

REDCap Flex Upgrade Changelog – April/May 2023 Upgrade (v. 12.5.12 → v. 13.1.26 → v. 13.1.27 → v. 13.1.28)

New Features and Major Improvements

Version 13.1.0

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).
- **Sharing:** Files can be shared via Send-It or using a public link. If you do not want users to be able to share files using the public link functionality, this may be disabled on the File Upload Settings page in the Control Center. Once disabled, users will only be able to share files using Send-It.
- **File storage limit:** Admins may optionally set a file storage limit that applies to all projects so that users cannot upload too many files in an abusive fashion. The value can be set in MB on the File Upload Settings page in the Control Center. There is also a project-level override for the file storage limit on the Edit Project Settings page for any given project. Note: Files in the starred folders (e.g. Data Export Files, e-Consent PDFs, Recycle Bin) do not count toward the overall file space usage of the project.
- **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.

Bug Fixes, Security Fixes, Changes, and Minor Improvements

Version 13.1.28

- **Critical security fix:** A Blind SQL Injection vulnerability was found on survey pages, in which a malicious user could potentially exploit it and execute arbitrary SQL commands on the database by manipulating an HTTP request to the survey end-point in a specially-crafted way.
- Bug fix: When using the [form-link] or [survey-link] Smart Variable with Custom Text while also having the [new-instance] Smart Variable appended to it, it would mistakenly return a blank string instead of a survey link.
- Bug fix: Fixed more issues related to error checking for the Imagick PHP extension check on the Configuration Check page.
- Bug fix: When exporting a PDF of a survey response in some specific ways, it might mistakenly return the word "ERROR" instead of outputting the PDF. Bug emerged in REDCap 13.1.25. (Ticket #204340)
- Bug fix: If some Smart Variables are used in a calculation or conditional logic, in which the evaluation of the calculation/logic results in a blank/empty string (i.e., after applying the current context and the current data during the logic evaluation process), an incorrect value might be returned from the calculation/logic. For example, this could cause calculated fields and Data Quality rule H not to function as expected. (Ticket #203945)
- Bug fix: When using Multi-Language Management, fields on a data entry form that are piped on the page would mistakenly disappear from the page immediately after the form has loaded. (Ticket #204372)
- Bug fix: When using Multi-Language Management, the Form Complete status field on data entry forms would mistakenly not change to the correct translated text when switching languages on the page while using iOS. (Ticket #203189b)
- Bug fix: When opening a data entry form or survey page in certain versions of iOS in Mobile Safari or in Internet Explorer, the page would never fully load due to a JavaScript error. (Ticket #202806, #204332)
- Bug fix: When a Survey Base URL is defined in the Control Center and a survey participant clicks the "Close survey" button after completing a survey, if the survey had been opened in the participant's browser from outside of REDCap, such as clicking a link in an email, in which the browser will not let the webpage close the tab but instead falls back to displaying the "You may now close this tab/window" message on the page, the participant would mistakenly not be taken to a URL beginning with the Survey Base URL but would instead be taken to the non-survey Base URL defined in the Control Center, which could be confusing to the participant. (Ticket #204422)
- Bug fix: When attempting to upload Alerts & Notifications via CSV file, if the "email-to" field contains the value [survey-participant-email], REDCap would mistakenly return an error message saying the value isn't valid when it actually is. (Ticket #201256)
- Bug fix: When using Multi-Language Management, in certain cases an error would occur when attempting to import MLM settings via CSV or JSON files, thus preventing the upload from completing.
- Bug fix: If proxy server settings have been provided on the General Configuration page in the Control Center, those settings would mistakenly fail to be used by the internal MyCap API check

on the MyCap Configuration Check page and thus could result in a false positive saying that issues exist.

- Bug fix: When using Multi-Language Management and using the eConsent Framework, the footer of the eConsent PDF, when displayed at the end of a survey, would mistakenly not have its text translated by MLM. This issue was supposedly fixed in the previous version but mistakenly was not. (Ticket #204669)
- Bug fix: The Share->Copy Link functionality might stop functioning for files in the File Repository if attempting to perform the functionality in a specific way more than once while on the page. (Ticket #204876)
- Bug fix: When utilizing the "Include PDF of completed survey as attachment" option in the Confirmation Email section on the Survey Settings page for a survey that is using the e-Consent Framework, the PDF consent form that is attached to the email would mistakenly have REDCap's back-end stored filename as the PDF filename rather than the intended user-friendly version of the filename. Additionally, the consent PDF was mistakenly not listed by name in the logged details of the event on the Logging page.

Version 13.1.27

- **Critical security fix:** A PHP Deserialization Remote Code Execution vulnerability was found in which a malicious user who is not logged in could potentially exploit it by manipulating an HTTP request to a survey page while uploading a specially crafted file. If successfully exploited, this could allow the attacker to remotely execute arbitrary code on the REDCap server. This vulnerability exists only in the following REDCap versions: LTS 13.1.11 through 13.1.26 and Standard Release 13.3.0 through 13.4.10.
- **Medium security fix:** A Cross-site Scripting (XSS) vulnerability was discovered in a file download process in which a malicious user could potentially exploit it by inserting HTML tags and/or JavaScript in a very specific way into an HTML file that is then uploaded into a File Upload field or as a Descriptive Text field attachment, and then having a logged-in REDCap user attempt to download that file using a specially crafted URL.
- **Major bug fix:** Partially completed one-page surveys might mistakenly behave as if the participant has not started the survey if they return to the partially completed survey after having entered some data. (Ticket #204003)
- **Major bug fix:** When a survey participant opens a public survey under certain conditions, such as when multiple participants are using the same device, the survey page (and/or subsequent pages) might mistakenly get populated with the previous participant's responses, thus allowing participants to see data they should not. This fix reverts functionality from Ticket #142376 (from REDCap 13.4.3 Standard and 13.1.19 LTS) that attempted to gracefully recover a participant's session if they used their browser's BACK button on a survey as a means of returning to a previous survey page. (Ticket #204164)
- Bug fix: When publishing a MyCap configuration in a project, some chart fields might not get stored correctly in the config and thus might affect participants using the MyCap mobile app on iOS.
- Bug fix: When using Multi-Language Management, the @LANGUAGE-FORCE action tag (if being used on a field) would mistakenly not work as expected.
- Bug fix: When using DUO as an option for two-factor authentication, the 2FA process would mistakenly redirect users to the REDCap home page after a successful login rather than redirecting them to the current page they were originally on. (Ticket #203337)

- Bug fix: The “Field Finder” on the Codebook page might mistakenly display some HTML in the search results if the user begins the search with the letter “c”.
- Bug fix: When using Duo two-factor authentication, the REDCap login page might mistakenly be blank when using Mobile Safari on an iOS device. (Ticket #203626)
- Bug fix: When using Multi-Language Management and using the eConsent Framework, the footer of the eConsent PDF, when displayed at the end of a survey, would mistakenly not have its text translated by MLM.
- Bug fix: Fixed issues related to error checking for the Imagick PHP extension check on the Configuration Check page. (Ticket #203313b)
- Bug fix: Requests to the survey end-point that contained “__passthru” and “route” in the URL would mistakenly not get logged in the redcap_log_view table.
- Bug fix: When using Multi-Language Management, some browsers might attempt to auto-translate part of the webpage when viewing a page translated via MLM. Such a browser action will now be prevented in order to allow the form or survey to be viewed exactly how the user intended. (Ticket #203925)
- Bug fix: When viewing a Public Project Dashboard on PHP 8, the page might mistakenly crash due to a fatal PHP error. (Ticket #203634)
- Bug fix: Fixed an issue with the setting related to the use of email addresses in a CDIS project, in which it was causing the email addresses not to be fetched from the EHR.
- Bug fix: During the MyCap EM to REDCap migration process, the migration popup was displaying the wrong “number of tasks” if there are any inadequately-enabled tasks on the EM side.
- Bug fix: If the unique group name of a Data Access Group happens to be an integer and also happens to be the same value as the Group ID number of another DAG in the same project, users would mistakenly not be able to utilize the DAG Switcher if they attempt to move in and out of the DAG whose Group ID number matches the unique group name of another DAG. (Ticket #204033)
- Bug fix: When using “&new” in a survey URL of a repeating survey, in which the URL also contains extra URL parameters for the purpose of survey pre-filling, those extra parameters would mistakenly be lost and thus will not be pre-filled after redirecting the participant to a not-yet-created repeating survey instance. (Ticket #204113)
- Bug fix: When using Multi-Language Management, some browsers might attempt to display a popup to ask the user if the page should be auto-translated by the browser. In the previous version, the auto-translate action is now prevented, but this new fix now prevents the translation popup from displaying altogether in order to reduce confusion for users/participants when using MLM. (Ticket #203925b)
- Bug fix: If the dates used together in a datediff() function or in a @CALCDATE action tag do not have the same date format, the resulting error message would mistakenly mention “Since the DATEFORMAT parameter was not provided as the fourth parameter in the equation, 'ymd' format was assumed”. The date format parameter is a legacy feature and is no longer used or needed, so that specific part of the error message has been removed in these cases. (Ticket #204213)

Version 13.1.26

- **Major bug fix:** When copying a project and all its records, any fields that have no action tags (i.e., have nothing in the Field Annotation) would mistakenly have their value converted into a MyCap participant code for all records/events. Additionally, some repeating instance data might get orphaned or not get copied over correctly. (Ticket #203436)

- Bug fix: The MyCap mobile app might mistakenly crash in certain situations on the About page if the About page's image for the app is stored incorrectly in the project's MyCap configuration.
- Bug fix: The Control Center's Configuration Check page might mistakenly display an incorrect message that the Imagick PHP extension is not installed correctly when in fact the issue was that Ghostscript was not installed correctly on the server. (Ticket #203313)

Version 13.1.25

- **Critical security fix:** Two different Remote Code Execution vulnerabilities were found in the process whereby files are uploaded via File Upload fields and via the Data Import Tool, in which a malicious user could potentially exploit it by manipulating an HTTP request while uploading a specially crafted file on the Data Import Tool page, on a data entry form, or on a survey page. If successfully exploited, this could allow the attacker to remotely execute arbitrary code on the REDCap server. These vulnerabilities exist in all versions of REDCap.
- **Critical security fix:** An Insecure Direct Object References (IDOR) vulnerability was found, in which a malicious user could potentially exploit it by manipulating an HTTP request in a specially crafted manner on a survey page. This could allow the attacker to export PDFs containing data of individual survey participants (potentially containing sensitive/private information). Any valid survey link (including a public survey link) could be used and manipulated in order to export a PDF containing data for any record within the project to which the survey link belongs.
- **Major security fix:** A Blind SQL Injection vulnerability was found on the Alerts & Notifications page, in which a malicious user could potentially exploit it by manipulating an HTTP request on that page or indirectly via the survey page.
- **Medium security fix:** A Path Traversal vulnerability was found in a specific endpoint relating to the Clinical Data Pull feature, in which a malicious user could potentially exploit it by manipulating an HTTP request on a specific CDP page.
- **Minor security fix:** A Cross-site Scripting (XSS) vulnerability was discovered in which a malicious user could potentially exploit it by entering an HTML "iframe" tag in a carefully crafted manner into the value of a text field on a form or survey. Additionally, that text field's value must be piped to another place on that same page in order to exploit it. This bug exists in all versions of REDCap, both LTS and Standard Release.
- Bug fix: The warning popup that is displayed when a user attempts to download a data dictionary when one or more of the instruments in the project have been imported from the REDCap Shared Library, in which the user must first agree to the Shared Library's Terms of Use, was mistakenly not being displayed when users also perform the following other relevant actions: download an instrument zip file, download a Project XML file, or copy the project.
- Bug fix: Long-running CDIS-related cron jobs might mistakenly prevent External Module cron jobs from running at their expected interval.
- Bug fix: When two administrators are viewing the Multi-Language Management page in the Control Center at the same time, the second person to navigate there will not be able to view the page while the first person is still viewing it due to a fatal PHP crash. Bug emerged in the previous version. (Ticket #202782)
- Bug fix: When using the "Compare" feature for data dictionaries and/or snapshots on the Project Revision History page, on certain occasions it would not perform the comparison correctly and thus would display incorrect results.
- Bug fix: Due to various API changes in the third-party web service used by the Field Bank feature, the Field Bank would no longer return any results if a user searched for a field in the Field Bank dialog in the Online Designer. This affects REDCap versions 10.7.0 and higher.

