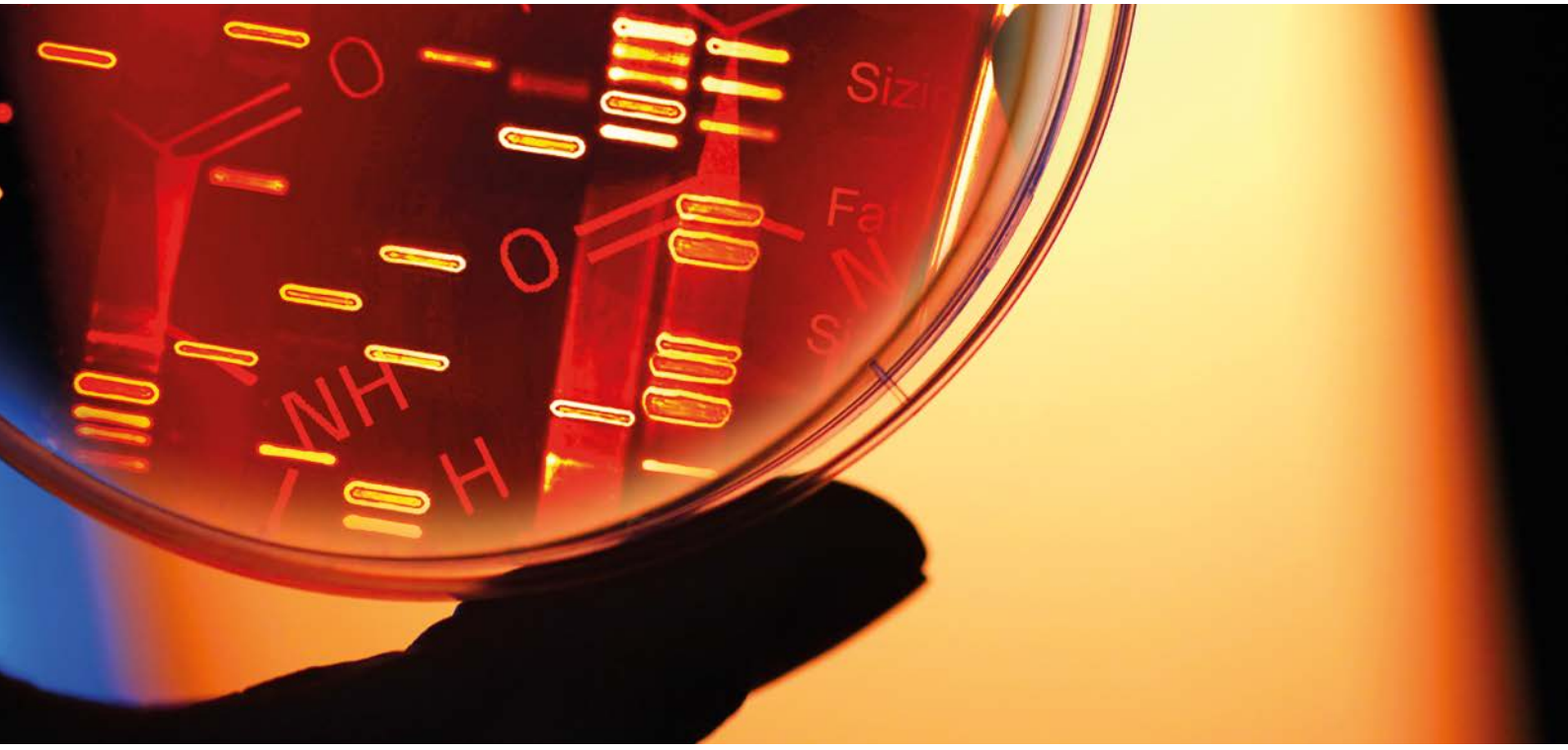
SWISS MEDICAL
NETWORK

SCIENTIFIC REPORT 2021
SWISS MEDICAL NETWORK



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FOREWORD – NEW CONCEPTS, NEW TOOLS

Confirming our previous calls for innovative research tools and solutions, and heading for total healthcare and value-based medicine, the 2021-edition of Swiss Medical Network's Scientific Report emphasizes the expansion of our activities towards additional program-lines.

In comparison to the research programs conducted till 2020 (Imaging, Oncology, Ophthalmology, Orthopedic Surgery, Neurosurgery and Urology), the scientific activities of 2021 were extended to additional specialties and investigational domains, such as Internal Medicine, Data Science, Digital Health, Head and Neck disease, and Interventional Radiology.

Along with this scientific expansion, we continued to enforce the application of the so-called "Systems-Thinking / Systems-Doing" policy, linking the analysis of complex health issues to the identification of potential solutions.

The sources of weakness in biomedical research remain numerous: research and clinical data siloing, frequent lack of objectif alignment between researchers in a same domain, absence of longitudinal views of health journeys, and a rather scarce efficiency of research models for preventive measures – just to mention a few.

At the same time, modern concepts and innovative solutions pave the way for numerous promising opportunities, such as an enhanced capacity to build ecosystems around specific problems, the validation of digital biomarkers to predict illness progression, the availability of playgrounds for shared experiments (precision medicine), and the access to home diagnostic tools.

New concepts, as – for instance – the so-called P4 Medicine (Participatory, Predictive, Preventive and Personalized) with prospective clinical studies based on outcome measurements, give the medical community access to more sophisticated schemes, that will not only enhance the treatment efficacy but also reduce costs. This enters the framework of integrated care, a pathway Swiss Medical Network resolutely embarked on.

Jacques Bernier, MD
Chief Science Officer
Swiss Medical Network

KEY MESSAGE

STRATEGIES

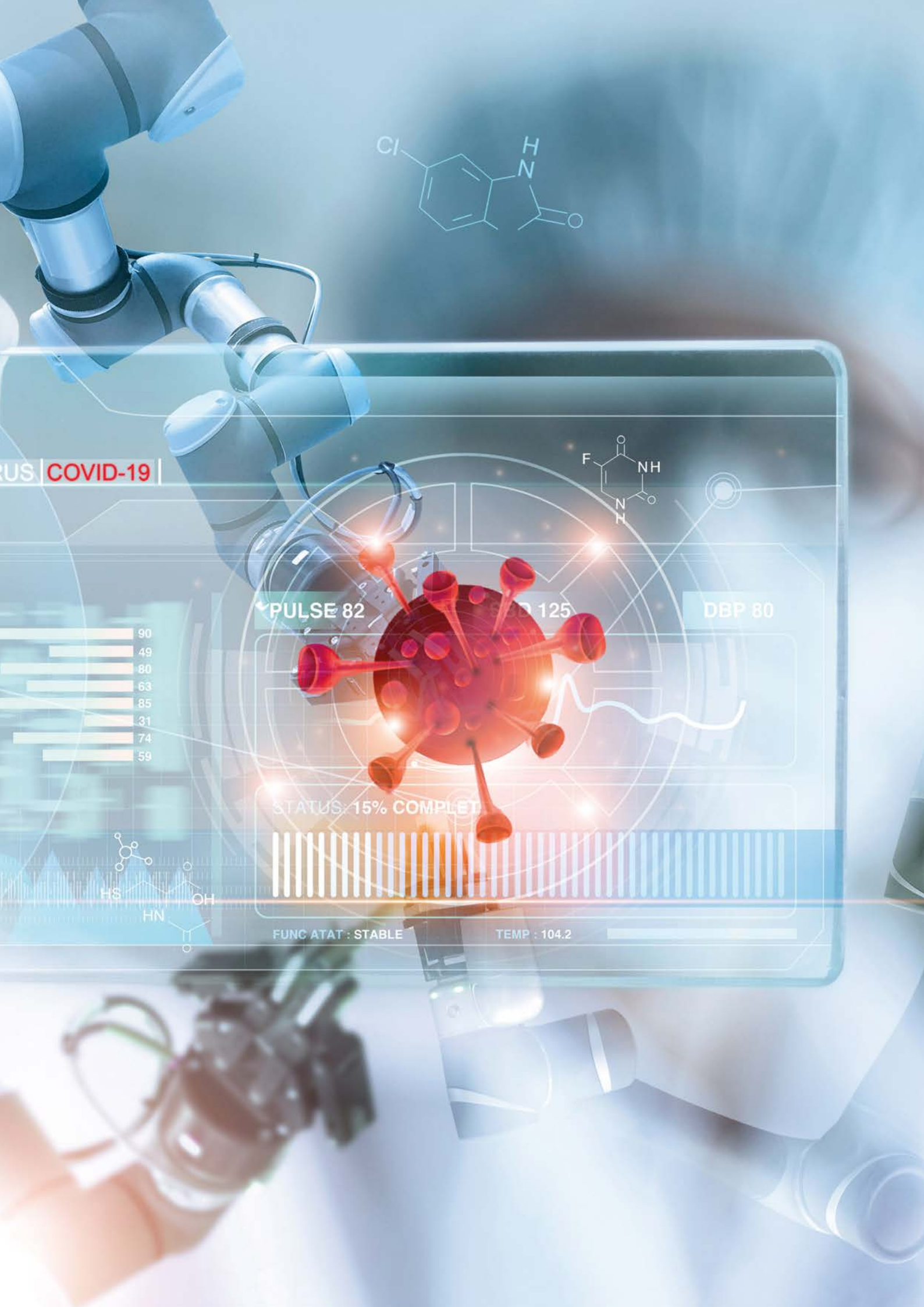
- Besides translational and clinical research, Swiss Medical Network develops also outcome-measurement research programs, thus facilitating the access to value-based medicine and integrated care;
- Acceleration of the Innovation-Transfer to the clinic - especially in precision medicine;
- Priority alignment with current biomedical research-lines of other major institutions, in close collaboration with Genolier Innovation Hub;
- Collaborative working with federal and international bodies (e.g., Réseau Romand d'Oncologie, ETH Zurich, SAKK, EORTC, etc.).

STRUCTURES AND ORGANISATION

- Swiss Medical Network develops "bench to bedside" ecosystems, in order to guarantee the access to clinical studies at Clinique de Genolier and other sites of the Network;
- It lays the foundation for concerted actions between researchers within Swiss Medical Network - also through consolidated databases;
- It develops partnerships with major Swiss institutions involved in biomedical research (Biopôle in Lausanne, Start Club SITEM-Insel in Bern).

OPERATIONAL ASPECTS

- Swiss Medical Network develops its participation in prospective clinical trials in full compliance with quality assurance and bioethical requirements;
- It extends its scientific activities to new investigational fields such as data science, digital health and genomics;
- It forecasts and monitors researchers "real-time" scientific requirements;
- It sets up events fully dedicated to innovation and R&D;
- It promotes scientific education and training programs.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TOWARDS INNOVATION

DISABLING SILOES TO EMPOWER BIOMEDICAL RESEARCH

Since its creation in 2019, with the ultimate goal to improve patient care, the scientific platform of Swiss Medical Network has been pursuing and extending its mission to put its Research & Development undertakings at the service of the clinical activities deployed within the Network.

This year, Swiss Medical Network consolidated its research policies by concentrating the available resources on focused scientific programs, by developing concerted actions and interdisciplinarity, by measuring treatment outcomes and by complying with high quality and safety levels.

In biomedical research, growing operational platforms are more likely to encounter "stumbling blocks", many of them linked to siloes. The limitations inherent to the creation, the development and the outputs of these siloes often result in a waste of investments and energy. In the absence of cross-talk channels, decisions taken in a given research area may have deleterious impacts in another scientific field, preventing scientists and doctors from accessing the most up-to-date information and eventually even curtailing highly relevant discoveries.

Spotting and breaking siloes is therefore a major key to success, in order to coordinate research efforts and to enable data recording, analyses and interpretation in much more efficient ways. Digital Transformation is paramount to develop cross-functional programs and to empower interacting research teams within biomedical ecosystems, involving scientists, clinicians and medical teams covering different specialties in various Swiss Medical Network sites.

As Research-projects with patients suffering from chronic diseases perfectly exemplify, their health is often managed by multiple providers, including primary care physicians, specialists and caretakers. Siloes-related limitations in gathering poorly harmonized data lead to confusion – not only in terms of a weak illness progression prediction, but also in a worsening of the treatment-conditions.

Thanks to reliable and state-of-the-art Data Science tools as the ones used in the framework of collaboration with Inovalon®, Swiss Medical Network is accompanying its researchers along their scientific tracks and provides them with all the necessary assistance to concretize research paths to total health.

Along an individual's journey from health to disease, these new Data Science tools now enable researchers to get an earlier and much clearer picture of his or her health status. This precocious phase encompasses methods of smart prevention and accurate prediction and detection through digital biomarkers, well before a later phase of disease onset.

GENOLIER INNOVATION HUB

The Genolier Innovation Hub, located at the heart of the Genolier Healthcare Campus and the Health Valley, will tightly liaise with Swiss Medical Network's scientific platform.

They both pursue the vision of fostering strategic interactions between scientists and physicians, thus accelerating the transfer of innovative solutions from bench to bedside.

To achieve these goals, Genolier Innovation Hub will welcome research companies active in or related to the health sector – Medtech, Pharma, Digital Technology & Bioscience. Their programs will already have reached a late phase of (experimental) development with pharmaceutical compounds or equipment ready to be tested and improved in a clinical and technical setting, where they all will have access to (Clinique de Genolier, Healthcare Campus, other clinical sites of Swiss Medical Network).

As a future leading location for research and innovation in Switzerland, Genolier Innovation Hub will provide a dynamic and collaborative environment and a strong support to the stakeholders for both, consolidating their Research and Development processes and optimizing knowledge transfer phases within the framework of prospective clinical studies. In the same way, facilities dedicated to conferences, meetings, events and educational workshops will open up the scope of educational and training models in an innovative environment.

The construction of the Genolier Innovation Hub started in June 2021 and is progressing as planned (delivery: early 2024). At the occasion of the first press conference presenting this prestigious project in November 2021, the symbolic foundation stone was laid by the representatives of the Hub: Antoine Hubert, President Genolier Innovation Hub; Philippe Leuba, State Councillor and Head of the Department of Economy, Innovation and Sport of the Canton of Vaud; André Darmon, Mayor of Genolier and Raymond Loretan, President of the Board of Directors Swiss Medical Network.

