REDCap Flex Upgrade Changelog – March and April 2024 Upgrade (v. 14.0.8 → v. 14.0.24)

Version 14.0.24

CHANGES IN THIS VERSION:

- **Major bug fix:** In specific situations when using Multi-Language Management in a project when the web server is running PHP 8.0 or higher, every project page would crash with a fatal PHP error. (Ticket #229529)
- Bug fix: When exporting a project's data to Stata, multiple choice fields would mistakenly have a "label values" entry in the Stata syntax file even when not all choice codings are integers. The "label values" entries should only be added to the Stata syntax file when a multiple choice field has an integer code for every choice. (Ticket #229277b)
- Bug fix: Fixed several different SQL queries used in various places in the REDCap code that were silently failing in specific cases.

Version 14.0.23

CHANGES IN THIS VERSION:

- **Major bug fix:** When the "href" attribute of any hyperlink has a value of "#" for any label or other user input, the entire label text would mistakenly be completely removed (i.e., would be blank) when output on the page. (Ticket #229451)
- Bug fix: When importing the Survey Queue settings via CSV file, an error might mistakenly be returned if certain things, such as condition_surveycomplete_form_name, do not have a value, even when not needed. (Ticket #229186)

Version 14.0.22

CHANGES IN THIS VERSION:

- **Major security fix:** A Stored XSS (Cross-site Scripting) vulnerability was discovered in which a malicious user could potentially exploit it by inserting custom JavaScript/HTML in a specially crafted way into the "href" attribute of hyperlinks placed inside labels and other user input that is then output onto the webpage. The user must be authenticated into REDCap in order to exploit this, with one exception: a malicious survey participant could

inject the JavaScript/HTML into a Text or Notes field whose value is then viewed on a report (i.e., it would appear as a hyperlink in the report that would have to be clicked by the user to be exploited). Bug exists in all versions of REDCap. (Ticket #228857)

- **Medium security fix:** A Base Tag Hijacking vulnerability was discovered in which a malicious user could potentially exploit it by inserting custom HTML in a specially crafted way into labels and other user input that is then output onto the webpage. The user must be authenticated into REDCap in order to exploit this, with one exception: a malicious survey participant could inject the HTML into a Text or Notes field whose value is then viewed on a report. Bug exists in all versions of REDCap. (Ticket #229158)
- **Medium security fix/protection:** All usages of the PHP function iconv() have been replaced in the REDCap code due to a vulnerability (CVE-2024–2961) discovered in Glibc (GNU C Library). Note: This is not a vulnerability in REDCap but in a PHP library. This vulnerability can be remediated at the web server level via configuration settings, but this security fix/protection seeks to protect all REDCap installations in the event that their IT support is not able to remediate this vulnerability at the server level. (Ticket #229281)
- Bug fix: Survey pages might mistakenly display text inside P tags in labels as different font sizes in different situations. (Ticket #228686)
- Bug fix: When using Multi-Language Management and applying or canceling draft mode changes in projects where MLM is active, there would always be a message/warning that MLM settings/translations have been modified even when this is not actually the case. (Ticket #228877)
- Bug fix: When renaming a record on the Record Home Page, in which the new record name is the same as the old record name but with leading zeros (or vice versa), if both the old and new record names are integers, REDCap would not rename the record and would mistakenly take the user to another page to create a new record under the new record name provided, which is confusing.
- Bug fix: In certain situations when exporting a report, the survey completion timestamps would mistakenly be date shifted in the resulting export file if the "shift all dates" checkbox is checked while the "shift all survey completion timestamps" is not checked. (Ticket #228879)
- Bug fix: A query used on the Data Access Groups page was incompatible with certain versions of MySQL that have ONLY_FULL_GROUP_BY set in the SQL Mode, thus causing the query to fail for some installations. The query has been replaced with an equivalent query that is compatible with all supported versions and configurations of MariaDB/MySQL. (Ticket #228974)
- Bug fix: When using Google Cloud Storage for file storage in the system, uploading/downloading a file via Send-It for a File Upload field might mistakenly not work successfully. Additionally, file downloads might also fail when using GCS when downloading files attached to data queries in the Data Resolution Workflow dialog. (Ticket #226875c)
- Bug fix: When using Twilio or Mosio for a survey that is taken as an SMS Conversation, if the survey is a repeating instrument, branching logic might not work successfully for fields that have branching logic referencing fields on the same instrument. (Ticket #227028)

