

# Data Management Plans



Christine Davison, MBE, CIP

Associate Director, Human Subjects Protections Program

[cmdaviso@vcu.edu](mailto:cmdaviso@vcu.edu)

804-827-6090

# Learning Objectives

- Understand how Data Management Plans protect human subjects and the integrity of data
- Understand how the Data Management System requirements fit into the IRB review process
- Introduce the VCU Data Management System requirements
- Define Category 1 Data
- Understand why research studies utilizing Category 1 data must use the VCU Data Management System to develop a data management and security plan for that study
- Understand the process and resources available for classification of data



**VCU**

# Data Management Plans

# Why is a Data Management Plan (DMP) from VCU's Data Management System (DMS) Now Required?

VCU's Audit and Compliance Services implemented this requirement after conducting an audit in 2019

This requirement is **not** an HRPP/IRB requirement, it is a university requirement

DMPs are **not** reviewed or approved by the HRPP/IRB.  
DMP reviews are conducted by Technology Services in a separate review process

# What is a Data Management Plan (DMP) for research?

A **data management plan (DMP)** is a written document that describes the **data** you expect to acquire or generate during the course of a **research** project, how you will manage, describe, analyze, and store those **data**, and what mechanisms you will use at the end of your project to share and preserve your **data**.

# Why Develop a DMP?

Developing a DMP can be helpful for multiple reasons. A good DMP can help:

- **Save time and effort:** Organizing your data well from the beginning allows you to efficiently analyze your data.
- **Work more effectively with collaborators:** Deciding early on how you and others in the lab will describe and manage your data will facilitate the sharing and integration of your data.
- **Ensure reusability:** Preserve your data for easy future re-use by yourself or others by documenting your research and analyses carefully.
- **Comply with publisher and funder requirements:** Increasingly, funders and publishers may require you to have a DMP and share data openly.



**VCU**

# What Should Be Included in a DMP?

# What Should be in a DMP?

Some questions for you to think about are:

- What data will be generated in this project?
- Who will be responsible for the data at each stage?
- How will datasets need to be connected?
- What formats will be used (Excel, MySQL, jpg, etc.)?
- What information about the data will need to be captured so that others can understand it?
- Where should the data be stored and who should have access to it?
- How should the data be organized and named?
- How will the data be published or archived at the end of the project?



**VCU**

# **VCU's Data Management System**

# VCU's Data Management System (DMS)

VCU's Data Management System (DMS), hosted by Technology Services, is an educational tool and security plan management platform. Data information governance is a cornerstone to the successful operation and management of an organization, as well as being crucial to protecting the rights and welfare of human subjects.

The DMS outlines how data used at VCU must be handled, transmitted and stored

The DMS also outlines which services may be used to handle, transmit and store data at VCU

# Data Management System (DMS) Requirements

Any research utilizing Category 1 data, as defined by the DMS, must have a Data Management Plan from the VCU DMS

The VCU DMS must be used to classify all human subjects research data and determine service allowability

IRB approval will not be provided until an ***approved*** Data Management Plan from DMS has been provided

# What is Category 1 Data at VCU?

- Information protected under federal, state or industry regulations and / or other civil statutes, where if lost may require breach notification and cause potential regulatory sanctions, fines and damages to the institution's mission and reputation.  
(Confidential and Regulated data)

# What is Category 1 Data at VCU?

**In combination with individual identifiers (First name/First Initial and Last Name) plus:**

- Protected Student Educational Records (includes GPA, evaluations, etc.)
- Health Related Information-Other
- Driver's License or State ID Number
- Passport Number
- Military Identification Number

**Additionally:**

- Health Related Information-Protected (HIPAA)
- Export Controlled Information
- Etc...

**Full listing can be found at <https://go.vcu.edu/dataclassification>**

# How to Categorize Data?

Use the VCU Data Classification Tool at <https://go.vcu.edu/dataclassification>

\*Or\*

Use the **Data Types** tool at [dms.vcu.edu](https://dms.vcu.edu)

This tool will allow you to see a description of the data type, the Data Steward responsible for access and use of the associated data, and the VCU policies that apply to this data.

Additionally, you will see the specific services that are allowed and not allowed for each data type, and whether additional approval is required for a specific service.

# How to Categorize Data?

## Data Classification Tool

- Go to <https://go.vcu.edu/dataclassification>
- Check the combination of data elements present in a dataset, and the tool will present you with the classification of the selection.
- **Category 1 = Confidential/Regulated**
- **Category 2 = Sensitive/Non-public**
- **Category 3 = Public**

### VCU Data Classification Tool

RESIZE FONT  [Returning?](#)

This tool is designed to be used to determine the sensitivity of your data. Please check all applicable data types to see the classification of your combined data set.

