

National Research Programme 74

Smarter Health Care

Final Project Report, June 2023



Emerging Health Care Leaders (EHCL) Programme

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Part 1: Descriptions and results

1.1 **Background**

One of the main objectives of the National Research Programme 74 (NRP 74) was that of "creating a strong community of health services researchers conducting world-leading research in this area". In order to reach this objective various measures were enacted, including recurring conferences, and various other incentives for different projects to collaborate. On top of this, a specific program for facilitating the networking - as well as the personal development - of the early career researchers involved in the NRP 74 was envisioned. For this reason, the Emerging Health Care Leader program (EHCL) was created.

There are already some examples of training and networking program in other parts of the world. In her paper, Sonnino² provides a comprehensive list of different initiatives that are aimed at developing leadership skills for healthcare professionals principally in the United States. At the same time, the author recognises that most of these initiatives involve mainly one institution or are widespread at a local level, thus highlighting the "need for more national-level interdisciplinary and comprehensive leadership training programmes." One of the few examples of initiatives with these characteristics is the Executive Leadership in Academic Medicine (ELAM) initiative in the United States, which has the goal of empowering women leaders for thriving in the academic and healthcare sector,3 and some promising results have been listed.⁴ In Canada, the Emerging Health Leaders is a grassroots movement that created a network of medical professionals focused on leadership development, in particular with a focus on younger professionals and future generations of leaders.⁵⁻⁶ In Australia, the Academy for Emerging Leaders in Patient Safety brings together yearly professionals that want to develop their leadership skills, in particular with respect to the topic of reducing the impact of medical errors.7

Although this kind of initiatives are not unprecedented, the Swiss National Science Foundation (SNSF) has created a very unique program with the EHCL. This report highlights the feature of such program, in order to both provide a description of the EHCL to give an overview of the way it was structure, but also to secure that the know-how produced through this project is preserved. Indeed, especially given

¹ NSF. Smarter Health Care - National Research Programme. Call for proposals. Bern: Swiss National Sci-ence Foundation 2015. http://www.nfp74.ch/SiteCollectionDocuments/Call SmarterHealthCare en.pdf

² Sonnino R. Health care leadership development and training: progress and pitfalls. JHL 2016;:19. doi:10.2147/JHL.S68068

³ Morahan PS, Gleason KA, Richman RC, et al. Advancing women faculty to senior leadership in US aca-demic health centers: Fifteen years of history in the making. NASPA Journal About Women in Higher Edu-cation 2010;3:140-65.

⁴ Dannels SA, Yamagata H, McDade SA, et al. Evaluating a Leadership Programme: A Comparative, Longi-tudinal Study to Assess the Impact of the Executive Leadership in Academic Medicine (ELAM) Programme for Women: Academic Medicine 2008;83:488-95. doi:10.1097/ACM.0b013e31816be551

⁵ Hunt JC, Gruenwoldt E, Lyster AH. Engaging the Next Generation of Health Leaders: Perspectives of Emerging Health Leaders. Healthc Manage Forum 2011;24:4-8. doi:10.1016/j.hcmf.2010.12.001

⁶ Gruenwoldt E, Hagen Lyster A. The Emerging Health Leaders network experience: Reflections and lessons learned from a grassroots movement. Healthc Manage Forum 2017;30:133-7. doi:10.1177/0840470416686081

⁷ Oates K, Burgess A, Dalton S, et al. The Academy for Emerging Leaders in Patient Safety: developing a community of practice. Clin Teach 2020; 17: 508-514.

the success that the program has achieved, future attempts from the SNSF to replicate such effort can immensely benefit from the experience of the EHCL.

The report starts by highlighting the two main aims of the EHCL program (Section 1.2), followed by a description of its design, the didactics and the unique feature (Section 1.3) In Section 1.4 the principal results of the EHCL are illustrated, both by giving an overview of all the training and the activities organised, but also summarising the achievements in terms of skill training, community building and networking. Section 1.5 contains a description of how the program has evolved and the reasons for this development. Section 1.6 discusses the evaluation of the program by Principal Investigators of the NRP74 projects and scholars. In Section 1.7 and 1.8, some conclusions on the strengths and the limitations of the EHCL are discussed, followed by a list of the outputs of the project in terms of publications and presentations. The report is concluded in Section 2, which includes forward-looking reflections about the relevance of such a training program and with recommendations for its future.

1.2 Aims and objectives of the EHCL program

The EHCL has been created with two main primary aims at its core. On the one side, a central objective of the program was to create a didactic offer for participants that would complement their academic and professional education with specific skills that are necessary to excel in the healthcare domain. On the other hand, the second objective of the EHCL was the creation of the right frameworkconditions to facilitate the community building amongst its members, so that the basis for a strong, trustful, and tight network of healthcare services researchers could be established. In what follows, we will expand on the rationale behind these two objectives.

The aim of expanding and reinforcing the set of skills of the members of the EHCL was pursued for two main reasons. First, there are increasing indications that the current training that PhDs and early-career scientists receive needs reforms.⁸ In the specific context of Switzerland, some initiatives are underway to remedy this situation. For example, universities have been emphasising the need for doctoral and postdoctoral researchers to undergo transferable skills training. Or more recently, the SNSF has started offering courses for scientists on how to deal with the media and - since this year, 2023 – also on how to deal with politics. At the same time, this offering remains limited and it does not address the specificities of healthcare, which - given to its particular status at the crossroad of many interests in the Swiss context - requires particular training. For this reason, the EHCL decided to fill this gap by offering specific skill training. Moreover, other reasons for having this aim included the importance of fostering leadership skills in particular. In countries like England, the development of leadership skills for medical professional has begun and it has been highlighted that it such training has to accompany practitioners throughout their career. 10 A study from Canada focused on medical professionals has underscored that there is awareness of the importance of leadership training, but that its concrete implementation varies considerably. 11 The EHCL thus tried to design a complete and

⁸ PhD training is no longer fit for purpose — it needs reform now. Nature 2023; 613: 414-414. doi: https://doi.org/10.1038/d41586-023-00084-3

⁹ See https://www.SNSF.ch/en/WKeEVFYMb5P9uQEU/news/politics-courses-for-researchers-science-talks-to-politics

¹⁰ Alex Till, Judy McKimm & Tim Swanwick (2020) The Importance of Leadership Development in Medical Curricula: A UK Perspective (Stars are Aligning), Journal of Healthcare Leadership, 12:, 19-25, DOI: 10.2147/JHL.S210326

¹¹ Danilewitz M, McLean L. A landscape analysis of leadership training in postgraduate medical education training programs at the University of Ottawa. Can Med Educ J. 2016 Oct 18;7(2):e32-e50. PMID: 28344692; PMCID: PMC5344055.

homogenous program for leadership training that would accompany participants over several years of their career.

The aim of setting the basis for a community of healthcare service researchers was chosen for various reasons. For a start, the development of a community in research is important to foster the circulation of ideas in a trustworthy environment, where competition gives way to collaboration and where mutual learning leads to mutual reinforcing between different scientists. Furthermore, the development of a sense of community can also help in the interaction with other stakeholders, for example when scientists interact with policymakers. When researchers know of each other and trust each other, they can indicate the most appropriate colleagues when they are called upon by politicians and they can involve each other in processes of advocacy or consulting.

1.3 Design, didactics and principles of the program

Organisation

The EHCL was designed as a co-created and participatory program where scholars were not considered students in a traditional or academic sense, but peers with an interest in improving their own skills, as well as committed to the growth of the community within which they pursued their selfimprovement. The adaptive and flexible setup of the program is described at length in section 1.5. The overall organisational structure within which those adaptations take place is as follows. There was a decision making body targeted with high-level strategic decision making and oversight power (the NRP 74 Steering Committee (SC) - for its composition, see the general NRP 74 final reports). The operative centre of the EHCL was then formed by a 60% position in charge of the coordination, and a 20% position (divided for some time between two people) for administration. The EHCL coordinator was participating in all SC meetings and was also part of the operative NRP 74 core group (four persons around NFP 74 president Milo Puhan). This allowed to receive direct feedback from NRP 74 and opened way for direct collaboration with the Knowledge Transfer responsible and SNF representatives alongside to EHCL developments. To coordinate well with the community of scholars, an advisory body of 9 EHCL scholars was developed, which also helped in the planning and developing of program (directed by EHCL coordinator).

