

Framework for Implementing a Needs-Led Innovation Fellowship Programme

EIT Health is the collaboration platform for a number of Needs-Led Innovation programmes in Europe – the EIT Health Innovation Fellowships. By focusing on identified unmet clinical needs while integrating the patient perspective the learners connect with academia, industry, and provider organisations to solve some of the most pressing needs in healthcare today. To date, the EIT Health Fellowship Network has produced an impressive track record of 400+ learners trained, and 32+ million EUR raised by spin-outs in 2018 alone.

Programmes are developed locally with support from the innovation ecosystem in the region and – on the European level – the Fellowship Network and EIT Health communities. The learners, entrepreneurs and innovators, are introduced to the innovation process through the programmes and will, at the end of the programme, be ready for early stage focused EIT Health Accelerator activities.

The key objective is to train multidisciplinary teams in how to apply the Needs-Led Innovation approach within healthcare, whilst interactively exposing healthcare providers, medical staff, and patients to the process. In addition, the Innovation Fellowships aim to generate validated ideas and solve real-life healthcare challenges with high translational potential, thus facilitating the creation of commercially successful start-ups.

Impact is measured by a number of KPIs, which are:

- Number of learners trained in innovation and entrepreneurship
- Programme Attractiveness and Demand
- Programme Exchanges
- Citizen engagement and outreach

Recommended:

- Investment attracted by spin-outs
- Number of start-ups which spin out
- Number of jobs created in spin-outs



In addition, conducting a Learner Evaluation is mandatory, using an approach such as the Kirkpatrick model.

The EIT Health funding structure allows for a maximum of 275,000 EUR for the first year of a fellowship programme, decreasing to 75% of the maximum for year two and 50% of the maximum for year three. After the initial three years, 50,000 EUR can be provided on an annual basis for supporting the programme, allowing for participation in the Fellowship Network through – for example – exchanges.

What is an Innovation Fellowship Programme?

The Innovation Fellowship programmes are a vehicle to train the top talents in Europe within the area of Needs-Led Innovation, and support those learners in establishing the network needed to disseminate that innovation on to the market.

In order to ensure that the innovation process addresses the needs of the market and society the Needs-Led Innovation approach is exploratory; during their clinical immersion, the teams are given full autonomy to find the most pressing and unmet clinical needs that they are able to identify.

The unmet clinical need is identified through the integration of the provider perspective by allocating each team to a host clinic, which is the organisational framework in which the team will function. The team can observe and return to the clinic for the duration of the programme, in order to validate needs and do complementary observations if necessary. It is important to note that fellows should be given full access to the clinic and hospital, in order to be able to follow the Needs-Led Innovation methodology in full.

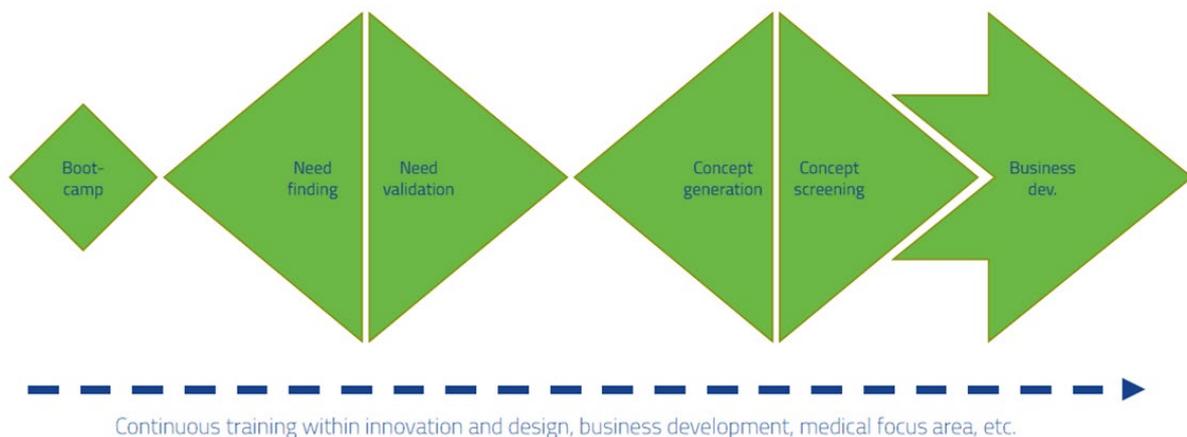
The programme encourages change management processes and creates an enabling environment within local healthcare organisations, resulting in quicker adoption of innovations. In broader terms, the fellowship would seek to strengthen innovation capacity in Europe by creating a network of Needs-Led Innovation experts from diverse disciplines, building an active network of academia, industry, and healthcare providers across Europe, and raising awareness about the benefits of the Needs-Led approach and of patient-centred design.



An innovation fellowship programme is formed of multidisciplinary teams of experts from fields including medicine, design, engineering, and business management. It is taught and practised using the Needs-Led Innovation methodology and runs full-time for 8–12 months, with each team spending at least four full weeks in a clinical immersion. During the programme each fellow will be embedded in the local ecosystem, ensuring close connection and continuous collaboration with the local healthcare sector, entrepreneurs, accelerators, and regulators.

