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Open Science Policy of the 'Carol Davila' University of Medicine and Pharmacy

2025

I. Introduction

I.1 Overview

In today's rapidly evolving research landscape, Open Science has become an essential approach to improving the accessibility, transparency, and impact of scientific research.

The "Carol Davila" University of Medicine and Pharmacy (UMFCD) recognizes the transformative potential of open science principles in terms of stimulating innovation, promoting collaboration and as open access to knowledge as possible.

Open science encompasses a broad spectrum of practices aimed at improving the efficiency and openness of research, including:

Open access to publications: Ensuring that research publications are freely accessible to the public and the academic community, thus increasing the visibility and impact of research results.

Open research data: Implementing the FAIR (Findable, Accessible, Interoperable, Reusable) principles for managing and sharing research data, facilitating data reuse and improving research reproducibility.

Open Educational Resources: Promoting the development and use of open educational materials to enhance learning and teaching experiences within and outside the university.

Open evaluation and collaboration: Encouraging transparent evaluation processes and fostering interdisciplinary and international collaborations through open platforms and practices.

Citizen science : Involving the public in scientific research processes, making science more accessible, with the input of ***citizens*** **.**

By adopting these principles, UMFCD is committed to integrating openness and transparency into its research processes, thus enhancing the quality and reproducibility of its scientific results.

This policy is part of the European Open Science Framework, aligned with global best practices, laying the foundations for a more open, efficient and collaborative research environment. The

policy also provides a general roadmap for the implementation of the Open Science policy, with the general roles and responsibilities of the different stakeholders within the university.

I.1.2. Alignment with the European framework

The UMFCD Open Science Policy is closely linked to the European Union's strategic framework for research and innovation. This strategic alignment ensures that UMFCD's Open Science efforts contribute to broader global and European initiatives aimed at promoting scientific collaboration and accessibility.

In the current international context, "Open Science" practices are consolidated in a series of strategic documents at European level: Recommendation (EU) 790/2018 on access to and preservation of scientific information, Directive 1024/2019 on open data and the re-use of public sector information, initiatives of the Organisation for Economic Co-operation and Development (OECD) - in particular the OECD Council Recommendation on Access to Data Resulting from Publicly Funded Research (2006, revised in January 2021). the report " *Digital skills for FAIR and Open Science* " of the Working Group on Skills and Training of the EOSC Executive Board (February 2021), the Conclusions of the Competitiveness Council on the Evaluation of Research and the Implementation of Open Science (adopted on 10 June 2022).

I.1.3. Alignment with the national framework

The national context is set by the Romanian Parliament, which approved in June 2022 Law No. 179/2022 on open data and the reuse of public sector information.

The transition to Open Science is also encouraged by the National Strategy for Research, Innovation and Smart Specialization for the period 2022-2027 through the priority objectives set. In this context, one of the major objectives, "Development of the research, development and innovation system", includes a specific objective dedicated to "Promoting the transition to Open Science and supporting progress in scientific research and excellence".

Currently, UEFISCDI (Executive Unit for Financing Higher Education, Research, Development and Innovation - Funding Agency of the Ministry of Research, Innovation and Digitalization) represents the national authority responsible for guiding the transition to Open Science, developing a strategic and operational framework for the implementation of Open Science in accordance with

the recommendations and practices established by the European Commission, the initiative supported by
the project "Improving the capacity of the research, development and innovation (RDI) system to face global challenges, strengthening the capacity for anticipation in the formulation of evidence-based public policies" - SIPOCA 592 (MySMIS number 127557).
UEFISCDI established the Open Science Knowledge Hub Romania (OSKH-RO) to support research and innovation networks across the country and to facilitate the implementation of the National Strategy for Research, Innovation and Smart Specialization 2022-2027. The platform hosts and maintains a wide range of Open Science materials , accessible to both the academic community and the general public, through the "Open Science Library" section.

