REGULATORY
AFFAIRS
PLATFORM

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Unique, credible, and regular updates on regulatory topics relating to human research

REGULATORY AFFAIRS WATCH

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EDITORIAL

COVID-19 CHALLENGES REGULATORY PROCESSES AND MEDICAL REGISTRIES SHOW GREAT POTENTIAL AS RESEARCH TOOLS

COVID-19 pandemic: Upheaval for regulatory activities related to human research

A lot has happened since our last edition of *RA Watch* in March. Nobody could have imagined how the COVID-19 pandemic would dominate the work of thousands of researchers and regulators and spark an unprecedented global effort (see the **HEADLINES AND HAPPENINGS** section).

Not only regulatory processes but also the way in which human research finds solutions to treat or prevent diseases have been shaken, with politics and egos sometimes interfering too much. At times, this has led to situations where good and evil coexist. On the one hand, we have been shocked by Russia's and China's declarations to use a vaccine early, with large numbers of their citizens essentially being asked to serve as test subjects as an act of patriotism. On the other hand, we have welcomed the joint efforts of global and regional regulatory organisations and the intensification of international cooperation: calls for larger studies, increased transparency, guidelines for diagnostic devices, treatment and vaccine developments – including end points to consider, increased use of observational studies, and more reflection on regulatory flexibility (e.g. early scientific advice and fast-track authorisation).

Since March, Switzerland has been hurrying – or should we say racing – to start numerous clinical studies and registries on COVID-19. Funding for such projects has been made available. And the regulatory action taken to get projects authorised rapidly has been tremendous. Switzerland's ethics committees and Swissmedic have focused on authorisations and thus been able to approve projects within a couple of days. In addition, guidance on how to manage clinical studies in such situations was provided in April. However, the coordination needed to select and run ambitious research projects was initially missing, which has been problematic when the number of patients available to enroll decreases. To date (28 September 2020), 260 clinical trials and research projects on COVID-19 have been approved in Switzerland – 43 of which are multicentric. source swissethics

How will Switzerland contribute to research findings compared to other countries? Will Switzerland get there slowly but surely? Might this pandemic lead to new opportunities to ease regulatory processes while still ensuring patients' safety? The time will soon come to reflect on and share lessons learnt from this period.

Medical registries: Unlocking their full potential in Switzerland

In each issue of *RA Watch*, we focus on a specific topic related to human research – in this issue we have chosen to look at medical registries (MRs). Even if MRs have long been underestimated as a research tool, there is a clear upward trend in the proportion of research projects linked to them (see **BOX 1**). The COVID-19 pandemic has reinforced this trend through the analysis of exceptional clinical routine data.

How are MRs regulated in Switzerland? What recommendations exist for them? What support for registries is currently available or being developed, and what is still missing? What are the key aspects to consider for their success? We address these questions in the **NEWS FROM** and **DEEP DIVE** sections. We also use specific registries as illustrations: one initiated by a foundation for implantation medicine (**SIRIS**) and one initiated by a patient association (Swiss MS Registry). This issue of *RA Watch* also contains an example of successful registry governance at a university hospital (**CHUV**). In addition, we share the results of a national survey on electronic health record (**EHR**) systems that was conducted by the SCTO's Regulatory Affairs Platform.

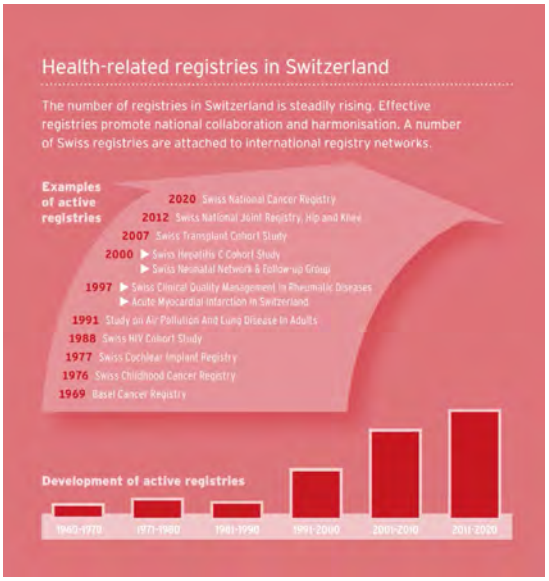
We hope you enjoy reading this issue of *RA Watch* and it helps you become more familiar with a promising research tool!

Séverine Méance, *RA Watch* Editor

BOX 1: MEDICAL REGISTRIES IN SWITZERLAND

In spring 2011, the data, demographics, and quality department (DDQ) of the **FMH** (Swiss Medical Association) launched a project for a Swiss platform for medical registries. The project aims to promote transparency as well as contribute to networking and coordinating the various Swiss medical registries (**MRs**) by documenting online MRs in Switzerland [DE FR]. The list is updated once a year. **Figure 1** illustrates the increasing numbers of MRs in Switzerland.

Figure 1: Health-related registries in Switzerland



source Infographics series called Creating a Health-Related Registry Means Investing in the Future! (March 2020), developed and published by the ANQ [EN], FMH [DE FR], H+ [DE FR], SAMS [DE FR], and unimedsuisse [DE FR]

To learn more about MRs, read a recent article by Prof. Lübbeke-Wolff (the president of an expert group on registries at the Swiss Academy of Medical Sciences (**SAMS**)) advocating for investing in registries (SAMS Bulletin. 2020; 02–03:2–4 [DE FR]).

DEEP DIVE

MEDICAL REGISTRIES AND THEIR USE FOR RESEARCH PROJECTS

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Registries provide important real-world data about public health and thus have a major impact on far-reaching political health decisions and medical patient care. In addition, registries contribute to transparency and comparability of medical services and are the basis for epidemiological and clinical research. Last but not least, they play a key role for quality assurance and the development of medical services (Mathis-Edenhofer and Piso 2011). It is therefore hardly surprising that the number of registries in Switzerland is steadily increasing. In order to effectively operate registries and use them for research purposes, it is essential to ensure the quality of the collected data and their compliance with regulatory requirements. This article provides an overview of medical registries by discussing four related questions.

WHAT ARE MEDICAL REGISTRIES?

A commonly used and broadly applicable definition of the term "registry" is provided by Mathis and Wild (2008): "A registry is a systematic collection of population or patient-related, but also quality-related medical and/or health economic data in a predefined workspace, and its evaluation, which fulfils a defined purpose, but for which variability for different questions is allowed." The landscape of medical registries in Switzerland is highly diverse and constantly growing. As of August 2020, 103 registries have been recorded on the online platform of the Swiss Medical Association (FMH) DE FR (see also **BOX 1** on page 3). These registries collect health data for epidemiological and/or clinical purposes and cover all fields of medical care and a huge variety of indications.

Registries can be classified as mandatory or voluntary. Mandatory registries are required by public health policy and serve a variety of purposes. For example, they can be used to monitor evolutions of communicable diseases, organ donations, or cancer, or they can help to assure the quality required for the professional certification needed to receive a performance mandate for highly specialised medicine. Applicable legislation (e.g. Cancer Registration Act or Transplantation Act) is issued by the federal or a cantonal government or is decreed by intercantonal agreements from the Swiss Conference of the Cantonal Ministers of Public Health.

Most registries, however, are voluntary and initiated by medical specialists, medical associations, industries, or even patient groups. The aims and purposes of these registries vary widely and cover a broad range of indications. Voluntary registries have different geographical reaches: some focus on a specific region, while others have a nationwide focus or involve international collaboration. Health data collection might also be restricted to one or only a few institutions.

WHAT ARE THE OPERATIONAL AND REGULATORY REQUIREMENTS FOR REGISTRIES?

Setting up a registry may sound easy, but it requires much more than just developing an electronic database and collecting health-related data. In fact, managing a registry is a tremendous and ongoing task. Both establishing and maintaining a medical registry require substantial professional expertise, human resources, infrastructure, and financial resources.

So why make the effort to set up a registry? The overarching aim of medical registries is to accurately and consistently collect high-quality, reliable data over a long period of time and then use this data to improve care and treatments of patients and for research purposes. Associated benefits for patients and society include increasing the transparency and comparability of treatments, establishing or monitoring quality management, detecting problems, and, ultimately, improving health care. In order to fulfil this aim, registries have to comply with certain quality requirements. The **ANQ** (Swiss National Association for Quality Development in Hospitals and Clinics), **FMH** (Swiss Medical Association), **H+** (the association of Swiss hospitals), **SAMS** (Swiss Academy of Medical Sciences), and **unimedsuisse** (an association of university medicine in Switzerland) jointly issued recommendations to help ensure that registries are established and operated in accordance with essential quality criteria (see **Table 1**).

Table 1: Quality criteria for medical registries

	Quality criteria
1	Registry design
2	Expertise required for registry management
3	Data protection and data ownership
4	Data collection
5	Quality assurance
6	Data use
7	Change of purpose and dissolution

source https://www.anq.ch/wp-content/uploads/2018/02/Registries_Recommendations.pdf

Additional aspects that need to be considered when setting up a registry are discussed below.

Legal framework

The legal framework that applies to a medical registry should be clarified before setting it up since this determines the operational requirements to maintain it (see **Table 2** on page 7 for an overview of regulatory requirements). Depending on their purpose and field of interest, medical registries are subject to various federal and cantonal regulations that govern data protection, data collection, data transfer, confidentiality, and other applicable areas. In general, voluntary registries collecting previously recorded routine clinical data for future research purposes are also regulated by the Human Research Act (**HRA**) and chapter 3 of the Human Research Ordinance (**HRO**). If a medical registry is supplemented by a concomitant biobank that collects additional body fluids and tissue, it is also subject to the HRA and chapter 2 of the HRO. The same applies if additional health-related data are collected beyond clinical routine procedure.

Ethics committees (approval, information, and advice)

The HRA does not require authorisation for collecting already existing data and samples per se, provided participants have given their consent or have been informed accordingly. Approval from an ethics committee (EC) is needed only when data or samples are used for research projects. However, researchers can voluntarily request an EC's opinion when setting up a registry or a biobank. This gives them the certainty that ethical, legal, and technical requirements have been met and research projects based on that registry or biobank will have a smooth approval process. A form has recently been introduced on the **BASEC** (Business Administration System for Ethics Committees) portal for this purpose (cf. **ARTICLE FROM SWISSETHICS IN THIS ISSUE** on p.11).

Taking additional samples of tissue, blood, or other body fluids for research purposes represents a research project itself (HRO, chapter 2), even if taken during a routine procedure (e.g. taking an extra tube of blood during routine blood sampling). Therefore, before additional samples can be taken, EC approval and patients' consent must be obtained in advance. The same applies if additional data are collected (e.g. questionnaires on aspects of quality of life which are not routinely assessed).

