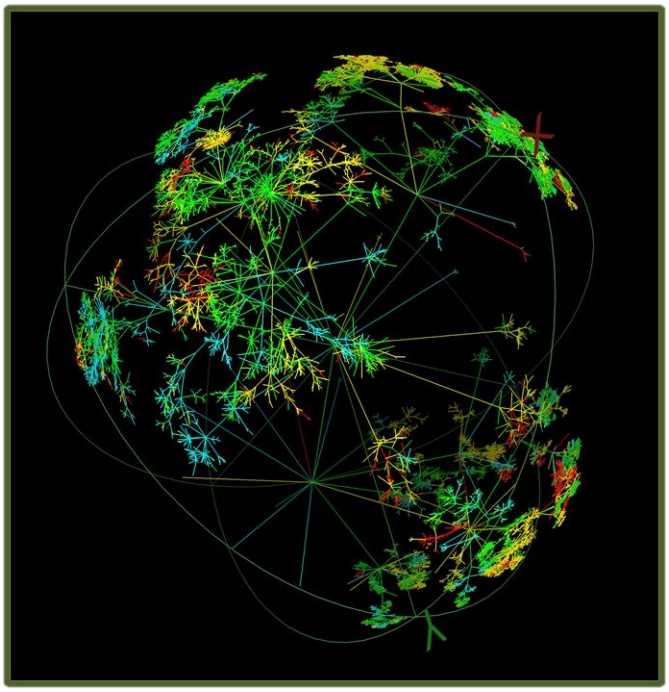

Creation of network conventions in a decentralized population

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SOCIOLOGY: CONTEMPORARY SOCIAL PROBLEMS MASTER PROGRAMME

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25-07-2017

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0. Abstract

This study studies how adaptive orientations in policy making are being constructed to deal with contemporary societal problems. It does so by applying and merging theories of complex adaptive systems and transition management on a decentralized population, testing hypotheses on the creation of consensus within that population. The policy change was enacted in 2015 in the Netherlands, and involved decentralization of health care provision from the national to the city level. This required nationally operating healthcare organizations to establish and negotiate hundreds of new relationships with individual cities. Two hypotheses were tested. The first being that the decentralization of healthcare in 2015 in the Netherlands and the accompanied increase in amount of communication channels, has left nationally operating organizations with a larger amount complexity to deal with and a rise in administrative burdens as a result. The second being that shared conventions, in terms of performance arrangements between these nationally operating healthcare organizations and locally operating municipalities, have emerged between the decentralization of healthcare in the Netherlands in 2015 and now. Results show support for the first hypothesis, but reject the second hypothesis. More studies applying theories of transition management and CAS are required to further develop knowledge on how theories on complex systems and transition management constitute in real life policy cases.

1. Introduction

Social and economic life is shaped by social conventions within networks and systems of large groups of people (Centola & Baronchelli, 2014). Such social networks affect many different aspects of life, including the access to information and resources; productivity and stability of organizational life (Phan & Airoldi, 2014). This thesis exploits unique data on a major healthcare policy change in the Netherlands to test theories of organizational co-evolution and the emergence of conventions. It investigates how large populations are able to coordinate on shared conventions without clear centralized authoritarian institutions, and how these network conventions appear with the application of new forms of adaptive governance frameworks.

The policy change, enacted in 2015, involved decentralization of health care provision from the national to the city level. This required nationally operating health organizations to establish and negotiate hundreds of new relationships with individual cities. Theories of convention emergence and transition management predict that this new network of health care relationships between cities, insurers, and health care providers should equilibrate from an initial state with many diverse and conflicting modes of operation toward a homogenous system characterized by a single, dominant convention. The policy change serves as an empirical case in which emergence of network conventions is investigated. The hypotheses are tested through qualitative interviews with healthcare organizations, national transition coordinators and policy workers in a major municipality in the Netherlands. The main research question is *"Have shared conventions around healthcare governance in the Netherlands emerged in relation to the institutional context of the Social Support Act changes of 2015?"*

2. Policy background

Western civilization is facing an increase in life expectancy and a decrease in birth rate. As a result, the proportion of elderly people is rapidly growing and is expected to rise even more (Galenkamp et al., 2015). In the Netherlands, 3 085 308 people are over the age of 65, which corresponds to 18.5% of the total population (CBS Statline, 2017). This number is expected to rise until 2041 (Galenkamp et al, 2015). Further, Dutch elderly and vulnerable people seem to be relatively healthy, scoring significantly higher than the EU average when it comes to rating their own health state (EU-28, Eurostat, 2015). To keep healthcare affordable, policies and new forms of governance are designed to counteract increasing costs associated with the increasing aging population.

After almost two decades of political discussion and reports, the Dutch government managed to build a political majority for a transformation of Long term care (LTC) in the Netherlands (Maarse & Jeurissen, 2016). Motivation for the transformation of the system, is to make it financially better equipped to deal with an ongoing aging population as a reaction to rising costs in healthcare in general (Van Dorp, 2015; Maarse & Jeurissen, 2015; Galenkamp et al, 2015). Government argued that LTC in the Netherlands was too 'supply-driven' system, with clients being in a mostly dependent role of healthcare institutions (Leeuwarden et al, 2015; Maarse & Jeurissen, 2015). Government argued that, in the state that it was, it was therefore not able to cope with a growing amount of people in need of care.