General Programme Timeline

- Bootcamp (methodology and team building): 2–4 weeks
- Clinical immersion (need finding): 4–8 weeks
- Validation and need selection phase (need screening): 4–6 weeks
- Solution and business case development (invent and implement): 4–5 months



Training

Target Group

The fellowship is aimed at working professionals with approximately 3–15 years of work experience within diverse fields. Fellows should hold a Master's degree or above, be experts in their field, have an entrepreneurial mind-set, and hold aspirations to create a start-up. An interest in the interface between technology and health, technology transfer, research/science translation, and network building and development is essential.

Specific Training Delivery Elements

- Clinical immersion (mandatory), where fellows will observe daily clinical practice for 6–8 weeks at their healthcare host clinic
- Continuous theory, practice, and feedback/review (mandatory)
- Exposure to a well-established network of teachers who have been engaged in the field for an extensive period of time
- Strong connections to the local ecosystem including business mentoring
- Strong connections to further EIT Health programmes and faculty exchange

Corresponding Learning Outcomes

- **Health System Awareness:** Fellows will be embedded in the healthcare setting and will attend lectures on the health system
- **Inter-Professional & Multidisciplinary:** Teams will be combined from at least 3–4 disciplines, and will attend workshops on the practice of working in multidisciplinary teams
- **Communication Skills:** Fellows will be trained on pitching to possible investors
- **Entrepreneurship & Innovation:** Teams have continuous exposure to a network of Needs-Led Innovation experts and teachers
- **Management & Leadership:** On-going learning is ensured through teaching and practice
- **Critical Thinking & Decision Making:** On-going learning is ensured through teaching and practise
- **Interpersonal & Citizen-Oriented Skills:** Fellows will learn through attending specific workshops and group sessions, practising and applying new skills, working in



multidisciplinary teams, and interviewing relevant stakeholders for need and business model validation

- **Digital & Data Literacy:** Learners will be trained on digital tools for patients to manage their own health, prevention through new technologies, basic digital skills for the elderly, and understanding and managing personal health data. During the programme, fellows will develop a 'needs database' and will be taught to analyse their needs using specialised tools for IP analytics e.g. Patsnap

Programme Management Mentoring

In addition to the Needs-Led Innovation methodology, programme managers should consider following the Lean Business Canvas model and implementing the structure through weekly coaching sessions with the teams. The sessions should run for approximately one hour in order to discuss the team's specific process.

A weekly or bi-weekly workshop, ideally facilitated by a Needs-Led Innovation coach, would be beneficial. The workshop should run for 2–3 hours and focus on the relevant Needs-Led Innovation topics, specific to the area of the programme that the team is working on at any given point in time.

Outside of coaching, it is advisable to schedule a 30–60 minute weekly meeting with the entire group, including all teams and team management, to discuss planning and practicalities.

Business Mentoring

3–5 business mentors are recommended per team. Mentors should include one clinician, preferably the head of the host clinic (essential), a mentor with experience in venture capital, an entrepreneur, a business coach, and a medtech business developer.

About 4–5 business mentor meetings (BMMs) are recommended to be scheduled during the programme.

Lectures

The following are a selection of relevant topics for lectures:

- Prototyping, e.g. rapid prototyping, user testing iteration
- Ideation, e.g. brainstorming and brainwriting
- Medtech Regulation, e.g. EU and US regulation pathways, device classification, notifying bodies
- IP, e.g. patents vs. trademarks vs. design, international patent protection structures
- Reimbursement, reimbursement codes, care pathways



- Marketing strategies in the medtech space, e.g. distribution channels, role of payer
- Health economics, e.g. introduction to QUALYs

Fellows Deliverables

At the end of the fellowship, it is customary to require fellows to produce a business plan as well as a pitch to investors. In addition, many programmes provide a report with possible improvements to the host clinic. Other deliverables could include publications and patents. Furthermore, some programmes have incorporated the fellowship as part of a Master's degree within their university, in which case a final Master's thesis report is also required as a deliverable.

Funding

Current Sustainability Model Elements

- IP ownership – a certain percentage of the IP that the teams generate is owned by the programme institution, which can be leveraged (through licencing etc.) for revenue creation
- Dealflow creation – increasing the rate at which an investor receive business proposals/investment offers
- Industry training – leveraging the brand of the programme and the success of the spin-outs to offer training of industry within needs-led innovation
- Industry sponsorship – industry pays directly to the programme for naming rights, for access to needs maps, to interact with teams, etc.
- Tuition fees – participants pay a fee in order to participate in the programme
- Success fees – spin-outs pay a percentage if they secure a large investment or exit within a certain time period after graduation
- Internal funding – funding provided from internal programme organisation
- Regional grants – funding provided by regional governments
- National grants – funding provided by national governments
- International grants – funding provided by international bodies, such as EU



EIT Health Call for Proposals

For the annual EIT Health call, all Innovation Fellowships sites submit one joint proposal – highlighting the role and responsibility of the network, exchanges (participant, alumni, and faculty), and network-wide strategic initiatives. In addition, individual programmes clearly outline strategy and progress related to sustainability, local implementation, and KPIs.