Informed consent

Generally, patients must give their consent or be informed about their right of objection before their data can be used for research purposes. Either a registry-specific or a general consent form can be used. Depending on the degree of traceability (uncoded, coded, or anonymised) and the type of data (genetic or non-genetic), stricter data protection rules may apply (see HRO, art. 28–32). For example, while informing the patient about his or her right of objection is sufficient for the further use of coded non-genetic data, the further use of coded genetic data for research requires the (written) consent of the patient. In exceptional cases, where it is impossible or requires disproportionate effort to obtain consent or inform the patient, the EC may authorise the further use of data even without the patient's consent or information. However, this is reserved for special situations and requires a case-by-case assessment by the EC (HRA, art. 34).

For further information on points 2b and 2c, see the document Guiding Principles for Registries in Human Research on swissethics' website.

Registries' internal regulations

The quality, transparency, and focus of a registry are pivotal success factors. To put a medical registry into operation, it is vital to establish internal regulations that define the registry's aims and tasks and that cover all the essential aspects of the above-mentioned registry recommendations (see **Table 1**). Additional documents describing the registry's organisation, orientation, and activities might be necessary and should be regularly updated (organigrams, flow charts, annual reports, etc). In essence, the documents should provide a comprehensive and binding description of the registry and should be kept current (Lübbeke-Wollf et al. 2019, Clerc, and Kern 2019).

Agreements

The relationship to stakeholders (e.g. financial donors, participating institutions involved in data exchange, and external service providers) has to be defined by appropriate agreements. Contracts should be in place which define not only the roles and responsibilities but also the rights to data usage for all involved parties. It has to be stressed that special attention should be paid to regulate the data exchange for research projects. swissethics provides academic institutions with a Data Transfer and Use Agreement (**DTUA**) template issued by the Swiss Personalized Health Network (**SPHN**).

Finances

A long-term financial concept has to be in place in order to run a registry for a long period of time and gain high-quality data sets from which meaningful results can be generated. Moreover, registries require, amongst other things, professional staff and systems for data collection, validation, and cleaning.

Governance of patient data

The governance of patient data has to be clarified and regulated in advance: how data are stored and processed in the registry (non-coded, pseudonymised, or anonymised), how the traceability of data is maintained, where and by whom data are stored, how data protection requirements are maintained, which software is used, how data access and exchange are regulated, etc. In addition, the administrative, technical, and physical safeguards for storing, processing, and exchanging data have to be defined. Although data storage and processing may be outsourced to specialised service providers, the holder of the registry is responsible for adhering to legal requirements and contractual agreements.

Table 2: Overview of regulatory requirements for mandatory and voluntary medical registries

Registry classification	Mandatory	Voluntary	
Initiation	Federal or cantonal authorities (Federal Office of Public Health, Swiss Federal Statistical Office)	Medical specialist associations, investigators, industries, patient associations	
Examples	Notification of observations on communicable diseases (HIV, measles, tuberculosis, etc.), Swiss Organ Living-Donor Health Registry, cantonal cancer registries, SIRIS (Swiss National Joint Registry)	Swiss HIV Cohort Study, SCQM (Swiss Clinical Quality Management in Rheumatic Diseases), MS registry	
Category	Routine data only	**Routine** data/samples	**Additional** data/samples
Regulatory requirements (as applicable)	Federal and cantonal data protection acts, legislation on the electronic patient dossier, Federal Act on Medicinal Products and Medical Devices, Swiss Criminal Code (art. 321), Medical Professions Act, Psychology Professions Act, and others as applicable		
	Swiss Federal Health Insurance Act, Cancer Registration Act, Epidemics Act, Transplantation Act, etc	Human Research Act Human Research Ordinance, chapter 3	Human Research Act Human Research Ordinance, chapter 2
Patient information and consent	General: no information and consent Exemption example: Swiss National Cancer Registry – information and opt-out	Written patient information and consent (registry-specific or general)	Patient consent (registry-specific) and EC approval
Ethics approval of data/sample analysis	n/a	EC approval for any further use	EC approval for any further use not already included in the initial project

HOW CAN RESEARCH PROJECTS USE DATA FROM MEDICAL REGISTRIES?

Research projects based on data from medical registries complement clinical trials in an important way. Registries gather data from real-world daily clinical practice and thus from a larger and more heterogeneous population (with comorbidities) over a longer period of time. By comparison, in clinical trials new treatments are usually investigated under strictly defined conditions for highly selected populations. Registries are therefore valuable data sources for supporting evaluations of safety and effectiveness and for other issues, such as treatment compliance and disease risk factor recognition. Meaningful results from such research projects may only be derived if the registries used were carefully designed to reflect the current medical and scientific contexts, need, and state of knowledge. Further, it is essential that the collected data are valid, accurate, complete, and comprehensive, and that bias is minimised as much as possible. When planning a research project, attention should be paid to the hypothesis and formulation of appropriate plausible research questions. In addition, it is worth examining in advance whether the data from the registry are suitable to answer the research questions. This pre-check allows the quality of the data-set to be determined and thus can expose limitations of the data which can be considered with regard to study design, data analysis, and finally the evaluation of the results (Psoter and Rosenfeld 2013).

Before data from registries can be analysed, a research project has to be defined and EC approval has to be sought (see Section **Ethics committees** on page 5). The research application for an EC requires certain study documents – for example, a research protocol and informed consent form. Detailed guidelines and templates for required regulatory documents are available on swissethics' website (see **Table 3**). In addition, Clinical Trial Units (**CTUs**) at university or cantonal hospitals support clinicians performing research projects by providing advice and assistance on fulfilling regulatory requirements.

WHAT CAN WE LEARN FROM A SUCCESSFUL MEDICAL REGISTRY?

The Swiss Clinical Quality Management in Rheumatic Diseases (**SCQM**) registry illustrates how a medical registry can be successfully managed in the long term and benefit both patients and physicians. Established in 1997, the SCQM registry is a voluntary national registry for various inflammatory rheumatic diseases. It is managed by a non-profit foundation that closely collaborates with the Swiss Society of Rheumatology (**SGR**). Various industrial sponsors as well as the SGR secure the registry's long-term financing.

One aim of the registry is to improve quality management and the treatment of patients with rheumatic diseases. This is achieved by providing an immediate feedback system to follow up the course of the disease and the treatment available to the treating physician and patient. Additional objectives are to enable research using the collected data to investigate the tolerability and efficacy of treatments in everyday clinical routine, to evaluate disease assessments, and to gain new insights into the pathogenesis of the investigated diseases. To do this, physicians record data from annual control (follow-up) and interim visits in a highly structured database. In order to keep the registry attractive for the contributing patients and physicians, various innovations have been introduced over the years. Feedback reports summarise the data at the level of the individual patient. They include graphical overviews and tabular listings displaying physician and patient reported outcome measures, lab and other follow-up parameters, and anti-rheumatic medication over time. These overviews are extremely valuable to physicians when they prepare for patient visits, when they aim to treat to target, or when they make treatment evaluations and decisions together with their patients. In addition, patients can retrieve the graphical overviews at any time, which makes their treatment and the course of the disease as transparent as possible. Moreover, an app enables patients to report on-demand drug use, drug compliance, and patient reported disease activity between visits to the doctor. These updates provide additional data and more precise documentation without increasing the workload for the physicians. The integrated registry for pregnant patients supports quality management in this critical period of women with inflammatory rheumatic diseases and may provide new insights and opportunities for research.

Besides the advantages the SCQM registry brings to daily clinical practice, it also serves as a data source for research projects for participating physicians. For this purpose, the SCQM registry has established an application process together with rules governing collaboration and research with data from the registry. To ensure high data quality, automated processes and appropriate software support data plausibility and completeness by conducting data checks directly during data entry.

To minimise data gaps and to increase data quality, minimal quality requirements have been defined and various measures have been implemented. Monthly status reports that provide an overview about the data quantity and data quality of an institution's data records are generated for and issued to each participating institution. This supports physicians by providing a minimal and meaningful data set.

Further, SCQM staff and physicians at larger institutions train and support participating physicians. To manage the complexity and huge extent of data and adhere to data protection requirements, the electronic database is continuously developed.

Not only its professional, very well-structured database contributes to the success of the SCQM registry, but its highly organised staff and working structures also play an important role. The registry's first pillar, the SCQM board, is responsible for its strategic orientation and the approval of research project applications. The second pillar, the registry's scientific committees, is responsible for ensuring that the registry corresponds to the latest scientific and medical state of the art essential for collecting data of scientific relevance. The scientific committees are also responsible for evaluating research applications. The third pillar of the registry, an administrative team, organises all structures and processes within the registry for fundraising, finance administration, service provision, stakeholder management, marketing and communication, and human resources management. A scientific team is responsible for data requests, applications for research projects, study management and coordination, planning analysis of research projects, supporting publications, etc. Over many years, the registry has continuously increased patient numbers and produced a remarkable output, including many peer-reviewed publications each year.

The SCQM registry clearly demonstrates that a successful registry cannot be run by simply providing a database from which data may be derived. A substantial investment is needed to maintain a high-quality standard for acquiring complete and correct data and to develop a registry according to new needs and changing requests.

Table 3: Summary of guidelines, information, templates, and checklists for establishing registries and related research projects

Guidelines and information	Templates and checklists
Recommendations for the development and operation of health-related registries from ANQ, FMH, H+, SAMS, and unimedsuisse https://www.anq.ch/en/publications/register-recommendations/ https://swissethics.ch/en/themen/biobanken	Template for the Data Transfer and Use Agreement (DTUA) https://swissethics.ch/en/themen/biobanken https://sphn.ch/services/documents/ethics-legal-governance/
Guiding principles for registries in human research (in German and French) https://swissethics.ch/en/themen/biobanken	Checklist for health-related registries from ANQ, FMH, H+, SAMS, and unimedsuisse https://www.anq.ch/en/publications/register-recommendations/ https://swissethics.ch/en/themen/biobanken
Guideline on the retention period of data and samples for further use projects without consent (in German, French, and Italian) https://swissethics.ch/en/themen/biobanken	Study protocol template for further use with consent (in German, French, and Italian) https://swissethics.ch/en/templates/studienprotokollvorlagen
Ethical Framework for Responsible Data Processing in Personalized Health Research, Version 2 https://sphn.ch/services/documents/ethics-legal-governance/	Study protocol template for further use without consent (HRA, art. 34 and HRO) (in German, French, and Italian) https://swissethics.ch/en/templates/studienprotokollvorlagen
	Template for a patient information/informed consent according to the HRA and HRO art. 28 (in German, French, and Italian) https://swissethics.ch/en/templates/studieninformationen-und-einwilligungen
	General consent template for the general re-use of coded (genetic) personal data and coded material for research purposes (in German, French, and Italian) https://swissethics.ch/en/templates/studieninformationen-und-einwilligungen

Additional links

https://www.fmh.ch/themen/qualitaet-saqm/register.cfm# (in German)
https://www.fmh.ch/fr/themes/qualite-asqm/registres.cfm (in French)
https://www.fmh.ch/it/temi/qualita-asqm/registri.cfm (in Italian)
https://www.samw.ch/de/Projekte/Qualitaet-in-der-Medizin.html (in German)
https://www.samw.ch/fr/Projets/Qualite-en-medecine.html (in French)

CONCLUSION AND OUTLOOK

Medical registries are highly valuable sources of health information. They can be used for many purposes – for example, as tools for quality assurance and improvement in medical care or as sources for research projects. Research projects from medical registries are less expensive and less complex logistically compared to clinical trials and are thus an inexpensive and relatively quick option for answering research questions. However, data quality must be ensured, and both the appropriate organisation and adequate financing need to be in place. In the last few years, the regulatory and operational frameworks for medical registries and research projects have been very clearly defined by various stakeholders with guidelines, recommendations, and templates. Moreover, the SPHN is currently working to build up an appropriate infrastructure to facilitate the pooling and accessibility of health-related data from multiple Swiss healthcare institutions for research purposes. Further guidance on how to ensure data protection and regulate data sovereignty will be helpful.

