on trust (Chiocchio et al., 2011). Additionally, if we follow goal setting theory (Locke, 1968), *clarity* of tasks, goals and roles improves performance (Bray and Brawley, 2002; Peralta et al., 2014; Richter et al., 2021; van der Hoek et al., 2016). In sport psychology, performance and goal setting have been widely researched. Generally goal setting whether process goals or outcome goals improve performance (Williamson et al., 2022). More specifically, understanding the desired results (*clarity/insight*) increases *confidence* (Hays et al., 2009) which as a psychological state positively effect performance (Feltz, 1988; Williams, 2010). In this context performance could be considered collaboration between the actors. At time of writing the relation between *tranquillity/comfort* was not linked to other themes in literature. However this does not exclude the possibility of the presence of relationships amongst these themes represented in literature. *Intention* to collaborate, in the presented scheme a facilitator, is not further researched as is it assumed to be a co-factor or catalyst of collaboration.

Notably, the tool has been highlighted to improve *procurement* for the sub-regions, by being able to *"tell the same story"*. Next to the positive effects for the sub-regions, this may also mitigate incurring administrative tasks for care provides. Collaboration between sub-regions or municipalities may promote to enact the same terms and conditions to minimise the administrative and thus work force burden of care providers (Andersson Elffers Felix, 2022)

In hindsight, assuming that the proposed mechanism enables collaboration, the question arises whether if one's aim is to enable collaboration, if one were to travel along the same route. In other words, would one I still have chosen for the development of a prognosis tool?

Personally, I believe a tool such as this prognosis tool, truly serves a dual socio-technical function in this process. So for me the question really is, is only collaboration required or is there also a need for a calculative model of some sort. If both are required, I would personally argue yes, this mean is potentially successful and may be used. Additionally, I would inform the process guiders of this expected mechanism and try to incorporate question or small activities to further promote exploring boundaries, shared understanding and confidence. If a factual prognosis (by calculative means) is not required but collaboration is, a tool may not be essential. Other means could potentially be used to create a shared understanding. Such as simulation games, with a referee (independent mediator), rules of the game (shared language), goal and game setting (problem demarcation).

But even when a factual prognosis is not required, the fact that you have to discuss the meaning of numbers, really challenges people in giving words to their interpretations, rather than keeping them abstract. Therefore I would argue, even if a calculative model is not essential, discussing the conceptual model behind, it's relations and hypothetical outcomes due truly challenges one's (otherwise unknown) beliefs and can create clarity and insight.

7.6   Scientific Contribution

This research contributes three new additions.

First, this research provides new insight into the practical implementation of decentralised health care services thereby fulfilling an identified gap in academic literature as well as answering a call to foster co-operation in public policy (OECD, 2019). Previous research has focused on the effects of health care decentralisation (Abimbola et al., 2019b; WHO, 2022) rather than implementation.

Second, this research demonstrates how a prognosis tool can service a dual socio-technical function as both a technical planner (prognosis) and enabler of collaboration.

Thereby building upon existing evidence of prognosis tools as a technical means for forecasting (Soyiri and Reidpath, 2012) within the health domain (Cheng et al., 2021; Ordu et al., 2019). Additionally, demonstrating prognosis tools can serve a "socio" function of collaboration as a boundary object (Karsten et al., 2001; Landry et al., 2009; Marheineke et al., 2016).

Third, a new application for boundary objects in literature is provided through the prognosis of assisted living.

The results affirm the theory that boundary objects enable collaboration by developing shared understanding and are both plastic and robust (Carlile and Rebentisch, 2003; Karsten et al., 2001; Landry et al., 2009; Lee, 2007; Marheineke et al., 2016). This may be extended through findings indicating tranquillity and comfort as associated factors. Moreover, this research has indicated the arrival of future arrangements and actions, outside the activity or working session themselves resulting from the use of a boundary object. This implicates the stimulation of future interaction patterns and roles by the interaction with the boundary object. Likewise, this also affirms the theory of characteristics enabled by boundary objects (Harrison et al., 2018. To the best of the researchers knowledge, in the absence of publication on Google Scholar or PubMed, this theoretical installation of boundary objects within assisted living is the first.

Notably the most extensive tool evaluation framework within planning activity by McEvoy (McEvoy, 2019) highlights "it is up to the evaluator to interpret the results and to produce relations between the findings. This requires a skilled and critical analysis and even more so as the evidence is most often qualitative in nature (or not statistically significant), contextually rich and multi-facetted". This is due to the embedded yet transpiring structure of the tool within the planning process together with the descriptive nature of information eluded by the framework. The proposed mechanism of collaboration as an effects provides exactly these voiced relations.

7.7 Limitations

The methodological choices were time-constrained to a literature review as opposed to a systematic literature review. More studies closer fitting the current study to enable a comparison possibly could have been found in a truly systematic review. For example the initial narrower search string including planning or prognosis in combination with decentralisation and health care did not yield any fitting research papers. Nevertheless, tested search strings by information scientist might have delivered more fitting research papers.

Secondly, the prognosis itself is currently highly sensitive to some parameters such as the objective distribution model and the average trajectory duration. The former entails the received governmental funds by municipalities to provide for assisted living the next 10 years. Based on these funds and an average cost price of assisted living an estimation of the expected amount of registration was obtained. If the objective distribution model over- or underestimates the expected costs for municipalities, the amount of expected registrations and thus demand for assisted living is inaccurate. In two years, the objective distribution model will be evaluated by the government to asses if it is fitting and potentially has to be adjusted. Secondly, the parametrisation of average trajectory duration is currently uniform for all sub-types of care due to a lack of more specific data available. This heavily effects the outflow of assisted living clients and thus also the supply and demand.

Thirdly, naturally the validation of a ten-year prognosis tool with yearly time steps entails are large time scope. It is outside the scope study to validate this prognosis tool over a large period of time. Moreover, attempts in the interviews have been made to empirically establish boundary conditions for this tool to operate successfully (establishing collaboration in light of health care system reform) by sketching a hypothetical scenario (what if this tool would be used in a different setting?). Validating the identified boundary conditions falls outside of the scope of this research. But these identified boundary conditions may serve as a starting point for further validation research with this prognosis tool in different settings. Moreover the findings indicate that at least for some participants there was a previous aim to improve collaboration which may have contributed to the results. The causality of the identified themes associated to collaboration are not established. These may provide further refinements for a conceptual model or mechanism behind the enabled collaboration. They may also add additional starting points to enable collaboration. Lastly, the methodological consideration to conduct semi-structured interviews with open ended question may have limited the conciseness and potential overlap in identified themes.

The tool and process are analysed and partly evaluated by one of the developers, tending towards a bias. Nevertheless, the evaluation of all involve actors was included, moving away from the experience of one of the developers observations. In combination with conducting a rigorous and systematic analysis a strong attempt has been made to provide comparable results for future use.

The framework adapted from McEvoy (2019) has been proved useful to analyse the

effect of tool use between actors in a policy setting. The original framework has been used to analyse fully developed tools whereas this research has shown the framework can also be helpful in the design and development phase leading to a prototype. It has been useful to structure the abundance of data and aid the preliminary causal relations of the identified elements contributing to enabling collaboration (see Figure 7.1). On a critical not, a difficulty and potential limitation of this study is the inability to separate all quotes to only match one theme. In other words, some quotes contain multiple themes which relate to

Similarly following the design science approach has been useful to structure previously unstructured information in a logical flow from project start to end. Additionally it has challenged creativity in providing a solution and reflection on that solution. And it has proved to be a successful approach. In the process the work product is both the prognosis tool itself (1) and the outcomes of the prognosis tool (the prognosis for all sub-regions), risks and agreements which are discussed in a report (2). This agrees with the design science approach which produces an artefact (1) via a sound design process (2).

To reflect on the single case study, it has proved to be a meaningful and successful method to research the implementation of decentralised health care services, it has provided rich data contributing to this under-researched field. These results may be bounded to this setting alone, but only the future will confirm or invalidate the generalizability.

The design science approach together with a single deep case study were deemed insightful by the advisory in the corporate domain by eluding how a single case and the design of a single prognosis tool is situated in, and contributes to, a larger field outside of the use for a single project.

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CHAPTER 8

</div>

CONCLUSION

This section answers the main research question by first summarising the approach and then answering the sub-questions, provides relevant recommendations based on the outcomes of this research.

8.1 Answer research questions

By studying decentralised assisted living in *region R* in the Netherlands this thesis had aimed to identify *how a prognosis tool can enable collaboration for decentralised health services?*.

The central questions for this research were:

1. How is decentralisation of health care services implemented globally?

2. How can the planning of decentralised Assisted Living in the Netherlands be facilitated by a prognosis tool?

3. How does this prognosis tool act as a boundary object to enable collaboration for planning decentralised Assisted Living in the Netherlands?

8.1.1 Answer sub-questions

How is decentralisation of health care services implemented globally?

The conducted literature review established that the practical implementation of decentralisation globally is not answerable through academic literature.

However the need for collaboration was highlighted. As well as municipality deficits, fragmentation of care resulting in independent processes and lack of system focus

have been identified as negative effects of decentralisation. Moreover decentralisation was found to resonate in sub-systems of fiscal, infrastructural and care provision systems.

How can the planning of decentralised Assisted Living in the Netherlands be facilitated by a prognosis tool?

Analysis of the prognosis tool's design and development based on the experience of the researcher in the independent advisory and through working sessions with the actors has indicated the following.

