Version 13.1.5 (released on 2022-12-28)

CHANGES IN THIS VERSION:

- New LTS branch based off of REDCap 13.1.4 (Standard)

Version 13.1.4 (released on 2022-12-28)

CHANGES IN THIS VERSION:

- **Improvement:** The "Help & FAQ" page has been updated with new content

Version 13.1.2 (released on 2022-12-22)

CHANGES IN THIS VERSION:

- **Improvement:** Users may now pipe Smart Variables or field variables into the Data Entry Trigger URL.
- **Improvement:** Users may now pipe Smart Variables or field variables into the External Video URL for Descriptive Text fields.
- **Improvement:** When setting up an alert, Step 2's sub-section “When to send the alert?” now contains the new drop-down choice "the day (beginning at midnight) that the alert was triggered" in the sub-option “Send the alert X days Y hours Z minutes before/after [drop-down]”. This new choice in the drop-down allows users to schedule the notification based on the day the alert was triggered and provides greater control and precision with regard to when exactly the notification will be sent. For example, if this new drop-down option is selected along with setting it to “send the alert 1 day 8 hours after…”, this will cause the notification to be scheduled to be sent at exactly 8:00am the next morning. In previous versions, it was not possible to get this level of precision for the notification send-time based upon the alert trigger-time unless you used a date field’s value as a reference. (Note: This new option is very similar to the one added for Automated Survey Invitations in REDCap 12.5.0.)
- **Improvement:** When exporting the project logging via CSV file or via API, the record name is now included as a separate column/attribute "record" in the resulting output if the logged event is record-centric (and if not, the record value will be left blank). (Ticket #132246)
- **Improvement:** The on/off switches on the Multi-Language Management setup page now have green/red coloring to more clearly denote their on/off state. (Ticket #139703)
- Change/improvement: When a user creates, edits, copies, or deletes a report, the logged event of this specific action now contains the list of all fields in the report. This improves the granularity of the audit trail for reports. (Ticket #139193)

Version 13.1.1 (released on 2022-12-16)

CHANGES IN THIS VERSION:

- **Improvement:** Descriptive Text fields can now have inline PDF attachments that display as an embedded PDF on the page (rather than just displaying a download link).
- Change: HTML tags are no longer stripped out of Project Dashboard titles as displayed in the "My Project Dashboards" list on the left-hand menu or on the Project Dashboards page. Additionally, the title of Project Dashboards are no longer limited to 150 characters.

Version 13.1.0 (released on 2022-12-09)

CHANGES IN THIS VERSION:

- **New feature: Redesign of the File Repository**
  - **Overview:** The File Repository page has been redesigned to make it easier to store, organize, and share the files in your projects. Users now have the ability to create folders and sub-folders to help organize their files more effectively. If using Data Access Groups or user roles, users may optionally limit access to a new folder so that it is DAG-restricted and/or role-restricted. Uploading multiple files is much faster with a new drag-n-drop feature that allows for uploading dozens of files at a time. Sharing files is better too, in which users may obtain a public link to conveniently share a file with someone. New API methods also exist that allow users to upload, download, and delete files programmatically using the API. Additionally, the File Repository has a new built-in Recycle Bin folder that makes it easy to restore files that have been deleted. Users can upload as many files as they wish. There is no limit. Additionally, there is no limit to how many folders and sub-folders that can be created (or how deep that they can be nested within other folders).
  - **Recycle Bin:** Files that are deleted from the File Repository will be put in the Recycle Bin folder where they will be kept for up to 30 days before being permanently deleted. Any file in the Recycle Bin can be restored back to its original location (so long as doing so does not surpass the project's file storage limit, if enabled). Administrators can "force delete" any file in the Recycle Bin, which deletes it immediately and permanently.
  - **New API methods for the File Repository:** 1) Create a New Folder in the File Repository, 2) Export a List of Files/Folders from the File Repository, 3) Export a File from the File Repository, 4) Import a File into the File Repository, and 5) Delete a File from the File Repository.
- **Improvement:** The "Alerts & Notifications" page now has its own separate user privilege. Previously, only users with "Project Design and Setup" privileges could access the Alerts & Notifications page. Now, users must explicitly be given "Alerts & Notifications" privileges in order to access the Alerts & Notifications page. Note: During the upgrade to REDCap 13.1.0 or higher, any users with "Project Design and Setup" rights will automatically be given "Alerts & Notifications" rights in order to keep continuity with their current access to the Alerts & Notifications page.

