

A Quadruple Helix Guide for Innovations

In For Care: Informal care and voluntary assistance:
Innovation in service delivery in the North Sea Region

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1. Quadruple Helix in the In For Care Project

The aim in the Interreg North Sea project In For Care was to develop innovation in service delivery by optimizing informal and formal networks.

The partnership implemented a Quadruple Helix Model as a working method and tested the model within areas of informal care and voluntary assistance. In order to involve the end-users and enhance the cooperation between stakeholders, Quadruple Helix sessions with relevant stakeholders were organized. This enabled the In For Care project partners to provide the knowledge needed to create new products and services for service delivery. This will have a positive effect on businesses in the North Sea Region and stimulate them to develop these products and services.

Partners in the In For Care project have worked with Värmland County Administrative Board (VCAB) to develop and implement the Quadruple Helix Model. The project partners shared good examples and developed the Model within the thematic area of informal care and voluntarily assistance. The project can now conclude that user-driven innovation and Quadruple Helix solutions are effective approaches. User-oriented innovation also involves greater social benefits at a lower cost. By offering user-friendly products and services it also strengthens the influence that users have over their daily lives and society at large.

By using different methods with a Quadruple Helix Model the partners obtained useful input and feedback regarding possible solutions. They also gained new insight about stakeholders. The majority experienced valuable collaboration between the Quadruple Helix actors. The physical environment when

using the Quadruple Helix Model, such as the choice of venue for the events and the provision of refreshments, was an important factor for the success of the sessions.

The project has three objectives:

1.1 Objective 1

To create and improve processes of voluntary work and informal care in service delivery: Jointly create and improve processes of voluntary work and informal care in service delivery through co-creation sessions with the main target groups. Use a quadruple helix approach for user oriented innovation in services, implement new technology (collaboration tools) and demonstrate valuable matchmaking between informal and formal networks.

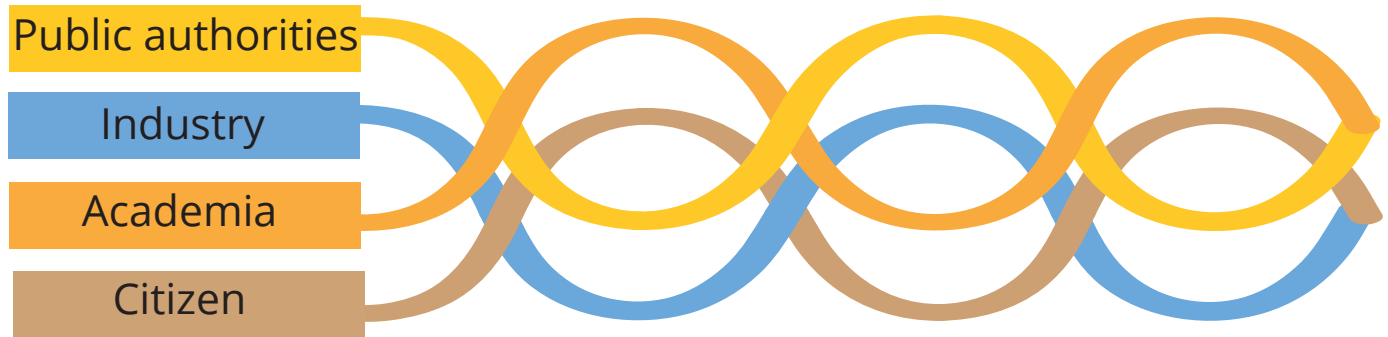
1.2 Objective 2

Support the public sector to innovate in service delivery: Change the mindset of decision makers and professionals, implement new strategies and innovate solutions for the transition whereby services are delivered through cooperation between formal and informal networks in order to deliver better services making more effective use of available resources and embed these solutions in policy in the NSR.