- Bug fix: The Smart Variables [event-number] and [event-id] would mistakenly not return a numerical value but a string, causing special functions that expect numeric values to fail to produce the correct result (e.g., mod()). (Ticket #228953)
- Bug fix: When using the search capability for the Biomedical Ontology feature for a Text field on a form/survey, if the user's search returned the message "[No results were returned]", and the user then clicked on that message, it would mistakenly display a bunch of HTML below the field when instead it should not display anything below the field. (Ticket #229124)
- Bug fix: When copying a project, the survey setting "Display page numbers at top of survey page" would mistakenly not get copied to the new project. (Ticket #229243)
- Bug fix: When utilizing Microsoft Azure Blob Storage for file storage in REDCap, some operations (specifically the "delete file" action) might mistakenly fail for specific server configurations because the CURL options for VERIFY_HOST and VERIFY_PEER were mistakenly not being set to FALSE in the API request to Azure.
- Bug fix: When regular users (non-admins) import data dictionaries containing Dynamic SQL fields, in certain cases REDCap might refuse to import the file, mistakenly stating that the query has changed when in fact it has not. (Ticket #229148)
- Bug fix: When exporting a project's data to Stata, multiple choice fields would mistakenly have a "label define" entry in the Stata syntax file even when not all choice codings are integers. The "label define" entries should only be added to the Stata syntax file when a multiple choice field has an integer code for every choice. (Ticket #229277)
- Bug fix: When accessing a project that is enabled as a Project Template, if the current user is an administrator that is currently impersonating another user in the project, the "Project is used as a template" box would mistakenly be displayed on the Project Home Page. That should only be displayed when the user is an admin with "Modify system configuration pages" rights and while not impersonating a non-admin user. (Ticket #229370)
- Bug fix: When an instrument contains an inline PDF attached to a Descriptive field, and the instrument is then downloaded as a PDF, the first page of the generated PDF might mistakenly have text that runs off the bottom of the page if the inline PDF is displayed (via iMagick conversion to an image) on the first page of the generated PDF. (Ticket #228282)

Version 14.0.21

CHANGES IN THIS VERSION:

- Bug fix: Data Quality rules A and B will now return checkbox fields in the list of discrepancies if none of the checkbox options have been checked for a given checkbox field. This reverts a change made in REDCap 13.7.10 LTS and 13.9.0 Standard (via Ticket #212048), which is now considered to have been a mistake. This has been changed because the previous behavior was considered to be inconsistent with regard to how checkboxes, especially required checkboxes, are treated on survey pages and data entry forms. For example, if a checkbox field is required and no checkboxes are checked, the Required Field alert is displayed to the user, which implies that a checkbox field with no

checked checkboxes is considered to be a field with a missing value. Thus, to provide more consistency with how checkboxes are treated throughout REDCap, this fix has been applied to correct this issue. (Ticket #217798)

- Change: All hard-coded references to "redcap.vanderbilt.edu" have been changed to "redcap.vumc.org" to reflect the recent change of the Vanderbilt REDCap server's domain name. Note: The old URL will continue to work and automatically redirect to the new URL until April 2025.
- Bug fix: After editing the Survey Queue settings in the Online Designer, the SQ button might mistakenly display multiple green check mark icons. (Ticket #228741)
- Bug fix: When using the Field Bank in the Online Designer to search for fields, it might mistakenly show answer choices that say "Login to see the value." for specific items. (Ticket #228217)
- Bug fix: When completing a survey, a JavaScript error might occur during certain parts of the survey that might cause other important processes to be blocked on the page. (Ticket #228785)
- Bug fix: If some surveys are set as inactive in a project, then the Copy Project page might mistakenly have the "Survey Queue and Automated Survey Invitation settings" option unchecked and disabled. (Ticket #228742)
- Bug fix: When a Text or Notes field containing HTML tags in its value is being piped to another place on the same page/instrument, the HTML tags would mistakenly not be interpreted but instead would be escaped in its final piped form. This issue would only occur when the field has a SETVALUE or DEFAULT action tag. Bug emerged in 13.7.27 LTS and 14.0.3 Standard. (Ticket #228818)