- **New method for plugins/hooks/modules: REDCap::getFile** - Returns an array containing the file contents, original file name, and mime-type of a file stored in the REDCap system by providing the file's doc_id number (the primary key from the redcap_edocs_metadata database table).
- **New method for plugins/hooks/modules: REDCap::addFileToField** - Attaches a file to a File Upload field for a specified record when provided with the doc_id of an existing file from the REDCap system.
- **Improvement:** When importing User Role assignments via CSV file uploads on the User Rights page or via the API, if the project contains Data Access Groups, users can now be assigned to a DAG during the User Role assignment import process by providing an extra parameter named "data_access_group" with a valid unique DAG name. This will allow users to be added to the project, assigned to a role, and assigned to a DAG all at the same time. Additionally, when exporting User Role assignments via CSV file or via the API, the "data_access_group" attribute will be exported for each user if the project contains DAGs (to be consistent with the Import User-Role Assignment format). (Ticket #119192)
- **Change/improvement:** When importing User Role assignments via CSV file uploads on the User Rights page or via the API, users can now be assigned to a role if they do not currently have access to the project. In previous versions, only existing project users could not be assigned to a role via CSV file or via API. (Ticket #119192)
- **Change/improvement:** When setting the designated email field on the Project Setup page or when setting the survey-level designated email field on the Survey Settings page, if the selected field is utilized in more than one event and/or is utilized on a repeating instrument or repeating event, a warning message will be displayed in a yellow box immediately below the email field drop-down to inform the user that any update to the field on any event or repeating instance will change the value of the field in ALL events and repeating instances. This should help provide more transparency to users who might get confused by the fact that the field's value gets updated in all places if the designated email field is located in more than one context in the project. (Ticket #131999)
- Change/improvement: Added a new option $project_id parameter for the developer method REDCap::getSurveyReturnCode().

Version 13.0.2 (released on 2022-12-02)

CHANGES IN THIS VERSION:

- **Improvement:** MLM Usage Page - A new “Usage” tab will be displayed on the Multi-Language Management page in the Control Center that will display a list of all projects using MLM and in what ways they are utilizing MLM, such as the number of languages in the project (and how many are active) and whether the following MLM options apply to the given project: Deactivated by user, Enabled by admin, Deactivated by admin, and Debug mode turned on.
- Change: Added an MLM-related note at the top of the survey page where participants enter their survey access code. The note mentions that the language choices seen on that particular page might not necessarily be available on the survey that they are able to enter after entering their access code.

Version 13.0.1 (released on 2022-11-23)

CHANGES IN THIS VERSION:

- **Improvement:** When setting up repeating Automated Survey Invitations, users can now set the repeating interval value as a number with a decimal (in previous versions, the value could only be an integer). This will allow users to approximate the interval of a monthly repeating ASI as 30.44 days since it is currently not possible for repeating ASIs to be scheduled on exactly the same day and time each month. To help users, a note has been added in the repeating survey section of the ASI setup dialog to inform them how to approximate a month as 30.44 days. (Ticket #136957)
- **Improvement:** A link to the Codebook page was added inside the Add/Edit Field dialog on the Online Designer. This will allow the user to open the Codebook in a new tab without having to close the dialog to do so. (Ticket #138300)

Version 13.0.0 (released on 2022-11-17)

CHANGES IN THIS VERSION:

- Change: As a convenience, when deleting a conversation in REDCap Messenger, the user is no longer prompted to enter the word "delete".
- Change/improvement: On the Alerts & Notifications page, users are now able to copy deactivated alerts. In previous versions, alerts could not be copied until they were first reactivated.

Version 12.5.15 (released on 2022-10-27)

CHANGES IN THIS VERSION:

- Change/improvement: The "Export Events" API method now also returns the "event_id" for each event. (Ticket #135602)
- Change: If a user cancels their own request to an admin that requests to move a project to production or to delete a project, the request no longer gets permanently deleted but gets marked as archived instead. This effectively has the same effect but preserves any comments or info associated with the original request, whereas deleting the whole request causes the comments/info to be permanently erased, which might not be ideal. (Ticket #136506)

Version 12.5.11 (released on 2022-09-30)

CHANGES IN THIS VERSION:

- **New feature:** Download all files on a report - When viewing a report (including public reports) that contains one or more File Upload fields or Signature fields, a “Download Files (zip)” button will appear on the page to allow users to easily download all the report’s uploaded files into a single zip file for those fields for the records in the report.
- **Improvement/change:** The project API page now displays the user's API token in a text box with a button next to it that, when clicked, copies the API token to the user's clipboard. (Ticket #134577)

Version 12.5.7 (released on 2022-08-26)

CHANGES IN THIS VERSION:

- Change: When performing a data export, the dialog now mentions more REDCap publications that might need to be cited in published manuscripts relating to the current REDCap project. Such publications would include those for MyCap, the REDCap Mobile App, the e-Consent Framework, and CDIS.