1.3 Objective 3

Enhance cooperation between SMEs, knowledge institutions, public administration and end-users: Enhance cooperation through a quadruple helix (QH) approach, in order to counteract the rising costs of (health) care services and support efficiency in public service delivery. Increase knowledge flow among QH partners via transnational exchange of practices. Support SMEs to innovate their products and services and create a greater social benefit.

Quadruple Helix Model



2. Using the Quadruple Helix Model

2.1 Why using the Quadruple Helix Model

The Quadruple Helix is an innovation and collaboration model with a citizen/end-user perspective. The model is useful in innovation processes where the citizens needs are central, as for example in health care and public e-services.

Innovative processes often lack involvement of citizens and end-users. These process sometimes adopt a Triple Helix model, which is an innovation and collaboration model that describes the interaction between public sector, academia and industry. In the Triple Helix model, citizens/end-users are viewed as passive recipients, consumers or end- users who assimilate the products and services developed.

Lack of involvement of citizens might lead to:

- Products and services not used
- Lack of transparency
- Innovators and end-users not understanding each other
- Frustration
- Technical innovation instead of social innovation.

Using the Quadruple Helix and involving the citizens/end-users in the development of an innovation can lead to more successful, user-oriented innovations. The end users will be more likely to accept and use the innovation. It will also have a greater social benefit at a lower cost and improve empowerment of the citizens, who will increasingly experience trust towards the innovators and become an active part of the innovation system.

2.2 Who are the Quadruple Helix Actors?

The Quadruple Helix involves representatives from all members of society; public authorities, industry, academia and citizens.

Public authorities include government and regional development agencies and policy makers, as well as formal health care providers in some countries (as in Sweden and Norway).

Industry consists of businesses, for example private health care providers, as well as business clusters.

Academia includes universities or research & development bodies.

Citizens are the fourth actor of the Quadruple Helix. In the In For Care project, citizens in the innovation process ideally consist of two or three different representatives;

- the end-user
- the informal caregivers (who are usually relatives, also known as family carers)
- and/or voluntary organisations and volunteers.

The actors may vary amongst the regions in In For Care (see map), since for example the formal health care provider can be both public, private or mixed.



1. Universitetet i Agder, Grimstad, NO
2. Region Kristiansand, Kristiansand, NO
3. Abertay University, Dundee, UK
4. Region Värmland, Karlstad, SE
5. Värmland County Administrative Board, Karlstad, SE
6. University college Syddanmark, Esbjerg, DK
7. Stichting CMO STAMM Groningen Drenthe, Groningen, NL
8. Provincie Drenthe, Assen, NL
9. Stad Turnhout, Turnhout, BE
10. Stad Aalst, Aalst, BE

2.3 Identify/Determine Methods

The Quadruple Helix Model is suitable for different phases of an innovation process, depending on various characteristics of innovation activity, for example, the aims, the context and the initiator or owner of the innovation process.¹

In different stages, different approaches and methods may be utilized to involve the Quadruple Helix actors in the innovation process. Two of these approaches will be presented below. But first, it is important to determine the starting point; Do you already have an idea that you want to test or do you want to examine new ideas based on the end-users needs? When you know the starting point, you can determine the most suitable method to involve all actors.

Perhaps several different methods will be applied during the innovation process. One approach is not good for all. Although using many methods and communication channels takes more time, it may result in an intensive exchange with a rewarding outcome.² No matter what method you use, it is important to reach and motivate all actors through a strong communication effort.

2.4 Interaction of the Quadruple Helix Actors

Another important question concerns the active involvement of Quadruple Helix actors: How can or should the Quadruple Helix actors interact to enhance innovation? The Quadruple Helix Model is suitable for a certain situation depending on various characteristics of innovation activity. The involvement of the actors varies with what you want to achieve.

To increase the success of the collaboration it is important to define the specific QH stakeholders that should be involved (stakeholder mapping) and to make sure all QH actors are involved, motivated and have an open mind. It's important to involve all QH actors from the beginning of the innovation process. One challenge can be to have all actors speak the same language.