The mutual integration of Genolier Innovation Hub and Swiss Medical Network's scientific platform is a key factor to the success of future R&D programs.

To discover the new website of Genolier Innovation Hub, just scan this QR-code.

RESEARCH

RESEARCH ORGANIZATION & STRUCTURE

- The **Scientific Executive Committee** is a governing body with various advisory and supervisory functions, reporting directly to Swiss Medical Network's Board of Directors. Its role is to support and promote research at all sites.

- The **Swiss Medical Network – Scientific Committee** coordinates plans and policies between the two entities, with a view to take concerted actions, foster cooperation and align strategies regarding the development of research programs conducted within Swiss Medical Network and other related organizations. Its focus lies in:
  - Paving the way for high-quality research;
  - Incentivizing the creation and development of research units in specific areas;
  - Spotlighting interactions with internal and external research institutes;
  - Actively supporting fundraising activities (Genolier Foundation);
  - Allocating research budgets;
  - Advising on financing measures for submitted scientific projects.

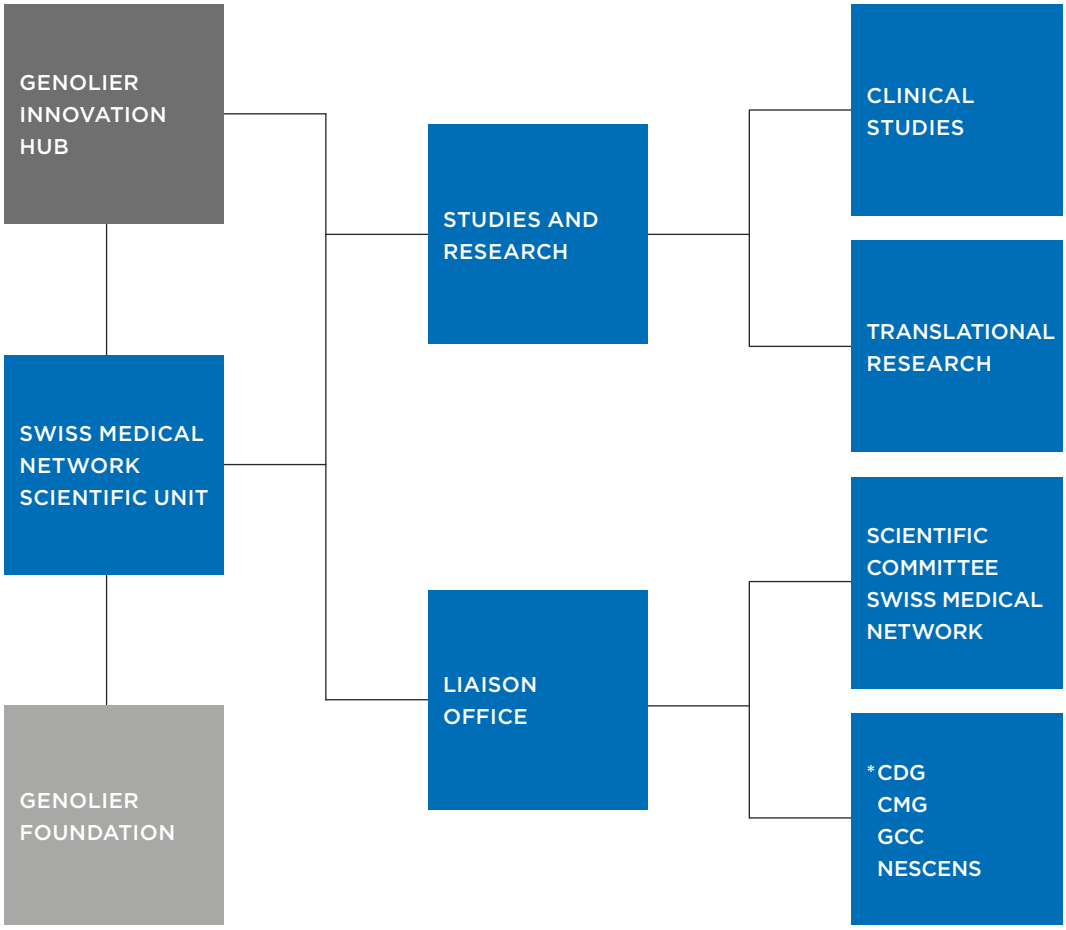
- The **Project Steering Committee** is composed of physicians covering different specialties and being active in various sites of Swiss Medical Network. It includes experts from research domains such as Oncology (namely Medical Oncology, Radio-Oncology, and oncological Surgery), Orthopedic Surgery, Ophthalmology, and Cardiology and pursues three main tasks:
  - Its multi-disciplinarity is aiming at strengthening Swiss Medical Network as a biomedical research network;
  - Through the leadership of its members, this committee is bound to breed grounds for innovations through participative and interactive processes, both inside Swiss Medical Network and with other national and international research bodies;
  - The Project Steering Committee promotes research strategies aiming at a mutual integration of Genolier Innovation Hub and Swiss Medical Network's scientific platform.

Dedicated liaisons aim at facilitating the harmonization of plans and policies between these three entities – this with a view to achieving concerted actions, cooperation, and coordination of strategies along the development of research programs conducted within Swiss Medical Network and other related organizations.

Swiss Medical Network's research actions comply with the recommendations established by the Swiss Academy of Medical Sciences and bio-ethical cantonal authorities.

Structure, bodies and research axes
Genolier Healthcare Campus

The figure provides an overview of the various structures, bodies, and research axes that compose the general organization of the Genolier Healthcare Campus and Swiss Medical Network's global research platform.



* CDG: Clinique de Genolier
CMG: Centre Médical de Genolier
GCC: Genolier Cancer Center

RESEARCH GOVERNANCE

Scientific Executive Committee
(In alphabetical order)

Jacques Bernier
Chief Science Officer,
Swiss Medical Network

Specialist in Radio-Oncology and Nuclear Medicine from the University of Liège in Belgium, Jacques Bernier is the Chief Science Officer of Genolier Innovation Network. From 2006 until 2019, he was Head of the Radiation Oncology Department at Clinique de Genolier and Medical Director of Centre d'Oncologie des Eaux-Vives in Geneva. He is the author/co-author of more than 140 scientific publications in peer-reviewed journals and more than 200 communications in national and international meetings.

Antoine Hubert
Delegate of the Board
of Directors,
Swiss Medical Network

Prior to acquiring a stake in Clinique de Genolier in 2002 and founding Swiss Medical Network in 2004, Antoine Hubert was mainly active in the property and real estate industry, has set up businesses and served as a director to several companies in various industries.

Stanley Hautdidier
Director,
Clinique de Genolier

An engineer by training and holding a master's degree in management, Stanley Hautdidier began his career with the world leader in endoscopy and operative integration as sales manager for integrated operating rooms on behalf of the Belgian, Luxembourg and Swiss subsidiaries. Subsequently, he was CEO of an orthopedic company in Switzerland, in parallel with a consultant activity in the health sector.

Patricia Muller-Hafner
Director Medical Marketing
Vaud,
Swiss Medical Network

Marketing-Specialist with a broad Product-Development background.

Swiss Medical Network – Scientific Committee

(In alphabetical order)

Dr Matti Aapro
Clinique de Genolier, Genolier

Dr Christophe Cordier
Synlab Suisse, Lausanne

Dr Barbara Ankli
Schmerzklinik Basel, Basel

Pr Guido Garavaglia
Clinica Ars Medica, Gravesano

Dr Jacques Bernier
Swiss Medical Network

Dr Philippe Glasson
President,
Swiss Medical Network

Dr Daniel Christen
Privatklinik Bethanien, Zürich

Dr Oscar Matzinger
Clinique de Genolier, Genolier

Project Steering Committee
(In alphabetical order)

COORDINATORS

Dr Jacques Bernier
Chief Science Officer,
Swiss Medical Network

Pr Walter Weder
Thoracic Surgery,
Privatklinik Bethanien, Zürich

MEMBERS

Pr Guido Garavaglia
Orthopedic Surgery,
Clinica Ars Medica, Gravesano

Dr Oscar Matzinger
Radiation Oncology,
Clinique de Genolier, Genolier

Dr Volker Kirchner
Medical Oncology,
Clinique de Genolier, Genolier

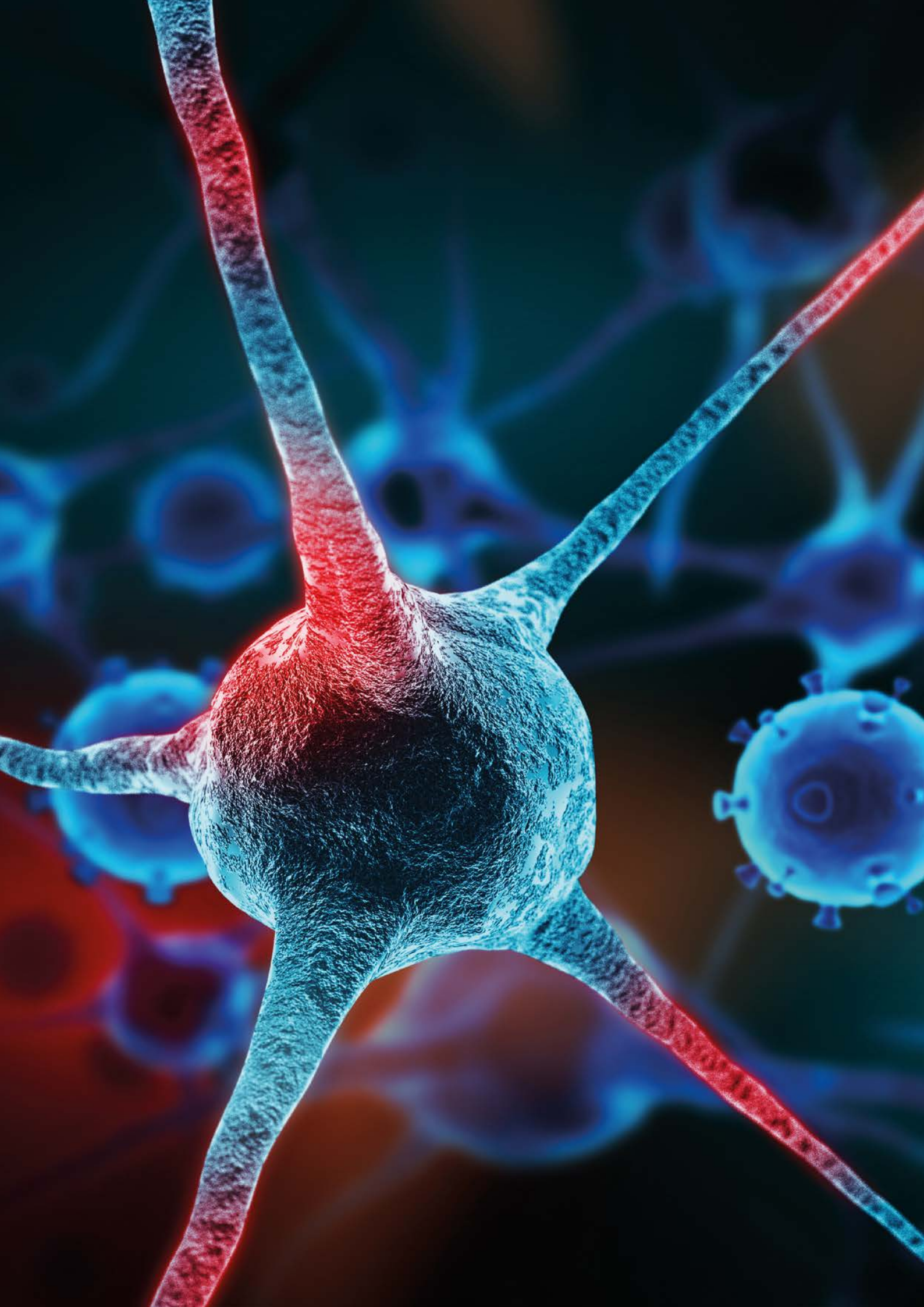
Dr Gabor Sütsch
Cardiovascular Diseases,
Privatklinik Bethanien, Zürich

Dr Antoine Leimgruber
Nuclear Medicine,
Clinique de Genolier, Genolier

Pr Victor Valderrabano
Orthopedic Surgery,
Schmerzklinik Basel, Basel

Pr Kaweh Mansouri
Ophthalmology,
Swiss Visio Network,
Lausanne

Dr Fabian Von Knoch
Orthopedic Surgery,
Privatklinik Bethanien, Zürich



RESEARCH STRATEGY

A large number of clinical domains along the patient care-path is covered by our research activities: prevention – diagnosis – treatment - post-therapeutic monitoring.

As a branch of healthcare science, clinical research determines – by collecting evidence – the safety and efficacy of diagnostic procedures and treatment regimens. Nowadays, particular emphasis is put on treatment outcome measurements along the path to value-based medicine.

Another domain of major interest to Swiss Medical Network is personalized medicine. As an adaptation of medical treatments to the patient's individual molecular and genetic profile, precision medicine not only improves the ability to diagnose and treat disease, but also enables an early disease-detection.

Advances in "omics" technologies (genomics, transcriptomics, proteomics, metabolomics etc.) might enable personalized medicine at an extremely detailed molecular level. These technologies have – so far – contributed to medical advances, which now start entering clinical practice. To note, however, that each of these technologies, taken individually, will not be able to capture the entire biological complexity of human diseases. The integration of multiple technologies should – however – achieve a more comprehensive view of biology and disease.

Finally, the rapid evolution of the current data-driven healthcare landscape requires the integration of innovative and powerful means across data sciences into our scientific portfolio. We therefore activate research tools that are able to aggregate massive amounts of data, and garner, from their analyses, meaningful insights into healthcare outcomes.

Swiss Medical Network's research teams currently conduct various scientific programs. All of them are developped in accordance with applicable national and international regulations and directives (Quality Assurance Systems, audits, GCP, GMP, etc.).