Version 14.0.20

CHANGES IN THIS VERSION:

- **Major bug fix:** If a project is deleted by a user, when that project is eventually deleted from the database 30 days later, if the project's data is stored in the redcap_data2, redcap_data3, or redcap_data4 database table, the data might mistakenly not get removed from those data tables when the project as a whole is deleted. This could leave orphaned data in those data tables. Note: During the upgrade process, REDCap will automatically delete any orphaned data still present in the redcap_data2, redcap_data3, and redcap_data4 database tables. Bug emerged in REDCap 14.0.0.
- **Major bug fix:** When the e-signature functionality has been enabled on an instrument, the e-signature checkbox at the bottom of the data entry form would mistakenly be displayed and would be clickable even when the whole record is locked. If the whole record is locked, the e-signature checkbox should remain disabled. Additionally, it might be possible in certain situations (e.g., simultaneous users locking and editing a record) for a user to lock, unlock, or e-sign an instrument while the whole record is locked. Server-side checks have now been added to prevent that. (Ticket #225320)
- Bug fix: When using Clinical Data Mart for CDIS, revisions were failing to be imported using the Data Mart import feature.

- Bug fix: When importing a data dictionary, it would be possible to import fields that have a variable name ending with an underscore character. This should not be allowed, and thus it now displays an error message when attempting to do so. (Ticket #227821)
- Bug fix: When the PDF Auto-Archiver is enabled for a survey, the IP address of the participant would mistakenly be stored in the PDF Survey Archive table in the File Repository. It was intended that the participant's IP address should only be stored when completing a survey with the e-Consent Framework enabled.
- Bug fix: When opening REDCap Messenger while in a project, and then attempting to create a new conversation, the project's left-hand menu would mistakenly cover over the "Create new conversation" dialog. Bug emerged in REDCap 14.0.16 LTS and 14.2.2 Standard. (Ticket #228033)
- Bug fix: When using the Mapping Helper for CDIS, the status mapping for different types of Condition resources was inaccurately handled.
- Bug fix: When accessing an instrument in the Online Designer right after creating a new project from scratch (i.e., when only the Record ID field exists), some instructional text at the top would mistakenly be too wide and might be partially covered up by other things on the page. (Ticket #228129)
- Bug fix: When importing the Survey Queue settings via CSV file, an error might mistakenly be returned if certain things, such as condition_surveycomplete_form_name, do not have a value, even when not needed. (Ticket #227928)
- Bug fix: When the "Auto-suspend users after period of inactivity" setting is enabled, users who recently had their account created but had not logged in yet would mistakenly get auto-suspended. (Ticket #224747)
- Bug fix: When editing some previously-saved content using the rich text editor (i.e., editing the body of an alert, ASI, project dashboard, or field label), in which an inline image was uploaded and saved by a user while on an earlier REDCap version, the inline image in the rich text editor would mistakenly appear as a broken image inside the editor if that older REDCap version's directory has been removed from the REDCap web server. (Ticket #228239)

Version 14.0.19

CHANGES IN THIS VERSION:

- Bug fix: When a participant is completing an e-Consent survey on a mobile device, and thus it is unable to display the inline PDF of their response at the end of the survey, although they are able to view the PDF by clicking the button on the page to view it in another tab, the "Working..." popup would mistakenly appear for 20 seconds before disappearing. Instead, it should only appear very briefly before revealing the page.
- Bug fix: When using Multi-Language Management, a piping issue would occur when viewing survey pages for participant-specific survey links only. (Ticket #227555)
- Bug fix: Automated Survey Invitations were mistakenly not getting triggered when set up with a survey completion condition together with conditional logic in which the "OR" option is selected. (Ticket #227693)