It was argued that fiscal sustainability could only be upheld by making normative changes to the healthcare system. The idea was to make clients less dependent on healthcare, and subsequently increase importance of one's individual independence (Leeuwarden et al, 2015; Galenkamp et al., 2015; Nowak et al, 2015). The Netherlands has therefore seen major structural revisions in its healthcare system over the last years, the most significant of those being the changes in the social support act (SSA) and youth care of 2015. These changes have been characterized by decentralization processes, where responsibility for LTC has shifted from provinces and health insurers to the municipalities . The rationale behind these decentralization processes is, cost containment and fiscal sustainability on the one hand, but also the idea that municipalities, as local authorities, are better equipped than central authorities to adopt policy implications to local needs and implement the changes in the act on the local level (Waverijn et al, 2016; Leeuwarden et al, 2015; Nowak et al., 2015; Maarse & Jeurissen, 2016). Before the changes in 2015, public spending on healthcare was relatively high, the Netherlands being the second highest spender after Sweden in the OECD-Countries (Maarse & Jeurissen, 2016).

The political motivation behind this transformation, is to aim for a more inclusive society in which there is high social cohesion and independence, thereby improving fiscal sustainability (Leeuwarden et al, 2015; Maarse & Jeurissen, 2016; Galenkamp et al, 2015). The importance of social participation is heightened, with an increased emphasis on one's own responsibility for care and higher dependence on volunteers and civic initiatives. The goal is to thereby make citizens structurally less reliant on centralized professional care and make a transition to lighter forms of care, such as volunteer workers or more general healthcare (Leeuwarden et al, 2015; Galenkamp et al, 2015). Furthermore, municipalities as local government are expected to be better equipped to implement these fundamental changes, as local government is more familiar with the clients in their respective domains than national government. They are therefore to improve the quality and efficiently of healthcare by making it more client-tailored (Kemperink & Bruijning, 2015; Leeuwarden et al, 2015; Maarse & Jeurissen, 2016). However, critical notes are made about the policy

changes, as some view them as simply being a cover up for budget cuts on healthcare by right-wing government.

Preliminary research shows that healthcare organizations have undertaken major changes both in their structure and their purpose in the health system since the changes of 2015. The limited research on the effect of the policy changes on healthcare organizations has shown a number of contingencies. In a broad sense, the policy has challenged organizations by requiring them to establish and negotiate hundreds of new relationships with individual cities, essentially creating a large number of decentralized complex social systems.

One of the major consequences of these changes, is the increase in amount of financers that healthcare organizations have to deal with. Before the centralizations processes, financing of organizations was characterized by more central governance, meaning that performance arrangements were usually oversee able. With the arrival of the new healthcare system, organizations have to deal with a substantially increased amount of financers, in the form of a multitude of municipalities that finance their healthcare (Marselis, 2016). Preliminary research on the topic, shows that municipalities use different systems of accountability towards the organizations, as well as their own personalized performance arrangements, which requires contracted organizations to keep track of a large variation of agreements. This has resulted in a rise of administrative burdens within organizations (Bohn Stafleu van Loghum, 2015 Minkman et al, 2017). The sheer amount of different contracts are said to create complexity and to be costing organizations a large amount of overhead costs as a result (Bohn Stafleu van Loghum, 2015; Sohilait, 2015).

Preliminary research on the topic further shows that, due to the differences in visions between municipalities or regions with different populations and needs, the translation of healthcare provided to different domains by organizations has become a lot more ambiguous and variated. For example, one municipality might focus a lot of resources on building alternatives for healthcare organizations, whereas other municipalities might not change much at all. Moreover, one municipality's population might ask for very different healthcare than another. Before, an organization only had to focus on their own internal organization, whereas now it has switched to a more external focus to better deal with the shift to a multitude of municipalities. It forced healthcare organizations to revise themselves in such a way to deal with complexities caused by demanding external factors on the organizational level (Minkman, et al, 2017). Preliminary results from previous research, show evidence for the emergence of new ways of governance, changes in internal organizational structures, as well as new interactions patterns between involved actors to better deal with this uncertainty. The limited research on this topic talks about a switch in organizational structure, where organizations are becoming more network orientated rather than the more classical

hierarchical form (Minkman et al, 2017). Research on the topic shows that more evaluation studies are needed to further understand and map these variations, so policy makers can better learn from them (Putters, 2015).

Finally, research on the transition to the municipality shows changes in priorities within organizations and their respective place within the healthcare system. In line with the policy ambitions, municipalities are aiming to promote 'light' and generalist forms of healthcare (volunteer work, use of social network, general health workers) and move away from the more 'heavier' and specialized forms of healthcare (healthcare organizations, hospitals) (Van Dorp, 2015). Within this ongoing process, responsibilities, roles and relationships are constantly shifting and have yet to take full shape. For this reason, it seems that actors within municipalities and healthcare organizations are unclear where boundaries for responsibilities lay (Van Dorp, 2015; Minkman, 2017).

Because the policy changes are aimed to have both structural and fundamental consequences for the Dutch society and as these changes only recently took place, there is still a big necessity for evaluation research on the topic. New roles and responsibilities are expected to take years to fully crystallize (Galenkamp, 2015). Preliminary research on the decentralization process shows that, within this process of transforming healthcare, policy making and policy research should be done in an incremental way rather than a rational way. This is because of the large amount of variation in social networks within the new system and the multitude of intermediate variables in play as a result of that (Putters, 2015). For this reason, this thesis will combine theories on transition management and complex adaptive systems, to gain knowledge of how these kind of structural societal problems and transitions can best be approached from a theoretical and incremental perspective. It looks at the two different ways that consensus within a population can be reached: in an emergent (spontaneous) way, and through means of planned change.