ONGOING RESEARCH DOMAINS

(In alphabetical order)

DIGITAL HEALTH AND DATA SCIENCE IN HEALTHCARE

Dr Damien Dietrich, a teacher for digital transformation at the University of Luxembourg for health executives and professionals, involved in digital health projects, is also senior advisor for the Geneva Hub for Global Digital Health https://gdhub.org. This platform, supported by the Federal Department of Foreign Affairs and in partnership with the WHO and the Geneva Health Forum, aims to create synergies between various ongoing digital health projects, particularly those pursueing a humanitarian objective. Its goal is to facilitate the connection of solution providers with implementing organizations (NGOs, hospitals), to avoid redundant projects, thus improving resource management, to promote inter-operability by maximizing the adoption of standards or to create communities of practice around certain topics. Dr Dietrich is also member of the Digital Pulse https://www.dh2.ch/About, a group of experts with various backgrounds (industry, academy, hospitals, insurance), who review and evaluate startups that have applied for the biopole's vanguard incubation program.

GENOMICS

Dr Kathrin Aprile von Hohenstaufen Puoti joined Genolier Innovation Hub / Swiss Medical Network in Summer 2021. As a project leader of the Swiss Medical Network – Genolier Innovation Hub Whole Genome Sequencing program, she coordinated, under direct supervision of the Scientific Direction, the Swiss Medical Network board discussions with industry and academic stakeholders in the field of clinical and experimental WGS.

In 2021 Dr Aprile von Hohenstaufen Puoti further developed the research programs on genomics and transcriptomics of COVID-19 hosts she started in 2020 in collaboration with US-EU and Egyptian Universities. As member of the Scicomm team of the Covid19HGI Consortium, and Co-leader of the Egypt hgCOVID hub (870 severe Covid-19 cases and 1000 health controls), she co-authored different studies on the genomic of Covid-19 affected patients (FIMM-FI and Broad Institute-USA). A study exploring sequential transcriptomics of the acute phase of Covid-19 disease is ongoing at Nottingham University, UK.

INTEGRATED CARE

THE POTENTIAL AND RELEVANCE OF CLINICAL RESEARCH IN A NON-ACADEMIC TRAINING INSTITUTION

Clinical research data mainly come from academic hospitals with established research programs and designated funding. However, they are not always generalizable (patient profiles, real-life resources, etc.), and the participation of non-academic teaching institutions (and their patients) in scientific research-programs becomes essential.

In addition, and as a quality control tool (Quality Assurance), clinical operational research (continuous data analysis) is becoming increasingly important in the management of care processes and the functioning of services. A concrete example is the growing use of ANQ indicators (National Association for Quality Development in Hospitals and Health Care). Beyond simple reporting, this more structured approach, as already implemented in some healthcare networks (e.g. Kaiser Permanente), allows a better overview and control of the quality of health care delivery.

Furthermore, physicians are not the only ones doing clinical research – a number of health care professionals (nurses, psychologists, etc.) have either already published their achievements or have a university background and are interested in maintaining and improving their knowledge. With the current trend towards a greater recognition of the paramedical health care professions, the award of progressively more specialized qualifications, the necessity to be involved in research and the need for more research activities will have to be considered and addressed.

The conditions for the implementation of clinical research in a non-teaching hospital include leadership, networking between professionals and institutional support.

CLINICAL RESEARCH IN A NON-ACADEMIC TRAINING INSTITUTION: HÔPITAL DU JURA BERNOIS

As part of its ongoing commitment to continuous improvement and support for training activities, Hôpital du Jura Bernois has opted for setting up an “Epidemiology and Clinical Research Unit”.

The institution has several acknowledged ISFM entities in its network (psychiatry, internal medicine, surgery, gynecology, radiology, and general medicine) and participates in the training of various health professionals (best training institution in the Jura Bernois region in 2021).

The initial phases focused on the constitution of a multidisciplinary group of professionals with a background in research and publications. The main activities carried out so far include the consolidation of the group and the support of research initiatives underway.

A common update on the concept of clinical research in hospitals and training sessions is scheduled (individually for two senior physicians and collectively by the president of the cantonal ethics commission).

Regarding productivity, four research protocols are in the pipeline, two of which have been submitted and accepted by the ethics commission (retrospective study in mental health). Participating members have already published in 2020-2021 (without the formal involvement of the epidemiology unit); the institution has thus produced 11 articles including eight case reports and three original articles over these two years.

The short-term perspectives focus on the reinforcement of the unit with the finalization of the concept, the training of the members to the principles of clinical research, including the identification of a methodologist and a statistician. We aim, in the long term, to be affiliated to the Swiss clinical trial organization (https://www.scto.ch/fr/).

On an operational perspective, the unit will further elaborate the implementation of authorized studies and finalize the approval requests for the protocols that are currently being drafted. More extensively, the unit will support the Medical Directorate in the implementation of general consent to research and will be involved in the implementation of an institutional database (datawarehouse or Data Lake).

The coordination with other transverse units of the hospital will ensure a link to Quality Assurance and Medico-economic Management. Stronger communication with the institution's academic leaders will allow the structure to train physicians and to assist them in their professional development. The reinforcement of university collaborations will furthermore enable some interested physicians to pursue a recognized university career in renowned Swiss institutions (EPFZ, EPFL, UNIL, UNIGE, etc.).

Research protocols (2020 – 2021):

- Written protocols (including partnerships): 4
- Protocols accepted by the Bern ethical committee: 2
- Accepted protocol with principal investigator (PI) from Hôpital du Jura Bernois: 1

Dr Jacques Bernier (Clinique de Genolier) further developed frequent exchanges with Kaiser Permanente (KP) International. In close cooperation with Karin Cooke, Director KP International, he analyzed the actions taken by KP in the US, in the framework of its fight against Covid-19, with particular emphasis on the potential transfer of KP's specific "Know-How" to the integrated care program developed by Swiss Medical Network (Internal Report "Quality Management in Total Health", by P. Wolfensberger and J. Bernier, Zürich, March 17, 2021).

INTERNAL MEDICINE

Dr Pierre-Olivier Lang (Clinique de Genolier) co-authored various scientific articles reporting on vaccination for quality of life and addressing specific issues in geriatric medicine, such as the (mis)use of drugs and inappropriate prescribings in the elderly.

INTERVENTIONAL RADIOLOGY

In the field of interventional radiology, Dr Pierre Bize (Clinique de Genolier) investigated the role of cryoablation in the management of various pathologies, such as unresectable sacrococcygeal chordomas. These various investigations demonstrated that, in selected patients, cryoablation is a safe, well-tolerated and effective therapeutic approach.

Dr Bize also participated at the elaboration of a Clinical Investigation Plan (CIP) entitled: "NICOLE: Neovessels embolization In Chronic Lateral Epicondylitis: a prospective, randomized, double blinded and controlled study." This prospective, single-center, randomized, controlled, double blind, interventional study, with Dr Frédéric Vauclair (CHUV) as PI, will investigate the efficacy and safety of the embolization of abnormal neovessels in patients with lateral epicondylitis, who are refractory to conservative treatment.

NEUROLOGY

Pr Julien Bogousslavsky, an invited Professor to the Franche-Comté University, is – in the framework of their Master in Neurosciences – in charge of the curriculum on neuropsychiatric sequelaes of stroke. He is also responsible for the "History of stroke", an ongoing project of the European Stroke Foundation, and is Editor in Chief of European Neurology and Case Reports in Neurology. He furthermore published an article on pharmacodynamics of desmoteplase and an overview of the concept of tabes dorsalis in the medical context of the 19th century.

NEUROSURGERY

Together with Avaton Surgical Group, Dr John Michael Duff and Dr Rodolfo Maduri (Clinique de Genolier) continued to develop the implementation of minimally invasive trans-tubular techniques in cervical disc herniation surgery, with the goal of improving the management of patients with spinal pathologies. They further developed the implementation of trans-tubular minimally invasive techniques for the treatment of determinative lumbar stenosis, through a retrospective clinical study on image-guided transtubular exoscopic lumbar decompression (CER-VD authorization in progress).

Dr Maduri co-authored two publications in cooperation with the Department of Clinical Neurosciences at the CHUV, and other two articles reporting on multicenter clinical studies.

ONCOLOGY

BREAST PATHOLOGIES

Dr Magdalena Kohlik, Medical Director of Clinique de Genolier's Breast Cancer Unit, has actively participated in the pre-planned feasibility substudy of the SAKK TAXIS trial.

Swiss Medical Network's breast cancer specialists and researchers were called to analyze contents and objectives of two clinical studies designed for patients at risk of or presenting with a breast pathology:

The first protocole, MammoRisk®, proposed by Predilife SA, is intended for women called "of the general population" from 40 years of age. Are eligible to this prospective study patients consulting at Clinique de Genolier for breast cancer screening examination/prevention consultation, and those with benign breast biopsy or with a family history of breast/ovary-cancer seen in oncogenetics consultation. A MammoRisk score is provided to the patients, with a personalized screening program and prevention advice on other risk factors, based on recommendations by international experts involved in the "MyPeBS" (My Personal Breast Screening) European study. The follow-up of this study proposal will be reassessed in 2022 within Clinique de Genolier's Breast Cancer Unit.

The second one, a joint research protocol between Swiss Medical Network (Genolier) and SYNLAB Suisse SA, is entitled "Early detection of breast cancer recurrence by use of highly sensitive biomarkers and effect on outcome". Its main goal is to evaluate whether the detection of cell free tumor DNA alone or in combination with protein tumor markers (CA 15-3 and CEA) can identify relapse at an earlier stage than a usual follow-up care. Following hypotheses are formulated:

- Cell free circulating tumor DNA leads to earlier diagnosis of a relapse or de novo disease (locoregional or metastatic or de novo disease in same or contralateral breast);
- The combination of cell free circulating tumor DNA with protein tumor markers increases the specificity for relapse diagnosis of the latter;
- Highly sensitive single molecule array immunoassay (SIMOA) of circulating protein breast tumor markers exhibits higher sensitivity for relapse detection in comparison to classical immunoassays.

The follow-up to this study proposal, which is regularly amended after review by our Oncology team, will be reassessed in 2022 within Clinique de Genolier's Breast Cancer Unit and Genolier Cancer Center.

MEDICAL ONCOLOGY

Dr Matti Aapro (Clinique de Genolier) published a large number of peer-reviewed articles in various domains of medical oncology. His numerous research programs in geriatric oncology, breast cancer management and supportive care bear witness to his experience in clinical research protocols and educational activities. Besides his clinical activities in Genolier and Geneva, Dr Aapro has several international duties: in 2021 he was President of the European Cancer Organisation (https://www.europeancancer.org/) and of the SPCC – Sharing Progress in Cancer Care (https://www.spcc.net/), a nonprofit educational organization, which also comprises (https://www.oncocorner.net/home and (https://cancerworld.net/). He was also Vice-President of AllCan (https://www.all-can.org/), an international multi-stakeholder nonprofit organisation working on the improvement of cancer-care efficiency by focusing on what matters to patients.

Dr Alex Friedlaender (Clinique Générale-Beaulieu, Geneva) further developed his research works on predictive and prognostic factors in non-small cell lung cancer, on predictive factors in lung cancer with EGFR mutations, and on COVID and the immune response in oncological patients.

Along with members from Innomedica Holding AG, Dr Matti Aapro and Dr Jacques Bernier (Clinique de Genolier) were involved in a preparatory platform of a clinical trial, investigating the role of a new cancer drug, Talidox ®. Based on InnoMedica's liposomal transport system, this drug is being investigated in patients with advanced and metastatic cancers.

As regards translational research, the collaboration between the Réseau Romand d'Oncologie and the medical oncology team of Clinique de Genolier was further developed, mainly in the field of the biomolecular approach to cancer treatment for selected patients.

RADIO-ONCOLOGY

Clinique Générale Beaulieu in Geneva opened its brand-new and state-of-the art radiation-therapy department. The inauguration, held in collaboration with Accuray and RaySearch, kicked off an intensified collaboration with these two industry partners and was celebrated with a Symposium about neuro-radiosurgery, evolving stereotactic radiotherapy paradigms and the evolution of tomotherapy.

As regards research and development collaborations, there were five axes of activities:

- Prototype testing for the Alignrt® InBore™ SGRT solution for use with Radixact®;
- Pre-clinical testing of RayTreat OIS for Radixact® and Cyberknife® with RaySearch and Accuray;
- First clinical go-live with RaySearch RayTreat OIS for Radixact®;
- Practical and treatment planning collaboration with EBAMed, a Swiss startup based in Geneva, working on real-time ultrasound tracking for non-invasive treatment of heart arrhythmias;
- Use of AI-manipulated pre-treatment images to improve patient positioning, in collaboration with EPFL (Shelley Bulling, Clinique Générale Beaulieu, Clinique de Genolier).

ONCOSURGERY

The outstanding contribution of Professor Walter Weder (Privatklinik Bethanien, Zürich) to advances in thoracic surgery addressed, among others, the following issues:

- Neoadjuvant osimertinib with/without chemotherapy versus chemotherapy alone for EGFR-mutated resectable non-small-cell lung cancer: NeoADAURA;
- Lung Volume Reduction Surgery in patients with homogeneous emphysema;
- Evolution of systemic therapy for stages I-III non-metastatic, non-small-cell lung cancer;
- Robotic-assisted thoracoscopic surgery for clinically stage IIIA (c-N2) NSCLC: is it justified?

Professor Weder also lectured on “Mentoring in thoracic surgery – a speed lecture” at the 29th European Conference on General Thoracic Surgery, 20-22 June 2021 (virtual meeting).

At Privatklinik Bethanien, Dr Daniel Christen, President of Interdigest, the Interdisciplinary Gastroenterological Surgical Team, develops a regional network of surgeons, oncologists and gastroenterologists, working closely with pathologists, radiologists and other experts on specific issues. Their main objective is a real-time implementation of the most recent scientific advances in the domain of digestive tract malignancies.

Dr Stéphanie Seidler (Clinique de Genolier), who was conferred the title of Fellow of the European Board of Surgery (FEBS) in Breast Surgery in November 2021, was co-author of several articles on surgical management of gynecological cancers.

