Guide to Best Practices in Health Sciences Research

English version of the Guide (IDI-DOC-045 v02) approved on 29/11/2019

Contents

Preamble

To promote the incorporation into the daily routine of ethical standards and good scientific practices, the first edition of "Guide to Best Practices in Health Sciences Research" by IDIBELL was issued in 2015. This guide was written taking as a reference the "Guia de Bona Pràctica en la recerca en ciències de la salut de l'ICS", which states that "it falls to the ICS health network and especially the health research institutes linked to it, to adjust and adapt the guide to the particular conditions of health sciences research in each of the institutions where it is applied." The first version of the IDIBELL guide to best practices in research was discussed and approved in the framework of the Institute's Scientific Committee.

In recent years, the concept of Responsible Research and Innovation (RRI), with the objective of establishing more bonds between the scientific community and society, promoting joint working by different interest groups (civil society organizations, the educational and scientific communities, policy makers and the business and industrial sector) throughout the whole process of research and innovation, has brought out the importance of ethics, among other aspects, in the research process. However, the declarations published on Research Integrity, such as those of Singapore or Montreal, and the "Code of Conduct" prepared by the CERCA Institution, mean that IDIBELL as a CERCA center has the obligation to adopt them. Now, IDIBELL has adopted *"The European Charter for Researchers & Code of Conduct for the Recruitment of Researchers"*, which specifies the roles and responsibilities of researchers and institutions in the research process and in matters of human resources, IDIBELL undertaking to adopt it in the framework of the *"Human Research Strategy 4 Researchers (HRS4R)"* seal awarded to IDIBELL by the European Commission in 2015. Finally, the creation and promotion in recent years of the figure of the Ombudsperson and the Committee on Research Integrity (CRI) have generated the need to produce an updated edition of the "Guide to Best Practices in Health Sciences Research".

We hope that the new version of the "Guide to Best Practices in Health Sciences Research" will encourage its dissemination and promote its knowledge and implementation for all the staff who work in the context of IDIBELL.

Introduction

Scientific research is defined as the activity of searching for knowledge through systematic study, observation and experimentation; in the case of biomedical research, the purpose of this knowledge is found in human health.

Ethics in general, and biomedical ethics in particular, have their foundations in society, in the cultural, social, political and legal values of the time. It is a discipline in constant development, but through the years principles and procedures which are of practically universal validity have become consolidated.

The great international agreements (Nuremberg Code, Helsinki Declaration, Belmont Report, ICH Standards - *International Conference of Harmonization Guideline* for Best Clinical Practices, among others) have validated a series of recommendations which have become contributing factors in the legislation and recommendations of the more advanced countries. In a first phase, the basic principles of autonomy, beneficence, nonmaleficence and justice preside over the recommendations of best practices guidelines. However, the introduction of these principles has made it necessary, in a second phase, to pay attention to the normal practices of research staff. Terms such as pertinence, objectivity, honesty, etc. are already present in the good governance of research and the integrity of the research process.

In research, as in other creative human activities, the dilemma between the researcher's freedom to obtain scientific knowledge (individual values) and society's rights and needs (social values) is very often present. In both cases these are legally protected rights and assets. The ethical committees, in their various specializations

(care and attention, research, scientific integrity) have to encourage honesty and validity in the research process and see to it that the institutions, research staff and society find a suitable forum for the resolution of their conflicts. This has resulted in developments from a simple code of recommendations and directions on the subjects of scientific research, to broader codes which include recommendations, directives and instructions relating to the structure of scientific practice.

The economic importance of R&D&I activities in the biotechnology sector has led to aspects of the authorship of scientific discoveries, their commercial exploitation and conflicts of interest with industry being considered of great importance. These aspects have been gradually incorporated into the essential principles of these guides.

Finally, scientific fraud, falsification in the research processes or the results, plagiarism, among others, are violations of these basic principles. Any violation of any of the principles of integrity in research and, therefore, also in compliance with the standards set out in the code, will have to be evaluated in the context of the Committee on Research Integrity, while also reporting to and involving the CERCA Institution.

The purpose of this guide is to make available to the IDIBELL scientific community an instrument for the taking of decisions by both the organs of government and the research staff. At all times, the guide and its potential for application have to be presided over by the most demanding and updated values and ethical principles of scientific practice.

The "Individual commitment to best scientific practices and respect for ethical standards" referred to in the "Code of Conduct" of the CERCA Institution, obliges all scientific and technical staff in every CERCA center to make a commitment to compliance with the whole "Code of Best Practices in Health Sciences Research".

1. GENERAL PRINCIPLES OF RESEARCH

1.1. Exercise of methodical doubt

The principle of scientific knowledge is the capacity of surprise or enquiry as to the reason for facts or situations until that time not investigated or resolved. Science pursues an objective knowledge which can be assumed to be true. To achieve it, a reflective process is followed which has two phases: methodical doubt and justification of the explanatory hypothesis. Methodical doubt implies independence of judgment, non-acceptance, from a scientific viewpoint, of any idea as absolute or definitive. For justification of the hypothesis, proofs or arguments that validate it have to be found. This attitude of enquiry, which is the starting point of the scientific task, must always be present in the researcher because if the human capacity of surprise is inexhaustible, the possibility of knowledge is also inexhaustible and the certainty achieved at any time has to be provisional.

1.2. General standards governing scientific practice

Observation and experimentation in the clinic, the laboratory and the natural environment are for the purpose of obtaining data which help in finding adequate responses to the scientific questions that are raised. For this reason, research has to be done following well designed work protocols which, if necessary, can be examined and understood by any researcher in that particular scientific field. The experiments and observations have to be carefully designed with rigor and intelligence, with the purpose of making the best use of the resources available, always taking into account the work standards existing in the laboratory at any time. This is even more essential when the research subject is concerned with human beings or their data, laboratory animals or when the safety of people or the environment may be in play.

- The state of systematic scepticism: openness to doubt, even of the researcher's own results and the results of his group. The proof of a scientific result is its reproducibility. The more surprising or desired a

result may be, the more important it is to reproduce it independently (within reasonable costs) in the research group before it is communicated outside.

- It is necessary to maintain a high degree of vigilance when faced with any "illusion" motivated by one's own interest or by moral prejudice of any kind; it is critical to encourage a systematic state of alert when faced with erroneous interpretations as a consequence of the limitations of experimental design, excessive generalisation and superficial interpretation.
- It is vital to ensure systematic and safe collection of primary data and to guarantee their storage for ten years, with clear and comprehensible documentation of the methods used to generate these data (for example, laboratory logbooks, photographs, printed chromatograms). Alternatively, this can be done in secure electronic formats.

1.3. Application to Health Sciences Research Institutes and CERCA Institutes:

Health Sciences research centers, specifically IDIBELL (as a Biosanitary Institute linked to the Institut Català de la Salut (ICS) and the Institut d'Investigació Sanitaria Carlos III – ISCIII), have the fundamental mission of developing high quality research, translating the results of the research into health services and public health, to patients and to society in general.

Now, IDIBELL as a CERCA institute also incorporates the need to develop cutting-edge research intended to have a greater scientific and economic impact, as well as improving the wellbeing of societies and individuals. With IDIBELL adopting the CERCA Code of Conduct, it incorporates the ten basic principles:

1. Honesty and transparency
2. Open access to research data
3. Custody of research data, materials and substances
4. Managing industrial property in CERCA centers
5. Individual commitment to good scientific practice and a respect for ethical standards
6. Commitment and responsibility in research activities and scientific publications
7. Coordination with the CERCA Institute and CERCA Ombudsperson
8. Application of standards in recruitment and promotion. Preventing conflicts of interest in CERCA center activities
9. Cooperation with the media
10. Development of an action plan approved under the European Commission's HRS4R award scheme

Through this code IDIBELL intends to fulfil its fundamental objectives while maintaining its ethical integrity:

- The IDIBELL research staff undertakes to be based on these guidelines, as well as the laws, standards and other documents existing (see Annex 4), broadly recognised, and to ensure that this is known to the whole team, also watching over compliance with the ethical principles comprised.
- The IDIBELL staff has to give the financing agencies a guarantee that the resources allocated to this center will be used as efficiently as possible, also in compliance with the ethical rules.
- A guarantee must be given to the scientific community that the results will always be communicated, including negative results, in order to prevent useless repetition (open access to research data).
- Scientific malpractice will be avoided, both in carrying out the research process and in its later communication or publication in the scientific media.
- The necessary means will be employed to assure society that the resources allocated to research always receive the best use and that the rights of those who are ill are protected.

2. DIFFERENTIAL ASPECTS OF HEALTH RESEARCH

- The practice of health care and attention is based on a whole world of scientific knowledge, in addition to technical abilities and professional attitudes. This knowledge has been acquired through systematic research, and its transmission is carried out through scientific publications and teaching.
- Research allows this knowledge to be renewed and updated through an ordered procedure consisting of a succession of processes directed to an ultimate aim which is to improve professional practice and the health of the population. It can be developed in the basic fields, clinical and public health.
- Quality research also allows the professionals to maintain their own knowledge up to date so that they have an attitude open to change, which has an impact in improvements in care and attention.
- To achieve it, a whole set of resources is required, such as effort, time and the dedication of the research staff.
- A particularly important aspect is that, in applying their efforts to a determined project and direction, other options are discarded, which makes clear the importance of deciding on the right path.
- The communication of results to allow the transmission of knowledge and scientific progress is essential because, once this knowledge is in the public domain, repetition of the procedure is avoided and the whole of society benefits.
- For all this process to be accepted by society, which provides the resources for its undertaking, requires compliance with a set of ethical standards and very strict general conditions. And the scientific community itself, in this sense, also has to evaluate and accept the knowledge produced.
- The research world is competitive with regard to the procurement of resources for its financing. These resources can come from outside financing agencies, non-profit organizations, profit-making businesses or the health system itself. This search for sources of finance must not lead to forgetting the high moral standards that must prevail in the whole process.
- Research is developed, nowadays, in much broader fields and, in this sense, multicenter studies are very frequent. On the one hand, the center for care and attention and its research staff have to undertake a careful review of their participation in this type of studies, in which the design and exploitation of the data are outside their control and, on the other, they also have to undertake not to join until the review process has taken place.
- The Guide to Best Practices in Health Sciences Research constitutes a commitment by the institution and the research staff to carrying out all this scientific process with the highest possible level of quality.

