Communication Practices in Research Data Management and Training Teams

Final report for swissuniversities' mandate dedicated to ORD Action Line C2.3 "Framework for systematic communication between trainers and data stewards to facilitate professionalisation and the exchange of experiences, best practices, needs, and to develop training modules"

Project manager, Leading house	Dr. Igor Sarman, Università della Svizzera italiana (USI)
Project partners, Institution of affiliation	Dr. Agata A. Lambrechts, USI Dr. Lucía Aguirre Sánchez, USI Dr. Alexandra Stam, Swiss Centre of Expertise in the Social Sciences (FORS) Dr. Auriane Marmier, FORS Dr. Simon van Rekum, Zurich University of Applied Sciences (ZHAW)
Project collaborators, Institution of affiliation	Carmen Jambé, University of Lausanne (UNIL) Markus Bossert, University of Basel
Mandator and recipient of report	swissuniversities
Date of submission	June 2025
License	CC-BY

Addendum by swissuniversities: Statement by the Open Science Delegation on the final reports of mandates B5.1, B5.4, and C2.3

Contents

List of abbreviations

BA - Bachelor of Arts
CAS - Certificate of Advanced Studies
DMP - Data Management Plan
ECTS - European Credit Transfer System
EPFL - Swiss Federal Institute of Technology in Lausanne
ETH - Federal Institute of Technology
ETHZ - Swiss Federal Institute of Technology in Zurich
FAIR - Findable, Accessible, Interoperable, Reusable
FHGR - University of Applied Sciences of the Grisons
FORS - Swiss Centre of Expertise in the Social Sciences
FTE - Full time equivalent
HEI - Higher Education Institution
HEP-VD - Haute Ecole pédagogique Vaud
HES-SO - University of Applied Sciences and Arts Western Switzerland
HfH - University of Teacher Education in Special Needs
HSLU - Lucerne University of Applied Sciences and Arts
IHEID - The Graduate Institute of International and Development Studies
IT - Information Technology
MA - Master of Arts
ORD - Open Research Data
OS - Open Science
PgB - Federal project contributions
PH Luzern - University of Teacher Education Lucerne
PH Zug - University of Teacher Education Zug
PHBE - University of Teacher Education Bern
PHGR - University of teacher education of the Grisons
PHSG - St.Gallen University of Teacher Education
PHSH - University of Teacher Education Schaffhausen
PHTG - Thurgau University of Teacher Education
PHZH - University of Teacher Education Zürich
RDA - Research Data Alliance
RDM - Research Data Management
SRDSN - Swiss Research Data Support Network
SUPSI - University of Applied Sciences and Arts of Southern Switzerland
UniBE - University of Bern
Unifr - University of Fribourg
UNIGE - University of Geneva
UNIL - University of Lausanne
Unilu - University of Lucerne
UniNE - University of Neuchâtel
UNISG - University of St. Gallen
UK - United Kingdom
US - United States
USI - Università della Svizzera italiana
UZH - University of Zurich
ZHAW - Zurich University of Applied Sciences
ZHdK - Zurich University of the Arts

Executive summary

The evolving global research landscape, guided by Open Science principles, highlights the importance of Open Research Data (ORD) and professional Research Data Management (RDM). In this context, swissuniversities, through the Open Science I Phase B – Open Research Data program, the Swiss National Strategy for ORD and the associated Action Plan, launched Measure C2.3. The present report was commissioned to establish the foundations for a systematic communication framework between RDM trainers and data stewards across Swiss Higher Education Institutions (HEIs).

The project pursued four core objectives: to analyse the current state of communication between RDM trainers and data stewards in Switzerland; to review national and international frameworks and best practices; to identify collaboration gaps and structural challenges; and to develop a model supporting structured exchange, capacity building, and training development. These aims were met through a meta-study combining desk research, comparative analysis, and consultations within Swiss and international RDM networks.

Findings reveal that while awareness of the need for coordination between training and support functions is increasing, communication remains inconsistent and fragmented across institutions. Variability stems from differences in institutional maturity, resource allocation, and the evolving nature of RDM roles. In many HEIs, overlapping responsibilities between data stewards and trainers blur role boundaries, leading to redundancy and the risk of uncoordinated service provision. Smaller institutions, in particular, face challenges in sustaining dedicated RDM personnel and rely heavily on external collaborations or individual “data champions.”

The study identifies several systemic challenges: insufficient institutional resources, lack of role definition, and limited mechanisms for knowledge exchange and the dissemination of best practices. To address these, the report recommends formalising collaboration protocols and service-level agreements between RDM professionals and trainers; developing shared, sustainable knowledge bases for training materials and documentation; establishing governance structures for RDM communities of practice; and support a coordinated national framework to ensure stable funding, alignment with international standards, and the long-term professionalisation of RDM roles.

Integrating these measures into institutional and national policies will allow Swiss HEIs to move from fragmented initiatives to a coherent, sustainable model of communication and collaboration. Such coordination is essential to ensure that RDM training and support evolve in tandem with the country’s broader Open Science agenda, thereby strengthening Switzerland’s position as a leader in responsible and transparent research practices.

1. Introduction

The global landscape of academic research is rapidly evolving, with Open Science (OS) principles at the forefront of this transformation. A cornerstone of OS is ORD, which emphasizes the professional and transparent organization and handling of research data throughout its entire lifecycle. Recognizing the critical importance of ORD, the Swiss Rectors' Conference (swissuniversities) was entrusted with the implementation of the Open Science I Phase B – Open Research Data program. This national funding initiative, together with the Swiss National Strategy for Open Research Data and its associated Action Plan of November 17, 2021, aims to embed robust RDM practices across HEIs. Funders, both in Switzerland and elsewhere, increasingly require Data Management Plans (DMP), underscoring the necessity of comprehensive training and continuing education for researchers and students in RDM and ORD practices.

This report stems from Measure C2, Action Line C2.3 of the ORD Action Plan (p.27), titled "Training researchers for RDM and ORD Practices". The core objective of this mandate is to lay the groundwork for a *framework for systematic communication between RDM trainers and data stewards in Swiss HEIs*. This framework is crucial for facilitating professionalization, fostering the exchange of experiences and best practices, identifying emerging needs, and ultimately, developing high-quality training modules for Swiss researchers. In this report, we analyze the current landscape of RDM training and communication across Swiss HEIs, considering all types of institutions and existing RDM networks, comparing it further to the current state-of-the art in HEIs in Europe and globally.

Specific Mandate objectives are the following:

- present a meta-study and analysis of the current situation concerning the communication framework between data support units (i.e. data stewards) and RDM trainers
- consider the existing Swiss, European and international reports, surveys and analyses that deal with the roles and principles for communication and exchange of RDM trainers and data stewards;
- address the current state of communication between RDM trainers and data stewards at Swiss HEIs;
- develop a target and gap analysis and delineate what needs and challenges arise at Swiss HEIs and which solutions are possible.

This foundational work will inform further activities and measures within the 2025–2028 ERI period.

1.1 Alignment with other mandates

Our work on Mandate C2.3 was conducted in close collaboration with two other swissuniversities' mandates. These parallel projects aimed to strengthen ORD practices across Swiss HEIs. Specifically, Mandate C2.3 aligned with:

- Mandate B5.1, led by UniBE and focused on identifying best practices for the implementation and delivery of ORD support in Swiss HEIs in order to develop Swiss-wide best practices for ORD expertise, and;

- Mandate B5.4, led by the University of Basel and focused on assessing the current status of ORD experts' careers for a future establishment of ORD expertise as an independent career path at higher education institutions.

Swissuniversities promoted coordination and exchange among all three mandates, and in response, the teams met regularly from October 2024 to June 2025. This collaboration included shared organizational aspects, joint efforts in designing and evaluating a comprehensive survey conducted in late 2024 and early 2025, joint facilitation of focus groups reducing the burden on participants, and a valuable exchange of preliminary research findings and recommendations. A joint workshop held in April 2025 allowed teams of the three mandates to share updates and identify any potential discrepancies, confirming no inconsistencies among preliminary findings. To further ensure coherence while respecting each mandate's distinct focus, draft reports were exchanged and discussed in May and June 2025. This coordinated approach has been instrumental in ensuring a cohesive and complementary set of recommendations for advancing ORD and RDM-related practices in Switzerland.

1.2 Report structure

This report is structured to provide a comprehensive overview of RDM training and communication in Switzerland and beyond: in section 2, which follows this brief introduction, we include a synthesis of current knowledge and practices and present a two-pronged approach to understanding the existing landscape. This includes a literature review (section 2.1), examining national and international reports, surveys, and analyses related to RDM training roles and communication. Complementing this, interviews with international RDM professionals (section 2.2) offer invaluable real-world insights and practical perspectives. In section 3 below, our Swiss landscape analysis delves into the specific context of Swiss HEIs. This section outlines the methodological considerations (section 3.1) for our investigation, followed by a detailed presentation of the results (section 3.2) from our analysis. We then synthesize the key findings from the Swiss landscape analysis (section 3.3). In the final content section 4, the conclusions, we provide a concise summary of our findings, including a needs and solutions analysis and concrete recommendations (section 4.1 and section 4.2) for future actions. In addition, the annexes provide supplementary materials, including the literature search strategy, references, data extraction from international interviews, and survey questions.

2. Synthesis of current knowledge and practices

In fulfilment of the mandate, this report includes an analysis of existing Swiss, European, and international reports, surveys, and analyses on the roles and communication of RDM trainers and data stewards (section 2.1). Recognising the limited scope of available literature on this topic, and the need for insights into practical implementation, we expanded our research to include semi-structured interviews with RDM professionals from universities across the world (section 2.2). The interviews provide critical, real-world perspectives to complement the knowledge about current communication practices found in the literature.

2.1 Literature review

2.1.1. Aims and search strategy

The review explores whether collaboration and communication exist between RDM support professionals and RDM trainers and, if so, the nature of these collaborations. The analysis began with the assumption that a distinction exists between *stewardship* and *training roles* in RDM. This distinction would be later challenged through the review. A search string was developed to capture literature on communication practices among RDM roles. Selection criteria included peer-reviewed and grey literature publications from 2020. Literature search was therefore expanded to any literature reviews on research data management. Key-word search on selected publications was used to find any insights related to communication and coordination within RDM teams (see annex 1).

2.1.2. Literature findings

This section examines how the roles of data stewardship and RDM training are addressed in literature, and explores whether communication practices between RDM support professionals and RDM trainers is explicitly mentioned.

The distinction between “instruction” and “training” is not always consistent in the RDM literature. According to *The SAGE Glossary of the Social and Behavioral Sciences*, instruction refers to delivering specific content and skills, while training describes workplace learning (Sullivan, 2009). However, RDM studies frequently use "training" interchangeably with instructional and educational activities (Xu et al., 2022). From a more restrictive definition, training involves activities with clear learning objectives and measurable outcomes. In this view, interactive workshops qualify as training, whereas passive presentations or informational web pages without assessments do not (Oo et al., 2022). For the purposes of the present review, a broader and more flexible definition of training has been adopted, so that both formal learning and informal engagement activities are included.

While there is no clear consensus on job titles and roles within RDM (Subaveerapandiyan, 2023), there is increasing agreement on the professionalization of RDM-dedicated figures, with specialized roles extending beyond traditional research tasks. While data stewards are often distinguished from researchers, the complexity of

RDM has grown due to factors such as funder and publisher requirements for open data. Institutions adopt diverse RDM support models, including centralized versus decentralized structures, discipline-specific strategies, and varying levels of involvement from dedicated RDM specialists within research projects. Some institutions formalize these roles through explicit policies.

The definition of *data stewardship* varies broadly. In some cases, data stewardship is considered a distinct role, whereas in others, it is integrated into broader research data services and support functions. Beyond clearly defined job descriptions, key responsibilities emerge. Data stewardship is sometimes described as the role of managing and ensuring the integrity of data assets that data stewards do not own, while data governance establishes overarching policies and decision-making frameworks at an institutional higher level (Koltay, 2016). Data stewards have been also described as intermediaries, holding decision-making power over data access, security, and use conditions (Aapti Institute, 2020). From this perspective, the role extends to ensuring responsible data management for public benefit (Verhulst, 2021). Despite ongoing discussions about standardizing stewardship responsibilities, institutional and disciplinary contexts seem to shape diverse models of implementation. This diversity of definitions and linked responsibilities, reflect the wide range of tasks that may be included within RDM teams or the so-called RDM support personnel.

Blurry distinctions between RDM services and training

While data stewardship and governance are often described as separate roles, sometimes fulfilled by the same individuals, training is typically treated as a distinct function in the literature. However, in practice, the separation between RDM services and training is not always clear. Collaboration between RDM support and training is most evident in academic libraries, which in many countries and HEIs play a central role in offering RDM-related services. Libraries also serve as connectors, linking researchers at different stages of the data lifecycle, including data sharing, analysis, and reuse (Xu et al., 2022).

Target audiences and training approaches

RDM training typically targets three main groups: (1) students (undergraduate and postgraduate, including doctoral candidates), (2) researchers (postdoctoral and early-career researchers), and (3) professional staff (such as librarians and IT personnel). A systematic review of RDM training initiatives found 15 studies focused on students, 16 on researchers, and 14 on professional staff (Oo et al., 2022).

Collaboration in training design and delivery

A collaborative approach to training development is consistently highlighted in the literature. In a review of peer-reviewed articles, 79% reported that training was co-developed with internal stakeholders (e.g., librarians, faculty, students) and to a lesser extent, external actors (Oo et al., 2022):

- *Internal collaboration:* examples of internal collaboration include librarians co-designing and delivering training with academic staff (Clement et al., 2017), or engaging faculty and department heads to create discipline-specific content, increasing buy-in from leadership (Wittenberg et al., 2018). In another case, collaboration between a library data service and a research group at Virginia

Tech led to improvements in data practices, such as replacing disparate spreadsheets with a shared server – enhancing security and efficiency (Petters et al., 2019);

- *External collaboration:* involving external partners can also enhance RDM training. For example, at the University of Queensland in Australia, implementation of RDM services involved coordination with both internal units (IT, research computing, administration) and external entities (Australian National Data Service, Queensland Cyber Infrastructure Foundation) (Yu et al., 2017). Similarly, Flinders University in South Australia worked with eResearch SA (a service provider offering expert computing technology knowledge, services and facilities including an Open Data Directory - now closed) and other institutions to ensure alignment between training content and national developments in RDM (Morgan et al., 2017).