OPHTHALMOLOGY

The Swiss Glaucoma Research Foundation – SGRF (President: Professor Kaweh Mansouri; Professor André Mermoud, Clinique de Montchoisi, Lausanne) continued its action on two axes: the support of cutting-edge research for the development of pioneering and innovative treatments against glaucoma and the training and education of health professionals to better diagnose, treat, and – one-day – cure glaucoma. In summary, the FRMS continued to support the development of glaucoma research and conducts several innovative research projects. This panel covers:

- The INTEGRAL registry, which is a 10-year longitudinal study that will eventually aggregate anonymous clinical data from hundreds of patients suffering from glaucoma. The purpose of monitoring their evolution is to look for genetic and environmental risk factors related to the development and progression of glaucoma. This will ultimately make it possible to better advice patients on the risks related to their disease or the choice of the most suitable treatment for their case.
- The study on the use of OCT angiography to accurately visualize the deep and superficial vasculature of the retina and optic nerve in the diagnosis of glaucoma. This technology should therefore allow to better understand the causes of glaucoma, and to diagnose certain cases more accurately (2 publications).
- The study on the effectiveness of the analysis of PERG or “Pattern Electroretinogram”, allowing the analysis of the functioning of the optic nerve, in the early detection of glaucoma. Eventually, this machine would have the potential to detect glaucoma earlier. Continuation of the XEN study to test the efficacy and safety of the XEN implant as a new minimally invasive option in the treatment of glaucoma (1 publication).
- The Eyewatch study in collaboration with a start-up from EPFL Lausanne. This study is testing the world's first drainage device for glaucoma surgery equipped with a valve that can be adjusted using a magnet, allowing glaucoma surgery to be modulated as needed. The first long-term results will soon appear in the scientific literature.
- The Triggerfish study in collaboration with a Lausanne company. This study is testing a 'smart' contact lens that measures intraocular pressure continuously over a 24-hour period. A great innovation that allows a real overview of the values of PIO during the daily life of the patient (2 publications).
- The ARGOS study is a study on the ARGOS-SC medical device. This implant allows the patient to measure intraocular pressure autonomously. Once the device is validated, these measurements will provide the patient and the doctor with important information about the success of eye pressure reduction and control. As this study is the first to use ARGOS-SC in humans (First in man), it aims to demonstrate the tolerability and long-term safety of the implant in patients (7 publications).
- The Supraflow study is a clinical study on the use of a permanent implantable medical device, the Supraflow v1.3 and concerns patients suffering from open-angle glaucoma. This study is being conducted to evaluate the efficacy, safety and tolerability of the current version of the medical device in the treatment of glaucoma (study concluded in October 2021).

- The Flex study, whose purpose is to verify whether the observation of aqueous humor can determine its flow of the eye, which could improve the results of glaucoma surgery in the future. This study uses new equipment that was acquired in 2018 through generous FRMS donors.
- The study Laser SLT is an open longitudinal database that tracks the variation of IOP in patients who received Laser Therapy (SLT) for the treatment of their glaucoma. In the long term, anonymous clinical data of hundreds of patients treated with SLT in our center will be analyzed to validate the effectiveness of this therapeutic option on lowering IOP and reducing the number of treatments (1 publication).
- The GDF15 study whose goal is to study the proteins of the ocular fluid and the possibility of using them as a predictive marker of glaucoma. Identifying proteins that can predict whether glaucoma symptoms will improve or worsen could help doctors better treat glaucoma in the future. This study is done in collaboration with the Faculty of Medicine of the University of Washington in the USA.

Overall, with 23 scientific publications in 2021 in peer-reviewed journals, the SGRF is the leading Swiss glaucoma research centre.

Educational activities covered the "Glaucoma on the Lake"– series, didactic courses on the theme of glaucoma (Lake Geneva, Lake Zurich, Lake Lugano).

ORTHOPEDIC SURGERY

Professor Guido Garavaglia, Head of Teaching and Research at Clinica Ars Medica, Gravesano, and Professor at the Faculty of Medicine, University of Geneva, developed an IT platform for the implementation of systematic PROM (Patient-Reported Outcome Measures) data collection for all types of clinical activities.

Professor Victor Valderrabano, Chairman, Swiss Ortho Center, Schmerzklinik Basel, Professor of Orthopaedics (University of Basel), PhD Biomechanics (University of Calgary/Canada) and Doctor in Medicine (University of Zurich) received two Awards:

- The first one, on 23.09.2021 in Charlotte, North Carolina, USA: "Kenneth A. Johnson International Speaker Award" of the American Orthopedic Foot and Ankle Society AOFAS;
- The second one on November 18-19, 2021 in Osnabrück/Germany from the German Association for Foot and Ankle Surgery (D.A.F.): "Guest of Honor of the D.A.F. Annual conference 2021" and "Corresponding Honorary Member of the D.A.F.", as thanks and recognition for the excellent cooperation with the D.A.F.

Professor Valderrabano co-authored a dozen of scientific articles in peer-reviewed journals and delivered many presentations at national and international conferences and webinars.

OSTEOARTICULAR PATHOLOGY

Dr. Adrien Schwitzguébel has been practicing physical medicine and rehabilitation, sports medicine and ultrasound of the musculoskeletal system at Hôpital de la Providence for the last 3 years. Since the beginning of his internship, he has maintained a clinical scientific activity in connection with the validation of the management of cutting-edge treatments on pathologies of the musculoskeletal system. He was co-author with the CHUV in a project for better characterizing the hypermobile and the Ehlers-Danlos syndrome (https://pubmed.ncbi.nlm.nih.gov/34398260/). He also created a research follow-up position (held by Dr. David Ramirez) and initiated an ambitious project concerning a randomised trial on the use of platelet-rich plasma for epicondylitis.

OUTCOME RESEARCH – VALUE-BASED MEDICINE

As regards outcome measurements, a pillar of the current and future initiatives of Swiss Medical Network in clinical practice, Dr Jacques Bernier continued his involvement in the activities and meetings of the International Consortium for Health Outcome Measurements – ICHOM. With respect to value-based medicine, Jacques Bernier also participated, on invitation, to the December 3, 2021 meeting set up by ICHI (Institute for Human-Centric Health Innovation), based on the P4 principles (to make medicine more preventive, predictive, personalized and participatory) and the ecosystem co-creation culture.

PREVENTIVE MEDICINE

At Nescens Clinique de Genolier and Laboratoire Genolier, Pr Jacques Proust further developed a research articulated around the production and development of new products from the Nescens cosmeceutics portfolio, including:

- A senolytic serum designed to eliminate senescent epidermal cells able to promote rejuvenation of skin structures;
- A “booster” serum containing high concentrations of niacinamide and dexpanthenol, compounds involved in maintenance and molecular repair activities, and promoting the expression of genes involved in tissue repair, respectively;
- A “booster” serum containing high concentrations of bakuchiol and ascorbyl tetraisopalmitate whose action, in addition to its anti-oxidant properties, is to stimulate the production of collagen and elastin;
- A serum for autologous use containing exosomes obtained during the culture of mesenchymatous stem cells taken during lipoaspiration. These exosomes contain the main elements of intercellular communication and their application induces the same positive effects as the injection of mesenchymatous stem cells on the renewal and rejuvenation of the epidermis.

Dr J. Proust conducts this latter research program, in collaboration with INSERM, France, and a Chinese laboratory, in Bejing.

QUALITY ASSURANCE

SWISS MEDICAL NETWORK – INOVALON COLLABORATION

The collaboration between Swiss Medical Network (Hôpital du Jura Bernois) and Inovalon (Tom Laughlin, Matthew Caminiti) pursued following objectives:

- To ingest, normalize & stage Swiss Medical Network's data;
- To measure the population against established quality key performance indicators (KPIs);
- To provide meaningful insights to Swiss Medical Network in order to help shape its strategy and health plan offering;
- To provide insight into pricing models across Swiss Medical Network;
- To assess and provide guidance on additional program enhancements (e.g., population health, clinical data extraction, and enhanced physician documentation).

The claim sources included a master claim file; exam data; surgery data; lab prescriptions and comorbidities.

A total of 96 HEDIS® (Healthcare Effectiveness Data and Information Set, one of health care's most widely used performance improvement tools) quality measures were processed on Swiss Medical Network/Hôpital du Jura Bernois-data from the EMR system in St-Imier, Tavannes, and Moutier, using the Inovalon Quality Spectrum™ analytics, in their Switzerland-based Microsoft Azure Data Center. All HEDIS® measures go through rigorous reliability and validity testings to assure that the measures of quality of care are accurate. All results are reviewed and approved by statistical and measurement experts at the National Quality Forum.

Certification details for specific Measures/KPIs can be found on the NQF website. From the analyses performed on 203,464 Medical Claims and 1,037,615 Pharmacy Claims, the main findings are as follows:

- Data is sourced only from the main EMR-ER, inpatient, and surgery data and a few specialist data;
- Analytics on existing dataset provide a detailed view of relevant quality measurement events, based on the HEDIS measure set dicussed above;
- Based on the data available, Inovalon was able to identify meaningful results for ten (10) HEDIS quality measures/KPIs: Breast cancer screening; comprehensive diabetes care; potentially harmful drug disease interactions in older adults; use of high risk medications in older adults; antibiotic utilization; acute hospital utilization; inpatient hospital utilization; mental health utilization; plan all-cause readmission; hospitalization for potentially preventable complications.

Inovalon would like to continue to work with Swiss Medical Network to acquire additional data sources, particularly outpatient and primary care physician (PCP) data – if available – as the limited data available yielded limited results. Additional specialist data from other sources will be integrated in 2022 and should increase the value of the analytical output, as shown in the report on activities, findings, and recommendations (for more detailed information, please scan the QR-Code).

QUALITY ASSURANCE IN ORTHOPEDIC SURGERY

As members of the ANQ (Swiss National Association for Quality Development in Hospital), the various teams of orthopedic surgery active within Swiss Medical Network, enter data into the SIRIS register (Registre Suisse des Implants). Since 2016, the orthopedic surgeons from Clinique de Genolier recorded and reported activity volumes relevant to implanted, total primary hip and knee prostheses, as well as the two-year revision rates for these primary total prostheses.

Likewise, Clinique de Genolier is in the Swiss average as far as the number of implanted knee prostheses per center is concerned. The data analysis published by ANQ in 2020 (namely, the 2-year adjusted revision rate from 1.1.2015 to 31.12.2018 for primary, total hip/knee replacements with primary arthrosis), carried out by Dr Bernard Bédat and Mrs Marie Lombard, also showed that the two-year revision rate of the primary, total hip prostheses was below the Swiss average; the corresponding rate for knee prostheses revision was slightly but not significantly above the Swiss average.

National risks for surgical revision were as expected (hip: infection, periprosthetic fracture and loosening femoral dislocation; knee: patella problems, femorotibial instability and infection, fracture). At Clinique de Genolier, outcome measurements therefore yielded good quality indices regarding surgery and follow-up procedures, as well as advices given to patients for rehabilitation. In addition, Clinique de Genolier continuously monitors SIRIS data via quarterly reports resulting from implant registration.

For more information about the ANQ results and the annual report of SIRIS 2020, please scan the matching QR-Code.

ANQ results

SIRIS original version

SIRIS schort version

RHEUMATOLOGY

At Schmerzkinik Basel, Dr Barbara Ankli continued her research on synovial inflammation in crystal arthritis, with a manuscript in preparation, to be submitted to a peer-reviewed journal.

UROLOGY

The Centre d'Urologie Générale-Beaulieu (Dr C.-H. Rochat, Dr G.-A. de Boccard, Dr G. Mayor; Dr G. Wirth), in collaboration with the Swiss International Prostate Center (SIPC) focused on different areas of oncological urology. A webinar was held on prostate cancer and a conference on artificial intelligence in the interpretation of prostate MRIs. Presentations at the Swiss and French Urology Congresses focused on the following areas:

- 3D modeling of the prostate before and after focal therapy;
- The use of 3D reconstruction of the segmentation software "Visible Patient" imported into the console of the Da Vinci® robot for complex kidney surgeries with vascular issues;
- Analysis of the personal cohort of Dr. CH. Rochat in 5-year increments between 2005 and 2019 involving 1054 patients in order to demonstrate the change in patient profile since the integration of multiparametric MRI;
- Analysis of tumor foci on radical prostatectomy specimens and involvement for focal therapy, comparison of different modalities of prostate biopsies, and finally the prognostic impact of tumor volume after radical prostatectomy.

Dr. G. Wirth conducted two moderations on prostate cancer at the Swiss Urology Congress and the HUG Prostate Cancer Forum. As an expert for the German Cancer Society, he has certified two prostate cancer centres (Ticino, Luxembourg). He has administered FMH examinations to urologist candidates at the CHUV and Payerne as an examiner for the Swiss Society of Urology. Finally, he was co-author of two scientific articles on bladder and prostate cancer, taught various pre- and postgraduate courses at HUG/UniGe and wrote a forensic expertise in the context of a trial in German-speaking Switzerland.

We also initiated the prostate center certification process under the coordination of Doctors G. Wirth and A. Friedlaender. In the field of humanitarian medicine, Doctors S. Regusci and C.-H. Rochat have a close collaboration with the University Urology Service of Cotonou.

At the end of the year, Dr. C.-H. Rochat was invited to the Philanthropy Lunch of the Department of Philanthropy of the University of Geneva to talk about scaling up Tanguiéta's model in the case of obstetric fistula care.

Dr M. Martins continued her research activity in the field of prostate cancer, especially as follow-up to https://pubmed.ncbi.nlm.nih.gov/32532530/, and https://bjui-journals.onlinelibrary.wiley.com/doi/10.1002/bco2.62. She also presented two contributions at Swiss and Franch Symposia:

- Symposium d'uroradiologie: "L'intelligence artificielle et IRM de la prostate", Geneva, November 2021;
- "Cas clinique: thérapie focale par HIFU tumeur apexielle", M. Martins-Favre and S. Regusci, Club HIFU, Lyon.

COMPLEMENTARY ACTIONS

GENERAL CONSENT – BIOETHICS

Damien Dietrich, Philippe Glasson, Nello Castelli and Jacques Bernier reviewed all scientific and legal aspects regarding information sets on the use of health-related data and samples for research purposes. Several meetings were organized to develop General Consent forms that are in full compliance with both, Swiss and international regulations, in the full respect of bioethical principles in medical research.