Version 12.5.6 (released on 2022-08-19)

CHANGES IN THIS VERSION:

- **New Feature: SendGrid Template Advanced Settings for Alerts & Notifications**
  - <u>Introduction</u> - A new “advanced settings” section was added to the Alerts & Notifications interface when building an alert using the relatively new SendGrid Template alert type that gives users more control over the underlying SendGrid API call being made when REDCap triggers a SendGrid Template alert. Note that all of the advanced settings are optional, and they are all disabled by default. If “SendGrid Template email services for Alerts & Notifications” are enabled for a project on the Project Setup page, then these advanced settings will appear in the alert creation dialog after selecting “SendGrid Template” as the alert type. The new advanced settings are all listed in detail below.
  - <u>SendGrid Unsubscribe Groups</u> - SendGrid can allow recipients of its emails to unsubscribe from all emails being sent from a sendgrid account, or from emails associated with specific unsubscribe groups in a sendgrid account. To take advantage of custom unsubscribe groups, you can create unsubscribe groups in your sendgrid account then associate them with alerts in your REDCap project. When a recipient unsubscribes from an email that has been associated with a specific unsubscribe group, they get added to that unsubscribe group's list and any future emails that are associated with that unsubscribe group will not be delivered to them. An alert can be associated with at most one unsubscribe group. Here is

SendGrid's documentation on unsubscribe groups: https://docs.sendgrid.com/ui/sending-email/unsubscribe-groups.

- SendGrid Categories - SendGrid allows you to associate arbitrary categories to each email you send from your account, effectively giving you the ability to tag each individual email sent with different metadata about the email like the email type. Unlike unsubscribe groups, categories don't have to be made in your sendgrid account before associating them with an alert in REDCap. You can define your categories in REDCap as you create your REDCap alert, and your sendgrid account will automatically detect new categories as emails get sent with them. In your SendGrid account's Category Stats page, you'll be able to see data about your emails by category. You can associate up to 10 unique categories per email, and a category name cannot be longer than 255 characters.
- SendGrid Mail Settings - Full documentation for the SendGrid bypass settings can be found at https://docs.sendgrid.com/ui/sending-email/index-suppressions#bypass-suppressions.
  1. Bypass List Management - When enabled, your email will be delivered regardless of any other existing suppression management control in your account. For example, if a recipient is in an unsubscribe group or the global unsubscribe group, they will still receive the email if bypass list management is enabled. Bypass List Management can't be combined with any other bypass option.
  2. Bypass Spam Management - Allows you to bypass the spam report list to ensure that the email is delivered to recipients. Some email services allow recipients to mark emails as spam. In some cases, sendgrid will be notified when a recipient marks an email as spam and will maintain a spam report list.
  3. Bypass Bounce Management - Allows you to bypass the bounce list to ensure that the email is delivered to recipients. A bounce occurs when a receiving mail server rejects an incoming email. This can happen if the recipient address is bad, for example. If sendgrid sees too many bounces happening, it will add that recipient to a bounce list and it will stop trying to send mail to that recipient. Enabling this will bypass that bounce list and force sendgrid to retry delivery.
  4. Bypass Global Unsubscribe Management - When enabled, your email will be delivered even if the recipient is on your account's global unsubscribe list.
  5. Sandbox Mode - Sandbox mode lets you check for errors in the SendGrid API call used to send an email without the potential of delivering the email. If you're unsure about your sendgrid configuration, you can run a test by enabling sandbox mode for an alert and triggering it. If your project's logs state that the alert was sent successfully and you don't see any errors, then your configuration is good to go. However, since sandbox mode was enabled for that alert, an email was not actually sent. After you're satisfied with your tests, you can disable sandbox mode and start sending real emails with your alert.
- SendGrid Tracking Settings
  1. Click Tracking - SendGrid has the ability to detect when a recipient clicks on links in an email. The count of clicks for a given email can be seen in the email activity section of your sendgrid account.
  2. Open Tracking - SendGrid has the ability to detect when a recipient opens an email by embedding a single pixel image in an email. Enabling this setting will make sendgrid