- Bug fix: When copying a MyCap-enabled project that contains records, in which the records are also being copied, the process would fail to copy the records into the MyCap Participant List in the new project. The records would get copied correctly but mistakenly not added to the MyCap Participant List.
- Bug fix: If the two authentication settings "Number of failed login attempts..." and "Amount of time user will be locked out after having failed login attempts..." on the Security & Authentication page somehow have non-integer values, it could cause the REDCap login page to crash with a fatal PHP error when using PHP 8. (Ticket #202976)
- Bug fix: After renaming a record in a longitudinal project and using the Form Display Logic feature, the Record Home Page might mistakenly give a fatal PHP error when using PHP 8. (Ticket #203014)
- Bug fix: When using Multi-Language Management on form or survey, the choice label from radio button fields that are inside a matrix would fail to pipe successfully if on the page. (Ticket #201392)
- Bug fix: CDIS-related bug that could cause issues when refreshing a user's FHIR access token, in which the format of the date used to check for expiration was wrong.
- Bug fix: When using Twilio telephony services for surveys, U.S. phone numbers having the area code "986" would mistakenly not work for SMS or voice calls unless the number has a "1" prepended to it. (Ticket #203044)
- Bug fix: When clicking any of the table headers for the project list table on the My Projects page, it would mistakenly hide all the projects in the list except for those in the "Unorganized Projects" folder. Additionally, if any project folders were previously open, the user would find that all project folders had been closed after reloading the page. (Ticket #203046)
- Bug fix: The login page for "Shibboleth & Table-based" authentication might mistakenly display both the Shib and Table-based login options under the Shib login tabs when using more than one Shibboleth login option. Bug emerged in REDCap 13.4.0. (Ticket #200919b)
- Bug fix: When using Multi-Language Management, the @LANGUAGE-FORCE action tag might not work as intended under specific conditions. (Ticket #202553)
- Bug fix: When using an [aggregate-X] Smart Variable in a calculation or any kind of conditional logic or branching logic, in which the value returned for the [aggregate-X] Smart Variable is greater than "999", the logic might mistakenly not function as expected. (Ticket #203063)
- Bug fix: When using Multi-Language Management on a data entry form, the MLM language switcher drop-down displayed on the form might mistakenly be obscured and/or not visible while using certain iOS devices. (Ticket #203189)
- Bug fix: The link to the Training Videos on the login page would be incorrect in some situations. (Ticket #203245)
- Bug fix: When an adaptive or auto-scoring survey that has been downloaded from the REDCap Shared Library is not the first instrument in the project and is set to "Redirect to a URL" on the Survey Settings page, the survey participant would mistakenly not be redirected to the defined URL after completing the survey. (Ticket #203316)

Version 13.1.24

- Bug fix: Several missing LOINC codes were added to the CDIS mapping features.
- Bug fix: A CDIS-related database query could throw a fatal error when computing information for a DataMart revision.

- Bug fix: When using MyCap, records might not appear in the MyCap Participant List if they were created while the MyCap feature was disabled in the project, after which MyCap was later enabled. (Ticket #202374)
- Bug fix: The "Auto-fill Form" link for administrators to use on forms and surveys would mistakenly insert the wrong value for specific field validations, such as Number (1 decimal place), Number (comma as decimal), and other number types. (Ticket #202401)
- Bug fix: When loading the first page of a multi-page public survey, in which no records exist in the project yet, the survey page might display a "REDCap crashed" error when running PHP 8. (Ticket #202648)
- Bug fix: When downloading a PDF of an instrument that contains a Descriptive Text field with an inline PDF attachment, in certain cases an extra empty page might appear in the resulting PDF right before where the inline PDF is rendered. (Ticket #202598)
- Bug fix: When using the Smart Variable [stats-table] and limiting its data via appending a unique report name, in which the report itself returns zero results, the stats table would mistakenly display statistics for all records in the project. (Ticket #201751)

Version 13.1.23

- Bug fix: If the REDCap database table structure has utf8mb4 collation while REDCap's database connection is configured to use utf8[mb3], both the db_character_set and db_collation values in the redcap_config database table will be modified to ensure that the character set is aligned. This fix will occur during the upgrade process and will also be added to the Unicode Transformation page.
- Bug fix: When piping a field variable that has an [X-event-name] Smart Variable prepended to it while also having an [X-instance] Smart Variable appended to it, it might mistakenly return a blank value rather than piping the correct value. (Ticket #142932)
- Bug fix: When a @CALCTEXT field contains an if() function that has a plus sign () inside of single quotes or double quotes, the resulting text would mistakenly have the text "*1 1*" replacing every plus sign. This would occur when viewing a @CALCTEXT field on a data entry form or survey but not via server-side calculation methods, such as Data Quality rule H. (Ticket #141653)
- Bug fix: If using Multi-Language Management, the @LANGUAGE-CURRENT-FORM action tag was working on (completed) surveys viewed on data entry pages, which should never have been the case.

Version 13.1.22

- **Major bug fix:** Reverted the bug fix in [Ticket #142759](#), which sought to provide server-side checking to prevent @READONLY fields from having their data values modified through the client side (e.g. JavaScript). This has been reverted because there appear to be too many scenarios in which this server-side checking was blocking legitimate data entry and thus some data was not getting saved properly. Most of these scenarios occurred when using certain action tags together with @READONLY, as described in [Ticket #202226](#) (i.e., @CALCTEXT, @CALCDATE, @DEFAULT, @SETVALUE), but other scenarios, such as when performing survey pre-filling (via URL parameters or via POST requests) for @READONLY fields, could not easily be incorporated into the server-side checking. **Therefore, the server-side checking for @READONLY fields (added to REDCap 13.1.20 LTS and 13.4.4 Standard) has been removed/reverted because it was preventing legitimate data entry on forms and surveys in various scenarios.**

Version 13.1.21

- **Major bug fix:** Opening a data entry form when using PHP 8 would crash the page with a fatal PHP error on certain occasions. Bug emerged in the previous version.

Version 13.1.20

- Bug fix: If using MySQL 8 for the REDCap database, admins might see false positives for the database structure check in the Control Center, in which it might mistakenly say "Your Database Structure is Incorrect" when it is actually correct. Bug emerged in the previous version. (Ticket #202144)
- Bug fix: Fields that have a @READONLY action tag could have their data value modified on a survey page or data entry form by manipulating the webpage via JavaScript or via the web browser's developer console. (Ticket #142759)

Version 13.1.19

- **Major bug fix:** If a user calls the "Export Records" API method and explicitly provides the "fields" API parameter as a comma-delimited text string (instead of an array), the API might mistakenly export the data for all project fields, including data for fields for which the API user does not have data export rights. (Ticket #200812)
- Bug fix: When following the directions on the page "Updating your REDCap Database Tables to support full Unicode", the process might mistakenly fail due to certain MySQL/MariaDB errors occurring when attempting to convert certain characters to utf8mb4 via the UPDATE queries provided on the page. If you have attempted to use this page previously and had to stop due to these errors, then after upgrading, we recommend you try it again using the new SQL provided on that page.
- Bug fix: Small fixes for the page "Updating your REDCap Database Tables to support full Unicode".
- Bug fix: Custom Survey Queue Text might mistakenly have many unnecessary line breaks, thus causing the text to have large, empty gaps. (Ticket #201330)
- Bug fix: When user privileges are edited or when users are added to a project via the CSV file upload on the User Rights page, it would mistakenly not log the individual events of each user being edited or added, respectively. (Ticket #200514)
- Bug fix: When the survey expiration date is saved in YMD date format on the first save of the Survey Settings page, the date format is corrupted and not saved correctly. (Ticket #201743)
- Bug fix: If a participant is taking a multi-page public survey and uses their browser's Back button to go back to the first survey page, then then afterward continues forward again on the survey, it would mistakenly create a duplicate response/record in the project (Ticket #142376)
- Bug fix: Vertically-aligned checkboxes (and some other elements as well) might not display correctly (or might be invisible) on survey pages while using an RTL (right-to-left) translated language via Multi-Language Management. (Ticket #201476, #200785)
- Bug fix: When taking an adaptive or auto-scoring survey that was imported from the REDCap Shared Library while the Survey Queue is being utilized, the Survey Queue might mistakenly fail to be displayed at the end of the survey or (if using auto-start) the next survey in the queue would fail to begin automatically. (Ticket #201816)

- Bug fix: When taking an adaptive or auto-scoring survey that was imported from the REDCap Shared Library while the Survey Queue is being utilized, clicking the Survey Queue icon at the top right of the survey page might mistakenly not display the Survey Queue.
- Bug fix: If an alert is set to be triggered during a data import, in which it will send an alert for each new repeating instance of a repeating instrument, the alert would mistakenly fail to get triggered if the imported value of the "redcap_repeat_instance" field is literally "new" rather than an integer. (Ticket #200445)
- Bug fix: If the record ID field has any kind of field validation, the validation would mistakenly fail to be enforced when renaming the record on the Record Home Page. (Ticket #200101)
- Bug fix: The "Save & Mark Survey as Complete" button on data entry forms might mistakenly be displayed in situations in which it should not. (Ticket #142863)
- Bug fix: The process that checks for errors in the REDCap database structure might have reported false positives if REDCap is running on newer MariaDB versions (10.3.37 , 10.4.27 , 10.5.18 , 10.6.11 , 10.7.7 , 10.8.6 , 10.9.4 , 10.10.2 , 10.11.0), in which the "SHOW CREATE TABLE" query in these newer MariaDB versions excludes a column's charset and collation if the column matches the default charset/collation of the table.
- Bug fix: When creating a new project via the MyCap project template, the project creation process would mistakenly update the baseline date setting configuration before updating the project configuration, thus causing some things to be out of sync with regard to MyCap settings in the project in certain cases.
- Bug fix: The user privilege for "Alert & Notifications" was mistakenly not getting copied for project users when using the "Copy Project" feature while electing to copy the current users into the new project. This issue was supposedly fixed in the previous version but mistakenly was not. (Ticket #201585)
- Bug fix: When using an ontology service (e.g., BioPortal) on a Text field, the cron job that sends Alerts and Automated Survey Invitations might mistakenly crash with a fatal PHP error if the field's value is piped into the email body of the Alert or ASI. (Ticket #201928)
- Bug fix: When uploading a CDISC ODM XML file of data on the Data Import Tool page, in certain situations while using PHP 8, the page could crash with a fatal PHP 8 error. (Ticket #200728)
- CDIS-related bug fixes:
 - Resolved an issue where an error during FHIR authentication prevented the complete log from being displayed.
 - Fixed a bug where fhir_identity_provider, a CDIS setting, was not given proper priority during the FHIR authentication process.
 - Addressed a bug where the "next" page of a bundle containing too many entries could have no reference to the FHIR resource, resulting in a logging error.
- Bug fix: When composing an invitation for a repeating survey on the Participant List page, the Compose Invitations dialog would mistakenly pre-check the checkbox of participants in the dialog's participant list in which the participant row represents a placeholder for a not-yet-existing repeating instance of the survey. In this case, users might not wish to send an invitation to these placeholders, but they exist there in the participant list just in case they do wish to invite them. So leaving them pre-checked when the Compose dialog opens could cause users to mistakenly send another repeating survey invitation to the participant when the user did not intend to do that.
- Bug fix: When two users are simultaneously on the same data entry form in a project about to create a new record, in which both users have been assigned the same tentative record name prior to the record being created, if the second user to click Submit is also locking the instrument, the second user's record would skip a number in the record creation sequence (e.g.,

user 1 creates record "101" while user 2 creates "103" instead of "102") while also mistakenly not locking the second user's new record. (Ticket #201814)