CLINICAL CARE AND MANAGEMENT

Innovating patient's rotation system

At Clinique de Genolier, Drissia El Archi coordinated the participation to a project, presented by the Instant-Lab laboratory of EPFLS in Neuchâtel and H4 (formerly SILAB). The aim of this project was to improve the procedures linked to the turning of the patient's position in a intensive care unit. Clinique de Genolier's participation was mainly related to the registration of feedbacks from the "users", the caregivers playing the role of the patients. In brief, the principle was to raise and turn the patient using two sheets of the bed and a stork (sick lift system). Using the instant-Lab system, the upper and lower sheets surrounding the patient were bound at the level of each shoulder and knee. This system requires only two or three caregivers, without any load port, just to accompany and secure the transfer, especially if the patient is intubated-ventilated or equipped with monitoring equipment. The team from Clinique de Genolier made suggestions for improvements, such as equipping the foam support used in our operating theatres (pink pad) to minimize pressure on the shoulders and knees and adapting the sheets to be able to use it in the operating theatres by adapting the sheets for fluid absorption concerns.

Analysing the prerequisites for P4 medicine application

A preparatory phase of the clinical application of P4 principles (to make medicine more preventive, predictive, personalized and participatory) took place at Clinique de Genolier. The objective was to find digital solutions that would allow patients to receive all the necessary information before their hospitalization and to have the opportunity to address all questions before and during the postoperative hospitalization. Upon returning home, this approach should be meant at favouring privileged contact with a member of the healthcare team, including eye contact (video-call, send photos, audio message or written message, depending on the request) in order to obtain quick and personalized answers, allowing to reduce stress or the feeling of unsecurity after the discharge.

Testing and improving COVID-linked workflows

This program consisted in testing and improving the implementation of daily reportings for all Swiss Medical Network clinics during the first COVID wave. This program aimed at centralizing the information of the different clinics in a same and unique file accessible to every member of the care chain. During the first COVID wave, the tested workflow model made it possible to see the activity of the clinics, the requisitioned sites, the RHT rate,

the number of COVID+ patients or collaborators, as well as the requests for reinforcement whenever necessary, especially for those clinics that had opened COVID+ Units. Improving the tested model also allowed users and hospital managements to visualize where the stocks of equipment were located (e.g. gloves, over-gowns, sterile materials,etc.) and therefore to resupply internally those of the clinic units with stock shortages.

HEAD AND NECK PATHOLOGIES

At Clinique de Montchoisi, Dr Albert Mudry, head of research in history at ENT Stanford University and professor in history of medicine at Paris University, developed his research activities in various domains, such as history of ENT, more particularly otology, with a particular focus on methodology, the first ideas behind progress and innovation.

IMMUNOLOGY

Throughout 2021, Jacques Bernier (Clinique de Genolier) continued to edit the electronic version of the scientific Daily Bulletin of the SWISS MEDICAL NETWORK COVID-19 Scientific Reporting. The vocation of this daily bulletin is to offer access to prominent scientific publications on the natural history and management of the SARS-CoV-2 pandemic.

ORTHOPEDIC SURGERY: "INNOVATION DAY"

A joint organization between Genolier Innovation Hub and Johnson & Johnson, the "Innovation Day" held at Nescens Clinique de Genolier, on November 2021, aimed at proposing a critical appraisal of various Research and Development programs presented by four Swiss start-ups, in the field of orthopedic surgery. This evaluation and interactive discussions between researchers, Swiss Medical Network, Johnson & Johnson representatives and academic orthopedic surgeons allowed identifying what were the main strengths and major limitations of each of the four research programs. The success encountered by this first joint organization justifies setting up, in 2022, similar scientific meetings benefiting from this very same format of "Innovation Day".

Main scientific programs and research sites: Overview
(in alphabetical order)

1 **BIOETHICS**
Clinique de Genolier

2 **CLINICAL CARE AND MANAGEMENT**
Swiss Medical Network

3 **DIGITAL HEALTH/DATA SCIENCE**
Clinique de Genolier
Hôpital du Jura bernois

4 **GENOMICS**
Clinica Sant'Anna
Clinique de Genolier

5 **HEAD AND NECK PATHOLOGIES**
Clinique de Montchoisi

6 **IMMUNOLOGY**
Clinique de Genolier

7 **INTEGRATED CARE**
Clinique de Genolier
Hôpital du Jura bernois

8 **INTERNAL MEDICINE**
Clinique de Genolier

9 **INTERVENTIONAL RADIOLOGY**
Clinique de Genolier

10 **NEUROSURGERY**
Clinique de Genolier
Clinique Générale Ste-Anne

11 ONCOLOGY
Clinica Sant'Anna
Clinique de Genolier
Clinique Générale-Beaulieu
Privatklinik Bethanien

12 OPHTHALMOLOGY
Swiss Visio Montchoisi

13. ORTHOPEDIC SURGERY
Clinica Ars Medica
Clinique de Genolier
Clinique Générale Ste-Anne
Privatklinik Bethanien
Schmerzklinik Basel

14. OSTEOARTICULAR PATHOLOGIES
Hôpital de La Providence

15. OUTCOME RESEARCH VALUE-BASED MEDICINE
Clinica Ars Medica
Clinique de Genolier

16. PREVENTIVE MEDICINE
Clinique de Genolier
Nescens Clinique de Genolier

17. QUALITY ASSURANCE
Clinique de Genolier

18. RHEUMATOLOGY
Schmerzklinik Basel

19. UROLOGY
Clinique Générale-Beaulieu

Swiss Medical Network sites with ongoing research projects

BASEL
Schmerzklinik Basel

BERN
Hôpital du Jura bernois
(Sites Bellay, Moutier et Saint-Imier)

FRIBOURG
Clinique Générale Ste-Anne

GENEVA
Clinique Générale-Beaulieu

GENOLIER
Clinique de Genolier
Nescens Clinique de Genolier

LAUSANNE
Clinique de Montchoisi
Swiss Visio Montchoisi

NEUCHÂTEL
Hôpital de La Providence

TICINO
Clinica Ars Medica, Gravesano
Clinica Sant'Anna, Sorengo

ZURICH
Privatklinik Bethanien

○ Other Swiss Medical Network sites.

SCIENTIFIC PARTNERSHIPS

In Bern, Jacques Bernier and Stanley Hautdidier (Clinique de Genolier) systematically participated at the frequent meetings organized all along 2021 by the StartUp Club of SITEM-INSEL AG (Swiss Institute for Translational and Entrepreneurial Medicine), Genolier Foundation / Swiss Medical Network is Leading Partner of.

In particular, their expertise was constantly requested at the occasion of pitching events set up by the Institute to assess the value of research programs developed by Swiss and international start-ups.

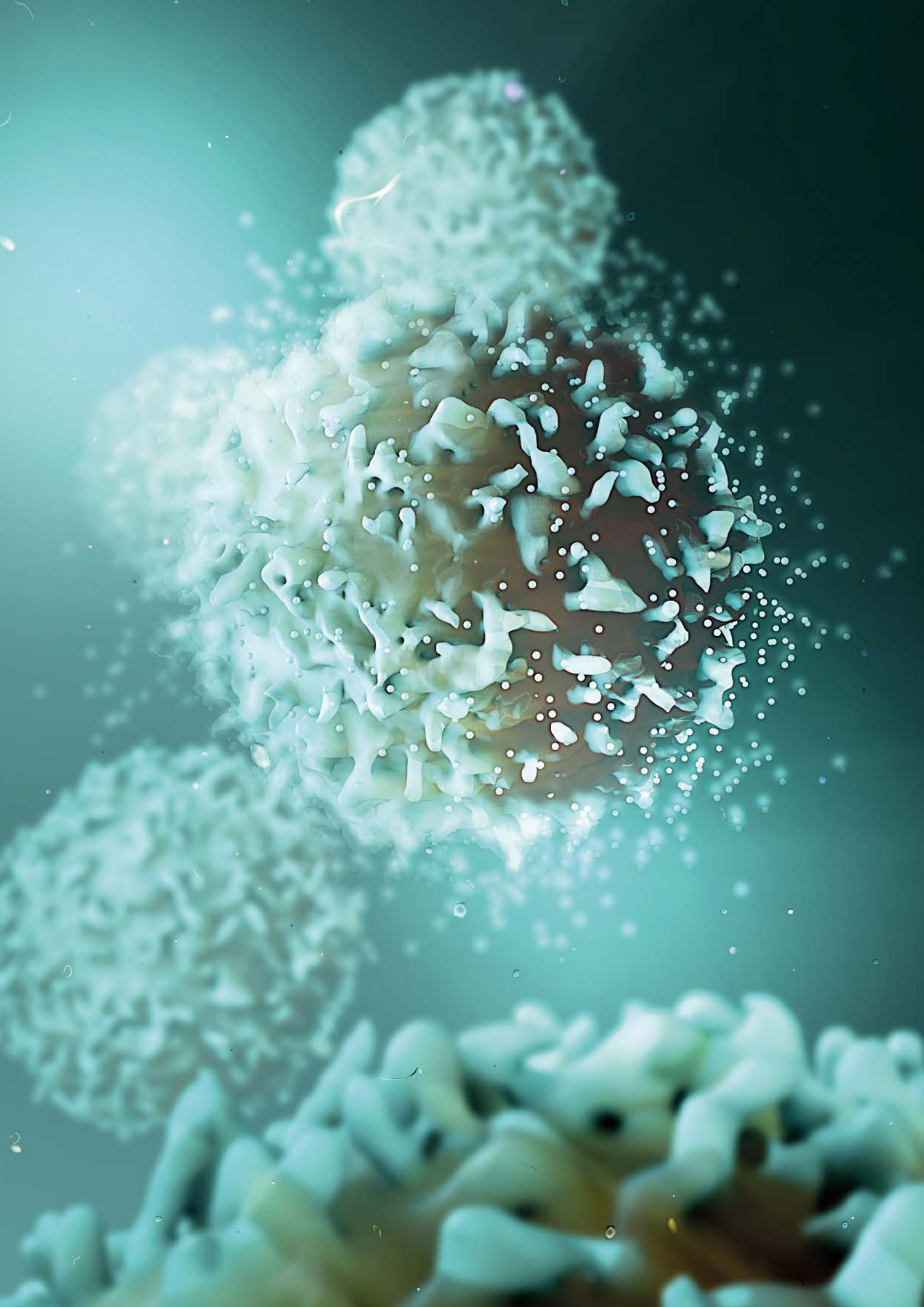
Likewise, they regularly participated at scientific events organized by Biopôle in Lausanne, in the framework of the new partnership between this entity and Swiss Medical Network. In addition, a seminar, organized by Biopôle, allowed Swiss Medical Network's scientific platform and Genolier Innovation Hub leaders to share their own experience and vision in the field of biomedical research with Biopôle partners.

ON-GOING RESEARCH

(Study protocols in oncology by organs)

STUDY NAME	CLINICAL TARGETS
SAKK 23/16 – TAXIS Tailored AXIllary Surgery with or without axillary lymph node dissection followed by radiotherapy in patients with clinically node-positive breast cancer. A multicenter randomized phase III Trial.	Breast
PREVENT Etude suisse, multicentrique, randomisée, placebo contrôlée, sur l'utilisation préventive de la prégabaline chez les patientes à haut risque de développer des douleurs persistantes après une chirurgie de cancer du sein.	Breast
RIB-ELLE A non-interventional study to assess the safety and efficacy of RIBociclib in combination with an aromatase inhibitor (letrozole, anastrozole, exemestane) in the Swiss advanced breast cancer population.	Breast
SAKK 23/18 – VISION I Vacuum assisted biopsy Immediately before Surgery as an Intra- or pre-Operative surrogate for patient response to Neoadjuvant chemotherapy for breast cancer (VISION I).	Breast
MYRISK MyRisk: Efficacy and safety evaluation of oral Akynzeo® in patients receiving MEC at high risk of developing CINV based on a prediction tool. A multinational and multicentre study.	Various cancers

STUDY NAME	CLINICAL TARGETS
SAKK 41/13 – ASPIRINE / EORTC 1534 SAKK 41/13-Aspirin. Adjuvant aspirin treatment in PIK3CA mutated colon cancer patients. A randomized, double-blinded, placebo-controlled, phase III trial.	Colon
BAZEDOXIFENE Bazedoxifene, a selective estrogen receptor modulator clinically available for the treatment of osteoporosis, has shown to be an effective GP130/STAT3 signaling inhibitor through in vitro and small animal studies.	Pancreatic and gastric tumors
NIVO-71 A registry for patients with progressing metastatic solid tumor infiltrated by CD8+ T cells and receiving Nivolumab Off-label in the Romand Network of Oncology (RRO).	All solid malignancies
SAKK 96/12 – REDUSE Prevention of symptomatic skeletal events with Denosumab administered every 4 weeks versus every 12 weeks – A non-inferiority Phase III Trial.	Breast Prostate



ONCOLOGY PROTOCOLS

Breast cancer

SAKK 23/16 – TAXIS: TRIAL OVERVIEW

- Patients entered into this trial are those presenting with breast cancer, with positive axillary nodes.
- This clinical study investigates the role of a new surgical approach, called tailored axillary surgery (TAS), an innovative technique that aims at selectively removing the positive lymph nodes.
- The study compares this new surgical approach, which is likely to reduce the surgery side effects, to conventional axillary dissection.
- Should TAS be as efficacious as conventional surgery in terms of disease control, the use of this innovative approach would then improve the quality of life of a significant number of breast cancer patients with positive nodes in the axilla.

Trial Title
OPBC-03/SAKK 23/16/IBCSG 57-18/ABCSG-53/CBG-101. Tailored AXIllary Surgery with or without axillary lymph node dissection followed by radiotherapy in patients with clinically node-positive breast cancer (TAXIS).

Clinical Phase
Clinical trial phase III.

Sponsor
University Hospital Basel.

Coordinating investigator
W.P. Weber, CH-Basel

Patient population
The TAXIS trial will evaluate the optimal treatment for breast cancer patients with confirmed nodal disease at first diagnosis in terms of surgery and radiotherapy.

Background and Rationale
The removal of all lymph nodes in the armpit through conventional axillary dissection has been standard care for all patients with breast cancer for almost a century. In the nineties, the sentinel lymph node (SLN) procedure, which involves the selective removal of the first few lymph nodes in the lymphatic drainage system, was introduced in clinical practice. Today, conventional axillary dissection is still performed on many women with breast cancer that has spread to the nodes. It is the cause for relevant morbidity in the form of lymphedema, impairment of shoulder mobility, sensation disorders and chronic pain in as much as one third of all women undergoing the procedure. The TAXIS trial will evaluate the optimal treatment for breast cancer patients with confirmed nodal disease at first diagnosis in terms of surgery and radiotherapy.