3. PLANNING AND CARRYING OUT A RESEARCH PROJECT

To have possibilities of success, a research project needs some minimal elements of planning. The planning of a project is an essential part of the research process. It is a necessary condition for official registration, and a guarantee in the evaluation its success and in rendering an account of the resources invested. For this reason, the researchers always have to undertake to plan their projects with great care before their execution.

A research project, depending on its characteristics, can be subject to approval by regulating bodies on the ethical or safety level (Animal Experimentation Committee (CEEA), Drug Research Ethics Committee (CEIm) and Institutional Biosafety Committee (CBS)). In no case can a project be carried out without approval by the relevant bodies.

As a general rule, the planning of a project comprises the following points:

3.1. Planning a project

Project design phase

- Definition of the Principal Investigator.
- Review of pre-existing information (Background or State of the art).
- Preparation of a hypothesis.
- Definition of objectives.
- Selection of the focus, the variables and the observational and experimental methodology. Determination of the size of the sample and the statistical methodology.
- Definition of the research team, and collaborators (if necessary).
- Identification of the impact of the research.
- Determination of the minimal resources necessary for the project to be viable.
- Identification of the material and human resources available. Definition of budget.
- Definition of the types of samples and data for the project. If these come from the resources of collections in Biobanks, provision of a financial section for the associated assignment, processing and management.
- Definition of the system for data collection and custody. Definition of the impact assessment plan and the data management plan.
- Planning of tasks and scheduling (chronogram).

Preparation of the protocol in the case of clinical trials, observational studies and post-authorization safety studies (EPA)

- Mandatory preparation.
- Minimum legal contents.
- Composition of research team.
- Publication rights and financial agreements.
- In the case of clinical trials not considered to involve a low level of intervention, the sponsor has to take out a specific third party liability insurance policy according to the terms of articles 9 and 10 of Royal Decree 1090/15, of 4 December, which governs clinical trials with drugs, ethical committees on research with drugs and the Spanish register of clinical studies. This insurance will be charged to the study/trial financing and it will be the person in charge of the initiative who has to manage it.

Approval of the protocol

- Collaboration agreements between entities, groups or services.
- Ethical approval.
- Commitment by the research team.
- Existence of a contract linking the researcher with IDIBELL (either directly, in the case of researchers employed by IDIBELL or indirectly, in the case of researchers seconded to IDIBELL and employed by partner institutions that are members of IDIBELL).
- In the event that significant changes have to be made to the project, these have to be formalized in writing and, if important, will require the authorization of all those bodies that approved the undertaking of the project.

Depending on the characteristics of the study various specific considerations will be taken into account and will make certain types of additional approvals/authorizations necessary:

- **Basic research projects** the development of which implies the use of **biological agents** of risk to human, animal or plant health; the use of genetically modified organisms (GMOs), or the release of these GMOs, will require approval by the CEIm and also by the IDIBELL Biosafety Committee.
- An **observational study** is one which involves the participation of patients, but without the investigator altering the normal treatment of the patients the subject of the study. The investigator does not control the assignment of patients to certain treatments or actions; that continues in accordance with normal medical practice, the investigator being, therefore, merely an observer. These studies can be prospective or retrospective. They require the evaluation and approval of the CEIm.
- A **post-authorization safety study (PASS)** is any clinical or epidemiological study focused on a medicinal product in the conditions of use for which it has been authorized and marketed, where exposure to the medicinal product or products of interest is the fundamental factor under study. In the event that it is purely observational, the medicinal products are prescribed in the normal way, in accordance with the conditions established in their technical instructions. The assignment of a patient to a specific therapeutic strategy will not be decided in advance by the study protocol, but will be determined by normal practice and the decision to prescribe the medicinal product will be clearly dissociated from the decision to include the patient in the study. No action, diagnosis or follow-up will be applied to the patients other than clinical practice and epidemiological methods will be used for analysis of the data collected. All these studies need the approval of the CEIm, while some also require approval by the Autonomous Community and/or the Spanish Medicaments and Health Products Agency (AEMPS). Classification by the AEMPS has to be applied for prior to evaluation by the CEIm (there are five categories of PASS and they have different administrative routes which have to be followed before being set in train).
- **Epidemiological observational studies** (also called “NON PASS” studies) are those in which exposure to the medicinal product is not the basic factor investigated. In these cases, the study protocol only has to be submitted for evaluation by the CEIm, but classification by the AEMPS has to be asked for first.
- A **clinical trial** is a study in which the investigator intervenes in assigning the patients to one or another group for treatment or action, in order to verify a working hypothesis. The clinical trial can be concerned with medicinal products or with surgical or diagnostic techniques, or with other non-medicinal therapeutic measures.
- **Clinical trials with medicinal products** are studies with drugs to which any of the following suppositions applies: i) the investigator assigns the patients to a control treatment group and/or an experimental treatment group; ii) the medicinal product is not registered by the health authorities (it is in the clinical development phase) although there is only one treatment group (no random assignment); iii) the medicine, although marketed, is under study for a new indication, that is, for a pathology for which it has not previously received approval; iv) the medicine, already marketed, is not being used in its normal conditions of use, that is, there is some change in model, dose, method of administration or some other aspect referring to administration of the drug as authorized in its technical file, or a new combination of drugs is being studied; v) the medicine, already marketed, is being used in the conditions for use authorized in the technical file, but tests or explorations are being done during the study that are not part of normal clinical practice. In all these cases the protocol and documentation attached have to be submitted for evaluation by the CEIm and AEMPS, and they must comply with the regulations specified in Royal Decree 1090/2015, of 4 December, which governs clinical trials with drugs, ethical committees for research with drugs and the Spanish register of clinical studies.

- **Clinical trials and/or studies which involve the use of human embryonic stem cells or human cell lines derived from them**, require evaluation by the CEIm and AEMPS, and also need authorization from the Guarantees Committee (Instituto de Salud Carlos III) and from the Barcelona Regenerative Medicine Centre acting as the clinical research ethics committee of reference at autonomous level, as is established in Royal Decree 406/2006 (CMRB; http://www.cmrb.eu/comiteetic.html).
- **Clinical trials with advanced therapy medicinal products** are those which include medicinal products based on gene therapy, somatic cell therapy or tissue engineering products. All these cases will need the approval of the CEIm and AEMPS and will have to follow the regulations specified in Royal Decree 477/2014.
- **Clinical trials without medicinal products or apparatus** are those in which, although the investigator intervenes in assigning the patients to one or another group for treatment or action, no drugs or apparatus are involved, the subject of study is a surgical or diagnostic technique, or another kind of non-medicinal intervention. These cases only need evaluation and approval by the CEIm.
- **Studies with health products** are those which involve an instrument, device, equipment, material or other apparatus, designed to be studied in humans, with a diagnostic or therapeutic purpose (see European Regulations governing studies with medical devices (Regulation EU 2017/745) and with in vitro diagnostic medical devices (Regulation EU 2017/746)). These studies can be the observational type or a clinical trial (following the same rules as clinical trials, in this last case). Studies with health products which have EC marking only need authorization by the CEIm. Studies with health products that do not have EC marking or where, although they do have it, they are being studied for a different indication from that authorized, in addition to the authorization by CEIm, will need evaluation and authorization by AEMPS.

Once planned and positively evaluated by the relevant organizations, the project can move into its execution phase.

3.2. The principal investigator's responsibility

The principal investigator (PI) is the person responsible for the project.

The principal investigators of research projects, as well as the members of their teams, have to watch over strict compliance with the requirements established by the relevant project definitions or by the sponsors. They are also subject to compliance with all the legal and ethical regulations affecting the subsidy, contract or convention providing the funds for the research in question.

The principal investigator has to ensure that the research team always follows the authorized protocol, particularly monitoring research staff in training, to guarantee that they comply with the protocol and receive training appropriate to their stage and condition. It is the principal investigator, as directly responsible for the person contracted with a charge to a research aid, to ensure that the tasks and functions carried out by that person as day-to-day work are in line with the undertakings arising from their contractual relationship. Thus, if full-time work has been established to the charge of the aid, the principal investigator will be responsible to see that the tasks assigned to that person are in accordance with those of the aid that is financing their contract.

Principal investigators, also, undertake to respect the information contained in the project reports, both at objective level and for the budget. In this sense, the investigator has to notify the IDIBELL office in charge of managing the aid of any modification occurring in the project. Project modifications which refer to the research team, if possible, have to be communicated with notice of one month with regard to the fact causing them. In the event that the principal investigator is replaced, this must necessarily be authorized before continuing the

research project, by the finance provider, the CEIm (in the case of clinical trials) and the management of the center. In these circumstances, the new principal investigator must have at least the same qualifications as the one replaced.

Also, the research staff must comply with the directives established by IDIBELL with regard to the management of aids, facilitating their follow-up and communicating proactively any incident or irregularity of which they become aware, as soon as they have knowledge of it. In this sense, communication to the financing organizations regarding any aspect relating to management of the aids, will be for the office in charge of its management at IDIBELL.

Investigators who have different sources of finance, both external and internal, must be able to explain where each source of finance is allocated. Each research project must be able to be identified by itself, clearly and separately, independently of shared aspects that projects under the same investigator may have in common, or where they may mean the continuation of work developed previously in other projects. Also, in no case will IDIBELL support the double financing of a single research project through different sources of income.