- Bug fix: When a repeating instrument for a record has an instance 2 but not an instance 1 saved, the left-hand instrument menu might mistakenly display a gray status icon for the repeating instrument (as if no instances exist) when viewing other instruments within the record. (Ticket #202054)

Version 13.1.18

- **Major bug fix:** When appending "&new" to the end of a survey URL for a repeating survey, it would mistakenly not redirect to the next not-yet-created repeating instance of the survey but would instead display the message that the survey had been completed.
- Bug fix: When using Duo two-factor authentication, REDCap would mistakenly not honor when a user checked the checkbox to not prompt for the MFA login again for 7 days. (Ticket #201444)
- Bug fix: When clicking the Check All button on the Email Users page in the Control Center, if some text had been entered into the Search filter beforehand, every user would mistakenly be selected rather than just the visible users in the table. This could cause the email to go to all users instead of just specific ones.
- Bug fix: When the REDCap API has been disabled at the system level, the Tableau Export option on the "Other Export Options" page would mistakenly still appear. (Ticket #200248)
- Bug fix: When creating a project from a template, the creator of the project would mistakenly not have "Alerts & Notifications" privileges. (Ticket #201585)

Version 13.1.17

- **Medium security fix:** A Cross-site Scripting (XSS) vulnerability was discovered on survey pages in which a malicious user could potentially exploit it by inserting HTML tags and/or JavaScript in a very specific way into the survey URL in order to pre-fill a Text field on the page, in which the field must have the @DEFAULT action tag and must also be piped somewhere on the current page. (Ticket #201503)
- **Medium security fix:** A Cross-site Scripting (XSS) vulnerability was discovered in the File Repository in which a malicious user could potentially exploit it by inserting HTML tags and/or JavaScript in a very specific way inside the "comment" text of an uploaded file. (Ticket #200457)
- Bug fix: The survey auto-continue feature might mistakenly not work with PROMIS computer adaptive test (CAT) surveys but instead would just display the text "Thank you for your interest, but you have already completed this survey". (Ticket #200757, #200621)
- Bug fix: When using Multi-Language Management, the proper language would not get used for the e-Consent PDF in certain situations (Ticket #200944).
- Bug fix: When using Multi-Language Management, the survey acknowledgement page might not show the appropriate language.
- Bug fix: When a PDF file is attached to a Descriptive Text field and is set to display inline, it might not always get positioned in the correct place in the resulting PDF that is generated.
- Bug fix: When a PDF file is attached to a Descriptive Text field and is set to display inline, the inline PDF might be displayed with too low a resolution inside the resulting PDF that is generated. Its resolution has been increased from 120 DPI to 200 DPI to make it more readable. (Ticket #200582)
- Bug fix: When a PDF file is attached to a Descriptive Text field and is set to display inline, the inline PDF might mistakenly be too large for the page and might run off the page if more than

one or two lines of text exist for the Descriptive Text field's field label. The resulting PDF that is generated will instead begin the inline PDF on a new page by itself in this scenario. (Ticket #200582b)

- Bug fix: Small tweaks and fixes for the page "Updating your REDCap Database Tables to support full Unicode".
- Bug fix: Piping in a survey's Survey Completion Text would always fail to work. (Ticket #200909)
- Bug fix: In some situations, a required field that is embedded inside another required field hidden by branching logic might mistakenly not be able to have its value removed when a user deletes the value and then clicks Save on a survey or data entry form. The value would reappear again if the page was reloaded.
- Bug fix: In some rare scenarios when a participant submits the first page of a public survey, the page might result in a "too many redirects" error, thus preventing the user from completing the survey. (Ticket #200351)
- Bug fix: When composing a survey invitation, in which the Smart Variable [survey-link:instrument] or [survey-url:instrument] is used (i.e., with an instrument name) inside the body of the invitation, the dialog titled "Invitation text is missing [survey-link] variable" would mistakenly appear when it should not. (Ticket #200914)
- Bug fix: When submitting the first page of a public survey, in which an MDY or DMY formatted date/datetime field was submitted, the survey might mistakenly display the "invalid values entered!" dialog saying that the field's submitted value was incorrect, which is not true.
- Bug fix: Several missing LOINC codes were added to the CDIS mapping features.
- Bug fix: Fixed typo in Multi-Language Management logEvent() method. This does not seem to affect anything though.
- Bug fix: When embedding a matrix field and using the ":icons" notation, the balloon and history icons would mistakenly not be displayed for the embedded matrix field.
- Bug fix: If a horizontally-aligned checkbox is embedded inside the choice label of another checkbox that is vertically-aligned, the first checkbox of the embedded field might mistakenly not be visible. (Ticket #201393)

Version 13.1.16

- **Major bug fix:** If the Automatic Upgrade (blue button on the Upgrade page), Easy Upgrade, and/or Auto-Fix options are available in your REDCap installation (regardless of whether you have actually used those options or not), it could be possible for someone that is not logged in to REDCap to directly access the upgrade page of an older version sitting on the web server (e.g., https://.../redcap_v11.1.0/upgrade.php) and click the blue Upgrade button for the Automatic Upgrade, which would mistakenly revert the system back to that version. Note: Doing this would not run any other SQL but only the few queries that change the "redcap_version" in the redcap_config database table (and a couple of other minor things). If either the Automatic Upgrade or Easy Upgrade option is available on your system, then it is recommended that you additionally go and remove EVERY upgrade.php file that exists inside all previous REDCap version folders. This is just a one time thing, and is not necessary to do in the future. (Ticket #200338)
- Change: Replaced all hard-coded links to REDCap Community pages to point to the new REDCap Community website hosted on the Vanderbilt REDCap server. Previous links pointed to the old AnswerHub site.
- Bug fix/change: Inline PDF attachments on Description Text fields were mistakenly not being rendered as inline in PDF exports.

- Last year when the inline PDF feature was added for attachments on Description Text fields, in which in previous REDCap versions only images could be displayed as an inline attachment on the web page and in the exported PDF file, the feature was mistakenly not fully implemented because the PDF attachment was not rendered inline inside the resulting exported PDF file for a form or survey. To fix this, any PDF attachments that are set to be displayed as inline on a Descriptive Text field will now correctly be rendered as inline in the PDF of the form/survey in order to be consistent with how inline images have always been treated in PDFs.
- Additionally, the ImageMagick PHP extension is required for this fix to work. It is a common but not universal PHP extension. A new check has been added to the Configuration Check page to detect if this extension has been enabled on the REDCap web server, and if not, the page will provide a link with instructions for installing it, if desired.
- NOTE: If administrators wish to disable this setting so that inline PDF attachments are not rendered as inline inside the PDF files, they may disable this functionality at the system level on the Modules/Services Configuration page in the Control Center.
- Bug fix: When the min or max validation range of a date- or number-formatted Text field contains certain Smart Variables, the min/max range check might mistakenly not work on a form or survey due to a JavaScript error. (Ticket #143298)
- Bug fix: When a user deletes all the data in a single event for a record (in the UI or via the API), the resulting logged event seen on the Logging page would mistakenly note that it happened to the first event instead of to the specified event.
- Bug fix: When the Record ID field has the @HIDDEN-PDF action tag, the field would mistakenly not get hidden in the downloaded PDF when clicking the PDF option "This data entry from with saved data (via browser's Save as PDF)" while on a data entry form. (Ticket #111718b)
- Bug fix: While the ability of individual projects to have their own authentication method was removed in REDCap 13.1.2, this setting was mistakenly not removed from the Edit Project Settings page (in which changing its value on that page does nothing to affect anything). (Ticket #200379)
- Bug fix: When copying a MyCap-enabled project, it would mistakenly copy the MyCap tasks into the new project, even when the MyCap copy option is not checked.
- Bug fix: When migrating a project using the MyCap external module to begin using the native MyCap feature, the migration process might mistakenly not process certain MyCap tasks correctly that were not adequately enabled in the MyCap EM.
- Bug fix: The Smart Variables [survey-time-started], [survey-date-started], [survey-time-completed], [survey-date-completed], [survey-duration], [survey-duration-completed] might mistakenly return the value for record "1" in a project (if record "1" exists) when these Smart Variables are used in a calculated field, @CALCTEXT field, or branching logic on the first page of a public survey. These would, however, work correctly if used in a field label, choice label, etc., if used on a non-public survey, or if used on survey page 2 or higher of a public survey.

Version 13.1.15

- **Medium security fix:** A Cross-site Scripting (XSS) vulnerability was discovered in the @CALCTEXT action tag in which a malicious user could potentially exploit it by inserting HTML tags and/or JavaScript in a very specific way inside the text of the @CALCTEXT action tag.

- **Minor security fix:** An SQL Injection vulnerability was found on the Database Activity Monitor page, in which a malicious user could potentially exploit it by manipulating an HTTP request on another page while an administrator views the Database Activity Monitor page.
- Bug fix: Several missing LOINC codes were added to the CDIS mapping features.
- Bug fix: When REDCap is sending a confirmation email to a survey participant after completing a survey, it might mistakenly cause a fatal PHP error on the page. (Ticket #143145)
- Bug fix: When piping a File Upload field with “:link” or “:inline” in the body of outgoing emails (e.g., alerts, ASIs), the piping would mistakenly not be successful under certain circumstances. (Ticket #143158)
- Bug fix: The Stats & Charts page might mistakenly crash in certain situations due to a fatal PHP error when using PHP 8. (Ticket #143019b)
- Bug fix: When using Multi-Language Management, in which an Automated Survey Invitation has been translated, the ASI might mistakenly not be sent in the desired language when there are conflicting things (or none) dictating what the language should be for the ASI. To prevent this issue regarding language ambiguity in ASIs, a new MLM setting had to be added to allow users to define the language source of a given ASI at the survey level (but not at the survey-event level), in which users may choose the “Language preference field” or “User’s or survey respondent’s active language” as the ASI Language Source on the MLM setup page. (Ticket #143119)
- Bug fix: When using Multi-Language Management, in which an Automated Survey Invitation has been translated, the ASI might mistakenly be sent out in the fallback language in some cases. (Ticket #143119b)
- Bug fix: Any HTML tags used inside the equation of a @CALTEXT field would mistakenly not display correctly in the View Equation popup on data entry forms. (Ticket #143228)
- Bug fix: An issue specific to PHP 8.1 might cause some features of the Clinical Data Mart to crash with a fatal PHP error.
- Bug fix: Large configurations for Multi-Language Management might mistakenly get truncated in the database when saved. The configuration columns in the MLM database tables were increased to handle this. (Ticket #143355)
- Bug fix: The embedded PDF on the e-Consent certification page of a survey with the e-Consent Framework enabled would mistakenly look squished (have incorrect dimensions) when taking the survey on an iPad. (Ticket #143212)
- Bug fix: In some cases after a participant has completed a survey, if they return to the survey using a private survey link (i.e., not a public survey link) while the survey has "Save & Return Later" disabled, the participant might mistakenly be allowed to modify the existing survey response. (Ticket #143400)