2.1.3. Conclusions from the literature review

Despite a growing body of research on RDM services and training, the literature revealed several gaps that confirmed the need for primary data collection. First, while there is increasing recognition of the professionalization of RDM roles, there is no clear consensus on their definitions or boundaries. Studies frequently distinguish between stewardship and training in theory; but in practice, the division of tasks is less clear. There is variability in institutional models, with stewardship sometimes framed as a discrete role and, in other cases, integrated into broader RDM support services.

Second, although collaboration is often cited as essential to effective RDM training – especially within academic libraries – the literature rarely focuses on the specific communication practices between RDM support personnel and those responsible for training. Most existing reviews emphasize who receives training and what content is covered, rather than how cross-functional collaboration shapes the design and delivery of that training. Furthermore, case studies and systematic reviews on RDM training rarely provide detail on whether, how, or under what conditions training developers coordinate with those delivering day-to-day RDM services. As such, there is a lack of empirical evidence on the operational and communication practices between RDM services and training professionals. To address these gaps, this study employed qualitative semi-structured interviews with RDM professionals to examine whether such collaborations exist and what communication mechanisms support them.

2.2 Interviews with international RDM professionals

2.2.1. Interview methodology

Qualitative interviews were conducted with professionals from selected HEIs to explore communication practices within RDM teams. The selection of HEIs was based on two main criteria: either inclusion in global top university rankings (Academic Ranking of World Universities) or recognition as exemplary RDM case studies in the academic literature, particularly those known to mandate team members. This process led to the identification of 12 institutions across Austria, Canada, Denmark, Finland, the Netherlands, the United Kingdom (UK), and the United States (US).

Before conducting the interviews, institutional RDM websites were reviewed to assess whether RDM training was publicly offered, how support services were described, and whether data stewards or similar roles were referenced. RDM teams from the 12 institutions were invited to participate in an interview via email. Six RDM professionals from five universities – located in Austria, Finland, the Netherlands, the UK, and the US – were available and agreed to participate within the proposed time frame.

The semi-structured interviews explored several key themes: the roles and organizational structures of RDM teams, the scope of RDM support services, the types and formats of RDM training offered, as well as external and internal communication practices among RDM support and training staff.

University	Team Size	Dedicated Trainers	Training among other tasks	Library-Based	Strong Central Core	Strong Distributed Network
US	1 FTE + partial roles (5–15%)	0	1	1	1	0
Finland	1 FTE + 6 partial (~10–50%)	0	1	0	0	1
Netherlands	4 FTE trainers + support staff	1	0	1	1	1
UK	3 FTE + large unpaid network	0	1	1	1	1
Austria	5 FTEs (soon 13) + 10–12 central	0	1	1	1	1

Table 1. Characteristics of analysed international institutions

The interviews were also designed to explore the relationship between RDM services and training personnel, based on the initial assumption that these tasks were typically carried out by different team members. We sought to understand whether and how communication occurred between those responsible for support services and those conducting training. In cases where the same individuals were responsible for both services and training, the discussion focused on how these roles interacted, or specifically how training activities built upon service delivery, and how insights from service provision informed the development of training content.

2.2.2. Catalogue of internal communication practices

Communication practices that are common across all universities

- ➔ **Regular team meetings:** all institutions report holding team or subgroup meetings, ranging from weekly to monthly. These cover service coordination, training development, and case reviews.
- ➔ **Direct 1:1 or small group coordination:** particularly in relation to training delivery or project work, every HEI reports 1:1 or small group syncs (that is informal or formal meetings involving RDM trainers and data stewards, held to coordinate their work, share information, resolve challenges, and ensure a consistent and effective approach to RDM training delivery and project work), held either ad hoc or scheduled in advance.
- ➔ **Email as a primary communication channel:** all teams rely on email as a formal communication method across roles and institutions (although, as noted below, some institutions also use communication platforms such as Slack or MS Teams).

Communication practices that are present in most universities

- ➔ **Collaborative planning for training:** most HEIs coordinate training content across RDM personnel (especially when multiple people contribute), but this was least formalized in the US case.
- ➔ **Shared digital workspaces (Slack, Teams, Wiki):** Austria, Finland, Netherlands, and the US use internal platforms like MS Teams, Slack, or wikis (wikis function as internal, collaborative knowledge repositories. They are essentially the organization's private, editable encyclopedia, usually organized topically). The UK team does not emphasize a platform but operates through shared notes and email.
- ➔ **Project-based communication systems:** Jira (Austria) and help desk ticketing systems (UK, US) are used for task triage and routing queries to appropriate team members.

Rare, unique, or innovative communication mechanisms

- ➔ **Slack + Wiki + systematic reflection on past training US university:** uses Slack for quick internal coordination. Maintains a team wiki to log reflections from each training, including: what worked, what failed, questions from participants to address next time. They actively review these notes to iteratively improve training – an internal feedback loop not mentioned by others.
- ➔ **Jira ticket routing with discipline-based assignment tree (Austria):** the Austrian HEI uses a Jira-based helpdesk system for incoming support requests. A decision chart guides two central staff on how to assign tickets: by faculty if a data steward is embedded, or by topic or external collaboration network (e.g., EOSC/ELIXIR). This structured ticket triage mechanism is notably more formalized than in other universities.

- ➔ **Trainer rotation and documentation for continuity (Netherlands):** RDM trainers work under the assumption: “We are trainers now, but let’s prepare for who comes next”. Every training module is carefully documented with process notes, feedback methods, and modular components to allow seamless trainer transitions. This forward-thinking design is rare but highly transferable.
- ➔ **Bi-monthly thematic data champion forums (UK):** organizes bi-monthly in-person forums for volunteer data champions. It Includes peer-led presentations, open Q&A discussions on “messy” data issues, and strategic updates from the central RDM team. Emphasis is on community self-sufficiency – central team facilitates but does not dominate the meetings.
- ➔ **Central + faculty co-coordination via shared appointments (Austria):** data stewards hold shared appointments (positions funded 50% by the library services and 50% by faculties). They are formally integrated into both spaces, with bi-weekly 1:1s with the coordinator. This enables fluid communication between central and decentralized layers.

2.2.3. Featured cases

Shared faculty-library positions

Institution context

# of students: 22k | # of PhD: 800 | RDM team size (FTE): 5 (soon 13)
Primary service users: PhD candidates, postdoctoral researchers

In this HEI, data stewards are embedded within faculties while also reporting to the central library. The roles are co-financed 50/50 by the faculties and the library, although the actual workload leans more heavily toward faculty needs, estimated at 70–80%. This embedded model fosters strong engagement, as stewards are perceived as part of the faculty rather than external agents. They act as disciplinary RDM experts, providing consultations, conducting needs assessments, and delivering both general and discipline-specific training. Their dual affiliation enables them to mediate between faculty researchers and central services, facilitating smoother implementation of tools like electronic lab notebooks and enhancing communication with central IT. This structure has proven effective in building trust, tailoring support, and scaling RDM services across the institution:

> *“With the data stewards, this is pretty straightforward, as all the tickets that come in from their faculty will go to them. [...] They have shared positions. So they also have two bosses, [...] one boss at the faculty and the data steward coordinator. Also the financing is kind of co-handled by the library and the faculty.”*

Dedicated RDM training team

Institution context

# of students: 27k | # of PhD: 800 | RDM team size (FTE): 6 trainers and 8 data stewards. Primary service users: PhD candidates and early career researchers

The team includes four full-time trainers, a training coordinator, a part-time IT training

assistant, and an education advisor. Their core offering is RDM 101 training, a three-week-long, hands-on course primarily for first-year PhD candidates. It includes assignments and discussion forums with personalized feedback and is worth 2 ECTS credits. The course is offered both in-person and online, with a combined reach of around 300 participants annually. Additional courses include “Personal Data in Research and Human Subjects”, which targets researchers working with sensitive data.

The team works closely with faculty-based data stewards, who are separate roles focused on providing domain-specific RDM support. Each faculty has at least one data steward, and they are involved in ethics, data protection regulations, data storage, and DMP guidance. The training team collaborates with data stewards to co-develop course content – especially for specialized topics like personal data – and maintains alignment through regular meetings and shared planning.

The trainers have complementary disciplinary backgrounds: some specialize in quantitative methods and software engineering, while others focus on qualitative research and health sciences. This allows them to divide responsibilities effectively – for example, trainers with qualitative expertise lead the personal data courses, while those with technical backgrounds handle software carpentry and data infrastructure:

> *“[There are four] trainers with the same position. We have a training coordinator [...] and then we have a training assistant that's our IT guru, the one that supervises the learning platforms, the schedule [...], and communication with the PhD candidates. Then we have an education advisor [...] that helps the trainer to set up new courses or to develop a new part of an existing course. In 2024, our main goal was escalating RDM 101. So we wanted to cover a bigger audience because we had a very long waiting list”.*

Data “Agents” and the Open Research Network

Institution context

# of students: 17k | # of PhD students: 4k | RDM team size (FTE): 4

The RDM team, which is not library-based, includes seven members, with only the data advisor working full-time on RDM. Others contribute part-time, mainly reviewing DMPs and organizing training.

The “data agent” network includes researchers embedded in faculties who dedicate about 10% of their time to RDM tasks, with two agents working at 50%. These agents are not centrally employed but are supported by the data advisor, who also connects with the broader Open Research Network, involving IT, legal, and ethics representatives. Training is centrally coordinated but delivered by data agents and network members. They run a biannual public webinar series on RDM delivered primarily by data agents, with contributions from other network members. Webinars are open to anyone and recordings are made available on YouTube.

This model reflects a lightweight, distributed approach that leverages existing academic roles and cross-unit collaboration, avoiding the need for a large centralized RDM team:

> *“We try to have at least one data agent for each school and for some schools we have two or three even, and they preferably are from different departments. [...] Most of them have 10% of their work time allocated for data agent activities. And*

then we have, I think, two data agents who are 50%".

Data Champion programme

Institution context

# of students: 20k | # of PhD: 4k | RDM team size (FTE): 3
Primary service users: PhD candidates. Frequent queries about qualitative work

This institution runs a volunteer-based initiative designed to extend the reach and expertise of the central Research Data Service. There are nearly 200 registered champions, about a quarter of whom are regularly active. The program includes PhD students, early career researchers, librarians, technicians, and data specialists. Champions support the service by sharing domain-specific knowledge, assisting with queries, and occasionally delivering training within their departments.

A key feature of the program is the bi-monthly Data Champion Forum, considered the "beating heart" of the community. These forums include thematic presentations and a communal lunch, fostering peer exchange and informal problem-solving. The lunches are funded by the university press, which supports open research initiatives. While participation is unpaid, the program emphasizes community-building, and mutual learning:

> *"We get about 20 to 30 every year. So now we're close to 180 data champions, but maybe a quarter are active. We're quite loose on our requirements because we understand we're not paying and it's a volunteer program, we don't expect too much for them. [...] Whenever we need help, like, you know, if we ask help with a particular ethics question or a formal question, so far people have been helpful."*

The Wiki

Institution context

# of students: 12k | # of PhD students: 4k | RDM team size (FTE): 2 (plus cross-unit support)
An internal wiki is used as a key tool for communication, coordination, and training development. This wiki serves as a central repository for managing project work and documenting the team's experiences. It is used to record reflections on past training sessions, including what worked well, what issues arose, and what improvements are needed. These notes help inform the design and delivery of future workshops.

The wiki also supports collaborative training development. Before each session, the presenter and assistant review materials together, often referencing past notes stored in the wiki. This ensures consistency and continuous improvement. The team also uses the wiki to coordinate ongoing projects, such as integrating ethics content into all training modules – an effort described as "a running project that we have." In this way, the wiki is not just a documentation tool but a dynamic part of the team's workflow, enabling a reflective and iterative approach to training that aligns with their decentralized, collaborative model:

> *"We also maintain a wiki for the group itself, which is where we manage our project work, and that serves as a different mode of communication. [...] Within a particular workshop, we do review our materials before we go forward [...] that's*

generally done within the smaller team of the person who is presenting and the person who is assisting. We [...] keep notes on what our experiences of delivering it last time were – if there were particular issues that showed up or questions that we need to address."

2.2.4. Main barriers and gaps in RDM team collaboration and communication

1. Fragmentation and siloed structures
UK HEI: the institution's decentralized structure, with separate libraries and departments, creates silos. This leads to low awareness and uptake of RDM services. Researchers often discover services late in the research process, which limits their effectiveness.

Austrian HEI: although there is a central RDM team, the decentralized nature of faculties means that communication and coordination can be uneven, especially where data stewards are not yet embedded.

2. Lack of formal recognition or incentives
UK HEI: data champions are unpaid, and their contributions are not formally recognized in workload models. This setting limits sustained engagement, especially from PhD students and early-career researchers.

Finnish HEI: data agents contribute only 10% of their time to RDM, often voluntarily. This limits their capacity and continuity in supporting training and communication.

3. Limited visibility of RDM services
US HEI: despite being listed on the institution's core services page, many researchers are unaware of the RDM services. This lack of visibility is a major barrier to engagement.

Finnish HEI: reaching researchers is described as the biggest challenge. Many are unaware of available support, and email outreach is often ineffective due to information overload.

4. Insufficient resources and staffing
Dutch HEI: despite a well-structured training team, there is a persistent shortage of time and staff to meet growing demand. Trainers are stretched thin, and waiting lists persist.

US HEI: the team is under-resourced, with only one full-time staff member and others contributing informally or part-time. This limits capacity for both support and training.

5. Coordination between central and faculty-based teams
Austrian HEI: while data stewards are embedded in faculties, coordination with central services can be complex due to dual reporting lines and differing priorities.

Finnish HEI: the Open Science and Office team is not part of the library and operates under Research Services, which creates challenges in aligning with educational policy and integrating training into curricula.

6. Difficulty embedding RDM in curricula

Finnish and Austrian HEIs: efforts to make RDM training mandatory or credit-bearing face institutional barriers. In Finland, the RDM team lacks authority over educational policy, which is controlled by a separate unit (Learning Services).

UK HEI: while some doctoral programs include RDM training, it is not universally mandated, and uptake depends on departmental discretion.

7. Duplication of efforts and lack of central oversight

Dutch HEI: there is concern about duplicated efforts across faculties and central services, with limited coordination potentially leading to inefficiencies.

2.3 Key findings from the international interviews

Across the five universities studied, several key themes emerged in how RDM support and training teams communicate internally and externally. A prominent trend is the integration or close coordination between RDM support personnel and trainers, though the degree of overlap varies. In some institutions (e.g., US and UK), the same individuals perform both roles, while in others (e.g., Finland, Netherlands, Austria), support and training roles are distinct but closely coordinated through structured meetings and shared planning.