include this tracking pixel in your emails. You can view the count of opens for a specific email in the email activity section of your sendgrid account.
3. Subscription Tracking - If subscription tracking is enabled and configured on your sendgrid account, this setting lets you choose whether or not you want to include the global unsubscribe link associated with the subscription tracking feature in your emails. Note that you can utilize unsubscribe groups without using the more general subscription tracking feature. I believe subscription tracking is disabled by default on a sendgrid account. Here is some documentation from sendgrid about unsubscribe methods: https://support.sendgrid.com/hc/en-us/articles/1260806604209-Unsubscribe-Methods

- Miscellaneous Additions
    1. Added an External Service Check for https://api.sendgrid.com/v3 in the Control Center's Configuration Check page.
    2. Added a line in the Modules utilized section of the Systems Statistics page to keep track of how many non-practice projects are utilizing sendgrid for Alerts & Notifications.
- Additional SendGrid API Token Requirements - To fully support SendGrid Advanced Settings, the SendGrid API token used in the project's setup needs the permission for getting an account's unsubscribe groups through the API. This permission is mapped to the asm.groups.read scope. You can add this permission to your existing API token by editing its permissions in your SendGrid account and giving it Read Access to Unsubscribe Groups in the Suppression section.

- **Improvement:** When utilizing Multi-Language Management in a project, the Field Finder on the Codebook page now supports searching in translated field labels.
- **Improvement:** "Project 5 (COVID-19)" was added as a new classification that is selectable under the NIH CDE Repository catalog for the Field Bank feature in the Online Designer. Project 5 (COVID-19) is a classification of NIH-Endorsed CDEs (Common Data Elements).

Version 12.5.5 (released on 2022-08-05)

CHANGES IN THIS VERSION:

- Change: When deleting a project via the Other Functionality page, it now displays the total number of project records inside the Delete Project dialog to give the user more context prior to deleting the project.
- Change: In the Action Tag documentation, a note was added about how to escape text returned from the @CALCTEXT action tag.

Version 12.5.2 (released on 2022-07-15)

CHANGES IN THIS VERSION:

- **Improvement:** Added “json-array” as a new option to the data formats for REDCap::getData and REDCap::saveData. It provides a way around the json data format, for the sake of computer cycles as well as for the sake of being able to pass large data structures. The “json-array” option represents the same flat data structure as decoded JSON data when using the “json” data format for these methods, but it avoids the encode/decode steps.

Version 12.5.1 (released on 2022-07-08)

CHANGES IN THIS VERSION:

- **Improvement:** When using the Multi-Language Management in a project where the languages created on the MLM setup page have Language IDs that correspond to language ISO codes, if a user or participant has not yet selected their display language via the MLM language-switching choices, REDCap will use their current browser settings to auto-detect and then auto-select their preferred display language. This is meant to be an added convenience to the user/participant. Note: This only occurs if project users have set up their MLM Language IDs as ISO codes.
- **Improvement/change:** Updated the Font Awesome library from v5.15.4 to v6.1.1.
- **Improvement:** Stop Actions (for multiple choice fields) and Video Display Format settings (for Descriptive Text fields with videos) are now included in Instrument Zip files when downloading or uploading them for an instrument in the Online Designer. In previous versions, stop actions were not included, and while the video URL was included, the setting that defines if the video is displayed inline or not was not included. (Ticket #124377)

Version 12.5.0 (released on 2022-07-01)

CHANGES IN THIS VERSION:

- **New feature: Repeating Automated Survey Invitations (ASIs)**
    - Users can now set ASIs to send multiple times on a recurring basis for any repeating survey in a project. If the survey is a repeating instrument or if it exists on a repeating event, then users will see a new section "How many times to send it" in the ASI setup popup in the Online Designer. There users may set the ASI to send survey invitations repeatedly at a regular interval, in which it can repeat forever or a set number of times. This new repeating ASI feature works similarly to how recurring alerts have always worked for Alerts & Notifications.
    - Note: If an instrument is not a repeating survey, then this new section will not appear for that survey in the ASI setup dialog.
    - When an ASI is set up to recur for a repeating survey, the [survey-link] Smart Variable in the invitation text will always point to a different repeating instance of the survey for each time the invitation is sent. For example, if the ASI is set to recur daily, then the first day’s invitation will have a link pointing to instance #1 of the survey, the next day’s invitation will point to instance #2, then the next to #3, and so on.
- **New Smart Variable: [new-instance]**
    - This new Smart Variable [new-instance] can be appended to [survey-link], [survey-url], [form-link], and [form-url] to create a URL that points to a new, not-yet-created repeating

