Key Conditions in Diffusion of Innovative Practices in The Netherlands

A case study of the most eminent key conditions in regional innovations to support elderly people to stay at home longer

Introduction

What The Netherlands will look like in the years to come is anyone’s guess, but one thing seems inevitable: from 2011 onwards, population ageing will be presenting society with obstacles. There are many questions that need to be addressed. What does population ageing entail and what kinds of problems are likely to arise from it? Ageing citizens will be putting ever more pressure on available resources. In general, government policies on population ageing in The Netherlands are primarily formulated to deal with the mounting costs of healthcare, but projections also tell us that the demand for care is going to exceed the supply. One of the developments we have observed is the transition from a welfare state towards a participation society, a shift designed to relieve some of the pressure on the healthcare system. We have also found several examples of innovative practices aimed at strengthening self-reliance and setting the right conditions for elderly people to stay at home longer. We did find, however, that the diffusion of these innovative practices is still lagging behind. In this article we will be discussing the key conditions that are necessary to successfully diffuse innovative practices on a regional and national level.

Ageing in The Netherlands

Despite what many people think, population ageing is not a new phenomenon in The Netherlands. With developments in healthcare, shorter working hours, improved living conditions and the resulting drop in mortality rates, the population of pensionable age has been expanding slowly but steadily ever since the 1920s. This trend is likely to progress at an ever more rapid pace. According to Statistics Netherlands, male life expectancy has on average been rising by 0.5 years per annum these past few years, with female life expectancy showing an annual 0.4 year increase. Caused in part by this century’s falling fertility rates, one of the most important changes in The Netherlands is a noticeable decrease in working population. Dutch birth rates increased briefly but dramatically in the years after 1945. This so-called baby boom generation will reach
the pensionable age of 65 from 2010 onwards. With the birth rate steadily declining since the first half of the 1970s, the percentage of young people in the population is dropping. This combined with increased life expectancy will result in increasing old-age dependency ratios (i.e. the proportion of citizens aged 65 or over to citizens aged 20-64).

In The Netherlands, population ageing is projected to peak around the year 2035, when over 4 million people will be aged 65 or over. The projected old-age dependency ratio for 2035 is 42 - 46 per cent (compared to an old-age dependency ratio of almost 24 in 2010), after which time the proportion of over-65’s will slowly start to decline due to the falling fertility rates we are currently experiencing. Parallel to increasing life expectancy and declining birth rates, immigration is expected to rise. As most immigrants tend to fall within the young adult to middle age range, high immigration levels may help to mitigate the trend of increasing dependency ratios. According to Statistics Netherlands, a limited influx of immigrants will result in a drop in population size.

Three Perspectives on the Effects of Ageing

Much has been said and written about the consequences of population ageing. For the most part, the debate has been revolving around its repercussions for healthcare costs, staffing policies or gross domestic product (GDP). This is to some extent unfortunate, as a broader view of the relations between developments in various domains may reveal many challenges and opportunities to explore. In a deliberative process with several public sector professionals and backed by our extensive experience in the field of consultancy, a thought model has been developed as a more comprehensive view of population ageing in order to address some of the most pivotal effects of population ageing. The starting point is the observation that ageing populations have effects in several domains and that these developments cannot be viewed separately. Rather than merely focussing on one aspect of the effects of ageing, Baars & Offereins (2010) in their ‘ageing model’ look at a spectrum of potential changes. The model addresses the following questions: “What will be the changes in patterns of supply and demand? : The effects of population ageing on society”, “Who shall produce the required supply? : The effects of population ageing on production volume” and “How can supply and demand be brought into alignment? : Innovative practices to capitalise on the opportunities population ageing has to offer”. These questions are interrelated and should be considered consecutively.

Effects of population ageing

The precise effects of an increasingly elderly population are hard to estimate. However, we do know that there is a strong relation between ageing and the prevalence of diseases, particularly chronic diseases. Diseases often lead to physical and mental limitations (Van de Berg Jeths, Timmermans, Hoeymans, & Woittiez, 2004). This process is called disablement (Gezondheidsraad, 2005). Disablement leads to an increase in the need for support and healthcare, both in volume and complexity. Seen on a macro level, population ageing is expected to affect the affordability of the healthcare system in The Netherlands, with a projected rise in the qualitative and quantitative demand for care and cure.

