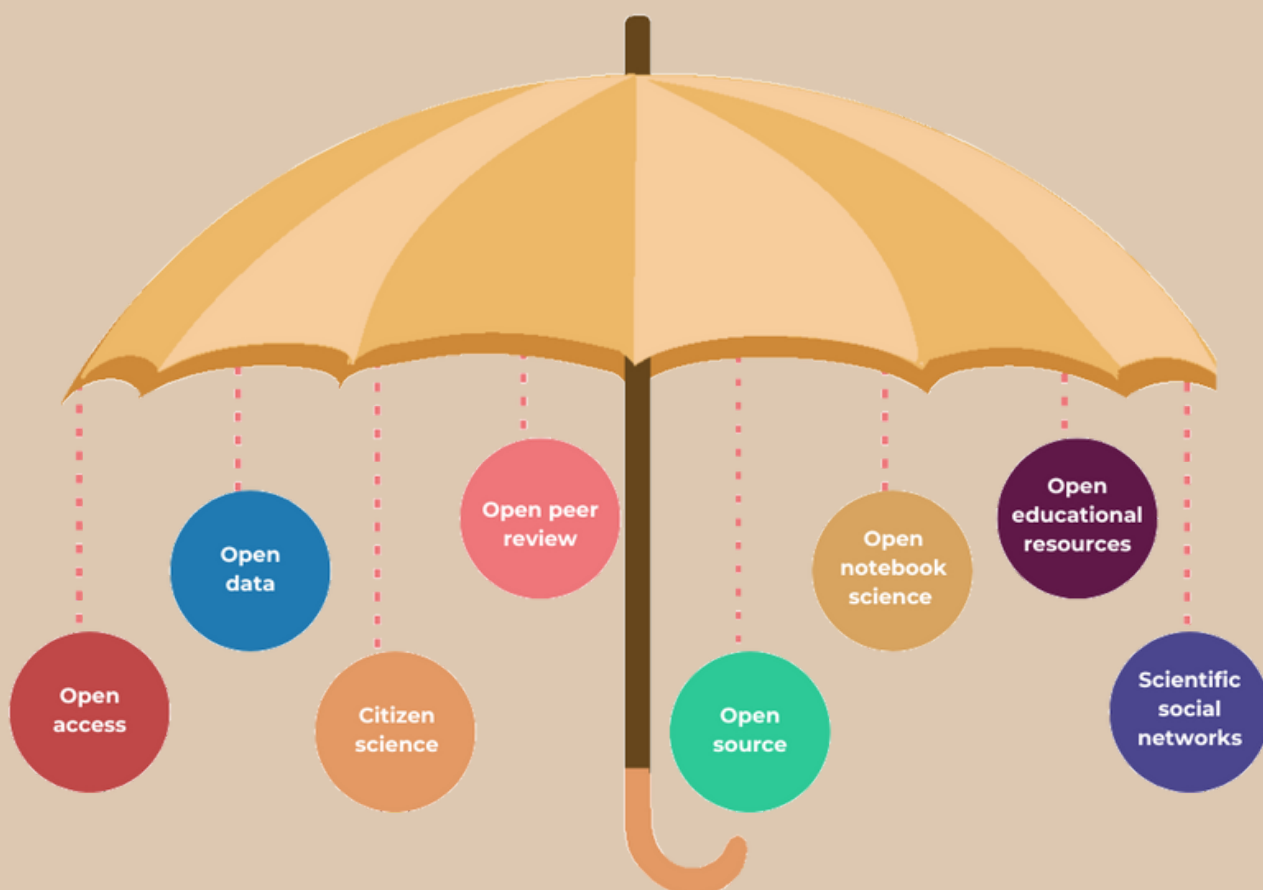


# 2023

# Open Science at Fiocruz

Executive Summary



**Fundação Oswaldo Cruz**

# **Open Science at Fiocruz 2023**

Executive Summary

**2023**

# Fundação Oswaldo Cruz

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## Chief of Staff

Zélia Maria Profeta da Luz

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Priscila Ferraz Soares (Deputy Executive Director)

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## Vice-Presidency of Research and Biological Collections (VPPCB)

Maria de Lourdes Aguiar Oliveira

## Vice-Presidency of Production and Innovation in Health (VPPIS)

Marco Aurelio Krieger

## Technical Elaboration

Information and Communication  
Coordination - Cinco/VPEIC

## Review

Open Science Forum

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Av. Brasil, 4365 – Manguinhos

CEP 21045-900 - Rio de Janeiro, RJ, Brasil.