3. Theory

3.1. Emergence within complex decentralized adaptive systems

This study approaches the new Dutch healthcare system as a decentralized population, and analyses behavior and the emergence of dominant network conventions in this population from a complex (adaptive) systems perspective. Complex systems theory, or complex adaptive systems (CAS) theory, is a relatively new field, originating in the 1980's (Chan, 2001). It is the discipline that attempts to understand how patterns of collective behavior spontaneously emerge without the help of a social planner (Centola & Baronchelli, 2014). Emergence is the key element in this. It is the manifestation of properties and conventions within networks of large populations, or further referred to as systems. It is the spontaneous appearance of properties and structures on a higher level of organization, as

the result of interacting actors within that system. It is the opposite of planned change by social actors.

Prominent theories within system theory suggest that institutional mechanisms, such as centralized authority, are needed to explain coordination on the system level. However, these theories do not explain how system conventions, such as beliefs about fairness or consensus about the exchangeability of goods and services, emerge when there are no institutions set in place or fully developed (Centola & Baronchelli, 2014; Fromm 2005). CAS, however, are by nature decentralized, meaning that they have no centralized authority (O'Toole et al, 2017). CAS are dynamic systems that are capable of adapting in and with a changing environment (Chan, 2001). These systems change by and with the interaction of actors within them, where change is constituted incrementally by co-evolution of different actors and elements within them. Its application in this policy case therefore seems fitting.

Underlying emergence is the micro-macro principle, where interactions between actors on the individual (micro) level, affect system (macro) level patterns, structures and properties (O'Toole et al, 2017). Emergence then refers to these macro level patterns, structures and properties that arise in systems of interacting actors (O'toole et al, 2017). Also underlying the emergence of behavior within these systems, is the notion that *"there is a collective whole that is bigger than the sum of its parts",* meaning that the system level is more than just the sum of the interactions between actors on the micro level. Or in other words: that rules of behavior and interactions are typically non-linear (O'Toole et al, 2017; Choi et al, 2001). Emergence it is therefore studied using two different levels, the individual agent level (micro) and the system (macro) level, and through the notion that emergent properties on the macro level are more than just the properties of the micro-level put together. In the case of the Dutch healthcare system, the micro level can be considered the local level, and the macro level the national level.

Fromm (2005) and Choi et al. (2001) distinguish three types of emergence. Type 1 'internal mechanisms' is the simplest, where the micro level has causal power over emergence at the macro level. Type-2 'the external environment' is that of downward causation, where the system macro level feeds information back to the individual micro level, constraining entities at the micro-level and creating emergence at the micro level. Type 3 'co-evolution' is where the continues interaction between the micro level actors and the macro system level causes individual actors to learn and adapt to this constant feedback, creating what Haan (2006) calls a 'reflexive' system: a system in which actors consciously learn from their own behavior with respect to the unintended or intended consequences of that behavior on the system level (Broerse & Grin, 2017). The adapted behavior created by the process of actors learning and adapting their behavior to emergent patterns, structures and properties again influences new emergent behavior, closing the circle of casualty between levels

(O'Toole et al, 2017). Applying this to Dutch healthcare system, we should be seeing a more process adapted focused on learning and adapting, constituting incremental change and long term sustainable development, creating the possibility for the emergence of spontaneous consensus on the system level.

Studying emergence of order and organization within distributed, open and dynamic multi-agent systems has been tackled by a broad range of different disciplines, including computer science, artificial intelligence, sociology, linguistics, governance theory, economics, business and cognitive science (Hadzibeganovic, 2016; Fromm, 2005). Studies using the CAS approach, attempt to tackle the complexity that is associated with evaluating the creation of such large network conventions. Testing the emergence of such coordinating behavior is difficult for a number of reasons. First, it is extremely hard to track endogenous change between network structures and individual processes (Phan & Airoldi, 2014). Second, there is extreme cost associated with the gaining of long time-series of individual and collective behavior on such a large scale (Phan & Airoldi, 2014). Third, creating large-scale randomized experiments to simulate these kinds of cases is often not feasible. This is due to the complex nature of such collective behavior, where human behavior is influenced by an immense amount of incentives and is therefore hard to keep within a controlled environment (Centola & Baronchelli, 2014; Phan & Airoldi, 2014). A key aspect in this, is that often when a researcher starts evaluating a case, conventions are already set in place. It is then too late to investigate. The empirical case of the Dutch healthcare system changes then serves as a unique chance to investigate the emergence of such network conventions.

3.2. Complex adaptive systems and transition management: managing sustainable development

Where CAS looks at the spontaneous emergence of change, transition management looks at planned social change. Transitions are societal transformation processes, which require fundamental social and societal change over a longer period of time (Loorbach, 2007). Rotmans et al. (2001) describe a transition as "the radical, structural change of a societal (sub) system as the result of co-evolution of economic, cultural, technological, ecological, and institutional developments at different scale levels". Transition management attempts to incorporate theories of CAS into its frameworks of governance, to better understand how large social systems change and interact over time, and to use this knowledge to manage transitions of those systems.

Transition management uses the guiding principle of sustainable development - the redirection of trajectories in ways that combine economic wealth with environmental protection and social cohesion – in combination with adaptive joint social learning to address complex societal issues in a more adaptive and incremental way (Broerse & Grin, 2017).

Management in terms of complexity, then means “influencing the process of change of CAS from one state to another” (Rotmans & Loorbach, 2009). Rotmans & Loorbach (2009) argue that gaining better insight into the dynamics of CAS, improves knowledge and understanding of managing system transfers, by better understanding the limitations and scope of a transition and thereby providing insight into the “opportunities and conditions under which it is possible to direct such a system”.