Acknowledgements

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Mathis-Edenhofer S and Piso B (2011) Formen medizinischer Register – Definitionen, ausgewählte methodische Aspekte und Qualität der Forschung mit Registern. Wiener Medizinische Wochenschrift 161:580–90 (in German)

Steck N, Hostettler S, Kraft E, Berlin C, Spörri A, and Zwahlen M (2019) Register in Versorgungsforschung und Qualitätssicherung. Schweizerische Ärztezeitung (in German)

Psoter K J and Rosenfeld M (2013) Opportunities and pitfalls of registry data for clinical research. Paediatric Respiratory Reviews 14(3):141–145. https://doi.org/10.1016/j.prrv.2013.04.004

Lübbeke-Wolff A, Clerc V, and Kern A (2019) Implementierung der Empfehlungen zum Aufbau und Betrieb von gesundheitsbezogenen Registern. https://www.samw.ch/de/Projekte/Qualitaet-in-der-Medizin.html (in German) / Mise en oeuvre des recommandations pour la création et la gestion des registres médicaux. https://www.samw.ch/fr/Projets/Qualite-en-medecine.html (in French)

NEWS FROM

In order to keep our readers up to date, the *RA Watch*'s editorial team invited key national organisations to share fresh news and their views on medical registries (**MRs**).

swissethics

swissethics

Schweizerische Ethikkommissionen für die Forschung am Menschen
Commissions d'éthique suisses relative à la recherche sur l'être humain
Commissioni etiche svizzere per la ricerca sull'essere umano
Swiss Ethics Committees on research involving humans

Pietro Gervasoni, Managing Director
swissethics is the umbrella organisation of the seven Swiss ethics committees on research involving humans

ADVICE FROM SWITZERLAND'S ETHICS COMMITTEES ON REGISTRIES, BIOBANKS, AND RESEARCH PROJECTS IN ACCORDANCE WITH ART. 51 OF THE HUMAN RESEARCH ACT

Since early June, researchers can use a new dedicated form in **BASEC** (Business Administration System for Ethics Committees) to ask the Swiss ethics committees (**ECs**) for advice on or preliminary examinations of data registries, biobanks, and research projects carried out abroad or any other topics not subject to the Human Research Act (**HRA**).

For data registries and biobanks, this can ensure, among other things, that data protection is correctly maintained and that research participants' consent is obtained in accordance with legal and ethical requirements. The creation of data registries or biobanks is not formally subject to authorisation under the HRA, but projects that reuse the data and biological samples must generally be approved by an EC. When reviewing data registries or biobanks, ECs focus on compliance with regulatory requirements, the technical aspects of data protection, and ethical implications – for example, the procedure used for obtaining informed consent or general consent.

The aim of preliminary examinations is to make the subsequent approval process go more smoothly for all projects arising from these data registries or biobanks. A preliminary examination will also save an investigational site both time and resources, because generally a site needs to obtain a preliminary examination of a data registry or biobank only once.[1] Moreover, it will save time for all future submissions of research projects. In fact, in BASEC it is possible to link future submissions of research projects to a data registry or biobank that already has a positive preliminary examination.

Obtaining advice or a preliminary examination is voluntary. It is an advisory function of the ECs according to art. 51 of the HRA, and it is invoiced based on ECs' time and efforts. A detailed procedure to obtain advice or a preliminary examination is outlined in a dedicated FAQ, while the documents to be submitted via BASEC can be found in the BASEC portal (see the form Advice on Ethical Questions/Comments on Research Projects Not Subject to the HRA).

This new form in BASEC must be used exclusively to obtain advice or a preliminary examination and should not be used to submit a Clarification of Responsibilities form. A Clarifications of Responsibilities form (**Zuständigkeitsabklärung** in German, **Clarification des compétences** in French, and **Esame della competenza** in Italian) is submitted to an EC to clarify whether a research project falls within the scope of the HRA and/or request a written statement from an EC if a research project does not need EC approval. However, it is not used to obtain advice on or a preliminary examination of a research project.

The swissethics website provides information, guidelines, and templates for data registries and biobanks.

[1] Unless the data registry or biobank undergoes significant changes or there are legal or regulatory changes.

unimedsuisse

Agnes Nienhaus, General Secretary
Universitäre Medizin Schweiz/Médecine Universitaire Suisse (unimedsuisse)

TOWARDS A NATIONAL STRATEGY FOR REGISTRIES AND COHORTS

PROLIFERATION OF DATABASES AND REGISTRIES

Registries and cohorts are part of the essential data infrastructure for Switzerland's healthcare system. The large number of registries created in recent years has led to many parallel structures of varying quality. In addition, neither an adequate financing system nor a clear regulatory framework exist for registries. In view of this situation, the association unimedsuisse has drawn up a position paper outlining the need for political action with regard to medical registries and cohorts in Switzerland (see its position paper in German and in French).

INITIAL POLITICAL SITUATION

The growing data needs of the Confederation and the cantons are met by a large number of databases, but the corresponding projects remain sectoral and thus contribute to the current proliferation of data collection sources. The Federal Council's health policy strategy for 2020–2030 mentions the necessity for coordinated digitisation and proposes creating favourable conditions for using health data. However, unimedsuisse thinks that this is not enough: there is an urgent need for the federal government to make strategic decisions.

The Federal Council's strategy on education, research, and innovation for 2021–2024 proposes co-financing nationally important medical cohorts for medical research. However, the funds earmarked for this remain small. Currently only two cohorts are entitled to funds, and the funding criteria remain unclear. Fortunately, the Federal Council's strategy for 2021–2024 also provides for the continuation of the Swiss Personalized Health Network (SPHN), which offers a platform for exchanging research data. The federal research strategy is thus heading in the right direction; however, it does not look beyond its own sector.

Thus, research funding and health policy still pursue different approaches to registries. Yet in reality, data collection and data use are increasingly moving away from segmented uses. The future lies in linking clinical registries, cohorts, biobanks, and administrative data and in using data for different purposes – for clinical treatment, quality management, tariff calculation, remuneration, policy planning and surveillance, research, and postmarketing documentation.

FUTURE POLITICAL ACTION

It is in the interest of political decision makers to make better use of registries, cohorts, and biobanks. unimedsuisse proposes four main lines of approach to achieve this.

1 Establish a national registry strategy

First of all, the Confederation needs to establish a national policy for registries, cohorts, and biobanks in the Swiss health system. Data collection sources in health care should be made available for research in a structured and systematic manner. The strategy should include:

- the most important health policy challenges that the data infrastructures aim to address
- an integrated view of health data that considers medical treatment, quality management, and research as well as reimbursement, government planning, and controlling
- a distinction between mandatory and recommended data collection and the definition of a uniform minimal data set
- minimum requirements for registries (see the recommendations issued by the ANQ, FMH, H+, SAMS, and unimedsuisse).

2 Define technical standards

The IT platforms that host registries, cohorts, and biobanks should be based on uniform principles and standards that allow for interoperability. Existing large biomedical IT platforms should be promoted, and the opportunities offered by the SPHN should be systematically exploited. Once harmonisation is completed, the technical solutions identified should be the subject of recommendations.

3 Coordinate with official statistics

Coordinating official statistics with registries can greatly benefit health policy. It therefore makes sense to allow officially collected data to be used with registries. This would simplify data collection processes, plausibility checks, and data quality audits as well as reduce duplicate data collection. International examples show that this can be done while also protecting personal rights.

4 Harmonise operation with sustainable financing mechanisms

Registries and biobanks should not increase healthcare expenditures. Resources can be pooled by merging registries into large biomedical platforms. In addition, uniform financing principles should be defined that not only include the cost of infrastructure and data collection but also consider the various purposes and users. The collection and use of compulsory data should be financed by the Confederation or the cantons, while the collection of optional data and research projects should be financed externally.

CASE STUDIES

USING MEDICAL REGISTRIES: SWITZERLAND'S IMPLANT REGISTRY SIRIS AS A SUCCESSFUL MODEL

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With the increasing use of implantable medical devices, registries are critical for conducting post-market surveillance and identifying long-term safety risks. Switzerland's national implant registry SIRIS is an outstanding example of the benefits a well-managed registry can provide to different players in healthcare. The SIRIS registry also illustrates how to ensure high-quality registry data.

SIRIS REGISTRY: THE LARGEST IMPLANT REGISTRY IN SWITZERLAND

In recent years, there have been several high-profile scandals involving defective implants, such as poorly produced versions of silicone breast implants, metal-on-metal hip implants, or vaginal meshes. The European Commission and European Union countries therefore established a joint action plan that included support for developing implant registries in order to better identify safety issues and allow long-term monitoring of the safety and performance of medical devices.

The Foundation for Quality Assurance in Implantation Medicine (**SIRIS**), founded by swiss orthopaedics, Swiss Medtech, and santésuisse, initiated the SIRIS registry for hip and knee prostheses in 2012. Today, the SIRIS registry is the largest implant registry in Switzerland, with data collected from 186 institutions. Participation is compulsory for all hospitals and clinics that perform knee and hip arthroplasties and have signed the National Quality Agreement with the Swiss National Association for Quality Development in Hospitals and Clinics (**ANQ**). As a result, the coverage of hip and knee implants is high: around 95% of arthroplasties are reported.

HIGH-QUALITY DATA IS CRUCIAL

Registry data must be of excellent quality to be useful for continuous quality improvement and implant-related clinical research. In order to analyse registry data correctly and draw valid conclusions, relevant quality requirements must be met. This is the only way to justify the significant organisational efforts, time, and costs involved in setting up and operating a registry. A badly managed registry with low data quality is not only useless but can even lead to unreliable information, wrong conclusions, and possibly inappropriate decisions.