By integrating the effected sub-systems of decentralisation in the design, the prognosis tool entails a realistic representation of the problem to be solved. *Usability* for sub-regions to account for changes in the future, and limit the chances of unintended mistakes was implemented by colour coding cells based on whether they are input by users, analysis outcomes (not to be altered) and external input (only to be altered if one is absolutely certain). *Transparency* was promoted between the sub-regions on data provision, one file was created containing the output and input of all three sub-regions instead of three separate files. This also stimulated *standardisation* to the extend that they fit all sub-regions' demands and resources, the input data from all sub region's is translated to results in the same manner. Forecasting the shortage/abundance of places contributes to pre-informing to plan services better. The outcome can be used for agreements with care suppliers (procurement) or housing. And it enables organisation through agreements between sub-regions.

How does this prognosis tool act as a boundary object to enable collaboration for planning decentralised Assisted Living in the Netherlands?

The meta-analysis of evaluating if and how the prognosis tool functions within the actor network (the sub-regions) to enable collaboration was conducted using a *policy analytical activity evaluation framework* on a set of *semi-structured interviews* with the involved actors.

The design & development of the prognosis tool seems to have enabled the boundary object characteristic of shared understanding through shared language and an extensive problem demarcation. These were mediated by an independent expert to translate when needed and stay close to the task at hand. This shared understanding about the design together with the factual outcome of the prognosis tool have lead to insight and clarity into what the task entails within their own and for all other sub-regions. Insight and clarity through shared understanding as the characteristic of boundary objects seems to be a vehicle explaining how and why actors or information is connected and disconnected. This has induced trust and confidence in the relation and in achieving their own and shared goals even if these will be hampered in the future. This trust and confidence has led to tranquillity, peace and comfort setting the atmosphere for collaboration. Also by clarifying the uncertainties, inter-dependencies

and the task , where or why collaboration may be needed (the identified risk) has stimulated collaborative action.

8.2   Answer Main Research Question

In conclusion, this prognosis tool has enabled collaboration for decentralised health services by addressing both "socio" and "technical" aspects. The technical design and development of the prognosis tool integrate the effected sub-systems, ensuring the outcome can be used for organising future steps (such as procurement). Extensive problem demarcation and shared language emerged a shared understanding of the system. In combination with the factual outcome (prognosis), insight and clarity was created into the actual need and to enable trust and comfort, enabling collaboration.

8.3   Recommendations

8.3.1   Recommendations for policymakers and implementers

Regional, sub-regional and municipal decision makers are invited to consider this prognosis tool that integrate sub-systems as a means to facilitate the implementation of health care decentralisation. Also within smaller geographical areas and for socially oriented health care they can be useful. In using this tool in other settings such as different municipalities, it is advised to give extra attention to creating shared assumptions/understanding between actors, setting agreements, transfer knowledge and update & monitor the newly accounted for information.

Next to this prognosis tool, other facilitators should minimally focus on establishing shared understanding and insight into the implementation task as a consequence of the planned reform. The importance of capacity to operate and update such a tool and establish knowledge transfer across 'employee generations' in an already tight labour market are emphasised. Considering a tool is a model and all models are simplifications of reality and therefore partially wrong, the interpretation of the tools results should always be highlighted to be uncertain to some extend.

8.3.2   Recommendations for future research

Future research is needed to establish the validity of this prognosis tool over a larger time-scope and in different (geographical cae settings) health care reform settings. Additionally, the causality of the identified associated characteristics of collaboration of the prognosis tool as boundary object are yet to be established. A general call for researchers to focus on analysis of health care system reform in a systematic concrete, unambiguous manner and including implementations of health care reform research to share lessons learned between countries is emphasised. Regardless of

the local specific context they may serve, there may also be more general working mechanism in the implementation which are now unaccounted for in academic literature. Additionally. the proposed mechanism of how collaboration was enabled in this study is yet to be tested in different environments. It would therefore be interesting to test this prognosis tool and process in more municipalities in the Netherlands. Also, testing this tool as a finished prototype with a minimal amount of meetings between sub-national governments (promoting use) would be interesting to establish how the tool can be combined with a process efficiently to still service it technical (planning) and social (collaboration) mean.

Moreover, it would be interesting to test which elements of the proposed mechanism that enabled collaboration are essential and which can be left out to still achieve the desire effect of collaboration.

There is a need for an overview (or assessment) of the extent of decentralisation and the corresponding implementation of (decentralised) health services that has been established. Polin et al. (2021) party provides a foundation for this gap by establishing an overview of key health systems reforms among high-income countries in 2018 and 2019 (top reforms by experts, salient trends and patterns of implementation status). They however do not state whether the current health system structure is decentralised or centralised and only focus on reforms which are implemented, thus leaving out a so-called baseline. Additionally, as their data is collected from policy makers the findings may be extremely biased due to underlying political agendas and motivations. The reported reforms of each country are only the top-three' reforms excluding other potentially interesting reforms regarding centralisation or decentralisation, as these were only a subset. This also adds to the discrepancy in reporting between countries. For example, in Italy (2019) a mandatory vaccine was implemented and the previous year the same action was implemented but not reported as a top reform. It is the most recent pre-COVID pandemic extensive review to the best of the researcher's knowledge. A clear assessment scheme could thus be of great benefit. It could also be tested if it is valuable for other decentralised policy domains (such as youth care).

To improve the limitations of this study, future research should include a systematic literature review, evaluate the the objective distribution as a highly sensitive parameter, and average trajectory duration. Also it yet to be validated over a larger time span, close to time span of the actual implementation (10 years).

A next step would be to research how to keep effective collaboration between actors after having run through a successful process of tool design and development. Does it require the same mechanism as the initial collaboration establishment, or does it require different elements?

Lastly, this research may serve as one solution for implementing decentralisation. Future research should focus on other boundary effects for decentralised health services and compare their mechanisms and effects.

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Part IV

Appendix

APPENDIX

INTERVIEW QUESTIONS

1.1   Interview Questions

Questions
1. What is the purpose of the tool? (And what is specifically of essence to you?)
2. To which extent does the tool reach its purpose? Does it reach your purpose? Why (not)?
3. How can the tool be improved (what are the strengths and limitations)? / If you could make any improvements to the tool what would they be?
Check question: Have you/ your sub-region used the tool? Why (not)?
4. (How) does the tool enable collaboration between (sub)-regions?
5. In which situations within your sub-region does (not) the tool not function adequately?
6. How or under which conditions can the tool be of use for other (sub-)regions? (Ie collaboration through regular meetings)

The Interview Questions were used as guiding question and deepened with How and Why questions during the interviews.

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APPENDIX B

ANALYSIS INTERVIEW 1

A.1   Context

Mist/ Perception of issues elsewhere
"Subregions' fear, that other subregions won't take the task seriously.. Too slow or quick implementation of facilities which will result in problems for the fearing subregion. This is because citizens of their or other subregions have to use their facilities and that will bring along incurring costs"

Unrest/Agitation
"Fear of subregions that other subregions won't take the task seriously. Too slow or quick implementation of facilities which will result in problems for the fearing subregion. Because citizens of their or other subregions have to use their facilities and that will bring along incurring costs. For a lot of participants, that was a driver"

Intrinsic Motivated
"They have chosen quite an ambitious construction. There are enough regions which have said, nice and all that decentralisation but we just collect money regionally and the region procures care just as before. But the resources come from the municipalities instead of from the national government. This region has said, we are really going to organise part of the care procurement sub-regionally. And that results in the sub-regions having interdependencies."

Project process
Friction/Resolve collaborative hiccup over disagreement financial agreements
"When we started a previous project in 2018 or 19 it was quite abstract. They wanted implement a movement and everyone was committed. And because it wasn't concrete everyone was on the same page and committed."
"You notice when it starts to become more tangible, concrete and more financial, it can get a little thrilling and complicates collaborations, then you need some intervention to get it going again."
"..everyone wanted this but it was not concrete and now that it is starting to (and getting financial) you see collaboration reaching a toll again. This smoothens it."

Intuitional Setting

First to decentralise this far
"They have chosen quite an ambitious construction. There are enough regions which have said, nice and all the decentralisation but we just collect money regionally and the region procures care just as before. But the resources come from the municipalities instead of from the national government. This region has said, we are really going to organise part of the care procurement sub-regionally. And that results in the sub-regions having interdependencies."

Not in norm agreements municipalities

"Municipalities already make agreements about assisted living in a regional setting on a number of themes. This is the case for all regions. The VNG (municipality bond) has established a norm with all municipalities, in which, a set of themes is determined which agreement have to be made about. "

A.2   Input

Aim/role of the activity

Insight implementation/ elimination task
"To provide insight for municipalities in their task to realise a fitting and covering level of facilities for their own citizens and how they can grow towards this."

Take away worry
"An instrument to establish comfort or peace between municipalities, directors/governors and policy makers that they know they are working on the same task and have similar tasks. But also that they also have to do something with one another to work on that task"

Smoothen Collaboration
"..to give them a kind of foundation for collaboration again"

A.3   Process

Organization

Shared language
"They don't need to have the same end goals. The task may be different among sub-regions but they have a **shared foundation."**

Procedures of the activity

A.4   Content

Data Quality
"I don't completely trust the data delivered by one sub-region because we had been given two different sets of data that seemed a bit contradicting. First, they provided a set with which seemed too little places, then I send them a piece on the amount of places they actually wanted to work towards and then they had added to the original set to kind of match the desired placed. Then they lowered that again, but I don't know how and I cannot asses that properly and it also lacked a fitting trajectory time."

A.5   Results

Trifold
"In this case we adopted a trifold of the model, risks/interdependencies and agreements to meet those."