The goal of the transition in healthcare to decentralized populations in the Netherlands, is to achieve long term sustainable development, where sustainable development can be defined as redirecting trajectories in ways that combine economic wealth with environmental protection and social cohesion (Kemp et al, 2009). Transition management theory then makes for a fitting framework for analyzing this specific case, as it is concerned with creating a governance framework suited for creating sustainable development within societal systems. Studies within this discipline argue that sustainable development requires widespread changes within societal beliefs and systems, as contemporary societal problems, such as the problem in the Dutch Healthcare system, are deeply embedded within our social structures (Kemp et al, 2007). A problem like the healthcare problem in the Netherlands is not a surface problem that is easily fixed in a short period of time. Instead, structural incremental societal change is needed to address the problem and create sustainable alternatives (Kemp et al, 2007).

The link between complex systems theory and transition management has been made in a large number of studies. An argument within these studies is made that existing policy frameworks are not fit to deal with the social complexity associated with contemporary societal problems and with sustaining desired long-term change within society. New forms of policy frameworks that better capture real life social dynamics are therefore to be further developed. CAS then offers a new type of governance: one that is more open, adaptive and oriented towards incremental learning and co-evolution (Kemp et al, 2007). It attempts to understand and use theories on the creating of large network conventions to then incorporate in governance (Kemp et al, 2007). Managing a transition requires studying behavior crossing multiple domains, scales and levels (Rotmans & Loorbach, 2009).

The constant interaction between the system and the individual level, means that once rules for managing societal change are formulated and applied in their respective context, they need to be readjusted, as application of this new behavior changes the dynamics and conditions within the system (Rotmans & Loorbach, 2009). In this sense, transition management is not about reaching a predefined final goal: it is setting up a “never-ending process of progressive social change” and a “constant process of adaption to unanticipated problems” (Kemp et al., 2007). It is based on what Lindblom (1965) calls ‘partisan mutual adjustment’: the idea that large systems of people can intelligently

coordinate without a clear authorities power coordinating them, without a common purpose, or without rules on how they relate to others. Arguments can be made that non-centrally coordinated decision making structures can be more effective than centrally coordinated structures, as relative autonomous actors are able to mutually adjust their decision making to coordinate themselves. Alongside this notion, modern transition management gives special attention to problem structuring, long-term goals, and learning about system innovation (Kemp et al., 2007). It is focused around guided incrementalism, meaning that small steps are taken towards long-term societal sustainable meta-goals.

As in complex system theory, co-evolution plays an important role. Co-evolution is the process where different mutually dependent sub-systems shape each other, but do not determine one another (Kemp et al, 2007). According to Broerse & Grin (2017), as these sub-systems evolve, they help shape mutually accepted dominant structures and practices, also referred to as a 'niche'. Interactions on the individual micro level happen in relative autonomy, where actors shape each other and the system that they are a part of. Learning, searching and experimenting is important within this process, because of the adaptive orientation of transition management (Broerse & Grin, 2017). In this sense, the new decentralized healthcare system in the Netherlands should be co-evolving in such a way that a dominant structure is to emerge. Co-evolution as an idea is being used in many disciplines outside of biology, but is still underdeveloped in management and governance (Kamp et al., 2007).

Besides co-evolution, self-organization has a fundamental position within transition management. Combining top-down planning and bottom-up incrementalism, transition management attempts to strategically make use of innovative bottom-up developments by "coordinating different levels of governance and fostering self-organization through new types of interaction and cycles of learning and action for radical innovations offering sustainability benefits." (Kamp et al, 2007). Transition management is thus concerned with combining insights from all societal levels within the context of a changing landscape, using coordination tools for interactions between involved actors on different levels within co-evolutionary processes (Kamp et al, 2007). In this sense, societal change is viewed as the result of interacting actors at the micro level.

In short, transition management aims to move away from static governance frameworks by creating a more process orientated adaptive framework for governance. This framework attempts to create an innovative governance contexts, enabling bottom-up incremental practices with autonomous self-organizing and co-evolving actors who engage in a process of constant social learning and adaptation to new developing social structures. The guiding principle is sustainable development, with the idea that mutually dependent large systems of people can intelligently coordinate without a clear authoritative power

coordinating them, enabling these systems to better structurally address deeply embedded societal problems.

3.3. Conventions for co-evolution

With sustainability being one of the major goals of the policy changes, the adaptive process orientated approach of transition management seems to theoretically match to the practical needs of the new healthcare system of the Netherlands. This study attempts to analyze transition processes in the case of the Dutch healthcare system through the theoretical lens of CAS and transition management. In this, we attempt to see if conventions have emerged within the new system.

The main problem of incorporating a CAS approach in transition management frameworks, is that applying such an adaptive and process oriented approach to real-life cases, is historically and analytically hard to do (Saviotti, 2005). When researching the emergence of conventions within real life transition cases, problems arise in terms of traceability of those emergence processes. To be able to fully understand if and how conventions emerge, one needs to be present from the beginning of a transition and actively monitor developments within it, which is often not feasible. However, this thesis exploits unique data on a major healthcare policy change in the Netherlands to test theories of organizational co-evolution and the emergence of system conventions. In this case, we use the Dutch healthcare system as our case to research adaptive processes of orientated behavior, and how this behavior constitutes to macro level structures. In this sense, the changes in the Dutch healthcare system of 2015 serve as a policy context in which embedded social behavior is being researched.

To make analysis of behavior on such a scale feasible, focus within this research will be placed on whether or not a reduction of social complexity within the system has taken place between 2015 and now. Healthcare organizations play a central role within the new decentralized system, as they are one of the only parties that have to deal with multiple municipalities, rather than just one single domain. We argue that this gives them an unique perspective on transition processes within the decentralization of healthcare in the Netherlands as a whole.