Internal communication is characterized by a mix of digital tools and regular meetings. Platforms like MS Teams, Slack, and email are widely used for day-to-day coordination, while monthly or weekly team meetings, bi-weekly one-on-ones, and forums provide structured opportunities for reflection and planning. Institutions also employ ticketing systems (e.g., Jira, help desks) that serve both internal coordination and external user support, blurring the line between internal and external communication.

External communication strategies are diverse but share common goals: raising awareness, promoting services, and engaging researchers. Common practices include email campaigns, library-based advertising, webinars, flyers, and departmental liaison positions. Some universities host research cafes, drop-in sessions, or data champion forums to foster community engagement. The use of centralized platforms for course listings and YouTube channels for training recordings reflects a growing emphasis on accessibility and scalability.

A notable trend is the emphasis on decentralization and embedded support, particularly in Finland and Austria, where faculty-based agents or stewards act as local RDM ambassadors. This model enhances contextual relevance and trust, though it requires strong coordination mechanisms with central teams.

Despite being selected for their strong and often exemplary RDM support and training structures, the HEIs studied still face notable limitations that constrain their full potential. These high-performing teams operate within complex institutional environments where fragmentation, limited visibility, and insufficient formal recognition for contributors can hinder collaboration and uptake. Even with well-developed services, resource constraints and coordination challenges between central and faculty-based units persist. Embedding RDM into curricula remains difficult due to governance boundaries and competing institutional priorities. These barriers underscore that even mature RDM ecosystems require ongoing structural, cultural, and strategic refinement to ensure sustainable impact.

Overall, the communication practices reflect a balance between communication instruments (e.g., scheduled meetings, ticket systems) and governance structures or peer-based networks (e.g., data champions, embedded stewards). Successful strategies are those that foster collaboration across units, leverage existing networks, and adapt to institutional cultures and resources. The following framework aims to synthesize three distinct RDM team models, based on the analysed cases.

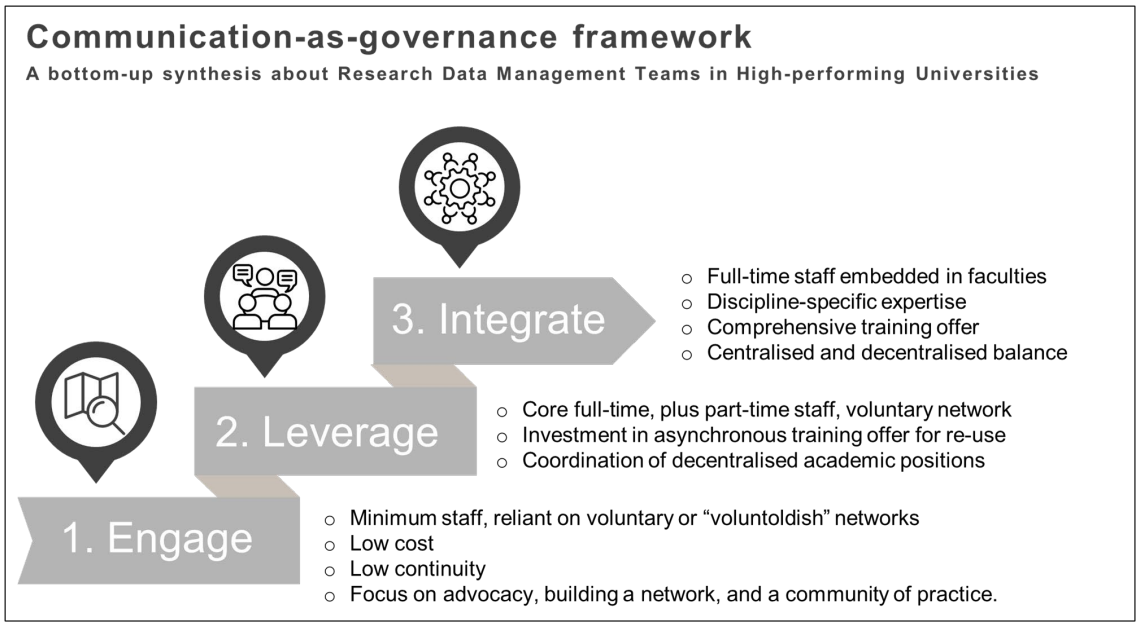

Figure 1. RDM team models framework

3. Swiss landscape analysis

The literature review as well as the interviews with international RDM professionals highlighted a diversity of institutional practices when it comes to RDM training and related communication. This section takes the analysis further by addressing the core questions raised by mandate C2.3. In particular, it explores the contexts and settings in which RDM training is offered at Swiss HEIs and how various staff members engaged in RDM training and/or support communicate with each other within and across their units.

To this end, we draw on the results of an online survey conducted jointly with mandates B5.1 and B5.4, as well as a series of face-to-face interviews with HEI staff members working in the field of RDM. The latter consists of three one-to-one interviews conducted solely in the context of the mandate C2.3 and, subsequently, three focus group interviews conducted jointly with the mandates B5.1 and B5.4. The preliminary findings of the survey as well as the one-to-one interviews determined the structure of the focus group interviews.

As opposed to the other mandates, the empirical findings presented below mainly draw on the results of the face-to-face interviews. Indeed, while the survey, which was intentionally kept short for the purpose of this mandate, aimed at collecting general information on RDM training and communication practices, the interviews aimed at developing an advanced understanding of institutional specificities and complexities when it comes to supporting researchers through RDM training. This not only includes internal collaborations within and across units, but also collaborations with other HEIs.

The following section addresses some additional methodological considerations around definitions and data collection methods that are specific to this mandate, before presenting the main results of the quantitative survey and qualitative interviews.

3.1 Methodological considerations

3.1.1. Definitions

As this mandate aims to “define a framework for systematic communication between RDM trainers and RDM support professionals”, it is important to define the three underlying concepts, hence RDM training, RDM professionals and communication. As part of the survey and the interviews, based initially on the review of existing literature, we referred to the following definitions:

- **RDM training/courses**: these consist in activities designed to equip researchers with the knowledge and skills necessary to effectively manage the data they generate throughout their research lifecycle, with the exception of training/courses on the use of specific tools.
- **RDM professionals**: RDM professionals are professionals working on RDM and ORD-related topics within Swiss HEIs. This group includes a wide range of roles, such as coordinators, IT specialists, librarians, archivists, and other support specialists.

- **Communication**: Communication relates both to communication channels (tools or means by which communication is carried out) as well as the actual fact of exchanging information, independently to the tools or channels that were used.

While we first considered communication channels with the questionnaire survey, the face-to-face interviews soon highlighted the need to consider communication in its more fundamental sense, hence formal and informal exchanges of information about RDM training. The focus on communication thus was shifted from tools or technical formats of communication (as was highlighted in section 2.2) towards the participants' perception of the degree of existing communication in the first place and challenges in identifying training activities at their respective HEIs (section 3.2.2 and section 3.2.3).

3.1.2. Quantitative data collection

The online survey consisted of four close-ended questions, as well as one open-ended question (see annex 6 for the list of questions). The close-ended questions addressed the following topics:

- whether RDM training/courses are offered in the respondent's institution;
- by whom they are delivered;
- whether the respondent is personally involved in the teaching and/or organization of the courses;
- what methods are used for communicating with other RDM service providers within the institution.

They were followed by an open-ended question on the challenges respondents face in communicating effectively with other RDM service providers in their institution. A total of 57 individuals representing five types of HEIs answered the questions that relate to this mandate.

Figure 2 shows that the largest group of respondents work for cantonal universities, with 24 answers, followed by universities of applied sciences (12), universities of teacher education (10) and ETH domain institutions (8).

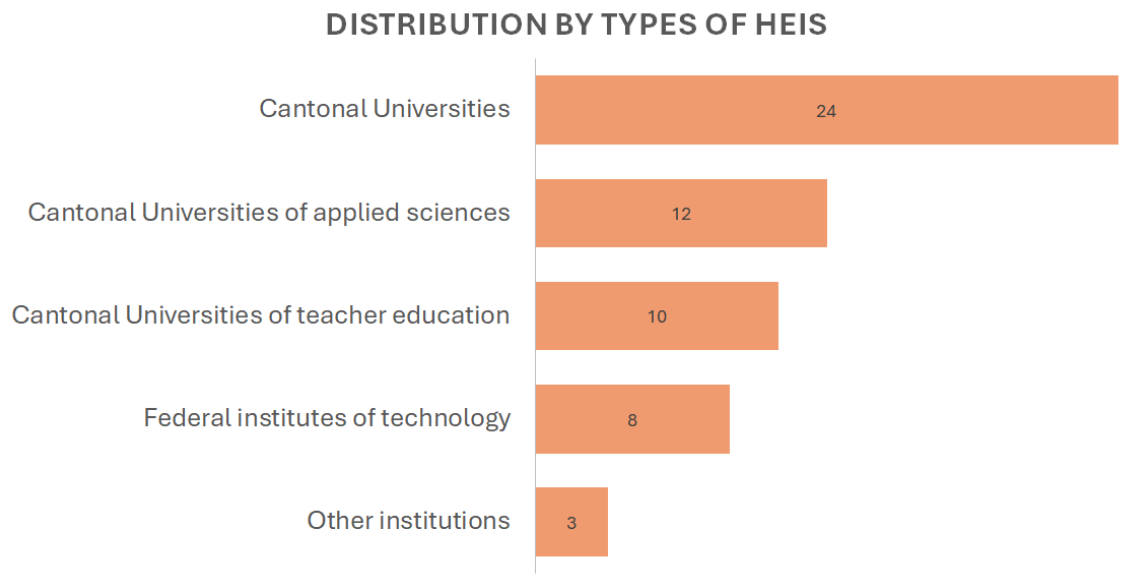

Figure 2. Distribution by types of HEI

A closer look at the institutions (Table 2) shows that UNIL and EPFL were best represented in the survey, with five contributions each. They are closely followed by UniBE, the University of Basel, ZHAW and UZH with four contributions each. Other universities, universities of applied sciences and educational institutions contributed between one and three times.

HEIs	N. of institutions
Cantonal universities	**24**
UNIL	5
UNIBE	4
University of Basel	4
UZH	4
UNIGE	3
Unilu	2
UniNE	1
UNISG	1
Cantonal universities of applied sciences	**12**
ZHAW	4
HES-SO	3
FHGR	2
ZHdK	1
HSLU	1
SUPSI	1
Cantonal universities of teacher education	**10**
HfH	3
PHSH	1
PHZH	1
PHTG	1
PH Zug	1
PHGR	1
HEP-VD	1
PH Luzern	1
Federal institutes of technology	**8**
EPFL	5
ETHZ	3
Other institutions	**3**
FORS	1
IHEID	1
Empa	1
Grand Total	**57**

Table 2. Number of individual answers by institution

Respondents were asked about their current function by either selecting a job title from a predefined list or by providing the information as open text. As can be seen in Figure 3, the most common role is data steward with 13 respondents, followed by data stewardship coordinator (9 respondents) and data librarian (8). Other notable roles include data manager and data scientist (3 respondents each), as well as hybrid or overlapping roles such as data consultant/data steward (2 respondents). Leadership and strategic roles are also present, such as head of Open Science, research management and project coordinator, each represented by one to two individuals. Less frequently mentioned roles include scientific collaborator, alumni/startup representative and national coordinator for a European digital research infrastructure.

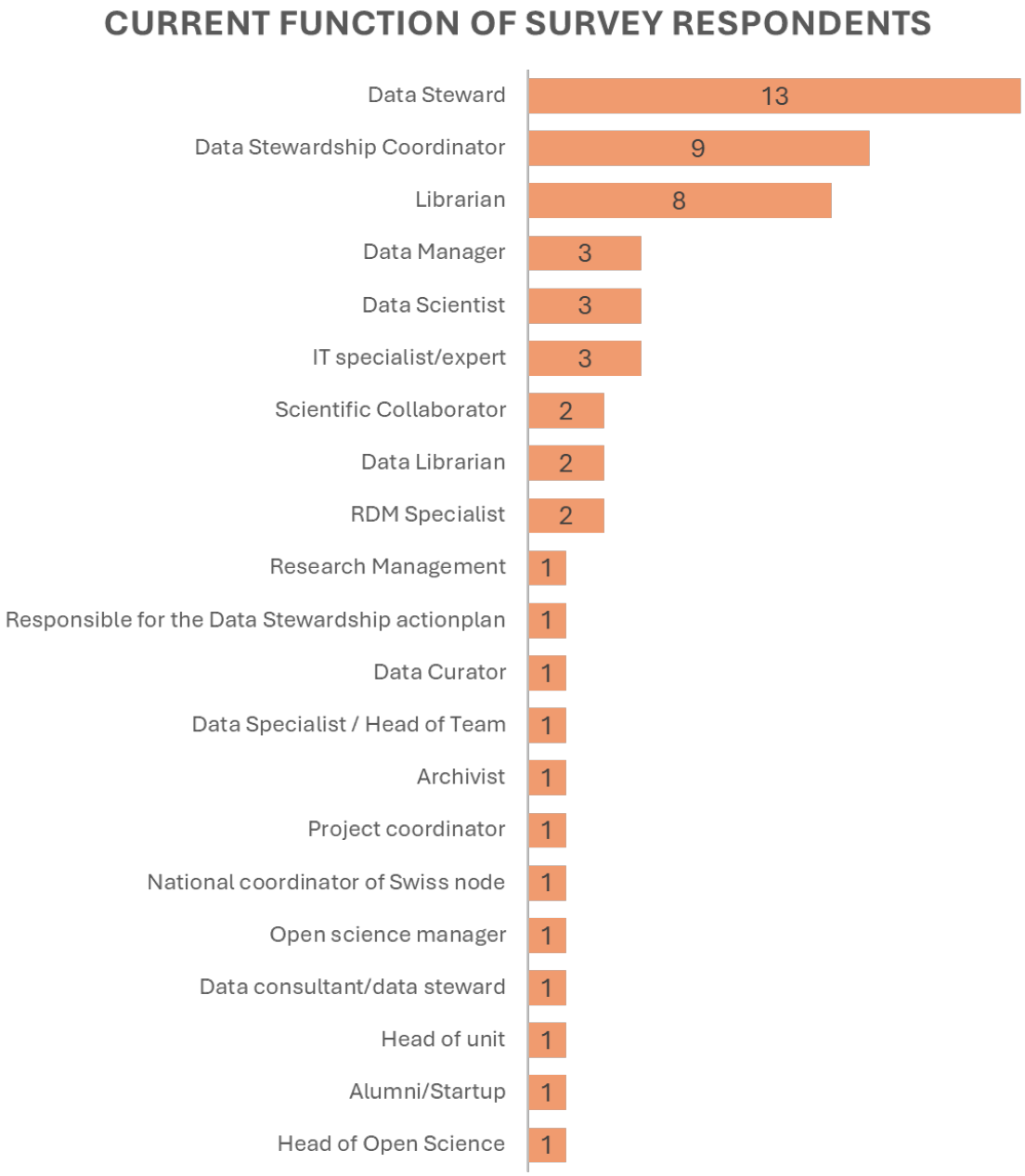

Figure 3. Current function of survey respondents

3.1.3. Qualitative data collection

We conducted three one-to-one in-depth semi structured interviews with representatives of ETHZ, EPFL, HfH, as well as three rounds of focus groups made of five participants each. The one-to-one interviews were conducted with experts in data stewardship/RDM. They lasted forty-five minutes to one hour each, and primarily aimed at testing out our research questions and gaining better understanding of institutional specificities when it comes to RDM training. Their outcomes not only helped specify the questions asked during the focus groups but also provided valuable information for this report. One-to-one interviews were structured around four main areas (annex 5):

- interviewees' profile and involvement in RDM teaching and/or support;

- RDM training offered within the institution, by whom and to whom;
- communication and collaboration between RDM support roles and RDM training roles;
- gaps, issues, opportunities of improvement.