Communication

After a survey of needs among participants, a clear preference (100%) for e-mail communication for internal needs was preferred (WhatsApp received only 24%, social media only 4% of the votes). Emails were sent and exchanged for the following purposes: general program announcements; letter of the coordinator; invitations for events; delivery of course certificates and evaluation sheets for the events; other bilateral contacts. Moreover, all program material was also deposited on dropbox, so that it could always be available for everyone. Internal communication via email was also complemented via in-person communication: there were regular personal exchanges between the EHCL coordinator and the administrators with scholars during and between the events and activities. In addition to that, there were two "Tour des Suisse" of the coordinator, including visitations at workplaces of scholars and talks with PIs of NRP 74 projects. Amongst scholars, both email and personal contacts (telephone, WhatsApp) were used for communicating. Regarding external communication, LinkedIn and Twitter accounts were opened in 2019 on request of the EHCL advisory body, and both tools were managed by EHCL scholars in coordination with the EHCL coordinator and administrators. Also publications and presentations (see the separate chapter) were used for external communication. Finally, the status and progress of the EHCL was communicated and discussed at 5 NRP 74 program conferences and at 9 NRP 74 Steering Group meetings (time period 2018-2023).

Didactics

Other important features of the general design of the EHCL also included the commitment to adult learning and the inclusion of social integration and social activities as a central component of the EHCL. As to the first element, interactive learning was applied in all skill training (group work, discussions, case studies, visitations, etc.). This also holds true for the online sessions which have been predominant in 2020 and 2021. Adult learning was chosen in the awareness that participants were already professionals in their own right when being involved, and that activities and training were built around their commitment to get out of the comfort zone of their discipline and the academic environment to pursue the achievement of leadership skills. As to the second element, one of the guiding principles of the EHCL was that the conviction that trust amongst its members and thus also a sense of community could not be reached only through the common participation to training event. The social part and the favouring of informal encounters in a relaxed atmosphere amongst the members of the community was conceived as a major enabler of the creation of a true community. Another important element of the design of the program was the regularity of the events. This was considered important 1) to give multiple chances to meet and provide continuity to the integration amongst its members, and to 2) enable everyone to participate without compromising other commitments. Indeed, having regular and frequent events enhances the chances to be able to join at least part of them, whereas the presence of few events increases the chances that they could conflict with other commitments of the participants. Finally, a pivotal element of the EHCL was the organisation of a retreat once a year, to give the chance to participants to spend actual times together in a comprehensive way at least once per year.

Principles of the program

The main general principles of the training program were thus: 1) needs-based curriculum design; 2) praxis-orientation of educational provisions and activities; 3) innovative and integrative spirit; 4) participatory and personalized approach. The general principles for community building were: 1) trust-building efforts; 2) shared vision and goals; 3) aiming at reciprocal benefits.

The program was open to all early career researchers employed or involved in the research conducted as part of the NRP74. Participation was voluntary and free, and the fact that expenses for participating in the various events could be covered by the EHCL (through the funds obtained from the NRP74) was an enormous facilitator of for lowering the threshold to join in the different activities. A formal requirement for being eligible was to be at least 20% hired in a NRP74 project, with long term perspective to be joining the EHCL program for a sustained amount of time (as a rule 3yrs+).

Overall, the program consisted of a series of events focused on five thematic areas: Selfcompetences/leadership, Professional competence, Soft skills, Knowledge Transfer competences and social competences in the working environment. In terms of format, the events had different lengths and structure, but they all: 1) followed the principles of adult learning, as outlined; 2) included sections were participants could interact with each other and develop a sense of community. This could consist in short apéros with networking opportunities after the training, or the visit of museums, or shared dinners after a workshops and so on. The program of events was rich each year and it always included a two-day retreat and also the possibility for ad-hoc mentorship was offered in the community.

1.4 Results, implementation and highlights of the programme (Skill-training, community building, networking)

This chapter starts with a general description of the cohort, followed by the participation in EHLC training, the results concerning community building and a residual chapter (listing the participation in other EHCL activities.

1.4.1 Description of EHCL cohort

In total, 57 early career researchers from all language regions of Switzerland were recruited, all belonging to one of the 34 NRP 74 projects. The majority of participants were PhD students (65% PhDs, 14% Postdocs, 21% other researchers - e.g. medical doctors or other healthcare professionals collaborating with one of the NRP74 Projects). The majority of the participants were women (72%) and a broad spectrum of different academic and professional background was present, including: physics, molecular sciences, biology, medicine, clinical psychology, nursing, economics, law, pedagogy, political sciences etc. This is not surprising, since the field of healthcare services research (which most of the projects of the NRP74 could be said to belong to) is interdisciplinary in its nature. In fact, a working definition of this discipline by the Institute of Medicine in the United States clarified that "the majority of health services researchers come from such disciplines as biostatistics, clinical sciences, economics, epidemiology, political science, psychology, sociology, and statistics. Other disciplines that contribute to the field include such disparate areas as actuarial science, anthropology, decision theory, demography, engineering, ethics, finance, gerontology, geography, health education, history, law, marketing, medical informatics, nutrition, operations research, and pharmacy."12

At the end of the EHCL, there were 31 scholars receiving a program certificate, which was delivered only to those participants who joined at least 10 EHCL activities in different competence domains. In general, there were only very few drop-outs in program, the main reason for leaving being that of having terminated the collaboration with one NRP74 project (since 20% employment with one of them was a prerequisite for entering the community).

1.4.2 Participation in EHCL training program

The program resulted in the organisation of several activities across the timespan 2018-2023, including workshops, retreats, spark sessions, visitations and much more. An overview of the events organised is also presented in Annex I of the report published about the EHCL as part of the synthesis process for the NRP74 project. 13 This is an updated version, including also a table with the activities of the EHCL that took place in 2022 and 2023. In total, 43 events/skill trainings were organised, which had - as a whole - 609 EHCL participants (14 EHCL scholars per event in average). Many events

¹² Institute of Medicine (US) Committee on Health Services Research: Training and Work Force Issues; Thaul S, Lohr KN, Tranquada RE, editors. Health Services Research: Opportunities for an Expanding Field of Inquiry: An Interim Statement. Washington (DC): National Academies Press (US); 1994. A WORKING DEFINITION OF HEALTH SERVICES RESEARCH. Available from: https://www.ncbi.nlm.nih.gov/books/NBK231502/

¹³ Synthesis Working Paper: "Building a strong research community (EHCL+)". Bern: Swiss National Science Foundation, https://www.nfp74.ch/api/download/Imh0dHBzOi8vc3RvcmFnZS5nb29nbGVhcGlzLmNvbS9zbmYtbWVkaWEvbmZ wNzQtcHJvZHVjdGlvbl9abHpTeGQ1ZGxlUGdOMlNHL2ZuRTJTUHRQOE5sWEY2S0wi

have been open to a wider audience (especially those organised as part of the Expert Visitor Grant Programme, see below). To put it into perspective from a chronological perspective: in 2018 there were 8 events with 159 EHCL participants; in 2019, 9 events with 148 participants; in 2020, 10 events with 105 participants; in 2021, there were 9 events with a total of EHCL 98 participants; in 2022, 85 participants within 5 events.

In Table 1, the activities of 2018 are listed. The first activity was a skills training workshop focused on presentations skills and the development of competencies for presenting scientific results both in an academic context and to a wider public. The workshop was organised and led by Dr. Rolf Heusser, the main coordinator of the EHCL programme. This event was followed by a networking and skills training meeting that served as preparation for a broader event 14 organised the following day as part of the NRP 74 programme in cooperation with the Wennberg International Collaborative. 28 EHCL fellows participated in the meeting and then also joined the broader NRP 74 event, where they presented their PhD ideas and also assisted with moderation. In June 2018 the first Spark Session was held in Bern. Spark sessions are "similar to a small conference and designed to 'spark' new ideas, collaborations and skills."15 In this case, the Spark session included a networking and informal elements (networking lunch with all participating EHCL fellows and closing dinner with fellows and expert lecturers), a series of moderated interactions with Swiss health care experts (including Prof. Luca Crivelli) to improve fellows' knowledge from two main perspectives: 1) that of patients (e.g., data collection, patient rights, health literacy, target groups of projects); and 2) the systemic (e.g., political context, desired outcomes, possible impact on society). A total of 25 fellows participated. After a summer break, the next activity of the EHCL for 2018 was the NRP 74 program conference organised at the end of August, where the 27 participating scholars were invited to actively participate in the knowledge transfer part of the conference. 16 In September, a writing skills workshop took place, in which 8 scholars participated. Over two days Dr. Jurgen Barth trained fellows on the following topics: important steps in preparing a manuscript; how to increase the chances of publication; macro-editing and storytelling; tips and exercises for revising specific parts of a manuscript; cover letters, reviewer comments, post-acceptance publicity. In addition, in September the Expert Visitor Grant programme was launched, consisting in a call for EHCL fellows to organise events of interest for the whole community featuring at least one international speaker/lecturer. The first retreat was held in October 2018 and focused on project management; the keynote was held by Dörte Bräunche. The retreat also included community building and informal activities, as well as a lesson on career development by Prof. Milo Puhan, president of the NRP 74 steering committee. A total of 21 scholars participated. In December 2018 the second Spark Session took place, where 23 EHCL fellows attended presentations by Prof. Felix Gutzwiller - former member of National Council and professor at the University of Zürich - and by Ivan Rickenbacher - politician and communications consultant - on how to influence health care policy. In addition, between May and December 2018, Dr. Rolf Heusser organised site visits with members of the EHCL community, where they met at their workplaces and received individual coaching sessions on career planning and career portfolios.