According to previous research, administrative burdens within healthcare organizations as a result of widely variating performance arrangements, is one of the biggest national problems within the new healthcare system. We argue that, if consensus is reached on the system level about what quality of care is for municipalities, then municipalities are able to coordinate on what they expect from these organizations in terms of performance, and some form of consensus should be constituted. We therefore argue that the biggest indicator for the reduction of social complexity within the current healthcare system, is

consensus on performance arrangements between municipalities and healthcare organizations.

Respondents were asked if the decentralization of healthcare has left organizations with a larger amounts of complexity, resulting an increase of administrative burdens. Respondents were then asked if shared conventions have emerged in terms of the performance arrangements between organizations and municipalities. Answers to these questions will be analyzed through the framework of complex system theory and transition management. The following hypotheses have been formulated and will be tested:

H1: The decentralization of healthcare in 2015 in the Netherlands and the accompanied increase in amount of contractors and complexity, has left organizations with a larger amount of administrative burdens.

H2: Shared conventions, in terms of performance arrangements between nationally operating healthcare organizations and locally operating municipalities, have emerged between the decentralization of healthcare in the Netherlands in 2015 and now, reducing complexity.

4. Data & Methods

This study exploits unique data on a major healthcare policy change in the Netherlands to test theories of organizational co-evolution and the emergence of large network conventions. Data is gathered through N=25 qualitative semi-structured interviews with representatives of a major municipality in the Netherlands, representatives from major healthcare organizations, and representatives from external organizations who were responsible for guiding the transition and decentralization of healthcare to the municipalities in the Netherlands in 2015. A schematic overview of respondents can be found in table 1.

Table 1. Respondents interviewed in this study.

Representing	Function	Interviewed
Interprovincial deliberation	Transition coordinator	1
Health Care Insurers Netherlands	Transition coordinator	1
Municipality of Utrecht (department of societal development)	Director societal development	1
	Business controller societal development	1
	Transition coordinators	2
	Account managers	5
Healthcare organizations	Manager	9
	Healthcare providers	5

Spoken is with a representative of the Interprovincial Deliberation (IPO). The interprovincial deliberation is an organization that unites all provinces in the Netherlands and provides a platform from which knowledge can be exchanged and innovation can be stimulated between the Provinces (IPO, 2017). They provide information and governance with preparations for policy and policy changes that are of relevance for provinces. One of those policy changes is that of the SSA changes of 2015, where responsibilities for youth care shifted from provinces to the municipalities. The Interprovincial Deliberation played an important role in transitioning healthcare from provinces to the municipalities. The respondent in this study was one of the 12 representatives in this transition, representing the province of Utrecht.

A similar organization in the form of Health Care Insurers Netherlands (ZN) was interviewed. Much like the Interprovincial Deliberation, ZN is an overarching organization, creating a mutual platform for all health care insurers in the Netherlands. They were partly

responsible for coordinating the transition for the SSA for adults from health care insurers to the municipalities.

Furthermore, a number of the major healthcare organizations in the Netherlands have been interviewed on their perspective of the current state of the healthcare system. These organizations are active throughout the entire country and have arrangements with a magnitude of municipalities. Spoken is with both managers and healthcare workers from these organizations.

Finally, a number of representatives from the municipality of Utrecht were interviewed. Utrecht is one of the 'G4' cities in the Netherlands, meaning it is one of the four largest cities in the Netherlands, with 338.986 citizens (Utrecht, 2017). The department that is now responsible for healthcare in the city of Utrecht, called 'Societal Development', counts approximately 140 employees. It has two sub departments: Youth care, that is responsible for healthcare for people under the age of eighteen, and the department that is responsible for the SSA in general, which is healthcare for people over the age of eighteen (Utrecht, 2017). The following representatives participated in this study:

- Director of societal development. This is the head of the department of societal development
- Business controller of societal development. This person was responsible for operational management of the transition to the municipality.
- Transition coordinators. Spoken was with a transition coordinator from both youth and adult care. These positions are there to guide the transition process.
- Account managers. People in this position are directly responsible for external communication with health care organizations.

Respondents were asked if shared conventions have emerged in terms of the arrangements between organizations and municipalities. Alongside this primary questions, further information was gathered about the development of the Dutch healthcare system in general. Answers to this question and others will be analyzed to test the hypothesis that conventions emerged following the policy change.

5. Results

5.1. Sustainable development

To create sustainable development of healthcare within their municipality, local policy makers are attempting to make large scale changes to their domain. On an abstract level, since the system changes of 2015, a more incremental process oriented approach is being adopted, where policy makers in larger municipalities attempt to create a system in which actors consciously interact and cooperate on the local level to constitute larger system changes. Independencies are high, as cost containment on healthcare has created a situation where organizations and actors from municipalities have to work together closely to create a system that is collectively capable of providing quality healthcare despite the reduced amount of money.

Within this, actors are to cooperate well and co-evolve together to attempt to create coordination amongst one another. *"On an abstract level, the entire system is moving more towards a bottom up process orientated approach, where previously the system was characterized by a top down control orientation. The idea is to put more responsibility with individuals to co-evolve the system in such a way that a more sustainable orientation is created."* This paradigm shift is often very new to involved actors, and the local systems are still in early development. *"We are coming from a system that was characterized by control and response. This new approach in which everyone is actively asked to participate in a cooperative interaction process is still very new to most people involved."* Moreover, municipalities are more and more attempting to create new environments for experimenting and learning, by setting up pilots and incorporating organizations in innovation projects. These processes have caused for a large amount of uncertainty, instability and created large variety between different municipalities.