Page 1 of

The VCU Data Classification Tool allows you to determine the sensitivity classification of any combination of data types selected from the following list. To use this tool, simply check the desired data type(s).

Following the completion of your selection(s), basic protection requirements for the specified data types will be provided to you. Please be advised that the basic requirements are the bare minimum that apply to each category of data. In order to understand the actual requirements applicable to your data, please review the [Information Security Policies and Standards](#), consult with your local IT support or consult with the VCU Information Security Office (infosec@vcu.edu).

This tool applies to data generated, collected, processed, stored, transmitted or otherwise handled by the University for its academic, research, community engagement, and administrative functions, and any third party data used by University personnel for university related business.

Select all data types that will be stored, processed or transmitted by the IT system:

- Social Security Number
- First Name / First Initial and Last Name
- Protected Student Educational Records (Grades/GPA, Evaluations, Academic Standing, Class Schedule, Disciplinary Records, Attendance Records, Medical/Health Records) - [Click here for more details](#)
- General Student Educational Records
- Employee / Personnel Records (Pay Information, Disciplinary Records, Awards, Attendance Records, Banner ID, etc.)
- Driver's License or State / Federal ID Numbers
- Credit Card / Debit Card Numbers
- Other Financial Records
- Medical or Mental History
- Medical Treatment or Diagnoses Information
- Health Insurance Policy Numbers
- Other Protected Health Information (Electronic or Paper) ([Click here for details. See also page 10.](#))
- Contract / Grants Information
- Non-Public Research and Intellectual Information
- Human Subject Research Information
- Investigative / Court Information
- Internal memos / Documentation / Reports / Code or any other non-public business documents
- Export Controlled Information (ITAR or EAR) - [Click here if you are not sure](#)
- Criminal Justice Information (Arrest records, criminal offense records, etc.)
- Sensitive or confidential information of business partners or third party individuals / organizations
- Medical Record Numbers (MRN)
- Other Regulated / Private / Protected / Confidential Information
- Passport number
- Military ID Number
- Financial account number with required access code or password

None of the above data types are in my data set

The classification of the data combination you selected is listed above. **Please DO NOT CLICK on submit.**

1/3

# How to Categorize Data?

## DMS

The **data types** are listed on the left hand-side of the screen on the DMS site. You can use the filter bar to filter your results. Click on the hyperlinks to find more information about that specific data type (e.g. Unrestricted Research Data)

The screenshot displays the VCU Data Management System (DMS) interface. At the top, there is a navigation bar with the 'DMS' logo and links for 'Catalog', 'Guide', 'Projects', and 'Data Steward'. The main content area features a 'Welcome to the VCU Data Management System' message, followed by introductory text about data governance and system functionality. A 'Data Types' section is highlighted with a red box, containing a search filter and a list of data types. The list includes: Unrestricted Research Data, Bank Account Numbers, Health Related Information - Other, Passport number, Military Identification Number, Authentication (Log-in) Credentials, FDA covered information - CFR Title 21 Part 11, Contracts / Grants Information, Copyright protected information, Covered Defense Information (CDI), Credit / Debit Card info, and Criminal Justice Information. A sidebar on the right shows a 'Data Types' list with a search filter and a 'Serv' button.

**DMS** Catalog Guide Projects - Data Steward -

### Welcome to the VCU Data Management System

Data and information governance is a cornerstone of the successful operation and management of the University. It is essential in the management of data and information within the institution. As such, it is important for VCU personnel to understand the transmission, and use of data and information.

This system is designed to provide VCU personnel with guidance on the handling, transmission, and handling of various types of information, IT resources and services offered by the University that can be used in handling various types of information. Additionally, this system provides a platform for requesters to communicate with Data Stewards. The features of this system are designed to help requesters in constructing formal data security plans, and to provide an understanding for users on how data is managed.

Listed below is the Catalog containing the Data Types and Available Services at VCU. Click on any data type to see a description of the data type, the Data Steward responsible for access and use of the associated data, the VCU policies that apply to this data, and the specific services allowed, allowed with approval, and not allowed with this data type for each of the service categories (storage, processing, transmission, and network).

Please note that this system is designed as an educational tool and management platform. Due to the complexity of data, information should work directly with appropriate Data Stewards to understand specific requirements for data management at VCU, please visit the website for the [VCU Data and Information Management](#).