Version 13.1.14

- **Major bug fix:** On public surveys where the participant fails to enter a value for a required field on the first page of the survey, in which the survey page has dozens or hundreds of fields, the survey page might mistakenly crash with an HTTP 414 error (URL Too Long) after being submitted, thus preventing the participant from completing the survey. Bug emerged in REDCap 13.1.11 (LTS) and 13.3.0 (Standard). (Ticket #142829)
- Bug fix: The Azure AD (V1) authentication was mistakenly displaying “samAccountName” as an option to use for “AD attribute to use for REDCap username” when instead it should have been using “onPremisesSamAccountName”. (Ticket #134789)

- Bug fix: When re-evaluating an Automated Survey Invitation for a repeating survey that has been set up with a repeating ASI, the re-evaluation process might report that some invitations were scheduled when they were not.
- Bug fix: In some cases, images that were added via the rich text editor to a project dashboard, to custom text on a report, or to survey components (instructions, questions, etc.) would mistakenly not display on the public version of the dashboard, on a public report, or on the survey, respectively, unless the person viewing it was currently logged in as a REDCap user. (Ticket #142302)
- Bug fix: If Automated Survey Invitations have been set up for a survey, in which some invitations have already been scheduled for a record, if the survey instrument gets marked as "Complete" via normal save operations on the data entry form (with the exception of clicking the "Save & Mark Survey as Complete" button), the scheduled invitations would mistakenly get automatically deleted. They should only get deleted if the survey has been completed via the survey page or by a user clicking the "Save & Mark Survey as Complete" button on the data entry form. Bug emerged in REDCap 9.3.7. (Ticket #142989)
- Bug fix: When creating a Table-based authentication user or when adding a user to a project, if the username that was entered contained illegal characters, the error message would fail to note that the @ symbol is allowed in usernames. (Ticket #142999)
- Bug fix: The Stats & Charts page might mistakenly crash in certain situations due to a fatal PHP error when using PHP 8. (Ticket #143019)
- Bug fix: When using Duo two-factor authentication, if the system is set to "Offline", it would mistakenly prevent administrators from successfully logging in via Duo 2FA. (Ticket #143003)
- Bug fix: When piping instance-related Smart Variables into the email text of a survey's Confirmation Email, the resulting piped text might mistakenly not be formed correctly. For example, appending [new-instance] to the [survey-link] Smart Variable, in which survey-link contains custom display text, would output the survey URL instead of the survey link with the custom text. (Ticket #143059)

Version 13.1.13

- Bug fix: When a record is correctly assigned to a Data Access Group, it might not appear to be assigned to its DAG while viewing the Record Status Dashboard, the Add/Edit Records page, and reports if data values for the record somehow got stored incorrectly in the backend redcap_data table in multiple/mixed cases (e.g., "101a" vs "101A"). Un-assigning and then re-assigning the record back to its original DAG might fix this issue temporarily, but the bug would arise again whenever the project's internal "Record List Cache" was cleared/rebuilt. (Ticket #141329, #142544) NOTE: If the issue still exists after the upgrade, click the "Clear the Record List Cache" button on the Project Setup->Other Functionality page.
- Bug fix: When exporting CSV files in various places throughout REDCap, the process might mistakenly fail for PHP 8 under specific unexpected conditions.
- Bug fix: The cron job used for the Clinical Data Mart or Clinical Data Pull might mistakenly fail due to the user ID being used instead of the username when creating a new instance of the job.
- Bug fix: Over 20 missing LOINC codes were added to the CDIS mapping features.
- Bug fix: When performing certain actions in the File Repository, such as uploading files, an error message would mistakenly be displayed afterward saying that there is a DataTables warning. Bug emerged in REDCap 13.3.0 (Standard). (Ticket #140624)
- Bug fix: The "resources" link in the MyCap informational dialog on the Project Setup page mistakenly pointed to the wrong URL. (Ticket #142514)

- Bug fix: The CSV file upload for importing Automated Survey Invitations (ASIs) in the Online Designer would mistakenly fail with an error if the user's preferred CSV delimiter was not set to "comma" via their user profile. (Ticket #142555)

Version 13.1.12

- Bug fix: The "System Statistics" page in the Control Center did not display the label correctly for the count of projects utilizing the Clinical Data Pull feature.
- Bug fix: Data values imported for a patient's "birth-sex" via FHIR using the Clinical Data Operability Services might mistakenly get converted into an incorrect value ("UNK") in some specific cases. (Ticket #141976)
- Bug fix: If using the e-Consent Framework with the setting "Allow e-Consent responses to be edited by users?" enabled, users with edit privileges would mistakenly be prevented from modifying the data on the consent form via a data import. (Ticket #140846)
- Bug fix: The Survey Queue page might crash due to a fatal PHP error when using PHP 8. (Ticket #142125)
- Bug fix: When using the @RICHTEXT action tag on a Notes field, changing the text in the editor (i.e., the field's value) might mistakenly not trigger calculations or branching logic accordingly. (Ticket #142127)
- Bug fix: When using the rich text editor to translate a survey's survey instructions on the Multi-Language Management setup page, any images uploaded via the rich text editor would mistakenly not load when viewing the translations on a survey page (that is, unless the person viewing the survey is a REDCap user and is currently logged in to REDCap). (Ticket #141658b)
- Bug fix: If a user that has "read-only" user privileges for a specific instrument is viewing the Data History of a File Upload field on that instrument, the "Delete" link next to each file/revision would mistakenly be displayed in the Data History popup. Users with read-only instrument-level privileges should not be able to delete older revisions of a File Upload field. (Ticket #141709)
- Bug fix: If a repeating instrument has been enabled as a survey, but the survey setting "(Optional) Repeat the survey" has not been enabled on the Survey Settings page, then when viewing the participant list, a placeholder instance might mistakenly not be displayed in the participant list to represent a not-yet-taken instance of the repeating survey. There should always be at least one untaken placeholder instance displayed for each record in the participant list for repeating surveys because this allows users to open a new instance of the survey or email the participant a link to that new survey instance. (Ticket #141545)
- Bug fix: When creating/editing a report, the explanatory dialog for Step 3's "Show data for all events for each record returned" checkbox was outdated and mistakenly did not mention anything about the setting's usage in projects containing repeating instruments/events. (Ticket #141953)
- Bug fix: When the "Text-To-Speech" feature is enabled on a survey, the speaker buttons would mistakenly not appear next to the field labels of fields in a matrix, thus preventing participants from utilizing the feature there. (Ticket #141787)
- Bug fix: In very specific situations where a field is a required field and is embedded in another field, in which the container field is hidden by an @HIDDEN action tag while the field embedded inside it also has an @HIDDEN action tag, the user would mistakenly get prompted by the Required Field dialog for a hidden embedded field if the container and/or embedded fields have @HIDDEN-SURVEY while on a data entry form *or* if they have @HIDDEN-FORM while on a survey page. (Ticket #142212)

- Bug fix: If a whole record has been locked or if a data entry form has been locked for a given record, any survey participant who happened to have opened their survey prior to the record/instrument being locked would mistakenly still be able to submit and save their survey response, and as a result, possibly overwrite any existing data on the locked record/form. (Ticket #139555)
- Bug fix: When downloading a data dictionary or an instrument zip file, any Dynamic Query (SQL) fields that contain "\\n" in their SQL query would mistakenly have the text "\\n" replaced with "|" in the resulting downloaded file. (Ticket #141734)

Version 13.1.11

- Bug fix: Fixed PHP 8 related error when an administrator tries to hide the blue Easy Upgrade box in the Control Center. (Ticket #141539)
- Bug fix: When using "now" as the min/max for a date field or using "today" as the min/max for a datetime field, the validation range check would mistakenly not detect an out-of-range value. (Ticket #141646)
- Bug fix: When using the rich text editor to translate a label on the Multi-Language Management setup page, the image icon was mistakenly missing from the editor's toolbar interface, thus preventing users from uploading alternative images into the translated text.
- Bug fix: When using the rich text editor to translate a label on the Multi-Language Management setup page, any images uploaded via the rich text editor would mistakenly not load when viewing the translations on a survey page (that is, unless the person viewing the survey is a REDCap user and is currently logged in to REDCap). (Ticket #141658)
- Bug fix: When a survey participant enters data on a public survey, in which some required fields are left blank, it is possible for the participant to re-submit the page in the browser (via the browser Back/Reload button) and thus cause duplicate records to be created. This can especially happen for certain browsers, such as Mobile Safari on iOS devices, when minimizing the browser and then re-opening the browser later. (Ticket #141012)

Version 13.1.10

- Bug fix: In some cases, images that were added via the rich text editor to a project dashboard would mistakenly not display on the public version of the dashboard unless the person viewing it was currently logged in as a REDCap user.
- Bug fix: When creating a project using the MyCap project template included in REDCap, in some cases the resulting project might result in errors when a participant loads the project on their MyCap mobile app.
- Bug fix: A fatal PHP error might occur for PHP 8 on a project using the Clinical Data Pull feature, in which a user clicks the "Delete data for THIS FORM only" button at the bottom of a data entry form. (Ticket #141230)
- Bug fix: When using Clinical Data Pull and launching the CDP REDCap page embedded inside of Epic Hyperspace (this does not affect other EHRs but only Epic), the embedded page would not function correctly due to incompatibilities with Internet Explorer, which is the embedded browser utilized by Hyperspace. This bug emerged in the previous REDCap version.
- Bug fix: When exporting a project's data to SAS, in which the project is using Missing Data Codes and also the exported data set contains Text or Notes fields, the resulting SAS syntax file might mistakenly be missing an underscore at the end of the variable name for the "format" attribute for the Text and Notes fields. (Ticket #103142)

- Bug fix: The replacement function `utf8_encode_rc()` for PHP's `utf8_encode()` might prevent certain users from logging in successfully, in which this ultimately is caused by certain unknown web server configurations. (Ticket #140393)
- Bug fix: When using the Randomization page while a project is in production status, a REDCap administrator is unintentionally able to erase the randomization model of the project, which should only be allowed while in development status (even for admins). The "Erase randomization model" button will now stay disabled for everyone when a project is in production. (Ticket #141286)
- Bug fix: If a required field's field label contains a lot of HTML, in which the field value is left empty when submitting a survey page or data entry form, the "Some fields are required" dialog that is displayed would mistakenly not look correctly on some occasions due to the HTML in the label. To prevent this issue and to make the field label more readable, the required field dialog will now strip all HTML from the field label when displaying it. (Ticket #141262)
- Bug fix: Bug fix: When MyCap is enabled in a project, on some rare occasions when migrating a project using the MyCap external module, the process might fail due to an SQL error. (Ticket #138168b)
- Bug fix: Importing data for a patient's race via Clinical Data Interoperability Services (CDIS) might mistakenly fail in cases where the patient has more than one race listed in the EHR.
- Bug fix: When a user is viewing the field drop-down for the Data Search feature on the Add/Edit Records page in a project that has more than 20K records, the note text in the first option of the field drop-down would mistakenly be truncated, thus preventing the user from being able to read it. (Ticket #141317)
- Bug fix: When uploading a CSV file of user privileges on the User Rights page, the "lock_records" privilege would mistakenly return an error if its value is set to "2", which is a valid value. (Ticket #141141)
- Bug fix: When changing an existing alert from sending "immediately" and "every time" to sending not immediately (e.g., "Send on next X at time Y") without explicitly clicking the "Just once" radio option in Step 2B after doing so, these changes made to Step 2 would mistakenly not get saved when saving the alert. (Ticket #140491)

Version 13.1.9

- **Major bug fix:** In certain situations where survey invitations get scheduled for a repeating Automated Survey Invitation, in which the record's data is later modified, the repeating invitations that were scheduled might mistakenly get unscheduled. (Ticket #140851)
- **Major bug fix:** If a user is creating a new record on a data entry form, in which record auto-numbering is enabled in the project and the form is submitted by the user with a required field that has no value, if the project's internal Record List Cache (a secondary list of records in the database for improving performance) had not been built yet or was recently cleared (which is done automatically by REDCap internally), the user submitting the form might trigger the Record List Cache building process, which might inadvertently create multiple identical records instead of just creating the one record.
- Bug fix: If a checkbox field has a large amount of choices, thus causing the checkbox options to become a scrollable box, the overall height of the scrollable box would mistakenly be too short on surveys that have the "Enhanced radio buttons and checkboxes" feature enabled. Since the enhanced radios/checkboxes are much larger than regular radios/checkboxes, the scrollable area has been made twice as tall in these cases in order to provide a less confusing user experience to survey participants.