<u>Direct work product</u>
Insight (can be Very High Level)/ Clarity
"To provide insight for municipalities in their task to realise a fitting and covering level of facilities for their own citizens and how they can grow towards this."

Collaboration
"..I wonder if they will really continue to use the model or just think, the functional goal, namely enabling collaboration again, has been achieved.."

<u>Value and relevance of results/ Satisfaction with results</u>
Passed a hurdle
"Simply the fact that they have now have passed a certain hurdle with each other makes they like each other again for a while and could can go on."

A tool to provide comfort/rest/peace
"An instrument to establish comfort or peace between municipalities and directors and policy makers that they know they are working on the same task and have similar tasks. But also that they also have to do something with one another to work on that task"

A.6   Use

Further agreements (between subs)
"The VNG together with all municipalities have established the norm to make agreements on specific themes. But this theme is not one of them. And using the model, you elucidate the urgency of making these arrangements from a bottom-up approach as opposed to a top-down (VNG approach)."

Contracting/ Supplier agreements - Procurement
"They already have the responsibility for organising care (due to their arrangements – see above.). So they purchase, finance, select contract from suppliers. But now they have more insight what exactly they have to contract and procure/purchase. "

"Decision-making now and in the future for procurement processes ..to deliver concrete implementation of procurement (how much for which target groups). And this tool and outcomes should give them additional leads."

A.7 Effects

Comfort/ Peace/ Rest
"In the second place, I think it is an instrument to establish comfort or peace between municipalities and directors and policy makers that they know they are working on the same challenge/task and have similar challenges. But also that they also have to do something with another to work on that challenge."

"We have shown that it's not as bad as they thought and that regardless of that you have resources or possibilities to deal with those risks"
That = "Fear of subregions that other subregions won't take the task seriously. Too slow or quick implementation of facilities which will result in problems "for the fearing subregion. Because citizens of their or other subregions have to use their facilities and that will bring along incurring costs"

"..especially valuable and with that enable collaboration in situations where there is an abundance of uncertainty/obscurity . I mean, often there is just a lot of noise, yes we know something is going to happen, but not what exactly. his can create order in the chaos and with that, take away/ease a lot of unrest"

Clarity/Mental model/Idea changed linked to Shared Perception
"yes, clarity, by clarifying interdependencies you show,hey guys, you are or are not dependent on each other in these areas, go and do something with it. You create an urgency to make agreements"

Shared perception
"To give them a sort of **foundation (/base**). In practice it seems that collaboration is said easily but it is particularly hard. Having a shared perception of what the joint task at hand is and what is needed to give jointly give substance to this and how you implement that concretely. This can help to get collaborating take-off"
"They don't need to have the same end goals. The task may be different among sub-regions but they have a shared foundation**."**

Smoothen Conversations/ Easy (Oil for the car)

Work together for a shared goal
" Simply the fact that they have now have passed a certain hurdle with each other makes they like each other again for a while and could can go on. "

Insight into other strategies did not improve learning from each other

Support (~) or place under shared mental model/assumptions/story/contracting negotiations

A.8 Wider Applicability

<u>Boundary conditions</u>

The law of small number

"for some types of care..the target groups are really small. And that makes you wonder what are you calculating"

Current Technicalities

"The division of regions to sub-regions (and municipalities)" – But have the same with subregion to municipality. "Yes, but small municipalities, law of the small numbers"
"Classification of target groups and a distribution of the total in those target groups"
"A notion of the average price of a placement"

Shared

"The shared view that you want to work towards a fitting supply of facilities for your citizens. If you couldn't care less where your citizens and up in the region, then you only have the task between regions not within"

Decentralisation Implementation Need

"The need to implement and eliminate facilities within regions"
"The responsibility at sub-region level, if it was at region level, and the implantation and elimination are somewhat in balance there should not be a gap."

Independent process leader/expert

"In general sense I think it is especially valuable and with that enable collaboration in situations where there is an abundance of uncertainty/obscurity. I mean, often there is just a lot of noise, yes we know something is going to happen, but not what exactly. This can create order in the chaos and with that, take away/ease a lot of unrest"

Update & Monitor the model and agreements

"This is something that you have to track and recalibrate based on developments. And you know, I do dare to put my hand In the fire that if you don't keep up with it, that within no time you'll end up with a totally outdated picture. We based the final need of supply on the objective distribution model. Yeah, that, that will also not perfectly turn out to be. There is a knob in there of the, the average duration of pathways and the average cost of a place per year. And those are all parameters to which the outcome is hugely sensitive, so that has to be just track as well"

Accountability/ Ownership

"For example by making someone responsible and accountable to update the model and set out targeted task or question to provide the data to feed the model, just to recalibrate it every now and then. For example, there was a data-analyst at the region who could deliver a sound average trajectory time but he was too busy. Someone has to think of asking this man in half a year or so what exactly was the right answer. "

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Capacity

"like for example the data analyst in the region to provide an average duration was too busy during this project but someone and someone has to think of asking him in a while, hey what is the right answer and then plug it the model."

Data quality

"Received data quality and completeness should be good"

Make Agreements

In this case we adopted a trifold of the model, risks/interdependencies and agreements to meet those. If you only share the former, you automatically show the second but not the latter. It is questionable if they will formulate these agreements independently." .. so it is a boundary condition .. "yes".

Story telling/ Agreements

"You could make it the plot of a book: This is your task. Oh no, It's all going wrong, because all kinds of interdependencies. But hey, we have a solution how to get there. Yes that solution is not immensely revolutionary or something, but the notion that you can coordinate in that implementation and elimination task and that that explains the risks".

"Through elucidating interdependencies, you show hey guys, you are very or not do much dependent on each other. Go and do something with it. . It creates the urgency for making agreements on this topic."

Transparency

"Transparency to one another, so the will to share data to/with other sub-regions"

Agree on the divisions / assumptions

"If you have an agreement on those, you can basically translate this to the model"

The small groups/numbers

"There just some really small target groups, so small numbers, for example people with ASS, we have quite a lot of those. So we know how it functions but there are also target groups which are really really small. Well, the law of the small numbers, that makes wonder if you are calculating the right things"

"The only risk is the law of the small numbers, what if you have a municipality with 3 clients a year, what are you then predicting.. But in theory yes, using this for other regions should be very possible."

Limitations

Restricting possibly freedom of policy negative effect

"You can improve collaboration by shaping a shared language again and yes the same definition of concepts. At the same time, because you desire municipalities operationalise the same division, they give up some of their policy freedom. Mae just a little, but some. And yes, that could of course cause irritations or it can enable collaboration but also limit it.

Depending on how, right. So if for example a municipality has just had their very specific way of doing for a long time in for example target groups or types of houses or severity and that's work fine but is this desired to adapt that on region level, yeah well that could possibly have a negative effect on collaboration.

<u>Strengths</u>

Conceptually realistic and thorough
"Conceptually thorough and realistic representation of reality, entails all important elements" (example: "the potential of outflow and the potential of preventing inflow make them important because they can have great influence on the task and both are in line with the ambitions from the societal shift to prevent people from needing assisted living and stimulate remaining in their own living environment" ..
"And the fact that it is included in the model is also a stimulus to consider it"

<u>Improvements for the future</u>
Further refinements
 "Additional refinements for example on average duration of 'client journey'. Now same average for all sub-regions and target groups. This will help them make better predications. To give them better insight/overview on the task. And I doubt whether they will pick these refinement up or think that is too complex for them and the functional goal of co-operating again. "*How to: "Make someone responsible/ accountable to keep track of this data (collect) and update it."*

<u>Miscellaneous</u>
Non-boundary: Clarity improves Collaboration
Outcome unknown : "Showing that the risks are relatively small. That could give them extra support to continue and probably also limited interdependencies. But in theory it could also put a break on collaboration. If the outcome is, if we do this then there are risks involved. This is strictly speaking from the model outcome, not the agreements included"

Non-boundary: Resolve unclarity
"Especially valuable and with that enable collaboration in situations where there is an abundance of uncertainty/unclarity. I mean, often there is just a lot of noise, yes we know something is going to happen, but not what exactly. This can create order in the chaos and with that, take away/ease a lot of unrest"

Appendix C

Analysis Interview 2

A.1   Context

<u>Local setting</u>
Differing strategies/ backgrounds
"For the other two sub-regions for a long time, it was a lot less clear how big the task for social care would be"
"The other sub-regions did not agree with the set financial agreements"

Already collaboration
"There already was collaboration and then there was a hick up in the collaboration"

<u>Project process</u>
Financial Friction
 "The advisory was asked to resolve the hick up"
"The other sub-regions did not agree with the set financial agreements"

Time Pressure
"I have been in this role for 1.5 years now, and I think the municipality decided together back in 2017 on the basis of the shared vision that they wanted to continue decentralisation, and all these years they have actually done very little so far"

"And now it comes down to it, doesn't it? And now that discussion is on high alert because they can no longer avoid it. So the need is finally there yes. Because of time frame I think, If you want to decentralise by 1 January and also provide the comfort to take the college decision to also transfer the funds to the other municipality. Yes, then you have to do that within a certain timeframe."

A.2   Input

<u>Aim/role of the activity</u>
Insight
"To provide insight in the elimination and implementation task, not only what we have to do as subregions together but also specifically in sub-region .."

A.3   Process

<u>Organization of the activity</u>
Independent expert
"The role of the advisory as an independent expert. That matters because you were no stakeholder altogether. I think that has mattered greatly in the process"

Agreements established

"That there have been agreements due to changed requirements"

Shared language

"Concepts, are we talking about the same think, do we understand each other correctly, and share our thought about that but also make agreements."