The question is whether there will be enough personnel on hand to provide the required volume and type of care and cure. From 2010 onwards, a growing number of workers will be moving into retirement, leaving a smaller number of people to do a possibly even bigger job. Labour shortages are expected to rise. Growing pressure on employees may result in higher staff turnover with its associated risks of losing valuable know-how about products, services and business processes. New insights into human resource policies are needed to deal with this problem, as well as ways in which organisations may hold on to their expertise and tap into changing patterns of demand.
In order to mitigate the effects of population ageing on the Dutch healthcare system, various interventions have been implemented in a number of domains. They are aimed at decreasing the demand for care, bringing healthcare training programmes into alignment with modern care practices and remodelling care services through the implementation of innovative practices.

**Interventions**
Socialisation of care and cure is the motto: we want people to remain self-reliant and stay out of the healthcare system for as long as possible. We have observed several developments designed to bring about the required social changes.

**From Welfare State to Participation Society**
The paradigm of the welfare state, with its focus on central and large-scale interventions, uniformity and equality is seen no longer to be appropriate for current societal issues. A transition towards a participation society is desired (Raad voor Maatschappelijke Ontwikkeling, 2002). The central idea in a participation society is socialisation: not the government but society is actively responsible for its own well-being and welfare. Key elements of this perspective are people’s self-reliance and the strength of social infrastructures: society takes care of itself and promotes people’s ability to participate in it to their full potential. Society can only function if everyone contributes; for that reason people should be encouraged to participate in many different social arenas (Raad voor Maatschappelijke Ontwikkeling, 2002; Raad voor Maatschappelijke Ontwikkeling, 2004a and Raad voor Maatschappelijke Ontwikkeling, 2004b). By getting people more actively involved in society throughout their lives, social structures are strengthened, self-reliance is increased and the need for formal care decreases. This concept is called ‘community care’ (Beraadsgroep Community Care, 1998 and Raad voor Maatschappelijke Ontwikkeling, 2003). Supporting people to live at home longer fits into this perspective.

**From Large-Scale Interventions to Customisation in the Vicinity**
Large-scale and collective interventions no longer suffice when it comes to dealing with the effects of an ageing society. However, routines of the welfare state have remained dominant both in the expectations of citizens and in the interventions of the government (Raad voor Maatschappelijke Ontwikkeling, 2002). Therefore, according to the Raad voor Maatschappelijke Ontwikkeling (2002), in order to break existing deadlocks and achieve an effective transition to a participation society, decentralisation is key. Policy should be made as close as possible to society: “Better than any other tier of government, municipalities are able to mobilise citizens and arrange support close to citizens: customisation in the vicinity” (MvT Wmo).

**From Policy-Execution to a New Governing Concept**
In their advice, the Counsel for Societal Development (RMO) (2002 and 2004b) outlines the essence of a new concept of governing. The first tenet is regulation setting: the government withdraws. The focus is on regulations and government involvement is limited to a supervisory level. This entails governance with a limited set of regulations that are strictly managed but leave institutions, professionals and citizens space to manoeuvre. The second tenet is horizontalisation: institutions and professionals are to focus on each other instead of the government, with the government taking on the role of director/supervisor. These trends seem congruent with changes in society: a new paradigm is appropriate with a new equilibrium between society and government (RMO, 2002).

**Innovative Practices to Increase Self-Reliance**
In the coming years, there will be a noticeable change in the percentage of elderly people moving to nursing homes, as many will choose to live at home for a longer period of time. This development is the result of the growing individualisation of society and an increase in the number of people who are willing and able to pay for comfort and privacy. Unlike the current generation of elderly people, the future generation, passionate about maintaining their independence, will no longer be willing to share a room with six others at the eighth floor of some nursing home. This will irrevocably lead to higher expenditures, unless smart solutions are put in place to push down the costs. Technology can play an important role in enabling people to stay at home longer. It can provide them with comfort and a sense of
safety and make care more efficient due to its labour-saving potential.

Implementing new technologies will be a key factor in achieving and maintaining convenience (e.g. light, sound and motion sensors) and social interaction (e.g. keeping in touch with children and grandchildren). Technology can provide entertainment and be a means of socialising with others. Informal care will also benefit from new technologies. Care TV and interactive communication over the Internet will make caring for elderly relatives that much simpler for the active population, as it enables them to provide remote care.