instance for the current record. In this way, [new-instance] functions essentially as [last-instance]+1. This new Smart Variable works for repeating instruments and also for instruments on repeating events.
    - [new-instance] can also be used as stand-alone, in which it will return an integer. But it will only work when used within the context of a repeating instrument or repeating event, in which it will essentially return [last-instance]+1 for the current repeating context.
    - [new-instance] will auto-append "&new" to the end of the form link or survey link (when used with [form-link/url] or [survey-link/url]) and thus will cause the user/participant to be redirected to the next repeating instance if the current repeating instance (i.e., the instance number in the URL) already exists for the record. Thus, using [form-link] or [survey-link] appended with [new-instance] will ensure that you always end up on a new, not-yet-created instance. And if two participants arrive at the same repeating survey instance with both using the exact same link created by [survey-link][new-instance], then the second participant to submit the survey page will not override the first participant's response. Instead, it will add the second participant's response as another repeating instance that does not exist yet.
    - TIP: One of the main intended usages of [new-instance] is to utilize it as [survey-link:instrument][new-instance] inside the text of a recurring alert to allow users/participants to enter data easily into a repeating survey. In this way, it works very similarly to a repeating ASI. However, repeating ASIs do not need their survey link appended with [new-instance] because it is already implied from the ASI setup.
- **New feature: Embedding images in text & emails**
    - Users may now embed one or more inline images into the text of a survey invitation, an alert, or a field label on a form/survey, among other things, by clicking the image icon in the rich text editor and then by uploading an image from their local device. Anywhere that the rich text editor is used, users may embed an image into its text (with one exception: the @RICHTEXT action tag on public surveys).
- **New method for plugins/hooks/modules: REDCap::storeFile** - Stores a file in REDCap when provided with the full path of a file on the local REDCap web server. Returns the doc_id from the redcap_edocs_metadata database table for the stored file. The file will be automatically stored using the defined file storage method in the system (e.g., WebDAV, S3, local). Note: The original file on the server will *not* be deleted by this process.
- **New method for plugins/hooks/modules: REDCap::copyFile** - Creates a new file in REDCap by copying a file already stored in the system when provided with the doc_id of the original file from the redcap_edocs_metadata database table in the REDCap system. Returns the doc_id for the newly created file. The new file will be automatically stored using the defined file storage method in the system (e.g., WebDAV, S3, local). Note: The original file whose doc_id is provided as a parameter will *not* be deleted by this process.
- **New method for plugins/hooks/modules: REDCap::addFileToRepository** - Adds a file to a project's File Repository when provided with the doc_id of an existing file from the REDCap system. Warning: This method should not be used for files already stored for File Upload fields or as various attachments in the system because deleting the file from the File Repository will delete it in all places where the file is utilized. Ideally, this method is meant to be paired with the method REDCap::storeFile(). If you wish to add a file to the File Repository that is already being

utilized elsewhere in REDCap (e.g., as an attachment or uploaded to a File Upload field), it is recommended that you first call REDCap::copyFile() to copy the original file, and then call REDCap::addFileToRepository() afterward.

- **Improvement:** When setting up an ASI, the sub-section “When to send invitations AFTER conditions are met” now contains the new drop-down choice "the same day (beginning at midnight) that the automated invitation was triggered" in the sub-option “Send the invitation X days Y hours Z minutes before/after [drop-down]”. This new choice in the drop-down allows users to schedule the invitation based on the day the ASI was triggered and provides greater control and precision with regard to when exactly the invitation will be sent. For example, if this new drop-down option is selected along with setting it to “send the invitation 1 day 8 hours after…”, this will cause the invitation to be scheduled to be sent at exactly 8:00am the next morning. In previous versions, it was not possible to get this level of precision for the invitation send-time based upon ASI trigger-time unless you used a date field’s value as a reference.
- Change/improvement: When setting up an Automated Survey Invitation, the setting to make the ASI “Active” or “Not Active” has been moved to the top right of the ASI setup dialog.