""In the process there a couple of things needed as boundary conditions, such as the definitions and the establishment of these with another. Or which target groups are we are talking about? Which type of care facilities are we talking about? That there is uniformity."

How -> "I remember that at some point what are we talking about was **explicitly asked"**

"And also learn people to **get insight**. For a long time this was a lot less clear for the other subregions how bug the social care was for example"

"Going through a process like this you also provide and gain accelerated gain knowledge and skills to and from others.

Time Pressure

"What in this case also helped was time pressure, under pressure everything becomes fluid"

Procedure of the activity

A.4   Content

A.5   Results

Direct work product
Insight

"Yes I think we have achieved the goal, we have Insight and the collaboration has improved"

Value and relevance of results/ Satisfaction with results
Way forward

"Based on the model we can take the next steps"

Collaboration improved

"Yes I think we have achieved the goal, we have Insight and the collaboration has improved"

A.6   Use

Further Translation/ Decentralisation

"So we will use the model within the subregion to show the distribution between the municipalities."

Further agreements

"Based on the model we can take the next steps. Enter a cooperation agreement with each other, draw up a service agreement with each other"

"We have to make further agreements about along the way about the use of numbers (the output). Now we have made a sort of start picture based on the available resources. Later we will of course really see which resources will be available and how it will all look"

"You cannot force a municipality to do something. So to the point it is developing good partnership with another and good and clear monitor agreement and evaluate very periodically"

A.7   Effects

Comfort
"The model provides insight, it also proved comfort especially for the largest risk holder. Iif other municipalities do not succeed in realising their task. Than this sub-region would have all the facilities but won't have the budget."

Clarity
"It provides clarity for everyone and I think everyone has experienced that as pleasurable"
"The model has by providing insight, identified where the risks are for municipalities and which action can be organised accordingly"

Improved Relation
"**..**it was also a tool to smoothen the conversation because you work together to achieve a shared goal and that strengthens the collaboration"

Conversation smoothner
"**..**it was also a tool to smoothen the conversation because you work together to achieve a shared goal and that strengthens the collaboration"

A.8   Wider Applicability

Boundary conditions
Shared Assumptions
"In the process there a couple of things needed as boundary conditions, such as the definitions and the establishment of these with another. Or which target groups are we including. Which type of care facilities are we talking about. That there is uniformity."

"I think it is possible If you look carefully at the assumptions and the basic set of information, If that applies to other regions, say Limburg. Then you could speak, the model could also be fine for municipalities in Limburg"

Flexible Interpretation

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"I think you have to use the model as a guidance and not to rigidly because then you have the chance that you risk not connecting to reality. Because suppose sub-region .. wants to build provision for young homeless people, you need a certain size. You need at least so to speak 4 people sharing spaces in a single-family house. Because otherwise you can't afford such a facility. Well, that means that if you were to model it very rigidly, that if we might only get money for half, but have to pay for the whole facility."

"It shouldn't become a goal-resource shifting. It could be possible that municipalities will hide behind the model and then you have a problem. If you look at the task around social care, for example. Because that is just very flat, but also quite difficult to realise for many municipalities and also not, because on 1 January, homeless people will be on every municipality's doorstep and if you don't have housing then, yes, then you have to rent hotel rooms."

"We have to be cautious the model does not become a "coercive measure"". If you look, for instance, at the realisation of "BW light" places, that often takes several years. And people's pathways also take a few years. On average, it takes three years before a client leaves the facility. Yes, you have to take those kinds of assumptions and presuppositions into account.

Local adjustments
"Only I don't know if you can immediately use it. Because I think there was a very specific look at what resources will be available there within this region and I think that is always the piece of customisation that you will have to do."

"I think the model also I think again collectively then needs to be adapted to that situation, so In the case of this region there was a project group and do you have anything on regions? But of course you have regions that choose, for example, to continue doing this task together under a central municipality arrangement. They explicitly choose not to work with sub-regions, for example. I think situations like that might make a difference, that you have to take a good look at the initial situation. But I also think that the model can be applied to what applies in such a region."

Independent process leader/expert
"I think an independent process leader is important for many administrators. And it more light to the relationships within a particular region. Those can be very good, But it just helps a lot if you have an independent expert, lol, who is not a stakeholder. And you might be able to solve that differently if you look, for example, at a very large municipality like the municipality of Amsterdam. They have their own project pool that they can draw employees from, hey, you could draw an employee from that who actually has no ties to a file and then they can solve it internally. But certainly smaller regions like Flevoland for example, they can't do that at all. Yes no, so actually independent guidance does matter when there are divergent interests between the sub-regions as long as there are no financial cooperation agreements yet, you need that, I think. I think the tipping point is the moment those financial cooperation agreements are in place, because then the financial risk is clear, is established. Risk management is agreed and then that becomes
less necessary, I think."

Labour capacity

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"Enough labour capacity in the local area may be a challenge the next year, for for example data facilities, providing data, having the people to do that."

"Representatives of local municipalities that can bridge between regional level and on the other hand has local roots and can ensure that locally the data is delivered through the data routes.

Update & Monitor

"'You would need a monitor system and you need technology, which can be a massive bottleneck (technical back office, but that is more a general aspect."

"And maybe you learn over the years, because this is the first time you are actually monitoring it better, that for clients with LVB problems the pace is very different from clients who you only have mental health problems, for example."

Set Agreements - Governance

"Because you have a joint task, you should also keep informing each other about. What is the situation now? So you have to come up with some kind of structure where you keep meeting each other. Keep meeting, keep talking about it and keep implementing that."

"For example, a central arrangement or something similar, then you agree as a joint municipality to put everything in a pot. And, when can you take something from the pot? What ground rules do you agree on that? You have to make that in general nothing framework with each other and that has to become part then again of your formal cooperation agreements. Hey, how do you deal with friction costs? Because there are also municipalities that have to scale down. So how do you go about spreading that risk with each other on?"

Knowledge Transfer

"I think it's really important the assumptions stay the same and that we keep those explicit the coming years. Because, if you look at the labour market there will be a lot of personal changes in the municipalities. A part of the people involved with the tool now will be gone with their knowledge"

Limitations

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Strengths

Conceptual Strong Model

"The knobs you turn, I think they are the same for every municipality in the Netherlands, because if you don't do anything about prevention, yes, you know, you don't do anything about outflow housing then the then the municipality has a problem there too"

Improvements for the future

Miscellaneous

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Adverse effects/mitigation of Collaboration

"Not now but maybe in the future because we have to re-use the model and every 6 months check how every municipality is doing and make monitor agreements with each other and so on.'

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Analysis Interview 3

A.1   Context

<u>Local setting</u>

Differing backgrounds/ Strategies
"There had been some changes in employees and previously they had an agreement on not pursuing the 'residency principle', and then one of the subregions did want to pursue this. But they were not aware that that was contradictory to the previously made agreement, so the region was completely overwhelmed by that, they were informed far too late. And then there was lots of frustration.."

"Due to changes in personnel, the historical awareness was lost. While meanwhile, there wasn't anyone constantly working to keep that historical awareness alive. And then very quickly you get to the situation that one thinks you're all going left and suddenly the other turns out to have gone right, then you just have a big problem

Mist/ Perception of issues elsewhere
"Uncertainties had grown to sort of megalomaniacal proportions in everyone's mind, and that put enormous pressure on that cooperation"

Unrest/Agitation
"Everyone was aways very certain everything would turn out okay. But then there were a lot of changes in employees and this certainty decreased, and then there was a clear need for this insight."

"There had been some changes in employees and previously they had an agreement on not pursuing the 'residency principle and then one of the subregions did want to pursue this but they were not aware that that was contradictory to the previously made agreement, so the region was completely overwhelmed by that, they were informed far too late. And then there was lots of frustration".

Ambitious
"What sets the region apart is that they have concretised fairly quickly which
care types are regional and which are more local and also have strongly substantiated their decisions. They were really looking for a way to objectify which care really does have to be regional, because this cannot be done in the municipality and so this just has to be.., the fact that they are thinking about it, that makes them ahead of the curve now."

Uncertainty/ Lack of shared vision on agreements
"Previously there was a question to provide insight on the agreements made. But then it turned out, no agreements had made. That was eluded and in this project the original question returned, the question about insight. But did result from a lot of uncertainty."

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A.2 Input

<u>Aim/role of the activity</u>

Insight implementation/ elimination task
"Well, I, I would say that providing the insight is never an end in itself, so actually, if you look at the purpose of this model, it was to.., yes, it is for also insight, in which I think they now have enough insight into the uncertainties feel comfort in the so to say exciting step they are going to take. That the purpose of the model was able to enable this. Like okay, you now understand that it's truly uncertain, and this model has surely provided comfort in the collaboration."

Comfort
"Well, I, I would say that providing the insight is never an end in itself, so actually, if you look at the purpose of this model, it was to.., yes, it is for also insight, in which I think they now have enough insight into the uncertainties feel comfort in the so to say exciting step they are going to take. That the purpose of the model was able to enable this. Like okay, you now understand that it's truly uncertain, and this model has surely provided comfort in the collaboration."

A.3 Process

<u>Organization of the activity</u>
Decomposing
"Taking them along step by step through the uncertainties"

<u>Procedures of the activity</u>
communication: Humour/ Peacefulness
"It seemed like coming across as being grounded combined with light humour, helps to give a feeling of, everything will be alright, in a process like this"

A.4 Content

A.5 Results

<u>Direct work product</u>
Insight (can be Very High Level)/ Clarity

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"I think what has been achieved ere is to also provide insight in the fact that you sometimes just don't know and that you still have to work together."