A detailed record must be kept of payments and their supporting vouchers so that the reports are precise and can easily be reviewed by the financing entities. It is imperative to use the financial resources efficiently. The source of the funds must be specified on any product resulting from the research financed. Also, the principal investigator must cooperate in the supervision and auditing of research aids, as well inspection visits and the checks that may be applied, where deemed pertinent by the center and the financing entity, within the legal framework, and in the preparation of the necessary progress reports with the regularity agreed.

IDIBELL, in its capacity as a public foundation, must apply the principles of action and conduct that are set out in the code of recommendable principles and conduct in public procurement of goods and services, approved by Resolution of the Generalitat dated 1 July 2014, or any modification of that resolution, in accordance with the legislation on public procurement in force. The Act 9/2017, of 8 November, on Public Sector Contracts is of application, thus IDIBELL, in its capacity as a public foundation, is included as subject to it. Private centers have to act with the same spirit and follow the regulations in force, taking into account the public officials serving as members of the boards of trustees of their foundations.

3.3. Utilization of equipment

It is mandatory for the team and the principal investigator to keep research material in the best possible conditions and comply scrupulously with standards on functioning. Regular calibration must be done where appropriate, both to ensure the validity and precision of results and for the physical safety of those who use them or to whom they are applied.

Equipment acquired by the investigator for the purpose of a project will be of preferential use for that project, but not exclusive, so that the rest of the institution's research staff will be given access or permitted to use it if complying with the specific regulations on equipment for care and attention. All the equipment acquired by the institution through research projects becomes part of its assets and is included in its inventory. The institution takes responsibility for its maintenance and good functioning.

The use of outside equipment not exclusive to the research group has always to be approved by the equipment manager.

3.4. Determinations, recording and preservation of the results

Analytical determinations and annotations of the results will be as exact and precise as possible. Sufficient quality controls will be established to ensure that the measurements are made correctly.

The data recorded will be dated and the person who collects them identified. All data will be noted, including unexpected or negative results, also any unforeseen circumstances that may alter the quality and integrity of the

research. The research institution will establish specific rules on suitable standard supports for data collection, their custody and procedures on custody when an investigator leaves the institution. These procedures will be set out in the welcome plan for research staff joining.

The IP of each project has to ensure the availability, traceability and veracity of the data obtained and also ensure that the data are recorded, stored and kept according to the regulations applicable.

As an integral part of the future of research, policies on the introduction of Open Data have to be taken into account and anticipated, collaborating in and facilitating their application.

Raw data, substances (biological, chemical or any other), informed consents, questionnaires or results of research or technological activities which are relevant in guaranteeing the traceability and reproducibility of the results have to be ordered and stored securely (in physical or electronic format), to permit their recovery or consultation during a minimum period, recommended to be 10 years, counting from publication of the results or from protection as industrial property. At the same time, the investigators must be encouraged to use laboratory logbooks or some other equivalent means of custody to record the original experimental work and its authorship, as a support for publication and protection as intellectual and industrial property in the disciplines where this practice is relevant. The logbooks and documents are the property of IDIBELL, where the work was done. The application of this principle is not opposed to maintaining the confidentiality of data or information that is subject to secrecy by contract, by agreement with the General Data Protection Regulation (GDPR) or under other regulations or rules in force.

In the case of clinical studies the principal investigator has to keep the records and notebooks containing the results and the patient identification codes for a period of 15 years or the time necessary, indicated where applicable by the rules of the financing agencies for the purposes of audits. In clinical trials, they have to be preserved for a minimum of 25 years from the end of the trial or its interruption.

The research integrity committee (CIR) and/or the Ombudsperson (see section 8 of this Guide) can review the records of primary data in order to ensure that it is possible to audit the veracity and priority of the observations.

Additional information is attached in Annex 1. Information relating to data collection and custody.

3.5. Intellectual property and ownership of results

IDIBELL's intangible assets, as a CERCA center, increase the institution's asset value and, in consequence, generate a greater asset responsibility. For the purpose of preserving the intangible assets and industrial property generated as a product of the research or the technological activities, or where it is generated under an agreement in the case of scientific collaboration, IDIBELL has to ensure that a fair value is applied to the technology, respecting the minimum market criteria in any valuation, negotiation or transaction involving these assets and, where necessary, the criteria of the executive department of the Generalitat of Catalonia competent in matters of heritage when these are of application.

IDIBELL has its *Regulations on Intellectual and Industrial Property,* approved by the Board of Trustees, governing the results of research developed in the Institute, standards respecting their exploitation and distribution of any resulting profits. The institution also has the *Regulations on the creation of Spin-off businesses*, approved by the Management Committee, which defines a legal framework suitable for the creation of enterprises in the context of IDIBELL where they are promoted by the Institute's personnel, and the requirements applicable for the participation of the personnel and the Institute itself in these enterprises.

When in a research project it is foreseen that there will be the participation of different groups from the same center or from different centers, it is recommended that before starting the project the scope and terms of

collaboration are formalized in writing. Agreements between the two parties will establish, at least, the intellectual property rights and publication rights.

In the case of a clinical trial, reserved information the subject of intellectual property that may be supplied by a body sponsoring the study cannot be disclosed in any way and must be reliably kept in custody. Written agreements will be established to stipulate the possible rights that may emerge as a result of the research.

The intellectual property of the data, the primary documentation and the biological or chemical material generated as a result of a research project will be the property of the institution that engaged the investigator, but can be subject to agreements assigning it to third parties (for example the ICS, ICO or UB, also other linked institutes or the sponsor). In the case that a member of the team or the investigator should end their professional relationship with a center, they will only have the right to dispose of data that they have obtained directly. If it is the principal investigator, they must have approval and supervision by the center for use of the data from outside the institution.

4. RESEARCH ON HUMAN BEINGS: INFORMED CONSENT AND DATA PROTECTION

At all times, confidentiality will be assured regarding clinical, biological and genetic data and samples belonging to the subjects/patients. The transmission of personal data to other institutions or organizations will be done in such a way that their identity cannot be revealed, in accordance with the regulations fixed in the GDPR (see Annex 5. Legislation, standards and documents).

It is advisable for the investigators to receive training on the rules of good clinical practice (GCP) which detail the international requirements of ethical and scientific quality in the design, carrying out, recording and writing of reports on trials in which human beings take part, guaranteeing protection of the rights, safety and the welfare of the trial subjects in accordance with the principles of the Helsinki Declaration, and the credibility of the clinical research results.

Every protocol which involves the participation of healthy volunteers or people with illnesses, or which is based on obtaining clinical information from biological samples, must:

- Be written and be reviewed and approved by the Drug Research Ethics Committee (CEIm), where aspects relating to the relevance, methodology and ethics of each project in particular will be assessed.
- Refer specifically to the bioethical requirements of: nonmaleficence, beneficence, autonomy and justice, set out in the “Helsinki Declaration” (latest updating, Fortaleza, Brazil 2013) completed by the Declaration of Taipei on ethical considerations regarding health databases and biobanks. At the same time it must refer to current legislation in our country relative to Act 41/2002 on the autonomy of the patient and Act 14/2007 on Biomedical Research.

The procurement, processing and/or preservation of biological samples will be adjusted to what is specifically envisaged in current legislation. In particular, privacy and the right to information autonomy for subjects the origin of the samples must be guaranteed.

The procurement, processing and/or preservation of biological material of human embryonic origin must also have the corresponding permit from the Ministry of Health, with prior approval by the specific CEIm of reference.

According to the Act 14/2007 on Biomedical Research and Royal Decree 1716/2011, all human biological samples for purposes of biomedical research which are preserved outside the organizational field of a biobank must belong to a project or research line collection, which has to be registered in the National Register of Biobanks of the Carlos III Health Institute. To register collections of biological samples you can get in touch with

the HUB-ICO-IDIBELL Biobank at biobanc@idibell.cat where the processes are explained to investigators. Entry of the collection in the register has to be communicated to IDIBELL Scientific Management.

The use of institutional computer files or the preparation of databases with information relating to individuals has to guarantee anonymity and must be subject to the approval of the CEIm and the regulations in force on data protection.

4.1. Information to the patient and informed consent

Whenever the execution of a research project alters the normal practice in caring for a patient, that person will have to give consent prior to such action, through their own signature or that of their legal representative.

Information has to be given to the patient before the document of acceptance of participation in the project is signed. This information has to be given in the most understandable terms and respectful of their cultural values. The patient must have the necessary time to be able to study the proposal and make a reasoned decision.

The patient has to be given a document which specifies the potential benefits and risks of their participation in the study, with the name of the person giving the information. There must be a record of explicit acceptance by the patient or guardian of participation in the project.

4.2. Confidentiality and data protection

In no case can the data obtained in a research project contain information that can identify the participants, except in their clinical history. All the records resulting from a research project must be identified with an individual code per patient that does not allow their identity to be known. The IP will be the only person who keeps a record of the codes linked to the identification details of patients. Therefore, the notebooks for collecting data, data record sheets and identification of biological samples will only carry the code.

Data processing (in the context of a research project) must be according to Regulation (EU) 2016/679 of the European Parliament and of the Council, of 27 April 2016, on the protection of natural persons with regard to the processing of personal data and on the free movement of such data and Constitutional Act 3/2018, of 5 December, on Personal Data Protection and the guarantee of digital rights (pay attention to Additional Provision 17 relating to the use of health data in the ambit of research).

The processing controller and the data processor must adopt technical and organizational measures to guarantee the security of the personal data and prevent their alteration, loss, processing or unauthorized access.

The processing controller and others who are involved in any phase of the data processing are bound to professional secrecy. This obligation will remain until the end of their relationship with the owner of the file or with the institution the proprietor of it.

4.3. Ethical principles and financial compensation

Research with human beings has to be based on the universally recognized ethical principles of autonomy, beneficence, nonmaleficence and justice. The autonomy has to be particularly respectful of disabled persons for whom their guardians answer.

