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Further Use of Biological Material and Data

Process analyses for researchers and approval authorities

Summary

Basel, 4 May 2018

Further use of biological material and data – Process analyses for researchers and approval authorities

Summary

for the Federal Office of Public Health (FOPH)

Authors:

Miriam Frey (Project leader), Harald Meier, Andrea Oswald

B.S.S. Volkswirtschaftliche Beratung AG, Aeschengraben 9, CH-4051 Basel

Tel: 061-262 05 55, Fax: 061-262 05 57, E-Mail: miriam.frey@bss-basel.ch

Summary

Initial situation and objective of the study

Since 1.1.2014 the Federal Act on Research involving Human Beings (HRA) governs research with existing biological material or health-related personal data throughout Switzerland. This gives rise to new tasks and procedures for researchers and approval authorities. The Federal Office of Public Health (FOPH) commissioned the consulting firm B.S.S. Volkswirtschaftliche Beratung to analyse the relevant tasks and procedures and the associated costs. The mandate should provide a basis to evaluate the HRA Act and contribute to its overall evaluation.

Subject-matter of the investigation and methodology

The two major obligations defined in the HRA for researchers and the Ethics Committee in the scope of further use are a) authorisation requirement and b) duty to inform. Therefore, research projects have to be approved by an Ethics Committee (except when data sets or samples have already been anonymised). In this regard, the use of biological material and data for research projects is only permitted if the persons concerned have been adequately informed and agree to the use or have not raised objection to it. However, Art. 34 HRA provides a derogation to this that is principally intended to prevent samples and data that were obtained prior to the entry into force of the HRA from being fundamentally excluded from research. The derogation is particularly used when it is excessively difficult or impossible to obtain consent. Art. 34 HRA is frequently invoked at the present time. This applies to approximately 60% of the further use projects.

Obligation to obtain authorisation

837 Research applications in the field of further use were submitted to the Ethics Committee in 2016.

Determining whether projects fall under the scope of further use, and consequently subject to authorisation, is somewhat challenging in practise. Thus, at the present time the Ethics Committees differently assess some projects with limited data/samples that serve to clarify the feasibility of a study. The crux of the problem here is whether such projects are considered to be *research projects* (and are therefore governed by the HRA) or not (because no universally applicable statement is possible).

The authorisation process can be simplified as follows:

1. *Research idea*: The researchers develop a research idea and clarify which data they may use. If they are not sure whether their research project falls under the HRA, they may ask the Ethics Committee to clarify this.

2. *Drafting the research application:* The author of the application is generally the researcher. For students and doctoral candidates the application may be drafted in collaboration with their professor. If required, other stakeholders such as e.g. the Research Centre of the Institution or statisticians may be involved.
3. *Submitting the research application:* The researchers submit the research application to the relevant Ethics Committee. The application is submitted via the BASEC website.
4. *Formal assessment/preliminary assessment:* A preliminary assessment is carried out by the scientific secretariat of the Ethics Committee. In most Ethics Committees this corresponds to a preliminary assessment of the form and contents. A challenge for both the researchers and the Ethics Committee is that of differentiating the type of data (genetic/non-genetic) and the encryption (encoded/anonymised).
5. *Assessment of the content:* The application is subjected to a procedure, and a decision is taken (generally a presidential decision for research projects, for which the persons concerned have given their consent; simplified procedure, i.e. decision by a panel of 3, Art. 34 HRA). The Ethics Committees review the contents of the research applications in regard to their plausibility; a detailed examination (e.g. onsite checks/audit) is generally not undertaken.
6. *Decision:* At the conclusion of the assessment of the contents the following may be decided: a) The application is approved. b) The application is conditionally approved (i.e. minor modifications have to be made). c) The application is not (yet) approved as first of all some conditions have to be met. d) The application is refused. Refusals in the field of further use are absolute exceptions. On the other hand, conditions and/or requirements are often imposed (for all Ethics Committees on average approximately 60% of applications).
7. *Modifications:* Substantial modifications in the course of the research project shall be notified.

Resources

In regard to the costs and resources of the *Institutes of Research* (researchers and additional involved persons in hospitals, universities and industry) estimates vary between half a day and 3 weeks (mainly depending on the experience of the researchers). Half of the estimates are between 5 and 10 working days. Note: Only

those costs are listed that result from the obligation to obtain authorisation; resources or costs incurred due to explanations and obtaining consent from the relevant persons are not included.

	Resources per research application (days)
Training for HRA and obligation to obtain authorisation	ca. 2 days (not applicable for experienced researchers)
Conceptual work	ca. 4-5 days
BASEC input	ca. 1 day
Follow-up	ca. 2 days (if needed)
Overall	ca. 5 to 10 days

Source: B.S.S. survey of researchers, n=22. Average values are listed.

By applying data on the average hourly labour costs (CHF 60, according to the Federal Statistical Office) the costs amount to CHF 2400 to 4800 per application. In addition, there are fees of CHF 200 to 1000 per application (assuming no external financing). Accordingly, the average costs are about CHF 4000 per application (approximate value as this is only a very crude estimate). Extrapolated to all applications, estimated costs throughout Switzerland were CHF 2 to 4 million in 2016.