Tel. 55 21 2598-4242

<http://www.fiocruz.br>

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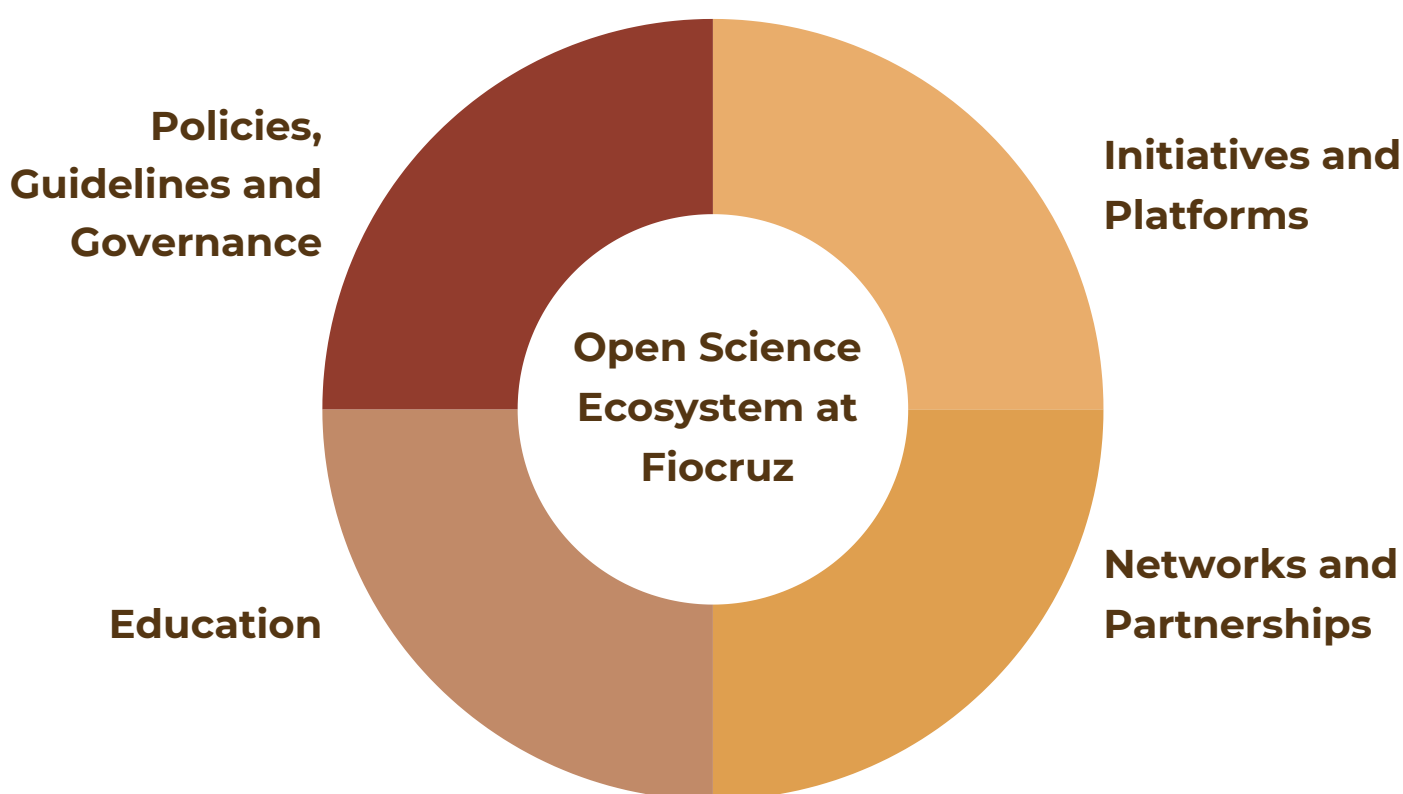
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# OPEN SCIENCE AT FIOCRUZ

Open Science is a movement that proposes structural changes in the way scientific knowledge is generated, produced, structured, shared, and reused. It is a new way of doing science, which is more collaborative, transparent, and sustainable.