During 2021, the National Open Science Cloud Initiative for Open Science - RO-NOSCI, a coalition of organizations at the national level, coordinated by UEFISCDI, was developed with the specific aim of :

- build a dedicated national cloud infrastructure Open Science , in line with the evolution of the European Open Science Cloud (EOSC) ecosystem.
- refine and synchronize efforts related to the integration of national infrastructures and services into the EOSC matrix.
- facilitate the integration of the academic and research environment into the circuit of resources available through EOSC.
- promote and materialize strategies and regulations related to open science at the national level.

Open Science (2023-2030) took place, marking the final version of the Strategic Document for the Framework for the Development of Open Science in Romania.

UMFCD, as an observer member of RO-NOSCI, supports and aligns with the strategies in the White Paper on the transition to open science 2023-2030 and supports the development of the infrastructure underlying the system for collecting, storing, managing data, accessing and sharing scientific information, as well as promoting their integration into the European Open Science Cloud (EOSC).

I.2. Purpose

The purpose of the Open Science Policy at the Carol Davila University of Medicine and Pharmacy (UMFCD) is to establish a comprehensive strategic framework that promotes the principles and practices of open science in all research and education activities within the university. This policy is designed to:

- **Facilitating free, unrestricted access to research publications and educational resources** , to increase the visibility and impact of UMFCD's scientific activity.
- **Promoting open research data:** Implementing the FAIR (Findable, Accessible, Interoperable, Reusable) principles in research data management, which support open access, transparency and reuse.
- **Enhancing the quality and reproducibility of research:** Promoting practices that improve the quality and reproducibility of research through open sharing of data, methodologies, and results.
- **Encouraging interdisciplinary and international collaboration:** Creating an environment conducive to interdisciplinary and cross-border collaboration by providing open platforms for data exchange and research cooperation.
- **Supporting educational innovation:** Promoting the development and use of open educational resources to enrich teaching and learning experiences within and outside the university.
- **Public engagement:** Encouraging public participation in research through scientific initiatives and open dissemination of research results.
- **Alignment with European and global standards:** Ensuring alignment of UMFCD practices with the European Open Science Cloud (EOSC), the FAIR principles and other international standards on open science.

I.3. Addressability

The development of the Open Science policy encompasses all aspects of research and educational activities within UMFCD, being addressed to the entire academic and research community, including:

- **Faculty and Researchers** : Faculty members, postdoctoral fellows, and other researchers engaged in academic or clinical research activities.
- **Students** : University students, graduates, and doctoral candidates involved in research or educational projects.

- **Administrative staff** : Academic staff involved in supporting research, data management, and publication processes.
- **Collaborators and partners** : External collaborators, including other academic institutions, research organizations, and industrial partners involved in joint research or educational initiatives with UMFCD.

I.4. Results

Open science policy includes all research results (publications, research data, software, educational materials, etc.) and applies to research and educational activities funded from the university's internal resources, from national, European or international public funding bodies and, under certain conditions, from partnerships with industry or the private sector. The principles of the Open Science Policy apply to all phases of the research life cycle, from project initiation to long-term data preservation.

I.5. Exclusions and limitations

Confidentiality : I exempt from open access requirements research data containing personal, sensitive or confidential information, subject to compliance with legal and ethical standards (e.g. GDPR).

Intellectual Property Rights : Allows controlled access when necessary to protect confidential or sensitive information.

Review and updates: The policy will be reviewed and updated periodically to reflect developments in the field of open science, technological advances, and evolving institutional needs.

II. The role Science Open

An effective open access policy will lead to increased benefits for the university and researchers.

II.1 Benefits for the University:

- Data collection and storage for the purpose of analyzing and sharing data and scientific results obtained

- The ability to index and track the institution's scientific publications through search engines
- Monitoring the number of visits and using/collecting data and indicators for use in institutional planning and seeking funding resources
- Providing opportunities for the use and reuse of the institution's results for scientific purposes (CVs, publications, excellence reports, projects, indicators, institutional and personal websites)
- Consolidation and development of UMFCD's communication and international collaboration channels
- Creating and recognizing the international profile of UMFCD.