If adverse effects occur, this must immediately be notified to the sponsor. If they are potentially serious, the patient must be withdrawn from the study.

A record must be kept if there is a financial compensation to be received by persons with illnesses in relation to exceptional expenses that may be caused to them by their participation in the study, as well as those for healthy volunteers.

4.4. Obtaining biological samples, availability and preservation

The use of biological samples and associated data of human origin have to be processed in accordance with the Act 14/2007 on Biomedical Research and Royal Decree 1716/2011. In the same way, the management of collections of human biological samples and associated data will be as prescribed in the current regulations applicable.

The collections of the project or research line, for the purpose of a specific use, have to be registered in the National Register of Collections of the Carlos III Health Institute, the Principal Investigator being legally responsible for application of the regulations and the correct management of the collection. The HUB-ICO-IDIBELL Biobank will be in charge of dealing with the steps for registration with the investigator throughout the process. In the same way, the Biobank can advise the research teams, when required, on questions relating to the creation, management and design of collections of human samples and data, together with the associated documentation.

The collections of samples in the biobank, for the purpose of generic use, will be managed by the HUB-ICO-IDIBELL Biobank, a scientific platform with a vocation of public service, according to criteria of quality, order and purpose, facilitating the accessibility to the resources managed for the scientific community.

4.5 HUB-ICO-IDIBELL Biobank

The HUB-ICO-IDIBELL Biobank, registration number B. 0000609, authorized by the Generalitat of Catalonia, is the platform that holds and makes available to the scientific community biological samples of human origin obtained in the attendance centers attached to the South Metropolitan Area Management of the Catalan Health Institute.

The Biobank is governed and operated according to State and European legal regulations and according to the national and international bioethical codes subscribed by the Spanish State.

The principal purposes of the Biobank are:

1. To identify, register, process, store and supply human biological samples for biomedical research, providing accessibility to the material for research groups.
2. To coordinate the resources and promote quality practices in relation to biological samples of human origin and associated data.
3. To encourage scientific collaboration between the different research groups.
4. To guarantee a respect for fundamental rights and freedoms, protection of the dignity and identity of the donors and correct processing of their personal data.
5. To ensure the quality and traceability of the samples and associated data.
6. To facilitate the communication of knowledge obtained from the basic research.
7. To offer the scientific community a catalogue of standardized collections, of maximum quality, with a broad characterization and diversity of pathologies, thus allowing biomedical research of excellence to develop.
8. A commitment to promoting an activity which is truly beneficial for the donors, for the scientific community and for society as a whole.

5. RESEARCH ON ANIMALS

Protocols for maintenance, care and working with animals for experimentation have to be prepared according to current legislation. Every research protocol which involves experimentation with animals must always obtain approval from the relevant Animal Experimentation Committee (CEEA).

Experimentation work with animals has to be governed by the rule of the 3R: replacement (using animals only on those occasions when no other biological system can be used), reduction (limiting the number of animals used to the essential minimum) and refinement (using adequate experimental procedures with the minimum of suffering for the animals).

Staff working with animals for experimentation have to be duly trained and accredited as research staff/experimenters in the use of animals for experimentation and for other scientific purposes, in accordance with current regulations.

5.1. Planning projects with animal experimentation

- In the event that it is necessary to use animals as the subjects of experimentation, the need has to be argued on the grounds of the nonexistence of alternative equivalent methods that could Replace it.
- The size of the sample has to be determined in advance, attempting to Reduce as much as possible the number of animals used.
- The procedures specified must always be intended to avoid suffering for the animals and the method of slaughter must be the most suitable, applying the principle of Refinement.

6. SAFETY, HEALTH AND ENVIRONMENT

Research staff have to understand the measures for safety, health at work and protection of the environment that must be taken into account when carrying out research activities. All the staff who work in the laboratories must have completed the training required by the Welcome Plan and Session on Prevention of Labour Risks organized by the Joint Prevention Service (IDIBELL – Institut Catala d'Oncologia (ICO)) and understand the safety protocols of the activities associated with their jobs.

On the other hand, each center must watch to see that the development of the research is carried out guaranteeing the safety and health of the staff involved and a respect for the environment. The research groups must guarantee that their activities take place in the framework of the center's policies on prevention of labour risks and environmental protection, and those established by current legal regulations which include specific sections on genetically modified organisms (see Annex 4).

6.1. Approval by the Biosafety Committee

Basic and clinical research projects the development of which involves the use of biological agents of risk to human, animal or plant health; the use of genetically modified organisms (GMOs), or the release of these GMOs, will require supervision and approval by the IDIBELL Biosafety Committee, following the regulations provided for the purpose.

6.2. Safety measures

Work in the laboratory must follow a series of standards and recommendations with regard to personal habits (a ban on eating and smoking, keeping the workplace clean and tidy, using personal protective equipment, etc.) and for the handling of products in general (scalpels, pipettes, gloves).

Also, a large number of techniques are employed during research work with the use of different physical or chemical means (radioactivity, intercalating agents, etc.) for which their particular regulations and associated safety measures have to be understood.

Anyone who needs to handle radioactive isotopes for the purpose of their research must have the necessary training, as well as the relevant permission to enter the radioactive installation. In the event of using radioactive

material during a long period of time, the worker must attend the Qualification Course for Operators/Supervisors of Radioactive Installations (Field of application: Laboratory with unsealed sources) and then the relevant License can be processed with the Nuclear Safety Council, after which they will be given access to the IDIBELL radioactive installation and informed on its functioning.

6.3. Elimination of waste

It is also important to understand about the handling and disposal of waste generated in research activities for which there is specific legislation. Surplus elements resulting from the research have to be stored and disposed of according to their degree of hazard and risk, following the rules existing for preservation of the environment and protection for people. More information at: INSHT Technical Guides from the Ministry of Labour, Migration and Social Security, http://www.insht.es .

7. COMMUNICATION AND DISSEMINATION OF RESULTS. PUBLICATION

Without the dissemination of the results, the research process is incomplete. Results have to be communicated to the scientific community, whatever may be their sign and even when they do not coincide with what was forecast or are negative data. This makes them subject to scientific debate, avoids repetition of a process already done and allows for the preparation of new hypotheses. For this reason the principal investigator has the duty to make the results public and is the only person who can authorize it.

All IDIBELL investigators have to undertake to follow the rules on scientific integrity applicable depending on the dynamic and tradition of each discipline, such as for example those of the International Committee of Medical Journal Editors (ICMJE). By default, the terms of the European Code of Conduct for integrity in research must be respected, that is to say, avoiding scientific fraud in their research, recognizing the true authors of original results, participating in and supervising every publication or result in which they are authors. In addition, it is recommended that every article includes an undertaking of responsibility specifying the contribution made by each author, as is required by the principal international scientific journals.

Investigators always have to try to publish their results in a scientific journal with peer review, in order to ensure its quality and scientific relevance beyond doubt. Also, the research center and the IPs have to work on making the results of the research available in the Open Access format.

Failure to publish the results of research or exaggerated delay in doing so can constitute a fault of misuse of resources. Publication of the results of studies in which individuals have participated is an ethical imperative.

Results that are negative or different from what was expected in the research project must also be published.

Publications should not be superfluous and duplications should be avoided. They should not be artificially fragmented in order to increase their number. All the data obtained must be produced, accurately. In the event that any case or variable is omitted, this change has to be justified.

Scientific fraud has to be actively prevented in the writing of proposals, the implementation of projects and their assessment, and in scientific reports and publications. Scientific fraud is understood to mean the manipulation of information or scientific documentation with the aim of producing results without foundation, falsification or plagiarism.

Finally, all the staff of IDIBELL have to comply with the indications regarding signature and acknowledgements described in the *Guide for the correct identification of scientific publications by IDIBELL* and in the *Guide to acknowledgements,* where the requirements of the financing agents are set out, which have to be included in any work resulting from their tasks at the institution, in order to identify the institute's scientific production clearly and unequivocally.

7.1. Authorship

Only those who have made a significant contribution to the research and who accept it in writing should be named as authors. In this sense the recommendations of the ICMJE (International Committee of Medical Journal Editors) are adopted.

The authors are those persons who have:

1. Contributed substantially in the conception or design of the work, or in the acquisition, analysis or interpretation of the work data;
2. Participated in writing up the work or the critical review of its intellectual content to a significant degree.
3. Given final approval to the version published.
4. Agreed to be responsible for all aspects of the article to guarantee that questions relative to the accuracy or integrity of any part of the work are duly founded, prepared for delivery and resolved. If the author only takes responsibility for certain results, this has to be mentioned on publication.

Authors have to comply with these four listed requirements.

The principal author is the person who has primary responsibility for communication with the journal during the presentation, peer review and process of publication of the manuscript and, in general, ensures that all the administrative requirements of the journal, like all the details of authorship, approval by the ethical committee, clinical documentation from the trials register, the collecting of conflict of interest forms and declarations, have been correctly completed, although these functions can be delegated to one or several co-authors. Traditionally, in biomedical publications, the principal author is the last person signing, but that depends on the scientific field.

7.2. Co-authorship

In addition to being responsible for the parts of the work done personally, an author has to be able to identify the co-authors responsible for other specific parts of the work. Also the authors must have confidence in the integrity of the contributions made by their co-authors.

Those who have not played a substantial part in the design, execution or review of the results or the publication, will not be included. The centers and institutions to which the authors belong have to be identified and where the research was done, as well as the total and partial sources of finance. In the case of IDIBELL authors, they must follow the recommendations on format and information on signature given by the center.

Attached as Annex 2 is additional information: *"Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals** (revision of December 2013).

7.3. Contributions by the authors

Whenever possible, the contribution that each author has made to the publication has to be identified in order to acknowledge their particular work in the section on publication data. Asking actively for the inclusion of these details is recommended when the option to do so is not specified in the publication guide.