¹⁴Wennberg international collaborative Spring policy meeting 2018. https://www.wennberg-zurich.org/welcome.html

¹⁵ https://www.nfp74.ch/en/3xBaBO4HKXNM3l0c/page/the-nrp/emerging-health-care-leaders

Second programme conference NRP 74 researchers administrators. 2019. for and http://www.nfp74.ch/en/News/Pages/190124-news-nfp74-second-programme-conference.aspx

Table 1: Emerging Health Care Leaders Programme, Event calendar 2018

Date	Location	Activity Organizer		Duration (days)
March 28, 2018	Berne	WS: Presentation skills/Science slams Rolf Heusser		0.5
April 11, 2018	Berne	EHCL opening event	Rolf Heusser	1.0
		- Workshop Career/Project grants	SNSF staff	
		- Workshop: Strategic Networking	Emily Stone	
		- Science Slam Competition		
		- Networking with Wennberg guests		
April 12/13, 2018	Berne	Wennberg International Conference	Milo Puhan	1.5
		Incl. presentations "Best of EHCL's"		
June 21, 2018	Berne	Spark Session, Bern: Luca Crivelli		0.75
		Patient Centered Care		
		Social event including life lesson talk		
Aug 31, 2018	Lausanne	Programme conference NFP 74 NFP 74		1.0
		Knowledge Transfer Workshop		
Sep 13/14, 2018	Berne	Workshop Scientific Writing Emily Stone		2.0
Oct 4/5, 2018	Zürich	Retreat EHCL Programme Rolf Heusser		1.5
		-Workshop project management Fieke Franken		
Dec 13, 2018	Zürich	Spark Session Felix Gutzwilller		1.0
		From Evidence to politics Iwan Rickenback		

In Table 2, the activities of 2019 are listed. In this year, new scholars joined the EHCL programme, namely early career scientists from the additional projects funded under the NRP 74 in a second call for proposals ¹⁷. It is noteworthy that this year saw a large increase in the number of activities coorganized by EHCL grantees, indicating an increased bottom-up approach to the shaping of community activities. This was also due to the launch of the EHCL advisory body (see Section 1.6). The year started with a first event held in Geneva and Basel as part of the Expert Visitor Grant Program launched the previous year. Organised by one of the EHCL community scientists, it was titled "Vaccine Hesitancy: Why it Matters in the Era of Fake News and Alternative Facts", and the international guest lecturer was Eve Dubé, a medical anthropologist from the Quebec National Institute of Public Health. This event was open to both EHCL scholars and external researchers.

In February 2019 a skills training workshop was held that focussed on the topic of early career funding. The course was organised in Bern and the speaker was Dr. Kelly Turner. The event included both an information session presenting the funding opportunities available in Switzerland and abroad, and practical exercises on how to prepare documents to raise funds for your own projects. For practical reason, participation was limited to 13 people. In March, the third Spark session was organised in conjunction with the second visit of an international lecturer under the Expert Visitor Grant program. The session focused on developing knowledge of health systems as a whole and how to develop practically actionable research within them. Speakers included Prof. Thomas Gächter, professor at the University of Zürich and member of the NRP 74 steering committee, Dr. Erik Jylling,

¹⁷ The five new NRP 74 projects. 2019. http://www.nfp74.ch/en/News/Pages/190124-news-nfp74-the-five-new-nrp-74projects.aspx

Executive Vice President for health policy at the Danish regions, and Prof. Werner Brouwer, Erasmus University Rotterdam. 23 EHCL scholars participated. The event also provided an opportunity for informal exchanges with the guests.

The 16th May Frailty workshop in Bern was an event organised jointly by 4 EHCLS, with 17 EHCL participants. On the 19th June, a crash course in media Training by well-known TV media trainers (Urs Kern from the Swiss TV and Nadine Hofstetter). It was a very practice oriented course, which showed also perspectives of journalists (total of 24 participants). On the 30th August the event in Nottwil (Lucerne) had - as invited experts - Mark Wilson (CEO of Cochrane worldwide) and Eric von Elm (director of Cochrane Switzerland), and it showed current developments in research and Cochrane strategy in next 5 years (total of 14 EHCL participants). The retreat in Montreux had leadership skills as main act (Carl Emerson, Birgit Watzke and Brida von Castelberg), with 27 participants. On the 13th November there was a half day workshop by Rolf Heusser, which was a repetition of first workshop 2018 (Science slam skills) with 5 new participants. The 18th December included a visit of the house of parliament in Bern with Felix Gutzwiller, 1 hour on Tribune during a parliamentary debate, 1 hours guided tour and 1 hour of Q&A with Regine Sauter (National Council member) with 20 Participants and with a life lesson in a restaurant (Felix Gutzwiller).

Table 2: Emerging Health Care Leaders Programme, Event calendar 2019

Date	Location	Activity Organizer		Duration (days)
Jan 15/16, 2019	Geneva and Basel	Expert Visitor Grant Programme: "Vaccine Michael Deml Hesitancy"		0.25
Feb 28, 2019	Berne	Early Career Funding Workshop,	Kelly Turner	1.0
March 18, 2019	Basel	Spark Session/Expert Visitor Grant "From Andrea Martini and Research Funding to Health Care Systems Lester Geneviève Reforms"		1.0
May 16, 2019	Bern	Expert Visitor Grant Programme: "Frailty: From Concept to Practice"	Rahel Meier, Yael Rachamin, Damien Cateau, Katharina Jungo	0.5
June 19, 2019	Zurich	Workshop: "How to Deal with Media/Role of Social Media in Health Communication"	Urs Kern (SRG) 1.0 Emily Stone	
Aug 30, 2019	Nottwil (Lucerne)	Expert visitor Grant Programme, "Trusted Roxanne Maritz Evidence. Informed Decisions. Better Health. Cochrane Strategy to 2020" Jsabel Hodel		0.75
Sept 5/6, 2019	Montreux	ntreux Retreat EHCL Programme Rolf Heusser incl. Leadership Workshop Fieke Franken		1.5
Nov 13, 2019	Berne	Presentation skills, Science slams Rolf Heusser		0.5
Dec 18, 2019	Berne	Spark session, Parliament visit	Felix Gutzwiller Rolf Heusser	1.0

The third year of the EHCL programme was arguably the most difficult, as the outbreak of the COVID-19 epidemic disrupted the original program of activities planned for this period. It became difficult to organize EHCL events in-person - which was especially regrettable for the trust- and communitybuilding. The annual retreat had to be cancelled for public health reasons. Nevertheless, this year also demonstrated the progress the community had made, as a number of new online-events were set up by its members and by the EHCL organizers, in order to keep the programme going. At the very beginning of 2020, another event was organised under the Expert Visitor Grant Programme was organised (in person, before the public health restrictions were imposed). The title was "Grundlagen für eine fundierte Impfberatung" and it featured two international and one national speakers (Barbara A. Pahud MD, Dr. med. Steffen Rabe and Prof. Philip Tarr). On May 28, an online skills training on the use of social media in science was held with speaker Annette Fetscherin, trainer at Marcel GmbH and journalist at SRF sport. The objective of the seminar was to teach the basics of social media and to use them in practice in a targeted and addressee-oriented way. Participation was limited to 5 EHCL fellows for didactic reasons. In June the new event series "EHCL - Behind the screens" started with a workshop entitled "Digital Chase After the Virus" (speaker Dr. Marcello Ienca, ETH Zürich, organizer Andrea Martani). The topic was to discuss pressing ethical issues raised by the use of digital tools in public health surveillance, with a particular focus on contact-tracing apps being developed to help with the COVID-19 situation. In early September, the second event of the "EHCL - Behind the screens" series was held online, this time with Dr. Jeremy Ward (CNRS - Centre national de la recherche scientifique). The topic was "Understanding vaccine hesitancy in anticipation of COVID-19 vaccine: perspectives from France" and the format was an open debate with the expert on some the factors explaining hesitancy toward a future COVID-19 vaccine, using survey data collected in France in the first months of the epidemic by him and his research team. Three further events were held in September 2020. The first was a hybrid event held in Zurich as part of the Expert Visitor Grant program and was titled "Participatory Health Research." The guest trainer was Prof. Jarg Bergold, and the theme was how to design and conduct participatory health research, including both inputs from the expert and training in working groups. 10 EHCL fellows participated. The second and third events in September were part of the skills training programme and consisted of two online workshops on leadership and negotiation in the health care domains, led by Carl Emerson and Katharina Janus, and attended by 12 and 13 scholars, respectively. In October and November, 33 and 10 scholars, respectively, participated in EHCL activities as part of the NRP 74 programme conferences and in a skills training how to move from evidence to policy change in health care.