Below, we present the main strategies, policies, and infrastructures that the Fundação Oswaldo Cruz (Fiocruz) has been implementing to foster its Open Science ecosystem\*.



\* To follow Open Science at Fiocruz, visit [www.portal.fiocruz.br/ciencia-aberta](http://www.portal.fiocruz.br/ciencia-aberta).

# POLICIES, GUIDELINES AND GOVERNANCE

Fiocruz has two institutional policies on Open Science approved by Presidential Decree and an institutional guidelines document.

## **Policy on Open Access to Knowledge (2014)**

Aims to guarantee society free, public, and open access to the entire content of all intellectual work produced by Fiocruz. It establishes as mandatory the deposit of dissertations and theses defended in Fiocruz Postgraduate Programs and scientific articles published in journals in the Arca institutional repository.

## **Guidelines on Open Educational Resources (2019)**

Guides the development and adoption of Open Educational Resources, the deposit, publication, and availability of the resources produced in various academic activities, ensuring open and non-costly access to these materials.

## **Policy on Management, Sharing and Opening of Research Data (2020)**

Recognizes the management, sharing, and opening of data collected or generated during research as an opportunity to foster collaboration between researchers, enhancing the integrity, quality, and reproducibility of research, the institutional memory, reuse of data, advances in knowledge, and the creation of solutions that meet the demands of society.

## **Presidential Decree No. 867 (2023)**

Establishes Arca Dados as Fiocruz's institutional research data repository.

## OPEN SCIENCE GOVERNANCE

**Presidential Decree No. 157/2021** establishes the Open Science governance bodies at Fiocruz, which are responsible for proposing strategic, tactical, and operational actions to implement institutional policies. Governance is made up of:



### Fiocruz Open Science Forum

A collegiate body of strategic, executive, and permanent nature, whose main task is to draw up proposals and coordinate the execution of strategies for implementing Open Science at Fiocruz in line with the guidelines of the institutional policies approved by the Deliberative Council and the Internal Congress. The forum is coordinated by the Vice-presidency of Education, Information and Communication (VPEIC), with deputy coordination from the Institute of Scientific and Technological Communication and Information in Health [Instituto de Comunicação e Informação Científica e Tecnológica em Saúde] (Icict), and has the participation of various Fiocruz bodies and units.

### Steering Committee of the Institutional Repository Arca

The body responsible for coordinating, managing, operating, and adhering to the institutional repository, coordinated by Icict in conjunction with the Open Science Centers. Accountable for defining the lines of action, work plan, and repository operation and ensuring operational alignment among the units.