5.2. Shift to light care

The policy changes have created a large amount of complexity for healthcare organizations. Municipalities had complete freedom on how they intended to organize healthcare in their domain when the decentralization of healthcare initiated. In this process, a large variation between municipalities has constituted. Most - if not all - municipalities attempted to make a shift from heavy to light care to create sustainable development, but all had their own strategy of reaching that goal. Most municipalities have undergone different transformation processes where they build or found new ways to make this transition happen. This process is still in development, and needs time to fully crystalize. Problems, especially in youth care, are very much apparent when it comes to ambiguity over what should be priorities, where

boundaries for responsibilities lay, or what quality of healthcare is in the current healthcare system. Most acknowledge that the situation is better than 2015, but dare not to speak of consensus between municipalities yet. One manager of a national healthcare organization states: *"As of January 2015, it was total chaos. Nobody knew where to get anything or who they could get it from. Nobody knew how things worked. We really had to survive in 2015. In 2016 it became more crystalized, but one municipality simply does things differently than the other."* Many organizations struggled financially, or still do, as municipalities attempt to make major system changes, accompanied by already existing budget cuts. Further, the large variation between personal needs and visions of municipalities has resulted in differences in performance arrangements with organizations.

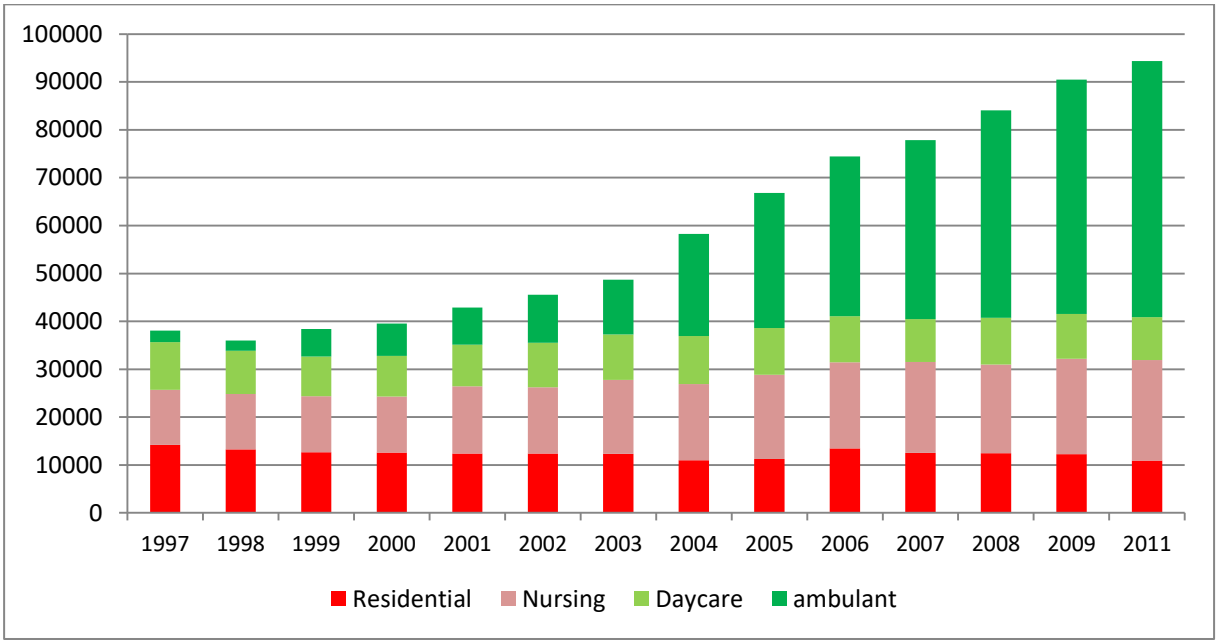
A possible unseen problem within this process, is that municipalities might have overestimated how much of a transition to light care is possible. Specifically for youth care, our respondent from the Interprovincial Deliberation states *"Even before the transition to the municipalities, provinces were stimulating the transition towards lighter forms of care. Municipalities might have overestimated how much there was still left to gain there."* Graph 1 shows the transition towards lighter (ambulant) and cheaper forms of care before the transition of 2015 (Wilde, 2014). The graph shows a strong trend towards lighter forms of healthcare, before the responsibility shift to the municipalities. Attempts to continue this trend might cause for disappointing results, as municipalities may have predicted more room for further development in this area than there actually is. Furthermore, this overestimation may cost for problems when it comes to redistributing money and responsibilities, as it based on the falls assumptions that a substantial amount of healthcare can still be transferred to lighter forms of care and away from healthcare organizations. This could very well cause for problems within healthcare organizations, as they might get disproportional amounts of money within the new system. This in combination with possible increased administrative burdens and an ever changing external environment might very well further increase complexity within organizations.

5.3. Reduction in complexity: towards creation of conventions

Respondents were asked whether the decentralization of care has resulted in increased complexity and administrative burdens for organizations. In general, respondents unanimously agree on the fact that every municipality and region has their own performance requirements and pricing, creating variety and complexity within healthcare organizations. This confirms hypothesis 1.*"What has become a lot more complicated, is that we now have to deliberate on performance and pricing arrangements with 28 municipalities each year.*

Before we deliberated once a year with one contractor." The variation in arrangements and contracts

Graph 1. Absolute amount of healthcare users per healthcare form.



*Martin de Wilde (2014)

with different municipalities causes organizations to have to spend substantially more time and money on administrative proceedings, where each municipality wants to keep a close eye at the healthcare they invested money in.