Value and relevance of results/ Satisfaction with results

".. Like okay, you now understand that it's truly uncertain, and this model has surely provided comfort in the collaboration."

A.6   Use

A.7   Effects

Comfort/ Peace/ Rest
"Well, I, I would say that providing the insight is never an end in itself, so actually, if you look at the purpose of this model, it was to.., yes, it is for also insight, in which I think they now have enough insight into the uncertainties feel comfort in the so to say exciting step they are going to take. That the purpose of the model was able to enable this. Like okay, you now understand that it's truly uncertain, and this model has surely provided comfort in the collaboration."

Clarity/Mental model/Idea changes
"Yes, objectifying something often helps, because very often there is a lot of perception and a lot of people 'parroting' without having used the original sources as argumentation"

Collaboration
"..now understand that it's truly uncertain, and this model has surely provided comfort in the collaboration."

A.8   Wider Applicability

<u>Boundary conditions</u>

Knowledge Transfer
"How do you organise continuity? Not just on the technical filling of model that's complicated enough, a lot of these kinds of models end up in a drawer somewhere and you never see them again. So if they are never updated. Actually, every time you update that model, you have to go through a similar process. You could do that with an independent company each time but that is also a bit of a shame, then working with models is already a bit doomed in the public sector"

"And I haven't come across that many places where that part was anchored really well. It was always 'hanging' on certain people. Because if it's well anchored, it's well anchored because there's a person, within that organisation who knows how to operate it well and then when they leave, that's gone. After that, the knowledge is also gone"

"And, That's say But that at is actually by definition time intensive to transfer, because it's in the head. It's kind of a culture thing, that has to grow where people have to get used to a little bit and building that up step by step and bringing it along continuously is important. Otherwise you lose people. And the risk that people say this is the model this is the reality while the uncertainties can be big."

Conversation Starter
"It's just something to help us, provide the starting point for the discussion, that's where it goes very quickly go wrong in how models can also be disastrous for collaboration since they are perceived as the absolute truth instead of a conversation starter."

Shared Assumptions/understanding (through concretisation)
"Partly it's: what are we talking about? I mean, you just make, 'what are we talking about', more concrete and it really helps. Also, what assumptions do we make within. So indeed, it's partly about having a common language, that's indeed in definitions, partly about having common expectations. So for example, how realistic do we all think it is that, 'the social care population has suddenly halved within a year'?. Well, it's best to ask some questions about it and if you have a serious conversation about it, it will help"

"Yes, and the difficult thing about the model is not the technical implementation, at least, that is difficult to make but once it is there, it's not complex. But, in people understanding, and also whole groups who understand, what the model means and which purpose it serves."

Autonomy/ Ownership
Paraphrased: To minimise the limitations of a model (perceived as the truth, knowledge transfer) **"**You need something like ownership of the model like a business controller"

Flexible Interpretation
"Especially with a high employment turnover, it's a vulnerability to ensure that people do not see a model as the absolute truth"

"People are very tempted to think, oh, they are stating number, then that's the truth. That's the vulnerability of models, because it's.. You know what? No other model is ever completely true. The model is a model that simulates reality the best it can, and most of the time it's not that great. But people do give a lot of weight to it and think it's the reality. I always find that a vulnerability in models is saying the wider applicability, you guys have run through a more intensive process together to run through those uncertainties together ."

Limitations

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You know what? No other model is never completely true. The model is a model that simulates reality the best it can, and most of the time it's not that good, when people start putting a lot of weight on it and thinking it's a reality. I always find that a vulnerability in models is saying the wider applicability."

"Especially with a high employment turnover, it's a vulnerability to ensure that people do not see a model as the absolute truth"

<u>Strengths</u>

<u>Improvements for the future</u>

<u>Miscellaneous</u>
"What could be a breach in collaboration is that you find out that you have very different goals. But at the same time I think, it's better to find out and that you know, than you can do something with that information and that is concertised or eluded by a model"

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ANALYSIS INTERVIEW 4

Context

Differing backgrounds/ Strategies

"And that's kind of what xxxx also always thought, that centre municipalities, both the construction task and the realisation task, is steered centrally. Whereas we want to start working in a task-oriented way again and share with providers our outflow and customisation for clients. So, we are very different in this sub-region, very different. So although we have formulated a task, we also see that this is sometimes not necessary at all, because you are so small-scale that it will arise naturally."

"There are substantial differences, especially in MO, between city and agricultural areas. For example homeless citizens, that functions differently."

Already Collaborations

"Yes, but we already had a peak in each other kitchens because we are of course in a project group togetehr. Usually we have ties between each other. Well okay this was different. Purely on request of not adequately functioning of sub-region xxx and having limit insight in their own development."

"Well.. The collaboration was and is still very good on a lot of different levels"

Unclarity & Perceived issues

"And sub-region xxx was stating that we were not delivering adequately, which has been said for years. And we have always said that we have been working on it, that is more diffuse that this process sometimes takes longer but it won't undermine the results, but we could never clearly show that and if we said that it was never believed…"

Against deep dive data

"We were never in really favour of doing a deep dive."

Unrest/ Fear/ Frustration

"There was of course kind of panic in sub-region x by some employees"

Project process

Financial friction

"We only agreed to this project because sub-region XX wanted it so badly. And also was stating that we were not delivering adequately, which has been said for years. And we have always said that we have been working on it, that is more diffuse that this process sometimes takes longer but it won't undermine the results, but we could never clearly show that and if we said that it was never believed… And that was just disrupting. But we were not awaiting this no."

Time Pressure

"On the other hand, the time pressure did make our directors pay more attention to it, so we had more support. So if there are some issued and if there are hassles, then for directors

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suddenly clearer and it's very much on too high on the run, but also internally administratively. Just like we have to so not let it run, but did get a very different understanding of where we stood.

A.1 Input

Aim/role of the activity
Customization
"Well, th aim of the models is more customisation. Provide support and guidance for complex clients with complex demands"

A.2 Process

Organisation of the activity

Shared language
"The list of indications that does not say anything about recovery, That is old thinking."
"Coming together, thinking about what the situation is and how we are going to solve that together"
"Talk with each other about what we are actually talking about and then developing the model afterwards, discuss and then build"

Decomposing
"We had a look under the hood to understand the mechanics"

Procedures of the activity
Against categorisations
"We were never in really favour of doing a deep dive, because you think the margin of error becomes smaller but it becomes larger. People are not categories"

A.3 Content

A.4 Results

Direct work product
Insight
"It provides from high above that we see from each other is we are on track or not, are there large gaps." But the refinements are in the connection with WMO and the local task and then the target group much bigger and that they are completely somewhere else, that is more client-focussed."

"We see where we stand and then are astonished that we sometimes are at a different point, because we did not have the number we thought"

"So we didn't expect the waiting list to have shrunk so much as well and we didn't think we'd made it this far with... We had our task towards transformation and at least towards the number of places and the number of lighter places we had estimated much lower and we were so if we didn't have that report, we would have passed."

"so if we didn't have that report, we would have passed... because that only became clear during the process"

"it provides insight from which you can look further again".

Take away worry
"Purely on request of not adequately functioning of sub-region xxx and having limited insight in their own development."

Value and relevance of results/ Satisfaction with results
"It facilitates suppliers more and more to realise flexible BW places so also lighter forms and to increase the amount"

"so if we didn't have that report, we would have passed... because that only became clear during the process"

"It is good that it is so simple, tells us if we are on track and can zoom in."
"Not to complex which is simple to adjust"

A.5   Use

Procurement
"So we didn't expect the waiting list to have shrunk so much as well and we didn't think we'd made it this far with... We had our task towards transformation and at least towards the number of places and the number of lighter places we had estimated much lower and we were so if we didn't have that report, we would have passed."

"so if we didn't have that report, we would have passed... because that only became clear during the process"

Model Synthesis
"Because both at the client level we have everything on the housing task side and at the facility level, that has to align. And this model was the last picture and cost model was the first. So I don't see that I separate."

More diversity and BW places
"The additional effect of the model is that will be more diversity and BW places"

Future Arrangements

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"So there are quite a few things among them, where we want to take a tight line with providers with cooperatives and others with maximum results."

A.6   Effects

Clarity
"It took away we are not on track or we have different speeds, and that took away the issue."
"It is like a dashboard that enables that you can see clearly, which is comparable to the other sub-regions that do not have any noise anymore"

Opposed learning from each other
"No, that's not really very relevant. Because the rules are very different from each other. But that learning from each other in a different way, that is about that. Waiting list management funding, It's all lower level."

Collaboration
"..the collaboration was and is still very good on a lot of different levels..this has made the other collaboration robust"

A.7   Wider Applicability

<u>Boundary conditions</u>

Law of the small numbers
"This model is only interesting if it is in a relatively large region where all the facilities are concentrated. And more important the ambition to distribute/spread"

Make agreements – Governance
"You have to hold each other all the time, because you can learn a lot from each other, but you also have to keep the playing field small. Also in terms of drivers because otherwise you get waterbed effects, which is very frustrating towards recovery"

Accountability
"Make each other responsible for one's own task"

<u>Limitations</u>

High level outcome
"It provides from high above that we see from each other is we are on track or not, are there large gaps." But the refinements are in the connection with WMO and the local task and then the target group much bigger and that they are completely somewhere else, that is more client-focussed."

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<u>Miscellaneous</u>
 "The goals you want to achieve, you can't do those alone"

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ANALYSIS INTERVIEW 5

A.1   Context

<u>Local setting</u>
Differing backgrounds/ Strategies
"We have different implementation styles but I mean, we are decentralising right for a reason. But we don't have large differences in overall goals"

Unrest/Fear/Frustration
"The fear is larger for the centre municipality, they have the feeling of oh we are going to have deal with the consequences.."