Time spent by the Ethics Committees to assess an application in the field of further use can be estimated to be an average of 2 hours for a presidential decision and about 5 hours for a simplified procedure. For applications that require extensive clarification the time spent may also be significantly higher. These figures refer to the time spent up to the first decision (= decision after the contents assessment of the research application, whereby still other conditions or requirements may be required, which will further increase the time spent). Time spent by the Ethics Committees is financed by the fees (see above).

	Presidential decision (n=5)	Simplified procedure (n=7)
Preliminary assessment by the scientific secretariat	15-30 minutes	15 minutes to 2 hours
Examination by the corresponding body (preparation)	30-60 minutes	60 minutes to 3 hours
Meeting	-	30 minutes to several hours (summed for several members)

Administration, other	20-60 minutes	20-60 minutes
Overall	ca. 2 hours	3 to 8 hours

Source: B.S.S survey of the Ethics Committees.

Duty to inform and Consent

The duty in regard to explanation, informed consent and information primarily concerns the hospitals. In almost all surveyed hospitals the agreement of the persons concerned is obtained in the form of a "*general consent*". The general consent serves the purpose of obtaining in advance the consent to future *research purposes* in the field of further use. This differs from an "informed consent", wherein the relevant persons are informed about a *specific research project* and are asked for their consent. In the field of further use the informed consent about a specific research project is required only for the use of un-encoded genetic data/biological material. Otherwise the general consent suffices.

The course of a general consent can be simplified as follows:

1. *Preparation of information brochures and form:* The persons concerned are usually informed by means of a brochure. The requirements of HRA are similarly met by the institutions, with two exceptions: a) The right to information is partly mentioned, partly explicitly excluded. b) Due to the great complexity, any discussion on the differentiation according to the type of data and encoding is avoided.
2. *Handing over the form to a person concerned:* In the surveyed hospitals the information and explanation are mainly provided in written form at admission to the hospital (or in advance). If needed, more details are provided orally (e.g. for queries, in cases when the form was not or partially filled out, or also with foreign-language speakers). Possible questions are either answered by the secretariat or by the physician. The greatest challenges were cited as the differentiation according to the type of data (complexity and difficulty in understanding) and the timing (when the persons concerned are being admitted to hospital they often have other things on their mind than the utilisation of their data).
3. *Consent or refusal: filling out and returning the form:* The consent or refusal is obtained by means of a form. The acceptance level in the surveyed institutions was 87% on average and varied, depending on the research institute, between 80% and 95%.

4. *Scanning the form/Hospital information system interface:* The forms are generally printed individually, i.e. for each patient there is a barcode on the document for filing purposes. The recovered forms are then scanned and transferred into the databank system (SAP). In addition, an interface to the clinical information system is set up (digital patient documentation). In the absence of a technical infrastructure the information is individually deposited ‘only’ in the physical dossier of the patient.

Time and effort

The time and effort required by the research institutes to provide information and explanations in the context of a general consent averages nearly 25 minutes per person (based on 11 estimations). However, the variance is high: depending on the institution the time and effort was an estimated 2 minutes up to 1-2 hours, wherein half of those interviewed cited times of 12 to 30 minutes. These efforts often have to be covered by existing resources. The preparation and follow-up (printing, sending, enquiries, filing, scanning) is the most time-consuming part (ca. 80%). Based on an hourly rate of CHF 60, the average cost per person corresponds to ca. CHF 25.

Conclusions

The implementation of BASEC, for example, represents a major simplification for the Ethics Committees and the research institutes. From our standpoint, however, some Ethics Committees and researchers seem to be still in a “re-adjustment process”. In our opinion the greatest challenges at present are as follows:

- **Heterogeneity:** Although there are many harmonisation efforts both by individual Ethics Committees as well as by swissethics, nevertheless, the fact remains that the proportion of applications with conditions or stipulations in the field of further use, depending on the Ethics Committee, varies between 30% and 90% in respect to differences in execution. The handling of feasibility studies is also heterogeneous. In our view, the applicable provisions could be specified.
- **Controls/Responsibility:** Much information is based on a self-declaration of the researchers. In our view, it would be beneficial – as one Ethics Committee has already put into practice – to perform specific checks. These may be done on a risk basis. Alternatively, it could be conceivable that certain (large and professional) institutions receive “certification” that allows them to receive a simplified authorisation.

- **Differentiation:** Differentiation according to the type of data and encoding is very complex and therefore difficultly comprehensible for the persons concerned. The distinction is also not always clear for researchers, and ultimately it is questionable whether data can be really anonymised in the light of Big Data Methods. In our view, it should therefore be checked if the differentiation can be avoided or if it can be significantly simplified.
- **Timing:** In our view, the timing of the information and explanation is problematic. On being admitted to a hospital the persons in question often have other things on their mind than the use of their data. Accordingly, in our view it should be examined whether the decision of the persons concerned should be made independently of the time of their admission to hospital. This would have the additional benefit that the consent could be given for a plurality of institutions.
- **Infrastructure:** In some institutions there still exists the potential to optimise their infrastructure. It could be problematic if the persons concerned were indeed informed and given an explanation, but their decisions were not then recorded in a central databank (so as to allow an automated data search).

On an overall perspective, some researchers fear that the database will decline in the future, should Art. 34 HRA be applied more restrictively and hospitals not engaged in research are not prepared to introduce a general consent. Appropriate monitoring of the number and type of research projects would, in our opinion, be expedient in order to quell these fears and to identify a possible action plan.