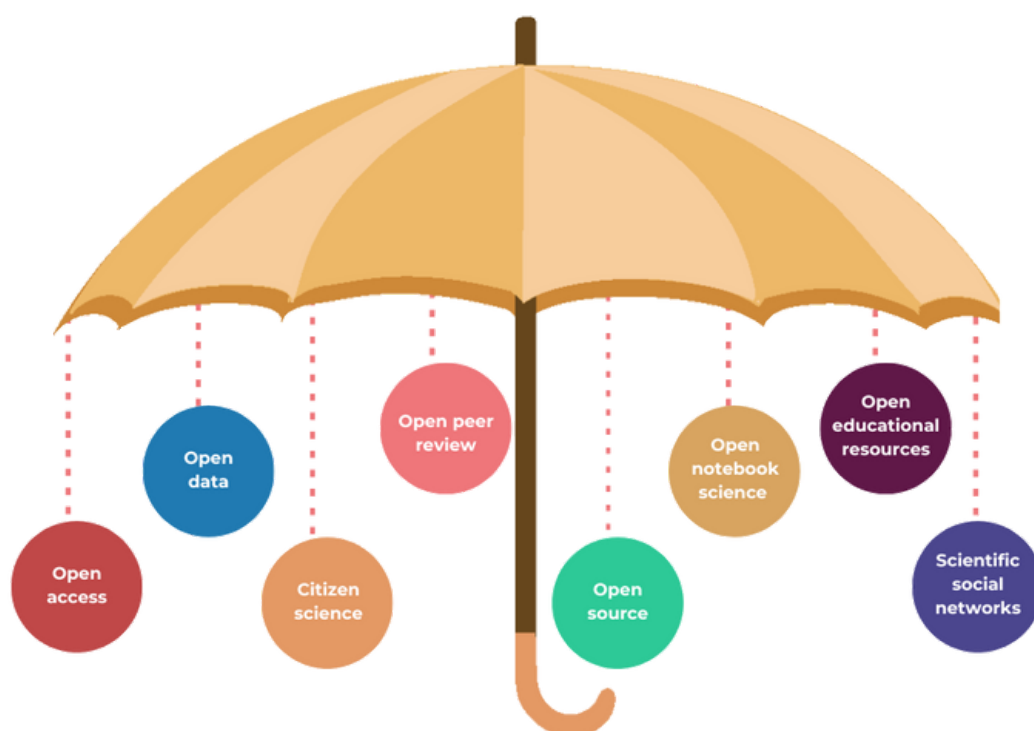


## Steering Committee of the Institutional Repository Arca Dados

The body responsible for coordinating, managing, operating, and adhering to the institutional repository Arca Dados in conjunction with the Open Science Centers. The committee is coordinated by VPEIC, with deputy coordination from Icict, and has a multidisciplinary structure, bringing together representatives from the Casa de Oswaldo Cruz (COC), the Coordination of Technology Management [Coordenação de Gestão Tecnológica] (Gestec), the General Coordination of Information Technology Management [Coordenação-Geral de Gestão de Tecnologia de Informação] (Cogetic) and the Vice-Presidency of Research and Biological Collections (VPPCB). Accountable for defining the lines of action, work plan, and operation of the institutional repository Arca Dados and encouraging operational alignment among the units.

## Open Science Centers

Executive collegiate bodies, operating in all Fiocruz units, responsible for managing, participating in, promoting, and monitoring actions to implement Open Science, involving actions to assess the feasibility of making scientific data and information available.



# EDUCATION

Since 2018, Fiocruz has been investing in training various audiences on topics related to Open Science. Its main actions are:

## **Modular Training Program in Open Science**

The first training initiative offered by Fiocruz in this area, the Program has been offering eight distance learning courses open to the whole Brazilian society since 2018, covering topics such as Open Access, Open Data, Copyright, Personal and Sensitive Data, Open Education, Open Educational Resources, among others. By December 2023, it had more than 25,000 registrations.

## **Cross-disciplinary Course “Introduction to Open Science”**

In its fifth course, since 2021 it has offered training opportunities for postgraduate students (academic and professional masters and PhDs) intending to improve the training of future researchers through partnerships with the institution's postgraduate programs. Around 250 students have already taken the course.

## **People Development Program in the Open Science Ecosystem**

Launched in September 2023 as one of Fiocruz's main worker training strategies, this action mainly aims to support the professionals selected to work in the Open Science Centers (NCA) of the foundation's technical-scientific units.



### **People Development Program**

*In December, the Program registered 59 enrollees from 17 Fiocruz units. Around 70% of the participants are members of NCAs, and 30% are from the Fiocruz community but have no ties to the Centers.*

# INITIATIVES AND PLATFORMS

## **OPEN ACCESS TO SCIENTIFIC ARTICLES AND TECHNICAL-SCIENTIFIC DOCUMENTS**

### **Institutional Repository Arca**

Created in 2007, the institutional repository is the main instrument of the Policy on Open Access to Knowledge. Its purpose is to gather, host, make available, and give visibility to the institution's intellectual production, aiming to stimulate the widest circulation of knowledge and strengthen the institutional commitment to free access to health information. It currently holds various documents, as well as articles, dissertations, and theses.



