GBC Letter of Understanding

The Global Biodata Coalition (GBC) is a forum supported by research funders. The GBC aims:

- To be a forum for funders of biodata resources to better coordinate and share approaches for efficient management and growth of this infrastructure and share strategies.
- To stabilize and ensure sustainable financial support for the global biodata infrastructure, with a focus on an identified and prioritized set of Global Core Data Resources that are crucial for sustaining the broader infrastructure.

This letter sets out the shared understanding of how the GBC is being established. It is an informal document and is not legally binding. The GBC Board of Funders will develop statutes for the operation of the organization once the location of the Secretariat and the legal structure are established.

This version of the Letter of Understanding was approved at the GBC Board of Funders’ meeting on 15 October 2021.

GBC Background and Rationale

The research that we, as funders of biological, life sciences, and biomedical research, support generates high volumes and many types of data that are deposited in publicly accessible biodata resources. These biodata resources are essential for academic and private-sector research by scientists worldwide and collectively form a global infrastructure that is now central to almost all forms of biomedical and life sciences research.

Though used universally, funding for this infrastructure comes from national and charitable research funders, with little coordination. This leads to duplication, inefficiencies, and difficulties in access, including being able to meet open-access goals and requirements. Equally important is also the real risk that important resources might disappear if funding for biodata resources is abruptly cut.

Greater coordination among funders will benefit scientists, the funders, and use of the data for public and private purposes.

The challenges for biological, life sciences, and biomedical research funders are many. They include:
- the near universal use of biodata resources in funded research,
- the duplication that comes from an absence of strong coordination,
- the exponential growth in the production of data, and
- the requirement of almost all funders to ensure that data from the funded research are openly accessible to all scientists everywhere.

Already, best estimates are that the world’s research funders spend at least USD 500 million annually to support biodata resources.
We support the GBC so that together we can help ensure sustainable and efficient support of biological, life sciences, and biomedical data.

Scope
The GBC defines biodata resources as biological, life sciences, and biomedical databases that archive research data generated by scientists, serving as the repositories of record for particular data types, as well as knowledgebases that add value by aggregation, processing, and expert curation. The GBC will monitor the entire infrastructure of biological, life sciences, and biomedical resources, but with most effort focused on open-access resources that are supported by public and charitable research funders.

Support
The GBC is supported by national and charitable funding bodies who join the GBC by agreeing to contribute funds or through in-kind support.

General
As funders of biomedical and life sciences research:

- **We recognize the essential role and growing importance of biomedical and life sciences biodata resources in current and future scientific research.**
  - Biomedical and life sciences biodata resources are essential infrastructure for public and private research by scientists worldwide. Research funding organizations spend at least USD 500 million every year supporting such biodata resources.

- **We recognize that the biodata resource infrastructure is both fragmented and fragile.**
  - Biodata resources are growing exponentially as new technologies enable greater data production.
  - These resources are crucial to current and future biomedical and life sciences research and are required for managing the open-access policies being adopted by most funders.
  - This infrastructure has developed piecemeal over recent decades and to a large extent without significant coordination among funders or biodata resource managers. As a result, the infrastructure is fragile and fragmented, and in parts duplicative and non-strategic.

- **We recognize that biomedical and life sciences funders would benefit from working together to manage funding for biodata resources.**
  - The GBC is being formed to assist funders with their future strategies to address the challenges associated with biodata resources, to ensure that essential biodata resources remain freely available to all researchers everywhere around the globe (and not restricted to higher financial resources regions), to address the fragility and potential loss of biodata resources that would damage both public and private research, and to share strategies for the further expansion of biodata resources (e.g., for imaging data).

Accordingly, we agree that the GBC will have the following two key missions:
● To be a forum for funders of biodata resources to better coordinate and share approaches for efficient management and growth of this infrastructure and share strategies.

● To stabilize and ensure sustainable financial support for the global biodata infrastructure, with a focus on an identified and prioritized set of Global Core Biodata Resources that are crucial for sustaining the broader infrastructure.