7.4. Acknowledgements

As is described in the *Guide to acknowledgements*, the financing agencies must always be mentioned in the acknowledgements or in an equivalent form in any type of scientific production resulting from a project, in order to justify the sources of finance properly. In every case, all publications by IDIBELL have to include an express

mention of the support received from the CERCA Program/Generalitat of Catalonia and their structural support to research centers in Catalonia.

Any other organization or person collaborating in the publication and not an author has to be mentioned (with their prior consent) in the acknowledgements.

7.5. Open access to research data

Every CERCA center has to have a strategy on open science and apply a plan for the management of research data which determines, among other questions, which should be made public. The investigators and managers of CERCA centers have to adapt to FAIR principles (*findable, accessible, interoperable and reusable*), for the management of scientific data.

IDIBELL supports the Open Access principle and the practice of providing free access online to academic publications. It is for this reason that the institution has an Open Access Policy, which encourages open publication through the Green Route. In this sense, IDIBELL has signed an agreement with the University of Barcelona for the use of its open access digital repository, where the final peer reviewed post-print version of the publication is deposited.

Publications by IDIBELL can be accessed through the digital repository of the University of Barcelona: http://diposit.ub.edu/dspace/.

7.6. Dissemination to the communication media

Only after communication or publication of research results in a scientific journal or through an equivalent system of review, can the results be transmitted to the general media, first securing the formal consent of the institution and the agency that financed the project, if necessary. If dealing with a coordinated project, approval will be required by all the participating individuals and entities, as applicable.

IDIBELL staff have the task of contributing to informing the citizens and their political representative when asked to do so, applying a principle of rigor and objectivity and clarity in the scientific contents. In the IDIBELL policy on communication a mention must be made of the center's attachment to the CERCA program of the Generalitat of Catalonia.

8. THE FIGURE OF THE OMBUDSPERSON AND THE RESEARCH INTEGRITY COMMITTEE

8.1. Ombudsperson

The research Ombudsperson or complaints referee will be an independent person, duly qualified and of great personal integrity.

The appointment is made by the IDIBELL management to act as mediator in the event of conflict in matters of best scientific practices.

The research Ombudsperson will be accessible to all the research staff for cases in which there is any suspicion of a possible violation of the principles of good scientific practice. The research Ombudsperson's name will be made available in an appropriate way.

The Ombudsperson will maintain discretion with respect to information that may indicate possible misconduct. The Ombudsperson is not obliged to reveal this information to the management of the institute.

The Ombudsperson's work is to act as a mediator between an investigator of the institute who detects the possible misconduct and anyone (researcher or technician) who is suspected of scientific misconduct. In

situations of conflict, the Ombudsperson can choose between opening the procedure by means of a meeting with the person suspected of the misconduct complained of or with the management of the Institute. If the Ombudsperson finds the suspicion of misconduct justified, the Research Integrity Committee (CIR) will be called in, or in the case that it is considered necessary, an ad hoc committee with members expert in the specific field of the research, so that on the basis of the primary data they can give an opinion on whether there has been misconduct.

The Ombudsperson has to maintain vigilance over the general progress of the research and identify the problem areas that could give rise to scientific misconduct.

The research Ombudsperson and/or the CIR and/or the ad hoc committee has to analyze the complaint and listen to both parties separately, scrupulously respecting their rights, has to obtain and keep the documentation relating to the case, including the primary data (register and logbooks of annotations of results), and can ask for an opinion from other independent experts outside the case. There is a moral obligation to act with the greatest possible diligence in order to come to a well-founded conclusion in the minimum time.

In every case the Ombudsperson, the ad hoc committee, the CIR and the scientific director are obliged to defend and protect the complainant and prevent the negative consequences that the accusation /complaint could cause. This is particularly important if the complainant belongs to the same group as the person accused.

Having clarified the facts alleged, a report is issued on the existence of scientific misconduct in those facts. The deliberations and the steps taken with both sides in the question will be strictly confidential.

If the conclusion is reached that there is malpractice, the IDIBELL Management will bring this to the knowledge of the top executives of the relevant center(s) (typically the attention center and the research institute) which will decide on the appropriate sanction. If a sanction is discounted and there is prejudice to the prestige of the investigator or the group complained of, an attempt will be made, to the degree that is possible, to restore their reputation in the most convenient way.

The appropriate actions will also be taken in the event that it is found that the complaint was made in evident bad faith.

Misconduct in research may lead to consequences for third parties: research agencies, editors of scientific journals or legal authority. In this case the IDIBELL management will ensure that they receive the appropriate notification.

If indications of a possible offence can be appreciated in the type of malpractice, the management of the center is obliged to comply with the law and bring this to the attention of the judicial authority.

In the case of international collaborations the cooperation of the various national organizations will be sought in the solution to the problem raised, applying the principles of the *Montreal Statement on Research Integrity in Cross-Boundary Research Collaborations*.

8.2. Research Integrity Committee (CIR)

The Research Integrity Committee (CIR) is a body set up, on the initiative of the Management, by the research staff of the center, freely and voluntarily, for the purpose of promoting knowledge and internal adoption of the code of best practices. The CIR also arbitrates over the enquiries and conflicts that may arise and will assist the Ombudsperson, when so required.

The CIR acts independently (of the Management of the center) at the service of the research staff of IDIBELL who have adopted the IDIBELL Guide to Best Practices in Health Sciences Research, with the sole objective of giving support to quality in research and contributing to preserving its integrity.

The functions of the CIR are:

- Promoting compliance with the precepts included in the Guide to Best Practices in Health Sciences Research.
- Acting as an advisory and arbitral body for uncertainties or conflicts which may arise in relation to integrity in research when the Ombudsperson can do no more; in this context, its contributions will assist subsequent actions by the Ombudsperson.
- Informing and sensitizing the scientific community of institutions on events, needs and indications relating to ethical and deontological aspects of biomedical research.
- Remaining attentive and receptive to new problems relating to integrity in research.
- Dealing with investigating, supervising and providing direction on conflicts of interests declared by members of IDIBELL.

Field of action

In relation to the above functions, the CIR will at all times guarantee the diligence, independence and impartiality of its processes and actions, the anonymity and confidentiality of personal data processing and the solvency of the information generated. It will guarantee objectivity and motivation in its deliberations and equity in its resolutions, as well as the possibility of appealing against them.

How to address the Ombudsperson and the CIR

Communications with the Ombudsperson and the CIR are sent to an email address, ombudsperson@idibell.cat, where mail is managed by the Ombuds officer. In the event of doubts or potential conflict, the advice is to have a first informal consultation with the Ombudsperson or Ombuds officer. This is especially recommended before proceeding to any kind of formal communication to the CIR. In every case the Ombudsperson and the members of the CIR are obliged to respect anonymity and confidentiality in the processing of personal data and any other information received.

Composition of the CIR:

Permanent members of the CIR will be the IDIBELL Ombudsperson, by right of that post (acting as President) and the Ombuds officer (acting as secretary).

The Ombudsperson, together with the Director of IDIBELL, will choose up to 10 IDIBELL researchers or people in the IDIBELL environment who have recognized authority in their fields of expertise, who will act as members.

Care will be taken over parity in questions of gender among the members of the CIR, attempting wherever possible to achieve a distribution of 50% men and 50% women.

The post is held for a term of three years, renewable if thought fit for two further years.

Coordination with the CERCA Institution and the CERCA Ombudsperson

Arbitration by the Ombudsperson and/or CIR and/or ad hoc committee over enquiries and conflicts that may arise from non-compliance with the Code of Best Practices in Health Sciences can lead the IDIBELL management to work in coordination with the CERCA Institution in order to find a resolution.

The CERCA Ombudsperson has to have an independent and neutral character, as well as the capacity to propose non-binding solutions for discussion and approval by the governing body of the CERCA center involved. The CERCA Institution can also act ex officio.

9. MISCONDUCT: PROCEDURE ON SUSPICION OF MISCONDUCT IN RESEARCH

9.1. Misconduct in research: concept

The fundamental purpose of research at IDIBELL is to produce biomedical research of top quality while maintaining a rigorous respect for the principles of scientific ethics. Therefore, any research taking place there is rejected if it does not obey these principles.

In accordance with the definition most accepted, misconduct is understood as the fabrication/invention of results and their publication; the falsification or manipulation of data that do not accurately represent the results of the research; plagiarism of the ideas, results or processes of third parties without their authorization; inappropriate conduct or violation of protocols regarding humans and experimentation animals, among others; fraud in publications (conflicts with authors, violation of professional secrets, etc.); fraud in financing (misuse of the financing, omission of conflicts of interest, etc.).

In no case does this include errors or differences in good faith in the interpretation or judgment of the data.

To prevent the appearance of situations of scientific misconduct a wider knowledge of the principles of scientific ethics has to be promoted, ensuring the existence of supervision and frequent expert follow-up at all levels, avoiding excessive pressure on getting results and promoting the exchange of information between the research groups. The institution has to implement the standards of good practice in research included in this document with special emphasis on the systems for collecting primary data so that the data cannot be tampered with. These rules not only reduce the risk of involuntary errors but also facilitate, to a large extent, the investigation of cases of scientific misconduct.

9.2. Procedure on suspicion of misconduct

IDIBELL takes responsibility for establishing a transparent mechanism when faced with a suspicion of misconduct in research. This procedure is intended to identify the nature of possible scientific malpractice and resolve it adequately, protecting those under suspicion of malpractice until it is demonstrated.

The Management of the center has the task, directly or through the Ombudsperson, of receiving and investigating allegations of scientific misconduct made by a properly identified person or group.

All the parties involved in the procedure have to be in agreement in maintaining total confidentiality during the whole process. Notifications of suspected misconduct can come from the Institution's own staff or may come from outside sources. In the event of a requirement regarding a suspicion of misconduct IDIBELL will proceed as follows:

Evaluation of the allegations submitted: Process intended to check that the allegations submitted have sufficient credibility and therefore allow a possible misconduct to be identified and an assurance that IDIBELL is the competent Institution to undertake the study. The Management of the center, together with the Ombudsperson, has to do this initial analysis.