- Bug fix: The Multi-Language Management page in the Control Center might incorrectly denote a translated language as being 100% complete when it is only 99.9% complete. (Ticket #140724)
- Bug fix: Various issues related to checkbox fields with many options, such as displaying a horizontally-aligned checkbox field as too wide in Firefox. Also, the new feature added in the previous version that would cause a long list of checkbox options to become scrollable has now been completely removed since so many users complained about it being problematic for them. (Ticket #140759)
- Bug fix: When piping a Notes field that has the @RICHTEXT action tag, the HTML formatting in the field's value might mistakenly not render correctly on the page, especially if the value contains HTML tables. (Ticket #140910)
- Bug fix: When a datetime field is using "now" as the min or max validation range, and the user clicks the "Now" button next to the field after having been on the page for more than one minute, the "out of range" popup would mistakenly display.
- Bug fix: When using Multi-Language Management, if some slider fields do not have their slider label values translated, it could cause some parts of the survey page or data entry form not to display all its translated text successfully. (Ticket #140871)
- Bug fix: Some LH-aligned radio buttons might mistakenly cause the page to be too wide if a radio choice label is very long. Unfortunately, the only way to fix this issue fully is to revert a change in the previous version that improved the text wrapping of the choice labels of horizontally-aligned checkbox fields.
- Bug fix: If a survey participant clicks the "Save & Return Later" button on a survey, which has no survey title (i.e., it was left blank), the email sent to the participant might be slightly confusing because it displays only two double quotes where the survey title should be. It now displays slightly different text if the survey title has not been defined.
- Bug fix: If a project title contains some UTF-8 encoded characters, the project title would mistakenly display as garbled when viewing it on the My Projects page on a mobile device. (Ticket #140814)
- Bug fix: If a repeating Automated Survey Invitation has reminders enabled, the Survey Invitation Log might mistakenly display a bell icon and number (representing a reminder) next to a recurring invitation that is not actually a reminder.
- Bug fix: When using the Randomization page and downloading an example allocation table in Step 2, for certain randomization models, the CSV file produced may become too large to be processed, which might throw an error, and/or it might take an abnormally large amount of time to output the CSV file. To prevent these situations, the example allocation tables now will only output a maximum of 50,000 rows regardless of the randomization model set up in the project. (Ticket #140909)

Version 13.1.8

- Bug fix: If a Project Template has Form Display Logic, new projects created from that Project Template would mistakenly not have the Form Display Logic settings copied over. (Ticket #140489)
- Bug fix: If REDCap is using an external file storage method (e.g., AWS S3, Azure Blob Storage) for storing all files in the system, the Project Revision History's version comparison feature would mistakenly fail, and it would result in a fatal PHP error when using PHP 8. (Ticket #140551)
- Bug fix: If a participant email address contains one or more capital letters and is added manually to the Participant List multiple times, the Participant List would mistakenly fail to display a number and parentheses immediately before the email address on each row (e.g., "1)

rob@aaa.com") to help differentiate the multiple instances of the same email address. (Ticket #140466)

- Bug fix: When using Duo two-factor authentication, some important debugging information would mistakenly not get output to the page when an error occurred, in which it prevented admins from effectively troubleshooting certain network-based configuration issues that could cause Duo not to work dependably for users.
- Bug fix: If a checkbox field has a large amount of choices, it could cause the field to mistakenly take up a disproportionate amount of the survey page or data entry form, thus resulting in a bad user experience. In this case now, the whole list of checkbox options will instead become scrollable so that the checkbox field does not become too unwieldy while still allowing the user to see all the choices.
- Bug fix: Checkbox fields that are horizontally-aligned might mistakenly have a choice's checkbox and its label appear on two different lines due to text wrapping. Instead, an individual choice's checkbox and label now no longer wrap to the next line but instead stay together on the same line.(Note: This fix does not apply when viewing a form/survey on a mobile device.)
- Bug fix: In very specific situations where a field is a required field and is embedded in another field, in which the container field is hidden by an @HIDDEN action tag while the field embedded inside it does not have an @HIDDEN action tag but does have a @DEFAULT action tag, the default value added to the embedded field via the @DEFAULT action tag would mistakenly not get saved when saving the page.
- Bug fix: Various fixes related to issues with using Duo two-factor authentication, including issues caused by the use of a proxy with the REDCap web server. (Ticket #140186, #137099)
- Bug fix: Clicking the "View Equation" link for a @CALCTEXT field on a data entry form or survey page while the project is in production status but not in draft mode would mistakenly display an error message instead of displaying the calculation. (Ticket #140645)
- Bug fix: When downloading a CSV file of either users or user roles on the User Rights page, the form-level viewing rights and form-level export rights in the CSV file might mistakenly contain instruments that have been deleted from the project. (Ticket #140668)
- Bug fix: If PDF files had been stored in the File Repository's "PDF Survey Archive" folder, after which the Auto-Archiver and/or e-Consent Framework had been disabled for all surveys in the project, the "PDF Survey Archive" folder would mistakenly no longer be visible in the File Repository, thus preventing users from accessing previously-saved files. That folder will now be displayed if the Auto-Archiver and/or e-Consent Framework is enabled or if any files already exist in the folder. (Ticket #140435)

Version 13.1.7

- Bug fix: Certain Font Awesome icons might mistakenly not display correctly on survey pages.
- Bug fix: In certain situations in which REDCap or an External Module executes a specific parameterized query to the database, the query might mistakenly fail due to an "illegal mix of collations".
- Bug fix: Unless using the latest version of the REDCap Mobile App, a @CALCTEXT field might mistakenly not function correctly in the Mobile App if its calculation contains multiple nested IF() statements.
- Bug fix: When a participant is viewing their survey queue, if they click the "Get link to my survey queue" button and then click "Send" to email the survey queue link to themselves, the Email Logging page would mistakenly not associate the email with a record in a project when searching for emails on that page. This can make it very difficult to find this email via the Email

Logging page. In the future, this action will associate the email with a specific record on the Email Logging page.

- Bug fix: A SQL query might mistakenly not get formatted correctly and thus might fail when CDIS is sending a notification to a user via REDCap Messenger regarding the completion of an asynchronous CDIS task.
- Bug fix: The "How do I format the equation?" link in the "Edit Field" dialog in the Online Designer would mistakenly open the wrong question on the "Help & FAQ" page.
- Bug fix: If a user assigned to a Data Access Group views a report that has DAG filtering imposed via "Step 3: Additional Filters" in the report settings, in which the user's DAG is not one of the selected DAGs of the Additional Filters, the report might mistakenly display some records from the user's DAG when instead it should not return any records in the report. A similar behavior might also occur for a user that is not assigned to a DAG when viewing the same report, but instead occurring when using the DAG Live Filter to select a DAG that is not one of the selected DAGs of the Additional Filters. (Ticket #140302)

Version 13.1.6

- Bug fix: The user privilege for "Alert & Notifications" was mistakenly not getting copied for project users when using the "Copy Project" feature while electing to copy the current users into the new project. (Ticket #140023)
- Bug fix: The Cron Jobs page in the Control Center might crash with a fatal PHP error for certain versions of PHP if the "exec" function is disabled in PHP as a "dangerous" function on the REDCap web server. (Ticket #140034)

Version 13.1.5

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

Version 13.1.4

- **Improvement:** The "Help & FAQ" page has been updated with new content (thanks to the FAQ Committee).
- Bug fix: When the system-level setting "Allow reports to be made 'public'?" has been set to "No", administrators are still allowed to make reports public, which is expected; however, when anyone attempts to view the report using the public link, it displays an error saying that it cannot be displayed. Anyone with the public link should be able to view the report. (Ticket #132901b)
- Bug fix: When testing a calculation using the "Test calculation with a record" drop-down for a calculated field in the "Edit Field" popup on the Online Designer, there are certain situations where the process might mistakenly crash with a fatal PHP error when using PHP 8. (Ticket #139955)
- Bug fix: If the value of a Text or Notes field contains an email address that is immediately followed by a line break/carriage return, the email address would mistakenly not get converted into a "mailto" link properly when displayed on a report. (Ticket #139960)
- Bug fix: The user privilege for "Alert & Notifications" was mistakenly not getting copied for project users when using the "Copy Project" feature while electing to copy the current users into the new project. (Ticket #140023)

- **Bug fix:** Text describing that piping can now be used in the URL of a Data Entry Trigger and the URL of an external video for a Descriptive Text field was mistakenly not added in the previous version. It has now been added in order to inform users that piping can be used in these places now.

Version 13.1.3

- **Major bug fix:** An error would occur when enabling External Modules on PHP 7, thus preventing modules from being successfully enabled. Bug emerged in REDCap 13.1.2 (Standard).

Version 13.1.2

- **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.
- **Minor security fix:** A Cross-site Scripting (XSS) vulnerability was discovered on the User Rights page where a malicious user could potentially exploit it by inserting HTML tags and/or JavaScript event attributes in a very specific way inside a CSV file when importing user privileges or user roles on that page.
- **Change:** PHP 8.2 is now supported in REDCap. Note: The release notes of REDCap 13.1.0 (Standard) mistakenly noted that PHP 8.2 was supported in REDCap 13.1.0, which was only partially true because PHP 8.2 was not yet supported by the External Module Framework, which is a part of REDCap.
- **Change:** REDCap no longer supports individual projects having their own authentication method that is different from the system-level authentication method. Going forward, every project will automatically assume the same authentication method of the system as defined on the "Security & Authentication" page in the Control Center. (Note: The "auth_meth" column name in the "redcap_projects" database table has not been removed in order to be backward compatible with any custom scripts that might be specifically querying that column in an SQL query.)
- **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)
- Various changes and improvements for the External Module Framework:

- PHP 8.2 is now supported.
- Added the methods `$module->disableModule()`, `$module->isSuperUser()`, and `$module->escape()`.
- Added the `allow-project-overrides` and `project-name` setting options.
- New feature to hide external modules from non-admins in the list of enabled modules in a project.
- Made the scan script warn when system hooks are used.
- Miscellaneous scan script improvements.
- Fixed a bug where escaped HTML displays in field list values.
- Change/improvement: The Database Activity Monitor page now specifies if a specific request is an instance of the REDCap cron job.
- 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)
- Bug fix: In very specific cases when a report is set to only display the record ID field, in which the report has filter logic that contains fields on a repeating instrument/event, the resulting report might mistakenly include grayed out columns that correspond to the fields (or to the form status fields of the fields' instrument) that are used in the filter logic. (Ticket #139584)
- Bug fix: Users with instrument-level locking privileges could inadvertently bypass locking controls and modify data on a locked data entry form if they have another browser tab open of that same data entry form before it was locked, and then saved that form within 30 seconds of locking the form in the other tab. (Ticket #139555)
- Bug fix: If Two-Factor Authentication is enabled in REDCap, and a user is using Clinical Data Pull, in which they are viewing a REDCap window specifically inside Epic Hyperspace, a JavaScript error might be displayed on the page. Bug was introduced in REDCap 12.5.7. (Ticket #139775)
- Bug fix: If a project is created using a Project XML file, in which the XML file contains public reports, the unique public report link/hash of any public reports in the original project would mistakenly get duplicated and attributed to the newly created project. This would not cause any noticeable problems for the user because the public report link would always point to the original project and not to the new project created.
- Bug fix: When using the Clinical Data Mart, a patient's Medical Record Number (MRN) might get stored as an empty string in the FHIR logs table, thus causing the Data Mart to crash.
- Bug fix: REDCap might fail with a fatal PHP error on various pages when using PHP 8 under very specific conditions. (Ticket #139416)
- Bug fix: If a user shared a public link to a file in the File Repository, that public link would still be functional and active even after an administrator has disabled the "File Repository: Users are able to share files via public links" setting in the Control Center. (Ticket #139899)
- Bug fix: The `@IF` action tag would mistakenly not function correctly for fields in PDF exports. For example, `@IF([field]="", @HIDDEN-PDF, "")` would not function correctly to show/hide the field in the resulting PDF export.