There are several prerequisites for a high-quality registry. On an organisational and structural level, it is sustainability: a registry needs a clear aim, the partners who participate must be defined, the finances should be secured for several years, the governance must be defined, and bodies (e.g. a scientific board, an operator) need to be set in place. Another central aspect is the relevance of the information collected. When setting up a registry, its general objectives and expected outcome or results should be declared; the data to be collected should be defined accordingly. There is a high risk of implementing a registry with great personal effort, passion, and scientific eagerness but with no long-term plan on how to run and maintain it or how to analyse and report the registry's data.

On the data level, high quality depends on coverage, completeness, and correctness. Coverage evaluates the number of cases matching the inclusion and exclusion criteria recorded in the registry with external numbers of potential cases. This is a challenge, as the total number of cases are often not easily available and estimations rely on sales data (e.g. of implants), official administrative data, and internal data from clinic information systems. Completeness is a measure of how much of the requested information is entered into the registry. Having a user-friendly design for electronic data capture forms helps to achieve this with precise definitions of variables, ranges of valid data, distinct categories of answers, mainly mandatory fields, only a few optional fields, and the appropriate handling of potential missing data. The correctness of registry data is evaluated by central data monitoring and on-site audit visits.



USES OF REGISTRIES

In recent years, patient-reported outcome measures (**PROMs**) have gained relevance as tools to describe treatment outcome from the patient's perspective. For example, patients provide their assessment of the level of pain or limitations in their daily activities before and after the implantation of a medical device.

However, even an optimally managed registry with complete, current, and relevant data makes little sense if the information contained in it, is not systematically analysed. In the implant field, registries are often the only feasible or ethical way to collect long-term data on safety and the risk of revisions. Although randomised controlled trials (**RCTs**) are considered the gold standard for evaluating medical treatments, a long-term evaluation of implants (over many years after implantation) with an RCT is often unfeasible.

The information derived from registries can be useful for:

- patients who want to decide for or against a given implant
- doctors who want to know which implant and implant combinations to use in routine clinical practice
- researchers who work on projects related to long-term effectiveness
- regulators who make decisions about implants.

Hereafter we discuss the advantages and disadvantages of registry data for different user groups.

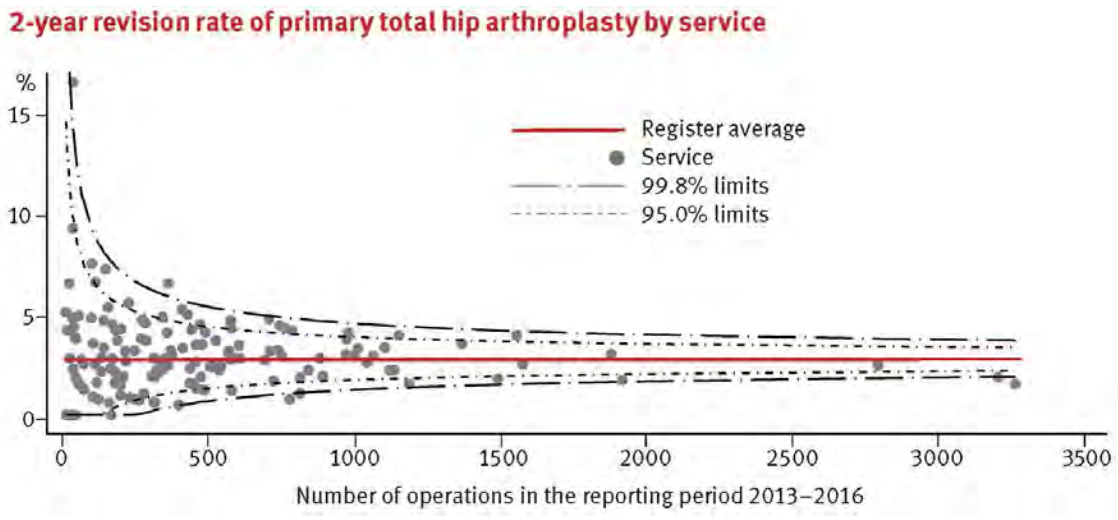
1 Feedback on the performance of products and clinics – benchmarking

In Switzerland, about 800 doctors regularly perform arthroplasty surgeries. They implant around 22,000 artificial hip joints and 18,000 artificial knee joints each year. Despite all the prophylactic measures taken, complications and revisions cannot always be completely avoided.

The Swiss implant registry SIRIS provides detailed quarterly reports (http://www.siris-implant.ch/en/) to all participating hospitals for quality assurance and publishes an annual report. These reports make it possible to compare hospitals (see **Figure 1**) and implants; detected outliers lead to thorough investigations and possibly to corrective actions.

For manufacturers of implantable medical devices, registries are a powerful tool for performing post-market surveillance and clinical follow-up.

Figure 1: Example from SIRIS's 2019 annual report showing the revision rate by number of operations and clinic



2 A data basis for research

The availability of data on often large patient populations over many years makes registries an attractive platform for additional research activities. Registry-based research is usually less expensive and performed more quickly than projects, which need de novo data collection, especially if long-term outcomes are of interest. In addition, clinical data registries often include individual demographic data.

However, there are limitations on using registry data for research. Data are mostly collected for reasons unconnected to the specific research question of interest and, for practicability reasons, include only the most important variables. The information relevant for a study may not be available in the registry.

A possibility to increase the use of registry data in research is linking it with additional information from external databases. In order to allow for linkage with, for example, routinely collected administrative data such as mortality, several requirements must be met. For example, a registry must have individual patient identifiers with a corresponding legal basis or an informed consent statement from the patients. Harmonisation of data between registries and routine data and linkability are crucial for the future use of registries in the health sector. Since 2017, the Swiss Personalized Health Network (**SPHN**) has been actively promoting and funding projects which "enable the exchange of health-related data necessary for research". In the future, it would be ideal to use a uniform, non-speaking identification number in the various registries and routine data. To achieve this, the legal and data protection aspects need to be clarified.

3 A basis for decision-making for medical device regulators

Registries, especially in the area of implants, are also a valuable and important resource for regulatory decisions concerning safety and are therefore crucial for approval. The effective use of well-organised registries can potentially lead to better health out¬comes at a lower cost to society. In general, small registries with few data are of limited use to regulators. It is therefore often necessary to compare and combine data across registries, but this requires coordinated standardisation and harmonisation of the data collection procedures.

CONCLUSION

In summary, registries play an important role in the health sector and serve many needs. However, they are not a quick, easy, or cheap method to identify performance issues, answer research questions, and clarify questions from the regulators. Yet the SIRIS registry demonstrates that they can be worth the effort.

Further reading

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SWISS MULTIPLE SCLEROSIS REGISTRY: A LANDMARK PROJECT FOR CITIZEN SCIENCE

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Since its foundation in 1959, the Swiss Multiple Sclerosis Society (Swiss MS Society) has been supporting people living with multiple sclerosis (**MS**) in their daily lives. The organisation also provides funding for scientific research and serves as an independent platform for information related to MS. The quest to better understand MS and ultimately find its cure has always been a driver for innovation. Seizing the opportunities created by the emergence of data-driven medicine, the Swiss MS Society created the Swiss MS Registry – the first health registry in Switzerland owned exclusively by a patient organisation.

Still today scientists do not know the exact number of people with MS in Switzerland. The MS Registry thus aims to document the prevalence of MS in Switzerland and the number of people affected indirectly, such as relatives. The MS Registry is therefore considered a longitudinal study under the terms of the Swiss Human Research Act (**HRA**). The study assesses various aspects of MS, including quality of life, nutrition, work situation, pharmaceutical MS therapies, and complementary medical treatments. The scientific evaluation of these data facilitates the development of measures to improve the treatment and quality of life of those affected by MS.

MS Registry and MS Cohort: Two studies with one goal

A further objective of the MS Registry is to establish a flexible infrastructure and a network that enable interdisciplinary research with partners. An important example of this is the close cooperation with the Swiss MS Cohort Study. Both the registry and the cohort study are funded or co-funded by the Swiss MS Society.

Both initiatives aim to improve the living conditions of people with MS. Whereas the MS Cohort Study focuses on medical data collected from clinics, the MS Registry puts emphasis on people's everyday experiences and collects a large amount of data directly from participants, who may also be healthy relatives of MS patients. Data are related to participants' individual disease history, living situation, mental health, and treatment.

Due to their different approaches, the registry and the cohort complement each other almost perfectly. Participants in both studies are therefore encouraged to consent to the exchange of encoded data between the MS Cohort Study and the MS Registry.

Independence through governance and participation

With about 2500 participants as of August 2020, the MS Registry contains a massive amount of data just four years after its launch. Such a wealth of personal health data requires scientific and commercial independence. This independence is ensured by a broad-based governance organisation consisting of well-established researchers, physicians, physiotherapists, and, of course, people with MS.

The MS Registry is operated at the Epidemiology, Biostatistics and Prevention Institute (**EBPI**) at the University of Zurich. The registry's project leader is Prof Viktor von Wyl from the EPBI, who has worked with his team of scientists along with expert participants from the beginning.

A special registry board convenes regularly to review project requests and discuss new topics. And this is where the key factor of the MS Registry comes into play: 25 people with MS are currently involved in all bodies and decisions. People with MS are MS experts and therefore indispensable for researchers and health professionals studying and combating MS. Without the active participation of people with MS, research would miss out to a large extent on a comprehensive MS knowledge pool. Its content-related involvement of medical laypersons and its funding through a patient organisation are what make the MS Register a unique citizen science platform in Switzerland.

Consent, user experience, and features

Participants who do not want to participate in the governance of the Swiss MS Society can just contribute and share information. On average, about thirty new participants enrol each month. The register is open to adults (at least 18 years old) with MS who reside or receive care in Switzerland; it is also open to their relatives. Participants can register online or send in a paper registration form. Along with their consent, participants submit a questionnaire, which is then processed by the registry team. Not just participants may contribute to the data collection; practitioners are also encouraged to allow access to medical records with the consent of their patients (**Figure 1**).

Figure 1: MS Registry's data sources

Once the initial data has been transferred into the digital universe, enrollees can use the registry's mobile app to complete regular surveys. The app also includes a diary (**Figure 2**), in which participants can record their personal state of health, activities, and more on a daily basis.

Participants may obtain single-source access to information about MS written in language that is easy to understand. However, they must devote some time to the process. Online or paper questionnaires need to be filled out every six months and take up to an hour to complete.

Figure 2: MS Registry's diary function on its mobile app

Participants are rewarded for their time and effort, because research results are published regularly and reveal valuable practical findings. For example, a team of scientists recently established that only about half of all patients receive their MS diagnosis within three months of their first visit to the doctor. This means that the other half has to wait – sometimes much longer – in a burdensome state of uncertainty. Such findings provide a basis for practical guidelines for doctors.