In particular, the one-to-one interviews highlighted overall poor communication between central services (such as libraries) and research units when it comes to the provision of RDM training. This observation was systematically addressed during the focus groups.

The three focus groups each included five participants selected on the principle of institutional heterogeneity to favour institutional comparisons and debate and lasted about 30 minutes each. Every participant was asked to give a short presentation during which they stated their role, whether they were involved in RDM teaching and/or support and provided an overview of the RDM training offered within their institution. This was then followed by a general discussion on communication and knowledge of RDM training within other units, including collaborations, as well as needs and potential solutions for better communication.

Due to the sampling method, universities of teacher education were over-represented, while universities and universities of applied sciences were under-represented. Furthermore, the EPFL, ZHAW and FHGR were represented by more than one person as can be seen in Table 3. The higher representation of universities of teacher education, whose sizes are relatively small, may be explained by higher needs when it comes to data management training, and therefore interest in the topic. Institutional differences and inequalities were indeed highlighted during the interviews and will be discussed further down.

Institutions	Number of interviewees	Profile of the respondent[1]	Institution size (number of students)[2]
Federal institutes of technology			
ETHZ	1	Librarian	26’000
EPFL	2	RDM specialist / Alumni	13’500
Cantonal universities			
University of Basel	1	Data stewardship coordinator	13’325
UNIGE	1	Librarian	18’261
UNIL	1	Data curator	17’000
Universities of applied sciences			
ZHAW	2	Librarian / Data steward	14’619
Universities of teacher education			
HEP-VD	1	Open Science manager	3’000
PHGR	3	Data scientist / associate professor / head of research office	450
PH Luzern	1	Data steward	2’560
PH Zug	1	Data steward	400
Other			
Lib4RI	1	Project manager	

Table 3. Participants to the focus groups per institution

3.2 Results

3.2.1. RDM training offers

Training design and delivery

Before zooming in on the communication frameworks between staff involved in RDM training and those engaged in data stewardship – or more broadly, among personnel performing varying RDM-related tasks – it is essential to understand the kinds of training offered at Swiss HEIs. RDM training varies significantly in format, scope, and content.

The scope, depth, and thematic coverage largely depend on resources allocated by each HEI. This, in turn, appears to correlate with institutional size and, arguably, the overall research orientation of the HEI. Consequently, federal and cantonal universities generally have more staff available for RDM-related activities. Responses to the survey’s question *'Are you teaching and/or organising RDM training/courses at your institution?'* illustrate this trend in Figure 4:

[1] As self-reported in the questionnaire survey

[2] https://www.studyinswitzerland.plus/ : website powered by swissuniversities, accessed 25.05.2025

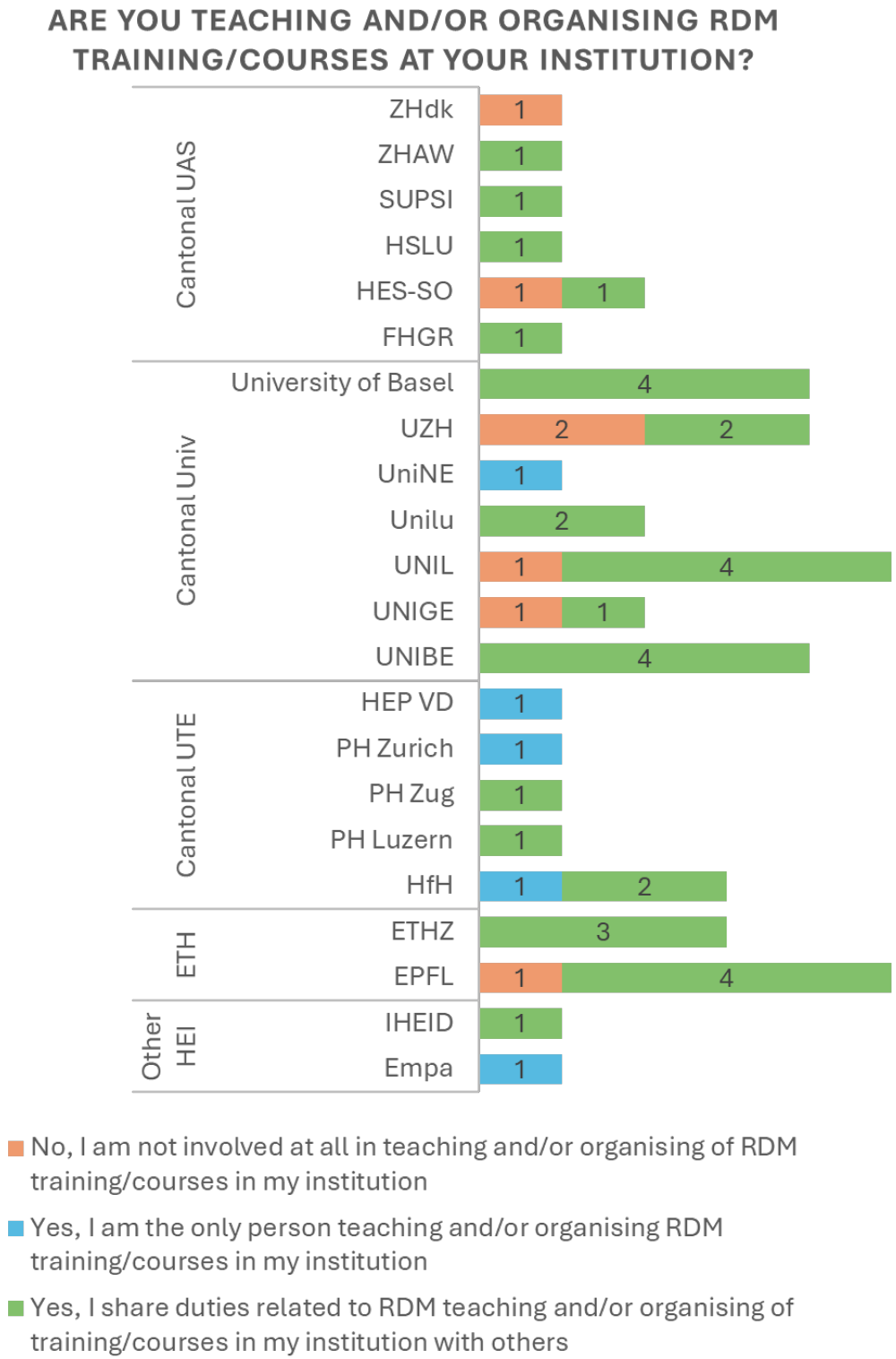

Figure 4. Are you teaching and/or organising RDM training/courses at your institution?

As can be seen in Figure 4, representatives from the Universities of Basel, Bern, Lausanne and Zurich, as well as the two ETH mainly stated that they shared RDM teaching duties with others, while UniNE and three teacher training institutions, e.g. PHZH, HEP-VD and HfH, have only one person involved in RDM training activities.

The expectation, therefore, was that larger HEIs would offer a more diversified and strategically coordinated portfolio of RDM training, whereas smaller HEIs would act in a

more ad-hoc manner. The focus group interviews, however, showed that this assumption is only partly correct.

All HEIs represented in the interviews do offer some form of training on general RDM topics such as FAIR principles, metadata, and legal issues. The formats, however, differ. The most significant share of training is delivered on request. Indeed, all institutions represented in the interviews provide on-demand training. The various offered formats range from brief 15-minute inputs to extended workshops. Thereby, content may be generic or tailored and adapted to a specific audience. Many interviewees noted that on-demand training is often customized to address discipline-specific issues and challenges. While this type of training is a continuous offer at most HEIs, it is often the result of earlier contacts between RDM staff and researchers, such as support sessions or consulting.

Regular, pre-scheduled training sessions on general RDM topics do exist, but they are not standard across the board. They are offered mainly by larger HEIs – federal and cantonal universities – which have both the resources and the demand resulting from sizable researcher and graduate-student populations. For example, ETHZ and EPFL each run several annual workshops or modules on RDM and ORD topics; ETHZ additionally offers a one-week summer school dedicated to these topics.

Only rarely is regular training embedded in curricular frameworks – typically within doctoral programs. In some cases, focus workshops or block seminars for PhD students grant ETCs credits (e.g. at UNIGE); in others, RDM training is part of transferable skills programs (e.g. University of Basel). However, systematic integration of RDM training into PhD programs remains limited. More commonly, sessions are incorporated informally into postgraduate training, arranged bilaterally with program coordinators. No institution reported mandatory RDM training.

Smaller HEIs – particularly universities of teacher education and universities of applied sciences – lack the resources to provide regular RDM training on their own. In some cases, inter-institutional collaborations mitigate this limitation. PHZH, HfH, BFH, Unilu and PH Zug jointly design and deliver a series biannual lunchtime lectures. These sessions are publicly advertised and open to all. Notably, this collaboration was initiated with funding from swissuniversities PgB grants.

The audience

The target audience varies by HEI type. At federal and cantonal universities that run PhD programs, Phd students as well as early-career researchers form the main user group of RDM services. Universities of applied sciences report a relatively even distribution across different career stages.

RDM training for BA and MA students remains a peripheral activity. Some interviewees (FHGR, University of Basel, PH Zug, UNIGE) reported occasional involvement in teaching at these levels - usually, however, on an ad-hoc basis. Some interviewees mentioned their active efforts to embed RDM in curricula:

> "*We are trying to incorporate RDM training into bachelor and master curricula. And for the time being, it takes the form of good practices when dealing with laboratory notebooks and using the electronic laboratory notebook*." (representative of a cantonal university)

A particular case is the FHGR, where lecturers in information sciences teach principles and techniques of data management; given the nature of the study field, this training can be viewed as discipline-specific rather than general. That said, several interviewees, especially those from the ETH domain, observed that elements of data management are addressed as part of basic research-methods and skills training in BA and MA curricula.

Training approaches
While general (pre-scheduled) training might be expected to cover the full data lifecycle, most interviewees acknowledged a focus on data management planning (e.g., DMPs), compliance with the FAIR principles, documentation, metadata, and licensing. However, at some institutions (e.g., ETHZ and ZHAW), RDM staff also contribute to training or coaching on data processing and analysis. Discipline-specific topics – such as working with qualitative data, managing lab notebooks, or running Laboratory Information Management Systems – are not typically the primary focus of pre-scheduled training, and are usually handled on request.

It is important to note that, depending on topic and format, different staff take the lead, as elaborated in the following section.

3.2.2. RDM trainers

The questionnaire showed that RDM-related functions are distributed across various professional roles within HEIs (Figure 3). Consequently, both surveys and interviews capture diverse professional perspectives and demonstrate the flexibility and different strategies with which HEIs choose to support the implementation of RDM and ORD.
This diversity shown in Figure 3 was mirrored by the participants of the one-to-one and focus group interviews. Yet, differing professional designations do not necessarily correspond to distinct task profiles. Thus, the focus group interviews demonstrate that many activities typically linked to data stewardship – such as support, consultancy, and data curation – as well as those associated with RDM training – training sessions, workshops, learning modules – are often assumed and performed by the same individuals. This pattern appears consistent across HEI types. It suggests that staff in central service units such as libraries or research offices usually organize and often deliver RDM training. The same individuals also act as main contact for RDM support requests.

These core teams collaborate closely with central scientific IT services, which maintain key tools and provide in-depth technical support. The degree of formalization of this collaboration varies: some HEIs work together ad-hoc; others maintain ongoing exchange. At ZHAW, for example, the central unit responsible for RDM support and training comprises staff members from the library, IT services, and the R&D unit of the president's office. Legal services at HEIs also represent an important group involved in providing expertise and support on data-protection and intellectual-property issues.

Especially within larger HEIs, roles and responsibilities are frequently shared and distributed between central services and staff members of faculties or departments. While this appears to be a general trend, it is worth zooming in on certain examples to illustrate how this works in practice. At UNIL, ETHZ, and the University of Basel, central RDM units are responsible for coordinating data stewardship activities and organizing general RDM training. In these institutions, faculties – and in Basel, even individual

departments – support data stewards (or similarly labeled positions) who deliver more tailored, subject-specific training. Depending on the size and resources of the faculty, data stewardship may constitute full-time positions; more often, however, these roles are subsumed under broader support or management positions, thus tied to permanent posts. At ZHAW, similar decentralized roles are held by academics (researchers and lecturers) who allocate up to 0.2 FTE to RDM.

In all these cases, the central units coordinate activities with these decentralized actors. However, the interviewees emphasized the difficulty of identifying and systematically tracking RDM related activities at faculty or department level. New contacts with personnel engaged in RDM related activities often arise incidentally; in fact, many resources dedicated to RDM support or training can be assumed to remain undocumented – especially since the boundary between RDM and research activities is relatively blurred.

As regards the distribution of different types of training, it can be observed that central library units typically provide general RDM training. Exceptions include technically demanding sessions that require IT specialists as well as in-depth workshops on the legal granularities of data protection and intellectual property laws that involve legal offices. However, particularly at smaller HEIs, legal services are often under-resourced to assume this task. In such cases, institutions occasionally engage external consultants, such as CCDigitallaw, to deliver workshops and specialised training.

Discipline-specific training is typically delivered by faculty-staff or faculty-based data stewards. Joint sessions between central RDM staff and faculty-based data stewards have been described by the interviewees as particularly fruitful, as they combine general frameworks with context-specific application.