Features not currently enabled in UCSF REDCap instance. These features require additional funding that would allow adequate support infrastructure.

Version 13.0.0 (released on 2022-11-17) CHANGES IN THIS VERSION:

- **New feature: Integration of the MyCap External Module**
    - **Introduction:** MyCap is a participant-facing mobile application (on iOS and Android) used for data collection and the automated administration of active tasks (activities performed by participants using mobile device sensors under semi-controlled conditions). All data collected in the MyCap app is automatically sent back to the REDCap server as soon as internet connection is available (i.e., it can also be used for offline participant data collection). MyCap is a no-code solution for research teams conducting longitudinally-designed projects or projects with frequent participant contact. MyCap also facilitates participant engagement and retention by providing quick access to project staff and two-way communications (e.g., messaging and announcements) within the app. MyCap is available on any iOS device (iOS v11.0+) and any Android device (Android v8.0+). For more information about MyCap, check out the MyCap website, publication, resources, and a list of MyCap use cases.
    - **Project-level settings:** The ability to enable or request to enable MyCap in a project will be in the Main Project Settings section at the top of the Project Setup page. There is an informational dialog there that can be opened that contains helpful links to many resources, including the MyCap website, the MyCap Help document (a detailed 16-page instruction manual on setup and usage), and three videos.
    - **Project Utilization:** Utilizing MyCap in a project consists of two main parts: 1) design, and 2) managing participants. The design portion is where users can enable instruments as MyCap tasks, import active tasks, and design the look and feel of the MyCap app (as the participant sees it). **These things pertaining to design are**

performed in the Online Designer and thus require “Project Design and Setup” rights. The participant portion requires a new user right “Manage MyCap Participants” that appears on the User Rights page after MyCap has been enabled in a project. Having this privilege, a user will have access to the “MyCap Participant Management” page on the left-hand menu. This page will allow users to view, invite, and message their MyCap participants. In many ways, it is very similar to the “Survey Distribution Tools” page when using surveys.

    - **Smart Variables and Action Tags:** Several new Smart Variables and Action Tags can be used with MyCap, some of which are a required, integral part of how users invite participants and also how MyCap imports data into a project. See the documentation for Smart Variables containing the prefix “mycap-” and Action Tags containing the prefix “@MC-”.

Version 11.1.0 (released on 2021-05-28)

- **New feature: More clinical data available via FHIR R4 endpoints for CDIS** - The CDIS services Clinical Data Pull and Clinical Data Mart can now utilize version 4 (called “R4”) of the FHIR web services from their local EHR system. The new R4 endpoints include the existing data that could be pulled in earlier versions as well as the following: Adverse Events, Core Characteristics (Observation), Encounters, and Immunizations. Note that "Adverse events" are only available for "research" projects where an IRB number is specified, in which the project’s IRB number corresponds to the “Study ID” value from the EHR interface for a particular study (which is often the same as the study’s IRB number).
- **Improvements: Other FHIR/CDIS additions**
    - Clinical Data Mart
        1. A new template is used for new DataMart projects when REDCap is set to use R4, including new forms for Encounters, Immunizations, Core Characteristics, Adverse Events.
        2. New option to fetch data in a background process and receive an email when completed.
        3. MRNs can be searched and fetched individually on the Clinical Data Mart page.
    - Epic institutions using the "legacy" app on the Epic App Orchard will be notified on the CDIS Control Center page with info about how to upgrade to the new R4 enabled version.
    - While on the CDIS Control Center page, changing the FHIR client ID will now automatically remove all existing FHIR access tokens stored in the backend. Note: This will not impact any data but will require each CDIS user to perform a standalone launch again or else launch REDCap via the CDP embedded window in the EHR interface before they can begin to pull data again from the EHR.
    - The FHIR statistics in the Control Center now displays CDP instant adjudication.

