

SHINE: Findings & Feedback

SUMMARY

One of the central issues in the SHINE project is how valorisation of products and services stimulating health and healthy living can be stimulated, by supporting the different stakeholders involved in the healthcare economy, with a special focus on healthcare suppliers.

These efforts have been combined in this 'Findings and feedback' report in which we look back on the 'Shared value creation in the Healthcare economy through INtegrated business modElS' or SHINE project.

Author(s): J. van den Eerenbeemt; M.P. van Egmond; J.J.W. Molema

Organisation(s): TNO

Date: December 2018

Tags: SHINE, TNO,

Source: This document is available as a pdf document on the SHINE project webspace:
www.northsearegion.eu/shine

Interreg
North Sea Region
SHINE

European Regional Development Fund



EUROPEAN UNION

Table of contents

Table of contents.....	2
1. Introduction.....	3
2. Studying regional ecosystems in the SHINE project.....	4
3. Findings and feedback.....	6
3.1. West-Flanders.....	6
3.1.1. Brief program description	6
3.1.2. Program expectations and evaluation by program participants.....	7
3.1.3. Lessons learned and recommendations according to participants	8
3.1.4. Reflection by the program organizer	9
3.1.5. SWOT-analysis.....	10
3.2. South-Holland - 071 region.....	11
3.2.1. Brief program description	11
3.2.2. Program expectations and evaluation by program participants.....	12
3.2.3. Lessons learned and recommendations according to participants	13
3.2.4. Reflection by the program organizer	14
3.2.5. SWOT-analysis.....	16
3.3. Scotland - Highlands	17
3.3.1. Brief program description	17
3.3.2. Program expectations and evaluation by program participants.....	18
3.3.3. Lessons learned and recommendations according to participants	19
3.3.4. Reflection by the program organizer	20
3.3.5. SWOT-analysis.....	21
4. Transnational lessons learned.....	22
4.1. There is no blueprint for a successful healthcare economy	22
4.2. There is very limited space for traditional business models and new business models	22
4.3. Healthcare participants are looking for mentorship and high value IP lessons	23
4.4. Creating a start-up program is not a ‘first time right’ project.....	24
4.5. Transnational SWOT	25
5. Partners of the SHINE Project	26

1. Introduction

Over the last three years, institutes and researchers throughout the North Sea Region (NSR) aimed to study and realize regional healthcare economies in the NSR. One of the central issues in the project is how valorisation of products and services stimulating health and healthy living can be stimulated, by supporting the different stakeholders involved in the healthcare economy, with a special focus on healthcare suppliers. These efforts have been combined in this ‘Findings and feedback’ report in which we look back on the ‘Shared value creation in the Healthcare economy through INtegrated business modELs’ or SHINE project.

In a previous report “The manual on propelling innovations in regional healthcare systems in the North Sea Region - How the healthcare domain can be innovated from the inside out”¹, we shared learnings from existing models and best practices with regard to health innovation. Also, we mapped obstacles, opportunities and examples of innovation in healthcare, including regional analyses of Scotland / Highlands, West-Flanders and South-Holland. Based on the analyses in the report, the three SHINE regions received tailored advice on developing a regional innovation program, incorporating essential building blocks for innovation in healthcare systems. Thereupon, all three regions set up and carried out a regional program offering support to local start-ups within their regional ecosystems. The three programs varied in duration, scope and target audience because they were all adapted to the perceived local needs.

This present ‘Findings and feedback’ report documents the evaluation of the three different regional programs in the SHINE project. For the evaluations, we reflected with participants and organisers from the three regions, being Scottish Highlands, South-Holland and West-Flanders. Researchers and consultants from TNO performed an extensive evaluation by conducting a series of repeated interviews with the program attendees. These interviews were timed to gain insights into the expectations of the attendees beforehand, their experiences during and their evaluations after the programs.

This report includes a short summary of the previous SHINE report, followed by a description of the setup of each regional program, the results of the regional program evaluation and a reflection on each regional program by the program organizer. The report concludes with the transnational lessons that can be learned from this work under the SHINE project.

¹ This document is available as a pdf document on the SHINE project web space:
<http://www.northsearegion.eu/shine/news/manual-innovation-for-health/>

2. Studying regional ecosystems in the SHINE project

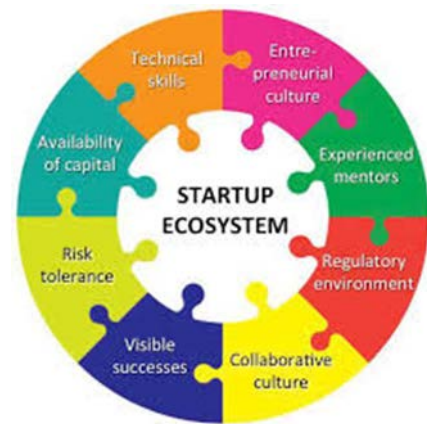
In the SHINE project researchers and a variety of stakeholders aim to study and realize regional healthcare economies and innovations in the North Sea Region (NSR) in Europe. NSR includes Denmark, Belgium, Norway, The Netherlands, the United Kingdom and Scotland, among other countries. The SHINE project arrives at a crucial moment with regard to the pressing urgency in NSR societies to propel innovations forward across the healthcare domain. By doing so, entrepreneurs, stakeholders and governments may provide answers and solutions to the current challenges of rising healthcare costs, (ageing) population health, sedentary lifestyles and corresponding risk behaviours.