#### **Arca**

*In 2023, its collection received 5,700 new documents, accumulating 59,055 items and registering 111,001 downloads this year alone (data up to 11/28).*

### **Journals in Diamond Open Access**

Fiocruz maintains nine journals in this category. They are: Public Health Journals [Cadernos de Saúde Pública]; Ibero-American Health Law Journals [Cadernos Ibero-Americanos de Direito Sanitário] (CIADS); History, Sciences, Health – Manguinhos [História, Ciências, Saúde – Manguinhos]; Memories of the Oswaldo Cruz Institute [Memórias do Instituto Oswaldo Cruz]; Food and Culture of the Americas Journals [Revista de Alimentação e Cultura das Américas] (Raca); Electronic Journal of Communication, Information and Innovation in Health [Revista Eletrônica de Comunicação, Informação e Inovação em Saúde]; Fitos Journal [Revista Fitos]; Work, Education and Health Surveillance in

Debate: Society, Science and Technology [Trabalho, Educação e Saúde e Vigilância Sanitária em Debate: Sociedade, Ciência e Tecnologia].

### **Fiocruz Journals Portal [Portal de Periódicos Fiocruz]**

The platform maintained by the Scientific Editors Forum brings together the scientific journals published by Fiocruz, providing articles, news, interviews, videos, and infographics based on scientific production in health.

### **Virtual Health Libraries**

Coordinated by Ictict, it combines the content of nine thematic libraries to broaden free access to health information. By November, they had recorded around 67,000 accesses in 2023.

## **OPEN ACCESS TO ACADEMIC AND UNIVERSITY BOOKS**

### **Fiocruz Publishing House [Editora Fiocruz]**

In its 30 years of operation, the publishing house has been an essential instrument for the dissemination, accessibility, and, consequently, visibility of the knowledge generated at the institution. Since 2012, it has made publications available in Open Access through the Scielo Books platform, of which it is a founding member.



### **Fiocruz Publishing House [Editora Fiocruz]**

*The Fiocruz Collection on Scielo Books currently includes around 403 titles, 60% of which are Open Access (242 works). The publisher has recorded more than 53 million downloads out of the 119 million accumulated on the platform.*

### **Porto Livre**

The platform makes available in Open Access works relevant to science and social thought, previously edited by other institutions (universities,

research centers, publishing houses, social movements, non-governmental organizations, etc.). Its main objective is to support Fiocruz's teaching and research activities and those of other organizations, bringing together 394 books downloaded around 7,100 times this year alone.

## **OPEN ACCESS TO CULTURAL COLLECTIONS**

### **GLAM-Wiki**

The Casa de Oswaldo Cruz (COC) takes part in the GLAM movement, which brings together galleries, libraries, archives, and museums in cultural dissemination actions. The GLAM-Wiki initiative expands free access to its archival, bibliographic, and museum collections on the history of public health, the history of science, and Brazilian health policies. Its primary strategy is to make images available in the Wikimedia Commons repository, which can illustrate Wikipedia entries and be used by others. In 2023, 368 images were made available.

## **MANAGEMENT, OPENING AND SHARING OF DATA**

### **Arca Dados**

Fiocruz's official repository for archiving, publishing, disseminating, preserving, and sharing digital research data produced by the Fiocruz community or in partnership with other research institutes or bodies. This tool can foster new research and contribute to the reproducibility or replicability of existing research.



### **Arca Dados**

*In 2023, 10 Dataverses communities (collections) were created, 10 datasets and 77 files were deposited, accumulating 739 datasets, 194,613 files, and 44,329 downloads. It won 2nd place in the Digital Transformation 2023 Award in the category "Digital public health policies in the Unified Health System [Sistema Único de Saúde] (SUS)" at the 6th Health Solutions Fair.*

## OPEN EDUCATIONAL RESOURCES

### Educare

A platform created to foster collaboration, creation, dialogue, and integration of the different stages of the Open Educational Resources (OER) life cycle. On Educare, it is possible to deposit and access educational resources that Fiocruz produces, such as lessons, complete courses, videos, recordings, presentations, games, infographics, etc.



### Educare

*Currently, the platform provides more than a thousand open educational resources.*

## ST&I EVALUATION

### Observatory in ST&I in Health [Observatório em CT&I em Saúde]

It aims to contribute to Fiocruz's institutional development in science, technology, innovation, and education. To this end, it provides strategic information transparently and openly by collecting, processing, and analyzing data on scientific production and other activities carried out at the foundation.