Preliminary Investigation: Process of collecting all the information and evidence in order to decide if a formal investigation needs to be opened. The IDIBELL Management, together with the Ombudsperson, will assess the CIR's capacity to follow up the procedure and the possible need to create a specific ad hoc committee, hereafter referred to as the ***Follow-up Committee***. In the event that the Management is involved it will be the Ombudsperson, senior investigators of the Centre and/or the President of the External Scientific Committee who will appoint the Committee. A first contact will be made with the person "accused" to establish the facts and a period allowed for the submission of information as necessary to be able to discriminate on incriminating facts. After that period, defined by the follow-up committee and depending on the complexity of the case, the committee will meet again and with all the information collected will decide whether the investigation should

end there, understanding that the suspicions of malpractice were not well founded, or whether it should be referred to a formal investigation. The follow-up committee will prepare a report to be sent to the accuser and to the Management of the Centre.

Formal Investigation: Process designed to examine in detail all the evidence and leading to recommendations and, if appropriate, the application of sanctions. The follow-up committee will send a notification to the accuser in which all the allegations are set out so that they may be investigated. The follow-up committee will open a process of investigation which will have to remain impartial, which will include requiring the submission of evidence by the accuser, but also can include interviews with other possible parties or witnesses or all those examinations established as necessary to clarify the facts. At the end of the process a report will be prepared which will be conclusive on whether or not there has been any scientific misconduct. The report will have to be ratified by the Management of the Centre. The claimant can appeal the decision within a period of 15 calendar days after the notification. If the investigation process concludes that there was no misconduct, actions will be recommended to re-establish the reputation of the parties, where necessary. In the case that the process concludes that there has been scientific malpractice the sanctions deemed suitable will be applied according to the type of fault and the various parties involved will be informed. In the event that other Institutions are involved they will be informed of the Centre's decision.

Referral to the CERCA Institution: The Management undertakes to inform the CERCA Institution of the existence of a conflict on scientific integrity which is of sufficient importance and, in parallel, refer it to the CERCA Ombudsperson, under parameters of strict confidentiality and respect for those supposedly implicated.

Consequences in the case of malpractice: The Management of the center, following the recommendations of the follow-up committee, will have to consider the negative consequences for the investigator involved in the event that malpractice in research is recognized, with repeated non-compliance with best practices in research at IDIBELL. The consequences will have to be in accordance with the degree of misconduct and can be of various kinds (academic, labour and/or civil or criminal).

10. CONFLICTS OF INTERESTS: PROCEDURE FOR DISCLOSURE OF CONFLICTS OF INTERESTS

10.1. Introduction

IDIBELL encourages its investigators and all the IDIBELL staff to take part in external activities in relation with the institute's objectives and interests, among others; participating in Scientific Committees in scientific organizations, offering expert advice, developing outreach activities, participating in collaborative projects with the private sector, the development of R&D&I activities, intellectual property, licenses and/or participation in spin offs. These activities are in the public interest and also are useful to IDIBELL and the individuals. These activities can also result in conflicts of interests, possible and/or real and/or perceived.

All the researchers and the rest of the personnel have to recognize and disclose activities that could possibly give rise to conflicts of interests and/or ensure that these conflicts are adequately managed or avoided. If conflicts of interests are adequately managed, activities can usually continue normally, while respecting the person's obligations to IDIBELL, and the integrity and reputation of the institution and its members are protected. However, if they are not correctly managed, conflicts of interests can impair public confidence in IDIBELL and can cause serious damage to the reputation of the institution and its people.

10.2. Conflicts of interests: Concept

A **conflict of interests** is a situation that can occur in the scientific community, private entities, the public administration or in politics, where a responsible person's or entity's relationships with others are suspected of influencing and causing a bias in their professional actions. A person who is aware of a conflict of interests has a duty to disclose it and refrain from involvement.

There is a possible conflict of interests when the principal investigator or any member of their team, or also the reviser of scientific work, maintains relations that can reasonably be suspected of negatively influencing the reliability of the results, the interpretation or the conclusions of the scientific research.

In the case of posts with responsibility in the public environment, the holder of a public post can reasonably be suspected of acting in a manner not in agreement with the purpose of that post due to the influence of their personal relationships with other persons or institutions.

The interests that come into conflict are private interests (those held as a person), public interests (those which seek the good of society above those of private individuals) and general interests (those which suit the majority and some particular egoistic interests).

Types of conflicts of interests:

(1) Financial conflict of interests: A financial conflict of interests can occur when there is or seems to be an opportunity for personal financial gain for members of the family or close relations which could affect the actions of that person. Financial interests refer to anything of monetary value, such as for example, payments for services, interest on capital/shares and/or intellectual property rights. The level of financial interest is not the determinant factor on whether or not a conflict should be disclosed.

The term financial interest does not include: the salary or other remuneration that the person receives from IDIBELL; income from seminars, conferences or teaching activities sponsored or organized by public or non-profit entities; income from advisory services on committees or examination panels for public or non-profit entities.

(2) Non-financial conflict of interests: A non-financial conflict of interests can include a benefit or advantage including, but not limited to, a direct or indirect improvement for a person or a benefit for family members or someone with whom there is a close personal relationship.

10.3. Procedure for disclosure of conflicts of interests

In view of this reality, and in line with the policies on conflicts of interests of many of the financing agencies outside the institute, IDIBELL takes responsibility for establishing mechanisms for the disclosure of conflicts of interests, a mechanism with the purpose of offering the researcher a framework of advice and the identification of possible conflicts of interests, while guaranteeing that these include, but are not limited to, those external activities that have to be developed in such a way as to ensure that the taking of decisions by members of IDIBELL is not influenced by undue personal interests and that the interests of the institution are not compromised.

The CIR is the body in charge of investigating, supervising and providing orientation on the conflicts of interests disclosed by members of IDIBELL.

The disclosure of conflicts of interests applies to all the personnel of IDIBELL, both personnel under contract and personnel assigned, also collaborating members who have a formal collaboration agreement with the institution.

It is each person's responsibility to recognize situations in which they have a conflict of interests, to disclose that conflict to the appropriate person and take suitable steps in each case to avoid or resolve the conflict of interests.

This transparency, in the form of a disclosure, helps to protect the integrity and reputation of the members of IDIBELL and IDIBELL itself.

There can be situations in which the appearance of a conflict of interests is present even though that conflict of interests does not exist. Therefore, it is important for all members of IDIBELL, when they identify a potential conflict of interests, to bear in mind how this may be perceived by third parties. The duty to disclose a possible conflict of interests applies to the perception of the situation rather than the actual existence of a conflict. However, the duty is not neglected if it cannot be considered that the situation could reasonably give rise to a conflict of interests.

The Ombudsperson officer (ombudsperson@idibell.cat) will be the operational manager of the circuit for disclosure of conflicts of interests in IDIBELL. Thus the Ombudsperson officer will be responsible for keeping a register of disclosures of conflicts of interests.

IDIBELL envisages that its members should disclose conflicts of interests following the steps set out below:

- A disclosure has to take place at the time when the conflict occurs or at the moment when it is recognized that a conflict could be perceived.
- The potential conflict of interests has to be discussed in the first instance with the head of the group or direct supervisor. In the case that the direct superior could have an interest in the question to be dealt with it is recommended to complete the disclosure of conflicts of interests form (Annex 3) and send it to ombudsperson@idibell.cat .
- Many situations require nothing more than a disclosure and brief written record of the disclosure. The head of group or direct superior is responsible for guaranteeing registration of the disclosure of the conflict of interests.
- IDIBELL considers that all the principal investigators (responsible for research projects), and all posts of responsibility in IDIBELL have the obligation to disclose their conflicts of interests. In these cases the disclosure of conflict of interests form (Annex 3) has to be completed and sent to ombudsperson@idibell.cat.
- In those cases where a conflict of interests is identified which requires more intensive study, the CIR will be responsible for carrying out its evaluation, and for issuing an assessment on how the conflict can be adequately dealt with. The actions adopted have to be documented and copies provided for the parties involved. A copy of the actions has to be filed together with registration of the disclosure of the conflict of interests. Some examples of strategies that could be adopted to manage conflicts of interests could be, among others, but not limited to:
    - not taking part in debates on certain matters;
    - not taking part in decisions relating to certain matters;
    - not referring to third parties for certain questions;
    - not acting as the supervisor of a person;
    - staying away from any participation in a specific project

Any matter not resolved will be referred to the IDIBELL Management after due process and equitable treatment for all the parties involved. Depending on the case, it may have to be communicated to the financing agencies, the personnel assessing the projects, the editors of scientific journals, etc.

For purposes of transparency, the legal representatives of IDIBELL must file an annual statement on disclosures of conflicts of interests.

ANNEX 1. INFORMATION IN RELATION WITH THE COLLECTION AND CUSTODY OF DATA/BIOLOGICAL MATERIAL

Plan for the collection and preservation of data

Every research protocol will provide a system for data collection and registration and for the biological or chemical material resulting from the execution of the research, with a plan for their custody and preservation.

Register of data and rectifications

The investigator and their collaborating staff have to collect all data, without exception, resulting from the research experiments and observations. This information has to be registered permanently in databases, register books or some other appropriate format, in conditions that allow for their review by third parties. The registers also include changes, errors, results that are negative, unexpected or discordant, and the person who did them or observed them. To guarantee the traceability of the data, IDIBELL provides a standard model of laboratory logbook with a registration number, which allows for a follow-up and knowledge at all times of the number of laboratory logbooks existing in the institute.