For questions, concerns, and issues with the system, please contact the VCU IT Support Center at [it@vcu.edu](#).

#### Data Types

# What Services Can Be Used?

Use the **Available Services** tool at [dms.vcu.edu](https://dms.vcu.edu) to determine service allowability for data types

**Services** are the means by which data and information is managed.

Example: Research data will be stored in RedCAP (storage service), analyzed with SPSS (processing service), shared through Google Drive (transmission service), and VCU's VPN (network service) will be used

The service allowability may change depending upon the data type

# What Services Can Be Used?

The **available services** are listed on the right hand-side of the screen of the DMS site. You can use the filter bar to filter your results. Click on the hyperlinks to find more information about that available service (e.g. Unrestricted Research Data). The format of the service list is: **Service Name - Service Category (e.g. Adobe Creative Cloud - Storage)**

The screenshot shows a user interface for 'Data Steward' with a navigation bar containing 'Data Steward -', 'Configuration -', and a user profile 'jacastellani -'. The main content area contains text about information management and a search bar. Below the search bar is a section titled 'Available Services' with a search input field containing 'filter...' and a magnifying glass icon. The text explains that services are means for managing data and information, and that a filter bar can be used to select or remove service categories. Below this is a 'Service Category Filter' section with a dropdown menu labeled 'Select a Category:' and a list of services including Adobe Creative Cloud - Storage, Banner / ODS - Storage, Cloud Service Provider (Not including Storage provider) - Storage, Compile Computation Server - Processing - Processing, DropBox - Storage, eJobs - Storage, Encrypted flash drive / Ext HD / Tape - Storage, HireRight - Processing, HireRight - Storage, Home / personal wired or wireless network (Over VCU VPN) - Network, and ISILON - Storage.

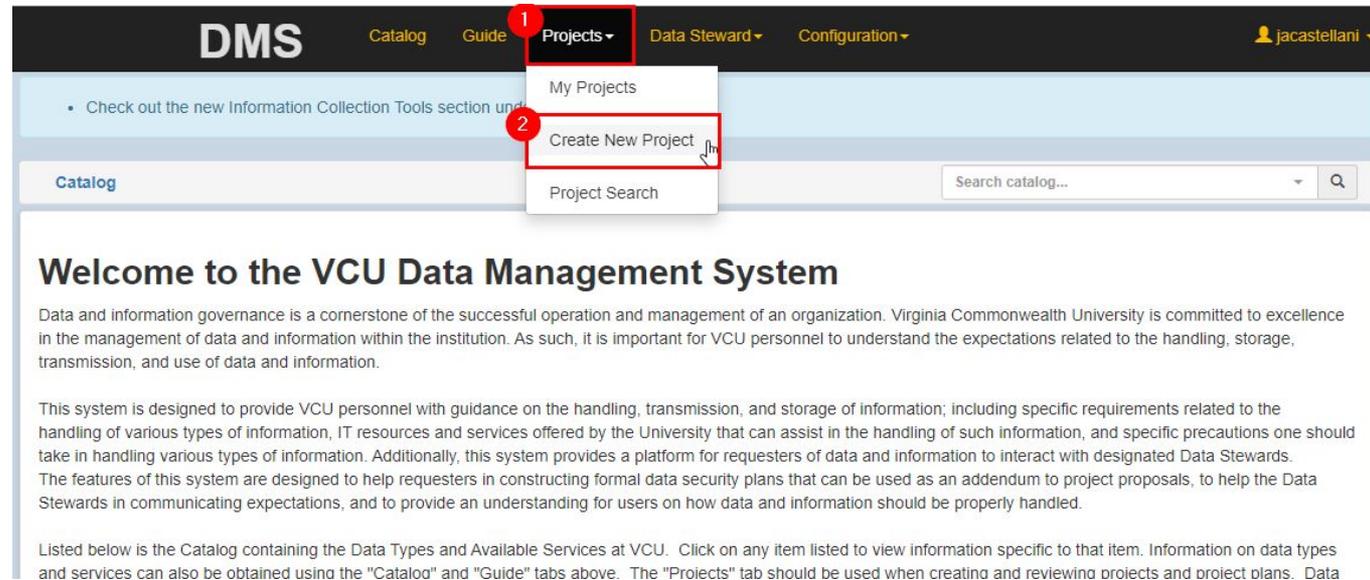


**VCU**

# **How to Create a Data Management Plan with the DMS?**

# How to Create a Data Management Plan with the DMS?

Use the **Project** tool at [dms.vcu.edu](https://dms.vcu.edu) to create a Data Management Plan for your protocol when using Category I data



