The SPHN Data Coordination Center: Next steps towards nationwide research data interoperability

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By 2022 we expect that 10s of millions of human genomes to be sequenced worldwide.

More than 80% of these in a health care setting.
Swiss Personalized Health Network (SPHN)

The main goal of the SPHN initiative is to bring Switzerland at the forefront of personalized health research by establishing **nationwide interoperability of biomedical information**. **Data sharing** must be the guiding principle.
Secure BioMedIT environment
FAIR Data Principles

- Findable
- Accessible
- Interoperable
- Reusable
Challenges

Legal & ethical framework (ELSI).
Semantic Interoperability.
Technical Interoperability.
Data protection & Information security.
Data analytics & Bioinformatics.
Data Management Infrastructure at Hospitals

Infrastructure Implementation Projects.

Secure Research Environment (BioMedIT)

Universities

Research Funding

Infrastructure Funding

BioMedIT Node

BioMedIT Node

BioMedIT Node

Swiss Institute of Bioinformatics
BioMedIT is a coordinated network of secure scientific IT competence centers at Swiss universities to support computational biomedical research and clinical bioinformatics.

Regional nodes:
- sciCORE (Basel)
- SIS, S3IT (Zürich)
- Vital-IT (Lausanne, Bern, Geneva)
- HES-SO (Geneva)

https://dcc.sib.swiss/biomedit/
National Coordination of Standards.
SPHN Data Coordination Center

Current activities:

• Data protection & information security policies for BioMedIT

• Requirement analysis for SPHN (meta) data catalog, distributed federated query system for aggregated data, and SPHN - data and sample access request workflow

• Bioinformatics workflow interoperability standards

The SPHN Data Coordination Center is managed by the SIB and headquartered in Basel. The task of DCC is to establish interoperability of biomedical and clinical data to enable research in personalized health in Switzerland.

https://dcc.sib.swiss
Next steps:

- **Driver projects**: Definition of data standardization and workflow requirements *within and across* driver projects.

- **PHRT platforms**: Definition of data management, standardization and workflow requirements.

- **Hospitals, SBP**: requirements for data standardization, data and sample request workflow portal, distributed federated query systems.
Thank you.

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