It is to be expected that technology will play a greater role in an individual-oriented society than a collective-oriented society. As long as the government is responsible for the collective organisation and financing of (technological) care solutions, people will be less inclined to take care of themselves. Moreover, in economically unfavourable conditions, there will be little space for innovation and investments (Niet van Later Zorg, 2007). This is why private or semi-public innovations will be more successful than initiatives that are collectively steered. This article describes two examples of innovations that are aimed at supporting elderly people to stay at home longer. Both examples differ as to the extent to which they have evolved over time. They also differ in terms of the involvement of private organisations.

The first case is Brainport Health Innovation (BHI), a programme of Brainport Development. Brainport Development is a regional cooperation between public and private organisations in the Southeast of The Netherlands, aimed at strengthening economic capacities of the region and centred around technology and innovation. The region has characteristics of a life-tech and med-tech cluster, in which some large innovative companies are active. Also, the region is facing the effects of population ageing, expressing itself in an increase of the older population and a decrease of the available workforce. This puts pressure on amongst others, the regional healthcare system. In order to be able to deal with the effects of ageing, the aim of the BHI programme is bundle and combine initiatives aimed at decreasing healthcare costs and improving labour-saving capacity by using technology to create life-tech solutions. The central idea of these solutions is, that by using technology a broad variety of services can be provided to people, varying from maintaining social contacts to extramural care. The utilization of technology enables people to live at their homes as long as possible. A key element of Brainport’s approach is using innovations developed by small and medium-sized companies and rapidly scaling up the applications in a business incubator programme. Innovations are directly tested and implemented in the field so that care providers or end-users can use the technological devices immediately, while employees are trained to work with them along the way. All innovative services are provided to the citizens via Broadbent. They for instance provide remote care facilities and develop programmes for specific groups, such as people with (early stages of) dementia.

The second case is a regional initiative in the province of Drenthe, which is aimed at making optimal use of the available care capacity in a rural area with a rapidly ageing population. This area is suffering from population decline; many small villages see a rise in the number of vacant homes as young people are leaving the area to live and work in big cities like Groningen or Utrecht. The elderly people stay behind and will need support or care at a certain moment in time. However, due to the rural area, the travelling time to deliver the required care is quite long. This has been the driver to launch an initiative by the municipality of Borger-Odoorn in joint cooperation with the municipality of Aa & Hunze. They have invited care providers, housing corporations, the local hospital and health insurers to discuss the opportunities to collaborate and ensure that senior citizens receive the care they need while they are living at home. One of the pillars of this innovation is building a coordination centre to allocate the required capacity to the villages and towns in both municipalities. By bundling the capacity of the care providers in a region, the capacity distribution can be organised more efficiently in the rural area. Instead of competing they will now cooperate which will enhance the accessibility of villages and lower costs. This will bring areas that were difficult to service within reach and enable elderly people to stay at home longer. The municipality of Borger-Odoorn currently fulfils an important role as the catalyst behind the innovation. As yet, no private stakeholders are involved with the initiative, which is
Incubation and prototyping
Generating possibilities
Replication and scaling up
Analysis and learning

Still in its early stages, and its progress will depend on the commitment of the stakeholders. According to the municipality of Borger-Odoorn, dialogue is key. “It is all about making people aware that in the long term, the collective advantages will outweigh any short-term individual disadvantages.”

**Process of Innovation**

Mulgan & Albury (2003: 3) use the following definition of successful innovation: “the creation and implementation of new processes, products, services and methods of delivery which result in significant improvements in outcomes’ efficiency, effectiveness or quality”. We have found that across The Netherlands, various innovations aimed at allowing the elderly to stay at home longer have been implemented. However, we have also observed that the successful diffusion of these innovative practices can be a hard nut to crack. This view is supported by the findings of the Dutch Advisory Council for Science and Technology Policy (AWT) (2008), which indicated that innovation is moving at a slower pace in the public sector than in the private sector.

**Levels of Innovation**

The AWT distinguishes three levels of innovation: execution level, organisational level and institutional level. We feel it is important to highlight these different levels of innovation, as they are interrelated (both ways), complementary or conditional. The way an innovation is defined or approached influences its potential value, effects and scope. The definition of an innovation also influences the approach, support, success factors and barriers in its diffusion. The three levels of innovation are shown in Figure 2.

Looking at the innovative practices that are in place to enhance the possibilities for the elderly to stay at home longer, we have found innovations are mainly limited to the execution level. On an organisational level there are far fewer initiatives. When it comes to the institutional level, The Netherlands are currently undergoing a transition, moving from a welfare state to a participation society. This process is ongoing.