Objective(s)
TAXIS will investigate the value of tailored axillary surgery (TAS), a new technique that aims at selectively removing the positive lymph nodes. TAS is a promising procedure that may significantly decrease morbidity in breast cancer patients by avoiding surgical overtreatment.
The main objective of the trial is to show that tailored axillary surgery (TAS) and axillary radiotherapy (RT) is non-inferior to axillary lymph node dissection (ALND) in terms of disease-free survival of breast cancer patients with positive nodes.

Breast cancer

PREVENT: STUDY OVERVIEW

- Patients entered into this study are those presenting with high-risk breast cancer and treated by surgery.
- Persistent postsurgical pain occurs in more than 30% of patients undergoing breast cancer surgery.
- This clinical study aims at determining whether pregabalin, a drug with analgesic and anxiolytic activities, may reduce the incidence of persistent postsurgical pain.
- Should a significant analgesic effect of pregabalin be demonstrated by this study, the administration of this drug would be strongly recommended in the future for breast cancer patients at risk of developing post-surgical, chronic pain syndrome.

Study Title
Swiss multi-center, randomized, placebo controlled trial of pregabalin for prevention of persistent pain in high risk patients undergoing breast cancer surgery.

Clinical Phase
Clinical phase III study.

Sponsor-Investigator
B. Rehberg-Klug, CH-Geneva.

Patient population
High-risk patients undergoing breast cancer surgery.

Background and Rationale
Persistent postsurgical pain occurs in more than 30% of patients undergoing breast cancer surgery. Evidence that gabapentinoids such as pregabalin may reduce the incidence of persistent post-surgical pain is ambiguous, potentially because in previous trials prophylactic treatment was administered to every patient undergoing surgery. The patients at low risk of long-term pain are exposed to side effects without much benefit to expect.

Objective(s)
The PREVENT study has two aims:

- Validating or refuting the utility of pregabalin to prevent long-term postoperative pain in patients at high risk of persistent pain after breast cancer surgery.
- Analyzing how side-effect information influences treatment tolerance.

In addition, genetic material will be collected for a later genetic association analysis on acute and chronic post-surgical pain.

Breast cancer

RIB-ELLE: STUDY OVERVIEW

- The patients entered into this study are post-menopausal female patients (≥ 18 years old), with a diagnosis of HR+/HER2-negative advanced breast cancer.
- Endocrine (hormonal) therapy has been the backbone of HR+/HER2- negative advanced breast cancer treatment, nevertheless its efficacy is limited.
- The primary objective is to analyze the potential advantages of the addition of ribociclib – a CDK4/6 inhibitor – to an aromatase inhibitor in these patients in comparison with the endocrine therapy alone.

Patient population
The study will enroll 200 adult post-menopausal female patients (≥ 18 years old), with a diagnosis of HR+/HER2-negative advanced breast cancer that will be treated with ribociclib and an aromatase inhibitor.

Background and Rationale
Endocrine (hormonal) therapy has been the backbone of HR+/HER2- negative advanced breast cancer treatment, nevertheless its efficacy is limited.
Nevertheless, a recent clinical study showed that, in postmenopausal women with HR+/HER2-negative advanced breast cancer who had received ribociclib, a CDK4/6 inhibitor, plus letrozole versus placebo plus letrozole, showed that a 44% relative risk reduction was evident in the hazard rate of progression/death in favor of ribociclib plus letrozole.

Objective(s)
The primary objective is to analyze time to treatment failure (TTF) for the initial endocrine based treatment with ribociclib plus an aromatase inhibitor in patients with HR+/HER2-negative advanced breast cancer in a real world patient population (Switzerland).

Study Title
RIB-ELLE: A non-interventional study to assess the safety and efficacy of RIBociclib in combination with an aromatase inhibitor (letrozole, anastrozole, exemestane) in the Swiss advanced breast cancer population.

Clinical Phase
Clinical non-interventional study.

Sponsor-Investigator
Dr. Nadine Pasche, Novartis Pharma Schweiz AG.

Breast cancer

SAKK 23/18 – VISION I: TRIAL OVERVIEW

- Patients entered into this trial are those presenting with luminal B, ER < 10 %, cT1c-cT2c breast cancer, with (near) complete radiological response after neo-adjuvant chemotherapy (NAC).
- As NAC induces different response patterns, radiologic imaging is not sufficiently accurate in predicting residual disease. This clinical study investigates the sensitivity of vacuum-assisted biopsy (VAB) through the possibility of obtaining tissue of the former tumor center that could contribute more reliably to detect any residual tumor or respectively, rule out residual disease.
- The main objective of the trial is to determine the diagnostic accuracy of the post-NAC VAB in determining pCR, compared to open surgery.
- Should vacuum-assisted biopsy be more sensitive than open surgery to detect pCR after neo-adjuvant chemotherapy, this former technique should be considered as standard approach in the patient population mentioned above.

Trial Title
Vacuum assisted biopsy Immediately before Surgery as an Intra- or pre-Operative surrogate for patient response to Neoadjuvant chemotherapy for breast cancer (VISION I).

Clinical Phase
A multicenter prospective feasibility trial. Clinical trial with other health intervention.

Sponsor
Swiss Group for Clinical Cancer Research (SAKK).

Coordinating investigator
C. Tausch, CH-Zürich.

Patient population
Patients with unifocal, histologically confirmed invasive breast cancer with immunohistochemistry luminal B type (with or without overexpression or amplification of the HER2 receptor) and all ER negative (ER < 10%) breast cancers. Initial tumor size larger than 1 and less than 5 cm (cT1c to cT2), any N, M0. Following neoadjuvant chemotherapy resulting in a radiological complete response or near complete response on MR-Imaging.

Background and Rationale
Neoadjuvant chemotherapy (NAC) has lately become common practice in the primary treatment of breast cancer. The use of modern NAC regimens lead to a complete pathologic remission (pCR) of the tumor in more than 50% in aggressive tumor types.
In general, it is difficult to predict pCR in the absence of invasive surgical techniques, as it depends on several factors such as biological subtype, the used chemotherapy regimen and anatomic stage. As NAC induces different response patterns, radiologic imaging is not sufficiently accurate in predicting residual disease. Because of this uncertainty, surgery (and the standardized assessment of resected tissue) is so far the only valid option to either ascertain complete response or to remove the complete residual disease.
Vacuum-assisted biopsy (VAB) with the possibility of obtaining tissue of the former tumor center could contribute more reliably to detect any residual tumor or respectively, rule out residual disease. Ultrasound (US) or mammographically (MG) guided VAB will be used in this trial in order to detect residual tumor lesions in patients with radiological complete response (rCR) after NAC.

Objective(s)
The main objective of the trial is to determine the diagnostic accuracy of the post-NAC VAB in determining pCR compared to open surgery.

Various cancers

MYRISK: STUDY OVERVIEW

- Patients entered into this study are those presenting patients treated with intravenous moderately emetogenic chemotherapy and at high risk of chemotherapy-induced nausea and vomiting (CINV).
- Despite the availability of effective antiemetics and evidence-based guidelines, up to 40% of cancer patients receiving chemotherapy fail to achieve complete nausea and vomiting control.
- Akynzeo® contains two active substances: netupitant, a NK1 RA, and palonosetron, a 5 HT3 RA, thus representing a valid and convenient therapeutic option associated with improvement of patient's compliance.
- The study hypothesis is that Akynzeo® is more effective in preventing CINV than the standard of care in patients treated with high-risk MEC.
- Should this superiority of the new drug be confirmed, its use would then be considered as standard of care in this patient population.

Patient population
Patients with diagnosis of any cancer scheduled and intended to be treated for three consecutive cycles with a single dose of any IV MEC regimen, per cycle, including adjuvant or neo-adjuvant chemotherapy.

Background and Rationale
Akynzeo® contains two active substances: netupitant, a NK1 RA, and palonosetron, a 5 HT3 RA, thus representing a valid and convenient therapeutic option associated with improvement of patient's compliance.
The clinical development program consistently demonstrates that Akynzeo® with dexamethasone provides additional benefit in terms of complete response, both in the delayed, the acute, and the overall phases of CINV in both cisplatin-based chemotherapy (HEC) and AC based chemotherapy (formerly defined as MEC and more recently re-classified as AC HEC).

Objective(s)
The primary objective is to evaluate if the use of netupitant and palonosetron in patients treated with IV moderately emetogenic chemotherapy and at high risk of CINV is more effective in preventing CINV than standard of care antiemetics over three cycles of chemotherapy.

Trial Title
MyRisk: Efficacy and safety evaluation of oral Akynzeo® in patients receiving MEC at high risk of developing CINV based on a prediction tool. A multinational and multicentre study.

Clinical Phase
Post-registration clinical study phase IV.

Sponsor
Helsinn Healthcare SA (Pazzallo – Lugano, CH).

Principal investigator
Matti Aapro,
Clinique de Genolier,
CH-Genolier.

Colo-rectal cancer

SAKK 41/13-ASPIRIN/EORTC 1534: TRIAL OVERVIEW

- Patients entered into this study are those presenting with colon cancer, at an intermediate or advanced stage of disease, and in whom a gene mutation, namely PIK3CA, is identified.
- Many clinical studies have provided evidence for a protective effect of aspirin on colorectal cancer.
- The trial objective is to demonstrate that the daily administration of aspirin for a 3-year period can prolong the survival of these patients.
- Should the efficacy of aspirin be confirmed, the use of aspirin would be strongly recommended in colon cancer patients with PIK3CA gene mutation.

Trial title
SAKK 41/13-Aspirin. Adjuvant aspirin treatment in PIK3CA mutated colon cancer patients. A randomized, double-blinded, placebo-controlled, phase III trial.

Clinical Phase
A randomized, double-blinded, placebo-controlled, phase III trial.

Sponsor
Swiss Group for Clinical Cancer Research (SAKK).

Coordinating investigator
U. Güller, CH-St.Gallen.

Patient population
PIK3CA mutated colon cancer patients.

Background and Rationale
Many observational and even randomized studies have provided evidence for a protective effect of aspirin on colorectal cancer. Patients with PIK3CA mutation taking regular low-dose aspirin were found to have a significantly lower risk of colorectal cancer recurrence compared to those not taking aspirin. It is hypothesized that the inhibition of cyclooxygenase-2 (COX-2) through aspirin down regulates the PIK3CA signaling activity resulting in an inhibition of tumor cell proliferation. COX-2 is an important mediator of prostaglandin E2 (PGE2) production, which has been demonstrated to enhance tumor cell survival, angiogenesis and proliferation and reduce apoptosis. These extremely interesting and intriguing findings need to be confirmed in a prospective trial to potentially change clinical practice.

Objective(s)
The trial objective is to demonstrate a statistically significant and clinically relevant disease-free survival benefit in stage II and III PIK3CA mutated colon cancer patients taking daily adjuvant aspirin for 3 years.

Pancreatic and gastric tumors

BAZEDOXIFENE: STUDY OVERVIEW

- Patients entered into this study are those presenting with advanced pancreatic and gastric tumors.
- Bazedoxifene, a selective estrogen receptor modulator clinically available for the treatment of osteoporosis, has shown to be an effective GP130/STAT3 signaling inhibitor through in vitro and small animal studies.
- The aim of the study is to investigate the effect of bazedoxifene on tumor progression in patients with advanced pancreatic and gastric tumors.

Patient population
The data of 7 patients (5 suffering from pancreatic and 2 from gastric adenocarcinoma), with locally advanced and/or metastatic disease, median age 73 years old (range 48 – 86 years) were analyzed. Bazedoxifene was given orally at a dose of 20 mg per day for a median duration of 9 months (range 5 – 14 months). Two patients received bazedoxifene as monotherapy, 5 patients were under concomitant chemotherapy.

Background and rationale
Experimental studies have shown that the IL6/GP130/STAT3 pathway is involved in pancreatic cancer tumorigenesis and progression as well as in the development of other tumors. Bazedoxifene, a selective estrogen receptor modulator clinically available for the treatment of osteoporosis, has shown to be an effective GP130/STAT3 signaling inhibitor through in vitro and small animal studies.

Objective(s)
The aim of the study is to investigate the effect of bazedoxifene on tumor progression in patients with advanced pancreatic and gastric tumors.

Outcome
Tumor marker reduction was found in 5 patients, stable disease on CT in 5 patients and metabolic regression on PET-CT in 3 patients. Weight was gained in 4 patients. 2 patients developed deep vein thrombosis and 1 pulmonary embolism, the treatment was otherwise well tolerated. An immuno-histochemical study of pSTAT3 was performed in 6 patients, out of which 3 were positive. Bazedoxifene is therefore a potential new therapeutic option for pancreatic and gastric cancer therapy, safe to use and at low cost. Based on these preliminary results, a prospective clinical study will be initiated.

Study Title
Bazedoxifene as a novel strategy for treatment of pancreatic and gastric adenocarcinoma.

Clinical Phase
Observational study.

Coordinating Investigator
Michel Forni, Centre d'Oncologie des Eaux-Vives, CH-Geneva.

All solid malignancies

NIVO-71: REGISTRY OVERVIEW

- Patients entered into this study are those presenting with a metastatic solid tumor infiltrated by CD8+ T cells, which are cells of the immune system that contribute to the body's adaptive immune response.
- In this study, patients are treated by immunotherapy, using nivolumab, an anti-PD-1 monoclonal antibody, working as a checkpoint inhibitor.
- The objectives of the study are to create a prospective registry of patients and define efficacy of nivolumab in patients with metastatic disease.

Project title
A registry for patients with progressing metastatic solid tumor infiltrated by CD8+ T cells and receiving nivolumab off-label in the Romand Network of Oncology (RRO).

Clinical phase
Prospective registry.

Sponsor
CHUV, CH-Lausanne.

Coordinating investigator
Olivier Michielin,
Department of Oncology,
CHUV, CH-Lausanne.