3. Two Examples of Approaches

There are several different approaches that can be incorporated into the Quadruple Helix Model. Two of them are Living Labs and Service Design, which both focus on the end-user but involve different processes. In this Quadruple Helix guide, we have chosen to use Service Design as an example of an approach in an innovation process. Since some of the partners in the project were using the Living Lab approach, we chose to describe this approach in the guide as well.

3.1 Living Labs

Living Labs entails a user-centered innovation environment or an innovation approach in real-life setting. The idea is that people's ideas, experiences, and knowledge, as well as their daily need for support from products, services, or applications is the starting point and that these factors stimulate and challenge the development process. The kind of environment required depends on the product or service being developed. The feedback of users enables the tailoring of technology to real-life use. This speeds up the lifecycle of realization of innovations.

1 L. Ahonen and T. Hämäläinen, CLIQ: A Practical Approach to the Quadruple Helix and More Open Innovation, page 26

2 L. Ahonen and T. Hämäläinen, CLIQ: A Practical Approach to the Quadruple Helix and More Open Innovation, page 23

3.2 Service Design

Service Design is the design of the overall experience of a service as well as the design of the process and strategy to provide that service.³ Service Design involves various tools that aid the development of activities. It helps to either innovate or improve services to make them more useful, useable, desirable for clients, as well as more efficient and effective for organisations.⁴

Service Design is based on a trial method (also called iterative) to solve challenges based on the user's perspective. The focus is on understanding the users' needs and how these experiences help identify the problem that needs to be solved. Based on this knowledge, new solutions are developed and tested in order to create value for both users and organisations.⁵

3.2.1 Service Design - Five Steps

The five steps used in the innovation method Service Design as used by the Region Värmland.⁶ It is important to involve all QH actors from the start of the design process.

Service Design is an iterative process which enables you to go back and forth based on lessons learned and knowledge gained along the way.

1. **Prepare** – Define the challenges
2. **Explore** – Identify the needs
3. **Understand** – Understand the needs
4. **Improve** – Improve the solutions
5. **Implement** – Implement the solutions



3 www.servicedesigninstitute.com/wp-content/uploads/2018/12/Practical-Access-to-Service-Design.pdf, page 38

4 www.servicedesigninstitute.com/wp-content/uploads/2018/12/Practical-Access-to-Service-Design.pdf, page 7

5 www.experiolab.se/en/healthcaredesign

6 www.experiolab.se/en/healthcaredesign

1. Prepare

Define the challenges – During the first step, define the framework, clarify what the job/project should lead to and put together a team to work together. Involve the key people early and define the conditions for being able to involve end-users. Work from a wide perspective, maintain a dialogue with the citizen/end-user and other actors to define the challenges and problems together. The aim is to identify the right problems and avoid incorrect assumptions.

Examples of Methods

Brainstorming, Dialogues and Stakeholder mapping.

2. Explore

Identify the needs – The Service Design process requires the greatest focus during the second step, when the user's needs and problems are examined, as well as how they emerge. This often involves ethnographic inspired tools and methods in order to understand people's lives and experiences. It might be necessary to remain in this step much longer than what might feel comfortable, but the more we know about the needs and the problems we are trying to solve, the better the solution will be.

Examples of Methods

Brainstorming, Focus groups, Open Space, Co-creation, Workshop and Customer Journeys. Region Värmland often combine several tools to get a better understanding.

3. Understand

Understand the needs – After collecting a large amount of information we need to analyze the material and make it understandable and useful, looking for patterns and connections. Together we create joint insights, identify the most important issues and visualize this knowledge. This process can take time

and be a great challenge, but it gives a good picture of the problem area and identifies which challenge to focus on in the next steps. Make sure that everyone involved shares the same understanding and challenge.

Examples of Methods

Meetings, Dialogues, Focus groups, Customer Journeys, Personas and Workshops.