**Innovation as a Process**

Mulgan & Albury (2003) see innovation as a process with four stages. The process of innovation and the diffusion of innovation is non-linear, and it is difficult to draw clear lines between the stages. The stages are:

1. **Generating possibilities to stimulate and support innovative practices**: Setting the relevant mechanisms to develop innovative ideas, such as political manifestos.
2. **Incubation, prototyping and risk management**: Defining the probability rules, using prototypes and setting the mechanisms to mitigate related risks.
3. **Replicating and scaling up**: The diffusion of innovative practices. In this article we define diffusion as ‘the process by which an innovation is communicated through certain channels over time among the members of a social system’ (Rogers, 1995:5).
4. **Evaluation of achieved results aimed at future improvement**: Evaluate the results in order to learn and improve the innovative practice.

The four stages are shown in Figure 3.

**Figure 2. Levels of Innovation**

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**Figure 3. Process of innovation** (Mulgan & Albury, 2003)
Mulgan & Albury (2003) have identified factors that will foster innovation. These factors are shown in Appendix 1.

Barriers
We have used the distinction between the levels of innovation and the stages of the model to conduct an exploratory research on barriers to the diffusion of innovative practices, aimed at creating possibilities for the elderly to stay at home longer. At every stage, elements can be distinguished that influence the innovation. We have studied the two innovative practices by doing desk research and conducting additional interviews with experts in the field. We will discuss the most important findings per region.

Brainport Region
The Brainport region is currently moving from the ‘incubation and prototyping’ phase to the ‘replication and scaling up’ phase in the model of Mulgan & Albury (2003). However, some activities in the analysis and learning phase are also being carried out and some barriers in the ‘generating possibilities’ phase are yet to be overcome.

Generating possibilities
The Brainport region is a region with a tradition and stimulation of innovation. Large-scale companies, such as Philips, ASML, ASMI and MSD have research facilities in the vicinity of the city of Eindhoven. Several actors in both the public and private sector collaborate in the network administrative organisation, Brainport Health Innovation, with four programmes for realising regional ambitions. These programmes are ‘Health and Technology Campuses’, ‘Living Lab’, ‘School for Health and Technology’ and ‘e-Health Experience Centres’. The organisations in the region act on a global level and are used to extensive competition. Due to their international appeal, many organisations have a diverse and highly-educated staff. The capacity for creative thinking is in place. Spaces for facilitating innovation processes are realised in the programmes Health and Technology Campuses and e-Health Experience Centres.

Despite the region’s efforts to create an innovative climate, there are still some barriers that hinder the phase of generating possibilities. There is a lack of political consensus when it comes to the region’s ambitions in the field of Health Innovation, resulting in a virtual absence of political manifestos. This makes institutional change difficult to realise. Innovations mainly occur incrementally and take place on the execution level. Legislation is formulated on a municipal, regional, provincial and national level, so the absence of political manifestos limits the speed of the up-scaling and replication of innovations.

Incubation, prototyping and managing risks
In the Brainport region, safe spaces and incubators are being developed; for example, as part of the programme ‘Health and Technology Campuses’ and ‘e-Health Experience Centres’. At the campuses, new organisations can be set up. At the e-Health Experience Centres, new innovations can be tested. Resources involving end-users are being realised as well, for example by providing Fibre to the Home (FTTH) to all households in the region.

However, due to the absence of political consensus and cutbacks, government organisations are unable and unwilling to provide the funding for early development. Large companies also suffer from the effects of the recent economic downturn. The lack of sufficient funding creates barriers in the innovative processes in the region. The actual involvement of end-users is a condition that is key to Brainport for realising its strategy. The adoption of innovations by end-users functions as a pushing mechanism to create commercial value. However, it is important to bear in mind for whom the products or applications are developed. Technological development moves at a faster pace than the ability of end-users to become accustomed to using these new technologies. Many innovative practices focus on technology that allows us to provide care at home, and therefore makes it possible for the elderly to stay at home longer. However, the current generation of elderly people have difficulties accepting and using technologies such as telemedicine. This might hamper the process of scaling up the innovations. User involvement in the application of innovations could be a key driver in pushing innovations into the market.

Replication and scaling up
The Brainport region is home to many different organisations across a number of sectors and of various forms and sizes. In this region, the technical and healthcare
sector work together. Electronics companies such as Philips and MSD are known for their innovative capacity and ability to create new technologies. Implementation of these technologies has proved difficult, however. This is mainly due to the fact that the Dutch healthcare sector lacks the required innovative capacity to keep pace with technical advances and is more reluctant to change. This affects the speed with which innovations are adopted.