### Observatory in ST&I in Health [Observatório em CT&I em Saúde]

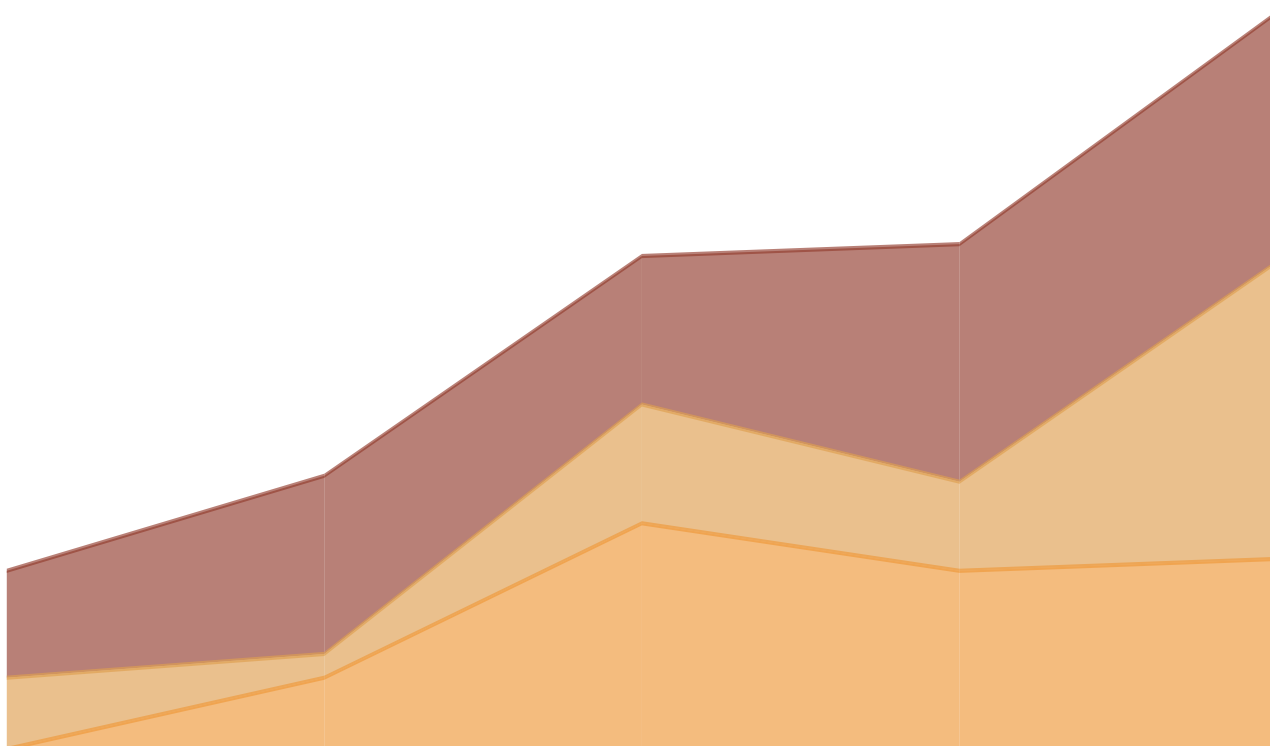
*In 2023, it launched two new indicators: research groups and funding from the Inova Fiocruz Program. It began collaborating with the Vice-presidency of Research and Biological Collections and the Vice-directors of Research of the units to classify their scientific production in the CNPq areas of knowledge to guide a strategic research agenda.*

## INCENTIVES FOR OPEN SCIENCE

### Encouraging Open Access

Since 2015, the set of indicators used to assess Fiocruz's institutional performance has included the indicator "Index of availability of documents in the repository Arca ", which measures the growth in the number of works made available by the units in Open Access in the institutional repository, in compliance with the Policy on Open Access to Knowledge.

In addition, fulfilling the mandatory nature of depositing intellectual works in Arca is a requirement in the foundation's research incentive calls. In 2023, the deposit of research data in Arca Dados also became a requirement of these calls for proposals.