A respondent from the interprovincial deliberation states *"We had our doubts when it came to for example the choice from most municipalities to use contracting to manage transactions and exchanges with organizations, as it would create more administrative burdens. However, municipalities were free to decide on what they thought was the best way to approach the situation. We merely helped with the transition."* No central authority was monitoring or steering this process, meaning that municipalities were free to organize healthcare within their own domain. The result was substantial differences in performance arrangements between them. *"Each municipality has their own way of doing things. There really are big differences".* Smaller municipalities are said to be especially demanding, as they have less money to spend and need more control over that money. The increased administrative burdens within organizations in combinations with cuts to their budgets, have caused most organizations to have to struggle to survive. A healthcare professional stated: *"After the transition in healthcare, every organization has fought to survive. In that process, there has been little deliberation between actors and parties involved and no conformity as a*

result. It is slowly starting to appear now, but the question remains whether the current healthcare system is sufficiently set in place and whether sub parts are sufficiently coordinated."

Respondents were then asked whether performance arrangements between healthcare organizations and municipalities are becoming more uniform and if more standardized contracts have emerged since the changes of 2015 and now, constituting consensus and a dominant structure among different municipalities. The hypothesis was tested that municipalities have reached consensus on these arrangements between 2015 and now. Table 2 displays a summary of the answers to this question from managers and healthcare professionals from major national healthcare organizations in the Netherlands.

Although a number of respondents do experience consensus creation, most respondents express that arrangements are still very far apart and express not to be seeing much improvement in it. *"No I don't see arrangements coming together, nor do I see them coming together any time soon. We have contracts with large cities within the province, and we see that they incorporate the smaller municipalities around them. We also see that municipalities are starting to deliberate on agreements together. In the end though, we still have to make specific arrangements with each municipality. One municipality wants this as information, and the other something else."* Many express that deliberations on the local and national level are only just starting to take place, and that consensus on the arrangements on the system level is far for being reached. Hypothesis 2 is thereby rejected.

Some respondents express to be seeing arrangements coming closer together. According to them, the interaction process within and between municipalities is slowly taking shape. This seems to be mostly in an emergent manner, where municipalities are reaching consensus without a social planner coordinating the process. *"Arrangements are slowly, in a natural way, coming closer together. Initially, municipalities tried to control performance arrangements as much as possible, but slowly they are starting to let it go more. That's the process I am currently seeing."* Municipalities, especially the smaller ones, are slowly starting to interact with bigger municipalities and being included in regional deliberations. As a result, municipalities are starting to create a basis from which consensus about what is considered quality of healthcare within the new system can be created. *"Arrangements are slowly coming together, as there is more and more collective deliberation. The smaller municipalities are also being invited so that we can, all together, start the process of collective vision constructing."* Based on this, it appears that interactions on the local level are starting set up a basis for collective agreement forming on the system level. In that

sense, emergence of consensus is slowly constituted through a process of interaction on the micro level, in which actors are slowly shaping the dominant structures on the macro level.

Some respondents express that consensus is being created through national initiatives. Nationally, the issue of administrative burdens is high on the radar. These respondents acknowledge national initiatives that are taking place to create consensus between municipalities on what is being asked from organizations in terms of accounting. One of these initiatives is called 'Outcome steering', where different representatives from municipalities come together to create alignment on the indicators to use to determine the performance from healthcare organizations. One of the respondents, who is a member of this group, stated *"We are in the process of nationally determining what we consider to be quality of healthcare and how this translates into our societal goals. This is only recently starting to happen. We as municipalities first had to get the financial side going before we could start this process of deliberation on outcome indicators."* Many of the respondents acknowledged that during the first years of the transition, different municipalities were mainly creating their own frameworks for how they were going to provide and organize healthcare within their domain. However, recently, national deliberations are set in place between municipalities to create more alignment between them. These are examples of organized change, where consensus is being reached through means of governance by social planners. *"Yes, nationally it is getting a lot of attention. You would think that such a decentralization would have been accompanied with such consensus rules, but that's not how it has happened."*

Table 2. Consensus between different municipalities in terms of performance arrangements.

Interview date	Type	Name organization	Function	Summary of answer	Support hypothesis
10-04-17	Youth care	The Secret Garden	Manager	Extreme variety between different municipalities, costing organizations a lot of money and frustration. No reduction.	No
13-04-17	Youth care	Amerpoort	Healthcare provider	Different systems between municipalities. No difference.	No
13-04-17	Youth care	Amerpoort	Manager	Each region and municipality does it differently, costing a lot of extra work. Has not seen improvement.	No
19-04-17	Adult care	Salvation Army	Hostel Manager	Substantial differences in approaches between municipalities and regions. Not one clear policy. No consensus.	No
20-04-17	Youth care	Youké	Healthcare provider	Municipalities will always do things differently, but arrangements are slowly becoming more equilibrated.	Yes
02-05-17	Youth care	Youké	Manager	Arrangements are still divers and not uniformed now. However, slowly they are coming closer together, also because of national initiatives to guide that process.	Yes
04-05-17	Adult care	Abrona	Manager	Municipalities are seeing that local differences are creating increased costs. Nationally, a lot of attention given to this and it will balance out at one point.	Yes
10-05-17	Adult care	Lister	Floor coordinator	Administrative burdens are still very high. No difference.	No
10-05-17	Adult care	DUO	Manager	Extreme differences in arrangements and prices between regions. No improvement in that.	No
24-05-17	Youth care	SAVE	Manager	Negotiations with many municipalities each year, more time lost to bureaucracy. Hard to stabilize as an organization. No improvement between now and 2015.	No
24-05-17	Adult care	Abrona	Healthcare provider	Slowly, more coordination between municipalities is occurring. Consensus is slowly being reached.	Yes
30-05-17	Adult care	Lister	Manager	Differences are still very large. Especially smaller municipalities are strict about performance. No improvement.	No
30-05-17	Adult care	Lister	Manager	Each municipality really does it in their own way. Not seeing this coming closer together.	No
01-06-17	Adult care	Salvation army	Manager	An increase in deliberation between parties has resulted in more alignment between municipalities and regions.	Yes