"The not knowing those ideas have caused agitation and unrest I think. Where do we stand and what is actually going to happen?"

Unclarity & Perceived Issues
"We all know that there is something needed for the task but without knowing what the actual task is, I think it has created the perceptions among each other. "
"Ideas have arose that were not per se grounded in the truth to the extent that that exist."

Far down the process
"If I have learned anything in this process , we cannot really go back so it is always look at how can we find another way to move forward'

Intrinsic Motivated
"There are a lot of board members which have a lot of intrinsic motivation to do this, it is about what agreements are we going to make about that"

<u>Project process</u>
Time Pressure
"We have done this process under 'steam and boiling water'"
"You have to imagine, that we are realising something under extreme time pressure"

<u>Institutional Setting</u>

A.2   Input

<u>Aim/role of the activity</u>
<u>Insight</u>
"To quantify what our (sub-region's) task is and to come to a balanced supply of facilities and as region"

A.3   Process

<u>Organisation of the activity</u>
Independent expert

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"The logical thinking about what you can use comes from the independent expert and that is very 'nice', we can conclusively supplement/ give additional knowledge about how is fits to reality as much as possible. I think you need both to come to the most fitting assumptions"

Shared language
"Yes I think that is quite funny to see that we think in advance, how the hell are we going to come to an assumption. And then I notice, it is also just thinking a bit logically you know. The logical thinking about what you can use comes from the independent expert and that is very 'nice', we can conclusively supplement/ give additional knowledge about how is fits to reality as much as possible. I think you need both to come to the most fitting assumptions"

<u>Procedures of the activity</u>
Guiding Questions/
"Something which I also found really pleasurable were the 'Guiding Conversation Questions', which enabled you to come to these explicit answers. We in the end always also find a way but it has to be structured otherwise it goes here and there"

A.4   Content

A.5   Results

<u>Direct work product</u>
Insight
"Yes there is more insight and clarity in where we really stand and because of that the conversation flows better again"

Value and relevance of results/ Satisfaction with results
"I think it provides a good foundation to quantify as concretely as possible. I think we have taken the first step"

"I also have noticed that my colleagues very happy with this, they have been waiting for years for a type of quantification, before this it has always been a guessing game"

A.6   Use

Future Agreements
"I think we need a follow-up question. Because a model is purely the foundation. Because if you are going to concretise, what does that actually means for suppliers and the facilities you have? That next step has to be made to be able to start the implementation. The model is good starting point for that, have the conversation about that."

"In 2023 we want to start with how we will implement the development agenda (expanding with new placements)."

Support

"We will probably start sharing the outcome with the contracted suppliers. We cannot restrict them so we want a pathway where you create support for the model"

Procurement

"Because you want at the same time tell the same story, to ensure there are no contractors that can think, oh that is that one, say something else than there. So they can out-play us. That regularly happens. So for us to tell a joint story, is from my perspective very important for this."

A.7   Effects

Comfort/ Peace

"At one region that feeling of oh we are going to have deal with the consequences.. So when there is something on paper, yeah, that just bring peace, we are going in the right direction."

Trust/Confidence

"It gives confidence in yourself and also again in the relation, that we are going to do this together"

Clarity

"I think that especially the unrest/agitation is gone and it is now clear what we are going to work on and that by itself had improved the relation."

"First of all, the view/idea about the task has been nuanced"

"The ideas/perceptions that have always been there about the elimination and implementation task, it has always been kind of a gut feeling, which did not help the relation. So I think that nuancing the idea/perceptions has helped."

"I think that the clarity by itself is very good because if at the moment the results are extremely disrupting, yeah, than you also know where you have to make agreements about,. And depending on the outcome you can make very strict or very loose agreements."

Shared Perception

"It has been very good to arrive at the same information levels again. Because if you don't know and are not close together (in the loop) any more, stories may start to live, and this has helped greatly" "

"It does not really matter that the perception of the task in concrete until the number by the comma but about the fact that you have a shared idea about it. That you make the same assumptions"

Smoothen Conversations/ Easy (Oil for the car)

"Yes there is more insight and clarity in where we really stand and because of that the conversation flows better again"

Relationship improved

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"I think that especially the unrest/agitation is gone and it is now clear what we are going to work on and that by itself had improved the relation"

Support
"I also think that having collaboratively designed the model, helps the supports. Because if we say you have to build 50 new places based on these assumptions and another says not to. Yes that gives a lot of unrest. Because they (providers) have facilities in all sub-regions, or at least most"

A.8   Wider Applicability

Boundary conditions

Local adjustments
"Yes well every (sub)- region can differ a little so maybe some things would have to be adjusted. But the large conceptual model is solid. And then together start a conversation. He what does this mean for you? Wat does this mean for me? Are we on the same page or do we have to change something? Do we need to make further arrangements?"

Shared assumptions/understanding
"I would adjust for example the target group classifications myself but first sit down together with the other sub-regions. Because well, the providers of course also have the same classifications, and if they all of a sudden think we are going to classify it differently, you get a mismatch. You need to note it somewhere that you classified it for this and this reason"

"I wonder if it really has to do with the model. It's about coming to a shared view, or further elaboration or further agreements, I think has more to do with how you are in the running together, than which model is on the table".

Paraphrased: "Take time to establish what you are conceptually talking about. For example with the target groups. Or ask what do you want to quantify. For what reason do you want to know what the task is. That is what you see all over NL. Everyone has different terminology/definitions about anything, there it is ambulatory, there ambulatory plus, there intramural. So I think it is really good to in an early stage make this very explicit before you proceed with filling in the model, to refrain from everyone providing different data."

Support
"Well, I think there has to be support, from the parties that will have to work with this. So especially we as municipality. The board members have to support the task, because if they are not well, so if we use the model to sketch the task and the board say well, no we don't agree. Then you can't use the model to for implementation and the same thing goes for suppliers and housing corporations"

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Knowledge Transfer
"There has to be an understanding, as in, people will have to understand how it came about and what conclusively results in and to work with it. Now it is only part of the governmental organisation, and now it is our job to let it sink in"

Conversation Starter
"I think definitely it can enable a conversation"

Limitations
Adaptability – Credibility
'It is also a weakness that we can adjust it ourselves. Because well, how do you know how trustable how credible/trustworthy/ confident it is if we can just change anything"
"I'm curious to see how the assumption about the demand because it completely depends on the objective distribution model"

Uncertainty Social Care
"It's suspensive to see especially in MO how that will turn out. Because we only have data from the size of the target groups from the past couple of years. Plus, for years we've had shortages on those budgets. So to which extend can you base the demand on that, that is just still an uncertainty"

Strengths
Flexibility, Usability, Updating
"What I think is a big strength is that it is start point and it is not set in stone. That we can fill It in ourself based on reality and that is crucial because the implementation is always going be waiting compared to how it is in the model"

Future Refinements
Model – Prevention
"To have more insight in to how you can quantify the prevention in outflow. I mean, which buttons you can turn exactly in prevention and how that effects outflow. And what may it cost, what will it deliver, and how much will it yield the municipality"

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APPENDIX G

ANALYSIS INTERVIEW 6

A.1   Context

<u>Local setting</u>
Differing backgrounds/ Strategies
"We knew surely we had an implementation task, this does make it a lot more concrete"

Already Collaborations
"I think so, I think that it was our approach and intention, indeed, we wanted to pursue improved collaboration again"
"We just wanted to commit to collaboration again."
"The past 4 year agreements have been made to do this together."
"Years ago we have decided to do this together"

Unclarity & Perception of issues elsewhere
"The project has mainly been driven by sub-region X. Sub-region X was very worried in comparison to the other sub-regions. And there were a lot of worries from specific administrators and civil servants that it would be a risk if we, sub-region Y would not realise our implantation task quickly enough and that all our citizen would seek care in sub-region X and that they would have to pay for our citizens. Well we didn't agree with that because that risk manifest namely in our waiting lists and not in the other's. Well that they would care for our citizens and otherwise we could always make agreements. We had the feeling that the risk was disproportional."

Unrest/Agitation
"We had the feeling that the risk was disproportional. And that also the approach was built from distrust like we need to set strict rules and consequences with each other."
>   **Fear of project breach**
>   "Sub-region x was very strict at some point saying that without collaboration agreements, and at that point we were making those any way but I mean very strict agreements and demands and punishments if we would not implement quickly , they would not continue decentralising,. And at some point in June there was a moment where we were doubting if it would continue. Then they really wanted this project and we then too."

Far down the process
"We always make it work, it is more about the how. So is it going to be very strict agreements and consequences or a little more flexible. But that's the thing I've learnt here is that we will always make it work. We are too far down the process to go back so then the question always is how do we go forward from here. So the will is always kind of there."

Back and forth in strategy other regions
"Then they were for and then later against, for months they have kind of tossed a coin. And within that sub-region I believe that cause difficulties but also for the other, the other sub-regions weren't the most pleasurable then.."

Previous agreements
"Quite strict rules had to be made and also just punishments and paying if a person seeks assistance in another location, even though we agreed upon open borders. And also there has been an executive decision ("Collegebelsuit") and I think we still want to pursue that decision. Of course all things considering, if things go awry, then agreements could be made. Yes I just also expect we are all civil, we all work for the government and eventually the funds are filled by the tax payer, it doesn't differ that much per municipality and of course they want to guard their funds.."