One of the central issues under investigation in the previous SHINE report was how we can support regional ecosystems in order to grow opportunities for valorisation of products and services that stimulate healthy living. Hereto, the report documents theory analysis as well as practice. First, an exploration of innovation models led us to conclude, that the triple-aim approach is central to shared value creation in healthcare. This approach to population health management, also applied in NSR regions, considers three aims that need to be met coherently and in cooperation by all partners involved in a regional healthcare system: improved population health, improved experience of care and decreased per capita cost. The triple-aim approach creates a new perspective for innovations and entrepreneurs in healthcare. Next, in the cyclic Innovation Model by Berkhout et al. (2007)², the potential customer can be involved in the innovation process from the start, as opposed to traditional innovation processes. The model – used as a cornerstone of the projects within SHINE – also places the parties involved in an ecosystem for innovation, where parties need to cooperate and bridge gaps between technical and social innovation and between business model innovation and scientific innovation. Particularly in the domain of healthcare, where care and finances are strictly regulated and separated, and where science and business models often seem opposites, bringing the different stages of research, development and implementation closer to the final stage of product delivery, cyclic innovation can have an enormous impact. Literature analyses also made clear that innovation implementation and scaling are a major challenge in the highly-structured health domain. Literature describes barriers and facilitators for innovation in healthcare. We summarized relevant factors for speed and success of innovation processes: stakeholders and their agendas; funding process; healthcare and legal policies; speed of technological advancement; customers/end users; accountability and cost-benefit ratio.

Next to theory, we looked at case examples from practice. In practice, we see innovations thrive best in supportive, creative environments (or ecosystems). Examples of engineered ecosystems that power success of new innovations are start-up academies, accelerators, incubator programs, and living labs. Often these consist of a facility in which office/work space, entrepreneurial workshops and coaching are offered to help individuals with an innovative idea mature and become entrepreneurs with a valorised product, business model, and access to networks and investments. Furthermore, these environments strongly rely on synergy between participants; as they go through a steep learning curve together, information is shared and experiences are cumulating. It is expected that this process enriches each participants' individual thought process, translating to enhanced product development.

² Berkhout, G., Van der Duin, P., Hartmann, D., & Orit, R. (2007). *The cyclic nature of innovation; connecting hard sciences with soft values*. Amsterdam: JAI Press.

Finally, based on theory and practice, we concluded in the report that there is no single, one size fits all solution to propelling innovations in regional healthcare systems. Healthcare innovations and regional ecosystems are both complex fields. However, we showed a set of building blocks to build the conditional framework for successful regional ecosystems. Entrepreneurial culture, opportunities for collaboration, experienced mentorship and availability of capital proved the most crucial elements for innovation to succeed. Other factors, such as technical skills, presence of regulations in the environment and visible success, were also relevant with regard to product development and demonstration. These factors can be thought of more as important conditions that may delay or speed up the innovation process, rather than determine its survival or downfall. We mapped these building blocks on the current situation in the three SHINE regions and gave advice on how to develop regional programs to stimulate the valorisation of products and services that stimulate health and healthy living. The programs were set up using the provided advice and implemented as many improvements to the available building block as possible. For more information on the essential building blocks, we would like to refer to the full SHINE report, specifically Section 2.5³. Next we will describe the findings and feedback of participants on the programs.



³ <http://www.northsearegion.eu/shine/news/manual-innovation-for-health/>

3. Findings and feedback

As of January 2018, all regions have completed their innovation program cycles. By performing repeated interviews with the candidates in each region, we monitored the programs and reflected on the lessons learned in each region with the program participants. It is important to note that we only evaluated the first iteration of each program, both South-Holland and the Scottish Highlands used the feedback we provided to revise their programs. Although we monitored and consulted on the second run of these regional programs, they were not included in the analysis as part of the SHINE program and thus not taken into review for underlying report.

This chapter is divided in three parts, to provide findings and feedback on the first program cycle in each region. For each region, we start with a brief program description, then describe the expectations and feedback of the participants. We end with a reflective paragraph where the regional organizations reflect on the evaluated results and where we summarize the whole program using a SWOT-analysis format.

3.1. West-Flanders

3.1.1. Brief program description

POM West-Vlaanderen⁴, a Belgian regional development agency that executes the social economic policy in the West-Flanders region, created their regional program with the intention to identify potential spin-off/spin-out case studies within healthcare organisations and to support the healthcare professionals or managers involved with their route to market and with their efforts in becoming entrepreneurs. Following an open call, 11 healthcare organizations were invited to join the program with a team, free of charge. All of the teams that joined, were developing or had developed a solution to a specific client problem or need but a sufficient business model was lacking. The teams therefore joined the program in need of (additional) coaching in order to develop a profitable integrated business model through open collaboration. To aid the 11 organizations in the further development of their product, they were offered coaching by Mr. Johan Moyersoer (a regional expert consultant in this field) in both collective workshops and individual coaching sessions. The overall aim of the sessions was to provide the organizations guidance in their preparation to pitch their business model; the program finale was to pitch in front of a jury. The collective coaching sessions were scheduled during 6 joint workshops covering the following subjects:

1. Formulating a value proposition focused on the purpose of the organization;
2. The reasons why they intend to start this new activity;
3. Insight into the real end consumer;
4. Explaining the concept of business modelling, with a focus on the specifics of business models in healthcare;
5. Different forms of value creation;
6. The importance of setting up an integrated business model aiming not only for economic profit, but also for generating impact;

⁴ www.pomwvl.be

7. The importance and benefits of intellectual property for the healthcare organizations;
8. How to map costs, resources, and assets of a business model;
9. The structure of an organizational model for an integrated business model;
10. The importance of mapping internal and external strategic partners and measuring the impact of offering a new service or product.

3.1.2. Program expectations and evaluation by program participants

Participants were interviewed by telephone three times over the course of the program: at the start of the program (February 2017), mid-way through the program (June/July 2017) and a few months after the program (October/November 2017). Given the length and range of topics covered in the program, the interviews were structured along the lines of: expectations, experiences, and topics related to the building blocks in the SHINE Manual for innovation. In underlying report, all of these areas are covered and the findings are presented in a compact manner.

Most participants signed up for the program after receiving information through email, through the POM newsletter or through their contacts with the POM. The main reasons for registering for the program were:

- Wanting to identify markets and potential customers, or learn about product marketing;
- Learning how to translate an idea for healthcare to a product or a service that has commercial potential;
- The program into the learning curve of the participants in terms of timing and topics.