Regulatory environment and data security

Unlike the harmonised cancer registries in Switzerland, which are governed by federal law, the MS Registry has no specific statutory basis. This does not imply, however, that it operates in an unregulated area. On the contrary, as a longitudinal human research project it is subject to approval by an ethics committee and must comply with data protection regulations. Furthermore, it is regulated by the rules applicable to public bodies in general in the Canton of Zurich and to the university in particular.
Another crucial topic is IT security. All data made available to the MS Registry are encrypted and stored in the IT environment at the university. The relation between data and persons can only be established by means of a key, which is protected and accessible only to selected registrars at the university. Moreover, the MS Registry's team members are subject to confidentiality rules.

CONCLUSION

Like other registries or biobanks, the MS Registry faces challenges. One issue is data quality, which depends to a large extent on the accuracy of the information provided by participants. In addition, long-term financing must be secured. In the highly competitive field of Swiss fundraising, funds from members are no guarantee for financial stability. Nevertheless, the Swiss MS Society is set to continue the success story of the Swiss MS Registry.

GOVERNANCE OF MEDICAL REGISTRIES

MEDICAL REGISTRIES: AN ILLUSTRATION OF HOW GOVERNANCE WORKS AT THE UNIVERSITY HOSPITAL LEVEL

Interview with Julia Parafita, project leader for data registries, medical direction, CHUV

To gain a better understanding of how the governance of medical registries (**MRs**) works at the university hospital level, *RA Watch* editor Séverine Méance spoke with Julia Parafita, the project leader for data registries at Lausanne University Hospital (**CHUV**).

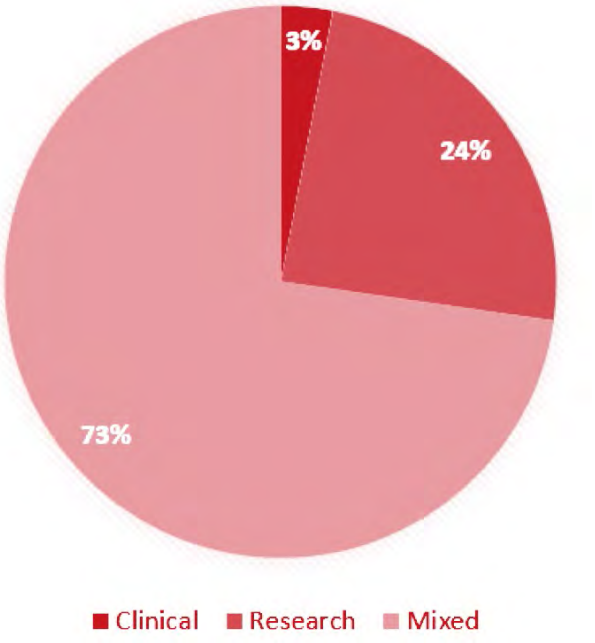
CHUV is a huge source of health-related data. How is it organised internally to manage MRs?

MRs have existed for a long time at CHUV. The hospital started an inventory of its internal MRs following the first recommendations published in 2016 by the **ANQ** (Swiss National Association for Quality Development in Hospitals and Clinics), **FMH** (Swiss Medical Association), **H+** (the association of Swiss hospitals), **SAMS** (Swiss Academy of Medical Sciences) and unimedsuisse (an association of university medicine in Switzerland). On 3 July 2019, an institutional directive called **Création et exploitation de registres de données cliniques au CHUV** (Creation and Operation of Clinical Data Registries at CHUV) was published (available on request). This directive describes the rules and principles that apply to MRs as well as the governance that should be put in place to manage them. To ensure the proper application of this directive at the hospital level, a project leader from the medical direction assists all registry managers and staff involved in registry operations. We have operated until now in a project mode and plan to move to a routine mode by the end of 2020. So far, the main aspects of the project have consisted of informing and training the teams of the different services at CHUV. We also connected with the ethics committee (**EC**) of Vaud to validate the newly developed regulation form that each registry manager has to fill out. In addition, we completed our organisation with a dedicated operational committee for biobanks and registries, which is internally called the **COB** (Comité opérationnel des biobanques et registres). It is like a control tower that reviews, approves, and records all registries. There are three persons involved in the **COB** and they meet twice a month: a legal representative, the research consent unit manager, and the project leader for data registries. Since the publication of the directive, the COB has already approved 66 registries (status as of 30 June 2020).

What types of registries are we talking about?

There are three types of registries: (1) clinical registries for following patients' clinical evolution and the quality of care, (2) research registries, and (3) mixed registries. The proportion of each category is illustrated in **Figure 1**. There is a clear trend toward increasingly mixed registries to keep open the possibility of using data for future research.

Figure 1: Registry categories at CHUV



A selection of active registries at CHUV with their date of creation:

2020	Registre EuroLVD (liver venous deprivation registry)
	Registre RegCOVID-19 (COVID-19 registry)
2018	Registre du Centre des tumeurs neuroendocrines (neuroendocrine cancer centre registry)
2017	Registre du Centre des tumeurs gynécologiques (gynecological cancer centre registry)
2016	Registre carcinose péritonéale (peritoneal carcinomatosis registry)
2015	Registre du Centre des Sarcomes (sarcomas centre registry)
2014	Registre de la Chirurgie viscérale complexe-MHS (complex visceral surgery, highly specialized medicine registry)
	Registre du Centre des tumeurs thoraciques (thoracic cancer centre registry)
	Registre du Centre de la Prostate (prostate cancer centre registry)
2012	Registre de la Filière Brûlés (burns registry)
	Registre du Centre Universitaire Romand de Chirurgie Thoracique (Romand university centre for thoracic surgery registry)
2010	Registre du Centre du sein (breast centre registry)
2008	Registre des patients blessés graves du CHUV (CHUV registry of severely injured patients)
2005	Registre des implants lausannois (Lausanne implants registry)
1997	Registre ganglions sentinelles pour mélanome (registry of sentinel lymph nodes in melanoma)

Could you describe the main steps a registry needs to take to be approved and the organisations involved?

Any new or existing registry at CHUV should take the following steps to comply with the institutional directive:

1 Notify the COB, which keeps an updated list of registries run at CHUV.

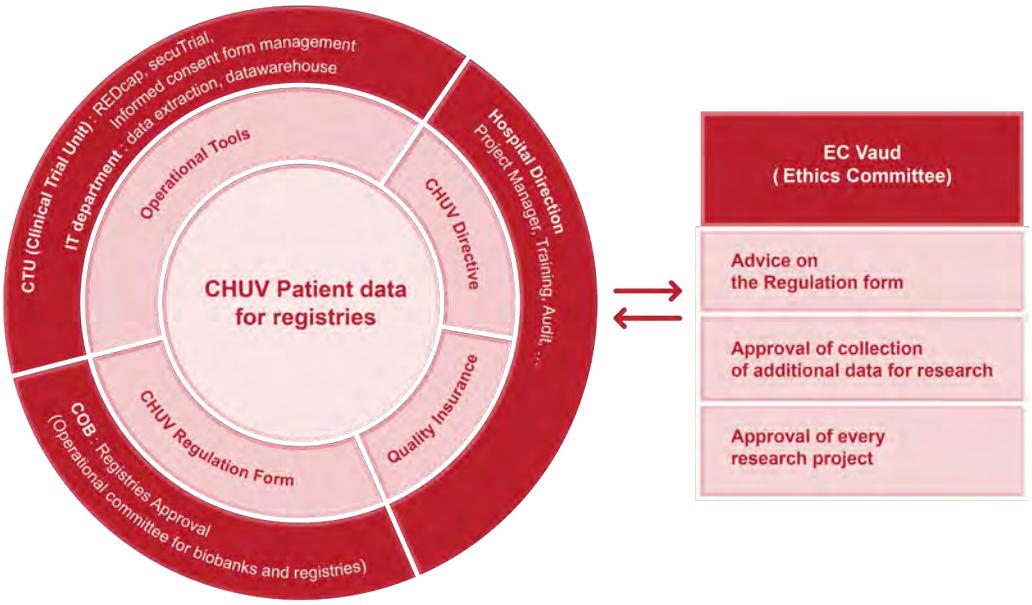
2 Fill out a regulation form describing the aim and inclusion criteria of the registry; how data are collected, transmitted, and used; registry governance; and so forth.

3 Define and document a quality control process to ensure data quality, protection, security, and confidentiality.

Figure 2 illustrates how this process works at CHUV.

The amount of time, competencies, and resources these tasks require should not be underestimated. Teams can request some support from the project leader, the IT team, and also the Clinical Trial Unit (CTU). The CTU also offers tools such as secuTrial®, REDCap®, and informed consent management.

Figure 2: The registry process at CHUV and organisations involved



Would you agree that medical registries are becoming increasingly important, but there is a price to pay to run them properly?

Yes. A large number of health-related registries exist at CHUV. They are becoming important tools not only for assessing the quality of medical care and the effectiveness of treatments but also for following up with patients and providing well-structured data for research activities. Operating a registry involves taking into account several constraints, such as the need for an appropriate IT environment that allows data protection, security, the audit trail and traceability, and the establishment of robust governance with at least a main registry manager, a data manager, and a person responsible for data quality. The CHUV directive aims to harmonise all the different institutional registries and make sure they comply with ethical and legal requirements as well as national recommendations.

THE USE OF ELECTRONIC HEALTH RECORD (EHR) SYSTEMS IN CLINICAL RESEARCH: 19 SWISS INSTITUTIONS RESPOND TO THE SCTO'S NATIONAL SURVEY

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Every day, more and more health data are captured and documented electronically instead of in stacks of printouts, as it often once was. The near future promises a full transition from paper to electronic records. This digital progress is felt far beyond the initial steps of capturing patient records, however. Health data are a fundamental building block of clinical trials. So the practices of how data are selected and collected are closely linked to the regulatory requirements of clinical trials and how these trials will be run from an operational standpoint.

THE FOUNDATIONS OF RIGOUR REQUIRED IN DATA COLLECTION

Recording and maintaining electronic health data that are subsequently used in clinical trials require extra rigour. These data are regulated beyond the national regulations that normally apply to handling patient data in daily clinical practice (i.e. in doctors' practices and hospitals).

To define the core requirements of trial data, one should refer to the legally binding International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use Guideline for Good Clinical Practice (**ICH GCP**)[1] and to the normative reflection paper from the European Medicines Agency (**EMA**)[2].

