Open Science Policy of

‘Carol Davila’ University of Medicine and Pharmacy

2026

I. Introduction

I.1. Overview

In today's rapidly evolving research landscape, Open Science has become a central approach for enhancing 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 driving innovation, strengthening collaboration, and ensuring the widest possible access to knowledge.

Open Science encompasses a broad range of practices designed to improve the efficiency, openness, and integrity of research, including:

Open access to publications: Ensuring that research outputs are freely accessible to both the public and the academic community, thereby increasing visibility and impact.

Open research data: Implementing the FAIR principles (Findable, Accessible, Interoperable, Reusable) to support the effective management and sharing of research data, facilitating reuse and enhancing reproducibility.

Open educational resources: Promoting the development and adoption of openly accessible educational materials to enrich teaching and learning within and beyond the university.

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

Citizen science: Engaging the public in scientific inquiry, thereby broadening participation and strengthening societal understanding of research processes.

By committing to these principles, UMFCD aims to embed openness and transparency throughout its research activities, thus improving the quality, rigor, and reproducibility of its scientific outcomes.

This policy aligns with the European framework for Open Science and global best practices, providing a foundation for a more open, efficient, and collaborative research environment. It also outlines a roadmap for implementation, detailing the responsibilities of stakeholders across the university.

I.1.1. Alignment with the European Framework

UMFCD's Open Science Policy is fully aligned with the European Union's strategic framework for research and innovation. This alignment ensures that the university's efforts contribute meaningfully to broader European and global initiatives that promote scientific collaboration and equitable access to knowledge.

Key EU-level policy documents include: EU Recommendation 790/2018 on access to and preservation of scientific information; Directive 1024/2019 on open data and the reuse of public-sector information; the OECD Recommendation on Access to Research Data from Public Funding (2006, revised 2021); the EOSC Executive Board report *Digital Skills for FAIR and Open Science* (2021); and the Council of the European Union's 2022 Conclusions on research assessment and the implementation of Open Science.

I.1.2. Alignment with the National Framework

Nationally, Open Science is supported by Romanian Law no. 179/2022 on open data and reuse of public-sector information.

The transition toward Open Science is further encouraged through the National Strategy for Research, Innovation, and Smart Specialization 2022–2027, which includes a specific objective focused on "promoting the transition to Open Science and supporting progress in scientific research and excellence."

UEFISCDI—the national authority leading the transition toward Open Science—has developed a strategic and operational framework aligned with European Commission recommendations, supported through the SIPOCA 592 project (MySMIS 127557). UEFISCDI also established the Open Science Knowledge Hub Romania (OSKH-RO), which supports research networks across the country by maintaining an Open Science Library accessible to academia and the public.The National Open Science Cloud Initiative (RO-NOSCI), launched in 2021 and coordinated by UEFISCDI, seeks to:

- develop a national cloud infrastructure aligned with the European Open Science Cloud (EOSC)
- synchronize national infrastructures and services for EOSC integration
- integrate the academic and research community into EOSC resources
- promote national strategies and regulations supporting Open Science

In December 2022, the *White Paper on the Transition to Open Science 2023–2030* was launched as the final strategic document guiding national Open Science development.

As an observer member of RO-NOSCI, UMFCD supports and aligns with this strategy, contributing to the development of the infrastructure required for data collection, storage, management, and sharing, as well as its integration with EOSC.

I.2. Purpose

The purpose of UMFCD's Open Science Policy is to establish a comprehensive strategic framework that promotes Open Science principles and practices across all research and educational activities. Specifically, this policy aims to:

- **Facilitate unrestricted open access** to research publications and educational resources.
- **Promote open research data** through FAIR-aligned data management practices.
- **Enhance research quality and reproducibility** by sharing data, methodologies, and results.
- **Strengthen interdisciplinary and international collaboration** through open platforms and cooperative practices.
- **Support educational innovation** by encouraging the development and use of open educational resources.
- **Engage the public** by promoting citizen-science initiatives.
- **Ensure alignment with European and global standards**, including EOSC and FAIR principles.

I.3. Scope

This policy applies to all research and educational activities at UMFCD and encompasses the entire academic community, including teaching staff, researchers, students, administrative personnel, and external collaborators.

I.4. Research Outputs

The policy covers all types of research outputs—including publications, datasets, software, and educational materials—and applies across all stages of the research lifecycle, from project initiation to long-term data preservation, except in specific cases outlined in the limitations section.

I.5. Exclusions and Limitations

- **Confidentiality:** Research data containing personal, sensitive, or otherwise confidential information must comply with all applicable legal and ethical standards (e.g., GDPR).
- **Intellectual property rights:** Controlled access may be applied when necessary to safeguard sensitive or proprietary information.
- **Review and updates:** This policy will be periodically reviewed and revised to reflect developments in Open Science and evolving institutional needs.

II. Role of Open Science

Open access policies provide numerous benefits for both the university and its researchers.