The topics that participants were highly anticipating within the program included:

- Learning from experienced mentors;
- Developing a business case;
- Setting up a marketing model;
- Developing an economic skill set applicable to healthcare;
- Finding partners and volunteers for your project;
- Product lifespan: from prototype to market.

Also, participants mentioned that they anticipated learning a lot from experienced mentors and from shared experiences by engaging with fellow participants. They also hoped to get connected and use the networks of mentors and program participants in order to advance their own business and ideas. Additionally, many participants reported that they were looking for an active learning method, e.g., workshops and activities rather than lectures. Furthermore, we asked participants what they expected from the start-up building blocks that could, in theory, be relevant to them.

"We are looking forward to learn about different strategies, business models and networking. Mentors could provide us with the insights we need, we know they won't solve our problems, but they might send us in the right direction."

3.1.3. Lessons learned and recommendations according to participants

During and after the program, participants were asked their opinion about the program, their program attendance, what steps they had been taking and what they had learned. Many participants reported having taken new steps to advance their plans. For instance, for several participants who were working in a care facility, support from higher management and directory boards was essential to keep going. These participants scheduled meetings with the higher-ups in order to guarantee the continuation of their efforts, acquire extra hours to cover the time they invested in their innovation, and to discuss business strategies. Many participants also reported that they started looking for partners and interested parties to connect with during the program, because this was stimulated in the program. Because of the extra time spent on the program and additional activities, participants experienced that it was quite difficult to manage their normal work (and family) life, along with starting a new business and learning how to become an entrepreneur within the program. As a result, most participants felt forced to make time cuts and as such did not attend all program workshops. They selected in which topics and sessions to invest time in. We also saw that in a few initiatives, the contact person(s) in the team – being the most involved in the program – stepped down because the work-family-program-entrepreneurial combination felt no longer feasible. In most of these cases, a colleague was asked to step in and take the participants place. This could have an effect on the lessons learned and their implementation in each participants' business development.

"The program provided great insights on how to take our project from the social domain, into a commercial market. Our initial idea was to implement it within our own organization, but we now understand that a spin-off will have a much higher chance of success."

When asked about their experiences in the program during and after the program, many participants reported that they had acquired a lot of knowledge about business development, the business model canvas, and entrepreneurship. The main thing that stood out for participants was a paradigm shift from a care perspective to a commercial perspective. Learning how to think and act from a commercial and marketing point of view was a complete and radical change for most participants, which they appreciated and which inspired them to take their ideas to the next level. Several participants literally said to be in a different headspace from when they started the program and found this to be a positive change for them. Also, the coaching sessions offered were very valuable to the participants: getting tailored advice was helpful and they experienced this time invested in them as a sign of support.

With regard to the learning strategies, participants were a bit disappointed about the listen-do ratio: they would have liked having more practical sessions instead of lectures. In addition, the setup of the sessions was experienced as 'top-down' or 'college-like'. Several participants mentioned they would have appreciated more room for dialogue and flexibility in the program. Also, many of the sessions were hosted by the same people, while they would have liked seeing more variety in the type of speakers. Further, some participants had expected to receive more active connections to the mentors' networks, to engage with other participants, and, importantly, they would have appreciated having more opportunities to talk to investors and to 'go out into the world and meet customers and partners'. Facilitating these types of events during the program would enhance the overall program quality and participant satisfaction. In the end, it remained difficult for several of the participants to take their newly found ideas and capacities, and turn the theories on entrepreneurship into practice.

Several participants also participated in a pitch event in the fall of 2017. Though considered useful, participants did offer several recommendations:

- Allow for short personal pitches. The POM organizers requested all participants to follow a strict format for the pitch. As feedback, the participants informed us that this format didn't fit their own ideas of pitching their product. They would have wanted a more free-format pitch. Also, they considered the timeframe for their pitch too long. They had to give a 10-minute pitch, while they believe 2-3 minutes would have sufficed;
- The pitch event was combined with a conference that, according to the program participants, took up more time than they had anticipated or had hoped. For some participants, the setup of the program felt like it didn't do justice to their efforts and preparations for the event. For a few participants, this was a reason not to attend the event.

The participants did greatly appreciate the feedback from the jury present at the pitch event and went home with several reformed ideas. At this moment, many participants continue to develop their ideas and are now actively looking for partners to collaborate with. One of the barriers they experience is that they do not want to become a full-time entrepreneur, they would rather find a partner who will adopt the product/innovation, and market it for them. This is a difficult barrier to overcome as this aspiration is a direct result of the participants' passion for working in (health)care. Most of the participants started the program as a care professional with a good idea for innovation, and they wish to remain practitioners instead of becoming a full-on entrepreneur. This transition would be an interesting topic to discuss in a future version of the program, or, alternatively, it could be part of the POM's selection procedure for program participants to ask them about their ideas and expectations. This way, the actual outcome of the program in terms of product development or entrepreneurship in the region, might be improved.

"During the pitch event we got the chance to introduce our idea, our project in front of an expert jury. The questions they had helped us rethink some of our approaches and the feedback was interesting although it did not immediately provide me with new insights."

3.1.4. Reflection by the program organizer





Firstly, it is important to mention that the West-Flanders program did not include any for profit companies, but only representatives from healthcare organizations. This (partly) explains the expectations of the attendees for wanting to develop an economic skill set applicable to healthcare, a skill set they did not have as most of them were healthcare professionals or operational managers in healthcare. Since none of the participants was a fulltime entrepreneur, their available time proved to be limiting their ability to put the lessons learned into practice.

The goal of the program was to promote balanced partnerships between healthcare organizations and commercial parties through the education and coaching of healthcare professionals. By providing the healthcare professionals insight into the setup of (integrated) business models, value propositions and intellectual property, they have a better understanding of their position in such a partnership. However, during the program it became apparent to the program organizers that not only the healthcare professionals should develop entrepreneurial skills, but also the board of directors of the healthcare

organizations. For a shift towards more innovation within the sector it is crucial that the boards develop a broader understanding of what it means to take economic initiative.