4. Improve

Improve the solutions – During this phase we expand our work to create as many ideas and solution suggestions as possible on the challenge that was formulated in the previous steps. This can be performed through Idea Generation Workshops where people with different skills can contribute their experiences and ideas. Then the first ideas are developed into concepts, services or prototypes. Region Värmland tries out the prototypes in the actual environment where they will be used, go back, amend and try again. The goal is to have concrete, radical and well-founded improvements ready for implementation. This could, of course, also be a new product or service.

Examples of Methods

Hackathon, Open Space, Co-creation, Brainstorming, Focus groups and Interviews.

5. Implement

Implement the solutions – The new solutions or products are implemented. The experience and functionality is then evaluated from a user perspective as well as in relation to previously defined criteria such as quality and finances.

Examples of Methods

Surveys, Interviews and Focus groups.

4. Example of Methods

Service Design and Living Labs are overall approaches while methods are activities. There are many methods (activities) that can be used when applying a Quadruple Helix approach. This document introduces some examples of useful methods, but there are of course other methods that can be used.

The methods are written in alphabetic order:

4.1 Brainstorming

Brainstorming is a group creativity method, whereby spontaneous ideas contributed by the actors are gathered with the aim to solve a problem or get new ideas. Brainstorming is a relaxed and informal approach which encourages actors to be creative and to think outside of the box. Avoid criticizing or rewarding ideas. Evaluate ideas at the end of the session.

4.2 Co-creation

Co-creation involves different stakeholders including the end-users/citizens in developing or improving new products and services. The purpose of a Co-creation session is to convene a group of people you're designing for and then bring them into the design process, not just to hear their voices, but to empower them to work with you. Be honest with the end-user/citizen and sincerely interested in their experience. Be willing to share information to obtain the best result of your Co-creation. Not only is a community far more likely to adopt a practice or service that it helped create, but you'll also gain valuable insight into all facets of your solution. Co-creation usually consists of two steps; contributions of experiences and then selecting the most promising contributions.

4.3 Customer Journeys

This is a method that describes the journey of a user and his interaction with services. It provides a visual overview of the specific incidents that take place, the authorities and people the user is in contact with as well as the user's experiences. This allows us to see what parts of the service work for the end-user and what parts may need improvement. It also identifies hidden or new user needs.

4.4 Focus Group

A Focus group is a small group of people whose reactions on a new product are studied and/or tested in guided or open discussions in order to determine the reactions that can be expected from a larger population. Questions are asked in an interactive group setting in which participants are free to talk with other group members. During this process, the researcher either takes notes or records the vital points he or she is getting from the group. Researchers should select members of the Focus group carefully for effective and reliable responses.

4.5 Hackathon

Usually, participants gather in a Hackathon for developing a whole new service or product in a span of 12 or 24 hours. The participants work in different teams and when the time is up, the results are often presented in the form of a short presentation where the project is displayed and evaluated by a jury. The extremely short timeframe and total focus on a task are some of the factors that distinguish a Hackathon from the usual development environment.

4.6 Open Space

The Open Space Method is a way to enable all kinds of people (5-1000 participants), in any kind of organisation, to create inspirational meetings and events. In Open Space meetings, the central theme is set in advance, but the participants create and manage their own agenda of parallel working sessions around a central theme of strategic importance. Events can take one day or longer.

4.7 Personas

Personas are fictional characters, which you create based upon your research in order to represent the different user types that might use your service, product, site, or brand in a similar way. Creating personas will help you to understand your users' needs, experiences, behaviours and goals. Creating personas can help you step out of yourself. It can help you to recognise that different people have different needs and expectations, and it can also help you to identify with the user you're designing for. Personas provide meaningful archetypes which you can use to assess your design development against. Constructing personas will help you ask the right questions and answer those questions in line with the users you are designing for.⁷

