

A European-wide foundation to accelerate Data-driven Cancer Research

Rendicontazione

Informazioni relative al progetto

EOSC4Cancer

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Progetto chiuso

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Coordinato da

BARCELONA
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Questo progetto è apparso in...



1 Dicembre 2023



Periodic Reporting for period 1 - EOSC4Cancer (A European-wide foundation to accelerate Data-driven Cancer Research)

Periodo di rendicontazione: 2022-09-01 al 2023-08-31

Sintesi del contesto e degli obiettivi generali del progetto



To accelerate cancer research and its applicability to benefit European citizens, EOSC4Cancer aims to establish a pan-European infrastructure that can support the discovery, access, and analysis of extensive clinical and molecular datasets across borders. Better access, management, interoperability, and reuse of digital information can be achieved by using and integrating existing resources, best practices, and tools to manage cancer research data in preparation for the EU Mission on Cancer. The better we organize available data and provide timely guidelines for the research data to be generated, the easier it will be to use and re-use it, paving the way for a faster translation into clinical practice.

The project is driven by five use cases connected with different stages along the Cancer Patient Journey, from prevention and early detection to diagnosis and treatment. Use cases cover prevalent data flows in cancer research that will lay the foundation for future projects. Indeed, EOSC4Cancer will facilitate finding and accessing genomics, imaging, and medical and clinical data using and enhancing existing interoperable systems, including federated ones, which would support the use and re-use of cancer-related data for research activities.

Lavoro eseguito dall'inizio del progetto fino alla fine del periodo coperto dalla relazione e principali risultati finora ottenuti



The EOSC4Cancer use cases constitute the scientific part of the project, driving the technical developments and constituting the reference for future projects working with similar data types. The initial work has focused on defining the data flows for the use cases, including the identification of datasets, needs for harmonization, and tools and platforms to perform the analysis. Thus, ensuring the proper alignment of the different work packages with the use cases has been a priority for the project, leading to the creation of three different squads. Squads bring together domain and technical experts to make an efficient and optimal use of available resources. Specific actions have also been taken to identify relevant training materials and design capacity-building activities following the use cases.

The project has synergized with European efforts and initiatives connected with the EU Mission on Cancer. Synergies have also been done internationally thanks to the interactions with the AACR Genie project and the Global Alliance for Genomics and Health (GA4GH), and with the 4.Uncan.eu

Coordination and Support Action (CSA) for defining the federated digital infrastructure that will support the European efforts to understand cancer (UNCAN.eu) better.

Progressi oltre lo stato dell'arte e potenziale impatto previsto (incluso l'impatto socioeconomico e le implicazioni sociali più ampie del progetto fino ad ora)

To ensure the alignment of the use cases with the technical work, a data flow overview has been created for each of them. To facilitate the up-take of the EOSC4Cancer outcomes, best practices, guidelines, and recommendations are being generated and will be publicly available well beyond the project's lifetime.

Datasets identified by the use cases have been catalogued into a FAIR metadata-based catalogue, which provides information on the different access options and discovery mechanisms to promote reusability, in conjunction with other relevant projects.

Different data sources for the same data types, together with a survey-based report about harmonization practices in research and clinical settings, provide evidence of the needed work for harmonization. EOSC4Cancer has initiated multiple tasks for dataset standardisation and harmonization, (EATRIS CZ CRC and BBMRI CRC cohorts), screening programs harmonization, and combination of different data types (clinical and genomic information together with imaging data being made available through a cBioPortal instance). We are also working on the alignment of data models for cancer research data, e.g. B1MG/GDI, AACR GENIE, and BBMRI CRC cohort, taking also inputs from relevant synergetic projects, like HealthData@EU and EUCAIM, and initiatives, like GA4GH.

For the federated cancer data analysis through portals across Europe, we have been working on the usage and extension of different platforms. The "Molecular Tumour Board Portal interoperability" is organized into two work streams: one involving expert curation and one fully automated. We have defined the data model of the database, including molecular markers.

To identify and implement a coherent curriculum around cancer data research, we have started collating information on available resources within the EOSC4Cancer consortium and beyond. Work around the identification of existing gaps in training was performed by mapping the various skills and the respective stakeholders acting as a first step towards defining learning paths. Finally, significant work was done towards establishing a European training support network for cancer data research.

A Cancer Project Landscape Mapping, currently featuring ~90 EU projects, initiatives, and networks, was created and filled with publicly available information to gain a better overview of potential synergy projects and the stakeholders EOSC4Cancer has closely connected with other EU initiatives and programs to align our efforts across Europe and has been regularly participating in the EOSC HE Communication and Engagement Working Group and contributed to the EOSC project Macro Roadmap.

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