Lastly, the organizers concluded that the duration of the coaching program was too short to allow for fully developed business models and business cases. At the end of the program, nearly all business cases were insufficiently developed to serve as the basis for a dialogue with investors. Overall, the West-Flanders program was summarized using a SWOT-analysis format. The format was completed by the parties involved and discussed in the SHINE project team.

3.1.5. SWOT-analysis

	<ul style="list-style-type: none"> • Participants came from healthcare organizations • Deals were closed with commercial parties • Focused on both health and care • Tailored and adjusted to fit the needs of the audiences • The curriculum helped develop an understanding of entrepreneurship • Cultural change was promoted • The program was comprehensive and robust
	<ul style="list-style-type: none"> • Some participants closed a deal before the program even started, which did not help their commitment to the program • No commercial companies participated • Participants had trouble committing the time the program demanded • Only limited networking possibilities were provided • Participants claimed the program was not interactive enough • There was a lack of speaker variety
	<ul style="list-style-type: none"> • The program could be extended to healthcare managers to increase the effectiveness of the local ecosystem. Otherwise a separate program could be created, to teach middle and board level healthcare management what it means to participate in an innovative ecosystem • The required network is in place, so there is a possibility to create more networking opportunities • If customers are open to the idea, participants could try out their pitches
	<ul style="list-style-type: none"> • There is no tech transfer philosophy & manager infrastructure in the region • Participants seem to drop out if they are not fully engaged, therefore the current program seems to involve too much of a time commitment. • As of yet, there is no follow-up identity, this means there is no way of understanding or measuring the long term effects of the program

3.2. South-Holland - 071 region

3.2.1. Brief program description

The Centre for Vitality (CvV) in Leiden is an initiative led by the University of Applied Sciences and supported by the Leiden municipality and other partners in the so-called “Economy 071” regional network. The CvV was started with the aim to initiate and support (regional) businesses in the research, development, production, validation, and valorisation of vitality products and services in the geographical “071 region”, an area covering 7 municipalities in South-Holland, fitting the regional specialization strategy. These vitality products and services should support people in this 071 region (approximately 250.000) to improve and/or maintain their vitality in all possible ways, e.g., food, sports, mental development, etc. The CvV focusses on the creation and activation of a network of people, professionals and/or companies to accomplish concrete and realistic product and programs.

Based on its ambition and focus on local network creation, the CvV developed several programs and products to further initiate and support entrepreneurial development in the area. The StartUp Track Vitality was such a program, aimed to assist entrepreneurs developing their products and support market readiness and introduction. It was a tailored program focusing on healthcare and the regional specialization strategy on Vitality and Lifestyle as Medicine. The StartUp Track Vitality was initiated through SHINE and embedded in the local ecosystem.

For this StartUp Track Vitality the CvV cooperated with local partner HUBspot. HUBspot had just started a generic program to new entrepreneurs in the 071 region. This so-called Start-up Academy program focused specifically on basic entrepreneurial skills such as business modelling and pitching to investors. This Start-up Academy program was also offered to the participants in the StartUp Track Vitality, however it was not obligatory. For the SHINE project, however, we only evaluated the StartUp Track Vitality, i.e. the tailored program, and not the basic Academy program. Yet, participants who participated in both the basic and tailored program could report different expectations and experiences based on their combination of programs.

Program

The 6 week tailored program consisted of both coaching and mentoring sessions and the participants did not have to pay. Several experts from knowledge institutes TNO (the Netherlands organization for applied scientific research of which the unit “Healthy Living” sits locally in the city of Leiden) and the Hogeschool Leiden (a local university of applied sciences) provided answers to questions the participants had about their specific content of projects and to more entrepreneurial, business minded questions. This provided the entrepreneurs with tailor-made advise based on their development process. The amount and duration of these sessions differed for each entrepreneur and/or product.

- Day 1. 19:00-22:00
Intake: getting to know the participants and partners involved, unprepared pitching
- Day 2. 18:00-20:00
Integrated business models in healthcare, social care and lifestyle, Social Impact bonds and other Healthcare related business models
- Day 3. 18:00-20:00
Changing health related behaviour of patients and citizens, how to create a product that impacts lives
- Day 4. 18:00-20:00

Innovation in healthcare in the Dutch (and local) ecosystem

- Day 5. 17:30-20:00
Closing event - pitches from all participants

3.2.2. Program expectations and evaluation by program participants

Participants were interviewed by telephone three times over the course of the program. As the program was offered twice (April-July 2017 and September-December 2017), the same series of measurements were repeated for the first and second batch of participants. Given the length and range of topics covered in the program, the interviews were structured along the lines of: expectations, experiences, and topics related to the building blocks in the SHINE Manual for innovation. In the underlying report, all of these areas are covered and the findings are presented in a compact manner.

Participants signed up for the program after receiving information through various channels of communication: via their connections to the municipality, through communication from the local Centre for Vitality, through LinkedIn messaging, and through internet searches for grants and programs for entrepreneurs. The main reasons for registering for the program were:

- Searching for a support and development program with a broad view on health and vitality or well-being, as opposed to a program for clinical/medical innovations;
- Learning about marketing and entrepreneurial skills;
- The desire to connect with large networks from institutions linked to the program, such as TNO, for business purposes.

"I think the exchange between participants is important, interacting with them will provide me with new ideas and hopefully I can assist them with new ideas on their own. I enjoy looking at the product and ideas of others with a fresh, new view."

The topics that participants were mostly looking forward to within the program (before the start) included:

- Learning from experienced mentors;
- Customer identification;
- Product validation and value propositions;
- Financial means: searching for investors and how to obtain a grant or sponsorship;
- How to set up a marketing model;
- Developing an economic skill set applicable to healthcare.

Participants in this program were, for the most part, quite advanced entrepreneurs with a fulltime job in the healthcare economy or in a domain related to vitality, often with a prototype or product under development. A minority of the participants were still in the earlier stages of their product development and started the program with merely 'a good idea'. These participants' goals were often described as 'identifying the market potential of my idea' and 'exploring the feasibility of my idea'.