# NETWORKS AND PARTNERSHIPS

## **Brazilian Network of Digital Repositories [Rede Brasileira de Repositórios Digitais] (RBRB)**

A national collaboration network that aims to decentralize, expand, and optimize the dissemination of good practices to create institutional repositories. It comprises five other sub-networks - the North Network, the Northeast Network, the Midwest Network, the South Network, and the Southeast Network - and is coordinated by Icict.

## **Open Government Partnership (OGP)**

Since the 4th Action Plan (2018-2020), Fiocruz has coordinated and taken part in strategic commitments related to Open Science, highlighting its leadership in the framework "Promotion of actions to raise awareness, participation, and training in Open Science". Some of the foundation's contributions were developing the Modular Training Program in Open Science and holding two editions of the National Meeting on Open Government and Open Science (2019 and 2020). In the 5th Action Plan (2022), Fiocruz took part in drawing up the "Proposal for a Matrix of Indicators for Citizen Science", intending to propose new evaluation mechanisms for Open Science.



### **OGP**

*In 2023, Fiocruz participated in the co-creation workshop for the 6th National Action Plan (2023-2024) with a particular interest in commitment 3, "Collaborative practices for Science and Technology".*



### **Brazilian Reproducibility Network [Rede Brasileira de Reprodutibilidade]**

In 2023, Fiocruz became an institutional member of this multidisciplinary initiative that brings together institutions, groups, and individuals committed to improving practices in different areas of science and fostering debate on reproducibility in research.

### **The Global Health Network (TGHN)**

Since 2019, Fiocruz has acted as a hub for the international network and, in 2023, expanded its activities, engaging more strongly with Latin America and the Caribbean. The network invests in strengthening global and regional networks and improving health research capacities. Its main strategy is openly offering relevant information and promoting events where professionals, students, and researchers can share experiences, knowledge, resources, and tools.

### **GoFair Brazil Health Network [Rede GoFair Brasil Saúde]**

The GoFair Brazil Health implementation network, coordinated by Ict, established the national version of the VODAN project in 2020. The VODAN BR initiative aims to create an infrastructure to support data from Covid-19 patients and, in the future, from other viral outbreaks. In 2023, part of the solution architecture for this infrastructure was developed, as well as courses, presentations, and publication of materials.



# LINKS

## INSTITUTIONAL POLICIES AND GUIDELINES

- [Policy on Open Access to Knowledge](#)
- [Guidelines on Open Educational Resources](#)
- [Policy on Management, Sharing and Opening of Research Data](#)
- [Presidential Decree n° 867/2023](#)
- [Presidential Decree n° 157/2021](#)

## EDUCATION

- [Modular Training Program in Open Science](#)
- [People Development Program in the Open Science Ecosystem](#)

## OPEN SCIENCE INITIATIVES AND PLATFORMS

### *Open Access to scientific articles and technical-scientific documents*

- [Institutional Repository Arca](#)
- [Fiocruz Journals Portal \[Portal de Periódicos da Fiocruz\]](#)
- [Virtual Health Libraries \[Bibliotecas Virtuais em Saúde\]](#)

### ***Open Access to academic and university books***

- [Fiocruz Publishing House \[Editora Fiocruz\]](#)
- [Fiocruz Publishing House \[Editora Fiocruz\] on Scielo Books](#)
- [Porto Livre](#)

### ***Open access to cultural collections***

- [GLAM-Wiki Casa de Oswaldo Cruz \(COC\)](#)

### ***Data management, sharing and openness***

- [Arca Dados](#)
- [FioDMP](#)

### ***Open Educational Resources***

- [Educare](#)

### ***ST&I Evaluation***

- [Observatory in ST&I in Health \[Observatório de CT&I em Saúde\]](#)
- [Global Performance Indicator for the Federal Government, through Decree nº 775/2015-PR](#)

## NETWORKS AND PARTNERSHIPS

- [Open Government Partnership \(OGP\)](#).
- [Brazilian Reproducibility Network \[Rede Brasileira de Reprodutibilidade\]](#)
- [The Global Health Network \(TGHN\)](#).
- [GoFair Brazil Health Network \[Rede GoFair Brasil Saúde\]](#)

VISIT

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*[www.portal.fiocruz.br/ciencia-aberta](http://www.portal.fiocruz.br/ciencia-aberta)*

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