Version 13.1.1

- 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.
- Bug fix: The "Data Collection Strategies for Repeating Surveys" informational dialog would mistakenly not open.

- Bug fix: A fatal PHP error would occur when using DDP Custom in a project for PHP 8. (Ticket #138771b)
- Bug fix: When using MyCap in a project and with a Custom Participant Label that utilizes the piping of fields (rather than selecting a single field from the field drop-down list), the Custom Participant Label would mistakenly not be displayed on the MyCap Participant List page.
- Bug fix: If a user is adding an external video URL to a Descriptive Text field, in which they mistakenly paste some Embed HTML or an invalid URL into the field's video URL attribute, if REDCap doesn't recognize it as a Vimeo or YouTube link, REDCap might mistakenly try to output the text directly onto the page as-is without verifying that it is a valid URL. (Ticket #139291)
- Bug fix: When using the date/time picker widget to select a value for a date or datetime field on a survey page or data entry form, and then later on the same page the user uses the time picker on a "Time (HH:MM)" or "Time (HH:MM:SS)" validated field, after selecting the value for the Time field, the page would mistakenly scroll back to the last date/time field on that page where the date/time picker was used, which could be very confusing and disorienting to the user. (Ticket #139201)
- Bug fix: The Standalone Launch process for Clinical Data Interoperability Services might mistakenly fail for some server configurations due to a duplicate slash ("/") in the link to the page.
- Bug fix: When a user performs a data export containing fields from an instrument for which they have "De-identified" data export rights, and the user selects the de-id option to "Shift all dates" (rather than "Remove all date and datetime fields") in the export dialog, the date fields would not be date shifted but would mistakenly be completely removed from the resulting exported data set. Bug emerged in REDCap 12.2.0. (Ticket #139392)
- Bug fix: When a user creates a new project, either as an empty project or using a Project XML file, the project creator's user rights would mistakenly be missing the "Alerts & Notifications" privilege.
- Bug fix: When using Clinical Data Pull, in which a user is accessing an embedded REDCap page inside of Epic Hyperspace, some parts of the page might mistakenly not work due to JavaScript errors.
- Bug fix: A field with the @CALCTEXT action tag, in which the calculation contains text strings with line breaks, might mistakenly cause calculation errors to appear on the page and prevent the @CALCTEXT from working.
- Bug fix: Some calculations or branching logic might mistakenly fail to work and would display an error if they are substantially long. Bug emerged in the previous version. (Ticket #127140)
- Bug fix: Surveys that are set to use Comic Sans as the font for the survey text would mistakenly not display correctly when viewing the survey on iOS devices. (Ticket #95086)
- Bug fix: In very specific situations where a field is a required field and is embedded in another field, in which both fields have branching logic, if the container field is hidden by branching logic while the field embedded inside it has branching logic that evaluates to True (meaning that the embedded field would otherwise be visible if the container field itself were visible), REDCap would mistakenly display an error saying that the embedded field is required and thus needs a value, which is incorrect since the embedded field is not even visible on the page. (Ticket #139582)
- Bug fix: When piping a field value for a field on a repeating instrument/event, in which the piped value originates from another repeating instance (e.g., [field][previous-instance]), the current instance's value might mistakenly be piped instead of the value from the desired instance. (Ticket #139581)

- Bug fix: When an image is embedded (via the rich text editor) in an email for a survey invitation or alert, in which the Protected Email Mode is enabled in the project, the page where the recipient would view their email in REDCap might mistakenly not display the embedded image on the page but would show a broken image placeholder. (Ticket #139648)
- Bug fix: If a user uploaded a Project XML file for a Clinical Data Mart project, it would mistakenly enable the Data Mart feature in the newly created project even when the CDM feature is disabled at the system level. This would cause some errors to occur in the project. (Ticket #139577)

Version 13.1.0

- **Security improvement: Restricted file types for uploaded files** - At the bottom of the “Security & Authentication” page in the Control Center, administrators may now provide a list of all disallowed file types/extensions (e.g., exe) in order to prevent users from uploading files of these types into REDCap (often for security purposes). When set, this setting will be applied to all places throughout REDCap where users are allowed to upload files.
- **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.
- **Improvement:** For OpenID Connect authentication, the Response Mode (response_mode) authorization parameter can now be explicitly set in the OIDC authentication settings on the "Security & Authentication" page in the Control Center. This will allow admins to choose between "query (default)" and "form_post" for the response_mode OIDC setting.
- **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:** New setting added to the User Settings page in the Control Center: "Notify the REDCap admin via email when a new account is created (excluding Table-based user accounts)?" When enabled, this setting can be used to notify admins whenever new users enter the system. Table-based users are not included because their accounts are created by an administrator. (Ticket #133382)
- **Improvement:** New setting added to the User Settings page in the Control Center: "Send a "welcome" email to new users when they create a REDCap account (excluding Table-based user accounts) - i.e., when they log in the first time using an external authentication method?". The "welcome" email will consist of the following stock text: "You have successfully created an account in REDCap at <https://your-redcap-server.edu/>. Your REDCap username is "USERNAME". Please note that REDCap does not manage your password. If you have difficulty logging in, you should contact your local IT department. Welcome to REDCap!".
- **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:** PHP 8.2 is now supported in REDCap.
- **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)
- **Major bug fix:** A malicious user could potentially delete a file uploaded into a project to which they do not have access by manipulating an HTTP request on the Alerts & Notifications page in another project. (Ticket #138873)
- **Minor security fix:** A Cross-site Scripting (XSS) vulnerability was discovered on the Project Modifications page (where an admin would view a user's Draft Mode changes) where a malicious user could potentially exploit it by inserting HTML tags and/or JavaScript event attributes in a very specific way in a field's Field Label, Choice Labels, or Field Notes. (Ticket #139108)
- **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)
- Bug fix: When both randomization and MyCap are enabled on a project, users would be unable to enable any instrument as a MyCap task in the Online Designer (excluding active tasks that were imported).
- Bug fix: A fatal PHP error would occur when using DDP Custom in a project for PHP 8. (Ticket #138771)
- Bug fix: A fatal PHP error would occur when certain Data Quality rules when using PHP 8. (Ticket #131294b)
- Bug fix: The REDCap Mobile App page mistakenly noted that the mobile app does not support Field Embedding, which is no longer true. That warning message has been removed.
- Bug fix: If one or more fields in a project utilize the @IF action tag, the REDCap Mobile App page would mistakenly fail to display a warning at the top of page to explain that the @IF action tag is not supported by the mobile app and thus fields with @IF might not function in the mobile app the same as they do on survey pages and data entry forms.
- Bug fix: A couple REDCap pages that are served as AJAX requests via JavaScript mistakenly had their "Content-Type" header set as "text/html" when instead it should have been "application/json", which was causing these requests not to be loaded successfully in the REDCap user interface in certain server/network environments.
- Bug fix: If a user on a data entry form clicks the PDF download option called "This survey with saved data (via browser's Save as PDF)", if some fields on the page have been modified but not yet saved, REDCap will display a confirmation to the user to ensure that they understand that

the resulting PDF will not contain only saved data values but instead may contain both saved and yet-to-be-saved values. (Ticket #138777)

- Bug fix: Language ID and display names on the MLM "Usage" page in the Control Center could mistakenly be mismatched in some cases. (Ticket #138808)
- Bug fix: The MLM "Usage" page in the Control Center would mistakenly fail to render HTML special characters in project titles. (Ticket #138887)
- Bug fix: If an external module calls a randomization-related method in a project that does not have randomization enabled, it might throw a fatal PHP error for PHP 8. (Ticket #138756)
- Bug fix: Multi-line text used inside single quotes or double quotes in the @CALCTEXT action tag might mistakenly have some words mistakenly replaced in the resulting text if they look like JavaScript or PHP operators (e.g., "or", "and"). (Ticket #138785)
- Bug fix: When using certain text or HTML inside the text of the @CALCTEXT action tag, the output value of the field might mistakenly be missing some spaces if text elements in the @CALCTEXT contained leading or trailing spaces. Additionally, text used in @CALCTEXT that contains HTML or single/double quotes might mistakenly get mangled and not display correctly on the page for the @CALCTEXT field. (Ticket #138396)
- Bug fix: When using the Survey Auto-Continue feature, in which a participant clicks a survey link of an already-completed survey and is redirected 20 times through a bunch of subsequent already-completed completed surveys, some browsers might mistakenly display a "too many redirects" error to the participant instead of properly redirecting them to the next unfinished survey. (Ticket #138914)
- Bug fix: A malicious user could potentially view a deleted message in REDCap Messenger by manipulating the parameters and/or query string of an HTTP request performed by Messenger. Only administrators should be allowed to view deleted messages in the Messenger interface. (Ticket #138873)
- Bug fix: A malicious user could potentially delete or edit a REDCap Messenger message, even when the user did not create the message and is not an administrator, by manipulating the parameters and/or query string of an HTTP request performed by Messenger. (Ticket #138859)
- Change: Added full support for parameterized queries in REDCap's db_query() function.
- Change/improvement: Added a new option \$project_id parameter for the developer method REDCap::getSurveyReturnCode().
- Bug fix: When using the AAF authentication method, the PHP method User::updateUsernameForAaf() mistakenly would not update all the database tables that contain a "user" or "username" column. Four tables were missing from the list. Thus, some database tables would not get updated when the method is called. (Ticket #138396)
- Bug fix: When creating a new project via a Project XML file, if the project is longitudinal and utilizes the Survey Queue and/or Automated Survey Invitations, the Survey Queue and ASI settings might mistakenly not get added from the XML file when the project is created. (Ticket #139035)

Version 13.0.2

- **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.