According to ICH GCP, the sponsor or sponsor-investigator of a clinical trial and the investigator of a trial site are responsible for ensuring that trial data are attributable, legible, contemporaneous, original, accurate, and complete (sometimes referred to as ALCOAC). However, the EMA's recommendations regarding necessary, commonly recognised criteria for electronic source data offer a fuller list of characteristics. The EMA indicates that data should meet all of the above criteria as well as be consistent, enduring, and available when needed (these three additional criteria are also referred to as CEA). Using these criteria recommended by the ICH GCP and the EMA is crucial for researchers wanting to obtain a reliable pool of data that can be analysed to deliver results and potentially become the basis for further research or even new treatments for patients.

Source documents (in this case patient records) are no longer only kept as hard copies on paper, but are kept increasingly and predominantly stored as digital records. Electronic health record (**EHR**) systems, in which patient data are recorded and stored electronically, have been developed to meet the requirements of day-to-day clinical practice. But EHR systems do not yet always meet the highly regulated requirements of clinical research.

The following are only a few topical requirements that – while beneficial – are not always met and pose considerable practical challenges:

- Data collected should have a fully and readily available audit trail.
- Monitors' access to the health data of study patients should be restricted to only those records of patients in a specific trial.
- EHR systems should have a documented quality management system.

[1] See ICH-GCP E6 (R2), revised in 2016, and in particular its integrated addendum 4.9.0.

[2] See the EMA's Reflection Paper On Expectations for Electronic Source Data and Data Transcribed to Electronic Data Collection Tools in Clinical Trials, EMA/INS/GCP/454280/2010, published in June 2010.

SURVEYING THE USE OF EHR SYSTEMS IN SWITZERLAND

In early 2019, the SCTO's Regulatory Affairs Platform conducted a survey that aimed to:

- determine the extent to which EHR systems have already been implemented at Swiss study sites
- assess the current experiences with using EHR systems
- explore the needs and challenges linked to complying with regulatory requirements applicable in clinical research.

The survey was sent to staff involved in the operational conduct of clinical research in Switzerland, including study nurses, study coordinators, investigators, monitors, and project managers. The level of participation in the survey was high, with notably high participation from study nurses and coordinators: of the 91 respondents who completed the survey, 64% identified themselves as study nurses or study coordinators. Survey responses were received from various institutions across Switzerland. As the survey was not anonymised, it was possible for respondents to provide information about their hosting institutions. At least 19 different institutions (i.e. hospitals and doctors' practices) participated in the survey. Of these 19 institutions, 11 were not part of the SCTO's network.

The **results of the survey** provided a **favourable impression of**:

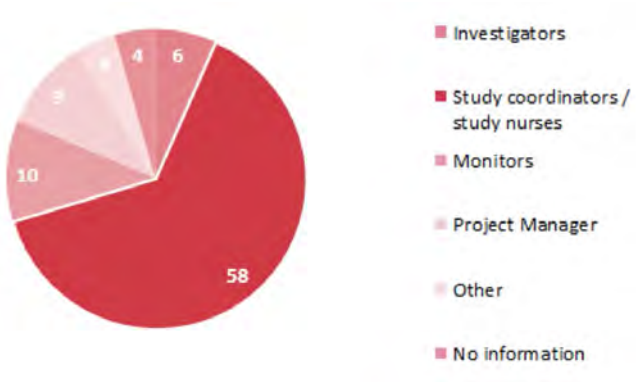
- the extent to which EHR systems are used at Swiss hospitals and doctors' practices conducting clinical trials
- the related challenges and needs of trial staff regarding how to make their EHR systems compliant with both GCP and data protection.

A snapshot of survey results

The results of the survey are summarised briefly below.

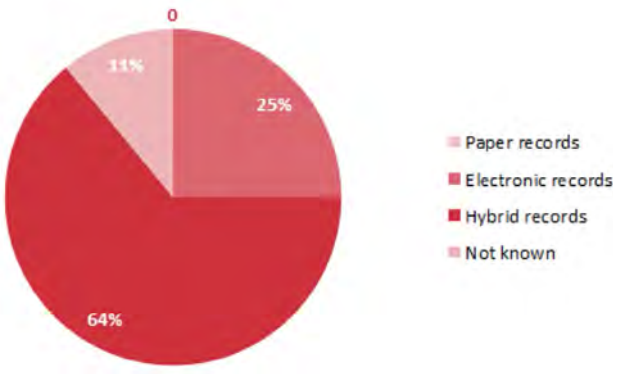
Respondents: In total, 91 people completed the survey. The respondents included investigators (n=6), study nurses or study coordinators (n=58), monitors (n=10), project managers (n=9), other clinical staff (n=4), and those who provided no information about their role (n=4) (see **Figure 1**).

Figure 1: Overview of survey respondents categorised by their function



Extent of use of EHR systems: None of the institutions represented keep only paper records, although only 25% of the respondents indicated that they have made a complete changeover from paper to electronic patient records. A mix prevails, as 64% of respondents indicated that they maintain hybrid records (both paper and electronic records) (see **Figure 2**).

Figure 2: Overview of types of patient records kept by institutions (percentage of total)



Daily challenges experienced by trial staff

According to this survey, a variety of different EHR systems are currently in use. Despite this variety, respondents (n=66) cited the following common problems and challenges:

- The monitor's access to patient data is not restricted to study-specific patient data: 47.0% (confirmed by n=31/66).
- The monitor must be accompanied by the study nurse or study coordinator: 33.3% (confirmed by n=22/66).
- The monitor's access to patient data is not password restricted: 19.7% (confirmed by n=13/66).
- Patient data must be printed and signed for monitoring to take place: 48.5% (confirmed by n=32/66).
- The audit trail is incomplete: 18.2% (confirmed by n=12/66). In a further question on the audit trail, 13.2% (n=12/91) of respondents reported an incomplete or partially incomplete audit trail, and 29.7% (n=27/91) answered that they were unaware of any such audit trail. These responses suggest that the audit trail of many systems is not readily or easily accessible.
- There are repetitive questions from sponsors regarding EHR system set-up and functionality: 31.8% (confirmed by n=21/66).

Expectations of trial staff

Most of the respondents (66.3%) indicated that they would like to receive further regulatory information and support on handling electronic patient data collected for clinical trials, especially in the following areas:

- how to handle and generate certified copies
- how to assess the regulatory compliance of the EHR system in use for a sponsor
- written instructions for using EHR systems
- advice on what to do if regulatory obligations are not fulfilled (and on which mitigation strategies could be taken)
- the minimum requirements for using EHR systems as source data in clinical trials.

LOOKING FORWARD TOWARDS A GUIDELINE

This nationwide survey on EHR systems provides a current snapshot of the common requirements of trial staff and the gaps in the use of EHR systems at trial sites. More results of the survey and an EHR system assessment form can be found on the SCTO Regulatory Affairs Platform webpage in the tools section. With this information collected from respondents, it may be possible to develop a common guideline on using EHR systems in a clinical research setting. Such a guideline could not only help trial staff to improve processes at their sites and institutions, but also help to establish common nationwide standards for EHR systems. A guideline document will be developed by a working group from the RA Platform and will be announced in the *RA Watch* as soon as it is available.

HEADLINES AND HAPPENINGS

IN SWITZERLAND

Since March, the *RA Watch* team has been surveying all regulatory activities linked to COVID-19. Numerous developments have occurred, and we have listed the key information and sources of information here.

Swiss Clinical Trial Organisation (SCTO)

● **JUNE 2020** **A joint statement on the federal popular initiative to ban experiments on animals and humans**. Submitted in March 2019, the federal popular initiative called for a ban on experiments on animals and humans and a ban on the trade and approval of products developed using animal experiments. Together with the Swiss Group for Clinical Cancer Research (**SAKK**), the Swiss Paediatric Oncology Group (**SPOG**), and the Swiss Research Network of Clinical Pediatric Hubs (**SwissPedNet**), the SCTO opposed the initiative, since a ban on human trials is contrary to the welfare of patients, their families, and society. In addition, the initiative would have prevented progress in medical research and endangered Switzerland as a research location. The statement is available online DE FR.

source SCTO

● **AUGUST 2020** **A joint statement on the popular initiative called "For Moderate Immigration"** (Limitation Initiative). The SCTO joined the Swiss Science Council, the Swiss National Science Foundation (**SNSF**), and the Swiss Academies of Arts and Sciences in their opposition to the Limitation Initiative and cautioned that, if it had been passed, the initiative have would negatively impacted Switzerland as a place to conduct research by ending the free movement of people between Switzerland and the European Union DE FR.

Federal Office of Public Health (FOPH)

COVID-19

● **JULY 2020** The Swiss National COVID-19 Science Task Force adapted its mandate and received a new chair. The Confederation will continue to draw on independent scientific expertise from academic and research circles during the "special situation" in accordance with the Epidemics Act.

MEDICAL DEVICES

● **MAY 2020** Update on **EU developments related to medical devices** EN. Several interesting documents linked to **clinical evaluation** have been developed:

- Medical Device Coordination Group (**MDCG**) guidance on clinical evaluation and demonstration of equivalence
- MDCG guidance on clinical evidence needed for devices CE-marked under the Directives
- MDCG guidance on clinical evaluation of medical device software
- Post-market clinical follow up plan and evaluation templates
- MDCG guidance and form for safety reporting in clinical investigations.

● **JULY 2020** The **Federal Council adopted the revision of the Medical Devices Ordinance (MedDO) and the new Ordinance on Clinical Trials with Medical Devices (ClinO-MD) on 3 July**. The final texts are available online:

- revised MedDO DE FR
- new ClinO-MD DE FR
- report on the results of the consultation procedure DE FR.

» In connection with the COVID-19 pandemic, the European Commission announced on 25 March 2020 that the **full implementation of the Medical Device Regulation (EU) 2017/745 (MDR) would be deferred for one year**. For reasons of coherence, the new provisions will be implemented in Switzerland in stages. The derogations for placing medical devices that have not undergone a conformity assessment procedure on the market and putting them into service entered into force on 1 August 2020. The main provisions concerning market introduction requirements, market surveillance, and new clinical trial requirements will enter into force on 26 May 2021. Provisions on in vitro diagnostic medical devices will be included in a separate regulation. The date of entry into force remains unchanged on 26 May 2022, and consultation on the implementing legislation is planned for summer 2021.

• **SEPTEMBER 2020** Update on **EU developments related to medical devices** EN

» Clinical Evaluation Assessment Report (**CEAR**) template issued. MDCG guidance which explains the role of the notified body's CEAR in assessing a device under the MDR. The CEAR will be used by notified bodies to document the conclusions of its assessment of the clinical evidence presented by the manufacturer in the clinical evaluation report and the related clinical evaluation.

source FOPH

• **SEPTEMBER 2020** Update to the Swiss National Clinical Trials Portal (**SNCTP**), which now includes the results of clinical trials and extended filter functions. Clinical trials in Switzerland must be published on the online research portal, which has been redesigned to facilitate this procedure. The portal can be found on the Coordination Office for Human Research's website www.kofam.ch, which is operated by the FOPH.

swissethics

COVID-19

•**MARCH 2020** In order to promote transparency and facilitate research coordination, swissethics publishes **online lists of research projects on COVID-19** that have been either submitted and approved or submitted but not yet approved. The two lists are updated regularly EN.