II.1. Benefits for the University

- Improved collection, storage, and dissemination of research data and results
- Enhanced indexing and tracking of institutional research publications
- Better monitoring of usage indicators for institutional planning and funding
- Increased opportunities to reuse institutional outputs (CVs, publications, reports, projects, indicators, websites)
- Strengthened international communication and collaboration
- Enhanced visibility and international profile of UMFCD

II.2. Benefits for UMFCD Researchers

- Increased visibility and greater citation impact
- Broader application of research results in medical practice
- Enhanced knowledge transfer to improve patient care
- Increased scientific and academic impact
- Stronger long-term links between clinical and research specialties

III. UMFCD Development Plan for Open Science Policies

The plan includes:

- Organisational involvement and commitment
- Development and periodic updating of specific policies
- Professional training

- Technical support
- Enhancing communication and awareness
- Identification of relevant technical and financial aspects

III.1. Ongoing Actions

UMFCD's 2021–2029 Strategic Plan prioritizes the provision of scientific information to academic, socioeconomic, and public communities. Open-access publication is supported through:

- The "Publish not Perish" program, which covers APCs for Q1 and Q2 open-access journals
- Transformative agreements and partnerships**,** notably through ANELIS+, offering free or affordable publishing options
- Support for the adoption of the Diamond Open Access model for UMFCD-managed journals and publications

III.2. Strategic Actions for 2026–2029

III.2.1 Objectives

O.1 Administrative Organization for Open Science

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

b. Development of a UMFCD data repository. Such a repository represents a digital archive that collects, preserves, and provides access to the scientific outputs of an institution or community. The European Union Framework Programme Horizon Europe 2021–2027 establishes obligations regarding open access to scientific publications and research data generated from publicly funded research, including their archiving in a trusted digital repository that ensures open access. The operationalization of such an institutional repository

is envisaged for the period 2026–2028, building on the existing data infrastructure at the Center for Intensive Computing and Computational Medicine, following the identification of needs and existing datasets, and in accordance with the principles of Open Science and FAIR (Findable, Accessible, Interoperable, Reusable). As a first step, UMFCD will analyze the possibility of integrating research outputs into similar national repositories (for example within ANELIS+ or other comparable infrastructures) and will support efforts to ensure compatibility and integration of resources with the EOSC (European Open Science Cloud) platform. These initiatives aim to improve the sharing, interoperability, and reuse of data across Europe, guided by the FAIR principles (Findable, Accessible, Interoperable, Reusable).

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

- Findable: Data should be easy to locate for both humans and machines. This involves assigning persistent identifiers, such as Digital Object Identifiers (DOIs), to datasets and providing rich metadata that describe the data in detail.
- Accessible: Data must be retrievable using standardized protocols, and the conditions for access should be clearly defined. This means ensuring that data can be accessed under fair and transparent conditions, even when restrictions apply.
- Interoperable: Data should be compatible with other datasets, systems, and tools. This requires the use of common data formats, standard vocabularies, and open interfaces that allow data to be integrated and analyzed together with other datasets.
- Reusable: Data should be well documented, providing clear information regarding their provenance, context, and conditions for reuse. This includes applying appropriate licenses that specify how the data may be used, ensuring that they remain useful for future research efforts.

c. Communication in accordance with Open Science principles. Organization of various events open to the general public (open days, museum exhibitions, information sessions, seminars, conferences, etc.).

O.2. Integration of the Open Science Policy into research projects

During the period **2026–2028**, the following actions will be initiated:

a. Informing the university community and supporting collaboration with research groups.

In this regard, the following measures are envisaged:

- Development of a communication plan regarding the implementation of Open Science policies
- Organization of interactive activities for students, through which they can become involved in the programs carried out at UMFCD, including communication about Open Science addressed to students
- Organization of a series of seminars and conferences open to the UMFCD community and the wider academic community – in online or hybrid format

b. Harmonized management of research data and relevant metadata.

UMFCD supports open access to research data in accordance with the principle **"as open as possible, as closed as necessary"**, allowing their use, reuse, and redistribution, provided that appropriate credit is given and ethical guidelines are respected. UMFCD also supports open access—under licenses such as **Creative Commons Public Domain Dedication (CC0)** or equivalent—to the associated metadata, meaning descriptive information about a dataset that facilitates its identification, location, and understanding, enabling automated processing and use. Research data management involves the organization, storage, preservation, and sharing of data collected and used within a research project. Effective data management ensures proper handling throughout the entire data lifecycle, from its creation and initial use to long-term preservation and access. For this purpose, **Data Management Plans (DMPs)** will be developed for each research project. These documents outline how data will be responsibly managed in accordance with open access principles during and after the completion of a research project. They will include details regarding the collection, documentation, storage, sharing, and preservation of data, ensuring that data management practices are properly planned and effectively implemented.

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

The creation of a working group together with the **Technology Transfer Office** is envisaged in order to:

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

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

The monitoring and evaluation of the objectives of the Open Science policy will be carried out through various types of activities, assessing the impact through key performance indicators (KPIs) and specific performance indicators, mainly including:

- The number of open access publications
- The number of researchers involved in initiatives related to Open Science
- The use and accessibility of open data
- The number of international collaborations facilitated by Open Science

An important process will involve obtaining feedback from researchers, by organizing surveys and feedback sessions in order to assess researchers' perceptions of the policy's impact and to collect proposals for improvement.

IV. Institutional Commitment

UMFCD is fully committed to integrating Open Science principles and practices into its core activities, in alignment with contemporary scientific and educational standards.

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