Table 3: Emerging Health Care Leaders Programme, Event calendar 2020

Date	Location	Activity Organizer		Duration (days)
Jan 31–Feb 5, 2020	Arlesheim, ZH, BS, BE	Expert Visitor Grant Programme "Vaccine safety, Michael Deml vaccine education"		0.5
May 28, 2020	online	Social Media Training part 1 Marcel Juen, Annette Fetscherin		0.75
June 10th, 2020	online	"Let's talk behind the screens" event: Digital chase at the virus	Andrea Martani, Agnė Ulytė,	0.3
Sept 7, 2020	online	Expert Visitor Grant Programme Participatory Health Research	Heidi Kaspar	1.0
Sept 11, 2020	online	"Let's talk behind the screens" event: Michael Deml Vaccine hesitancy in anticipation of COVID-19		0.3
Sept 21, 2020	online	Leadership- introduction	Katharina Janus 0.5	
Sept 22, 2020	online	Successful negotiations Carl Emerson Rolf Heusser		0.5
May 28	online	Social Media Training part 2 Annette Fetscherin Rolf Heusser		0.75
Oct 21, 2020	online	Programme conference, NFP 74 NFP 74		1.0
Nov 13, 2020	online	Workshop: How to bring evidence to decision Benoit Gaillard making processes Rolf Heusser		0.5

In Table 4, the program of 2021 is presented. The first activity was an online skills training workshop on project management in the health care context. The workshop took place in April 2021 and was led by Prof. Katharina Janus. Training during the activity was based on real-life examples provided by the instructor, who taught how to design and challenge individual approaches to managing projects during the evolving career of researchers. A total of 15 scholars participated. In May, another online event was held as part of the "Let's talk behind the screens" series, in which a national (Dr. Julia Spoendlin) and an international (Prof. Anton Pottegard) expert talked about how to conduct epidemiological research that informs health care policy. The online webinar was titled "Pharmacoepidemiological research in Denmark and Switzerland during a pandemic". Another online soft skills training was held in June. The webinar was led by Annette Fetscherin from the Marcel Juen Kommunikation GmbH. The topic was training video conferencing skills and rhetorical skills in online communication. Also in June, EHCL fellows participated in the moderation and the organisation of the conference "HSR in Switzerland: What is the way forward?", which was held online and in collaboration with Cancer Research Switzerland and Ocosuisse. 13 scholars attended this event. In October, the last retreat was held after a one-year break in Magglingen. The topic was the application of design thinking in the context of health research, with two external speakers (Prof. Dean Harder and Dr. Nadine Martin). As usual, social activities were also organized to promote community building. EHCL fellows were invited to work in small groups to develop new ideas for innovative research projects that would later be evaluated by the NRP-74 Steering Group and possibly receive seed funding for implementation. A total of 14 EHCL fellows participated. Three additional ECHL training workshops and one NRP 74 conference were held between October and November, with EHCLs serving as facilitators

Table 4: Emerging Health Care Leaders Programme, Event calendar 2021

Date	Location	Activity Organizer		Duration (days)
April 9, 2021	online	Project Management in action – expert tips & tricks Katharina Janus how to organize, manage, and lead Emily Stone		0.5
May 26, 2021	online	Expert Visitor Grant Programme "Translating Roxanne Maritz, Jsaber research into policy change" Hodel		0.5
June 11, 2021	online	Video conferencing and rhetoric	Annette Fetscherin	1.0
June 22, 2021	online	Conference NRP 74 with oncologists "HSR in Switzerland- the way forward"	Rolf Heusser Cancer research CH Oncosuisse	0.6
October 8, 2021	online	"Science, Campaigning, Politics", Workshop	Benoit Gaillard Fieke Franken	1.0
Oct 15/16, 2021	Magglingen	Retreat EHCL Programme Innovation in leadership management (Design thinking)	Lize Duminy Rolf Heusser	1.0
Nov 4, 2021	online	Webinar "Conflict management" Carl Emerson Emily Stone		0.5
Nov 4, 2021	online	"How to lead and build a successful work environment", Webinar	Carl Emerson Emily Stone	0.5
Nov 15, 2021	online	Programme Conference NRP 74 NRP 74		1.0

In Table 5, the activities of 2022-2023 (half year) are described. The year 2022 started with an event online on measuring patient-population preferences. This was followed by two events close to each other. They were both held in Luzern and the first one consisted in another collaboration between the Wennberg International Collaborative - like in 2018 - and the EHCL, where different guest speakers from WIC discussed and trained on the interaction between healthcare services research (especially concerning geographical variation) and policymaking. The day after, the EHCL featured in the large synthesis conference organised by the NRP74, including dedicated sessions for exchange with different stakeholders and the EHCL initiative. Thereafter, in September a workshop was organised thanks to the Expert Visitor grant program, in which one of the creators of the most widely used approach in qualitative data analysis (esp. in the healthcare sector) in the world was invited to train skills in Reflexive thematic analysis. Finally, the year was concluded with the regular annual retreat, which this year took place in Ticino, with Carl Emerson as a special guests and various sessions reflecting on leadership issues and the future steps for the EHCL program and its community. Some of the topics discussed are also addressed here below in Part 2.

Regarding 2023, on the 4th May the workshop "Implementation outcomes to study Implementation success" was conducted, with the goal to learn to define and measure implementation outcomes and to know how to report findings. For the 15th June the workshop "Advocacy and Lobbying in Public Health in Switzerland: blessing or curse" was carried out in Zürich with the help of two politicians; showing how evidence comes into politics for the field of public health in Switzerland. This event was jointly organized with the SSPHplus and attracted 50 participants from all regions in Switzerland

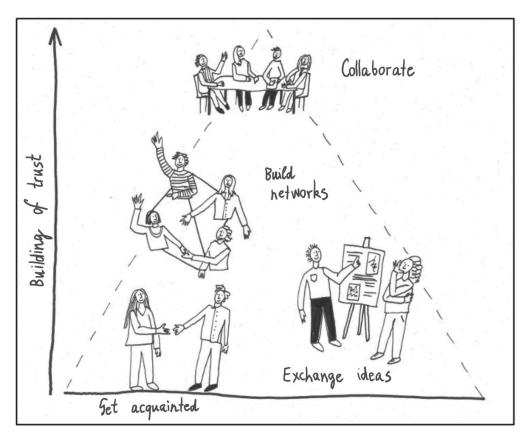
Table 5: Emerging Health Care Leaders Programme, Event calendar 2022-2023

Date	Location	Activity	Organizer	Duration (days)
Jan 27, 2022	Online	Discrete choice experiments for measuring population preferences: methods and implication for health policy	Anna Nicolet, Rolf Heusser, Esther de Bekker Grob and Milad Karimi	1
April 10, 2022	Luzern	Wennberg International Collaborative (WIC) and EHCL Spring Policy Meeting	Rolf Heusser, NRP74 steering committee and WIC	1
April 11-12, 2022	Luzern	Synthesis Conference NRP 74	EHCL and NRP 74 steering committee	2
September 1-2, 2022	Basel	Workshop: Qualitative Research and Application of Thematic Analysis	Virginia Braun, Flaka Siqeca, Maria-José Mendieta Jara, Megan Davies,	2
November 2-3, 2022	Locarno	Retreat 2022	Rolf Heusser, Carl Emerson	2
May 4, 2023	Basel	Implementation outcomes to study Implementation success	Olivia Yip and Juliane Mielke	1
June 15, 2023	Zürich	Advocacy and Lobbying in Public Health in Switzerland: blessing or curse?	Andrea Martani, Emily Reeves-Pooth Dominik Menges and Rolf Heusser	0.5

Of note, basically all skill trainings have been accompanied by social events (apéros, dinners, joint visitations to relevant institutions, excursions etc.). This was done to promote and strengthen the community building among EHCL members, whose results are presented in greater detail in the next section.