•**MARCH 2020** Publication of an **addendum to the patient information and consent form for clinical trials during the COVID-19 pandemic**, including telephone visits and home delivery of the investigational study drug EN.

•**APRIL AND UPDATED IN JUNE 2020** Publication of **Joint Guidance of Swissmedic and swissethics on the Management of Clinical Trials with Medicinal Drug Products in Switzerland during the COVID-19 Pandemic** EN.

•**MAY 2020** Publication of a position paper on the mission of ethics committees (**ECs**) during the COVID-19 pandemic by the European Network of Research Ethics Committees (**EUREC**), of which swissethics is member. EUREC reaffirms and reminds all concerned parties (researchers, institutions, sponsors, etc.) that the mission of ECs is the protection of the dignity, rights, safety, and well-being of participants in medical research. This also applies against the background of the current pandemic situation EN.

•**JULY 2020** Publication of a report called **Changes for the Ethics Committees March to June 2020: Challenges and Effects on the Number of Applications and on the Timelines.** The COVID 19 pandemic has posed new and very serious challenges to ECs and all other institutions involved in human research. In this document, swissethics provides an overview of how researchers have been supported by extremely short processing times despite a considerably larger number of research applications. In addition, ethical standards are discussed, particularly with regard to informed consent. The report is published in German and in French.

•**JUNE 2020** Publication of an **advisory opinion from the ECs on registries, biobanks, and research projects in accordance with article 51 of the Human Research Act** (**HRA**). The pure creation of data registries or biobanks is not formally subject to authorisation under the HRA. However, projects that re-use these data and biological samples must generally be approved by an EC. ECs now offer a preliminary examination of data registries and biobanks EN (see also swissethics' **ARTICLE** on p.11).

• **JULY 2020** Publication of a document for researchers with **guidance on the conduct of basic research projects**. It is often unclear whether a basic research project falls within the scope of the HRA or not. This depends on whether it is research according to the definition of the HRA (generation of generalisable knowledge), whether it is research concerning the structure and function of the human body, and whether biological human material and the data are used in uncoded, coded, or anonymised form EN.

• **APRIL TO SEPTEMBER 2020** Updates to the following documents:

- a project plan template for research involving human subjects with the exception of clinical trials EN
- a clinical protocol template for investigator initiated trials (**IITs**), version 3.6 EN
- a template from Swissmedic for the notification to ECs of serious adverse events (**SAEs**) and device deficiencies for clinical trials (according to the Clinical Trials Ordinance (**ClinO**) with medical devices EN
- notification to ECs of significant changes and other changes for clinical trials (according to the ClinO) and for research projects not involving clinical trials (according to the Human Research Ordinance (**HRO**)) EN
- updated BASEC submission forms for clinical trials (according to the ClinO) and for research projects (according to the HRO) EN
- four updated templates of the patient information and consent forms for research participants in the context of research with persons EN.

Swissmedic

• **JULY 2020**

- Launch of the **magazine Swissmedic Visible**, which explains what lies behind the agency's work and shows the faces behind the divisions EN.
- Publication of **Swissmedic's 2019 annual report** EN.
- A study confirms Swissmedic's international competitiveness EN.

• **AUGUST 2020** Online information entitled **Information Benchmarking 2020 – Comparison of Swiss Approval Times for Human Medicines with the EU and the USA and Analysis of National Authorisation Procedures** EN.

COVID-19

• **APRIL AND UPDATED IN JUNE 2020** Publication of **Joint Guidance of Swissmedic and swissethics on the Management of Clinical Trials with Medicinal Drug Products in Switzerland during the COVID-19 Pandemic** EN.

• **MAY 2020** Online information entitled Australia, Canada, Singapore, Switzerland Consortium Regulators Pledge Support to Tackle COVID-19 EN.

• **JUNE 2020** Publication of a statement by international medicinal product regulatory authorities about vaccines EN.

• **JULY 2020** Information on how regulatory authorities from around the world intend to cooperate more closely on observational research during COVID-19. Three key areas have been identified: pregnancy research, medicines used in clinical practice, and monitoring the safety and efficacy of vaccines EN.

• **SEPTEMBER 2020** Publication of new guidance document on procedures for authorising medicinal products for the prevention and treatment of COVID-19 EN.

MEDICAL DEVICES

• **APRIL 2020** European Commission postpones application of the MDR for one year.

- **MAY 2020** Authorisation applications for category C clinical trials of medical devices. Publication of new documents, including:
  - » FO clinical trials with medical devices: application for authorisation [EN]
  - » FO clinical trials with medical devices: amendment concerning authorisation and safety measures [EN]
  - » FO clinical trials with medical devices: notifiable amendment and report [EN]
  - » FO Clinical trials of medical devices: serious adverse events and deficiencies in Switzerland [EN].
- **JUNE 2020** Publication of a questions and answers document on the new form for reporting serious incidents [EN].
- **JULY 2020**
  - » Publication of an information sheet for patients with frequently asked questions on medical devices [EN].
  - » Online information entitled Federal Council Approves New MedDO and ClinO-MD [EN].

Swiss National Science Foundation (SNSF)

- COVID-19 research project registry. This project database is regularly updated and offers an overview of research on COVID-19 with Swiss participation that is funded by the SNSF, by Innosuisse, or is within the European Framework programme Horizon 2020.
source SNSF
- **SEPTEMBER 2020** Publication of a new issue of the research magazine *Horizons* addressing the question: "Research, what will you learn from the pandemic?" All at once everything was different and scientific advice became more important than ever. The latest issue of *Horizons* wants to know how science interacts with the media and politicians. And it asks if science itself will change as a result [EN].

unimedsuisse

- **MAY 2020** Publication of a registries infographic developed by the ANQ, FMH, H+, SAMS, and unimedsuisse; it is available on the organisations' websites [DE FR].
- **JULY 2020** A conference and a press release entitled COVID-19 Pandemic: University Hospitals Make an Initial Assessment [DE FR].

Swiss Academy of Medical Sciences (SAMS)

- News from the Swiss Personalized Health Network (**SPHN**):
  - » **MAY 2020** Publication of guidance for reporting actionable genetic findings to research participants [EN].
  - » **JUNE 2020** Virtual workshop entitled Strengthening the Health Data-Driven Ecosystem in Switzerland: Academia and Pharma Industry Agree on Common Foundations to Jointly Improve Technical and Semantical Data Interoperability in Switzerland [EN].
- **MAY 2020** Publication of a registries infographic developed by the ANQ, FMH, H+, SAMS, and unimedsuisse; it is available on the organisations' websites [DE FR].
- **JUNE 2020** Publication of the final report on research in palliative care, including figures, issues, and challenges [EN].
- **AUGUST 2020** Publication of issue 02-03 of the SAMS newsletter *Bulletin*, which focuses on medical registries as a necessary investment for the future [DE FR].

eHealth Suisse

- **JULY 2020** Publication of eHealth Suisse's 65th newsletter, which provides an update on the implementation of electronic patient records (**EPRs**) in Switzerland. Certification procedures for the introduction of EPRs are underway in all regions of Switzerland. However, the work has been slowed down by differences in opinion on the final stages of certification. Nonetheless, all residents of Switzerland should be able to open an EPR by spring 2021 [DE FR].

HEADLINES AND HAPPENINGS ABROAD

IN EUROPE

Amidst the COVID-19 pandemic, several national, regional and international regulatory bodies have issued guidance on conducting clinical trials during this critical period. The situation is changing daily. We have summarised some of the relevant sources of information and news. For more information, please contact your local CTU's regulatory team.

European Medicines Agency (EMA)

- **MARCH 2020** Publication of the EMA's regulatory science strategy to 2025, which aims to build a more adaptive regulatory system that will encourage innovation in medicines development [EN].

- **APRIL 2020** Publication of a short notice to sponsors on the validation and qualification of computerised systems used in clinical trials [EN].

COVID-19

The COVID-19 EMA pandemic Task Force (**COVID-ETF**) is the main tool of the EMA and the European medicines regulatory network for enabling EU Member States and the European Commission to take quick and coordinated regulatory action during the pandemic. All developments can be seen on the EMA's website; key developments are listed here:

- **MARCH 2020** A call to pool EU research resources into large-scale, multicentre, multi-arm clinical trials on COVID-19.
- **APRIL 2020** The last update to guidance on clinical trial management during the COVID-19 pandemic. Guidance on regulatory expectations and flexibility.
- **MAY 2020** Recommendations on concrete actions that stakeholders involved in COVID 19 clinical trials should take to enable the conduct of decision-relevant clinical trials.
- **JULY 2020** The last update on advice for stakeholders involved in observational studies related to COVID-19. Infrastructure supporting real-world monitoring in daily clinical practice of COVID-19 treatments and vaccines.

Moreover, to speed up the development and approval of medicines and vaccines for COVID-19, the EMA has adapted its procedures and provides rapid scientific advice, fast-track authorisation procedures, conditional marketing authorisation, and more.

source EMA/COVID-19/guidance web page

The EMA has been discusssing potential treatments and vaccines under investigation.

source EMA/COVID-19/treatments and vaccines web page

An updated list of ongoing COVID-19 clinical trials in the European Economic Area can be found on the EU Clinical Trials Register website.

UPDATE ON THE CLINICAL TRIALS REGULATION (EU) 536/2014 (CTR)

- **JUNE 2020** Publication of the first issue of *CTIS Highlights*, the EMA's newsletter on the Clinical Trials Information System (**CTIS**). The implementation of CTR will bring major changes to the authorisation, conduct, supervision, and reporting of clinical trials in the EU. The CTIS is the last key step for the full implementation of the regulation because it will be the single entry point for submitting, assessing, authorising, supervising, and reporting a clinical trial in all EU member states. Reporting also includes the publication of clinical trial results in lay language. The CTIS is now scheduled for release in the second half of 2021 [EN].

European Commission

COVID-19

● **JUNE 2020** The European Commission published its EU vaccines strategy for research and innovation supporting COVID-19 vaccine development.

● **JULY 2020** Launch of a Manifesto to maximise the accessibility of research results in the fight against coronavirus. The Manifesto provides guiding principles for beneficiaries of EU research grants for coronavirus prevention, testing, treatment, and vaccination to ensure that their research results will be accessible for all and to guarantee a return on public investment [EN].

● **SEPTEMBER 2020** The European Commission will support a new and ambitious EU-funded research initiative, EU-RESPONSE, with €15.7 million. This project will establish a clinical research network to treat COVID-19 and other emerging infectious diseases [EN]. The SCTO is the project partner for Switzerland through its observer status in the European Clinical Research Infrastructure Network (**ECRIN**).