6. Discussion and conclusion

This thesis investigated how decentralization processes in healthcare policy in the Netherlands constituted within the healthcare system. The policy change was enacted in 2015, and involved decentralization of health care provision from the national to the city level. This required nationally operating healthcare organizations to establish and negotiate hundreds of new relationships with individual cities. Two hypotheses were tested. The first being that the decentralization of healthcare in 2015 in the Netherlands and the accompanied increase in amount of contractors, has left nationally operating organizations with a larger amount of administrative burdens. The second being that shared conventions, in terms of performance arrangements between nationally operating healthcare organizations and locally operating municipalities, have emerged between the decentralization of healthcare in the Netherlands in 2015 and now.

Hypothesis 1, that the increase in contractors has increased administrative burdens within national healthcare organizations, is confirmed. When policy changed initiated, local actors were left free to decide on how they were going to organize healthcare in their municipality. As a result, variance between municipalities is high, and so is the variance between their performance arrangements towards municipalities. In general, respondents unanimously agree on the fact that every municipality and region has their own performance requirements and pricing, creating variety and complexity within healthcare organizations. Administrative burdens have risen substantially as a result

The hypothesis that consensus has been created in terms of arrangements between municipalities and healthcare organizations, is rejected. Variation between arrangements is still very high, and most respondents did not see any improvement in municipalities bringing those arrangements closer together. Some respondents acknowledged that local interaction processes are starting to be set in place, slowly constituting dominant structures on the system level. Respondents further mentioned that, nationally, the topic of administrative variance between municipalities is high on the agenda. National initiatives are slowly starting to take shape, where different municipalities are attempting to create alignment between them in terms of performance indicators towards healthcare organizations. In terms of planned change guiding the process of consensus forming, the program ‘outcome indicators’ serves as a good example of a national initiative that is constructed to deal with complexities.

The case of the Dutch healthcare system serves as a fitting and unique empirical case for testing theories and hypotheses of Transition management and CAS. Multiple steps are being taken to create a more sustainable healthcare system. One of those steps is

creating a process orientation among members of the system. On an abstract level, the system is moving towards a more bottom up approach, where previously it was characterized by a top down control oriented approach. The idea is to put more responsibility with individuals within the system and to let them co-evolve in such a way that sustainable development is created. Involved actors are stimulated to take incremental steps in which they engage in a constant process of adaptive learning. More than before, individuals within the system are challenged to reflect on the consequences of their actions and how they affect the system level in its whole. In that, individuals seek more cooperation with others and other organizations. This process however, is still in early development and is far from effective in its current state, as proven by results in this study.

As stated by transition theory, incremental innovation through self-organization has become a vital aspect of the new healthcare system. To be able to provide quality healthcare despite cost containment of healthcare, organizations and actors are to create new ways of working and search for innovative ways to tackle problems. This process is, for a large part, being set in place by self-organization. One of the major changes for organizations to constitute this, is the change in internal structures. Organizations, as a responds to the changing environment, have changed their internal structure to a more 'bottom up' approach, as well as changed to a network orientation. Much like theories on transition management describe, learning and experimenting have come new priorities. Municipalities are more and more setting up pilots to create new environments for experimenting and learning..

Distribution of responsibilities is still a contingency within the new system. With municipalities attempting to make a shift from heavy to light care, interdependencies are high, but responsibilities are often still unclear. New communication lines are being created, and slowly different actors are finding how they can best fit within the healthcare system. However, this is still in heavy development, and has not fully crystalized yet. There is evidence that municipalities might have overestimated how much of healthcare could be transitioned to lighter forms of care. Many respondents state that, the goal to create an inclusive society in which social cohesion is high and healthcare costs are low, is still far from being accomplished.

This paper attempted to apply theories of complex systems theory and transition management on a decentralized population, by showing how more adaptive orientations within governance are being applied in real life transition cases. It showed how theories of transition management and complex systems apply to the case of the Dutch healthcare system, and how it fits a real life case as such. As these fields are still in development, and knowledge within it is historically hard to apply to such real life cases, more studies applying

theories of transition management and CAS are required to further develop knowledge on how theories on complex systems and transition management constitute in real life cases.

This study shows how more adaptive orientations in policy making are being created to deal with contemporary societal problems. This is done by applying and combining theories of complex adaptive systems theory and transition management theory on a decentralized population and testing hypotheses on the creation of consensus within that population. It showed that policy makers in the Dutch healthcare system are attempting to move away from top-down rational orientations in policymaking and move more towards bottom up incremental approaches, as a reaction to the decentralization of healthcare in the Netherlands. It also showed that this not yet resulted in the creation of network conventions, as variances between municipalities is still very high.

Concluding, this study showed that these kinds of new forms of governance and policy making are still in early development, both from a theoretical perspective and a societal one. Many problems still arise when it comes to the application of such innovative ideas, as proven by the results in this study. Further fundamental research is needed to fully develop theoretical perspectives like transition management theory and CAS theory. Even though this study showed how theories of transition management and complex systems are applied and can apply to real life cases like that of the Dutch healthcare system, more studies implementing theories of transition management and CAS are required to further develop knowledge on how those theories translate in real life policy cases.

7. Literature

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