**Analysis and learning**

We have found that Brainport is yet to move into the ‘analysis and learning’ phase, even though the success of innovations is already being measured. It has proved difficult to define metrics for the success of innovative practices. While we believe the old adage ‘if it isn’t measured, it isn’t managed’, measuring the wrong thing can lead to poor outcomes and results. The lack of good metrics in turn results in a lack of commitment on the part of politicians and funders. Until innovations are shown to have economic value, the benefits of these innovations are generally not fully realised (PwC, 2011).

**Province of Drenthe**

**Generating possibilities**

A regional collaboration in the province of Drenthe is an example of an innovation that is still in the phase of generating possibilities. Driving force behind the collaboration are politicians at the municipal level who have taken on the role of director and are working towards realising institutional change by reorganising the provision of care in the region. Care providers find themselves challenged by an ageing society and the rapid increase in care demand in a rural area with a dwindling population. The problem owner in this case appears to be the municipality that is initiating, steering and creating space for innovation. The aim is to turn over ownership gradually as soon as key stakeholders start taking ownership and begin working according to the newly developed programme. This confirms the notion that municipalities are able to mobilise stakeholders and are an important factor in pushing innovation forward.

The key challenge is to propel innovation into the phase of incubation, prototyping and managing risks, so that it will be adopted by care providers. This requires a willingness on the part of stakeholders to invest resources and organisational capacity in designing, implementing and evaluating innovation. After municipalities have set the right conditions, stakeholders will have to take up and champion the cause of innovation. We have found that many innovations fail at the point where they are evolving beyond the stage of novel idea and are moving towards the stage of actual implementation. Important success factors are the willingness of end-users to pay for the product or service and the willingness of providers to work together and take on financial and managerial risks. This requires safe spaces and a sound business model to test the innovation. The business model should encompass all stakeholders and there should be a clear distribution of tasks and responsibilities.

**Conclusion and Discussion**

We have compared two cases of regional innovations in which a number of stakeholders from the public and private sector are working together on a large-scale innovation aimed at supporting elderly people to live at home for as long as possible. Both cases are in different stages of the innovation process. The Brainport region has developed the Brainport Health Innovation programme, which has moved from the phase of generating possibilities and commitment to the incubation, prototyping and managing risks phase, and is now evolving towards the replication and scaling up phase. The province of Drenthe has only just launched its innovation by establishing regional cooperation between care providers. The two regional initiatives also differ in terms of the kinds of stakeholders that are involved. Brainport is an open innovation platform made up of public organisations, knowledge institutes, private SMEs and large-scale companies (triple helix). The Drenthe initiative focuses on collaboration between municipalities and stakeholders in the healthcare sector. Despite the differences between the regions and the relatively small set of cases, some lessons can be learned when it comes to the diffusion of innovative practices that make it possible for elderly people to live at home longer. We will discuss the most important findings.

The key conditions that are determinative for both cases will have different accents according to their development phase in the innovation process. The Mulgan & Albury model (2003) provides some interesting insights. We recommend that policymakers focus on the aspects that are applicable to the phase their organisation or region is in. It is also important, however, to
keep an eye on aspects that are relevant in other phases. Political manifestos and commitment are particularly important in the ‘generating possibilities’ phase. This is determinative for the level and type of innovation. When political consensus is lacking, innovation is more likely to be limited to execution level and occur more incrementally. The absence of political commitment can be explained by the difficulty of designing the right metrics: if you can’t measure it, it can’t be managed. In times of economic hardship, the demand for a sound assessment of the benefits is likely to be stronger: costs have to be justified. Another important finding is the importance of clear problem ownership. The ownership of problems and desired outcomes is what makes working backwards from outcome goals possible.

Both cases involve regional collaborations between public and private organisations and are illustrations of innovative practices at the execution level. The question is whether innovations on the execution level will suffice to deal with the current developments in Dutch society. More institutional innovations are desired, and to bring those about the national government needs to reconsider its role. According to the AWT, the (central) government has two roles in the diffusion of local innovations. The first role is that of a coordinating and leading government, in cases where large institutional innovations are desirable. The innovation is part of a larger whole and must also be viewed in that context. The second role is that of a listening government, in situations where innovation is happening within certain limits and rules. The central government should play a limited role and only provide the frameworks that allow innovative practices to flourish.

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