Current CDIS Documentation:

[Overview of Clinical Data Pull and Clinical Data Mart]

Version 9.1.0 - (released 5/30/2019)

New feature: Clinical Data Mart

- The Data Mart module can pull clinical data from the EHR in bulk (i.e., dozens or hundreds of patients at once), as compared with the Clinical Data Pull (CDP) that pulls patient data from the EHR just one patient at a time. Both Data Mart and CDP utilize REDCap's "Clinical Data Interoperability Services" infrastructure, which can interface with any EHR system that has FHIR web services enabled. If CDP has already been set up and enabled in REDCap, then enabling Data Mart is very simple and requires no further setup other than enabling it on the CDIS page in the Control Center.
- Overview
    - To use the Data Mart feature and create a Data Mart project, a user must be given explicit permissions for this by a REDCap administrator on the Browse Users page in the Control Center. Once they have been given permissions, they can navigate to the Create New Project page in REDCap to see a new option to create a Clinical Data Mart project. Note: If they have not yet launched the REDCap window from inside their EHR, it will inform them that they must first do so before proceeding. This must be done because launching the REDCap window inside the EHR, which is always the first step before a user can use either CDP or Data Mart. When creating the Data Mart project, the user defines the data pull configuration when creating the project - e.g., chooses specific MRNs, date range, and data fields from the EHR.
    - Once the project has been created, the whole structure of the project (i.e., the fields and forms) will be pre-defined. To begin pulling clinical data from the EHR, the user must navigate to the Clinical Data Mart page using the link on the left-hand project menu. On that page, they may request changes to their existing Data Mart configuration (if they wish to add new MRNs, new fields, or modify the date range) and/or pull data from the EHR using the "Fetch clinical data" button near the top of the page. By default, users will only be able to pull data just one time and will not be able to modify the Data Mart configuration after initially being set when the project is created. However, an administrator can change these settings (see below) on the Project Setup page so that they may pull data as often as they wish or to allow them to make configuration changes when needed.
    - Field mapping is not required for Data Mart projects since the project structure/instruments are pre-defined when the project is created. Demographics is created as a single data collection form, and the following forms are created as repeating instruments: Vital Signs, Labs, Allergies, Medications, and Problem List. Each data value on the repeating instruments are represented as a separate repeating instance of the form.

- User permissions
  - A user's REDCap account must be given Data Mart privileges by a REDCap administrator on the Browse Users page in the Control Center, after which the user will be able to create a Data Mart project and pull EHR data. (Note: This is not a project-level user right but a REDCap user account privilege.) Also, there is no optional User Access Web Service as there is with CDP to further control user access for pulling data.
  - In order to pull data from the EHR, users must have access to the EHR and must have launched at least one patient in the REDCap window inside the EHR user interface.
  - Users with Project Setup/Design rights in a Data Mart project will be able to request changes to the data pull configuration (if needed and if the project-level setting has been enabled).
- For more details about Data Mart and CDP, see the information on the CDIS page in the Control Center (including the downloadable Overview PDF), which is also available here: **Overview of Clinical Data Pull and Clinical Data Mart**

Version 8.5.0 - (released 5/29/2018) NEW FEATURES:

- **New feature: DDP on FHIR with EHR Launch**
  - REDCap's "DDP on FHIR with EHR Launch" feature provides the ability to launch a REDCap window while inside an EHR and to quickly and seamlessly import clinical data from the EHR into a REDCap project. As a built-in module in REDCap that can be enabled by an administrator, this feature can interface with any EHR system that has "SMART on FHIR" web services enabled.
  - What is DDP on FHIR? DDP on FHIR (Dynamic Data Pull from EHR) is a special feature for importing data into REDCap from an EHR (electronic health record system), such as Epic, Cerner, etc. It provides an adjudication process whereby REDCap users can approve all incoming data from the EHR before it is officially saved in their REDCap project. DDP on FHIR can only be enabled by a REDCap Administrator, so you should contact them if you wish to utilize DDP on FHIR for this project.
  - How the DDP on FHIR works: DDP on FHIR has the ability to fetch data from the EHR system both manually in real time and automatically at a regular interval. From the EHR interface, DDP on FHIR can create new records in a DDP-enabled REDCap project. Additionally, if a user knows the patient identifier (e.g. medical record number), then they could optionally enter the MRN for a record in a DDP-enabled REDCap project, after which it will then go and immediately retrieve the patient data from the EHR in real time.
  - For more documentation on "DDP on FHIR", please see https://redcap.vanderbilt.edu/redcap_v8.5.0/Resources/misc/redcap_ddp_fhir_setup.zip To view a 5-min overview video of DDP, please see https://tinyurl.com/redcapddp (note: this video is not specific to DDP on FHIR since the video was originally created for DDP Custom years ago, but it contains most of the functionality in DDP on FHIR (i.e., it does not showcase the EHR Launch feature of DDP on FHIR).