Preservation of data and samples collected

The necessary means and infrastructures have to be provided in order to guarantee correct custody and preservation of the various items of documentation and biological or chemical material resulting from the research. Thus, a data register will be kept on an electronic support, this including a specific plan for backup copies and their physical location.

Custody of and access to the data collected

Everyone who is part of a research team has to be able to access the information in the data obtained and their interpretation. The person in charge of the research will have a single register for the various elements of data collection (notebooks, databases, etc.) and the custody of samples, access to which has to be in conditions that can be made available to third parties.

Ownership of the data and samples

All the primary documentation (laboratory logbooks, databases, etc.) and the biological or chemical material obtained during the research is the property of the institution or institutions to which the project manager is linked by employment. In the case of people with a linked place (attention center and university), ownership corresponds to the attention center.

The project manager is responsible for registration, storage and custody. In the case of a change of institution and, where necessary, the project manager, the replacement manager can be provided with a copy of part of all of the register books, the electronic information existing and the data collection logbooks or aliquot parts of the biological or chemical material available. When the change affects the person responsible for the research, this process takes place under the responsibility and supervision of the center's management.

Sharing data and samples with third parties

The data and materials resulting from the research will be considered as public and will be in a condition to be shared by third parties, with the exception of cases in which restrictions have been established due to their possible future marketing.

An assignment will require a prior request by the applicant, indicating the desired use, also a declaration of who will defray the possible expenses incurred. The research team will examine the request, which will be subject to the protocol on transfer and ultimately the approval of the person responsible for the research.

An assignment can be limited by reasons of availability, competitiveness or confidentiality. Personal material or data will be shared without any identification being possible. Otherwise, a specific consent for the assignment will need to be given by the donors.

Time of preservation of data and samples

All primary and original information, as well as biological or chemical material stored as a result of any clinical research project, has to be preserved for at least ten (10) years from the first publication of the results, except for those cases in which the law allows shorter periods or requires longer periods. If the institution allows it, the information and primary material can remain stored for longer periods and their disposal will always require the approval of the person responsible for the research. In the case of clinical trials the term for preservation is fifteen (15) years. Experimental projects can reduce the period of custody to five (5) years after publication of the data.

ANNEX 2. INFORMATION RELATING TO AUTHORSHIP OF SCIENTIFIC WORKS, PUBLICATIONS AND PATENTS

The status of author does not depend on the fact of belonging to a profession or holding a certain hierarchical position, or the nature of the employment relationship, but to the type of contribution in the research.

Who has to be the author?

To have the full status of author of a publication or patent requires:

a) Having contributed substantially to the creative process, that is, to its conception and design and its execution, or to the analysis and interpretation of the data;

b) Having contributed to the preparation of the resulting communications, reports or publications; and

c) Being capable of presenting the personal contribution to the research in detail and discussing the main aspects of the research as a whole.

Authors have to give written acceptance of the final text of the original manuscripts which are processed for registration or publication.

Provision of data, opinions or subjects of experimentation

Simple participation in obtaining resources or in the collection of data such as, for example, supplying routine data or providing subjects for experimentation, does not necessarily justify the position of author, although it has to be recognized in the acknowledgements section.

In those projects in which it is planned to use samples, analysis or opinions given by third parties, it is appropriate to establish in advance a communication and authorship plan, taking into account the potential intellectual contribution to the project and any other factor relating to copyright.

Part-responsible authors

When in a publication there is some author who is not able to take responsibility for the whole of the content, their specific contribution will be separately identified, except in those cases where this question is governed by editorial rules.

Honorary authors and ghost writing

Someone linked to the research group who, due to their hierarchical position or employment relationship, asks to be recorded as author *ex officio*, violates academic and research freedom and commits an act of injustice, not to say abuse of authority. Conversely, omission of the name of anyone who has made a proven contribution, according to the criteria expressed in section 8, is an act of misappropriation of work and intellectual property by the other authors.

Indicating authorship in reports

The issue of memoranda, work or technical reports or any other written account addressed to third parties must always include a list of authors of the research or investigation, the center or centers where they work and the subsidies received, in the same terms as though it were a scientific publication or a patent.

Order of authorship

As a general rule, the order of signature by authors of scientific publications will be as follows:

a) The first author is the one who has made the largest contribution in the preparation of results for the article;

b) The senior person who directed and/or was ultimately responsible in the research protocol is the last author; and

c) The remaining authors can appear in order of importance or, depending on cases, in alphabetical order. The author who deals with correspondence is the one who has the principal responsibility in the whole editorial process, also in future interactions arising from publication of the work.

Shared principal authorship

In scientific publications there is the right to justify the order in which the authors sign. Some journals ask for it as a condition for publication. When there are two or more authors of a work who have devoted the same efforts and shared the main work of preparing the manuscript, they will have the same consideration as first authors. This circumstance is made explicit in the publication of the original. The same criteria can be applied in the case of intermediate and senior authors.

ANNEX 3: CONFLICT OF INTEREST DISCLOSURE STATEMENT FORM

I, the undersigned [name, surname], NIF [number], [role position] at Institut d'Investigació de Research Biomèdica de Bellvitge (IDIBELL), hereby declare the only direct or indirect interests I have in the companies/organizations are those listed below:

Company /Organization	Organization information	Role description
EMPLOYMENT [if any, specify name of company/organization]	[if any, specify address, NIF,....]	[if any, specify your role]
CONSULTANCY [if any, specify name of company/organization]	[if any, specify address, NIF,....]	[if any, specify your role]
STRATEGIC ADVISORY ROLE [if any, specify name of company/organization]	[if any, specify address, NIF,....]	[if any, specify your role]
FINANCIAL INTEREST [if any, specify name of company/organization]	[if any, specify address, NIF,....]	[if any, specify your role]
PRINCIPAL INVESTIGATOR [if any, specify name of company/organization]	[if any, specify address, NIF,....]	[if any, specify your role]
INVESTIGATOR [if any, specify name of company/organization]	[if any, specify address, NIF,....]	[if any, specify your role]
GRANT / FUNDING TO ORGANIZATION / INSTITUTION [if any, specify name of company/organization]	[if any, specify address, NIF,....]	[if any, specify your role]
CLOSE FAMILY MEMBERS INTEREST [if any, specify name of company/organization]	[if any, specify address, NIF,....]	[if any, specify your role]
ANY OTHER INTEREST OR FACTS [if any, specify name of company/organization]	[if any, specify address, NIF,....]	[if any, specify your role]

I confirm the information I declared on this form is accurate to the best of my knowledge and I acknowledge that my information will be stored electronically within IDIBELL and shared eventually with my main employer's organization.
In witness thereof, I sign this declaration in Barcelona, [day] the [month], 20xx.
Yours Faithfully,

[Name/Signature]

ANNEX 4. INFORMATION AND INTERNAL REFERENCES

RESEARCH STAFF REGULATION

REGULATION ON THE FUNCTIONING OF THE INTERNAL SCIENTIFIC COMMITTEE (CCI)

RESEARCH INTEGRITY COMMITTEE (CIR) REGULATION

DATA PROTECTION COMMITTEE (CPD) REGULATION

BIOSAFETY COMMITTEE (CBS) REGULATION

CEEA REGULATION

CEIC REGULATION

CIB (Internal Biobank Committee) REGULATION

IDIBELL GENERAL RESEARCH TRAINING COMMITTEE REGULATION

EQUALITY PLAN

GUIDE TO PREVENTION OF SEXUAL HARASSMENT

GUIDE TO NON-GENDER LANGUAGE

PRE-DOCTORAL RESEARCHERS REGULATION

REGULATIONS ON IDIBELL INTELLECTUAL AND INDUSTRIAL PROPERTY

REGULATIONS ON THE CREATION OF SPIN-OFF BUSINESSES IN IDIBELL

GUIDE TO THE CORRECT IDENTIFICATION OF SCIENTIFIC PRODUCTION

GUIDE TO ACKNOWLEDGEMENTS

BASIC RESEARCH STAFF DEFINITIONS

REGULATION ON THE FUNCTIONING OF RESEARCH PROGRAMMES

POLICY ON FOLLOW-UP, ASSESSMENT AND STABILISATION OF TENURE TRACK RESEARCHERS

ANNEX 5. LEGISLATION, STANDARDS AND DOCUMENTS

The legislation, standards and documents referred to hereunder are those in force at the time of approval of this Guide, although not a *numerus clausus*. It has to be said that the regulations applicable to Health Sciences Research will also include everything that is approved subsequently to the entry into effect of this Guide and is of mandatory compliance.

A: Research in human beings

- Royal Decree Legislative 1/2015, of 24 July, which approved the redrafted text of the Act on guarantees and the rational use of medicaments and health products. (BOE no. 177, of 25 July 2015).
- Regulation (EU) 536/2014 of the European Parliament and of the Council of 16 April 2014 on clinical trials of medicinal products for human use.
- Royal Decree 1090/2015, of 4 December, regulating clinical trials with medicaments, Drug Research Ethics Committees and the Spanish Register of Clinical Studies. (BOE no. 307, of 24 December).
- Convention for the protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine - EUROPEAN CONVENTION ON HUMAN RIGHTS AND BIOMEDICINE - (Approved by the Committee of Ministers of the Council of Europe on 19 November 1996. Open for signature by the States at Oviedo, 4 April 1997 and ratified by the Spanish Cortes Generales on 5 October 1999 (BOE 20 October 1999 - no. 251).
- Decree 406/2006, of 24 October, regulating the requirements and procedure of accreditation of clinical research ethical committees. DOGC no. 4748, p. 44904. Ministry of Health of the Generalitat of Catalonia. https://dogc.gencat.cat/ca/pdogccanalsinterns/pdogcresultatsfitxa/?action=fitxa&documentId=460216
- Royal Decree 477/2014, of 13 June, regulating the authorization of non-industrial advanced therapy medicinal products. (https://www.boe.es/diario_boe/txt.php?id=BOE-A-2014-6277).
- ICH Guidelines (International Conference of Harmonization Guidelines) for Good Clinical Practice (https://ichgcp.net/es/).
- Helsinki Declaration of the World Medical Association. Ethical principles for medical research involving human subjects. Helsinki, Finland, June 1964. Revised at the 64th Meeting, Fortaleza, Brazil, October 2013. (https://www.wma.net/wp-content/uploads/2016/11/DoH-Oct2013-JAMA.pdf).
- Taipei Declaration of the World Medical Association. Ethical considerations regarding health databases and biobanks. (https://www.wma.net/what-we-do/medical-ethics/declaration-of-taipei/).
- Universal Declaration on the Human Genome and Human Rights: from principles to practice. UNESCO, 3 February 2000. Consulted 5 July 2002.
- ISO 14155:2011. Clinical investigation of medical devices for human subjects -- Good clinical practice.
- Belmont Report. Ethical Principles and Guidelines for the Protection of Human Subjects of Research. The National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research, 18 April 1979.
- Royal Decree 1723/2012, of 28 December, regulating the activities of procurement, clinical use and territorial coordination regarding human organs for transplant and establishing requirements of quality and safety.