UPDATE ON THE CLINICAL TRIALS REGULATION (EU) 536/2014 (CTR)

● **MARCH 2020** The European Commission published two versions of EudraLex Volume 10 [EN], a set of documents that defines the rules governing medicinal products in the EU. They contain guidance documents that apply to clinical trials. One set of documents applies to the current Directive and the other to the anticipated CTR. The CTR should ensure greater harmonisation of the rules for conducting clinical trials throughout the EU, and sponsors are encouraged to begin taking its requirements into account as soon as possible.

source The Advisor, Issue 458

● **JULY 2020** Update of the CTR Draft Questions & Answers document to Version 2.4.

UPDATE ON THE MEDICAL DEVICE REGULATION (EU) 2017/745 (MDR)

● **APRIL 2020** Publication of a new regulation postponing the application of the MDR by one year to 26 May 2021. The new Regulation (EU) 2020/561 was issued due to the unprecedented challenges of the COVID-19 pandemic. The In Vitro Diagnostic Medical Devices Regulation is unaffected and will be applicable from 26 May 2022 [EN].

HEADLINES AND HAPPENINGS ABROAD

INTERNATIONAL

Amidst the COVID-19 pandemic, several national, regional and international regulatory bodies have issued guidance on conducting clinical trials during this critical period. The situation is changing daily. We have summarised some of the relevant sources of information and news. For more information, please contact your local CTU's regulatory team.

● **MARCH 2020** Publication of the International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (**ICH**) public meeting report on the E8(R1) guideline entitled General Considerations for Clinical Trials. This guideline should help to improve patient engagement during the clinical study design process (source: The Advisor, Issue 458).

● **JULY 2020** Publication of the third edition of ISO standard 14155 (Clinical Investigation of Medical Devices for Human Subjects – Good Clinical Practice). This standard, which has been aligned with the requirements of the MDR, outlines standards for the design, conduct, recording, and reporting of medical device clinical studies. It provides manufacturers with information on how to implement GCP for pre- and post-market clinical investigations to determine the safety and performance of a medical device. This standard is valid from July 2020 with no official transition time.

International Coalition of Medicines Regulatory Authorities (ICMRA)

During the COVID-19 pandemic, the ICMRA has been acting as a forum to support strategic coordination and international cooperation among global medicine regulatory authorities. The aim of these activities is to expedite and streamline the development, authorisation, and availability of COVID-19 treatments and vaccines worldwide. ICMRA members also work towards increasing the efficiency and effectiveness of regulatory processes and decision-making. Swissmedic is a member and supports the coalition's activities in various working groups. A few recent developments are listed here.

● **JUNE 2020** Guidance on the prioritisation of COVID-19 clinical trials. Discussion on data requirements for phase 3 clinical trials on vaccines.

● **JULY 2020** Agreement on acceptable clinical trial end points to facilitate rapid and consistent clinical trials for COVID-19 treatments and guiding principles for COVID-19 clinical trials.

● **AUGUST 2020** Discussions for alignment on policy approaches and regulatory flexibility during the COVID-19 pandemic and discussions on the use of observational studies and real-world data.

source ICMRA's COVID-19 web page

World Health Organization (WHO)

The WHO is bringing the world's scientists and global health professionals together to accelerate the research and development process as well as to develop new norms and standards to contain the spread of the coronavirus pandemic and help care for those affected. Regularly updated information on research developments and guidance can be found on the WHO's website, for example:

- Guidance for Research Ethics Committees for Rapid Review of Research during Public Health Emergencies
- Draft Landscape of COVID-19 Candidate Vaccines
- a publication describing COVID-19 candidate treatments
- COVID-19 Target Product Profiles for Priority Diagnostics to Support Response to the COVID-19 Pandemic
- a COVID-19 living map of ongoing research
- a COVID-19 living synthesis of study results.

IN THE USA

US Food and Drug Administration (FDA)

- **MARCH TO JULY 2020** Updates of FDA Guidance on Conduct of Clinical Trials of Medical Products during COVID-19 Public Health Emergency. This document includes content on conducting remote clinician-reported outcome assessments, remote site monitoring, and more. A specific point the FDA recommends is an app for obtaining remote informed consent during the pandemic, and the report describes ways to satisfy informed consent documentation requirements (e.g. a photograph or consent without form signing).

- **JUNE 2020** Publication of final guidance entitled Patient-Focused Drug Development: Collecting Comprehensive and Representative Input. The guidance describes important principles for designing, conducting, and reporting the results from an adaptive clinical trial.

EVENTS AND PUBLICATIONS

Events

19 OCTOBER 2020

EMA online workshop on the draft guideline on registry-based studies
ONLINE

11 NOVEMBER 2020

Networking event: Clinical Ethics in Switzerland
Organised by the SAMS
(in French and German) (rescheduled)
BERN

8 JUNE 2021

Symposium: Medical devices: lost in translation?
Organised by the SCTO in collaboration with the Bern University Hospital, the University of Bern, and the Swiss Institute for Translational and Entrepreneurial Medicine
(rescheduled)
BERN

20–21 SEPTEMBER 2021

D|A|CH Symposium
Tri-national congress on clinical trials in Germany, Austria, and Switzerland
(in German only) (rescheduled)
SALZBURG

Note: Events might be rescheduled or cancelled due to developments in the COVID-19 pandemic.

Books and publications

- **Couwenberg A et al. (April 2020)** The trials within cohorts design facilitated efficient patient enrollment and generalizability in oncology setting. Journal of Clinical Epidemiology 120:33–39 EN.

- **Bauchner H and Fontanarosa P (May 2020)** Randomized clinical trials and COVID-19: Managing expectations. JAMA Volume 323(22):2262–2263 EN. The clinical trials community around the world, in conjunction with numerous funders, has rapidly mounted important RCTs during the COVID-19 pandemic. This is a remarkable achievement. However, presenting and interpreting the results of these studies clearly and communicating findings appropriately to clinicians, the public, and policymakers, is critically important.

- **Megget K (June 2020)** COVID-19 is forcing pharma to rethink clinical trials. Chemistry World EN. A number of surveys have uncovered the severe impact COVID-19 is having on the global clinical trials landscape. An analysis of studies based on ClinicalTrials.gov revealed that of 2522 trials stopped or postponed between 12 January and 5 May of this year, and at least 1099 cited COVID-19 as the reason. The total number of trials paused or postponed in the same period last year was just 1233. Patient enrolment appears to have been hit particularly hard by COVID-19.

- **Zhu M et al. (July 2020)** Hybrid clinical trials to generate real-world evidence: Design considerations from a sponsor's perspective. Contemporary Clinical Trials 94:105856 EN.

- **Gloy V et al. (August 2020)** Uncertainties about the need for ethics approval in Switzerland: A mixed-methods study. Swiss Medical Weekly 150:w20318 EN. Jurisdictional inquiries are an important means for researchers to clarify whether their project requires ethical oversight. However, this mixed-methods study has identified some difficulties in the interpretation of legal terms, which often reflect persistent structural issues many other countries face as well. More detailed guidance may be helpful to reduce researchers' uncertainties and ethics committees' workloads related to jurisdictional inquiries.

- **Martani A et al. (September 2020)** Data protection and biomedical research in Switzerland: Setting the record straight. Swiss Medical Weekly 150:w20332 EN. Ensuring the protection of privacy and the compliance with data protection rules have become central issues for researchers active in the biomedical field. Data protection law is often perceived as very complex and difficult to interpret, which can hinder the efficacious planning and implementation of new research projects. This review helps to understand better the subject.

- **Talanova V and Sprecher F (September 2020)** General consent: areas for improvement. Bull Med Suisses 101(38):1197–1200 DE FR. The authors state that the general consent model currently used in many Swiss hospitals poses legal challenges. This article shows its weaknesses and its potential for improvement.

- **Bovenberg J et al. (October 2020)** How to fix the GDPR's frustration of global biomedical research. Science 370(6512):40–42. doi:10.1126/science.abd2499 EN. Sharing of data for research beyond the EU must improve.

ABBREVIATIONS

ANQ: Swiss National Association for Quality Development in Hospitals and Clinics

BASEC: Business Administration System for Ethics Committees

CEAR: Clinical Evaluation Assessment Report

CHUV: Lausanne University Hospital

ClinO: Ordinance on Clinical Trials in Human Research

ClinO-MD: Ordinance on Clinical Trials with Medical Devices

COB: Comité opérationnel des biobanques et registres

COVID-19: Coronavirus disease 2019

COVID-ETF: COVID-19 EMA pandemic Task Force

CTIS: Clinical Trials Information System

CTR: Clinical Trials Regulation (EU) 536/2014

CTU: Clinical Trial Unit

DTUA: Data Transfer and Use Agreement

EBPI: Epidemiology, Biostatistics and Prevention Institute

EC: ethics committee

ECRIN: European Clinical Research Infrastructure Network

EHR: electronic health record

EMA: European Medicines Agency

EPR: electronic patient record

EU: European Union

EUREC: European Network of Research Ethics Committees

FDA: Food and Drug Administration

FMH: Swiss Medical Association

FOPH: Federal Office of Public Health

GCP: good clinical practice

H+: the association of Swiss hospitals

HRA: Human Research Act

HRO: Human Research Ordinance

ICH: International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use

ICMRA: International Coalition of Medicines Regulatory Authorities

IIT: investigator initiated trial

MDCG: Medical Device Coordination Group

MDR: Medical Devices Regulation (EU) 2017/745

MedDO: Medical Devices Ordinance

MR: medical registry

MS: multiple sclerosis

PROMs: patient-reported outcome measures

RCT: randomised controlled trial

SAE: serious adverse event

SAKK: Swiss Group for Clinical Cancer Research

SAMS: Swiss Academy of Medical Science

SCQM: Swiss Clinical Quality Management in Rheumatic Diseases

SCTO: Swiss Clinical Trial Organisation

SGR: Swiss Society of Rheumatology

SIRIS: Foundation for Quality Assurance in Implantation Medicine

SNCTP: Swiss National Clinical Trials Portal

SNSF: Swiss National Science Foundation

SPHN: Swiss Personalized Health Network

SPOG: Swiss Paediatric Oncology Group

SwissPedNet: Swiss Research Network of Clinical Pediatric Hubs

unimedsuisse: an association of university medicine in Switzerland

WHO: World Health Organization

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Sources of information

- We gather news on regulatory topics linked to human research.
- We regularly read newsletters and visit the websites of relevant sources, including regulatory authorities in Switzerland, Europe, and the USA; ICH and WHO; the major Swiss academic organisations and health associations; and professional associations.
- Additionally, we review major clinical research journals.

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