II.2 Benefits for researchers from UMFCD:

- Increasing the visibility of researchers and the number of citations
- Increasing the use of research results in the medical field
- Transfer of research results to the medical field with the direct aim of improving the quality of life of patients
- Increasing the impact of their research in the medical and academic spheres
- Establishing a permanent link between various medical and research specialties, which through complex analyses and integrated perspectives provide optimal results.

III. UMFCD's Development Plan for Open Science Policies

The plan includes:

- Involvement and commitment at the organizational level
- Drafting and periodically updating specific policies
- Vocational training
- Technical support
- Increasing communication and awareness
- Identification of relevant technical and financial aspects

III.1. Currently implemented actions

In the UMFCD Strategic Plan for the period 2021-2029 and in the other adopted strategies, UMFCD has made it a priority to make scientific/academic information available to relevant communities - academic, socio-economic or the general public - in the most efficient way possible.

The possibility of open access publication for members of the UMFCD community is guaranteed by:

- "Publish not Perish" program to support publication fees in open access journals for journals classified in Q1 and Q2,
- Establishing partnerships, transformative negotiations, transformative agreements or other collaborations with a wide range of publishers and journals, with priority through the national professional association ANELIS+, to facilitate free or more accessible publishing opportunities for members of the UMFCD community
- Encouraging the gradual adoption of the Diamond Access model (no online publishing fees, no online access fees; with payment for printed publications maintained) for all publications managed by UMFCD (magazines, publishing houses, etc.)

III.2. Strategic actions in the period 2026-2029 within the UMFCD for the transition to Open Science

III.2. 1. Objectives

O.1 Administrative organization to support the development policy of Open Science in accordance with national and European regulations

a. Establishing a structure dedicated to Open Science . To facilitate support for the development policy of Open Science long term A dedicated structure with specialized staff is necessary. A first step in this direction is the creation of a working group for Open Science policy. To ensure the continuity of the planned activities, existing resources will be used, namely: staff from the Department of Research, Development and Innovation, faculties/institutes/departments; collaborators from the Center for Intensive Computing and Computational Medicine **,** UMFCD library; representatives/volunteers from student organizations. In order to implement and operationalize a structure for the implementation of the Open Science policy in the period 2026-2027, the necessary staff competencies will be defined and training will be initiated in collaboration with relevant national and international structures.

UMFCD data repository . *Such a repository is a digital archive that collects, preserves and provides access to the scientific results of an institution or community.* The European Union

Framework Programme - Horizon Europe 2021-2027 - outlines obligations regarding free access to scientific publications and data from publicly funded research, including by archiving them in a trusted digital repository, which ensures open access. It is planned to operationalize such an institutional repository in the period 2026-2028, starting from the existing data infrastructure at the Center for Intensive Computing and Computational Medicine , after identifying the needs and existing data sets, respecting the principles of Open Science and FAIR **(Findable, Accessible, Interoperable, Reusable) .** As a first step, UMFCD will analyze the possibility of integrating research results into similar national repositories (e.g. within ANELIS+ or similar) and will support efforts to make resources compatible and integrated with the EOSC (European Open Science Cloud) platform. These efforts aim to improve data sharing, interoperability and reuse across Europe, guided by the FAIR (Findable, Accessible, Interoperable, Reusable) principles.

The FAIR Data Principles are essential guidelines that ensure that research data is managed in a way that maximizes its value and utility for both current and future research. These principles emphasize the need for data that:

- Findable: Data should be easy to find for both humans and computers. This involves assigning permanent identifiers, such as digital object identifiers (DOIs), to datasets and providing rich metadata that describes the data in detail.
- Accessible: Data must be retrievable using standardized protocols and access conditions must be clearly defined. This means ensuring that data can be accessed under fair and transparent conditions, even if restrictions apply.
- Interoperable: Data must be compatible with other datasets, systems, and tools. This involves using common data formats, standard vocabularies, and open interfaces that allow data to be integrated and analyzed alongside other datasets.
- Reusable: Data should be well documented, providing clear information about provenance, context, and conditions for reuse. This includes applying appropriate licenses that specify how the data can be used, ensuring that it remains useful for future research efforts.

c. Communication according to the principles of open science Organization of various events open to the general public (open days, museum exhibitions, information sessions, seminars, conferences, etc.)