1.4.3 Participation in Community Building efforts

After a description of the results in terms of activities organised which provide an overview as regards the skills training of the EHCL, it is also important to summarise the results achieved also in respect to community building and networking. Indeed, some of the greatest results of the EHCL project were reached in relation to community building. The continuous engagement over several years in both learning environment and social activities has allowed the stepwise development of trust amongst the scholars. Results in this respect are best explained by elucidating how a so-called "pyramid of trust" was developed amongst EHCL scholars (see also image).



At the first level at the bottom of the pyramid, EHCL participants first learned about each other and their expertise. This was facilitated by the regular skill trainings, by integrating speed dating and profile building activities in workshops and by adding social program parts in all events. Also, the 2day yearly retreats helped much in this regards. In a second step (middle level of the pyramid) EHCL scholars started exchanging ideas and reinforcing connections. Here, interactive workshops helped, complemented by much group work, the joint organization of meetings, the participation in EHCL advisory body, and the managing communication channels (LinkedIn and Twitter). In the final step (higher level of the pyramid), EHCL scholars began conducting projects and collaborations with each other. This was achieved by working jointly on synthesis reports, producing joint publications, creating joint grant proposals of several EHCLS working together, amongst other things. These concrete outcomes are evidence that the EHCL community did not only work "on-paper", but functioned effectively in real world, as illustrated in the next paragraph.

Overall, the fact that trust was achieved and that a community was created can be exemplified by looking at different outputs by EHCL scholars. For example, some EHCL scholars who originally did not know each other and only met through the program collaborated on a project concerning the Impact of the COVID-19 Pandemic on the use of primary care services. This resulted in two publications, namely a retrospective cohort study 18 and a mixed-method study 19 and Katharina Tabea Jungo (together with Michael J. Deml and Yael Rachamin, PIs of the project and EHCL scholars) received the prestigious research award of the Kollegium für Hausarztmedizin in 2023.20 Or else,

¹⁸ Rachamin, Y., Senn, O., Streit, S., Dubois, J., Deml, M., & Jungo, K. T. (2021). Impact of the COVID-19 pandemic on the intensity of health services use in general practice: a retrospective cohort study. International journal of public health,

¹⁹ Deml MJ, Minnema J, Dubois J, et al. The impact of the COVID-19 pandemic on the continuity of care for at-risk patients in Swiss primary care settings: A mixed-methods study. Soc Sci Med 2022; 298: 114858.

²⁰ Further information available at: https://www.khm-kongress.ch/khm2023/symposium

another group of scholars who met through the EHCL was also able to create a project together, resulting in a publication reviewing the future trends of developments concerning the Swiss healthcare system. 21 Another group of scholars organised and published (thanks to the support of the EHCL) as study on the impact of Covid-19 on mental health care utilisation in Switzerland.²² Additional signs of the achievement of a sense of trust and community amongst EHCL scholars are listed in the aforementioned report,²³ which indicated that participants expanded their professional network, felt the development of community ties and established informal connections (e.g. by consulting peers about career choices).

1.4.4 Participation in other program activities

In this paragraph, we describe in a more systematised way some concrete outputs that were the result (collectively) of both the training and community building part of the EHCL.

- A) Work on Synthesis Project: a total of 14 EHCL were involved in the writing of synthesis report for the overall NRP74 programme. They were working on all 6 topic specific synthesis reports, under the leading of a Steering Committee member of NRP74. This included major work in literature reviews, in analyzing data collected as part of the synthesis process, and the final writing text for synthesis reports.
- B) Production of Joint research proposals: part of the funds of the EHCL project were made available (as seed funding) to stimulate the production of joint research proposal. This followed a competitive approach and the availability of three 10'000 CHF seed-funfing as incentive for developing a joint project. A major requirement was the involvement of 3-4 EHCLS per project proposal. The following project were funded:
 - Wie Risikogruppen und Hausärzte das erste Pandemiejahr erlebten.
 - Continuity on patient care for at risk population during Covid-19 epidemic
 - Mysteries in Health Care collaboration
- C) Joint publications: these are listed above (in section 1.4.3).
- D) Participation in EHCL advisory body: regular meetings were held with the EHCL coordinator (n=9 EHCLs participated): Discussion topics have been: Annual plans of EHCL program, LinkedIn and Twitter establishment, Involvement of PIs, Synthesis reports and work of EHCLs in it, Mentorship possibilities, Joint conference in HSR with oncologists and EHCL contributions.
- E) Participation in individual coaching: these meetings were mainly related to career planning. 12 EHCLs took this offer of the EHCL coordination centre.
- F) Establishment and Management/Running of LinkedIn and Twitter account of EHCL (2 EHCL specifically in charge)
- G) Organizing and moderating NFP 74 conferences and events: many EHCL scholars played important roles in conferences/events organised by the NRP74 steering committee. These roles included: work in the Organization Committees; the Moderation of session; the leading of workgroup meetings; Summarizing sessions; Note taking activities (rapporteur role); Participating in science slam competitions; and being Lecturer in conference programs.

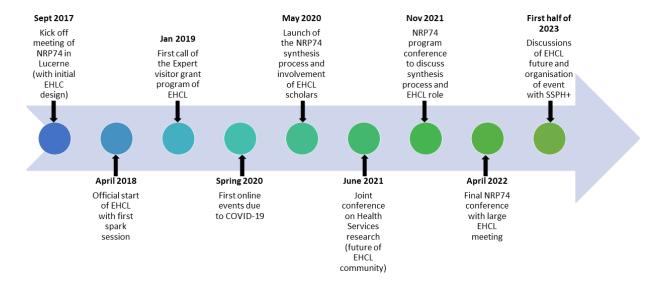
²¹ Deml MJ, Jungo KT, Maessen M, et al. Megatrends in Healthcare: Review for the Swiss National Science Foundation's National Research Programme 74 (NRP74) "Smarter Health Care". Public Health Rev 2022; 43: 1604434

²² Rachamin Y, Jäger L, Schweighoffer R, et al. The impact of the COVID-19 pandemic on mental health care utilization in Switzerland was strongest among young females - retrospective study in 2018-2020. International Journal of Public Health. 2023, 68: 1605839.

²³ Synthesis Working Paper: "Building a strong research community (EHCL+)". Bern: Swiss National Science Foundation, https://www.nfp74.ch/api/download/Imh0dHBzOi8vc3RvcmFnZS5nb29nbGVhcGlzLmNvbS9zbmYtbWVkaWEvbmZ wNzQtcHJvZHVjdGlvbl9abHpTeGQ1ZGxlUGdOMlNHL2ZuRTJTUHRQOE5sWEY2S0wi

1.5 Program development during the course of the project and cooperation

The main milestones of the chronological development of the project are listed in the image below.



In general, one of the major features of the EHCL was its flexible and adaptive setup, which allowed to accompany the development of the scholars that participated in the program and their skills. Indeed, the program started with a more top-down approach, where the initial years were directed and organised by the director/coordinator of the program (Rolf Heusser), his collaborators (Emily Stone and Fieke Franken, in charge mainly of administrative tasks) and the steering committee of the NRP 74. They decided on the topic of the activities and prepared the different events that set the basis for the first skill trainings and also for the creation of a sense of community. As time went on, and especially from 2019-2020, the program, however, took a different step and: 1) allowed scholar to cocreate and co-design the different activities, in order to make sure that these would really mirror the needs of the community; 2) empowered scholars in the organisation and moderation of the activities, so that the skills trained could also be applied in practice. This was achieved through different measures. For example, an EHCL Advisory Body was created, were representatives of the scholars would discuss the evolution of the program amongst them and with the program coordinator. Or else, several calls for inviting experts as part of workshops were launched, so that the scholars could steer the topics and content of the activities of the EHCL.