The screenshot shows the DMS (Data Management System) interface. The top navigation bar includes 'DMS', 'Catalog', 'Guide', 'Projects', 'Data Steward', and 'Configuration'. The 'Projects' menu is open, showing options: 'My Projects', 'Create New Project', and 'Project Search'. A red box highlights the 'Create New Project' option, and a red circle with the number '2' is next to it. Another red circle with the number '1' is next to the 'Projects' menu item. The main content area displays a welcome message: 'Welcome to the VCU Data Management System'. Below the welcome message, there is a paragraph of text: 'Data and information governance is a cornerstone of the successful operation and management of an organization. Virginia Commonwealth University is committed to excellence in the management of data and information within the institution. As such, it is important for VCU personnel to understand the expectations related to the handling, storage, transmission, and use of data and information.' Another paragraph follows: 'This system is designed to provide VCU personnel with guidance on the handling, transmission, and storage of information; including specific requirements related to the handling of various types of information, IT resources and services offered by the University that can assist in the handling of such information, and specific precautions one should take in handling various types of information. Additionally, this system provides a platform for requesters of data and information to interact with designated Data Stewards. The features of this system are designed to help requesters in constructing formal data security plans that can be used as an addendum to project proposals, to help the Data Stewards in communicating expectations, and to provide an understanding for users on how data and information should be properly handled.' A final paragraph states: 'Listed below is the Catalog containing the Data Types and Available Services at VCU. Click on any item listed to view information specific to that item. Information on data types and services can also be obtained using the "Catalog" and "Guide" tabs above. The "Projects" tab should be used when creating and reviewing projects and project plans. Data

Step-by-step instructions for creating a project, as well as a guidance video, are available from [Technology Services](#).

# Creating a Data Management Plan with the DMS

Each project has **one owner\*** (the only person who can accept the security requirements of the plan), and additional study team members can be designated as **editors**, or have **view-access** only. (\*Note: Only owners can accept the security requirements and submit the plan)

Projects can be saved throughout the process, and are stored and accessed on the DMS website

The DMP creation process will also specify the technical requirements for the data types and services used in a study. A meeting with your departmental IT is recommended to review these technical requirements

# Creating a Data Management Plan with the DMS

Some combinations of data types and services require additional approval by relevant data stewards, and will be noted as “Awaiting Approval”. This happens when tools that have not been pre-approved for certain data types are selected.

### Detailed Project Status

Project Details  Requirements  Services  Data Types [View PDF](#)

**Project Info** | Selected Data Types | Selected Services | Current Approval | Project Log

**Current Status**

**Awaiting Approval**

**Title**

Test: Project Study 1

**Project Categories**

\*Other

**Member List**

Name	Role
Jesse Castellani	Owner
James Neilson	Editor

# Creating a Template Data Management Plan

**Template Data Management Plans** can also be created with the DMS

The use of a template DMP allows you to copy the data type(s) and the specified services to any new plans. This is useful when the same data types (e.g. Health Related Information-Protected) and services (e.g. KOTI) will be used across multiple projects

This will NOT copy the project details into a new plan

# Creating a Template Data Management Plan

On the Project Details Page, select the checkbox 'This is a Template Project' to create a template Data Management Plan

requirements.

Once a Project Owner has acknowledged the requirements, she/he will no longer be able to edit any project details or change project membership roles.

Select your role in the project being created.

Create as

Owner  Editor

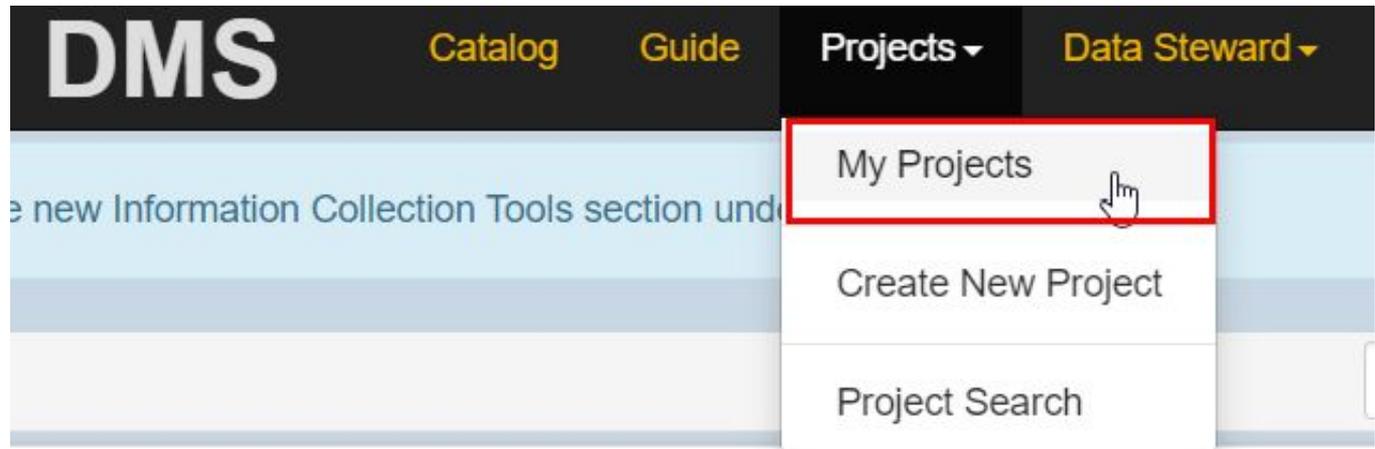
This is a Template Project

Title

# Editing a Data Management Plan

You are able to make edits to an approved Data Management Plan. Note that after you re-open a project, it will need to be reapproved by the appropriate data stewards.

To edit an existing DMP, from the DMS homepage click 'Projects' and then click 'My Projects'



# Editing a Data Management Plan

Owner: Editor Viewer MBU

Show 10 entries Search:

Date:	Project Info	Status	Actions
02/22/2021	<b>Title:</b> Test Project <b>MBU:</b> Technology Services <b>Owner:</b> Jesse Castellani <b>Purpose:</b> This is to demonstrate the DMS.	Approved - Report Available	<a href="#">View Status</a> <a href="#">Edit Details</a> <a href="#">Show Plan</a> <a href="#">Re-Open Project</a>

Showing 1 to 1 of 1 entries

Previous 1 Next

In the project listing, click 'Re-Open Project' and then edit any fields, data types or services. Complete the rest of the project as you would when completing a project plan ([instructions](#)).



**VCU**

# **RAMS-IRB and the DMS**

# RAMS-IRB and your Data Management Plan

The **Other VCU Requirements** section of the RAMS-IRB Smartform requests information about the use of DMS and the Data Management Plan

## Other VCU Requirements

This page asks questions on behalf of other ancillary offices, committees and departments at VCU regarding institutional requirements that could apply to this research. In some cases, these requirements could also impact the consent process or other aspects of the IRB's review.

Based upon answers provided earlier in this form, certain ancillary sections below may not have questions displayed if those requirements are not applicable to this study.

# RAMS-IRB and your Data Management Plan

Study teams will be asked to specify data category, confirm VCU's DMS has been used, and confirm a Data Management Plan has been created utilizing VCU's DMS

## 6. Information Security

For guidance, see <https://ts.vcu.edu/askit/essential-computing/information-security/>

1. \* Using the VCU Data Classification Tool, please determine the appropriate data classification category for the data that will be collected or used in this research.

Note: If the data falls into Category 1, a data security management plan is required by University Information Security Office.

See help text for information on accessing the VCU Data Classification Tool, and for information on creating a data security management plan. [?](#)

- Category 1: all data that require breach notifications in the event of improper release, including personally identifiable information covered by HIPAA and Commonwealth of Virginia regulations.
- Category 2: all proprietary data that if improperly released has the potential to cause harm to the institution, its mission or its reputation that do not require breach notifications.

[Clear](#)

2. \* I confirm use of the VCU Data Classification Tool at <https://go.vcu.edu/dataclassification> in determining the data classification category selected in Question 1:

- Yes
- No

[Clear](#)

3. \* The PI is aware that if the study's data is classified as Category 1, a Data Management Plan must be created. See <https://ts.vcu.edu/askit/essential-computing/information-security/data-management-system/>

- Yes  No [Clear](#)



**VCU**

University Relations

# Introduction to DMS

# Introduction to DMS

Video

# Additional DMS Guidance Available

Technology Services has created instructional videos and guides on the use of the Data Management System, which can be found on their [website](#) on the following topics:

- [How to use DMS as a Data Handling Guide](#)
- [How to use the Catalogue](#)
- [Create a Project](#)
- [View a Project Plan](#)
- [Download a Security Plan](#)
- [Search for a Project](#)