Patient population
Patients with progressing metastatic solid tumor infiltrated by CD8+ T cells and receiving nivolumab off-label in the Romand Network of Oncology (RRO)

Background and Rationale
Nivolumab is a fully humanized, monoclonal, immunoglobulin G4 (IgG4) antibody to PD-1. It is currently approved for locally advanced or metastatic non-small cell lung cancer (NSCLC), melanoma, clear cell carcinoma (CCR), squamous cell cancer of head and neck, and classical Hodgkin lymphoma.

Objective(s)
The primary objective of the study is to create a prospective registry of patients with metastatic solid tumors infiltrated with CD8+ T cells for whom off-label nivolumab is prescribed.
The secondary objective of the study is to define efficacy of off-label nivolumab and appropriateness of nivolumab indications.
The exploratory objectives are to perform translational studies on optional tumor biopsies and blood samples.

Breast and Prostate cancer

SAKK 96/12 – REDUSE: TRIAL OVERVIEW

- Patients entered into this study are those presenting with bone metastases from castration resistant prostate cancer or from breast cancer.
- Denosumab, a monoclonal antibody, has a high activity in preventing skeletal related events. Although denosumab is generally well tolerated, severe toxicities as marked hypocalcemia can be observed after the administration of this drug.
- The main objective is to compare two modalities of Denosumab administration, namely every month vs every three months, in these two patient populations.
- Should a dose reduction of this drug show equivalent efficacies, patients could be treated with less toxicities, resulting in a better quality of life.

Patient population
Patients with bone metastases from castration resistant prostate cancer or from breast cancer.

Background and Rationale
Based on their ability to inhibit osteoclast activity, biphosphonates have been used for more than a decade to delay the onset and to reduce the incidence of skeletal related events (SREs) in people with breast and prostate cancer. Traditionally, SREs were defined as a pathologic fracture, spinal cord compression, requirement for radiation therapy or surgery to bone or change in antineoplastic therapy to treat bone pain. Denosumab, a human monoclonal antibody against RANKL, entered the field and three phase III studies have shown a higher activity in preventing SREs as compared with zoledronic acid without impact on disease progression or death. Although generally well tolerated, severe hypocalcemia (corrected serum calcium <1.75 mmol/L) was reported to occur in 3.1% of patients treated with denosumab (versus 1.3% of patients treated with zoledronic acid), and even fatal and prolonged cases have been reported. The impact of dose reduction on SREs has therefore to be investigated.

Objective(s)
The main objective is to establish that denosumab 120 mg given every 12 weeks is non-inferior to denosumab 120 mg given every 4 weeks, in patients with bone metastases from castration resistant prostate cancer or from breast cancer.

Trial title
SAKK 96/12. Prevention of Symptomatic Skeletal Events with Denosumab Administered Every 4 weeks versus every 12 Weeks – A Non-Inferiority Phase III Trial.

Clinical phase
A Non-Inferiority Phase III Trial.

Sponsor
Swiss Group for Clinical Cancer Research (SAKK).

Coordinating investigator
R. von Moos. Kantonsspital Graubünden, CH-Chur.

IMPACT OF RESEARCH PROGRAMS ON PATIENT PATHWAYS

EXAMPLES OF SUCCESSFUL COOPERATIVE AND INTERNAL STUDIES INVOLVING SWISS MEDICAL NETWORK'S TEAMS

BREAST PATHOLOGIES: ORGANIZED BREAST CANCER SCREENING NOT ONLY REDUCES MORTALITY FROM BREAST CANCER BUT ALSO SIGNIFICANTLY DECREASES DISABILITY-ADJUSTED LIFE YEARS: ANALYSIS OF THE GLOBAL BURDEN OF DISEASE STUDY AND SCREENING PROGRAMME AVAILABILITY IN 130 COUNTRIES

The aim of this study is to evaluate the relative contribution of breast cancer screening (BCS) approaches to age-standardized mortality and disability-adjusted life years (DALYs) rates along with other related risk factors, from a country-level perspective. It created a country-dataset by merging information from the Global Burden of Disease study regarding female age-standardized BC mortality, DALYs rates and other risk factors with the BCS programme and other BCS-related information among 130 countries.

These data supported the positive effects of Breast Cancer Screening in relation to age-standardized BC mortality rates, and for the first time show the impact of BCS on DALYs too. Additional factors, such as diabetes, high levels of LDL-c or smoking seemed to be related to BC mortality and disability, and could be considered as additional components of possible interventions to be used alongside BCS to optimize the BCS benefit on patients.

Literature reference: https://pubmed.ncbi.nlm.nih.gov/33892452/

OPHTHALMOLOGY: SAFETY AND PERFORMANCE OF A SUPRACHOROIDAL SENSOR FOR TELEMETRIC MEASUREMENT OF INTRAOCULAR PRESSURE IN THE EYEMATE-SC TRIAL

This prospective, multicentre, interventional clinical trial investigates the safety and performance of a telemetric suprachoroidal intraocular pressure (IOP) sensor (EYEMATE-SC) and the accuracy of its IOP measurements in open angle glaucoma (OAG) patients undergoing simultaneous non-penetrating glaucoma surgery (NPGS). Twenty-four patients with OAG regularly scheduled for NPGS (canaloplasty or deep sclerectomy) were simultaneously implanted with an EYEMATE-SC sensor.

The eyes underwent canaloplasty (n=15) or deep sclerectomy (n=9) and achieved successful implantation of the sensor. No device migration, dislocation or serious device-related complications occurred. A total of 367 comparisons were included in the IOP agreement analysis.

After 6 months, the EYEMATE-SC sensor was shown to be safe and well tolerated, and allowed continual IOP monitoring.

Literature reference: https://pubmed.ncbi.nlm.nih.gov/34772665/

GENOMICS:
THE MAPPING THE HUMAN GENETIC ARCHITECTURE OF COVID-19 HOST GENETICS INITIATIVE

A global network of researchers to investigate the role of human genetics in SARS-CoV-2 infection and COVID-19 severity analyzed the results of three genome-wide association meta-analyses that consist of up to 49,562 patients with COVID-19 from 46 studies across 19 countries. This analysis identified 13 genome-wide significant loci that are associated with SARS-CoV-2 infection or severe manifestations of COVID-19. Several of these loci correspond to previously documented associations to lung or autoimmune and inflammatory diseases. Mendelian randomization analyses support a causal role for smoking and body-mass index for severe COVID-19 although not for type II diabetes. This working model of international collaboration underscores what is possible for future genetic discoveries in emerging pandemics, or indeed for any complex human disease.

Literature reference: https://pubmed.ncbi.nlm.nih.gov/34237774/

NEUROSURGERY:
TRANSTUBULAR ANTERIOR CERVICAL FORAMINOTOMY FOR THE TREATMENT OF COMPRESSIVE CERVICAL RADICULOPATHY

This retrospective review of patients with compressive cervical radiculopathy treated with a minimally invasive anterior cervical foraminotomy (ACF) aimed to evaluate thesafety and efficacy results in a series of 45 consecutive patients treated for compressive cervical radiculopathy.

ACF is a motion-sparing procedure and an alternative to anterior cervical discectomy and fusion (ACDF) and posterior cervical foraminotomy for direct nerve root decompression in patients with compressive cervical radiculopathy. Between January 2004 and October 2019, 45 patients underwent ACF for unilateral cervical radiculopathy. The global clinical outcome was evaluated as excellent in 64.5% of patients, good in 28.9 %, fair in 4.4%, and poor in 2.2%. The statistical analysis revealed no influence of age, sex, operated level, and side on the clinical outcome. No patient presented with signs of delayed segmental instability. The overall reoperation rate of this series was 4.4 %.

This study shows that ACF is a feasible and low-cost alternative to ACDF in selected patients with cervical radiculopathy. The use of tubular retractors in ACF may confer an added advantage that creates a safe corridor for direct cervical root decompression yet minimizing surrounding soft tissue retraction and avoiding unnecessary bone removal.

Literature reference: https://pubmed.ncbi.nlm.nih.gov/33189103/

EDUCATION

In 2021, a range of medical conferences and seminars were organized in most cases as virtual meetings, due to the restrictions imposed by the COVID-19 pandemic.

CLINIQUE DE VALMONT, GLION SUR MONTREUX

How to protect your back?
Internal training 23 – 25.03.2021
Participants: all employees of the clinic 20.04.2021

https://pub.swissmedical.net/newsletters/cva/20210611-cva-newsletter-formation-dos/

CLINIQUE DE MONTCHOISI, LAUSANNE

Ardeat, prevention of burns in the operating room
Training
Participants: collaborators from the general operating room and the ophthalmology operating room 12.06.2021

H+, hospital hygiene, a system developed to comply with the provisions of the law and protect the safety and health of employees
Information session
Participants: all employees of the clinic 06 – 07.09.2021

CLINIQUE DE GENOLIER, GENOLIER

Medical conference: Which fee model in the complementary insurance?
Medical conference
Dr. Philippe Eggimann, President of the Société Vaudoise de Médecine
M. Robert Derendinger, Director of Patient Administration 16.06.2021

Training on burns
Training for nursing staff (doctors and employees) on the risks of burns in the operating room and in interventional areas
Organized by an external company: Ardeat 25.06.2021

Swiss Summit on Hemato-Oncology
Online attendance from physicians of the clinic
Organized by the SSHO(Swiss Summit on Hemato-Oncology) 25.08.2021

PRIVATKLINIK BETHANIEN, ZÜRICH

Advanced training
Interdigest: Diagnostic and therapeutic concepts for inflammation
Dr. med Christen (President), Dr. med. Helbling (Training Officer of Interdigest), Dr. med. Jörg Häufel, Dr. med. Bigna Straumann-Funk, Dr. med. Nicolas Clément, Dr. med. Pascal Jeanmonod, PD Dr. med. Michael Fischer, Dr. med. Tammo Bartnick, PD Dr. med. Pascal Frei 23.09.2021

CLINICA SANT'ANNA, SORENGO – CLINICA ARS MEDICA, GRAVESANO

Update and training in Radiation Protection
Medical training (online)
Dr. Stefano Presilla, SGSMP Medical Physicist
(from the Ente Ospedaliero Cantonale) 29.09.2021

Internal Radiology Training
Medical training (online)
Dr. Stefano Presilla, SGSMP Medical Physicist
(from the Ente Ospedaliero Cantonale) 20.10.2021

Internal Radiology Training
Medical training (online)
Dr. Stefano Presilla, SGSMP Medical Physicist
(from the Ente Ospedaliero Cantonale) 17.11.2021

SWISS VISIO NETWORK, SWITZERLAND

5th International Montchoisi Glaucoma Symposium
Symposium
Dr. Kaweh Mansouri, Dr. André Mermoud 30.09.2021

Support the development of physicians clinical and surgical skills in the treatment of glaucoma through several training programs
Training activities
Organized by Swiss Glaucoma Research Foundation
Dr. Kaweh Mansouri, Dr. André Mermoud

CLINIQUE DE VALÈRE, SION

Treatment of obesity at the Clinique de Valère: metabolism and surgery
Medical conference
Prof. Daniel Savioz, Dr. Sandra Martiz Aguilar, Maya Gianadda (dietician) 30.09.2021

SWISS MEDICAL NETWORK, SWITZERLAND

Innovation Day
Held at Clinique de Genolier
Pitch of 4 start-ups in partnership with Johnson & Johnson Innovation 04.11.2021

HÔPITAL DE LA PROVIDENCE, NEUCHÂTEL

Journée romande des Centres de dialyse
Education & Medical conference
Dr. Fabien Stucker, Dr. Antoine Humbert, physicians in charge of the Nephrology and Hypertension departments 11.11.2021

CLINIQUE GÉNÉRALE-BEAULIEU, GENEVA

Presentation of the Radio-Oncology Department
Medical conference
Prof. Oscar Matzinger, Medical Director of the Swiss Medical Network radiotherapy and the Clinique Générale-Beaulieu; Prof. Mahmut Ozsahin, Associate Professor & Chief Physician, Department of Radiation Oncology, CHUV; Prof. Marc Levivier, Head of the neurosurgery department of the CHUV; Dr. méd. Nathaniel Sher, Oncologist and radiotherapist, Hartmann Center, Paris ; Mr. Josh Levine, CEO of Accuray; Mr. Johan Löff, CEO of RaySearch; Mr. Antoine Hubert, Delegate Administrator of Swiss Medical Network 25.11.2021

NESCENS CLINIQUE DE GENOLIER, GENOLIER

Dubaï World Expo 2020:
Your Health and Wealth – Made in Switzerland
Speech and conference on check ups and preventive medicine
Prof. Jacques Proust 28.11.2021

HÔPITAL DU JURA BERNOIS, SITE DE SAINT-IMIER

Management of the patient in chronic renal failure chronic renal failure in hemodialysis – Chronic dialysis: new paradigms
Education
Prof. Patrick Saudan, Head of the Dialysis Unit dialysis unit, Department of Nephrology and Hypertension, Hôpitaux Universitaires de Genève (HUG) 16.12.2021

SCHMERZKLINIK BASEL, BASEL – LUNCH LECTURES

Chronical pain and connective tissue diseases
Continuing medical education program
Dr. med. Barbara Ankli, Schmerzklinik Basel 12.01.2021

Opioide – friend or foe
Continuing medical education program
Prof. Stephan Krähenbühl, Unispital Basel 16.02.2021

Supervision for those treating the chronically ill
Continuing medical education program
Prof. Alexander Kiss, Unispital Basel 09.03.2021

Chronic shoulder pain – Dos and Don'ts
Continuing medical education program
Dr. med. Mohy Taha, Privatklinik Villa im Park 13.04.2021

New molecules for the targeted therapy of osteoarthritis
Continuing medical education program
Prof. Thomas Hügle 11.05.2021

Vaccination and immunosuppression
Continuing medical education program
PD Dr. Christoph T. Berger 08.06.2021

Rheumatism Update, focus on rheumatoid arthritis
Continuing medical education program
Dr. med. Matthias Ulrich Falk, Schmerzklinik Basel 13.07.2021

The neuropathic pain / differential diagnoses
Continuing medical education program
Dr. med. Claudia Huemer, Kantonsspital Baselland 10.08.2021

COVID-19 and immunosuppression
Continuing medical education program
PD Dr. med. Stefan Erb, Schmerzklinik Basel 14.09.2021

Spondyloarthritis, a heterogeneous disease?
Continuing medical education program
Dr. med. Maria Avramidou, Schmerzklinik Basel 12.10.2021