Benefits
The GBC will benefit funders by managing coordination of spending on data resources globally. This will reduce duplicate spending on similar resources and encourage greater participation of all funders in overseeing the broader biodata ecosystem. Research funders will also benefit from coordinated approaches in support of the open-access data policies that most funders have now implemented.

The work of the GBC will benefit scientists and national infrastructures through safeguarding open-access scientific data and aiding funders in coordinating long-term support for the data infrastructure that is crucial for all biomedical and life sciences research.

The work of the GBC will be of benefit to industry and the commercial sector because biodata resources are used extensively in patents, drug development, diagnostics development, and other biotechnology areas.

Basis
We agree that the GBC is a voluntary collaborative endeavour. Financial and in-kind contributions to the GBC are voluntary. A just and fair system for the contributions to support the operation of the GBC and its activities is agreed as below.

We agree that the GBC should take as a fundamental principle that life sciences and biomedical biodata resources should be open and freely available to all.

The GBC will support the FAIR (findable, accessible, interoperable, and reusable) principles associated with data, as well as the CARE (collective benefit, authority to control, responsibility, ethics) principles for indigenous data governance.

The GBC welcomes all biomedical and life sciences research funders worldwide to participate in the organization.

The GBC will agree upon a location for its Secretariat, which will allow the establishment of GBC as a legal entity (whether independent or as part of a host organization). The aim is to complete this during the first half of 2022.

Governance
We support the following GBC governance.

Current GBC governance structure:
GBC Members are organizations. They may be national government funding bodies, international bodies that support the GBC, charitable funding bodies, or other entities designated by such organizations.

GBC Members support the GBC financially and/or via in-kind means, in accord with principles agreed by the Board of Funders (the Board).

For the purposes of this document, the Members authorize the Coalition to use, under Board supervision, their name and logo on the GBC website.

The Board of Funders comprises individuals who are appointed by GBC Members.

The Board of Funders is the governing and decision-making body whose powers and responsibilities are to:

- provide financial and/or in-kind contributions;
- adopt rules (bylaws) to achieve the GBC aims;
- adopt a (multi-year) strategic plan;
- approve the work plan and budget for the GBC, and authorize expenditure of the budget;
- appoint and dismiss the Executive Director;
- approve regulations governing the work of the Secretariat, and monitor its work;
- establish relationships with other organizations (e.g., the Global Alliance for Genomics and Health).

The Board of Funders may, in order to address biodata resource issues that affect scientists throughout the world, invite additional bodies to join to better ensure comprehensive coverage of all continents and regions of the world, and to include transnational/international critical infrastructure bodies that can assist the GBC in its mission.

The Board will strive to make decisions by consensus.

The GBC Board of Funders shall elect a Chair and up to three Deputy Chairs. The Chair and Deputy Chairs should as far as possible be from different world regions, to denote the global nature of the GBC (e.g., the Americas, Africa, Europe, Asia and Pacific). Appointments will be for three years, and are renewable.

The Board acts on behalf of the Members to ensure that GBC operations fulfill the aims of the strategic plan and follow the agreed-upon work plan.
The GBC Secretariat is mandated by the Board of Funders to carry out operational activities according to decisions of the Board and the agreed-upon work plan, including spending of, and accounting for, the annual budget. The GBC Secretariat is headed by an Executive Director, who shall initially be appointed for a 5-year period. The Executive Director will implement the work program approved by the Board, be responsible for the hiring of all staff directly employed by the GBC, and supervise the work of the GBC Secretariat and staff as well as any consultants and seconded personnel.

The Scientific Advisory Committee (SAC) will provide expert scientific advice to the Board. The SAC will be appointed by the Board.

A Stakeholders' Forum of data resource managers, data infrastructure managers, scientists, technical experts, and funders will meet annually at the GBC plenary meeting and provide insights on developments in the life sciences and associated biodata resources that will inform development of the GBC strategy. The chair/convenor of the Stakeholders Forum will have the opportunity to attend Board of Funders meetings.