3.2.3. Communication practices

As Figure 5 shows, the questionnaire revealed inconsistencies in responses from the same institutions. For instance, some respondents reported that RDM training is offered, whereas colleagues indicated the opposite or expressed uncertainty.

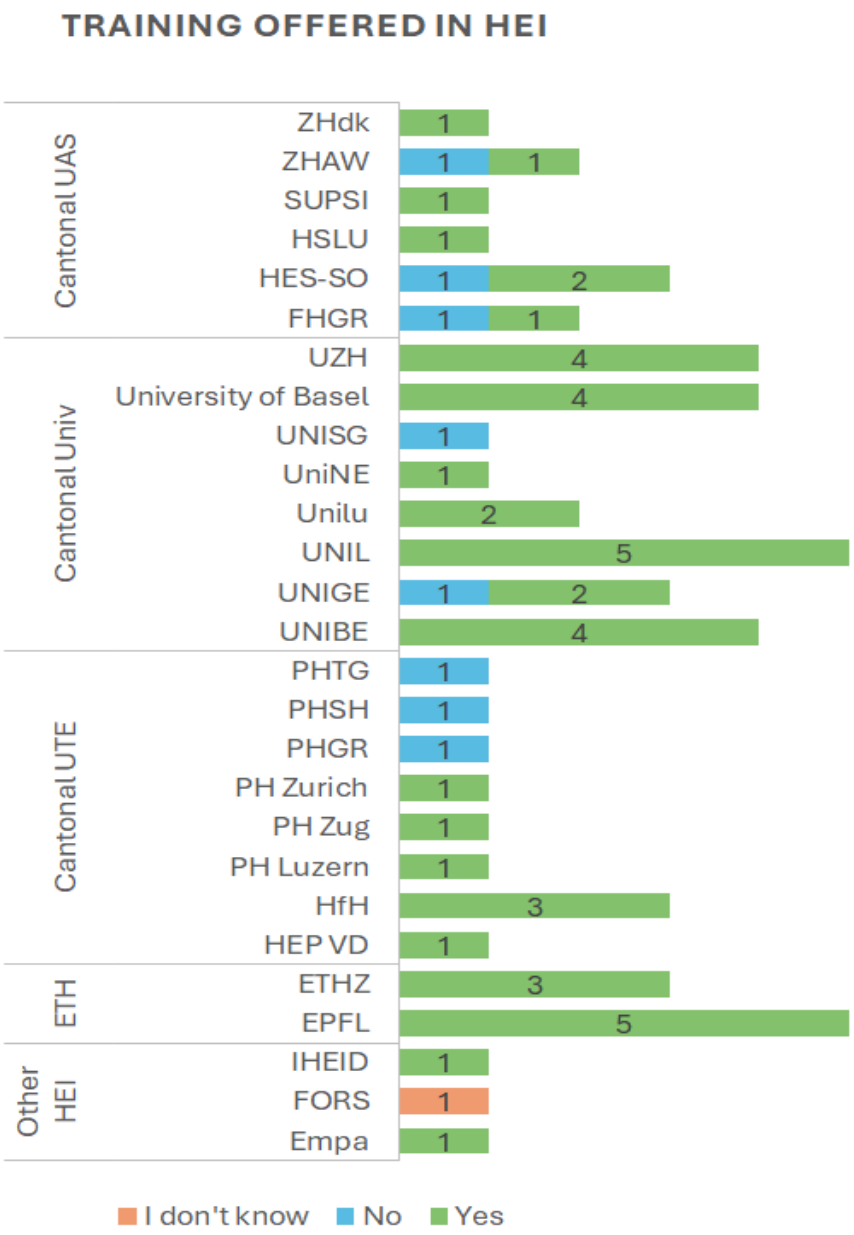

Figure 5. Training offered in HEIs

Such discrepancies raise questions about staff awareness of institutional RDM strategies and about the dissemination of information about RDM training opportunities. They also highlight possible issues with internal communication and the complexity of identifying the roles of RDM actors. To better map these issues, the following section provides insights into the state of communication gleaned from the focus group interviews.

Given the overlap between central RDM units – particularly where there are central RDM units, decentralised data stewardship and faculty RDM staff – it is important to understand the communication practices between these actors. In the case of both smaller and larger HEIs, the findings show that challenges exist at the two main types of communication: (1) intra-institutional (internal) communication, and (2) inter-institutional (external) communication.

In smaller HEIs internal communication occurs chiefly between the central RDM unit and (a) IT or legal services and (b) academic staff involved in RDM related activities. In larger HEIs, it also includes (c) decentralised data stewards, and (e) faculty staff. Regardless of the size of the HEIs, the findings from the focus groups and individual interviews reveal a communication ecosystem around RDM-related training that is largely informal and reliant on personal networks.

In addition, the informal and personal network-based communication ecosystem seems to reflect a lack of overarching visibility and understanding of discipline-specific RDM training in larger HEIs, while smaller HEIs seem to be better informed and more involved in what is happening at the academic level.

Internal (intra-Institutional) communication

Smaller HEIs

Representatives of smaller HEIs rarely mentioned the existence of central RDM units. Instead, training responsibilities often rest with a few individuals (e.g., HEP-VD, HfH, PH Zug). At the same time, the institutions' compact size affords good visibility of RDM activities. Individuals at smaller universities of applied sciences and universities of teacher education reported to act both as facilitators and information nodes; their interconnectedness enables them to be well informed about training initiatives for researchers. Collaboration within these institutions, i.e. with IT, legal services and academic staff involved in RDM, tends to rely on informal, interpersonal channels rather than structured processes:

> "*We are two people who do the support and the training regarding R and RDM. And the whole thing is often unofficial. Luckily, in our team is the head of the R&D department, so we can easily disseminate information and it's going via WhatsApp group."* (a university of teacher education)

Much of the collaboration and communication thus remains informal, driven by few key individuals or professors without consistent coordination. As one participant noted:

> "*We mostly know what's going on with regards to formal training for the researchers, but a lot of it is informally organized by the institutes themselves on an individual basis. So that's something we're not directly involved with and we're not yet tracking centrally.*" (a university of applied sciences).

Larger HEIs

From the perspective of larger institutions, especially in the case where central units coordinate decentralized data stewards, some have begun experimenting with more structured collaboration models:

- ETHZ maintains a data steward network that meets twice a year;
- UNIL convenes monthly meetings between central services and faculty representatives;
- University of Basel maintains a data steward network spanning all faculties (but not all departments);

- ZHAW holds quarterly panel meetings involving central RDM staff and academic RDM specialists from the departments.

As noted in the previous sections, RDM central units generally provide training on general topics; when it comes to technical training or legal issues, central RDM units indicate strong collaboration with experts. For instance, the ETHZ bi-annual workshop series was created in close cooperation with specialists. The interviews suggest that communication and workflow with such expert units are well established at the two federal technical universities, at most cantonal universities, and at the larger universities of applied sciences.

Collaboration tools

Similarly to the survey results (Figure 6), almost all interviewees mentioned using the usual collaboration channels to organise and facilitate internal communication, such as face-to-face meetings, the Microsoft Teams channel and coffee chats. That said, several interviewees agree that the collaboration and communication remain informal, largely based on personal relationships. As mentioned by several interviewees, there are no dedicated channels to coordinate RDM training activities.

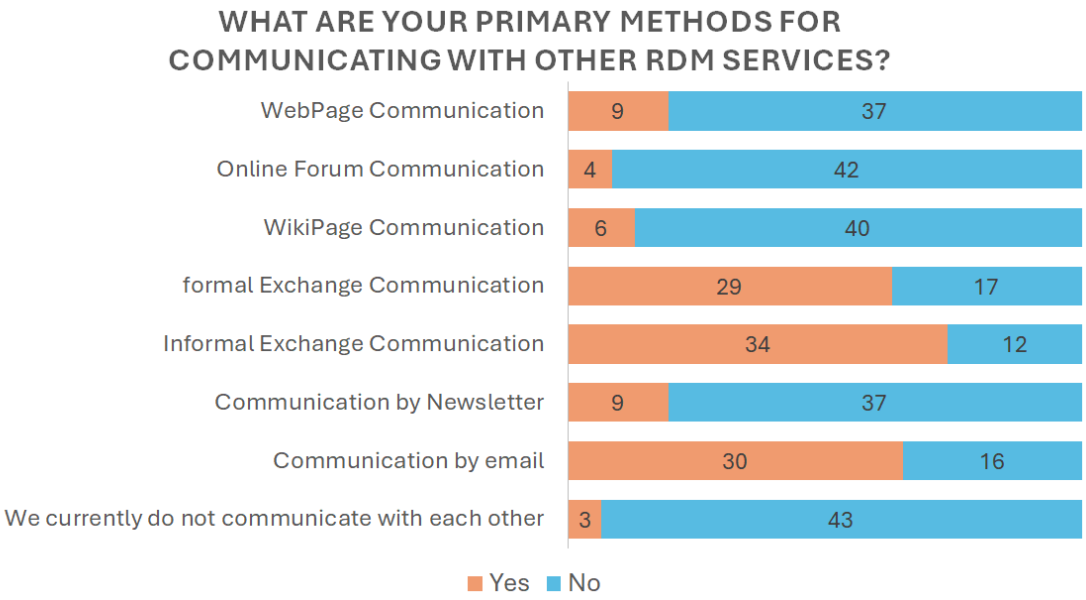

Figure 6. Primary methods for communicating with other RDM services

Despite their efforts, the interviewees note that most of the communication within the institution is still concentrated within the central units, while maintaining links with faculty and departmental members proves more challenging. Most institutions, especially those with decentralised data stewards (University of Basel, UNIL, ETHZ, ZHAW), seem to have a certain overview on ongoing RDM activities. Still, they agree that they cannot know everything, especially when it comes to discipline-specific RDM, or curricular teaching at BA and MA level. Several participants acknowledge that visibility is often limited to clearly identified, centralized initiatives, such as officially labelled RDM courses, but many activities, such as informal mentoring or integration into disciplinary methods teaching, remain hidden from central units. Well-established RDM actors express uncertainty or describe their awareness as anecdotal, shaped by existing

personal networks rather than institutional mechanisms. As one participant put it, the complexity and opacity of the landscape resemble a set of nested “Russian dolls” layers within layers that are difficult to map.

Inter-institutional (external) communication

Smaller HEIs
Smaller institutions seem to be more proactive in establishing contacts and collaborations with peers outside their own institutions. PH Zug, for example, maintains regular exchanges within a working group of five universities of teacher education and universities of applied sciences. However, these interactions tend to be informal and involve only a small number of institutions.

Larger HEIs
In contrast, large institutions report minimal inter-institutional communication outside of structured national initiatives such as SRDSN or the CAS in Data Stewardship. These networks appear to be primarily for coordination purposes and are not widely used for regular peer exchange.

Some participants express a desire for more inter-institutional dialogue, especially between similar types of institutions, to reduce redundancy, align approaches and overcome regional and linguistic fragmentation. According to some respondents, there is a perceived risk that each institution will "invent its own flavour" of RDM, leading to inefficiencies and lack of standardisation.

3.2.4. Further considerations resulting from the interviews

The results also highlight additional challenges identified by the interviewees. Among these, three challenges have retained our attention:

- the difference in needs between 'applied' and general institutions;
- the need for more regulation;
- the need for more representatives of OS and RDM.

The needs and perspectives of universities of applied sciences regarding OS and RDM seem to diverge significantly from those of traditional research universities. As noted by interviewees, researchers in these institutions often operate at the intersection of academic inquiry and industry collaboration (ZHAW). This dual positioning creates tensions when current discussions around OS and ORD remain overly academic and detached from practical applications. Interviewees emphasized the value of engaging more actively with open innovation models and fostering openness in industry-adjacent research. Addressing this specific context – where openness must balance with confidentiality and commercial interest – is essential to motivate researchers at universities of applied sciences and build more inclusive, relevant strategies for ORD.

According to interviewees, the current decentralized landscape in Switzerland – with its linguistic, cantonal, and institutional diversity – may amplify fragmentation in how ORD is implemented. Interviewees from smaller institutions highlighted the need for stronger cross-institutional coordination, especially among similar types of organizations such as

universities of applied sciences and universities of teacher education. For some focus group participants, more intense collaboration could not only improve consistency and visibility but also provide greater collective influence in shaping national policies. There is a shared call for the development of institutional standards, clearer internal processes, and formal expectations (e.g. via policy or regulation) that go beyond funder compliance.

Finally, several interviewees also highlighted the importance of bottom-up dynamics in advancing OS and RDM practices. They argued that disciplinary communities, both national and international, play a key role in shaping norms and fostering genuine engagement among researchers (FHGR, EPFL). Rather than relying solely on top-down mandates, institutions should better support and integrate the momentum already present in these networks.

3.3 Key findings of the Swiss landscape analysis

The analysis of the Swiss landscape reveals a diverse and fragmented institutional environment in terms of RDM training offers, the actors involved and their communication practices. Based on a survey and in-depth interviews, the findings highlight both institutional diversity and common challenges in the organisation, delivery, and coordination of RDM-related activities. These result in five main observations described below:

RDM training is offered across institutions, but with unequal scope
Most HEIs offer some form of RDM training, but their scope and frequency vary significantly. Overall, larger institutions (e.g. federal and cantonal universities) offer more structured, frequent, and diverse training, often coordinated by central RDM units. As a contrast, smaller HEIs, notably universities of applied sciences and teacher education, typically provide on-demand training with limited resources, sometimes through inter-institutional collaboration. The most common RDM topics covered by the institutions tend to remain general (e.g. DMPs, FAIR principles, metadata, legal issues).

Training formats and audiences vary
Training activities range from short presentations to extended workshops, and are often provided on demand and tailored to specific audiences. Most larger institutions offer regular training (e.g. workshops, summer schools) but these remain optional. The primary target audience is PhD students and early-career researchers, although it also spans across career stages to include more advanced researchers.
Overall, RDM training is rarely integrated into formal curricula, especially at BA and MA levels, though some initiatives exist at the doctoral level.

RDM-related roles are varied and frequently overlapping
The survey and face-to-face interviews confirm that a wide range of professionals are involved in RDM-related activities, including data stewards, IT specialists, data librarians and legal experts. While some collaborations across roles exist (e.g. networks or regular coordination meetings at ETHZ, UNIL, Basel, and ZHAW), the interviews showed that there is often an overlap between professionals providing RDM support and RDM

training. The same individuals indeed often provide both training and personalised support.