Project process
Financial Friction
"And there were a lot of worries from specific administrators and civil servants that it would be a risk if we, sub-region xxx would not realise our implantation task quickly enough and that all our citizen would seek care in another sub-region xxx and that they would have to pay for our citizens. Well we didn't agree with that because that risk manifest namely in our waiting lists and not in the other's. Well that they would care for our citizens and otherwise we could always make agreements."

Institutional Setting

First to decentralise this far
"We are now the first region which is decentralising this far within assisted living, we are in that sense the front runner"

A.2   Input

Aim/role of the activity
Insight
"To look very closely in each sub-region and determine how many places have to be realised where"

Comfort/Take away worry
"For me it was mainly to take away worry in sub-region xxx and to get back to being able to strive for collaboration"

Collaboration
"For me it was mainly to take away worry in sub-region x and to get back to being able to strive for collaboration"

A.3   Process

<u>Organization of the activity</u>
Independent expert
"It is good to have an external party there to well, from the uniformity, be able to make that translation, so that everyone is talking about the same thing."

A.4   Content

A.5   Results

Collaboration
"For me it was mainly to take away worry in sub-region xxx and to get back to being able to strive for collaboration. I think that has been successful to the extend it was possible and I think that I was positively surprised"

Insight
"In the discussion sometimes still different numbers were used in one subregion compared to another. And yes it is very good to create clarity/uniformity/unambiguity within that so that we all had the same facts"
"A lot has been clarified"

"It is pretty clear how many places we should implement/build based on the model and how many of the places should be for example LVB or AS. And well it will of course never be precisely translated to reality because that is not possible of course a model is always a model but I think it is a good goal to work towards.'"

"Yeah we do know what has influence on in for example the in and outflow, but then it's how much influence does it have? And you guys have given a sort of number to that. And I think those are relatively realistic. I don't know if they are exactly it but I think they are a very good approximation, because it a really realistic model, that it reflects the real mechanism.

Tangible/Concrete task
"we knew that we had a implementation/expansion task but this just makes it a lot more concrete and solid"

"The rapport has been agreed upon by the manages, so they have at least taken notice of that knowledge"

<u>Value and relevance of results/ Satisfaction with results</u>
Satisfied
"I am just very happy with the result. We have a very informed report and I think it is very useful that we can conceptually speak about it later. So it is reusable. "

"I think I was positively surprised, also on what the report has concretely delivered for ourselves "

"I just am really confident that it will really be used as a Handbook"

Objectification
"The rapport has been agreed upon by the manages, so they have at least taken notice of that knowledge"

A.6 Use

Procurement
"For example, a supplier is quitting and well, yes we're seeing through the model that we're short on LVB places. So we are already reaching out/made contact with the suppliers of LVB to potentially take over that location. So yes, we are working based on the outcomes of the mode.

"We already have those but there is quite an abstract goal that we already have a development task. We now have to make it explicit, with the suppliers like, hey well, where is there room to build? Who can do what."

Financial implementation/ Future agreements
"Yes we have now just communicated in the "Collegebesluit**"** that we have a implementation task of Z amount of assisted living spots and that we just need to use the resources for that and that we especially need to focus on target group XX. If I have agreed on that with managers based on the rapport than I have to actions accordingly."

Conversation starter
"I will use this model a lot. I will grab it like, hey, these are the number, this is what we are working towards. How can we best do that? It is a clear incentive to start conversations with are partners and in the end we have to do it together."

A.7 Effects

Comfort/ Peace
"For me it was mainly to take away worry in sub-region x and to get back to being able to strive for collaboration. I think that has been successful to the extend it was possible and I think that I was positively surprised"

"..speak the same language, I think that because of that a lot of fears/worries have been taken away/ resolved. That trough that, we have gotten a lot closer to each other again"

Clarity
"A lot has been clarified"
"In the discussion sometimes still different numbers were used in one subregion compared to another. And yes it is very good to create clarity and distinctiveness within that so that we all had the same facts, let me put it as, speak the same language.. It is good to have an

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external party there to well, from the clarity/uniformity, is able to make that translation, so that everyone is talking about the same thing."

"we knew that we had a implementation/expansion task but this just makes it a lot more concrete and solid"

"We were already talking with locations and providers but now we just know a lot better what we want."

Shared perception
"In the discussion sometimes still different numbers were used in one subregion compared to another. And yes it is very good to create clarity and distinctiveness within that so that we all had the same facts, let me put it as, speak the same language.. It is good to have an external party there to well, from the clarity/uniformity, is able to make that translation, so that everyone is talking about the same thing."

"..speak the same language, I think that because of that a lot of fears/worries have been taken away/ resolved. That trough that, we have gotten a lot closer to each other again"

Closeness
"..speak the same language, I think that because of that a lot of fears/worries have been taken away/ resolved. That trough that, we have gotten a lot closer to each other again"

Improved Relation
"..speak the same language, I think that because of that a lot of fears/worries have been taken away/ resolved. That trough that, we have gotten a lot closer to each other again"

A.8   Wider Applicability

<u>Boundary conditions</u>

Local Adjustments feasible
"There are regional differences but they won't be huge and I think that you can implement this is in many regions"

Update & Monitor
 "..we have to keep updating the model to make sure it represents the real situation"

Independent process leader/expert
"What if a small independent expert team form the government would guide regions in this for example me and my colleague going past all regions. "Yes, I would like to recommend this, but I don't know where, VWS? "

Flexible Interpretation
"There are always fluctuations"

Need/ desire for decentralisation

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"I think that you can implement it in a lot of regions and the other boundary conditions is that there is a real need. So we are the first region that really is decentralising."

Establish shared assumptions/understanding
"..speak the same language, I think that because of that a lot of fears/worries have been taken away/ resolved. That trough that, we have gotten a lot closer to each other again

Flexibility Participants
"What could have limited the collaboration, if everyone would have been extremely rigid"

Limitations

Uncertainty
"MO has a high variability yearly (highs and lows), it is a lot more dynamic and way harder to estimate. So that is a kind of risk, uncertainty that you can not really account for."

Strengths
Conceptual model
"We are the front runner, the first region that is decentralising to this extent but I think that there will be mor that want though get this insight too."

"Yes I think that other regions, with a conceptual frame and this model would be very pleased. If you have a proper overview/insight and you can coordinate and adjust to and with another, that has great influence"

Categorisations
"What I find a major strength is that there really has been a categorisation/division of different types of assisted loving and where exactly the transformation has to take place. I really appreciate that, that you can see that clearly"

Miscellaneous
"I think that this, for other regions can be really useful to use."
Collaborating independent from Outcome
"Yes I think it that the result doesn't really influence the collaboration if there is clarity. "
Friction in central municipalities
"I can imagine that it could cause some friction, especially in central municipalities. The current central municipalities would like to keep the task and the oversight close to them"

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APPENDIX H

ANALYSIS INTERVIEW 7

A.1   Context

<u>Local setting</u>
Differing backgrounds/ Strategies

"There was an awful lot of administrative turmoil. ██████████████████
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████████████. And if the others chose a different route, yes, that no longer matched while they did want to work together, so that caused a lot of commotion and unrest."

"One has a very independent function and the other who puts everything back for management consultation, there is whole different structure around it come from other questions as well, yes."

"So there are differences in the individuals, that is in how they have organised, where is sometimes also In the directors behind it. ████████████████████████████████
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████████████████████████████████-Yes and I think in one region prevention was not yet in place and in the other it was and the other region actually wanted to move on to the next step their said yes, but can we take a breather? Because then you have to sort this out first. Yes, there is just different dynamics in it, just doing very different things."

Already Collaborations
"I think well, you are as strong as the weakest link, so you have to help each other"
"I think somewhere last it was said, if they want to collaborate, we will have to know where we stand"

Mist/ Perception of issues elsewhere
"The board member lacked insight and as well as the sub-regions amongst each other. So you work with 3 sub-regions, 13 municipalities and you kind off know what the others are doing. But when you start talking about exchanging financing and providing financing from one to the other, and then what they are exactly up to? That feeling of having insight in..."

"You keep each other caught in these ideas and perceptions (the worries due to other sub-region's"

Unrest/Agitation/ Stress
"People were worried about what risks they themselves were going to run and that was largely with the xxx region as the centre municipality. They said, we are quite happy to transfer that money, but yes, if we have given it away, it is gone, we will never get it back, will we? Because that's the deal too, isn't it? You give that to do something with it."

"At the start I think well, distrust is too heavy but unanimous trust like now was very difficult"
"But that you can still sometimes get a little bit well, stressed and therefore react differently than what you would normally do. So I yeah, that I think that's kind of inherent in this process. "

"There was an awful lot of administrative turmoil. Yes and that had to do with the fact that well, amongst other things that sub-region xxx had already figured out that they were going to apply that residency principle after all, and of course that has consequences for the whole for further task. And if the others chose a different route, yes, that no longer matched while they did want to work together, so that caused a lot of commotion and unrest."

"People were worried about what risks they themselves were going to run and that was largely with the xxx region as the centre municipality. You keep each other caught in these ideas and perceptions (the worries due to other sub-region's)""

Demanding task Project group
"Yes, the funny thing was, previous to this project. There was
that other search for financial comfort, it was actually I think or search for comfort and appointments entered into very troubled period. Before that, they were closer.

"And, yeah, yeah, I then thought of maybe that's quite exciting/thrilling at times, because you don't have a director in between. Or any other departmental heads still thinking about that. No, the project leaders forward almost directly addressed and made responsible for this process. And that made I think that you can work very fast huh, so that you can take big steps quickly."