- **Major bug fix:** Several PHP 8 related issues for MyCap would sometimes prevent data from syncing correctly back to the REDCap server from the MyCap mobile app.
- **Major bug fix:** When using certain external authentication methods, survey pages might sometimes mistakenly time out if the project's internal Record List Cache (a secondary list of records in the database for improving performance) had not been built yet, which is done automatically by REDCap internally. This would cause an internal API call to fail when it is made inline while loading survey pages, thus causing the survey page not to load. This was supposedly fixed in version 12.4.13 LTS and 12.5.6 Standard Release, but mistakenly was not. (Ticket #104761b)
- **Change/improvement:** The path to the web server's PHP error log file is now listed at the bottom of the main Control Center page. This information will be useful to help admins locate their web server's error log, which can sometimes be difficult to find.
- **Bug fix:** The calendar feed might mistakenly provide incorrect times of calendar events for certain geographical regions that do not observe Daylight Saving Time. (Ticket #130176)
- **Bug fix:** When using the Clinical Data Pull, temporal fields were mistakenly not displayed in the CDP mapping table because REDCap metadata was incorrectly removed from the settings payload.
- **Bug fix:** When using Clinical Data Pull, when launching from the EHR context, the button "Show record in project" would mistakenly not work if the record name was non-numeric.
- **Bug fix:** Typo on OpenID Connect's login screen. (Ticket #138381)
- **Bug fix:** When exporting a project as a Project XML file, the export process might mistakenly fail with a fatal PHP error for PHP 8. (Ticket #138389)
- **Bug fix:** When creating a new project where a user selects a project template but then chooses to upload a Project XML file, REDCap might get confused about which option was selected and behave unexpectedly, such as creating the project without granting access to the initial user. (Ticket #138361)
- **Bug fix:** When a calculated field uses the datediff() function, in which the first parameter is literally "today" while the second parameter is a datetime field, the calculation might mistakenly return a blank value. (Ticket #138033)
- **Bug fix:** In some specific circumstances, the Data Import Tool might mistakenly crash due to a fatal PHP error for PHP 8. (Ticket #138527)
- **Change:** The "Break the Glass" feature for Epic in CDIS has been updated to automatically refresh any expired BTG token. Previously, BTG tokens were short-lived and did not refresh, thus causing some issues with users.
- **Bug fix:** Dozens of REDCap pages that are served as AJAX requests via JavaScript mistakenly had their "Content-Type" header set as "text/html" when instead it should have been "application/json", which was causing these requests not to be loaded successfully in the REDCap user interface in certain server/network environments.
- **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

- **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)

- **Major bug fix:** Regarding Multi-Language Management, if the system-level setting "Require admin activation of multi-language support in projects" is disabled, the "Multi-Language Management" left-hand menu link would mistakenly not be visible to normal users unless one or more MLM languages had already been created in the project. Bug emerged in REDCap 13.0.0.
- **Improvements for CDIS**
 - Expiration indicator for the "Break the Glass" feature: The new Break the Glass workflow uses tokens that expire in an hour from their creation. The interface will now show if a token is expired.
 - Delete button for the "Break the Glass" feature: Users can remove entries from the list of Break the Glass protected patients using a button.
- **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)
- Bug fix: When using repeating Automated Survey Invitations, a record's Record Home Page might mistakenly say that there are upcoming scheduled invitations that will be sent in the next 7 days despite the fact that they are actually scheduled to be sent more than 7 days later. This only involves repeating ASIs that have been scheduled.
- Bug fix: When entering a value for the "Domain allowlist for user email addresses" setting on the User Settings page in the Control Center, it would mistakenly not allow top-level domains to be entered if they contain more than 4 characters (e.g., vanderbilt.health). It now appropriately allows top-level domains up to the maximum 63 characters. (Ticket #104291)
- Bug fix: Using the "Break the Glass" feature in CDIS might mistakenly fail if the user has no access token.
- Bug fix: The "Mapping Helper" feature in CDIS might mistakenly not appear or be usable in Data Mart projects.
- Bug fix: When using the "Mapping Helper" feature or CDP Mapper for CDIS, some things might not load correctly because of some HTML needing to be escaped first in the resulting JSON.
- Bug fix: If the RemoveTempAndDeletedFiles cron job happens to be running at the same time as the Easy Upgrade process is extracting a new REDCap version, on certain server configurations the cron job might mistakenly delete some of the REDCap files being deployed in the new version, thus leaving the new REDCap version directory missing some critical files. (Ticket #137910)
- Bug fix: Bar charts and pie charts might mistakenly be displayed on Public Dashboards despite having an insufficient amount of data to display (based on the setting "Minimum number of data points required to display Smart Charts, Smart Tables, or Smart Functions on a *public* Project Dashboard..."). (Ticket #137411)
- Bug fix: When performing field embedding on a survey page or data entry form, the page might crash due to a fatal PHP error if the project has a very large amount of fields.
- Change: Slight tweak in the SQL queries used on the project Logging page to make the page load faster for older projects. (Ticket #138200)
- Bug fix: When MyCap is enabled in a project, clicking the [?] link to the right of the green Publish button at the top of the Online Designer would mistakenly display an empty dialog when


viewing/editing the fields in an instrument (but it looks correct when viewing the instrument list in the Online Designer). (Ticket #138146)


- Bug fix: When MyCap is enabled in a project, on some rare occasions when migrating a project using the MyCap external module, the process might fail due to an SQL error. (Ticket #138168)
- Bug fix: When viewing the MyCap Participant List, in which a baseline date is being used, the baseline date value seen in the table for each participant would mistakenly be displayed in the wrong date format or would appear mangled. (Ticket #138166)
- Bug fix: When renaming an instrument in the Online Designer and then immediately creating a new instrument right after the renamed instrument, the new instrument might mistakenly get relocated to the first-instrument position after being created, and the record ID field might mistakenly get relocated to another position. Bug emerged in REDCap 13.0.0.
- Bug fix: For a repeating Automated Survey Invitation that has conditional logic and has the "Ensure logic is still true" checkbox checked, if a record has invitations scheduled for the repeating ASI, and the ASI's conditional logic no longer evaluates as True for the record, the repeating invites will stop sending (as expected), but the repeating invites would mistakenly still be displayed on the Survey Invitation Log. This would give the false impression to the user that those invitations will be sent when, in fact, they will not. (Ticket #134780)


Version 13.0.0

 **Improvement:** New Multi-Language Management option to require admin activation of multi-language support in projects

- Administrators may now change the behavior of the Multi-Language Management feature so that project users cannot view or use MLM in a project until a REDCap administrator has first enabled it explicitly in that project.
- This behavior can be changed on the Settings tab on the Multi-Language Management page in the Control Center where it says "Require admin activation of multi-language support in projects". Note: Enabling that system-level setting will not affect any projects where multi-language support is already enabled (either because it had previously been enabled explicitly by an admin or there is at least one language already set up).
- Additionally, the following new admin-only options have been added to the Settings tab on the MLM setup page in each project, in which these options only appear to admins and only when the system-level setting has been set where only admins may enable MLM:
 1. "Enable multi-language support for this project" - Allows users with Project Setup and Design rights to see the MLM menu link and to use the MLM setup page.
 2. "Disable and hide multi-language support for this project" - Turning on this option will hide the MLM menu link and prevent access to Multi-Language Management for users even when there are languages defined. This overrides the Enable option above.

 **Improvement for the External Modules Framework:** New "Developer Tools" section & "Module Security Scanning" link on the Control Center -> External Modules -> Manage page.

 Change/improvement: New and improved workflow and user interface for the "Break the Glass" feature when using Clinical Data Interoperability Services (CDIS) with Epic.

 Change: As a convenience, when deleting a conversation in REDCap Messenger, the user is no longer prompted to enter the word "delete".

- 🔗 Change/improvement: A new check was added to the Configuration Check page to detect if the Zlib PHP extension has been installed on the REDCap web server. (Ticket #137725)
- 🔗 Change/improvement: The path to the web server's PHP.INI configuration file is now listed at the bottom of the main Control Center page (below the date of the last REDCap upgrade). This information will be useful to help admins locate their web server's config file, which can sometimes be difficult to find.
- 🔗 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.
- 🔗 Bug fix: Certain versions of MariaDB do not output the "COLLATE" portion of a database table's column definition in the results of a "SHOW CREATE TABLE" query, thus causing false positives to display in the Control Center that say that the "database structure is incorrect". (Ticket #137551, #137575, #137321)
- 🔗 Bug fix: For some web server configurations, the server's session "garbage collection" might mistakenly not run or might not run very often, thus causing the redcap_sessions database table to become overly bloated. The garbage collection process is now run manually via a cron job to ensure this task gets performed regardless of server configuration. (Ticket #137675)
- 🔗 Bug fix: When more than ten completed surveys are displayed in a participant's Survey Queue, the "all surveys completed" row might appear in the wrong place in the table. (Ticket #137550)
- 🔗 Bug fix: An error message would be seen by a REDCap admin attempting to approve an External Module Activation Request for a user. (Ticket #137672)
- 🔗 Bug fix: For some users, the My Projects page might be unusually slow to load due to a change in REDCap 12.5.17 (Standard) that removed the usage of AJAX requests on the page. To fix this performance issue, the change from 12.5.17 has been reverted back to the old behavior.
- 🔗 Bug fix: When a user not assigned to a Data Access Group filters the results on the Logging page by DAG, the page might crash with an error if no users are currently assigned to that DAG in the project. (Ticket #137764)
- 🔗 Bug fix: When viewing the REDCap Mobile App's "App Data Dumps" page, in which a data dump file could not be found on the server for unknown reasons, it would mistakenly throw a fatal PHP error on the page for PHP 8. (Ticket #137777)

- 🔗 Bug fix: When using REDCap::saveData() in a plugin, hook, or external module, in which the "dataLogging" parameter is passed to the method as FALSE, the record list cache (i.e., the back-end secondary list of records) would mistakenly fail to get updated during this process. This means that if new records are being created via REDCap::saveData() with dataLogging=FALSE, those records would appear not to have been created until an admin clicked the "Clear the Record List Cache" button, after which the records would finally appear in the project, such as on the Record Status Dashboard, reports, and the Add/Edit Records page. (Ticket #137836)

Version 12.5.17

- Change/improvement: If the monthly User Access Dashboard reminder emails are enabled, which are used to remind project users to keep their role-based access rights up to date, the emails will now be sent only during business hours. This is intended to help increase their visibility and thus improve response rates to these reminders.
- Change/improvement: The "My Projects" page (and also the "Browse Projects" page in the Control Center) no longer loads the projects' count of records and fields via AJAX after the page has loaded but instead now loads the counts more efficiently in real time while rendering the page, which requires less HTTP requests.