Little collaboration between central units and faculties RDM professionals
In larger HEIs, collaboration between central units and faculty-based or decentralised data stewards is established to varying degrees. While overall there is little collaboration, some institutions such as UNIL, ETHZ, ZHAW, and the University of Basel have developed structured networks or regular meetings to facilitate coordination. However, even in these settings, many discipline-specific activities remain difficult to identify and track, and are often not centrally documented.

Communication is mostly informal and person-based
Both intra- and inter-institutional communication around RDM training is largely informal and relies heavily on personal networks and individual initiative. In larger HEIs, communication between central and decentralised actors is more challenging, and many activities (especially at the faculty level) remain invisible to central services. Smaller HEIs on the other hand often achieve good visibility over RDM activities despite limited formal structures due to their compact size.

Structural and strategic challenges
The interviews reveal three interrelated, cross-cutting challenges affecting the development and implementation of RDM practices across institutions.

First, there is a noticeable divergence in needs between general research universities and universities of applied sciences. The latter, in particular, often struggle to align with narratives that are perceived as overly academic and insufficiently responsive to the realities of practice-oriented or industry-collaborative research. This misalignment can hinder engagement and limit the perceived relevance of RDM initiatives within applied contexts.

Second, many participants express a clear demand for more structured regulation. They highlight the need for institutions to provide clearer processes, defined standards, and explicit expectations around RDM responsibilities and training requirements. In the absence of such frameworks, support efforts often remain fragmented and dependent on individual initiative.

Third, the issue of formal representation and visibility emerges as a significant concern. Interviewees note a lack of institutional figures actively championing RDM, particularly within smaller or more applied institutions. This absence can weaken strategic coordination and reduce the visibility of RDM stewardship and RDM training within broader institutional agendas.

To overcome these challenges, the interviewees underscore the value of bottom-up dynamics. Disciplinary communities were repeatedly cited as powerful drivers of progress in RDM.

4. Conclusions

In the wider international and Swiss academic landscape, communication and collaboration between RDM support professionals and RDM trainers remains uneven, driven by institutional capacities, cultural sensitivities, and the emerging phase of both functions. While some institutions have taken steps toward formalising the interaction between support and training roles, in many cases these remain blurred. Limited resources, overlapping responsibilities, and evolving institutional strategies contribute to this ambiguity, often resulting in uncoordinated and fragmented support for researchers. This can be particularly problematic when addressing more specialised or discipline-specific RDM needs.

Nevertheless, it is increasingly clear that effective and structured communication between RDM support professionals and RDM trainers is critical for identifying researcher needs, aligning training content with practical support, and ensuring coherent service delivery. To enable this, institutional support and sustained funding – complemented by a coherent national framework – are essential. Without coordinated investment at both institutional and national levels, the development of a shared framework for communication and collaboration between support and training functions will remain fragmented and ad hoc. As institutions in Switzerland and beyond continue to develop their RDM infrastructures, there is growing recognition of the importance of clearly defined roles, coordinated efforts, and the strategic use of existing networks. The next section outlines the key needs identified through this analysis and proposes concrete recommendations to address them. While not exhaustive, the following recommendations are based on real examples and solutions adopted in response to challenges in different institutional contexts in Switzerland and abroad.

4.1 Identified needs and recommendations

Distinction between RDM support and training roles

Across both Swiss and international contexts, RDM support professionals and RDM trainers often find their duties overlapping. Data stewards are expected to guide researchers through policy compliance and data management planning, but they also frequently deliver hands-on workshops or one-on-one consultations. Conversely, RDM trainers are called upon to provide ongoing advisory support during a project's lifecycle or dedicate their expertise in delivering specialized training which is discipline- or community-specific. This conflation stems in part from the recency of the RDM sector: roles have grown organically to meet immediate researcher needs, and staffing remains limited. Until institutions carve out distinct career paths, with dedicated time and resources for each function, the dual nature of these positions will persist – potentially leading to gaps in both strategic oversight and practical skill-building. This can be addressed in a gradual way by making distinct roles explicit even if in early stages such roles are likely performed by a single person or a small team.

Many Swiss HEIs (particularly smaller institutions) are still building capacity: they may appoint a single "data champion" at the faculty level or rely heavily on external networks and workshops. Cultural factors – such as the level of researcher scepticism towards "extra" administration or data-sharing obligations – also shape how readily both sides

engage. Recognizing these differences is the first step to tailoring communication models that respect local norms while aspiring to shared best practices.

Varied communication practices across units

HEIs differ widely in their ability to support RDM. At large, well-resourced HEIs, dedicated central RDM teams, clear governance structures, and established training programs should facilitate regular dialogue between RDM support professionals and trainers when these roles are not being covered by the same people. Notwithstanding this, international HEIs face barriers to effective collaboration and communication within their RDM teams. A common challenge is structural fragmentation, where decentralized faculties and separate service units lead to silos and poor coordination.

To mitigate this issue institutions can develop mechanisms that promote cross-unit communication and shared planning, such as regular meetings, ticket systems and shared faculty-library staff positions. Also, some RDM roles such as data champions or agents often lack formal recognition and incentives, which hinders long-term engagement. Institutions can address this by introducing social incentives, such as the sense of belonging to a community of practice, for example through monthly seminar lunches.

Coordination between central and peripheral units

Within each HEI, effective RDM provision depends on a clear distinction of roles between central services (e.g., libraries, IT, legal offices) and peripheral units (faculties, research institutes) and, at the same time, a structured and formalized coordination and collaboration – possibly with documented charters – between these two worlds.

For example, our international landscape analysis showed that across institutions, RDM teams perceived low awareness and visibility of RDM services. This was the case even in institutions with signs of high demand, reflected in waiting lists for RDM training sessions. Resource constraints and understaffing reduce capacity for support and training, and institutions have adopted different solutions such as relying on European project funding or integrating RDM into faculties budget. Sometimes, this can create coordination challenges between central and faculty-based teams by unclear reporting lines. Establishing clear governance structures or shared goals are ways to mitigate coordination issues.

A matrix-style coordination model – where each peripheral unit has a designated data champion who liaises bi-monthly with central data support professionals and trainers – can ensure that local disciplinary needs feed into centrally organized, possibly credit-bearing training modules. Mapping all existing courses – both generalist and specialist – into an openly accessible “Training Catalogue” prevents fragmentation, highlights areas of overlap and creates a solid basis to design a communication framework between centralized data stewardship support and local RDM training.

In the context of the proposed framework, RDM professionals and trainers should also collaborate closely with IT services (for infrastructure, workflow automation and data security), legal offices (for licensing, compliance and data privacy), and other specialised teams (e.g., digital humanities). Establishing a “DS-IT-Legal” steering committee – meeting periodically – could ensure that technical developments (like new repository platforms), policy shifts (e.g., new funder mandates), and training needs are addressed holistically.

Structuring training pathways with credit recognition

Embedding RDM into academic curricula remains difficult due to limited authority or deeply rooted organisational structures. The analysis of the international landscape has shown that while the non-curricular RDM training offer has proven successful across all the analysed cases, RDM team members tend to favour the future inclusion of RDM training in formal education (e.g. compulsory, credit bearing courses, or RDM introduction at the undergraduate level).

It remains to be tested whether young researchers in Switzerland are more likely to engage when training contributes towards formal certifications or ECTS credits. Institutions may formally integrate RDM courses into PhD-dedicated training paths, potentially distinguishing between two complementary tracks:

- generalist RDM foundations (e.g., data management planning, FAIR principles) taught centrally and open to all disciplines;
- discipline-specific deep dives, co-delivered by central RDM trainers and peripheral data management support staff.

By weaving these tracks into coherent curricula – with prerequisites and formal credits – HEIs can create clear learning journeys and incentivize participation.

Identifying researcher needs through effective dialogue

To develop RDM competencies that truly serve researchers, RDM professionals and trainers must co-design communication channels that elicit specific pain points and skill gaps. Regular joint “listening sessions,” surveys embedded in institutional data management plan (DMP) workflows, and cyclic feedback loops after each training event can reveal where researchers struggle – whether in metadata standards, repository selection, or licensing questions. By sharing these insights in a centralized forum, both RDM professionals and trainers can prioritize content development, avoid duplication of effort, and ensure that training remains tightly aligned with emerging researcher challenges.

In addition to active data collection, such as surveys, researcher needs can also be identified through systematic documentation of RDM service usage. This can include embedding basic metrics in ticket system forms or recording common questions from training participants via an internal wiki. A research project lifecycle approach has been perceived as more aligned with researcher needs, according to some international RDM team members.

Formalizing communication channels

While informal communication methods – such as ad hoc emails and unstructured conversations – play an important role in day-to-day activities, they are not sufficient to ensure the consistent dissemination and long-term sustainability of best practices within an organization. To embed these practices systematically, a process of formalization is required.

To this end, it is recommended to establish a shared knowledge base – using platforms such as Confluence or GitBook – that hosts training materials, FAQs, and key documentation in an accessible and regularly updated format. Furthermore, the definition of service-level agreements and collaboration protocols is essential. These

should clearly specify response times for RDM professionals' inquiries and update cycles for training curricula, thereby ensuring transparency and reliability in operational workflows.

Finally, the organization of the RDM community of practice should be formalized through clearly defined roles, governance documents, rotating leadership mechanisms, and annual review cycles. Such a structured approach embeds communication and knowledge management within the institutional framework, enhancing resilience in the face of staff turnover and the evolving requirements of RDM.

Fostering peer-to-peer learning

A reciprocal “train-the-trainer” model serves as a powerful mechanism for strengthening the institutional network of research data management (RDM) professionals. In this approach, generalist RDM trainers – often based in central units such as libraries, IT services, or research offices – play a key role in enhancing the instructional capabilities of their discipline-specific colleagues. They do so by communicating ongoing developments in institutional and national data policies, compliance requirements, and open science mandates.

Conversely, subject-matter experts embedded within faculties, departments, or research centres contribute their deep technical knowledge of domain-specific data workflows, methodologies, and evolving standards for data formats and metadata. This bidirectional exchange ensures that training content remains both pedagogically robust and scientifically accurate, bridging the gap between generalist frameworks and specialized research practices.

To further consolidate this collaboration, regular peer exchange workshops can be convened, providing structured opportunities for knowledge sharing and collective reflection. These workshops can be designed to rotate leadership responsibilities between centrally positioned staff and those situated closer to the disciplinary or departmental level. This rotation fosters mutual visibility across institutional layers, helps dismantle silos, and promotes a distributed model of RDM stewardship.

Leveraging existing networks as communication platforms

A growing number of institutions share a common interest in fostering greater alignment in their RDM training and support strategies. This is especially relevant when considering the need to reduce duplication of effort, standardize messaging, and leverage shared resources across the broader RDM community.

Currently, many RDM trainers and support professionals independently develop materials, guidance documents, and training curricula that address similar challenges, such as FAIR data principles, data management planning, or compliance with funder mandates. In the absence of structured inter-institutional collaboration, these efforts often result in redundancy and missed opportunities for synergy.

Despite the clear benefits of cross-institutional collaboration, external communication between RDM trainers and support professionals across different organisations remains limited. Larger institutions are mainly connected through national initiatives such as the SRDSN or the UNIL’s CAS in Data Stewardship. However, these initiatives are not used for regular peer exchange. Smaller HEIs appear more proactive in developing informal, inter-institutional collaborations.

To avoid the risk of ‘reinventing the wheel’, institutions should tap into established national and international RDM communities – such as the SRDSN, the European RDA Chapters, or discipline-specific consortia. These networks can serve as neutral ground where data support professionals and trainers exchange guidelines, curricula, and lessons learned. A formal “RDM Community of Practice” at the national level could rotate hosting duties among Swiss cantonal institutions, offering webinars, shared repositories of teaching materials, and joint hackathons to refine communication workflows. A communication system that includes clearly identified contact points, regular opportunities to share knowledge between institutions, and ways to work together on building skills would help make information more transparent and encourage a stronger culture of shared learning.

4.2 Critical components of the RDM infrastructure

Based on the findings of this report, Research Data Management (RDM) support can be effectively conceptualized as a three-point framework, or triangle, in which each corner represents a critical component, or role, of the institutional infrastructure (See Figure 2). At the top sits central data stewardship, which provides overarching coordination. This includes responsibility for high-level strategy development, the formulation and interpretation of institutional and national policies, and the overall governance of RDM activities. The second corner consists of central specialized services. These are units with focused expertise – such as information technology, legal affairs, and licensing – that offer essential support in areas requiring deep technical, regulatory, or methodological knowledge. The third point of the triangle encompasses the peripheral units, which include faculty-level, discipline-specific core facilities or departmental data support staff and locally embedded training initiatives. These units play a key role in tailoring guidance and services to the specific needs of researchers on the ground, ensuring that support remains relevant, timely, and context-sensitive.

To enable this tripartite structure to function cohesively, robust communication protocols must be established and maintained. These may include shared calendars to coordinate activities and events, joint Slack channels or other collaborative platforms to facilitate real-time dialogue, and the co-authorship of policy documents or guidance materials that reflect a unified institutional voice. By interconnecting all three corners of the RDM support triangle through these mechanisms, institutions can promote transparent roles and responsibilities, efficient information flow, and a collaborative culture that supports the full data lifecycle across disciplines and organizational levels.