The EHCL has also been enhancing collaborations amongst its members and between the program as a whole and other stakeholders, such as the broader NRP74. The former are described above as part of the results (see chapter 1.4). As far as the latter is concerned, there are several examples elucidating the cooperation that the EHCL initiated. In 2021, EHCL scholars and the EHCL coordinator took an active role in coordinating, moderating and presenting during the conference "HSR in Switzerland: What is the way forward?" (see https://hsrconference.ch/). This was a cooperation with Swiss Cancer Resarch (https://www.cancerresearch.ch/), Oncosuisse (https://www.oncosuisse.ch/) and the NRP 74 project as a whole. The EHCL coordinator moderated the whole conference and EHCL scholars took charge of different breakout sessions that were organised as part of the conference. A further instance showing the capacity of the EHCL to cooperate with other entities was the "Stakeholder dialogue" that took place in June 2021 to discuss the EHCL+ Synthesis report and involving about 20 public health stakeholders from both public and private organisations in Switzerland. A final good example is the event "Advocacy and Lobbying in Public Health in Switzerland: Blessing or curse?" an event organised by the EHCL in collaborations with the Swiss School of Public Health

(https://ssphplus.ch/), the Swiss Learning Health Systems (https://www.slhs.ch/), the Swiss Public Health Doctors (https://www.publichealthdoctors.ch/), and Public Health Schweiz (https://publichealth.ch/de/). This event is a clear sign of the capacity of the EHCL as a program and its scholars to install collaborations and cooperation with different stakeholders of the Swiss healthcare sector.

1.6 **Evaluation of program**

The EHCL program has certainly reached its stated goals. A stable HSR community has been build up, the members have been trained individually and in groups and achieved some new competences that are not taught within the normal academic PHD programs. Some of the achievements of the EHCL program can be objectivized (such as joint activities of the newly established community, see above 1.4.3.), others are relying on subjective feedback from the scholars themselves, from their PIs, from the NRP 74 steering committee members or from external stakeholders.

An extensive evaluation of the program by the scholars who participated was performed as part of the report on the EHCL published as part of the synthesis process of the NRP74. This was based on a questionnaire distributed to the scholars in late 2021, that is more than 3 years into the EHCL program, and towards the end of the great majority of NRP74 project (only a minority of them finished in 2022). The results of such evaluation can be accessed in the report, and here we will only summarise the main findings.

In terms of the impact of the program on the career of scholars, results were prosing, as respondents indicated that the EHCL helped to both build their broader professional network, but also to find peers who could help in their own career. Many respondents also indicated a positive impact on their skill development, and reported mentioning the participation in the EHCL in their own curricula, job interviews, or in other professional context. Another important result is that many scholars indicated the impact of the EHCL in terms of the interconnections and synergies it allowed between different community members and also their respective projects. A majority of the respondents indicated having collaborated with other scholars in writing articles, organising events or knowledge transfer activities, as well as other informal connections (e.g. advice on methodological issues, site visits etc.) Amongst the overall advantages of the EHCL, scholars praised the networking and communitybuilding opportunity it offered, they liked the participatory approach and the focus on skill training. There were also some weaknesses mentioned, such as the difficulty of integrating for some members who joined the EHCL later, or the disruption caused by COVID-19, and the necessity to make some administrative aspects more clear. Suggestions of improvement included the advice to of involve PIs more in the future (also to convince them to let young scholars invest time in the EHCL) and the creation of more fine-tuned organisational frameworks for the community.

The positive experiences of scholars with the EHCL program have also been mirrored by the viewpoint from the PI's of the NRP 74 (expressed in the final project reports and/or in bilateral meetings). Only 2 out of 34 PIs reported not having sent early career scholars to the EHCL, one without explanation and the other due to absence of PhD's in the given project. The most widespread comment (mentioned by 21 PIs) was that the EHCL had facilitated community building amongst young scholars, which was unanimously perceived as a benefit.

Such results are also confirmed by further sources of evaluation, which we here briefly list:

- individual testimonies of EHCL scholars (e.g. in this²⁴ interview or from many other of the feedback questionnaires collected during the EHCL program²⁵) confirmed the usefulness of the program from the side of participants
- results from the NRP74 Steering committee meetings: in the 9 meetings of the Steering Committee were the EHCL was discussed, opinions were always positive. In the final evaluation during the last meeting SC meeting in 2023, the EHCL received best ratings in all tested aspects: Innovation, Quality, Impact.
- The stakeholder dialogue organized on the 21st June 2021 as part of the synthesis process of the NRP74 also provided positive feedback when the EHCL was discussed.
- There were external expressions of interests for the EHCL by for example the Wennberg International collaboration, the Reatch Initiative, the SSPHplus, the NRP80, or the new Population Research Center at the University of Zurich

Overall, the coherence of evaluation results from different sources and collected at different times provides good evidence about the positive outcomes of the EHCL program. The real impact of the EHCL on the personal and professional development of the attendees can only be measured at a later point in time. Nevertheless, it seems well worth to preserve and further develop the EHCL community beyond the ending of the NRP 74. Many of the experiences made with the EHCL community building and skills training are of generic nature. It seems therefore plausible to transfer these experiences also to other fields of research.

1.7 Strength, limitations and conclusions

Overall, the EHCL was a successful project in that its two main aims (training leadership skills and facilitating the development of a community of young healthcare service researchers) were achieved. The main strengths of the program consisted in several factors. The transition from the first part of the program with a prevalent top-down approach, to the second part with a bottom-up approach was

https://www.nfp74.ch/en/IT8zJ4nm2rw4TejF/news/221004-news-nfp74-competences-for-future-leaders-in-thehealth-sector

²⁵ Testimonials where collected regularly from the EHCL scholars, as part of the feedback loop which has permitted to continuously tailor the program. Some sample extracts of these testimonials said the following. Testimonial 1: "I think it is important to train a new generation of young researcher who learn early in their career that cooperation, team work, exchange and interdisciplinarity is more important than individual careers and hierarchical structures. EHCL has shown how valuable an exchange can be." Testimonial 2: "Make people work together, either on a shared project or even together on individual projects (like e. g. in the course on scientific writing, where everybody brought their own manuscript but still worked as a group). And don't forget the social activities, they will pay off! :-)". Testimonial 3: "Each Doctoral student's project has a different focus and requires different skills, and we do not always have the opportunity to receive the training at our individual Universities to help us achieve our goals related to our project or overall career. However, by being part of the NRP74 projects and participating together in the EHCL events, we have the opportunity to network and learn together and from each other." Testimonial 4: "I can attest to the great networking opportunities and the possibilities to advance my career as an emerging scholar in health sciences research. After presenting and representing our project during one of the EHCL events, I was asked to conduct several peer reviews for PLOS One.". Testimonial 5: "The EHCL community is a close community where most of the scholars know each other and learn from each other. Not only on content and methods but also discuss career possibilities and personal issues. Most of the scholars have different professional backgrounds and that makes it interesting."

smooth and effective. The strong management support by the Steering Committee of the NRP 74 was also crucial, together with the motivated coordinator as soul and driver of program. In terms of content, having a strong group of external experts invited to events, praxis orientation of the activities and the non-academic skills taught were also essential. Another strength was the availability of funds which could be distributed easily without too much administrative work for the setting up of small grassroots initiatives. The continuous launch of workshop and activities which involved the many scholars and were broad enough to be attractive to many, despite the multidisciplinary nature of the participants.

Some limitations were also present. For a start, this was an experimental program, and - like any first trial - fine tuning would be needed. Indeed, sometimes the definition of the program for the year was more difficult, e.g. considering the challenges posed by the pandemic, which the EHCL managed to deal with, but were particularly tough for this innovative project. A concrete result of the pandemic was reduced participation to the events by almost 1/3. Moreover, the involvement of the scholars 'at the margin' of the community could be improved. There were certain scholars that were more difficult to reach (e.g. due to work commitments) and a clear strategy to reach out to them in an efficacious way will be an asset for future follow-ups. Potentially, more involvement of PIs may have helped to overcome this - although this would require a widespread interest/availability on their part.

Despite these challenges, the main objectives were reached. The scholars have received useful skills and competences during the skill trainings and have had the chance to apply them in practice thanks to the program (e.g. project management was trained during workshops and then put into practice with the Expert Visitor Grant program). The scholars developed leadership qualities also because of their involvement in many of the general activities of the NRP74 (e.g. writing synthesis reports, taking responsibilities in conferences etc.). Finally, they were able to develop a sense of community that goes behind a simple reciprocal knowledge, but which - on the contrary - includes also the capacity to think together, collaborate on project and develop new ideas and applications in the context of Swiss healthcare.

1.8 Recommendations

Although the final relevance and potential of the EHCL is presented below in chapter 2, it is worth also indicating the recommendations obtained based on the overall results of the EHCL program the EHCL+ synthesis process and the related report.26

1. Build on the existing foundation of the EHCL Community

The EHCL established a lively community in health services research, which should be sustained. The future of the community should be co-determined by the members, which can also be of help in integrating new cohorts into the community.