In general, participants were looking forward to acquiring entrepreneurial skills and becoming acquainted with relevant networks and connections of the partners involved in the program. Especially for the participants in a more advanced stage, the latter was a major motivator to join the program. They hoped

to use the networks of mentors and fellow program participants in order to advance their business plans and find investors.

3.2.3. Lessons learned and recommendations according to participants

During and after the program, participants were asked to voice their opinion about the program, their attendance, what steps they had taken and what they had learned. Many participants reported to have taken new steps, these were mainly taken in the field of connecting and networking. Being mostly a coaching and inspirational-oriented program (rather than an intense two-day program like the program in Scotland or a very structured program like the program in West-Flanders), it was noticeable that this setup was a very good fit for some participants, but less so for other participants. Compared to the programs in the other regions, it seems that there was an even larger variety of innovations and a very large variety in entrepreneurial skills among participants from the start. This caused some participants to be very satisfied with the coaching and networking opportunities that were offered (and possibly because of their skill level, they were also more able to profit from these opportunities), while a minority of participants had trouble dealing with the level of required independence. Some participants required more support or more guidance than the program offered. As such, the program was experienced as more of an accelerator program (for entrepreneurs/businesses beyond the first stages of growth and development) than a start-up program. As a negative consequence, some of the very early stage entrepreneurs dropped out of the program. On the other hand, for the majority of the more advanced participants, the tailored coaching sessions and plenary inspiration sessions led them to make progress in their predefined areas of interest, such as market exploration, connection with potential customers, and building a theoretical framework and sales pitch to create a solid foundation for sales and marketing purposes. At the end of the program, several participants looked back and reported to have made more progress than they initially expected when they started the program.

"By participating in both the start-up academy and the StartUp Track we maximized what we learned. We were learning how to validate our product, how the system works when your product is a healthcare innovation and how organizations and the government play their part. I must say that it's quite hard to combine everything with work and starting a new company. But I feel that we're learning how to tackle problems right now, so that they won't become a problem in the future."

A barrier participants perceived important for progress, presents itself while participants were trying to juggle work, family life and program participation simultaneously. This time-constraint due to multiple roles of the entrepreneurs led to projects coming to a standstill (particularly in the summer and holiday season). Also, most participants in this program were unable to attend all program sessions due to time constraints, and made choices in which topics and sessions to invest in. This could have had an effect on the total amount of progress that the participants achieved. At the end of the program, a few final comments were made. General positive comments included:

- The program itself offered interesting sessions with inspirational speakers, leading professors and entrepreneurs in the field. This led to more creative ideas and business pathways to think of for participants;

- The availability of the mentors and their networks was in general satisfactory and useful, and opened new doors for participants and their innovations;
- The decision to combine this program with a more basics-program on entrepreneurship was a very good match for several participants who came from a healthcare background and who needed to adopt an entrepreneurial skill-set.

"I'm starting to notice that my thought process is shifting toward a more economic view of my business. Sometimes I hear myself talking like a businessman, which is a fun and exciting change for me. Before the program I don't think I ever thought about my target customers or about the different ways of going to market with my product."

Finally, several recommendations were made by participants. Most of these were particularly related to communication, planning and facilities. Specifically these points should be addressed in the future:

- Before the start of the program, information about the program was available through multiple online channels, which sometimes offered contradictory or incomplete information. It would help to have one contact person as a liaison for information for interested entrepreneurs who want to join the program;
- Finding and connecting mentors to participants could be done faster, thereby increasing the benefit for participants;
- During the program, the communication to and from the organization could be much improved. This was particularly reported for the second batch of participants (fall 2017). Some program components were cancelled at the last minute, or participants had received incorrect information about the topic of some of the gatherings. Several participants mentioned that it was difficult to reach the organization and that response to their questions was not always offered, or at least not in time. Participants said this problem should be resolved for future participants, as this seriously increased the likelihood of dropout. Having a clear planning of events and sticking to them, combined with one person in charge of communications before, during and after the program, were most recommended ideas by the majority of participants;
- Finally, some participants recommend preselection of future participants. Preselection of participants based on their level of skills, expertise and innovation development may create a more homogenous group of participants that offers additional value in terms of network sharing, steps to take and speed of progress.

3.2.4. Reflection by the program organizer

In later editions of the StartUp Track more energy was spent on the preselection and preparation of the possible candidates. Learnings, feedback, and references of the first participants are actively used for this purpose. Some candidates in the current track are discussing their issues and results with former participants. We found that the early editions lacked enough participants to really preselect on maturity, concept-value and team setup. Better and longer preparation, more intensive and effective communication and soliciting for potential successful participants in and outside the area would have provided better results. Also positioning in relation to competitive tracks with regard to theme and definition of products versus services would have helped.

Ideal for CvV would be to continue this StartUp Track and to involve more partners for execution. Partners from the regional ecosystem in South-Holland, where regional specialization strategy in general is very much in favour of start-ups and entrepreneurial culture. The CvV could e.g. team-up with Yes!Delft⁵ to work with their methodology of validation of the business proposition. Possibly the program of EIT-Health⁶ could also be a next step - a program in which entrepreneurs can validate their business proposition for digital health in Europe.

For the CvV the combination of general (informational) sessions, combined with working sessions and coaching (connecting the network) will stay intact. More focus on pitching and collection feedback on the proposition will be included. Stay focused on the theme “vitality” but be aware to scout for ideas and teams that are scalable, leading to a stronger selection at the beginning of the start-up track.





Since the project, the CvV is looking for local partners to continue their business. Local universities, governments and banks have expressed interest to keep the program running for the upcoming years. The idea is to create an inclusive ecosystem in Leiden in which the universities and research facilities provide a constant stream of knowledge, banks provide capital, the local healthcare companies enable the possibilities of living labs to test innovations and the CvV identifies and trains start-ups after which they connect them with these different stakeholders.

Overall, the South-Holland program was summarized using a SWOT-analysis format. The format was completed by the parties involved and discussed in the SHINE project team.