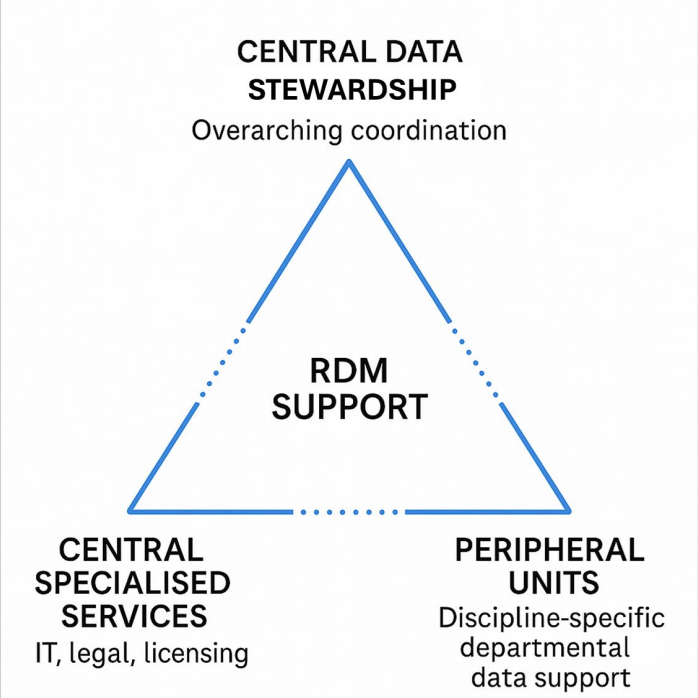

Figure 7. Critical components of RDM infrastructure in higher education institutions

5. Annexes

A.1 Literature search strategy

Search concepts

Concept 1	"data steward" OR "data officer" OR "research data management trainer" OR "RDM trainer" OR "data manager" OR "data champion"
AND	
Concept 2	Communication OR "communication practice"
AND	
Concept 3	Personnel OR support OR service OR role OR team
AND	
Concept 4	principles OR practices OR rules OR protocols OR guidelines
AND	
Concept 5	"research data management" OR "open research data" OR "open science"

Search string

"data steward" OR "data officer" OR "research data management trainer" OR "RDM trainer" OR "data manager" OR "data champion" AND communication AND Personnel OR support OR service OR role OR team AND principles OR practices OR rules OR protocols OR guidelines AND "research data management" OR "open research data" OR "open science"

A.2 References from literature

Aapti Institute. (2020). *Understanding Data Stewardship*. The Data Economy Lab. https://thedataeconomylab.com/wp-content/uploads/2020/06/Understanding-Data-Stewardship-Aapti-Institute.pdf

Clement, R., Blau, A., Abbaspour, P., & Gandour-Rood, E. (2017). Team-based data management instruction at small liberal arts colleges. *IFLA Journal*, *43*(1), 105–118. https://doi.org/10.1177/0340035216678239

Koltay, T. (2016). Data governance, data literacy and the management of data quality. *IFLA Journal*, *42*(4), 303–312. https://doi.org/10.1177/0340035216672238

Morgan, A., Duffield,N., & and Walkley Hall, L. (2017). Research Data Management Support: Sharing Our Experiences. *Journal of the Australian Library and Information Association*, *66*(3), 299–305. https://doi.org/10.1080/24750158.2017.1371911

Oo, C. Z., Chew, A. W., Wong, A. L. H., Gladding, J., & Stenstrom, C. (2022). Delineating the successful features of research data management training: A systematic review. *International Journal for Academic Development*, *27*(3), 249–264. https://doi.org/10.1080/1360144X.2021.1898399

Petters, J. L., Brooks, G. C., Smith, J. A., & Haas, C. A. (2019). The Impact of Targeted Data Management Training for Field Research Projects – A Case Study. *Data Science Journal*, *18*(1). https://doi.org/10.5334/dsj-2019-043

Subaveerapandiyan, A. (2023). *Research Data Management Practices and Challenges in Academic Libraries: A Comprehensive Review* (SSRN Scholarly Paper No. 4515473). Social Science Research Network. https://doi.org/10.2139/ssrn.4515473

Sullivan, L. (2009). *The SAGE Glossary of the Social and Behavioral Sciences*. SAGE Publications, Inc. https://doi.org/10.4135/9781412972024

Verhulst, S. G. (2021). Reimagining data responsibility: 10 new approaches toward a culture of trust in re-using data to address critical public needs. *Data & Policy*, *3*, e6. https://doi.org/10.1017/dap.2021.4

Wittenberg, J., Sackmann, A., & Jaffe, R. (2018). Situating Expertise in Practice: Domain-Based Data Management Training for Liaison Librarians. *The Journal of Academic Librarianship*, *44*(3), 323–329. https://doi.org/10.1016/j.acalib.2018.04.004

Xu, Z., Zhou, X., Kogut, A., & Watts, J. (2022). A Scoping Review: Synthesizing Evidence on Data Management Instruction in Academic Libraries. *The Journal of Academic Librarianship*, *48*(3), 102508. https://doi.org/10.1016/j.acalib.2022.102508

Yu, F., Deuble,R., & and Morgan, H. (2017). Designing Research Data Management Services Based on the Research Lifecycle – A Consultative Leadership Approach. *Journal of the Australian Library and Information Association*, *66*(3), 287–298. https://doi.org/10.1080/24750158.2017.1364835

A.3 International interview guide

Core interview questions & possible follow up questions

1. What is your role? How good is your overview of RDM services and training at your institution? How many FTE members?
2. What are the RDM services offered and by whom?
    - Do you have “data stewards”?
3. What is the RDM training offer, and delivered by whom?
    - Is there any compulsory training? Are any of them credit bearing?
4. Who are the main users or customer groups of your services?
5. Core descriptive question: Is there any communication between RDM support personnel and trainers? What is it like, if any? If they are the same people how did this come to be? Internal and External communication.
6. Assessment: What works well? What could work better? Possible follow up:
    - To what factors do you attribute these results?
    - University or country level?
    - Low or high resources: How many FTE members do you have in your team. In your view, are the resources enough? Dedicated funding? Depend on external funding?
    - Problems: How did you solve them?
7. If you had to make suggestions to Swiss universities, what would you say? What would you test?

A.4 Data extraction of international interviews

Variable\Interview	University 1	University 2	University 3	University 4	University 5
Job Title	I am in charge of the program for data management services at my institution.	I am an information specialist at the [HEI NAME] University research services	We are trainers for the research data and software support team at the library,	My role officially is called the Research Data Coordinator.	I am currently the Data Steward Coordinator at my institution.
Overview of RDM services and training	This program is situated within the libraries, extends across the institution as a whole. I'm touching on all departments, labs, centers, as well as coordinating efforts across the administrative offices of the institution.	In my team, there's also a data advisor who is kind of in charge of the research data management related things	We work closely on providing training.	A big part of that role is ensuring that research data management training and service is covered within the university.	Our RDM service has a centralized part consisting of two repositories and support staff belonging to these repositories. We also have a decentralized data steward network where the data stewards are embedded at faculties.

Team structure/organization and dependencies	Within the data management team, we should have a few positions from our department, the data management services, data specialized services department. We also have a representative from our liaison librarian. So representing the discipline specific knowledge that they bring into these data spaces. We also have represented on the team, our manager for our institutional repository. We also have representatives from our digital preservation group. So we have a digital archivist who is also part of our group.	There are seven members of my team who work with RDM. The data advisor works full time with RDM stuff, but no one else does that full time.	We have a head of department. And the head of department supervises a few teams. One of these is our team, the RDS training team. We have trainers, a training coordinator, a training assistant, and an education advisor.	We are part of the university library which is the central library. Within that, we are part of digital services.	The data steward team itself belongs to the larger unit called Research and Publication Services, which is one of the three big units of the university library. Within our data steward team, currently we are five people. Four data stewards, one coordinator.

	And then the final member of our team is a representative from our library's digital library services.				

Main users or customer groups of services	The usual people who show up to our workshops tend to be grad students or researchers, like lab managers. For our consultation services, again, anyone is welcome to take advantage of them. For people who are like, I need to get my stuff in order. How do I organize my files? Those are grad students. For people who are like, I need to submit my data management plan. Oh, in two days. So could you do something to help me? Those are usually faculty.	Researchers who have received funding, because then they usually have more structured requirements or like, because if they receive certain types of funding, then they are required to create a data management plan.	PhD candidates and early career researchers.	PhD students with supervisors that are not clued up on RDM. We get a lot of queries from qualitative departments or people within STEM doing qualitative work.	There is a central service email for general RDM requests and everything that does not belong to an area of a faculty where we currently have a data steward.

Library based team?	Yes, it sits within the libraries. It's part of the library services.	No, actually. Usually, I know that usually that's how it goes, but in [HEI NAME] University, the [...] team is not part of the library team.	Yes, we are part of the library.	Yes, we are part of the university library which is the central library.	Yes, research data management is mainly being handled by the university library.
Number of FTE members in team	There should be two full-time people on this team. Myself, the person who should report to me. That position is currently unstaffed so they're both just me. And then all of the other people are there as voluntoldish people. So their participation is not necessarily formalized.	There are seven members of my team who work with RDM. The data advisor works full time with RDM stuff, but no one else does that full time.	All the trainers are full-time. The assistant trainer and the educational advisor are working part-time. The training coordinator is full-time as well.	Research data is three full-time equivalent members.	Currently we are five people. Four data stewards, one coordinator. We will hire four new data stewards this year and four new data stewards next year.

Funding structure details	This program is situated within the libraries, extends across the institution as a whole.	"From what I know, my team used to be part of the library services, but it was changed some years ago, [...] I think the problem that everyone has is trying not to be too far away from the practical side of things."	We have a three-year project on extending, updating, escalating, upscaling the RDM 101 and to create new courses within.	We are part of the university library. [The university] Press funds our forums. Each forum maybe we spend maximum of 500 to get lunch.	The financing is co-handled by the library and the faculty.
RDM services offered and by whom	We do workshops and teaching along with the workshops that you see on our website, also participate in software carpentries.	We offer a twice a year webinar series at the moment that is publicly available so anyone can join. Most of the training in the webinar series is offered by the author data agents.	We provide training such as research data management 101 (RDM 101), Personal Data in Research and Human Subjects, etc.	We manage a repository. We run training. We offer mandatory free training as part of the research development, so our library skills. We also have bespoke training for departments or units.	We have a centralized part consisting of two repositories and support staff belonging to these repositories. We also have a decentralized data steward network where the data stewards are embedded at faculties.

Data stewards or the like	Data stewards tends to be more of a European term.	So we try to have at least one data agent for each school and for some schools we have two or three even and they preferably are from different departments of those schools and some of our data just have also been kind of volunteering so they are not they don't get paid for that and those have usually been doctoral researchers	We work closely with Data Stewards because they are the people we recommend PhD candidates to contact when they have questions regarding their data management plan or their research.	We have data champions, which is a very important community for us. It helps us fill the gaps of knowledge, and it's a large community.	Our data stewards mainly do consultation on a one basis, on a group basis.

Role of data stewards	This is to an extent kind of what the liaisons within the team are meant to do is to approach that with, approach the data with some aspect of disciplinary familiarity of that type of thing.	So that's why we have the data agents who are kind of more involved and they know kind of there's sort of more field specific things regarding their research areas.	The data steward helps the researcher dealing with the management of their data, dealing with consortium agreement, ethics approval, etc.	Data champions help with particular queries which require expert knowledge. They are an extension of the Research Data Service.	Our data stewards mainly do consultation on a one basis, on a group basis. They are doing needs assessment, trying to collect the needs of the researchers and bringing them to the central services so they can further develop based on the researchers' needs. All of them are developing and conducting training.
RDM training offer and delivered by whom	The training topic, the training is offered by members of the data of our team, and is the primary branch there.	We offer a twice a year webinar series at the moment that is publicly available so anyone can join. Most of the training in the webinar series is offered by the author data agents.	We provide training such as research data management 101 (RDM 101), Personal Data in Research and Human Subjects, etc.	We deliver RDM training in the university. The training is delivered by me and the RDC. We also have bespoke training for departments or units.	We have a general course on which research data management services are offered at the University of [HEI NAME], including a small introduction to research

					data management. We have a data management plan course. We also have a general course that is RDM for PhD students.
Compulsory training	There is no compulsory training	There is this ethics course that is now mandatory to all doctoral researchers and this is new and the people hosting that are involved in the data agent network and the open research network.	Only one faculty has mandatory RDM course, but the rest don't.	Some training is compulsory, such as the Research Methods Program and doctoral training for engineering.	Only the RDM for life science PhD students course is mandatory.
Credit bearing training	None of those are credit bearing.	None of the training that we organize at least is mandatory.	The RDM-101 gives two credits for the PhD students.	Some trainings are attendance-based, such as the Research Methods Program.	Only the RDM for life science PhD students course rewards one ECTS credit for the students.

Internal communication between RDM support personnel and trainers	Within data management service itself as you say, we're all the same people.	We have the support address. So from there, the tickets obviously can be assigned to different people. The data advisor does a lot of that. So it's emails. We also have a data agent Teams channel or team. The monthly data agent meetings, those are five groups. So you can either come to campus or take part via teams.	We have monthly team meetings with the data steward, the library data steward and the data steward coordinator with other services at the library.	We have some research support forums and library skills trainers forums. These are termly meetings to discuss any issues.	University-wide, we have a working group on research data management. This is where all of these groups are coming together in this working group. We have monthly meetings there. The team leads for research data management see each other once a week. The data steward team has weekly team meetings and bi-weekly one-on-ones with each data steward.

External communication and promotion of services and training offer	We do the general advertising through the library's venues. We also work with the liaisons to advertise our workshops in those areas and what other services that we offer.	We do general advertising through various channels including our website and YouTube channel where recordings are available.	Data stewards work autonomously. They have their own communication methods such as mailing, emails, rolling meeting notes, etc.	We promote our services through emails and our website. The training manager speaks to well-worked librarians, and all this training is cascaded through Rhesus Liberians or the particular different heads of the different libraries.	One way how all courses will be promoted is there's a central platform at the university where all extra curricular courses are offered. For discipline-specific courses, we advertise them by hanging up flyers in the faculties and sending out communication over the doctoral schools.

What works well? Successful stories and solutions	What I've seen work well, what I would love to see implemented is actually a better collaboration between different parts of the Institute	The best results that we are maybe kind of starting to see is actually like trying to get into the kind of maybe even the master's students already and the bachelor's students, so that then we can start to like bring up this generation of academics who already have an idea of how to or like the best practices and things that they need to consider and what are the kind of benefits also for doing that.	The first thing is the person, the human involved. We are a multicultural and multi-background team within the training that impacts positively to the successfulnes s of the courses.	It's really good to appear at the induction. The earlier you get them in their research journey, the better. Placing things in the research lifecycle seems to work well because they can grasp it better.	The advantage for the faculty is that they now have a direct link to the central services and have a dedicated person helping implement services like an electronic lab notebook. The PhD education can be considered a success story as well.

What could work better? Lessons learned	I would say communication and awareness of the services that we offer is one of the biggest challenges.	The most difficult part is reaching the researchers. A lot of researchers feel that there's like so much bureaucracy involved already within the research process. They are kind of bombarded with so many emails and so much information and kind of demands that it can be difficult to sometimes find the angle of we're here to actually help you.	There is a shortage of resources because we really want to make it even more efficient and maybe cover new courses, more advanced or like a totally different subject as well.	I think if you can afford a data champion or stewardship program, that will be good. But you have to be creative if you can't pay them. [...] More RDM funding and more investment in RDM—the better. [...] It's kind of a weird time because a lot of things are changing with AI. Some things might be offloaded to AI, which could help in some ways and not in others. But if we're moving toward machine-readable data, we definitely need more RDM.	We realized that people in humanities are not attending courses in the morning or during lunchtime because most of them just have a normal job besides doing their PhD. So we switched to having this later on the day or closer to the weekend.