O.2. Integrating Open Science Policy into research projects

During the period 2026-2028, actions will be initiated by:

a. Informing the university community and supporting and collaborating with research groups. In this regard, the following is taken into account:

- Developing a communication plan regarding the implementation of Open Science policies
- Organizing interactive activities for students, through which they can get involved in the programs conducted at UMFCD, including communicating about open science to students
- Organizing a series of seminars and conferences open to the UMFCD community and the entire academic community – online/hybrid

b. Uniform management of research data and relevant metadata. UMFCD supports open access to research data, according to the principle of " *as open as possible, but as closed as necessary* ", for use, reuse and redistribution, provided that appropriate credit is given and ethical guidelines are followed. Open access is also supported, under licenses such as " *Creative Common Public Domain Dedication* " or equivalent, to associated metadata - descriptive information about a data set that helps to identify, locate and understand it to enable automated action.

Research data management involves the organization, storage, preservation and sharing of data collected and used in a research project. Effective data management ensures appropriate management throughout **the entire data life cycle** , from initial creation and use, to long-term preservation and access. To this end, each project will develop **Data Management Plans** , documents that outline how data will be managed **responsibly, in compliance with open access principles,** during and after the completion of a research project . These will include details on data collection, documentation, storage, sharing and preservation, ensuring that data management practices are planned and implemented effectively.

O.3: Development of a copyright policy within UMFCD in the context of Open Science policy

It is planned to create a working group together with the Technology Transfer Office in order to

- Analysis of national and European regulations, as well as the recommendations of various organizations regarding copyright in the context of Open Science
- Review of good practices at national and European level
- Identifies new mechanisms for the use/transfer of copyright adapted to the characteristics and requirements of Open Science

O.4. Monitoring, analyzing and updating the Open Science policy and its objectives

Monitoring and evaluation of the Open Science policy objectives will be carried out through various types of activities, assessing the impact through key performance indicators and specific performance indicators, mainly:

- Number of open access publications.
- Number of researchers involved in initiatives related to Open Science.
- Use and accessibility of open data.
- Number of international collaborations facilitated by Open Science.

An important process will be to obtain feedback from researchers, by organizing surveys and feedback sessions to assess researchers' perceptions of the impact of the policy and collect proposals for improvement.

IV. Institutional Commitment

The "Carol Davila" University of Medicine and Pharmacy (UMFCD) is deeply committed to integrating the principles and practices of Open Science in its core activities, promoting a strategic vision aligned with contemporary scientific and educational standards.

Selective bibliography:

UEFISCDI. Alina Irimia, Ioana Trif, Mihaela Cucu, Andreea Popa White Paper on the Transition to Open Science (2023-2030), accessible at: https://www.open-science.ro/resurse/cartea-alba-atranzitiei-catre-stiinta-deschisa-2023-2030

National Strategy for Research, Innovation and Smart Specialization 2022-2027: https://www.research.gov.ro/uploads/comunicate/2022/strategia-na-ional-de-cercetare-inovare-i-specializare-inteligent2022-2027.pdf.

National portal dedicated to open science: https://www.open-science.ro;

OECD Council Recommendation, 2006, rev. 2021: https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-034

European Commission (2021). Digital skills for FAIR and Open Science: https://op.europa.eu/en/publication-detail/- /publication/af7f7807-6ce1-11eb-aeb5-01aa75ed71a1;

Council of the European Union (2022). Council conclusions on Research assessment and implementation of Open Science: https://www.consilium.europa.eu/media/56958/st10126-en22.pdf.

European Commission (2020). Citizen Science - Elevating research an innovation through societal engagement: https://op.europa.eu/en/publication-detail/-/publication/d1768147-f17a-11ea-991b-01aa75ed71a1/language-en/formatPDF/source-152465380