- Bug fix: When attempting to upgrade an external module from the main Control Center Notifications page, the process would mistakenly fail due to a JavaScript error. However, this process does successfully complete if performed on the External Modules Module Manager page in the Control Center. (Ticket #137243)
- Bug fix: The Duo Universal Prompt utilized in the Duo two-factor authentication in REDCap might mistakenly not work for certain username conventions. REDCap now uses an updated algorithm to match the "simple" username normalization in Duo, in which "DOMAIN\username", "username@example.com", and "username" are treated as the same user. It will also consider aliases when matching the username. Bug emerged in REDCap 12.5.5 Standard. (Ticket #137039)
- Bug fix: When using Multi-Language Management, the section header above a matrix of fields would mistakenly not display the translated text. (Ticket #137255)
- Bug fix: When using CDIS/FHIR services to extract medications from the EHR, the values for the RxNorm code and RxNorm label were mistakenly switched.
- Bug fix: Longitudinal projects might fail to load on the "Setting up Project" screen in the REDCap Mobile App. Bug emerged in REDCap 12.5.15 (Standard). (Ticket #137314)
- Bug fix: CDIS related cron jobs were mistakenly running for projects in Analysis/Cleanup mode or marked as Completed.
- Bug fix: When certain Smart Variables (specifically form-url, form-link, survey-date-completed, survey-time-completed, survey-date-started, survey-time-started, survey-duration, and survey-duration-completed) have [first-event-name] or [last-event-name] appended to them, an incorrect value might be returned from the Smart Variable.
- Bug fix: When performing randomization on a record while on the first instrument, in which the user locks the instrument immediately after randomization has occurred, the record would get mistakenly duplicated after clicking the Save button on the page. (Ticket #137260)
- Bug fix: The BioPortal API token stored in the redcap_config database table was mistakenly not encrypted at rest as other third-party tokens/keys are. (Ticket #137403)
- Bug fix: When using Multi-Language Management, the language drop-down list was mistakenly being displayed on data entry forms even when only one language has been defined on the MLM setup page. It should only display the language choice list if there is another language to choose.
- Bug fix: If a field is used in cross-form or cross-event branching logic, in which the value of the field contains double quotes, the branching logic may not function correctly on the page. (Ticket #136926)
- Bug fix: A fatal PHP error might be thrown in some specific cases where the method Records::deleteEventInstanceByProject() is called in certain contexts. (Ticket #137376)
- Bug fix: If a project is using record auto-numbering, and the highest-numbered record gets renamed so that it is no longer the highest-numbered record, after which a participant completes a public survey in the project, the new record created by the participant would mistakenly skip the appropriate record number and be assigned to one number higher than expected. (Ticket #125567)

Version 12.5.16

- Bug fix: If the text in a Text field or Notes field contains an email address, it should display the email address as a clickable mailto link when viewing the data on a report. However, it would only do that if the field value contained only an email address and no other text. (Ticket #136735)

- Change: Improved compatibility of Clinical Data Pull with Epic Hyperspace, which uses Internet Explorer.
- Bug fix: When an Automated Survey Invitation has been set up in a longitudinal project, in which the ASI's conditional logic includes datediff() today/now and has the "Ensure logic is still true" checkbox checked while additionally one or more of the variables in the logic are missing a prepended unique event name, the DateDiff Today/Now cron job might mistakenly schedule a survey invitation that should not be scheduled, even though REDCap will ultimately unschedule the invitation right before trying to send it. This bug was supposedly fixed in REDCap 12.4.7 LTS and 12.5.0 Standard, but mistakenly it was not. (Ticket #136960)
- Bug fix: The Multi-Language Management settings "Export or import general settings" were mistakenly being displayed on the MLM Control Center page when they should only be displayed in a project. (Ticket #136968)

Version 12.5.15

- **Minor security fix:** An SQL Injection vulnerability was found in the Copy Field action on the Online Designer, in which a malicious user could potentially exploit it by manipulating an HTTP request on that page.
- **Minor security fix:** An SQL Injection vulnerability was found in the "Import from Field Bank" action on the Online Designer, in which a malicious user could potentially exploit it by manipulating an HTTP request on that page.
- **Major bug fix:** When a user clicks the "Generate API Token" button on the API page in a project, it would mistakenly return a vague/unhelpful error message saying that the token could not be created (or it would simply reload the page with no warning in some cases). This would happen if the user has API Import and/or API Export privileges but does not have Mobile App privileges. The only user permission that should be required to request an API token on this page are API Import or API Export privileges. Bug emerged in REDCap 12.4.20 LTS and 12.5.13 Standard Release.
- **Major bug fix:** When renaming or deleting an instrument via the Online Designer while in development status, the instrument-level data viewing rights and instrument-level data export rights would mistakenly not always get updated to reflect the new instrument name for all the users and roles in the project. Note: While this fix will prevent the issue going forward, users will need to manually update a user's/role's permissions to fix any already affected users/roles. (Ticket #136038)
- **Major bug fix:** When a field is embedded on a multi-page survey, in which the embedded field's container field is hidden by branching logic on a different page on which the container field is itself located, the embedded field's value might mistakenly get erased when the later survey page is submitted if the embedded field is a Required field.
- Change/improvement: If the URL for a request on the To-Do List page contains an outdated REDCap version number (i.e., the request was made prior to the latest REDCap upgrade), the URL will now be auto-updated in the To-Do List to replace the old REDCap version number in the URL with the current REDCap version number. This will prevent 404 "Not Found" errors when processing To-Do List items in the case where the previous REDCap version directories have been removed from the web server after the latest REDCap upgrade.
- 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)

- Bug fix: When using Multi-Language Management, the Survey Login page text might mistakenly not get translated. (Ticket #136358)
- Bug fix: When using Multi-Language Management, the choices for multiple choice fields would mistakenly not get imported when performing a CSV file import on the MLM setup page. (Ticket #136415)
- Bug fix: When the authentication method is set to "OpenID Connect" or "OpenID Connect & Table-based", admins may define which OIDC attribute will serve as the REDCap user's username. However, the "preferred_username" attribute was mistakenly missing from the "Attribute to use for REDCap username" drop-down on the Security & Authentication page. (Ticket #132200)
- Bug fix: If a user clicks the "Re-send Email" button for an email displayed on the Email Logging page in a project that has the "Protected Email Mode" feature enabled, that re-sent email would mistakenly not be sent using the Protected Email Mode but would be sent to the recipient as-is. (Ticket #120500)
- Bug fix: The Duo Universal Prompt utilized in the Duo two-factor authentication in REDCap might mistakenly not work and would throw an error if the REDCap username is not all lower case. (Ticket #133020b)
- Bug fix: If a text field on a data entry form or survey page is a required field and already has a saved value, if the field's value is manually removed (via backspacing) on the page and then the field is hidden by branching logic, upon saving the page, the "Some fields are required!" prompt might mistakenly get displayed for the field, which should not occur due to the fact that the field is hidden on the page. (Ticket #136520)
- Bug fix: When using Multi-Language Management, the text in the title of the "Invalid values entered" popup on data entry forms and survey pages would mistakenly not be available for translation on the MLM setup page. (Ticket #136541)

Version 12.5.14

- **Major bug fix:** When attempting to upgrade to REDCap 12.5.13 (Standard), the REDCap upgrade page would mistakenly redirect the user back to the REDCap home page, thus preventing them from actually completing the upgrade process. (Ticket #136337)
- **Major bug fix:** When performing a data import (via API, Mobile App, Data Import Tool, or REDCap::saveData) that contains not-yet-created records, in which the import process will trigger Automated Survey Invitations immediately after creating the new records, the ASI invitations might mistakenly not get scheduled/sent. In this case, the ASIs would only get triggered when someone modified a record after the import or ran the "Re-evaluate Auto Invitations" process.
- Bug fix: When exporting a Project XML file and creating a new project using it, if the project is not longitudinal but was longitudinal at some point in the past, in which the first event (while longitudinal) was named something other than "Event 1" on Arm 1, then any Automated Survey Invitation settings from the XML file might mistakenly fail to import correct into the newly created project. (Ticket #136254b)

Version 12.5.13

- **Change:** The Configuration Check page now provides a suggestion for modifying any REDCap database tables that do not have the InnoDB attribute ROW_FORMAT set to DYNAMIC. For the greatest compatibility with future REDCap upgrades, all database tables are recommended to have Dynamic row format. If any do not, the Configuration Check page will output the necessary SQL queries for fixing these tables. Note: This is not a requirement but a suggestion to prevent possible issues with future upgrades.
- **Major bug fix:** If a user is currently logged into REDCap and then opens and completes a survey in another browser tab, their non-survey user session would mistakenly get destroyed, thus causing the user to need to log in again when reverting back to the original tab after completing the survey.
- Bug fixes and improvements to CDIS/FHIR launch workflows (EHR and Standalone launch)
 - Fixed compatibility with Cerner system where auto-login was not working when launching from EHR.
 - Fixed compatibility with certain external REDCap authentication systems.
 - Workflow diagram and better logs added in case of error to help identify issues.
- Bug fix: Reports that have filter logic might mistakenly display some records as being in multiple arms despite the fact that they only exist in a single arm (or exist in less arms than depicted in the report). If this occurs, the report will show the record with default values in the other arm. (Ticket #135620)
- Bug fix: When exporting user roles via the API, the "unique_role_name" attribute of some roles might mistakenly be blank if the role had been recently created but not yet viewed in the user interface on the User Rights page. (Ticket #125602)
- Bug fix: When upgrading REDCap to v12.1.0 or higher, some queries in the upgrade SQL script might mistakenly fail when specifically using MySQL 8 as the database. (Ticket #131519b)
- Bug fix: When performing a fresh install of REDCap, the install page might output a 500 server error and might provide confusing error messages when valid database credentials have not been successfully added to the [database.php](#) file yet. (Ticket #128344)
- Bug fix: The Duo Universal Prompt utilized in the Duo two-factor authentication in REDCap might mistakenly be preventing some users from successfully logging in to REDCap in certain situations. (Ticket #134514)
- Bug fix: When a user/participant accesses a page utilizing Multi-Language Management for the first time, the auto language selection (via browser settings) might mistakenly not work correctly in certain cases, thus only displaying the correct language for some of the things on the page that were translated on the MLM setup page. (Ticket #135984)
- Bug fix: When performing a data dictionary export in a project that is using "Japanese (Shift JIS)" for the "character encoding for exported files", the process might fail with a fatal PHP error for PHP 8.0 . (Ticket #136046)
- Bug fix: Utilizing a forward slash "/" anywhere inside the @IF action tag would mistakenly cause the action tag not to function. (Ticket #135803)
- Bug fix: The EHR Launch process for Clinical Data Pull might mistakenly result in a JavaScript error, specifically when using Epic, when a user attempts to add a patient to a project inside the REDCap embedded window in Hyperspace.
- Bug fix: CDIS-related issue with FHIR version DSTU2 where date filters were mistakenly not applied to Observations data.
- Bug fix: On the Other Functionality page when exporting the Project XML file ("metadata & data"), it would mistakenly always include all available project attributes in the resulting XML file despite the fact that some or all of the checkbox options for those project attributes were

left unchecked on the page. This does not affect the "metadata only" XML file but only the "metadata & data" XML file.

- Bug fix: Important documentation was missing from the Special Functions dialog and FAQ regarding the usage of date/datetime fields with MDY and DMY date formatting when used in text string functions in branching logic and calculations.
- Bug fix: Fields in a project might randomly get out of order, which can be caused by a user on the Online Designer reordering the instruments in conjunction with some other action, such as copying an instrument immediately before the reordering and/or viewing an instrument immediately after the reordering. (Ticket #109041)
- Bug fix: When using Multi-Language Management, the Automated Survey Invitation tab on the MLM setup page might mistakenly display as blank and prevent any translation of ASIs in certain cases, such as when some ASIs have been orphaned in the backend database and are not associated with a valid event in the project. (Ticket #136254)
- Bug fix: The "Conditional logic for Survey Auto-Continue" would mistakenly not get copied into a new project's survey(s) when using the Copy Project feature on the Other Functionality page. (Ticket #136281)
- Bug fix: When REDCap is using WebDAV for file storage, in which the WebDAV connection settings have not yet been defined, a fatal PHP error may occur on certain pages when using PHP 8. (Ticket #136289)
- Bug fix: When a user clicks the "Request API Token" button on the REDCap Mobile App page in a project, it would mistakenly return a vague/unhelpful error message saying that the token could not be created (or it would simply reload the page with no warning in some cases). This would happen if the user did not have API Import or API Export privileges. The only user permission that should be required to request an API token specifically for the Mobile App is "Mobile App" user privileges. Bug emerged in REDCap 12.4.13 LTS and 12.5.6 Standard Release. (Ticket #135788)