4.8 Round-table Workshops

A Round-table Workshop is a method for public participation or for groups of people who have an interest in a particular service or strategy. The Round-table Workshop method enables participants to make a full contribution to discussions on issues of shared concern and to generate ideas for action. This method works well when there is a relatively clear topic to be discussed.⁸

⁷ www.interaction-design.org/literature/article/personas-why-and-how-you-should-use-them

⁸ www.scottishhealthcouncil.org

4.9 Workshop

A Workshop is a method where a group of people are actively participating. A Workshop can serve multiple functions; provide a common understanding of a problem, find challenges or bringing new perspectives into the development process. Arranging a Workshop requires planning how to motivate participants to create the most value. Workshops can have different formats. Inform the participants how you will follow up the Workshop and what the next steps will be.





5. Lessons Learned

Along with a guide on how to use the Quadruple Helix Model, a digital questionnaire was handed out to the In For Care partners, which they were to fill in when using different methods during the Quadruple Helix sessions. In total the In For Care partners did around 40 sessions and filled out the questionnaire for 23 of them.

All the methods in this guide have been used, except "Hackathon". The most frequently used methods were Co-creation, Brainstorming and Workshops. All the respondents replied that the method they used and the result it produced was useful in some way. Some said that they gained new insights about stakeholders. One mentioned that they learned how to motivate students to volunteer and several said that good feedback and solutions were provided in the sessions. The majority also said that the collaboration between the Quadruple Helix actors was good.

One question asked whether the respondents saw advantages in dividing up the forth helix, the citizen in

the Quadruple Helix Model, into a fifth helix: the informal caregiver. One argument for dividing the model into five was that the end-user could be someone other than the informal caregiver. Arguments against adding a fifth helix to the model include that the citizens' perspective should always be the source for all service delivery, that the Quadruple Helix is already quite extensive and that the informal carer often is the end user. In the In For Care project the partners have agreed not to divide the Quadruple Helix Model into a Penta Helix Model.

Many lessons were learned while undertaking the sessions with the Quadruple Helix Model. The partners mentioned that they gained new insights about the stakeholders and that a local approach is crucial. It is also vital to find a purpose that each participating partner sees as an important investment. Another lesson is that inviting people face-to-face is effective.

Last but not least, the physical environment for the Quadruple Helix sessions are important, including the choice of venue and provision of refreshments.

6. Examples from two In for Care Regions using the QH Model

6.1 Inclusion is Essential when Creating new Tools

Inclusion of all target groups has proven to be essential for creating tools and services which effectively innovate service provision in relation to care.

Estimates suggest that as much as 80 per cent of all long-term care in Europe is provided by informal carers. Countries with large-scale publicly funded care and services are increasingly shifting towards family or social responsibility, as well as promoting informal care.

“This transition is not without risk. It may cause increasing inequality in regards to health care, problems with combining work and care, or costs in relation to sick leave”, says Maud Diemer, advisor at CMO STAMM, a partner in the In For Care project. Diemer points out that integrating professional and informal care has proven to be difficult. Not least because of the way health care has been institutionalized in the past.

Impacts the quality of life

“The increasing demand for informal care puts greater pressure on the informal carers themselves. Spending over 20 hours a week on care, decreases income among carers in comparison to non-carers”, Diemer says. She adds that the effects of using one’s free time to care for another person on the quality of life is something all countries should take into account. Employers should be made aware of the support they can provide to employees in this position.

The project In For Care was launched in early 2017 to address challenges in regards to informal carers. The project’s aim is to improve voluntary work processes and informal care in social service delivery. The pro-



Maud Diemer and Janine Dijkema-Havinga are working with young carers at the In For Care partner CMO STAMM.

ject’s core method – the Quadruple Helix approach – is used to enable user-driven innovation in services, implementing new technology and demonstrating valuable matchmaking between informal and formal networks.

Working together

“The focus has been on understanding the user’s needs. Building on an innovative solution with Quadruple Helix stakeholders was useful for broadening our perspectives. It also motivated stakeholders to participate in developing ideas”, says Diemer. She adds that to really create a working, innovative solution, you need to put it into practice.