⁵ <https://www.yesdelft.com/>

⁶ <https://www.eithealth.eu/accelerator>.

3.2.5. SWOT-analysis

	<ul style="list-style-type: none"> • The program had a clear focus and a specific theme • The curriculum helped support market readiness and introduction • The use of workshops instead of seminars introduced a lot of interaction throughout the program • By combining theory with individual coaching sessions and connecting entrepreneurs to the network within the ecosystem, the program provided an extensive but tailor-made package • By including both advanced and beginning entrepreneurs, opportunities were created to learn from each other. • The inclusion of a pitching competition with a critical jury taught the participants valuable entrepreneurial skills
	<ul style="list-style-type: none"> • The Centre for Vitality was the single point of contact, they are still quite inexperienced in this role • HubSpot as a partner in business support was a risk, seeing as they were not matured as a business yet • The free form of the program meant that the boundaries were unclear • The program demanded too much time commitment from the participants • The different levels of experience in audience could also be a weakness for the more advanced entrepreneurs, since they might be 'slowed' down by the beginners • The in-take procedure was insufficient therefore the quality of the companies involved differed greatly
	<ul style="list-style-type: none"> • The willingness of stakeholders and supportive culture towards start-up's and innovation in general • Availability of capital and ambition within the region • The possibility to team-up with Delft and Rotterdam as they have more mature start-up communities • In the future, it could be possible to run two different programs for early and advanced entrepreneurs • The availability of tech transfer in the region to farm out ideas to companies that can commit the necessary time
	<ul style="list-style-type: none"> • Unexperienced or unprepared participants could cause drop-outs, this in turn can lead the fact that new ideas don't get developed • Project financing of the Centre for Vitality • The unsure continuity of HubSpot • Every sub-region in the Netherlands might want their own start-up community and ecosystem

3.3. Scotland - Highlands

3.3.1. Brief program description

The Highlands and Islands of Scotland have two accelerator programs for life sciences and technology; the pre-existing pathfinder accelerator offering a 12 week lean start-up program delivered by Highlands and Islands Enterprise⁷ and the proposed innovate.ac that is being developed by the University of the Highlands and Islands as part of the Inverness City Deal⁸.

NHS Highland⁹ proposed to deliver an Early Stage Accelerator Program (ESAP), as part of the SHINE project, to address several opportunities and issues that were identified in previous cohorts of the pathfinder accelerator and discussions about the City Deal initiatives to stimulate innovation:

NHS Highland staff would struggle to participate in existing programs due to difficulties balancing the time and activity requirements of the accelerator and their day job in the NHS;

Collaborative innovation, using the quadruple helix model, to stimulate partnerships between SMEs, Academics, Public Sector and the Third Sector offered a better chance of successfully developing new products and services;

Some basic fundamentals are often overlooked in the development of new products and services amongst SMEs (and indeed, in the NHS): competition search, engagement with NHS staff, appreciation of healthcare needs and opportunities, appreciation of other stakeholders needed to innovate and how to engage with them, and the complexity of public sector procurement.

The concept for the early stage accelerator program is to give participants a practical introduction into the fundamentals of more intensive accelerator programs and a robust introduction into developing their ideas and network for innovative healthcare products and services.

Day 1: 9.30 a.m. - 5.00 p.m.

Welcome & Introductions	ESAP team
Developing your value proposition	ESAP team
Understanding your customer	ESAP team
Innovation support from Highlands & Islands Enterprise	James Cameron
NHS Highland and inner Moray Firth problems & solutions	David Park
Designing testing & prototyping your product or service	ESAP team

Day 2: 9.30 a.m. - 5.00 p.m.

Welcome	ESAP team
Digital, marketing and social media for business	Rene Looper

⁷ <http://www.hie.co.uk/growth-sectors/life-sciences/support.html>

⁸ <https://www.highland.gov.uk/cityregiondeal>

⁹ www.nhshighland.scot.nhs.uk

“Behind the scenes” Site visit to Raigmore (including NHS Procurement)	
Intellectual Property - part of the business toolbox	Kate MacDonald
Keeping yourself afloat, the ins and outs of “start up” business	ESAP team
Support networks in the start up Ecosystem	ESAP team
Feedback & Close	

The 2-day program was developed to provide an intensive introduction to the basics of innovation and business development. Whilst not specifically focused on health innovations, i.e. including innovation in other markets, the expectation that many of the participants would be from the NHS or from SMEs aiming to sell to the NHS, meant that the program was designed to include speakers and activities that took advantage of the resources available to the NHS. The main components of the program were those that would support an individual who was thinking about starting up a company, or who was at the beginning of their new business journey. Seeking to enable participants to understand their value proposition, their market and customers and protecting their ideas, the program was also designed to be very pragmatic and to help participants address the challenges of surviving through the high-risk ‘start-up’ period. The activities involved in the program include a visit to various areas of the Hospital including Clinical Engineering, which allows participants to see how their ideas might be turned into prototypes ready for testing and assessment by clinical or clinical research teams in the NHS.

3.3.2. Program expectations and evaluation by program participants

Before the start of the program, participants received a short questionnaire. The aim of the questionnaire was to collect thoughts, ideas and expectations regarding the program, as well as educational needs (e.g., which topics would be appealing to the participants), and their motivations to join the program.

Most participants signed up for the program after receiving information through email, through LinkedIn or through their contacts at NHS Highland. Some participants were already quite advanced in their ideas and were looking for specific support for entrepreneurship in the health/vitality domain. The idea of a start-up program designed for this particular domain was the main motivator for enlisting. Others had a more generic interest in entrepreneurship and opportunities for innovation. Several participants also mentioned that they hoped to have interesting conversations with other participants about entrepreneurship in this domain.

“I’ve been to a couple of start-up programs - both have been extremely useful. This one was attractive because it’s for health and social care start-ups - I’m encountering challenges with starting my business that are specific to this sector and I’m hoping that there will be the right people with the right knowledge or connections at the training to help with those challenges.” - participant

The stage of development clearly differed between participants, some had an exploratory mindset while others were already in ‘launch stage’, ready to embark on a search for investors with a fully developed business plan. This led to an interesting combination of participants in the program.