And yeah, that happens, I think, in the whole process, because it's thrilling. I think the regional project group has quite a heavy task, there is little bureaucracy, lacking all kinds of management layers, so there is quite a direct line between the board and the project group. Which makes them have a very big responsibility.. work very fast.. take big steps quickly.

Project process
Financial
"Then the directors said of if we want to move forward together, we do need clarity on finances. Yes, how will you scale up and down and how will you do that? Because those finances mean money."

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A.2   Input

<u>Aim/role of the activity</u>
Insight implementation/ elimination task
"I think the aim of the model has been mostly to create insight in where everyone stands. Well not everyone, but the facilities, so to say, what the state of the affairs is "

Comfort/ Take away worry / settle the dust
"So the goal was insight and the subgoal was actually that that would create governmental tranquillity"

A.3   Process

<u>Organization of the activity</u>
Independent expert
"Yes what I think plays another important role is that we had it done by an independent agency that people also trust. So that yes, that makes say that this story is also accepted and supported."

Shared language & Problem demarcation
"Well, I think it was indeed very important that you spent quite a lot of time at the front to get clear what is the task and what is the question?"
"Right at the beginning it actually went wrong with the idea of what the task was. And I think it was good that you spent a lot of time trying to get a clear idea of what the task was and knowing that there was a complex question behind it. But that you parked that for a while first back about, what are we talking about definitions and well, that you get right into that, yes, or it also plays into your expertise, doesn't it? Because I mean, none of us could have done all that either huh? So also a certain expertise that requires understanding what needs to be done. Yes, also with your background on this topic, what it has to deliver and what it involves. Yes, that also plays a part."

<u>Procedures of the activity</u>
Decomposing
"How has the tranquillity returned? Well, with each other yes, that some just decisions have been made and breaking it down again into smaller pieces of what are the parts we need to decide on? What should be regulated? Okay, That's that up and down. Okay, that's those finances. Okay, that's a working structure"

Communication
    Objective Questions
    "Objective questions asked by issue what for exactly means, but also that you have
    neutral roles in and not. Well, not throwing oil on the fire by going to complicated
    questions where by you will create camps.
    "A neutral role, Refrain from over-complexifying questions"

Written text (results)

"That the people who read this kind of stuff (charts and models) and with one exception, those are people who have financial or more of a research background who can read that more easily than the average policymaker or administrator who finds this very difficult. In that respect, we are more readers of texts than tables and the written-out texts have helped enormously."

Communication Report shaping

"There just needs to be very clear thinking about how you portray things, and the tone in which huh? Because yes, indeed, yes the risks or that you say of yes, so yes get that out of the way, but yes, the tone of the music does make how you sit with each other and it sounds like an open door, but yes, it does matter a lot."

A.4   Content

A.5   Results

Insight/ Clarity

"And you can see it in the final report. Well I can't say the task is not big but there is not a big worry, like, oh god, that region is doing really badly. Actually everyone is doing pretty well and we've already taken a lot of steps. But that idea lives in the heads of people. People don't know that. This is now objectified. It is written down, documented. I think that provides the governmental tranquillity/peace yeah, that tranquillity has been established by making it tangible."

"I think the model makes it (the different dynamics and states) visible. It just makes it clear from across. Well, you need to do something more in the area of prevention or you need to do something more than the other to that. So you can just have a conversation with each other. I think it's an honest conversation then with each other and there can always be reasons Why so then you can't do that task after all, can't you? Because It's clear now of what You have to build."

Concrete task/ Tangible

"And you can see it in the final report. Well I can't say the task is not big but there is not a big worry, like, oh god, that region is doing really badly. Actually everyone is doing pretty well and we've already taken a lot of steps. But that idea lives in the heads of people. People don't know that. This is now objectified. It is written down, documented. I think that provides the governmental tranquillity/peace yeah, that tranquillity has been established by making it tangible."

"..because it has been objectified we have discussed, where is your worry? Well, my worries are in x,y,z. But if we ensure a,b and c then it's actually quite okay."

Transformation

"Because if you do see a development what do we actually see now then, right? With a conversion task? Well, we hadn't thought of that answer. Of course, it does deliver that. It provides strategic information. Yes, I do find that valuable about it. Yes, I do find that valuable about it. Yes normally you would say collateral damage, but that is positively worded, but also that makes the conversation to providers Of course different Because you just have that information you can huh, so you can also substantiate."

<u>Value and relevance of results/ Satisfaction with results</u>
Satisfied
"The goal of insight and peace I would almost say that for me, 90 to 100 per cent achieved. I notice that now from the directors that when they look at that report, well, they are confident. I think that has been very important."

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Report/ Objectified
"And you can see it in the final report. Well I can't say the task is not big but there is not a big worry, like, oh god, that region is doing really badly. Actually everyone is doing pretty well and we've already taken a lot of steps. But that idea lives in the heads of people. People don't know that. This is now objectified. It is written down, documented. I think that provides the governmental tranquillity/peace yeah, that tranquillity has been established by making it tangible."

Written text (results)
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Of course, it does deliver that. It provides strategic information. Yes, I do find that valuable about it."

A.6   Use

Procurement
"Project leaders have indicated that the moment you provide this overview, you know where you stand and where the challenge lies. So then you also have a better story to tell the suppliers.

"To say, yes, but we need this, not that, so to speak, and what I also found valuable is, say, the conversion task, right? So that you necessarily only need to build bricks, but that you can

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turn the existing building can perhaps be given a different function or a different interpretation. So I think that was something that was actually not necessarily expected as a direct result. Yes normally you would say collateral damage, but that is positively worded, but also that makes the conversation to providers Of course different Because you just have that information you can huh, so you can also substantiate."

"Yes, the bargaining position of the municipality is better. But I think also for providers it gives insight. Yes, it's also just unfortunate for them, I think, that they invest a lot in a facility that will actually no longer be needed in a few years' time."

Further agreements
"There does need to be a follow-up step. That will also be exciting/thrilling. Because yes, how, how are you going to give it hands and feet? How are you going to turn the knobs and how will that work out in practice?"

"Yes, the bargaining position of the municipality is better. But I think also for providers it gives insight. Yes, it's also just unfortunate for them, I think, that they invest a lot in a facility that will actually no longer be needed in a few years' time."

"I think for ambitions it's also nice to have that insight of just a little bit through your eye hair of where is the development going in the future?"

A.7   Effects

Collaboration
"So that feeling of having insight or yes having insight into what everyone's task are and where everyone stands now. That was what I think was important for the trust and collaboration. Yes and that provide governmental tranquillity"

"This brings peace and an overview so that contributes to the collaboration"

Comfort/ Peace/ Rest (effect of trust/confidence)
"So that feeling of having insight or yes having insight into what everyone's task are and where everyone stands now, That was what I think was important for the trust and collaboration. Yes and that provide governmental tranquillity"

"And you can see it in the final report. Well I can't say the task is not big but there is not a big worry, like, oh god, that region is doing really badly. Actually everyone is doing pretty well and we've already taken a lot of steps. But that idea lives in the heads of people. People don't know that. This is now objectified. It is written down, documented. I think that provides the governmental tranquillity/peace yeah, that tranquillity has been established by making it tangible."

"Sometimes the risk is not even gone but by having said it becomes tangible and you can do something with it and that gives me some peace"

Trust/Confidence

"So that feeling of having insight or yes having insight into what everyone's task are and where everyone stands now, That was what I think was important for the <u>trust</u> and collaboration."

Clarity
"I think the model makes it (the different dynamics and states) visible. It just makes it clear from across. Well, you need to do something more in the area of prevention or you need to do something more than the other to that. So you can just have a conversation with each other. I think it's an honest conversation then with each other and there can always be reasons Why so then you can't do that task after all, can't you? Because now it's clear of what you have to build."

Closeness
"I think a few weeks ago in the project group also very clearly
stated we want to keep this together, please also hold each other. We ask that of the directors and also do that as project leaders, and if one doesn't keep up, then it doesn't make much sense to start pointing fingers, but you have to take each other along and help each other there. But you have to but step over your own shadow and go and help those all."

A.8 Wider Applicability

Conversation Starter
"I think the model makes it (the different dynamics and states) visible. It just makes it clear from across. Well, you need to do something more in the area of prevention or you need to do something more than the other to that. So you can just have a conversation with each other. I think it's an honest conversation then with each other and there can always be reasons Why so then you can't do that task after all, can't you? Because It's clear now of what You have to build."

Shared assumptions/understanding
"Yes, I think a boundary condition is that you have the same information about the same dataset. When talking about psychiatry, you have to be clear with each other about what that is and which target group."
"Yes, what I think is important is that you talk to each other about the same thing.

Set Agreements
"And that it does capture, because there's just something fixed now, right? So that yes so that it is fixed, I think is also a boundary condition for it."

Autonomy/ Ownership
"I think it's important that later you yourself can maintain the system or model. Easy to maintain, Without that the question comes back again. And well, the expensive agency has to be hired again so to speak. Becoming independent in the process. That also gives a nice feeling and maybe you then need the company, but then the entrance is different, so to speak, so that you yourself can influence"

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Knowledge Transfer
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Strengths
"I can imagine, this problem occours in many more municipalities, many more regions, so you could replicate this in some form."
 "Yes that you get much more insight about client flows that it provides, well, strategic information, I could imagine it."

Future refinements
Be ware of over complexifying
"I really took a look at those tables and diagrams for a while and I really don't understand what it says. I don't know what to do with these and yes, sometimes that can be good to show the complexity, but it can also just really blow people off the table completely. So I do think that is a matter of finding a good balance. About a how detailed, how far you take people along in that.

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