“Involving stakeholders in the test, engaging them to cooperate and to invest time in the service innovation requires a thorough communication effort. It is important to pay attention to involving organisations. Networks which function as a bridge between public authorities and local informal carers are crucial for getting information across”, says Diemer.

6.2 Innovation through Quadruple Helix in Flanders

Transnational cooperation and exchange of best practices is inspiring cities in Flanders to find new solutions in informal care and voluntary assistance.

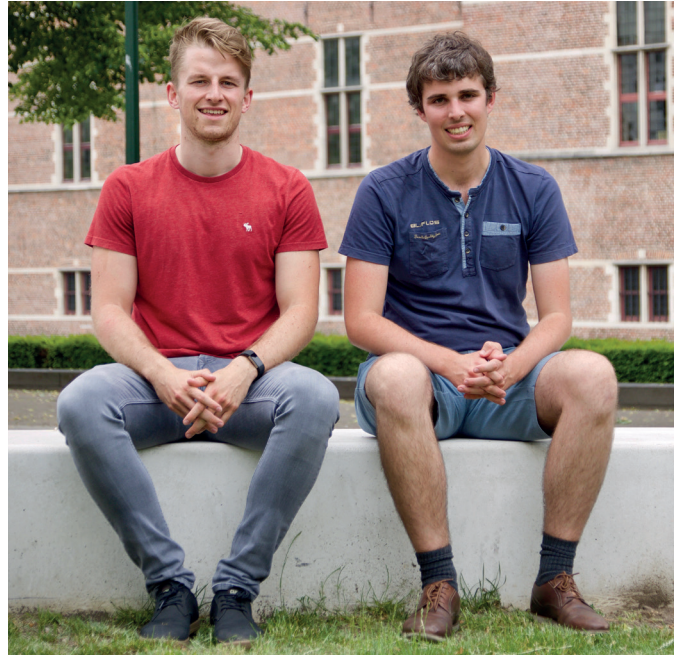
Turnhout and Aalst are two cities located in the Flemish part of Belgium. They are both partners in the In For Care project and are working to develop innovation in service delivery. The way this is done is to involve the public sector, academia, industry and end users.

"The time when government policies are formed in the city offices without interacting with citizens is long gone. Informal care and voluntary assistance are not an issue for government or private sector alone. It is important that everybody works together on this", says Bert Willems, project manager for the City of Turnhout.

"There used to be more of a triple helix approach. Now there is a tendency to involve the end users more and more when a service is developed. This is necessary to create more stable and up to date policies that matches the real needs of people", adds Vincent De Tandt, coordinator of health care economy in the City of Aalst.

Involving the neighbourhood

Turnhout has been involving the neighbourhoods in the city in several innovative ways. "There are a lot of possibilities in how neighbours take care of each other. They can do small tasks that lowers the pressure on family and friends. It's a slow process, though. We need to invest in strengthening the social networks to strengthen them, and not only focus on technology to match care need and offer", says Willems.



Vincent De Tandt and Bert Willems in Turnhout.

"At the same time, when we increase the autonomy of the elderly, we decrease the risk of dependency on someone else. In Aalst, living longer independently is the goal, and we constantly test new innovative products to facilitate this. At the same time, we want to stimulate volunteers to keep working, and to reduce the plight of the informal carers", says De Tandt.

Learning from other countries

"In For Care really ticks all the boxes of what we want to work with: Quadruple Helix, informal care, loneliness. The project stimulates us to work with local projects in these areas. At the same time, it allows us to be creative and learn. It's not always necessary to invent everything from scratch", says De Tandt.

"The advantages of the projects is that you get to see a lot of different contexts. Ideas that you pick up on a study visit like this can make a big difference in your own country. Transnational cooperation is always a good idea", says Willems.

Read more about In For Care
www.northsearegion.eu/in-for-care

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