When the elbow gets stuck
Continuing medical education program
Prof. Dr. med. Andreas M. Müller 09.11.2021

Skin and Joints
Continuing medical education program
Dr. med. Patrizia Christina Edelmann-Weber 14.12.2021

CONCLUSION

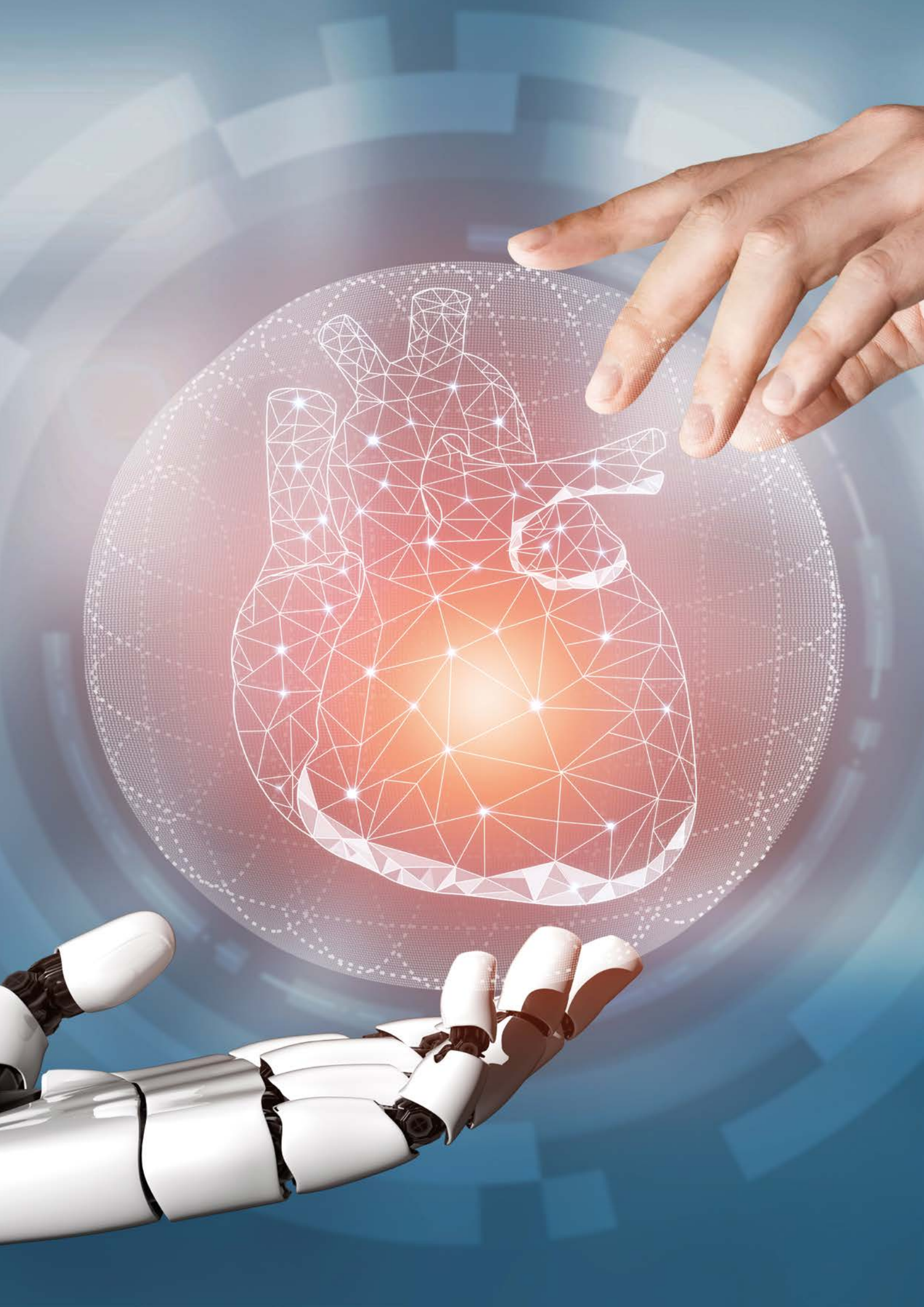
The Scientific Report 2021 shows that, notwithstanding the deleterious impact of the COVID-19 pandemic on most healthcare ecosystems, the clinicians active in Swiss Medical Network's hospitals consolidated their research policies by intensifying the concentration of the available resources on focused scientific programs, by developing concerted actions and interdisciplinarity, by measuring treatment outcomes and by complying with high quality and safety levels.

Swiss Medical Network's researchers were also involved in an increased number of scientific activities including new investigational domains in the field of Internal Medicine, Data Science, Digital Health, Clinical Management, Integrated Care, and Head and Neck diseases.

The Science & Innovation platform of Swiss Medical Network is also proud to give some examples of successfully lead studies with a strong, direct impact on patient pathways:

- Genomics: Mapping the human genetic architecture of COVID-19. Host Genetics Initiative.
- Ophthalmology: Safety and performance of a suprachoroidal sensor for telemetric measurement of intraocular pressure in the EYEMATE-SC trial.
- Breast Pathologies: Organized breast cancer screening not only reduces mortality from breast cancer but also significantly decreases disability-adjusted life years: analysis of the Global Burden of Disease Study and screening programme availability in 130 countries.
- Neurosurgery: Transtubular Anterior Cervical Foraminotomy for the Treatment of Compressive Cervical Radiculopathy.

This further expansion will build a robust foundation for our new structural and functional type of research base – the Genolier Innovation Hub.




NH2
HS
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Scientific Publications
In Peer-Reviewed Journals (2021)

(Biomedical domains listed in alphabetical order)

This list of bibliographical references is a compilation of scientific articles that physicians from Swiss Medical Network authored or co-authored in 2021, in the framework of in-house research programs or within their participation to collaborative works, whose results were published by national/international cooperative groups or other institutions.

GENOMICS

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INTERNAL MEDICINE

Pierre-Olivier Lang (Clinique de Genolier)

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INTERVENTIONAL RADIOLOGY

Pierre Bize (Clinique de Genolier)

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NEUROLOGY

Julien Bogousslavsky (Clinique Valmont)

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NEURO-SURGERY

Avaton Surgical Group with Swiss Medical Network affiliations

Rodolfo Maduri, John M Duff (Clinique de Genolier)

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Victor Valderrabano (Swiss Ortho Center, Schmerzklinik, Basel)

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SURGERY

Surgery: Gastro-intestinal tract

Claudio Soravia, cited as Collaborator (Clinique Générale Beaulieu, Geneva)

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Surgery: Head and Neck pathologies

Albert Mudry (Clinique de Montchoisi, Lausanne)

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UROLOGY

Charles-Henry Rochat; Gregory Johannes Wirth (Clinique Générale-Beaulieu, Geneva)

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SCIENTIFIC COMMUNICATIONS

(specialties in alphaberical order)

Head and Neck pathologies

Albert Mudry (Clinique de Montchoisi, Lausanne)

- Mudry A. The scientists who contributed to Vestibular Science. Vertigo TV; April 15, 2021.
- Mudry A. Otorhinolaryngology in Germany since 1921: An international perspective. German ORL-Society, 91/92th Annual Meeting. Berlin, May 12-15, 2021.
- Mudry A. What generated the creation of ear surgery courses at the turn of the 1960s? 50th Tübinger Ohrchirurgie Sympoium/Kursus; Tübingen, October 3-7, 2021.
- Mudry A. First clinical screening of a tinnitus patient. Sonova: Virtual Symposium on Tinnitus Patient, October 5, 2021.

Neurosurgery

John Duff (Clinique de Genolier, Genolier)

- Brazilian Congress of Spinal Surgery (virtual) from 17th to 19th March 2021.
  - 17.03.2021, EANS Course – European Association of Neurosurgical Societies.
  - 18.03.2021, Fusion no matter what.
- World Federation of Neurosurgical Societies (WFNS) – Neurorehabilitation & Reconstruction Neurosurgery. Preventing Rehabilitation by Functional Reconstruction: Philosophy And Technique (virtual) on 22th April 2021.
- AO Spine Masters Level Specimen Course (SITEM)- Improving Technical and Non-Technical Skills for Complication Prevention in Complex Situations, on 24th and 25th June 2021 in Bern.
- EUROSPINE Hybrid EduWeek planned for 28-30 June 2021 to be held at the IRCAD in Strasbourg, France (virtual).
- From the sea to the mountains, from Naples to Geneva, from ilium to occiput – Geneva from 10th to 11th September 2021.
- XXIV Congress of the Spanish Association of Neurological Surgeons, Virtual, Spain on 16th September 2021.
- EUCMISS 2021, Madrid (Spain) – 8th European Course Minimaly Invasive Spinal Surgery (on site) on 30th September and 1st October 2021.
- 1st medical student world congress of neurosurgery, chania, crete (on site) on 15th and 16th October 2021.
- EANS Symposium, Paris - Image guided cervical spine surgery (virtual) on 6th November 2021.
- EANS Course: Part II: Revisions and Complications Mgt, Geneva (on site) from 21st to 23rd November 2021.

Oncology

Radio-Oncology (Medical Physics)

Maud Jaccard (Clinique de Genolier; Clinique Générale-Beaulieu, Geneva)

- Jaccard M. PO-1712 Oligorecurrent nodal prostate cancer: radiotherapy QA of the randomized PEACE V-STORM phase II trial.
  - @ ESTRO: https://www.thegreenjournal.com/article/S0167-8140(21)08163-9/pdf
  - @ SASRO: https://www.sasro.ch/sasro-2021/program
- Jaccard M. User Meeting Accuray Cyberknife, RayCK/RayCare et retour expérience utilisateurs sur RayCK.
  https://accurayexchange.com/news-events/news/cyberknife-french-users-meeting

Radio-Oncology (Clinical)

Oscar Matzinger; David Benzaquen (Clinique de Genolier, Genolier; Clinique Générale-Beaulieu, Geneva)

- Poster presentations @ SASRO 2021 :
  - Matzinger O. Role of the technician in the management of Papillon 50 and IORT treatments.
  - Benzaquen D. Full bladder!!! A stress for the patient and the technician.

Nicolas Perichon (Clinique de Genolier, Genolier; Clinique Générale Beaulieu, Geneva)

- Delaby N, Baty M, Perichon N, Lacronerie T, Pasquier D, Castelli J, Lafond V, de Crevoisier R. Are dose-volume constraints achievable in stereotactic reirradiation for recurrent prostate cancer. Oral Presentation, 59èmes journées scientifiques de la SFPM, Rennes, Juin 2021.
- Perichon N. Choix/impact des algorithmes de calcul de dose. EPU SFPM: Implémentation pratique de la radiothérapie en conditions stereotaxiques guidées par l'image: point de vue du physicien. Rennes, Octobre 2021.

Oncology: Thoracic surgery

Walter Weder (Privatklinik Bethanien, Zürich)

- Weder W. "Mentoring in thoracic surgery – a speed lecture". The 29th European Conference on General Thoracic Surgery, 20-22 June 2021 (virtual meeting).

Oncology: Genomic counselling and testing

François Taban (Mammogene; Clinique Générale Beaulieu, Geneva)

- Taban F. "Risk assessment and predictive Models". Ninth Introductory course in genetic counseling in oncology 2021; first swiss-french edition, Lausanne, September 3-4, 2021.

Senology

Stéphanie Seidler (Clinique de Genolier)

- Seidler S. Ganglion sentinelle dans le cancer du sein à l'aide de la fluorescence au vert d'indocyanine combiné au Technetium ou au Magtrace – Prix du meilleur poster. Congrès du Groupement Romand des Gynécologues Obstétriciens, Genève, Novembre 2021.
- Seidler S. Hyperbaric oxygen therapy as possible mean to treat post-acute radio-dermatitis of the breast. Annual Meeting of the Swiss Society of Senology, Basel, September 2021.
- Seidler S. Feasibility of combined detection of sentinel lymph node in early breast cancer using indocyanine green fluorescence and magtrace. Annual Meeting of the Swiss Society of Senology, Basel, September 2021.

Surgery

Orthopedic Surgery

Victor Valderrabano (Schmerzklinik, Basel)

Communications

- Numerous presentations, moderations, and workshops in national and international Conferences.

Chairmanships

- Valderrabano V. IBRA Orthopaedic Foot & Ankle ADVANCED COURSE, International Bone Research Association IBRA, Anatomy Department, University of Valencia, 17-18 September 2021.
- Valderrabano V. The VANTAGE Total Ankle Arthroplasty, CadLab, Anatomy Department, University of Basel, 14-15 October 2021.
- Valderrabano V. IBRA Orthopaedic Foot & Ankle MASTER COURSE (local & virtual), International Bone Research Association IBRA, Beijing, China, 16 October 2021.
- Valderrabano V. IBRA Orthopaedic Foot & Ankle MASTER COURSE, International Bone Research Association IBRA, Anatomy Department, University of Basel, 26-27 November 2021.
- Valderrabano V. Medartis Solidarity Webinars 2020 – From Professionals for Professionals. Foot and ankle Orthopaedics.

Spinal surgery

Phlippe Otten (Clinique Générale, Fribourg)

- T. Miesbach, D. Valsecchi, C. Goga, F. Ramadani, P. Otten, G. Maestretti: An Atypical Complication of Anterior Cervical Discectomy and Fusion: Sulcal Artery Syndrome; SGO June 21, 2021.
- N.Habib, C. Goga, F. Ramadani, D. Valsecchi, T. Miesbach, P. Otten, G. Maestretti:3D Printed highly porous trabecular titanium (3DTi) cervical interbody cages using electron beam melting technology promote early in vivo bony ingrowth. A preliminary report of a prospective analysis; SGO June 2021, 2021.
- F. Ramadani, C. Goga, D. Valsecchi, T. Miesbach, P. Otten, G. Maestretti: Titanium trabecular 3D EBM ® implants: A new promoting bone growth material; SGO June 2021.
- D. Valsecchi, T. Miesbach, F. Ramadani, C. Goga, P. Otten, G. Maestretti: Paraspinal Intramuscular “Ancient” Schwannoma: Case presentation about a rare pathology Case presentation; SGO June 2021.

SCIENTIFIC REPORT 2021

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