How can this be achieved? The entrance of new members and the connections between the existing ones should be facilitated (e.g., by offering community activities, creating seed-funding opportunities and providing support for organizing events). Furthermore, it should be attempted to build on the

²⁶ Synthesis Working Paper: "Building a strong research community (EHCL+)". Bern: Swiss National Science Foundation, wNzQtcHJvZHVjdGlvbl9abHpTeGQ1ZGxlUGdOMlNHL2ZuRTJTUHRQOE5sWEY2S0wi

existing culture developed by the EHCL (open, bottom up and participatory). This may be facilitated by continuing with retreats and social events, so that new members can assimilate such culture.

2. Maintain the focus on skill- and competence-building.

Skill training events are central to a community like the EHCL, since they provide opportunities to acquire new competences relevant for the career of members, thus providing a key motivation to engage with the community.

How can this be achieved? It is crucial to know from the interested members what skills they desire to learn, and then offer both chances to learn them and practice them. Participation should be as easy and as low-threshold as possible, and there should be chances to showcase how members of the community have developed the skills.

3. Establish the community within the Swiss health landscape.

It is crucial to interlink a community like EHCL to other established networks in the Swiss health care sector (e.g., Swiss School of Public Health or Swiss Learning Health Systems).

How can this be achieved? Other networks can learn from the experience of the EHCL and they can thus benefit from it. The key is to create collaboration and complementarity, instead of competition between such communities. PIs and senior researchers are also essential to anchor community in the Swiss health landscape.

4. Bolster the outreach of the community.

Collaborating with practice and politics is relevant for showing what a community like the EHCL is capable of doing. Therefore, it is important to connect the outputs (projects, science communications, leaders created) of a community with those that can make use of them.

How can this be achieved? A first step is to make more visible the expertise of EHCL scholars (both singularly and as a community) to the public and other institutional actors, e.g. by involving this in the events and other initiatives organised.

1.9 **Publications and presentations**

The output of the EHCL program differed from the one of a traditional project funded by the SNSF, since its main objectives did not include the creation of new knowledge, but in the training and community building for early career scholars. It was thus oriented more towards the achievement of a certain outcome, instead of outputs. Nevertheless, the project also managed to produce many concrete deliverables, of which here we give an overview.

Publications in scientific journals				
Author(s)	Title	Journal	Status	
Andrea Martani,	Der Aufbau einer neuen Generation von	Primary and	Submitted	
Agné Ulyte, Milo	Führungskräften für das Schweizer	Hospital Care		
Puhan, Rolf	Gesundheitswesen	https://primary-		
Heusser		hospital-care.ch/		
Andrea Martani, The creation of a leadership a		To-Be-Determined	In preparation	
Agné Ulyte, Milo community building training program for				
Puhan, Rolf	Swiss healthcare service researchers			
Heusser et al.				

Other publications			
Author(s)	Title	Publication details	
Katharina Janus,	Synthesis Working	Report published as part of the synthesis process for the	
Rolf Heusser Andrea	Paper:	NRP74. Available at	
Martani, Agné Ulyte,	Building a strong	https://www.nfp74.ch/api/download/Imh0dHBzOi8vc3R	
Emily Reeves,	research community	$\underline{vcmFnZS5nb29nbGVhcGlzLmNvbS9zbmYtbWVkaWEvbm}$	
Christine D'Anna-	(EHCL+)	$\underline{ZwNzQtcHJvZHVjdGlvbl9abHpTeGQ1ZGxlUGdOMlNHL2Z}$	
Huber		<u>uRTJTUHRQOE5sWEY2S0wi</u>	
Reka Schweighoffer,	Competences for	Publication on the website of the NRP74, available at	
Michael Deml, Rolf	future leaders in the	https://www.nfp74.ch/en/IT8zJ4nm2rw4TejF/news/221	
Heusser	health sector	004-news-nfp74-competences-for-future-leaders-in-the-	
		<u>health-sector</u>	
Rolf Heusser	EHCL awarded for	Publication on the website of the NRP74, available at	
	science slam	https://www.nfp74.ch/en/ArIIXY6vGhum1jwx/news/220	
	presentations	616-news-nfp74-ehcl-awarded-for-science-slam-	
		presentations	

Presentations i	n the scientific context	
Author(s)	Title	Presentation details
Rolf Heusser	The EHCL program	Presentation at the kick-off meeting of the NRP74 in Luzern, September 2017
Rolf Heusser	Introduction to the EHCL Program	Presentation at the Wennberg international collaborative Spring policy meeting 2018, Zürich, April 2018 (11th-13th).
Milo Puhan, Rolf Heusser	Contributing to sustainability of a health research field and community – examples from the SNSF NRP 74 "Smarter Health Care"	Presentation as part of Fourth Sustainability Forum - UN Sustainability & Health SDG 3, Basel, June 3 2019. See https://mdpi-res.com/data/001_milo_puhan.pdf
Rolf Heusser	The EHCL Program	International exchange conference Sino-Suisse in Yunnan, China, October 2019
Rolf Heusser	Presentation of the EHCL Program	Public Health conference CH "From Evidence to Public health policies and Practice", online, September 2020
Rolf Heusser, Andrea Martani, Agnė Ulytė	Intermediary results of the EHCL program	Presentation as part of the Stakeholder dialogue "EHCL+ synthesis report", June 2021, Bern
Rolf Heusser	The EHCL program	Presentation during the Conference on Health Service Research in Switzerland (with Cancer Research CH , Oncosuisse), on line.
Rolf Heusser	Emerging Health Care Leaders (EHCL) Program	Presentation as part of the Faculty Meeting 2021 of the Swiss School of Public Health. 15 th June 2021 (Online). See https://ssphplus.ch/en/calls-events/events/faculty-meeting-2021/

Rolf Heusser	Findings from the EHCL	Presentation as part of the	
	program	Wennberg International Collaborative (WIC) Spring Policy	
		Meeting and the Synthesis conference of the NRP74,	
		delivered on the 10 th and 12 th April 2022 (Luzern),	
		respectively. See	
		https://smarterhealthcare.ch/programm.html.	
Rolf Heusser	The EHCL program	Presentation for the Gesundheitsnetz 25, in Zürich, May	
		2022	
Reka	NRP74 community		
Schweighoffer,	building program for	Presentation as part of the 3rd International Meeting on	
Andrea	early career scientists	Teaching Epidemiology delivered on the 11th January 2023	
Martani, Rolf		(Zurich). See	
Heusser		https://www.ebpi.uzh.ch/en/aboutus/activities/activ_ev	
		ent_archive/3rd_int_meeting_teaching_epi_dec_2022.html	

Other output
EHCL presented and discussed at 5 NRP 74 program conferences (2018-2023)
EHCL presented and discussed at 9 NRP 74 Steering Committee meetings (2018-2023)
EHCL presented within discussions about general results of the NRP 74 (e.g. with the Federal Office of
Public Health , National Media-conference, etc.)
• EHCL results published in "Programmfazit", NRP 74 final report to SNF, report to Federal Council, etc.

2. Part 2: Skill trainings and community building - Relevance and **Potential**

In the second part of this report, the focus is on the general takeaways of the EHCL program, in particular with respect to the lessons learned for the SNF, a proposition for a sustainable subsequent development of the program and finally some general recommendations

2.1 **Outcomes of the EHCL program - lessons learned**

In many respects, the EHCL program has been a platform that delivered many useful lessons both for the future of the healthcare service researchers that was kickstarted by the NRP74, but also for the SNF as a whole. We will start with lessons learned specific to the skill-training and then community building aspects of EHCL, followed by more general ones.

In respect to skills training, the EHCL showed that this type of training has a very positive effect: EHCL scholars learned many new skills and things that are relevant for their careers. The Expert Visitor Grant Program was also a particularly successful model: it allowed to organise events, which fostered internal cohesion of the cohort, but also connection with other stakeholders (each of these events had - on average - twice as many participants than EHCL alone). Face to face trainings were overall better that on line events, especially for the type of workshops of the EHCL. In-person meeting facilitate participation and cohesion, and luckily that community sense was advanced when Covid-19 hit in 2020 and many events had to turn to the 'online format'. For the future, it would be important to continue with such skill trainings and let also other young talented researchers and practitioners take profit out of them.