When asked about what they wanted to learn, answers included: writing and developing a business plan and model, how to approach sales in a rigid healthcare market, use of social media as a marketing strategy, and entrepreneurial skills in general (finding investors, market penetration, product development, networking et cetera). Some participants were also actively looking for a way to connect to interesting people that could help with investments and marketing.

3.3.3. Lessons learned and recommendations according to participants

Three months after the program was completed, participants received a second questionnaire on their experiences with the program, and most importantly, how they looked back on the program and which ideas were put into practice. The participants that responded had made progress on several levels. One of the participants had actually launched their business, one was in the process of fine-tuning the prototype and another was still developing the business plan and set-up. One was also looking for partners to collaborate with. One participant already had paying customers at this point, and others are involved in long-term planning (e.g., business launch in 2020). Interestingly, for some participants the program is likely to have re-enforced their faith in the potential of their innovation, as none of the participants reported to have made significant changes to their plans or abandoned their plans altogether. Of course, no assumptions can be made as to what happened to the plans of the participants who did not complete the latter questionnaire.

Two particular sessions stood out and were remembered best by the participants after three months had passed: these included the session on digital marketing and social media use for business, and the session on intellectual property. When asked which topics or discussions were most relevant to participants in hindsight, several participants said that all topics were relevant. One participant mentioned the relevance of learning to understand the difference between customers and end users.

"Understanding the difference between the customer/budget holder and the end user/patient when developing a service or product in the health and social care ecosystem. Under-standing that the customer/budget holder will be motivated to purchase from my business if I speak to their burning issues/things that keep them up at night, rather than the patient's needs/clinical need." - participant

Participants recommended that in the future, the program could broaden its view from a more medically-oriented approach to a more inclusive approach to health and well-being, this was felt to be missing in the current program. Potentially this could be related to the interests of NHS Highland, at least that is how it was perceived and reported. Also the site visit wasn't particularly relevant to some participants. Finally, another participant mentioned that more attention could be given to the actual transition from employee to entrepreneur.

"Perhaps more detailed focus on the issue of taking the plunge - breaking away from a paid NHS job to set up one's own business - risking it that one might no longer be a fat dog on a chain, and instead be a lean wolf in the hills." - participant

Finally, with regard to facilities and preparation, all participants said the arrangements made were excellent and the chain of information leading up to the program was satisfactory.

3.3.4. Reflection by the program organizer





The generally positive feedback from the pilot cohort for the Early Stage Accelerator Program across the entire agenda was extremely encouraging, as was the progress made by the participants following the workshops. The program hosts took the comments on board and have refined aspects of the program in the months following the pilot. The program has been repeated twice, due to popular demand, as each time the ESAP was promoted it was oversubscribed so dates for the next course with MIME Technologies were agreed. Comments on the specific interests and requirements of participants have been noticed and will be discussed during the review of the program to date between NHS Highland and MIME Technologies. The recent SHINE Mini Trade Show, where NHS Highland hosted Belgian and Dutch SMEs as part of the SHINE project, included a personalized visit to NHS Highland or other local stakeholder departments and organizations. This was identified by the SMEs at the MTS as being very useful, and as such could be incorporated into the ESAP to tailor the program further.

There are bigger issues that were identified that are harder to address. For example, there is only one Venture Capitalist (VC) business in the Highlands and it does not invest in software. Relationships are being developed with gatekeepers and angel networks in the central belt of Scotland and beyond but the Highlands and Islands have traditionally been less effective at creating investment ready high-growth businesses, and the City Deal funding and increased innovation activities in the University of the Highlands and Islands, and in NHS Highland, will be important in helping this change occur.

The SHINE project provided budget to run the new start program three times, the first time the participants consisted mainly of NHS employees but also included some businesses. Program 2 was attended by nine participants and program 3 was attended by five participants. As the SHINE project reaches its conclusion, it will not be possible for the NHS to continue funding the program, so alternative funding will be sought. The local University, the University of the Highlands and Islands, has recently obtained City Deal funding for innovation and business support, so NHS Highland has discussed with the Innovation Manager of UHI and with the course provider the possibility of UHI taking over the program.

Overall, the Scottish Highlands program was summarized using a SWOT-analysis format. The format was completed by the parties involved and discussed in the SHINE project team.

3.3.5. SWOT-analysis

	<ul style="list-style-type: none"> • The two day intensive course is seen as attractive and ‘less disruptive’ • By associating with NHS, which has a reputation for innovation, a lot of entrepreneurs wanted to participate and made for interesting speakers • SME leading SMEs taught the participants by example and provided a high degree of mentoring • There was a highly supportive network within program • The participants included both entrepreneurs and health professionals and did not focus exclusively on health related subjects • The social media, digital marketing and IP sessions were highly valued, the same goes for the Problem-solution sessions • A rapid revision of program was made following the first feedback
	<ul style="list-style-type: none"> • Sometimes, there was a rather poor communication process between Mime Technologies and NHS requests • No pitching opportunities so attendees were not ‘taught’ to be critical of their own business ideas • Because the program did not focus specifically on health innovations, it might not attract as many healthcare professionals in comparison to the other programs • Might not fit into a coherent system for SME entrepreneurship (i.e. obtaining external funding)
	<ul style="list-style-type: none"> • In the future, the UHI could take up funding under the City Deal • The program is unique in region, causing a high demand which has spread to individual departments • Participation in the program could lead into the HIE Pathfinder Program • Since distances are quite large in the highlands, there is much room to develop online support • Possibly the effects of Brexit could provide possibilities in the future
	<ul style="list-style-type: none"> • Funding continuity is unclear at NHS • Because of the major role MIME played, there is quite a dependency on them as a partner • GDPR has to be taken into account • NHS could be seen as too ‘close’ to deliverer i.e. contract provider as well as interested party • Possibly the effects of Brexit could be a threat to the ecosystem in the future

4. Transnational lessons learned

Even though the SHINE project focused on three specific regional ecosystems, its aim has always been to understand how regional healthcare ecosystems in the North Sea Region can be supported in general. This chapter therefore focused on transnational lessons that can be learned from this work under the SHINE Project. The chapter reviews the conclusions, progress and lessons learned from the three specific regions in this SHINE project combined. As such it summarizes several important lessons about building a regional healthcare economy in general.