Suggestions to Swiss universities	I suspect that what a successful model might be is going to be highly influenced by the institution that it finds itself in and the power structure within that institution itself.	Trying to get into the kind of maybe even the master's students already and the bachelor's students, so that then we can start to like bring up this generation of academics who already have an idea of how to or like the best practices and things that they need to consider.	Besides a central facility, meaning like a library plus digital competence center, also be closed by department or unit within the university, with its faculty that focus on data specific or software specific project might help a lot.	If you can afford a data champion or stewardship program, I think that will be good.	We want to test having online modules that can be integrated into Moodle so that in lectures it can be integrated that there is an online module on research data management.

A.4 Verbatim quotes from international interviews

Roles and team structures

“The specialised data people like me and the person who should report to me are the data specialists. But we don't know all the data in all disciplines. So we look to liaisons […]”

“So there should be two full-time people on this team. Myself, the person who should report to me. That position is currently unstaffed, so they're both just me”.

“Then all of the other people are there as voluntoldish people. So their participation is not necessarily formalised, […]. It tends to work out to around […] 10 to 15% of their time. And then for the others have 5% of their time”.

“Our liaisons dedicate a slightly larger percentage than the other members of our team, right? So oftentimes it's either me or the liaisons who are leading a training, while other members of the team will act as a backup or as an assistant to those workshops”.

“Data steward tends to be more of a European term, not one used as frequently within the United States. But most people like me that you talk to will know what you mean. […] I wish we had those. That would be great. But no one wants to fund them”.

“We’re technically a central team. […]. So there is a data governance service, there’s the open access team, there’s the ethics committee. We try to be kind of connectors.”

“We are a small team. So for research data management, it’s three full-time equivalents. [...] I lead the service, but the others are just on secondment or part-time.”

“We are under research services and not part of the library team.”

“The data steward team is rather small. It consists of a few people who are located both at the faculty and central level.”

“So we are located in the central office, and we collaborate with both the faculties and the central library.”

“There are, if I counted correctly, seven members of my team who work with RDM. [...] The data advisor works full time with RDM stuff, but no one else does that full time.”

“The Open Science and Office team is not part of the library team. [...] We are under research services.”

“The data steward team is small and located both at the faculty and central level”.

“So we are located in the central office, and we collaborate with both the faculties and the central library”.

“Our liaisons dedicate a slightly larger percentage than the other members of our team [...] oftentimes it's either me or the liaisons who are leading a training”.

“My university is very fragmented. There's not one library, but each department and each college has its own. We are part of the central infrastructure.”

“The way that things have been structured in our university has been kind of just partially due to chance. It’s not the result of a top-down policy.”

Training Offer

“The main burden of our training is that the workshops are one-off type things”.

“We have also developed a curriculum to work with a specific lab or centre that would like their members to develop more familiarity. I think it's a series of six to eight sessions that allows customisation without too much work on our part”

“Every consultation is an opportunity for training. There is no consultation where we are not teaching something, whether it's reviewing a data management plan or talking to someone about how they should organise all of the files on their computer”.

“We tend to do workshops that we've already done before in the fall, October, January, April sections and try out new ones in the July section, and if it goes well, we work on it and incorporate it into that”

“We offer a twice-a-year webinar series, open to anyone, covering basic and advanced RDM topics”.

“The doctoral orientation days happen thrice a year, where we have a small section to talk about RDM”.

“We have credit-bearing courses for PhD students and additional short workshops that are not for credit”.

“We offer a general RDM course for PhD students and topic-specific sessions like documentation and legal issues”.

“The training offer is kind of separated into different parts, depending on the target audience and department needs”.

“We also have bespoke training. Some departments invite us for PhD induction talks”.

“We always try to include some special topics. For example, webinars on visualisation of research data, export control, and generative AI.”

“We developed a curriculum that could be customised to other labs in the future that requested it.”

“A big part of being a data agent is hosting a webinar once or twice a year, but it’s not mandatory”.

RDM Service Offer

“The support address is used to assign RDM-related tickets to the right person. We have a decision chart for triage”.

“We have the email address for anything and everything, routed to legal, ethics, IT, or data agents as needed”.

“The data agents have also published some materials—e.g., handbooks on machine learning and AI—that are upcoming”.

“We do probably five to six different workshops each quarter, with October, January, April, and July as our planning windows:”.

“We externalise repository services instead of having a central institutional one”.

“We maintain a service catalogue of tools and workflows for researchers, including storage, Data Management Plans (DMPs), and metadata standards.”

“The central service email goes into the ticket system, and two people triage it using a flowchart we developed.”

Training Users

“So our workshops are open to anyone, anyone in the world. And sometimes there are more people from the world than there are from [our institution] who come to our workshops”.

“Most of our students are early PhD or early career researchers”.

“We are doing four courses a year and accept 30 participants per course”.

“Some of our data agents have also been volunteering. Those are usually doctoral researchers”.

“We often lead workshops in partnership with labs or departments who request tailored sessions”. [US]

“The usual people who show up tend to be grad students or lab managers. Sometimes faculty, but rarely undergraduates.”

“Our data agents often host the sessions, and they’re usually doctoral researchers, but some are postdocs or support staff.”

RDM Service Users

“For our consultation services, again, anyone is welcome to take advantage of them […] So for people who are like, I need to get my stuff in order. How do I organise my files? Those are grad students. For people who are like, I need to submit my data management plan. Oh, in two days. So could you do something to help me? Bless them. Those are usually faculty. So we rarely see undergraduate students”.

“We get a lot of queries from PhD students with supervisors who aren’t clued up on RDM”.

“Requests often focus on DMPs and sensitive data handling”.

“Faculty tend to contact us when close to grant deadlines”.

“Researchers who receive funding usually need more structured help, especially for DMPs”.

“Many researchers don’t even know help is available. That’s a big barrier”.

“Consultations are mostly with grad students about file organisation or DMPs, and last-minute help for faculty”.

“Sometimes it’s faculty in a panic with a funder deadline; other times it’s students just needing to know where to store files.”

“Even though we are open to everyone, we tend to see more experienced researchers because they have to comply with mandates.”

Internal communication practices

“We also have a system where we keep notes on what our experiences of delivering it last time were, if there were particular issues that showed up”.

“Within the group itself, we also employ Slack quite a bit, just as this is the tool that we use to do some of those communications in addition to meetings and email. And then we also maintain a wiki for the group itself”.

“We try to document everything so that it can be reused and improved”.

“The daily communication among the data stewards is mainly through MS Teams. Within the larger team, it's via email”.

“We do have monthly team meetings with the library data steward and other services at the library”.

“We also have a data agent Teams channel and monthly hybrid meetings”.

“The data advisor does most cross-team communication by email and Teams”.

“The forums are bi-monthly. They started slow, but over time, the conversation just spills over into ongoing collaboration.”

“We also have a shared Teams workspace for all data agents, and that has really helped people feel less isolated.”

Needs and gaps

“One of the major conversations I often have is, ‘I had no idea the library offered this service’. […] communication and awareness of the services that we offer is one of the biggest challenges”.

“There are no rewards within the funding system or within overall the scholarly system that would support investment from institutions into better funding those aspects of the research endeavour […] It's often hard to demonstrate what the return on investment is for investing in data management. How do you show that it brings in more grant dollars? How do you show that it results in better research? How do you show that it supports the reputation?”

“The most difficult part is reaching the researchers”.

“Researchers are bombarded with so many emails and demands that it’s hard to show we’re there to help”.

“We sometimes get pushback from departments with a different culture toward data”.

“We don’t have enough resources to deal with all the requests and have to prioritise”.

“We still don’t have a clear picture of how much demand there really is. Most of it is hidden until someone asks for help.”

“Despite lots of effort, RDM still feels optional to many researchers, and that’s a structural barrier.”

“We don't have an institutional research data repository. So the approach that we have taken is to externalise research data repository services. […] we want to make sure that research data finds the home that's best suited for it”.

“This is the arrangement that collaboration that I've seen work well at many US institutions where you have to have that collection of voices in the room to be heard by researchers, so it's not a constant chase of, we exist, you could be using our services. Please help us help you type of thing right”.

“No one ever shows up for the ethics training. It does not happen. […] So instead we have to sneak ethics into all of the other training sessions like the vegetable no one wants to eat”.

“The value that I think libraries bring to this working space is the understanding and appreciation of really what scholarship means over the long term. […] While the services don't need to be situated within the libraries, the libraries need to be a voice”.

“I suspect that what a successful model might be is going to be highly influenced by the institution that it finds itself in and the power structure within that institution itself”

“In some institutions, it might make sense to, you know, think about creating policies and then a team to implement those policies […]. So you might have a policy-driven type model. […] For my own institution, we are notoriously allergic to policies”.

“Trying to get into the master’s students already is something that we are doing more. It’s hard because they’re not necessarily the audience asking for RDM, but it paves the way for a better future”.

“We opened the training to everyone, not just to our university. That was the reasoning: we work in the open science team, so why couldn’t we host this for everyone as well?”

“One way that all courses will be promoted is through a central platform at the university. This helps unify the offer and ensures that PhD students can find all courses in one place”.

“We try to do [the seminar] in a different location every time to make it feel more fresh and engaging. Sometimes we offer lunch so people are more likely to join and stay through the end”.

“We started offering asynchronous versions of the training. That way, people don’t have to wait for the next live session.”

“We created a checklist researchers can follow when they approach their first big data project, like a companion guide.”

A.5 Swiss HEIs focus group and one-to-one interview guide

Core interview questions & possible follow up questions

1. Please state your institutional affiliation and profile/position within your institution
2. Does your institution deliver RDM training?
    - structured offering / on demand / project-specific
    - organisation, coordination and delivery of training (who is it delivered by? is there any sort of coordination between trainers and/or courses?)
    - what's been provided by whom for whom
    - training audience: general, doctoral schools, PG students, doctoral researchers, …
    - centralized/decentralized approach
3. Is there an institutionally established communication channel between administrative RDM professionals (Data Stewards, dedicated units/services) and RDM trainers?
    - If so, how does this channel work? What is its form? How often does it work? Who manages it?
    - How does your institution communicate/promote about the RDM training services?
    - Do you communicate/collaborate to develop training modules and bring common know-how about it?
    - What platforms or tools are currently used for communication and how effective are they?
4. Do you recognize any gap in the communication/collaboration between RDM professionals and RDM trainers when it comes to RDM training at your institution?
    - What structural or institutional changes would foster the improvement of the RDM training offered at your institution? What is the most pressing thing to change about interaction between trainers and data stewards?
    - Do you think that a better communication between admin RDM support and Researcher trainer would improve the RDM training services in your institution? If so, how?
    - What information do trainers need from data stewards to develop effective training modules?
    - How can trainers ensure that training and training content remain up-to-data with the practices in data stewardship?

A.6 Survey questions

Introduction:

For this next set of questions, we ask you to consider the following definitions:

Research Data Management Services include “providing information, consulting, training or active involvement in data management planning, data management guidance during research (e.g., advice on data storage or file security), research documentation and metadata, research data sharing and curation (selection, preservation, archiving, citation) of completed projects and published data" Fearon et al. (2013). **RDM Services providers** may have primary or secondary roles as, for example, data managers, data stewards, data champions, research support, IT support, librarians, archivists, graduate students/faculty development officers, and compliance officers.

* **Research Data Management (including ORD practices) training/courses** specifically are activities designed to equip researchers with the knowledge and skills necessary to effectively manage the data they generate throughout their research lifecycle (here we do not include training/courses in the use of specific tools). Universities and research institutions typically offer these courses to cater to the diverse needs of researchers, including PhD students, early career researchers, and more established research staff.

1. Are RDM training/courses* offered at your institution?
    a. Yes
    b. No
    c. I don't know

2. [IF option 1.a IS selected] Are the RDM training/courses in your institution delivered:
    a. Within internal university units such as the library, research support office, researcher development unit, etc
    b. Within individual academic faculties/departments
    c. Within doctoral programs
    d. By internal staff members
    e. By external providers (RDM/ORD experts)
    f. Others

3. [IF option 1.a IS selected] Are you teaching and/or organising the RDM training/courses at your institution?
    a. Yes, I am *the only person* teaching and/or organising RDM training/courses in my institution
    b. Yes, I *share duties* related to RDM teaching and/or organising of training/courses in my institution with others
    c. No, I am *not involved at all* in teaching and/or organising of RDM training/courses in my institution

4. [IF option 3.a IS selected] What are your primary methods for communicating with *other RDM Services providers* at your institution? Please choose all that apply
    a. There are no other RDM Services providers in my institution
    b. We currently don't communicate with each other
    c. Email
    d. Newsletter
    e. Informal exchanges (e.g. via telephone, video call or face-to-face)
    f. Formal meetings (e.g. via video call or face-to-face)
    g. Wiki-pages
    h. Online forums
    i. Dedicated webpages
    j. Other

5. What are the biggest challenges you face in communicating effectively with other *RDM Services providers* in your institution?

6. [IF option 3.b IS selected] What are your primary methods for communicating with other RDM trainers and other RDM Services providers at your institution? Please choose all that apply
    a. We currently don't communicate with each other
    b. Email
    c. Newsletter
    d. Informal exchanges (e.g. via telephone, video call or face-to-face)
    e. Formal meetings (e.g. via video call or face-to-face)
    f. Wiki-pages
    g. Online forums
    h. Dedicated webpages
    i. Other

7. What are the biggest challenges you face in communicating effectively *with other RDM trainers and RDM Services providers* in your institution?

8. [IF option 3.c IS selected] If you are aware of the individual or department responsible for teaching and/or organisation of RDM training/courses at your institution, please provide their name, position, and contact information.

9. [IF option 3.c IS selected] What are your primary methods for communicating with the RDM trainers at your institution? Please choose all that apply
    a. We currently don't communicate with each other
    b. Email
    c. Newsletter
    d. Informal exchanges (e.g. via telephone, video call or face-to-face)
    e. Formal meetings (e.g. via video call or face-to-face)
    f. Wiki-pages
    g. Online forums
    h. Dedicated webpages
    i. Other

10. What are the biggest challenges you face in communicating effectively with the *RDM trainers* in your institution?

11. [IF option 1.b IS selected] Does your institution plan to provide RDM training in the future?
    a. Yes
    b. No
    c. I don’t know

12. [IF option 11.a IS selected] Will you be directly involved in teaching and/or organising RDM training/courses?
    a. Yes
    b. No
    c. I don’t know

13. [IF option 1.c IS selected] Can you suggest another colleague in your institution who we could ask (name/position/contact details)?