In respect to community building, the trust-based approach proved to be the right one. The main ingredients of these (and lessons that should be considered for the future) were the multiple opportunities to meet in regular way, the creation of joint goals, and the development of common values (openness, trust, social - as well as professional - context). The success of these ingredients was also confirmed by results of the focus study also featured in the aforementioned synthesis report.27

At a more general level, the experience of the EHCL also delivered useful lessons. Every NRP provides considerable amount of resources for research institutions all over Switzerland to carry out studies aimed at solving a problem with societal relevance. In this sense, the NRPs are outcome oriented, since one of their principle objectives is to catalyse researchers' attention around the solution of specific challenges. And yet, it is often neglected that a lot of the resources invested in these projects is invested in personnel, and - whilst also producing knowledge and solutions to challenges - NRPs also contribute to the education (e.g. via PhDs) and development of a highly trained and professionalised cohort of scientists. This considerable 'humanware' builds up a specific and invaluable know-how on the specific challenges or field of research on which the NRP is focuses. With the EHCL, it has been demonstrated that a marginal investment in the valorisation of this humanware is incredibly useful. The early career scholars that have perfected their academic knowledge during their collaborations with the various NRP74 projects have also developed all the skills (e.g. in terms of leadership) that will permit them to thrive in their future career, and thus also ensure that the know-how they have acquired spreads in practice. Moreover, the sense of community that they developed guarantees a much easier collaboration amongst the members in the future, so that the scholars can continue to put the knowledge they have acquired to good use for the development of the healthcare sector.

The importance of the EHCL in this respect has been also recognised in the final NRP74 program report, 28 which has highlighted how the program has contributed also to the success of this NRP as a whole. For this reason, an important lesson for the SNF is that the relatively small investment in the accompaniment of an NRP with a leadership training and community building program can multiply the benefits that the NRP within which it is nested produces.

More generally, another lesson learned concern the creation of a trained leaders' community for the specific healthcare services research sector, at the intersection between healthcare, public health and healthcare policymaking. This community and the know-how that it has acquired (both content wise and also in terms of leadership skills) is a very precious asset that can be further valorised, to that the fruits of the labour conducted in the years of the NRP74 can continue to be caught. In the following paragraph, the possibilities for a continuation and a sustainable implementation of the EHCL outputs will be outlined.

²⁷ Synthesis Working Paper: "Building a strong research community (EHCL+)". Bern: Swiss National Science Foundation, https://www.nfp74.ch/api/download/Imh0dHBzOi8vc3RvcmFnZS5nb29nbGVhcGlzLmNvbS9zbmYtbWVkaWEvbmZ wNzQtcHJvZHVjdGlvbl9abHpTeGQ1ZGxlUGdOMlNHL2ZuRTJTUHRQOE5sWEY2S0wi

²⁸https://www.nfp74.ch/api/download/Imh0dHBzOi8vc3RvcmFnZS5nb29nbGVhcGlzLmNvbS9zbmYtbWVkaWEvbmZ wNzQtcHJvZHVjdGlvbl9abHpTeGQ1ZGxlUGdOMlNHL0pLd0ZkUnUzOFFhV1J1THQi

2.2 Proposition for a sustainable implementation of the EHCL outputs

The sustainable implementation of the EHCL can be secured if a realisable trajectory is drawn to continue along the two main lines that have constituted the program, i.e. leadership and skills training and community building. In consequence, the proposition for the continuation of the EHCL is twofold. On the one hand, also future professionals of the healthcare sectors should be educated in a broad spectrum of skills that they will need in the Swiss context, which go beyond the traditional academic skills. A skill-training program should thus be pursued, on the example of the EHCL, that is following these two principles. First, the offer of a regular (5-7 times per year) skill training workshop, where skills such as "public communication", "knowledge transfer", or "stakeholder management" can be trained. This skills training should be practice oriented, with professional trainers and also participative, so that the exact content of the trainings could be co-organised by the addressees. Target audience should be early career researchers (in particular PhDs) that are being educated in the broad field of healthcare services research and public health. A lot of synergies (for the recruitment, the offering and the pragmatic organisation etc.) can be found with other important stakeholders with an interest in this topic, such as the Swiss School of Public Health, the Swiss Learning Health System initiative, Public Health Schweiz and the Swiss Public Health Doctors. Preliminary expression of interests and availability to collaborate to this aim by the aforementioned organisations have already been secured, and a pilot for this kind of training is already planned together with the final event of the EHCL program in June. The topic for this training (which is already organised also with the collaborations of these organisations) is that of "Advocacy and Lobbying" in public health, and the objective of the event is also to test the appeal of such training for the future, and also move the first step for the continuation of the community of the EHCL.

As far as the topic of community building is concerned, the aforementioned event is also a trial for the conceptualisation of the future implementation of the second set of EHCL outputs (indeed those related to community building in healthcare). Here, the objective should be the continuation of the community that the EHCL has built by: 1) enlarging it to other scientists that are engaged not only in healthcare research, but also in its concrete application to the amelioration of the Swiss healthcare; 2) expanding participation also to young politicians interested in healthcare and also young practitioners that want to steer the development of the healthcare institutions in which they work in the future. Here, the objective should be to have a smaller and more integrated community, where selected participants (based on criteria such as talent, engagement and collaborative mentality) are offered concrete occasions to meet each other, solve case-studies related to healthcare, have discussion rounds, elaborate practical pilot-projects and do site-visitations to explore the different ramifications of Swiss healthcare and the problems they face. Even here, there is potential for coordination with the other institutions and initiatives active at the intersection of healthcare research, policymaking and stakeholder management in Swiss healthcare.

2.3 **Final remarks**

To conclude the report, some final remarks can be done regarding recommendations on what could have been done differently for this NRP, what can be done for the cohort of healthcare leaders created by the EHCL and also what can be done for other research programs that want to take junior researcher training and promotion seriously. It is important to note that these final remarks are supplemented by the messages contained in the previous paragraph on lessons learned, and also the final recommendations of the EHCL+ synthesis report.²⁹

Regarding the first point, a crucial element for the success of any initiatives involving young researchers is the support and involvement of their senior colleagues and PIs. As with any resources that are put at disposition for the achievement of a certain aim, a key element is the full deployment of these resources. In this specific case, and also for future similar programs, efforts need to be made so that senior colleagues and PI see the potential of such a program which valorises the further education and training of their junior colleagues, with the development of their career beyond the single projects in which they are employed as a central aim. For this reasons, measures such as ensuring that the PIs informs their junior colleagues of these possibilities and they allow them the actual time to participate in the training is of utmost important. This time investment produces, in the end, both positive returns for the young scholars but also for the PIs, in that they develop a team of even better prepared and versatile collaborators, thus ensuring the success of their projects.

Regarding the second point, it is crucial that the know-how developed by this specific cohort, and by the experience of organising and carrying out the EHCL program as a whole does not get lost. Some suggestions for the future implementation have been outlined in the previous section and the first steps for the next phases have already been set by organising the final event of the EHCL as a proof-of-concept for the continuation of this experience. Nevertheless, a concrete commitment by all parties involved is to be welcomed in order to ensure that these efforts do not remain isolated and that plans for the continuation of this experience is further concretised.

As far as the third point is concerned, some recommendations have already been outlined in sections 2.1 and 2.2. Providing the context conditions that determined the success of the EHCL is particularly important. The EHCL program profited largely by the generous support of the SNF and the strong engagement of the NRP 74 steering committee. These included the supporting Human Resources which allowed the program to run smoothly. Also the costs of the training events have been covered; free access to the events is important to facilitate participation.

A coordinator is essential in any initiative such as the EHCL, someone who sets both the tempo and the spirit of the community. External visibility (being recognized by other stakeholders/organizations) and internal understanding of goals of the leadership cohort is another important element. The support for young researchers and the "Mittelbau" in academia is now almost universally recognised as an important element, but still too little efforts are done to actually put this into practice. A program of skill training and community building like the EHCL is a concrete, forward-thinking, user-centric and innovative way how to valorise and empower early career scholars. It has been successfully implemented with relatively little resources and little effort, and scaling up such initiatives would also reduce the marginal costs for implementation. The program has provided a pragmatic example on early career scholars can be supported, and it has moved the first steps to show how – despite its limits due to the experimental and tentative nature of the program – it can produce high return on a very small investment. Any future attempts at reaching the aim of helping young scholars has thus now a perfect proof-of-concept of how this could be done and how success can be achieved.

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²⁹ Synthesis Working Paper: "Building a strong research community (EHCL+)". Bern: Swiss National Science Foundation, https://www.nfp74.ch/api/download/Imh0dHBzOi8vc3RvcmFnZS5nb29nbGVhcGlzLmNvbS9zbmYtbWVkaWEvbmZwNzQtcHJvZHVjdGlvbl9abHpTeGQ1ZGxlUGdOMlNHL2ZuRTJTUHRQOE5sWEY2S0wi