

Day One - The Basel Precision Medicine Hub

Towards a Platform for Healthcare Innovation in Basel.

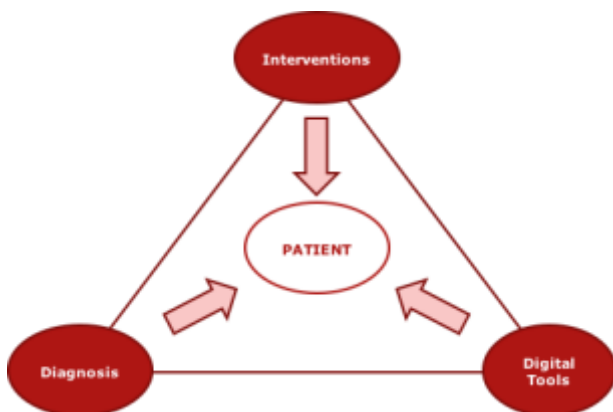
A proposal for discussion by Michael Rebhan (Novartis), Frank Kumli (EY), Thomas Brenzikofer (baselarea.swiss), Peter Groenen (Actelion Pharmaceutical Ltd.), Philippe C. Cattin (Medical Image Analysis Center Basel), Daniela Gunz (healthbank.coop), Alain Bindels (Roche) considering input from members of the Precision Medicine Group Basel Area (PMGBA).

The vision of the Precision Medicine Group Basel is to foster the development of Precision Medicine innovation in the Basel area by creating a Precision Medicine Hub and Lab to serve as a catalyst for new approaches to healthcare innovation in the region. Day One symbolizes the start of something new.

New approaches to healthcare innovation are urgently needed. It is expected that the healthcare system as we know it today will not be able to cope with the demand arising from an ageing population and society's changing lifestyles. Healthcare innovation and delivery has unfortunately, historically happened in silos meaning that many promising approaches have not reached patients.

We believe there is an opportunity to transform healthcare innovation and delivery by harnessing these siloed capabilities, even those within walls of the same institutions and companies around the patient under the umbrella of precision medicine (Figure 1). Precision medicine combines Healthcare Interventions (treatment, drugs, prevention), Diagnostics (molecular biomarkers, omics, imaging etc.) and the Feedback Loops offered by the rapidly evolving field of Digital Health including wearables, artificial intelligence and big data.

Figure 1: Precision Medicine definition



We aim to combine these fields in a **Precision Medicine hub and associated lab** for Healthcare Innovation here in Basel.

We are convinced that Basel is best placed to host this hub and that the timing is right to invest in this initiative. Firstly, Basel has the required knowledge infrastructure to build this new Healthcare Innovation ecosystem. It boasts world leading companies and entrepreneurial biotech companies providing therapies, diagnostics and medical

device companies as well as newer capabilities from digital health companies, a strong university and world-class healthcare system. It is also recognized that the Basel region must remain relevant and at the forefront of science if it is not to miss the opportunity of the current healthcare transformation. Investments have already started including the Data Co-ordination Center SPHN, BaseLaunch Accelerator and Swiss Innovation Park.

The **Precision Medicine Hub** has an opportunity to build on this work, acting as the "glue" to bring this ecosystem together as a community. It will bring together expertise and capabilities and facilitate and promote interaction between community stakeholders through events, conferences and targeted introductions. This would allow:

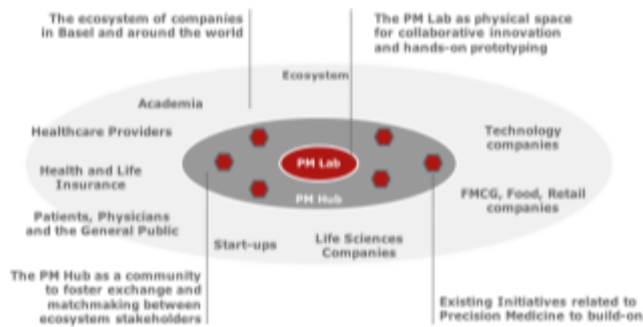
- Large companies to access innovation outside of their traditional competencies
- Early stage start-ups, small and mid-size players to find partners and investors for their products and services
- Industry and academia to jointly identify promising R&D projects and publication opportunities, as well as public-private partnerships
- Physicians, patients and the general public to get involved, learn and contribute to the future of healthcare
- The Basel area to reinforce its position as the perfect environment for company creation, relocation and investment

More potential journeys are at the end of this document.

The business model for the Hub would be a not-for-profit organization driven by BaselArea and funded by public and private sponsorships, subscription fees, conference registrations etc. The Hub is likely to require a community manager, a web platform supported by a part-time web-manager and ad-hoc resources for events in a first phase.

We believe that such a hub, though valuable as a standalone investment, will require as a driving force, a separately funded physical space – a **Precision Medicine lab** offering the new capabilities required to transform healthcare (that are not the typical capabilities of the traditional healthcare players).

Figure 2: The Precision Medicine Hub and Lab



Such capabilities include:

- Innovation: Customer (Patient) experience design business model innovation, agile approaches to innovation

- Technology: Digital health technologies. healthcare data analytics

The main activities of the lab will likely be fee-for-service work. The initially required assets are a manager, access to ad-hoc resources, a physical infrastructure and supporting technologies. The business model for the lab would be dual with a for-profit model funded by fee-for service work for academic and commercial organizations combined with not-for-profit work with the general public.

We strongly believe that the Precision Medicine Hub and its Lab will further enhance the position of Basel as a driver of healthcare innovation and play a critical role in ensuring a sustainable future for the area. We look forward to benefiting from your advice to help shape the final business model.

Potential stakeholder journeys in the Basel Precision Medicine Hub & Lab

1. Hospital: A staff member has an idea for imaging innovation but cannot develop it further within the hospital setting. PM Hub experts support idea validation, refinement, prototyping, business plan development and make introductions to investors
2. Pharma: A clinical development leader wants to explore innovative approaches to accelerate clinical trials. This is an area that others have also expressed an interest in. PM Hub experts organize an open session with thought leaders and technology players to describe some of the challenges and share some success stories.
3. Doctor: A practitioner wants to get involved, hands-on, in healthcare innovation. She meets a Digital Health start-up at a PM Hub community event and joins this start-up as their Chief Medical Officer.
4. University: A research department is looking to have access to industry for applied research. A student is staffed at the PM lab whilst working on their master's project to works collaboratively with industry and start-ups. The student joins a local company after graduation to work on an idea inspired from their master's project.
5. Foreign company: A technology player wants to develop new areas of business in the field of Precision Medicine. A representative of the company presents at an event organized by the PM Hub to meet partners, investors and potential clients to jumpstart their entry into Basel.
6. Patients: A patient group wants to access innovation to support the needs of the patients they are representing. The group presents at a PM Hub event to describe their needs and identify potential collaboration partners.
7. General public: A private person wants to better understand how healthcare is evolving. She regularly browses through the PM Hub website and comments on the latest entries on the PM Hub blog. She joins community events where she has the opportunity to discuss further with members of industry and academia.
8. Startup: A start-up is looking to test its technology in a real-life setting. The Hub connects the start-up with innovation teams at local hospitals and they conduct a proof-of-concept in several hospitals.
9. Investors: A Venture Capital player is looking to identify areas for investment. The company regularly attends the PM Hub community events to establish contacts with start-up companies and stay abreast of innovative technologies for potential investment.
10. Medtech: A Medical Technology players is looking to partner with pharma players and collaboratively develop new technologies. The PM Hub is able to facilitate introduction to a local Pharma player working an adjacent and complementary therapy area and they agree to perform joint program at PM Lab.