- Nuremberg Declaration, Standing Committee of European Doctors (Comité Permanent des Médecins Européens, CPME). Nuremberg, 1967.
- Act 14/2011, of 1 June, on Science, Technology and Innovation.
- Act 29/2006, of 26 July, on guarantees and the rational use of medicaments and health products. BOE, 27 July 2006, no. 178, p. 28122.
- Act 41/2002, of 14 November, basic regulator of the patient's autonomy and obligations in matters of information and clinical documentation. Latest update published on 06/12/2018 (https://www.boe.es/buscar/pdf/2002/BOE-A-2002-22188-consolidado.pdf).

BIOBANKS

- Royal Decree 1716/2011, of 18 November, establishing the basic requirements of authorization and functioning of biobanks for purposes of biomedical research and on the treatment of biological samples of human origin, and regulating the functioning and organization of the National Register of Biobanks for biomedical research. (http://www.boe.es/boe/dias/2011/12/02/pdfs/BOE-A-2011-18919.pdf)
- Order ECC/1404/2013, of 28 June, amending the annex to Royal Decree 1716/2011.
- DECREE 234/2013, of 15 October, regulating authorization for the constitution and functioning of biobanks for purposes of biomedical research in Catalonia and the Catalan Biobank Network.
- Directive 2004/23/EC of the European Parliament and of the Council on setting standards of quality and safety for the donation, procurement, testing, processing, preservation, storage and distribution of human tissues and cells.

B: Research with animals

- Act 32/2007, of 7 November, on the care of animals for their exploitation, transport, experimentation and slaughter. Act 6/2013 of 11 June amending the Act 32/2007, of 7 November, on the care of animals for their exploitation, transport, experimentation and slaughter.
- Royal Decree 65/2006, of 30 January, establishing requirements for the import and export of biological samples.
- Royal Decree 53/2013, of 1 February, establishing the basic standards applicable for the protection of animals used in experimentation and for other scientific purposes, including teaching.
- Decree 214/1997, of 30 July, regulating the use of animals for experimentation and for other scientific purposes (DOGC 2,450, of 7 August 1977).
- Order ECC/566/2015, of 20 March, establishing the qualifications required of personnel who handle animals used, bred or supplied for experiments or for other scientific purposes, including teaching.

C: Worker protection

- Act 54/2003, of 12 December, reforming the regulation framework on the prevention of labour risks.
- Royal Decree 665/1997, of 12 May, on the protection of workers against risks relating to exposure to carcinogenic agents during their work.

- Royal Decree 664/1997, of 12 May, on the protection of workers against risks relating to exposure to biological agents during their work and Technical Guide for the assessment and prevention of risks relating to exposure to biological agents.
- Act 31/1995, of 8 November, on prevention of labour risks.

D: Environmental Protection

- Act 9/2003, of 25 April, on the use in confinement, voluntary release and marketing of genetically modified organisms.
- Act 9/2006, of 28 April, on the evaluation of the effects of certain environmental plans and programs. BOE, 29 April 2006, no. 102, p. 16820.
- Act 22/2011, of 28 July, on Waste and polluted soils. BOE, 29 July 2011, no. 181.

E: Personal data protection

- Regulation (UE) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data; Decree 29/1995, of 10 January, which regulates the computerized files containing personal data in the ambit of the Ministry of Health and Social Security; Act 23/1998, of 30 December, on statistics in Catalonia and Act 12/1989, of 9 May, on public statistical functions.
- Constitutional Act 3/2018, of 5 December, on Personal Data Protection and a guarantee of digital rights. (https://apdcat.gencat.cat/web/.content/01-authority/regulations/documentos/Llei-organica-pd-2018.pdf).
- Royal Decree Legislative 1/1996, of 12 April, which approved the Redrafted Text of the Intellectual Property Act, regularizing, clarifying and harmonizing the legal provisions in force on the matter.
- Act 21/2014, of 4 November, amending the redrafted text of the Intellectual Property Act, approved by Royal Decree Legislative 1/1996, of 12 April, and Act 1/2000, of 7 January, on Civil Procedures.

F: Other legal texts

- Act 14/2007, of 3 July, on Biomedical Research. BOE, 3 July 2007, no. 159, p. 28826. (http://www.boe.es/boe/dias/2007/07/04/pdfs/A28826-28848.pdf).
- Uniform Requirements for Manuscripts Submitted to Biomedical Journals. International Committee of Medical Journal Editors. NEJ. Med 1997; 336: 309-315.
- Act 21/2014, of 29 December, on the Foundations Protectorate and verification of the activity of associations declared of public utility. DOGC no. 6780, of 31 December.
- Act 4/2008, of 24 April, of the third book of the Civil Code of Catalonia, regarding legal persons.
- Act 7/2012, of 15 June, amending the third book of the Civil Code of Catalonia, regarding legal persons.
- Ministry of Health and Social Security. Charter of citizen rights and duties of the citizenry in relation to health and health care. Barcelona: Ministry of Health, Generalitat of Catalonia, 1st edition October 2015.

- Policies of general applicability. Subpart A - Responsibility of PHS awardee and applicant institutions for dealing with and reporting possible misconduct in science.
- Royal Decree 279/2016, of 24 June, on accreditation of biomedical or health research institutes. BOE, 5 July 2016, no. 161, p. 47272.
- Royal Decree 1277/2003, of 10 October, establishing the general basis on the authorization of health centers, services and establishments.
- Decree 407/2006, of 24 October, creating the Catalan Council of Continuous Training for Health Professions and technical councils for continuous training. DOGC no. 4748, p. 44904. Ministry of Health of the Generalitat of Catalonia.
- Act 9/2017, of 8 November, on Public Sector Contracts, transposing to the Spanish legal ordinance Directives 2014/23/EU and 2014/24/EU of the European Parliament and of the Council of 26 February 2014.
- Act 4/2008, of 24 April, of the third book of the Civil Code of Catalonia, regarding legal persons. DOGC no. 5123, of 2-5-2008, p. 34378-34424. Correction of errors in DOGC no. 5170, of 10-07-2008, p. 53507.
- Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices, amending Directive 2001/83/EC, Regulation 178/2002 and Regulation 1223/32009 and repealing Council Directives 90/385/EEC and 93/42/EEC.
- Regulation (EU) 2017/746 of the European Parliament and of the Council of 5 April 2017 on in vitro diagnostic medical devices and repealing Directive 98/79/EC and Commission Decision 2010/227/EU.
- Royal Decree 1369/2000, of 19 July, amending Royal Decree 822/1993, of 28 May, establishing the principles of best laboratory practices and their application in carrying out non-clinical studies on chemical substances and products. http://www.boe.es/boe/dias/2000/07/20/pdfs/A25832-25838.pdf.
- ICS guide to best practices in health sciences research. 2nd edition: July 2015. Generalitat of Catalonia, Ministry of Health, Catalan Health Institute http://ics.gencat.cat/web/.content/documents/research/GBPresearch.pdf.

G: Other Reference Documents

- Universal Declaration of Human Rights, UN (UDHR, 5).
- Universal Declaration on Bioethics and Human Rights. Approved at the 33rd General Conference of UNESCO, 19 October 2005.
- CERCA Code of Conduct. CERCA Institution, November 2018.
- Berlin Declaration on Open Access to Knowledge: http://openaccess.mpg.de/Berlin-Declaration.
- Act 14/2011 of 1 June, on science, technology and innovation, article 37 on dissemination in open access.
- European Research Advisory Board. Scientific publication: policy on open access [online]. 2006. EURAB 06.049. http://ec.europa.eu/research/eurab/pdf/eurabscipubreportrecommdec06en.pdf.
- European Research Council - Guidelines on Implementation of Open Access to Scientific Publications and Research Data. Version 1.1, 21 April 2017

(https://ec.europa.eu/research/participants/data/ref/h2020/other/hi/oa-pilot/h2020-hi-erc-oa-guideen.pdf) .

- European Research Council - The Plan S Principles and Implementation Guidance - (https://www.coalition-s.org/principles-and-implementation/).
- OpenAire Open Access Infrastructure for Research in Europe, body created by the European Union for the development of Open Access. (http://www.openaire.eu/).

ANNEX 6. DOCUMENTATION CONSULTED FOR THE REVISION OF THIS GUIDE

- IISPV Code of Best Scientific Practices (revision 2012).
- UB Code of Best Practices in Research (2010).
- CSIC Code of good scientific practices.
- IDIBAPS Code of Best Scientific Practices – Fundació Clínic – H.U. Clínic (2nd edition, revision 2019).
- IIS Technical Guide on Evaluation of Accreditations. Carlos III Health Institute (ISCIII) (revision 2019).
- PRBB Code of Best Practices (5th edition, October 2014).
- CRG Conflict of Interest Policy (2016).