4.1. There is no blueprint for a successful healthcare economy

There is not a 'one size fits all' approach suitable for each NSR region when it comes to setting up regional support programs for healthcare innovations. Factors that are likely to determine which approach is best for which region include the type of organizations delivering the start-up business training, the accessibility of that training, i.e. physically and electronically, the type of audience or attendees - for example, the amount of time individuals have available, the cost of the training and so on.

Before a regional program is set up that supports innovation in the healthcare economy, first the existing building blocks, geographical layout, stakeholders in place, etc. should be analysed in order to fit the local needs and set up a sustainable program. Also, each region should set up a program with clear and concrete ambitions. From the perspective of the SHINE project, two focus points stood out:

- Support healthcare professionals to understand entrepreneurs better and teach them to co-create innovations and/or vice versa: The healthcare sector has, as of yet, not focused on collaboration with companies in order to improve healthcare (the focus has been on achieving more efficiency, HR and organizational issues). This new approach can boost the implementation of new products and/or services in the healthcare sector but needs a different - more entrepreneurial - mindset at both the healthcare professional and healthcare board of directors level and a more open view by the SMEs who want to do business within the healthcare sector;
- Support healthcare providers as well as start-ups and scale-ups to evaluate and (re)de-sign their role in the regional healthcare economy and their cooperation with stakeholders. This includes the knowledge and skills to set up shared business models and public-private partnerships. Taking into account the unique ecosystem of the healthcare sector, the stakeholders must realize that the traditional business models are not sufficient to provide impactful solutions. Therefore, it is necessary to develop a new approach for integrated business models with shared values.

4.2. There is very limited space for traditional business models and new business models

Innovation in healthcare can require a new approach to funding, a new way of generating revenue and deciding who pays for the initial investment and scale-up of good ideas. Traditional business models often fall short, since the return on investment (especially in time) simply can't meet the standards of other -

more innovative - sectors. Another reason the traditional models do not fit, is that they regularly assume that the consumer is the same entity that pays for the product, an assumption that does not work often in the healthcare sector. Lastly, since in healthcare the benefits of innovation are often felt in (many) other fields, it is less clear who benefits the most from innovations and thus, who should pay for it.

Because of the limitations of the traditional models, it is vital that the financial options are weighted, especially when considering scale-up. One of these options that addresses most problems is the Social Impact Bond¹⁰. A social impact bond brings together government, service providers and investors/funders to implement existing and proven programs designed to accomplish clearly defined outcomes. Investors/funders provide the initial capital support and the government agrees to make payments to the program only when outcomes are achieved.



Figure 1 Diagram showing a social impact bond

4.3. Healthcare participants are looking for mentorship and high value IP lessons

When participants in both in South-Holland and West-Flanders were asked what they anticipated the most about the curriculum, the universal answer was to learn from experienced mentors. They hoped to be taught from inspirational figures that had the hands-on knowledge they felt where needed to confront the challenges they needed to face. It seems that once an entrepreneur has succeeded, their lessons are appreciated as more valuable.

However, after all the programs finished, the evaluation showed that the lessons learned about Intellectual Property (IP) were amongst the ones rated highest. Especially healthcare professionals (when compared to regular entrepreneurs) explained that they did not understand how hard and important it





¹⁰ From *Potential To Action: Bringing Social Impact Bonds to the US*. McKinsey 2012.

was to protect their ideas. The ideology that could seemingly come with working in healthcare could thus be a barrier for success as an entrepreneur.

4.4. Creating a start-up program is not a ‘first time right’ project

Silicon valley, perhaps the world’s most famous ecosystem, thrives by the slogan: “fail fast, fail often”. This iterative approach, pushes programs or innovations approaches to the field as soon as possible so that they can be testing in real time and in realistic scenarios. Throughout the regions, the organizations learned that no matter how much you think about the programs or how long ahead you plan, the first edition will have its flaws. Both in the Highlands and in South-Holland the feedback from the participants in the first iteration of the program led to an improved second or even third program. None of the programs ‘failed fast’ but what did happen is that the organizers learned from their mistakes and improved on the programs as fast and as often as they could. The only exception to this is the West-Flanders region, that only had one iteration of their program. In the discussion we had with the organizers after the SHINE project concluded, they admitted that a second program could be very different from the original approach because of how much they learned from the first edition.

4.5. Transnational SWOT

	<ul style="list-style-type: none"> • All programs took the local needs into account when formulating the curriculum • Programs taught new entrepreneurial behaviour that participants were able to put into practice • Since the SHINE project, it seems that the entrepreneurial ecosystems have been boosted throughout the regions • The inclusion of mentors in some programs helped transfer skills from experienced entrepreneurs to the starting participants
	<ul style="list-style-type: none"> • Since these local ecosystems before the SHINE project were virtually non-existent, it's was hard to find partners that had the required experience • When suitable partners were found, it posed a challenge on not becoming too reliant on these partners for the sustainability of the programs • When programs demand a large time investment over a long period, frequent dropouts occurred
	<ul style="list-style-type: none"> • The three regions have the networks in place to provide more mentorship by experienced entrepreneurs in the field, which fits the needs of current and future participants • The strengths of each separate regional program can be implemented in every region to further develop the local programs • Since there was no shortage of participants, it is likely that there is room for growth in all three regions
	<ul style="list-style-type: none"> • Regions without tech-transfer philosophy can have a hard time 'farming out' ideas. • Limited or no follow-up restricts the long term effectiveness of the programs • The sustainability of the programs could be in danger since the programs are either too dependent of their partners or work with partners that do not have a long standing track-record

5. Partners of the SHINE Project



Supported by:

