|  |
| --- |
| **Predictive Oncology Model and Data Clearinghouse (**[**MoDaC**](https://modac.cancer.gov/)**)**  **Release Notes**  **Release 2.2: March 14, 2024**   * **Metadata attribute to support new curation process**: A new metadata attribute *curation\_status,* will now indicate the curation status of the datasets and models uploaded to MoDaC. This attribute will appear for selection on the Asset Details page as a dropdown during Asset creation and modification. The system shall set it to the default value of *Unverified* when the Asset is first submitted. Once reviewed, it shall be set to *Pending* by the reviewers and finally to *Curated* by the MoDaC administrators after the reviewers verify the changes. * **Link to the NCI-DOE Collaboration page**: The home page and the *About* page now have a hyperlink to the NCI-DOE Collaboration page. * **Display of file delete button**: Removed dependency of the file delete button on the refresh of the backend database. The button is now visible immediately after the file is uploaded. * **Mobile screens aligned with the Computational Resources for Cancer Research (CRCR) user interface**: Additional changes were made to the mobile screens to align the look and feel with the CRCR user interface. Specifically enhanced the Contact Us page, landing page, and navigation bar. * **Improvements to the look and feel of the Asset Details page**: Improved the styling and positioning of the header, the *Back to Search Results* button, and the action buttons on the Assets Details page.   **Release 2.1: January 17, 2024**   * **Search Results page enhancements:**    + Added the ‘Asset Size’ field to display the size of each asset and the ‘Total Selected Size’ field to show the total size of all the assets selected for download at any point in time.   + The checkboxes for selecting the assets to download are disabled when the total size reaches the configured limit.   + Added informational text to provide guidance on the download size.   + Enhanced pagination of the search results table to display page size, total number of pages, and position of the current page.   For details, see [Using Search Results](https://wiki.nci.nih.gov/x/lgLgGQ).   * **Asset Details page enhancements:**   + Added a lens icon on the search filter of the Asset Files table to guide the user. The lens icon shall display on the empty search box, and the clear button shall show once the user starts typing.   + Enhanced pagination for the Asset Files table to display page size, total number of pages, and position of the current page. * **System performance improvement:**    + Reduced the time required to display the search results from over 15 to about 2 seconds.   + Reduced the time required to load the entries on the Status page from 9 to less than 2 seconds. * **Improved navigability**:   + Increased the clickable area of the navigation tabs to make them more accessible and user-friendly. Users can now click on the bottom of the tab or anywhere on the highlighted area to navigate away.   + Added arrow on navigation tabs containing sub-menus.   + Redesigned the appearance and trigger of the scrollbars to make it easier to use. * **Search filter enhancements:** Re-designed the search filter to bubble selected items to the top of the list and show in a different styling. * **Improved validation on register collection screen**: Added validation to block users from entering special characters for the value of the identifier field of a collection. This simplifies the user interface and takes the responsibility for entering valid values away from the user. * **Mobile UI redesign:** Re-designed the navigation bar and footer of the MoDaC mobile UI to better align with the CRCR Portal UI.   **Release 2.0: October 19, 2023**   * **UI alignment with CRCR**: Updated the look and feel of the MoDaC screens to align with the CRCR Portal as part of the UI integration. The changes include enhancements to the UI style, color palette, background images, icons, navigation, menu bars, and labels. * **Header and Footer updates**: Updated the header and footer sections (including adding external links) to align with the NCI branding guidelines and to comply with the Integrated Digital Experience Act for government sites. * **Dropdown for category selection in Contact Us page**: Added a *Type of Inquiry* dropdown to the Contact Us page to guide users and enable categorization of requests. * **Automatic redirection from the Contact US page**: Users will now be redirected automatically to the MoDaC home page after a delay when they submit their inquiry on Contact Us. Previously, users remained on the same page and navigated manually back to the desired page after submitting the query. * **Email updates sign up**: Added the ability for logged-on users to sign up for email notifications sent from MoDaC. Users can unsubscribe from these notifications through a link in the notification body. * **Search results enhancement:** Added the ability to sort the search results alphabetically. The search results section will display the total number of Assets retrieved by the search at the top. * **Search filters enhancement**: Added the option to expand and collapse the filters on the search page. The filter section will now show the counts of items available for selection in each sub-filter.   **Release 1.15: April 12, 2023**   * **Delete capability**: Added the ability for the members of a group to delete files and empty collections from an Asset visible to that group. The delete privileges are provided along with upload privileges. Files older than 90 days or files that are public cannot be deleted. For details, refer to [Deleting Data](https://wiki.nci.nih.gov/x/jQXgGQ). * **Get Data Object API Upgrade**: Optimized the Get Data File API to optionally exclude parent and ancestor metadata of the requested file from the API response. An optional query parameter has been added for the purpose. This eliminates movement of unused data and improves API performance by optimizing database access. * **Hyperlinked Task ID:** Hyperlinked the task ID displayed when a prediction or evaluation task has been successfully submitted. This link points to the Status page that contains the status of the submitted transaction. * **Data size representation**: Standardized the representation of data size to use the metric system (1K = 1000 bytes) in human readable format across MoDaC. * **Asset Link**: Renamed the shareable link on the Asset details page to Asset Link and replaced the icon to use a more intuitive one. Moved the link to the top of the section to make it more visible.   **Release 1.14: December 12, 2022**   * **Google Cloud support**: Users will now be able to upload datasets from or download datasets to Google Cloud buckets (in addition to Google drive, Globus endpoints, and AWS S3 buckets). For details, refer to [Downloading to Google Cloud](https://wiki.nci.nih.gov/x/EIZ6Hg) and [Uploading from Google Cloud](https://wiki.nci.nih.gov/x/EoZ6Hg). * **Mobile User Interface**: Added support for limited usage of MoDaC on mobile devices. Designed new mobile screens for the Home page, Search page, and the Asset Details page in accordance with the Integrated Digital Experience Act (IDEA) guidelines for presentation on mobile devices. * **Responsive layout**: Enhanced the Home page, Search page, About page, and the Asset Details page to adapt to multiple screen sizes by reformatting and resizing. * **Hyperlinked Task ID:** Hyperlinked the task ID displayed once a download or upload request has been successfully submitted. This link points to the Status page that contains the status of the submitted transaction. * **Updates to MoDaC description:** Updated the description of MoDaC on the Home page and About page per changes provided by NCI-DOE leadership.   **Release 1.13: September 22, 2022**   * **Ability to evaluate multiple models**: Added the capability to evaluate multiple models with a reference dataset stored in MoDaC. Users can select multiple models through the multi-select model selection dropdown that is displayed when the 'Perform Model Analysis' button is clicked on the Asset Details page. For details, refer to [Performing Model Analysis Using a Reference Dataset](https://wiki.nci.nih.gov/x/xgTyH) * **REST APIs for model evaluation**: Added new REST APIs to enable programmatic evaluation of models stored in ModaC. This enables evaluation from remote modeling and analysis platforms. Three new APIs have been introduced to enable users to perform the following:   + Generate predictions and evaluate a model using a GDC manifest file, user supplied input, or one or more reference datasets stored in MoDaC.   + Generate predictions and evaluate multiple models using a reference dataset stored in MoDaC.   + Track the status of a model evaluation task.   For details, refer to the [Evaluate Models](https://modac.cancer.gov/swagger-ui/index.html?urls.primaryName=api-docs#/Evaluate%20Models) section of the MoDaC Swagger documentation.   * **REST APIs for status tracking**: Added new REST APIs to obtain the status of a download or upload transaction at any time. Four APIs have been introduced to enable users to perform the following:   + Track the status of a data upload task.   + track the status of a file download task.   + Track the status of a collection (folder) download task.   + Track the status of a file list or collection list download task.   For details, refer to the [Get Task Status](https://modac.cancer.gov/swagger-ui/index.html?urls.primaryName=api-docs#/Get%20Task%20Status) section of the MoDaC Swagger documentation.   * **Landing page enhancement**: Redesigned the MoDaC landing page to include a search box to perform keyword searches. Additionally, a brief description of MoDaC has been added. * **Status page enhancement**: Enhanced the Status page to make values in the Asset Identifier column of the Predictions Task status table clickable. Users can now navigate directly to the corresponding Asset Details page by clicking this link. * **Simplify access to shareable link**: Simplified copying of an Asset's shareable link from the Search Results page by eliminating the step of selecting the link icon to view it. Instead, a sharable link label is now displayed with the copy icon next to it. This reduced the number of mouse clicks to copy the link from 2 to 1.   **Release 1.12: July 6, 2022**   * **Ability to select reference datasets**: Added the ability to select multiple reference datasets to perform model evaluation from the Generate Predictions dialog box. The system generates a separate predictions file for each reference dataset that you selected. For details, refer to [Generating Predictions](https://wiki.nci.nih.gov/x/VgjKH). * **Ability to edit permissions of empty collections**: Added the ability for authorized users to edit collection permissions from the Upload page. This allows users to edit permissions of empty collections. Previously, users could edit only permissions of collections displayed on the search results page, which does not include empty collections. For details, refer to [Managing Edit Permissions for an Existing Collection](https://wiki.nci.nih.gov/x/XwfgGQ). * **Ability to share predictions**: For a logged-on user who has generated predictions, added the ability for that user to share those predictions with the user groups defined in MoDaC. Previously, predictions were always private. For details, refer to [Sharing Predictions with Groups](https://wiki.nci.nih.gov/x/iYR6HQ). * **Ability to delete predictions**: For a logged-on user who has generated predictions, added the ability for that user to delete those predictions. The system displays the delete icon in the appropriate row of the Predictions table on the Asset Details page. For details, refer to [Deleting Files](https://wiki.nci.nih.gov/x/lQfgGQ). * Footer section upgrade: Updated the footer section to align with the NCI branding guidelines and to comply with the Integrated Digital Experience Act for government customers.   **Release 1.11: May 9, 2022**   * **Ability to search for reference datasets**: Added a new filter to the search page to enable users to locate reference datasets stored in MoDaC. A reference dataset consists of a formatted dataset and an outcome file that can be provided as input to an associated deployed model to generate predictions and perform model evaluation. For details on using reference datasets, refer to [Performing Model Analysis on a Reference Dataset](https://wiki.nci.nih.gov/x/xgTyH). Users can locate reference datasets using the 'Is Reference Dataset' filter on the Search page. For details on searching for reference datasets, refer to [Searching for Data](https://wiki.nci.nih.gov/x/kwLgGQ). * **New metadata for deployed models**: Introduced a new mandatory metadata attribute 'Is Model Deployed' to enable users to indicate that the model has been deployed and is now available for user to generate predictions or perform evaluation. For details on specifying or changing this metadata, refer to [Adding an Asset](https://wiki.nci.nih.gov/x/hgTyH) or [Editing Metadata of a Collection](https://wiki.nci.nih.gov/x/gAfgGQ). Users can locate deployed models using the 'Is Model Deployed' filter on the Search page. For details on searching for deployed models, refer to [Searching for Data](https://wiki.nci.nih.gov/x/kwLgGQ). * **Storage of user supplied outcome file**: The system now stores the outcome file supplied by the user for model evaluation. Previously, the system stored only the input dataset in MoDaC along with the evaluation result. * **Download page enhancement**: Improved the Download page user experience during transfers to Google Drive by keeping the Download button inactive until the user completes Google authorization and generates the access token. Previously, the user received an error message when clicking the Download button prematurely. * **Asset Details page enhancement**: Added three new columns to the table on Predictions tab of the Asset Details page: the name of the outcome file supplied by the user, the MoDaC task ID of the executed process, and the date on which the process completed. For additional information on this page, see [Exploring Details of an Asset](https://wiki.nci.nih.gov/x/mALgGQ).   **Release 1.10: April 5, 2022**   * **Ability to use reference datasets for model analysis**: Added the ability to use reference datasets stored in MoDaC to perform model evaluation. Owner of the dataset can mark it as a reference dataset through the 'Is Reference Dataset' metadata attribute and indicate which models it can be applied to. The system displays the *Generate Predictions* button on the Asset Details page of that dataset. For details, refer to [Generating Predictions and Evaluating Models](https://wiki.nci.nih.gov/x/jYoXH). * **New metrics for model evaluation**: The system computes following new metrics - precision, recall, and loss - whenever applicable for the deployed models. * **Ability to locate models available for analysis**: Added the ability to filter on the search page, machine learning models that are deployed and available to run predictions on and to evaluate. For details, refer to [Searching for Data While Logged In](https://wiki.nci.nih.gov/x/agV2H). * **Assist users on session expiry**: Enhanced session management to display the login page when a user tries to continue working on a page after the session has expired. Once the user logs back in, the system displays the original page again. * **Upload page improvement**: Improved the Upload page user experience by keeping the Upload button disabled until the user has provided all the required inputs. * **Ability to delete sub-folders in Assets**: Added the ability for the owner of an Asset to delete the Asset's sub-folders from the Asset Details page. Previously this could be carried out by a system administrator only. For details, refer to [Deleting a Collection Within an Asset](https://wiki.nci.nih.gov/x/cQjKH). * **Search page improvements**: Updated the search page to show all the results when the keyword on the search box is cleared by pressing the 'X' icon or the 'CLEAR ALL' button below it. Previously, the results were removed when these actions were performed. Additionally, the system now displays the 'X' icon only if a keyword is present in the search box.   **Release 1.9: January 27, 2022**   * **Ability to create Asset sub-collections**: Added the capability for Asset owners and authorized users to create and upload sub-folders within an Asset. Two nesting levels are permitted. All existing asynchronous upload modalities are supported i.e., Globus endpoint, AWS S3 bucket and Google Drive. These sub-collections are displayed on the Asset Details screen along with the Asset files. For details on creating these, refer to [Adding a Collection](https://wiki.nci.nih.gov/x/GATgGQ) * **Upload screen redesign**: Re-designed the Upload screen for consistency. Re-organized screen elements in the order actions are performed to better improve predictability. * **Ability to filter editable Assets**: Added the ability for users to display only their editable Assets on the Search screen. A checkbox has been provided to perform the filtering. For details, refer to [Searching for Data You Can Edit](https://wiki.nci.nih.gov/x/agV2H) * **New Contact Us page**: Added a new captcha protected [Contact Us](https://modac.cancer.gov/contactUs) page to report issues or send enquiries. This replaces the previously shared support email and eliminates the need to expose the support email address to public domain. * **Asset Details screen enhancements**: Added the ability to filter files by name on the Asset Files table. Also, setup consistent ordering for all Asset level metadata as well as for file level metadata. * **POC phase-1 for prediction and model evaluation**: Developed user interface to generate predictions from a model and/or perform model evaluation using external datasets. This has been released for the Tumor Classifier model (predictions and scoring) and for the Multitask Convolutional Neural Network (MT-CNN) model (information extraction) only. This is a proof of concept phase-1 implementation being released for testing and is presently not intended for production use   **Release 1.8: November 10, 2021**   * **Ability to browse Asset sub-collections**: Added the capability to browse and view metadata associated with sub-collections located within an Asset. These sub-collections are displayed on the Asset Details screen along with the Asset files. The sub-collections are created when datasets organized in one or more sub-folders are uploaded from the backend through Data Management Environment (DME). For details, refer to [Exploring Details of an Asset](https://wiki.nci.nih.gov/x/mALgGQ). * **Ability to download Asset sub-collections**: Added the capability to download sub-collections located within an Asset. All existing asynchronous download modalities existing for files are supported for collections also i.e., Globus endpoint, AWS S3 bucket and Google Drive. For details, refer to [Downloading Data](https://wiki.nci.nih.gov/x/sQG_GQ). * **Search screen enhancements**: The Filters section on the search screen has been enhanced to display a 'More' or 'Less' clickable option in each sub-section to enable the user to increase or reduce the number of results displayed. For details, refer to [Searching for Data](https://wiki.nci.nih.gov/x/kwLgGQ). * **Asset creation screen enhancements**: The Register Asset Collection screen has been converted from a modal popup to a full page in order to better leverage available real-estate and reduce scrolling. Additionally, the display elements have been updated to make this screen consistent with the Edit Metadata screen. For details, refer to [Adding a Collection](https://wiki.nci.nih.gov/x/GATgGQ). * **File deletion error message improvement**: Updated the file deletion dialog error message to provide additional context on the cause of the failure.   **Release 1.7: August 10, 2021**   * **Browsing and filtering on the search screen**: The search screen has been redesigned to enable filtering of datasets based on selected Program, Study or Asset. For details refer to [Searching for Data](https://wiki.nci.nih.gov/x/kwLgGQ). * **Upload of multiple assets through Globus**: The Globus upload capability has now been expanded to enable upload of multiple Assets. Additionally, Asset registration (creation of the Asset collection and addition of metadata) and Asset upload can be performed in one single request. For details, refer to [Uploading Multiple Assets from a Globus Endpoint](https://wiki.nci.nih.gov/x/FgWzGw). * **Support for *Enter* key on Login screen**: The Login screen will now accept the Enter key in lieu of the *Login* button. * **Improved Google drive upload GUI**: In order to assist users with performing the upload steps in the correct order, the Google Drive upload screen will now display the link for accessing data from the Google Drive only after MoDaC access token is generated. * **Validation of incorrect bucket upfront**: In order to provide improved user experience during download to an AWS S3 bucket, validation of the destination bucket will now be performed before the start of the download task. This ensures that errors associated with the AWS S3 bucket are displayed to the user upfront instead of after the download task begins.   **Release 1.6: June 11, 2021**   * **Shareable link on the Asset Details page**: A new shareable link will now be displayed on the Asset Details page. This link can be used to access the Asset Details page directly from another application. The existing shareable link on the Search Results screen remains unchanged and will continue to be available. * **Ordering of transactions on the Task Status page**: The transactions on the Task Status page will now by default be sorted by created date. The most recent transactions will be displayed on top. * ***Required* indicator in mandatory metadata field**: Improved the visibility of the *Required* indicator that is displayed in the editable text field of mandatory metadata for a collection or file. * **Display of hyperlinks**: Added the ability to display hyperlink in metadata. A metadata value that starts with https:// or http:// will now be displayed as a hyperlink. Hyperlinks embedded within the metadata will however continue to be displayed as plain text.   **Release 1.5: May 11, 2021**   * **REST API for bulk upload**: Users will now be able to programmatically upload multiple files or collections at a time using the new bulk upload API. Two source endpoints are currently supported: Globus and AWS S3. For details, refer to the [Upload Data - Bulk Registration](https://modac.cancer.gov/swagger-ui/index.html?urls.primaryName=api-docs#/Upload%20Data/BulkRegistration) section of the MoDaC swagger documentation. * **Simplification of new account creation**: The sign-up process has been simplified by combining the email confirmation and account activation steps. Users will now receive an email with a link that will activate the account as well as take them to the MoDaC login screen where confirmation of registration will be displayed. * **Redirection to Globus site during downloads**: Users can optionally choose to be redirected to the Globus site while downloading to a Globus endpoint. This will enable them to perform point and click selection of the desired destination folder on the endpoint directly, instead of manually entering the endpoint UUID and directory path. * **Description field enhancement**: The *description* field for all collection types (program, study and asset) has been converted from a single line text field to a multiline, resizable text area.   **Release 1.4: March 24, 2021**   * **Support for API tokens**: Tokens can now be used instead of username and password in REST API calls. A new API has been added to perform authentication with username and password and return a token to be used in subsequent API calls. The duration of the token is presently set to 3 months. * **Asset Details page enhancements**: The Asset Details screen has been enhanced as follows:   + Enabled clearing of optional and user defined metadata.   + Enabled quotes and double quotes to be included in metadata values.   + Consolidated the user and system metadata into a single table.   + Provided an informational message (for users who are not logged in) indicating that to download data, sign-in is required. * **Update Access Group dialog enhancement**: This was redesigned to do away with the error message that was displayed on incorrect group selection. Only the groups that can be added for access will now be displayed to the user for selection. * **Task Status page updates**: Updated the Task Status page to display the task creation and task completion dates in separate columns. Also updated error messages to make them more informative. * **Swagger documentation**: The existing API word document has been replaced with online Swagger documentation. This is available from within the MoDaC landing page at   [https://modac.cancer.gov/swagger-ui/index.html?urls.primaryName=api-docs#](https://modac.cancer.gov/swagger-ui/index.html?urls.primaryName=api-docs)  **Release 1.3: January 28, 2021**   * **Public REST API:** Users will now be able to download, upload and search Datasets and Models using REST APIs. Specifically, REST APIs are available for the following:   + Download a file from ModaC to the local file system, Globus endpoint or AWS S3 bucket.   + Download a collection (e.g. all Dataset or Model files) from MoDaC to the Globus endpoint or AWS bucket.   + Obtain the presigned URL for a file in MoDaC. The file can then be downloaded using the wget command.   + Create a Program, Study or Asset in MoDaC.   + Upload a file from the local file system, Globus endpoint, or AWS S3 bucket.   + Obtain all hierarchical metadata for a file.   + Obtain all hierarchical metadata for a Program, Study or Asset (and optionally list its child collections and files).   + Search for a file by compound metadata query.   + Search for a collection by compound metadata query.   The API Specification is located at  <https://github.com/CBIIT/nci-doe-data-sharing/blob/master/doc/MoDaC_API_Specification.docx>   * **Separation of Datasets and Models**: The ‘Dataset’ collection has been replaced with ‘Asset’ collection. Users will be prompted to select ‘Dataset’ or ‘Model’ as the type while creating an Asset, so that the appropriate metadata structure can be associated with it. * **Display of Asset paths and File paths**: The path of an Asset in MoDaC will now be visible on the Asset Details page. This can be used to download the contents of the Asset programmatically through the REST API. The path of each file within the Asset can also be obtained now through the ‘Copy File Path’ in the *Action* column of the Files Table. * **Support for Return key in search box**: The Return key can now be used to initiate a keyboard search. This will behave identical to the Search button. If no keyword is specified, then all the Models and Datasets will be displayed. * Sorting in Files Table: The *File Name* and *File Size* columns in the Files Table are now sortable.   **Release 1.2: December 2, 2020**   * **Google Drive support**: Users will now be able to upload datasets from or download datasets to their Google Drive accounts (in addition to Globus endpoints and AWS S3 buckets). For details, refer to [Downloading to Google Drive](https://wiki.nci.nih.gov/x/_QhyGg) and [Uploading from Google Drive](https://wiki.nci.nih.gov/x/_whyGg). * **Metadata export enhancement:** Users will be able to optionally download the parent collection metadata as part of the file metadata while exporting these into an excel spreadsheet. For details, refer to [Downloading Metadata for a Dataset](https://wiki.nci.nih.gov/x/aoY7Gg) * **Link in password reset request email:** Updated the Password Reset Request email to provide link to MoDaC for logging in. For details on how to change or reset your password, refer to [Changing Your Password](https://wiki.nci.nih.gov/x/jgLgGQ) * **Search button enhancement**: All datasets in the repository will be displayed when the Search button is pressed with no keyword in the associated text field. * **Status tab improvement**: The program and study identifier information for an uploaded or downloaded dataset will be displayed if you click the information icons in the Task Status table. For details, refer to [Viewing Download or Upload Status](https://wiki.nci.nih.gov/x/uALgGQ).   **Release 1.1: September 29, 2020**   * **Added support for integration with external search tools:** Datasets residing in MoDaC can now be accessed from the DOE Data Explorer and other search tools through URLs unique to each dataset. Two types of URLs are available:   + URL specifying the value of the *dme\_data\_id* metadata attribute, which is a unique identifier internally generated by the system. The format is:   **https://modac.cancer.gov/searchTab?dme\_data\_id=<metadata value>**  e.g.  **https://modac.cancer.gov/searchTab?dme\_data\_id=NCI-DME-MS01-5103499**  This URL can be obtained from the search results page where it is displayed against each matched dataset as a *Shareable link*. For details, refer to [Using Search Results](https://wiki.nci.nih.gov/x/lgLgGQ)   * + URL specifying the Digital Object Identifier (DOI) for that dataset (if available). The format is:   **https://modac.cancer.gov/searchTab?doi=<DOI value>**  The value of the DOI (if supplied) is stored as a user metadata attribute of the dataset and be obtained from the Dataset Details page. For additional information, refer to [Exploring Details of a Dataset](https://wiki.nci.nih.gov/x/mALgGQ)     * **Expanded keyword search**: The keyword search is now expanded to include search of file level metadata (in addition to collection level metadata). For details on using the keyword search, refer to [Searching for Data by Keyword](https://wiki.nci.nih.gov/x/kwLgGQ). * **Added metadata export capability**: Users can now download the metadata associated with one or more files in a dataset by exporting these into an excel spreadsheet. For details, refer to [Downloading Metadata for a Dataset](https://wiki.nci.nih.gov/x/aoY7Gg) * **Enhanced the Search Results screen**: Added tooltips to display additional information about the matched collections in the search results screen, as well as to edit metadata and access groups (if appropriately permissioned). * **Added timestamps on the Status screen**: Added timestamps to the start and completion dates for upload and download transactions.   **Release 1.0: July 31, 2020**  Initial release.  ==============================================================  For issues, questions or suggestions, contact modac-support@nih.gov. |
|  |
|  |
|  |