Board Observers

Board Observers are nominees of funding organisations that agree with the aims of the GBC but cannot (or cannot yet) support GBC financially. Observers will be invited to attend GBC Board meetings and participate in discussions but do not vote on issues before the Board. GBC Members agree that, as global biodata resources are a shared responsibility, research funders are expected to tangibly support the GBC in order to participate in governance activities. Observer status shall be granted for two years, after which observing funders must become full GBC members or cease participation.

Funding the GBC

As signatories of this Letter of Understanding, we agree to share future financial support for the GBC based on the following Principles:

- We will agree to a GBC budget on a rolling three-year basis and together commit to provide cash and in-kind support to meet this obligation.
- All GBC members will be expected to provide cash contributions. The initial amount will be based on members' reported annual life sciences and/or biomedical sciences research budget.
- We will discuss and agree the formula for contributions beginning with the draft proposal below for three bands of supporters.
  - Band 1 - Research Funders with a total annual research funding in biology/life science/biomedical science of USD 5 billion or more.
    - Expected minimum annual contribution: USD 300 thousand.
  - Band 2 - Funders with total annual research funding in biology/life science/biomedical science of USD 0.5–5 billion.
    - Expected minimum annual contribution: USD 100 thousand.
  - Band 3 supporters: funders with total annual budgets in biology/life science/biomedical science of less than USD 0.5 billion.
Expected minimum annual contribution: USD 30 thousand.

- The amount of the annual contribution will be reviewed by the Board regularly and may be adjusted upwards or downwards after review of GBC’s activities, the number of contributing members, and other costs.
- Essential regional and invited Members will not be expected to provide a cash contribution, though in-kind contributions may be sought.

- With Board approval in advance, some funders may provide a portion of their contribution via in-kind support.
- The in-kind contributions may include actions such as paying for consultation services, conducting the Global Core Biodata Resource selection process, provision of office space and utilities, funding GBC plenary meetings, and website development/maintenance.

Governance transition

The development of the GBC will continue with the assistance of the International Human Frontier Science Program Organization, under a letter of agreement between the President of HFSPO and the Steering group, until June 30th 2022.

The GBC Steering Group, which has managed the establishment phase of the GBC, shall continue until June 2022. By that time a GBC Executive Committee will be in place consisting of the Chair of the Board of Funders, the Vice-Chairs, and the Executive Director.

Rigorous review

The Board will commission an independent formal review of GBC after three years of its establishment.

Scientific activities

GBC scientific activities are described on the GBC website and in associated documents, and are subject to Board oversight and approval.

Consultation and inclusion

There are many stakeholders involved with the international biodata resource infrastructure whose input is essential if the GBC is to achieve its goals. The GBC will consult with managers, curators, and users of biodata resources at meetings and through the GBC website www.globalbiodata.org, as well as through convening annual plenary meetings of the Stakeholders’ Forum.

Duration of this document

This Letter of Understanding is a time-limited document, agreed upon with the initial purpose of establishing the GBC, and will be updated periodically as the GBC matures, by agreement of the Board of Funders.

Members of the Global Biodata Coalition

**GBC members**

U.S. National Institutes of Health
U.S. National Science Foundation
Wellcome
State Secretariat for Education, Research, and Innovation SERI (Switzerland)
UK Biotechnology and Biological Sciences Research Council
National Health and Medical Research Council (Australia)
Agency for Science, Technology and Research (Singapore)
Research Council of Norway
Chan Zuckerberg Initiative
Genome Canada
European Molecular Biology Laboratory
African Academy of Sciences

GBC Observers
European Commission
Indian Council of Medical Research
Institut national de la santé et de la recherche médicale (France)
Natural Sciences and Engineering Research Council (Canada)
Canadian Institutes of Health Research
South African Medical Research Council
European Research Council
Korea Disease Control and Prevention Agency
Royal Society Te Apārangi