- Bug fix: The datetimepicker calendar widget used for datetime fields would mistakenly inject numbers at the end of the field value when typing a datetime value that has a time beginning with "23:". The Datetimepicker library has been updated to a newer version, which resolves this issue. (Ticket #227636)
- Bug fix: When using MyCap, there is some missing text that is utilized for displaying notes inside the repeating instruments popup (for longitudinal projects).
- Bug fix: When using Google Cloud Storage for file storage in the system, uploading/downloading a file via Send-It for a File Upload field might mistakenly not work successfully. Additionally, file downloads might also fail when using GCS when downloading files attached to data queries in the Data Resolution Workflow dialog. (Ticket #226875b)
- Bug fix: When viewing a report in a longitudinal project or a project containing repeating instruments/events, it now displays the text "('records' = total available data across all events and/or instances)" near the top of the report. In previous versions, it did not display any clarifying text for non-longitudinal projects that had repeating instruments, which caused confusion for users regarding the meaning of the word "records" in "Total number of records queried".
- Bug fix: When using the piping parameter ":inline" when piping a File Upload field, in which a unique event name (or event-based Smart Variable) is not prepended to the field but [first-instance] or [last-instance] is appended to the field (e.g., [my_upload_field:inline][last-instance]), the piping would fail to work correctly.

Version 14.0.18

CHANGES IN THIS VERSION:

- **Minor security fix:** The TinyMCE library embedded in REDCap was upgraded to its latest version (7.0.0) due to a XSS (Cross-site Scripting) vulnerability in the library's previous version.
- **Major bug fix:** Users with API Import/Update privileges could successfully call the API method "Import User-DAG Assignments" without having Data Access Groups privileges in the project. Data Access Groups privileges should always be required when creating/renaming/deleting DAGs and when importing/exporting user-DAG assignments.
- Bug fix: Users with API Export privileges could successfully call the API method "Export User-DAG Assignments" without having Data Access Groups privileges in the project. Data Access Groups privileges should always be required when creating/renaming/deleting DAGs and when importing/exporting user-DAG assignments.
- Bug fix: Users with API Import/Update privileges could successfully call the API method "Import Repeating Instruments and Events" without having Project Design/Setup privileges in the project. It was instead checking for User Rights privileges instead of Project Design/Setup privileges.
- Bug fix: Users with API Export privileges could successfully call the API method "Export Repeating Instruments and Events" without having Project Design/Setup privileges in the project.

- Bug fix: Users with API Import/Update privileges could successfully call the API methods "Import DAGs" and "Delete DAGs" without having Data Access Groups privileges in the project.
- Bug fix: Users with API Export privileges could successfully call the API method "Export DAGs" without having Data Access Groups privileges in the project.
- Bug fix: Users with API Import/Update privileges could successfully call the API method "Import Project Settings" without having Project Design/Setup privileges in the project.
- Bug fix: Users with API Export privileges could successfully call the API methods "Export Users", "Export User Roles", and "Export User-Role Assignments" without having User Rights privileges in the project.
- Bug fix: When using Multi-Language Management, some MLM AJAX calls might mistakenly not work when using Shibboleth authentication. (Ticket #225282)
- Bug fix: When using Google Cloud Storage for file storage in the system, uploading/downloading a file via Send-It for a File Upload field might mistakenly not work successfully. Additionally, file downloads might also fail when using GCS when downloading files attached to data queries in the Data Resolution Workflow dialog. (Ticket #226875)
- Bug fix: When using Multi-Language Management and adding a system language to a project where the language set on the Control Center's General Configuration page differs from the language set in a project (via Edit Project Settings page), the "The original values of some translated items have changed" message would mistakenly be shown. (Ticket #227077)
- Bug fix: The order of the alerts as displayed in the "Re-evaluate Alerts" dialog mistakenly does not match the order of the alerts on the Alerts & Notifications page. (Ticket #227234)
- Bug fix: When using the randomization feature, while a radio strata field exists on the same instrument as the randomization field, after the record is randomized on the data entry form, the strata field's "reset" link (for resetting its value) would mistakenly still appear on the page until the page is refreshed or returned to later. The "reset" link should be immediately hidden after randomization has occurred. (Ticket #226998)
- Bug fix: When a survey participant submits the first page of a survey and gets the "Some fields are required" prompt because some required fields were left empty, the "start time" of the response would mistakenly not get stored in the backend database, thus preventing REDCap from displaying the start time or duration of the survey at any time afterward, including via Smart Variables (e.g., [survey-time-started], [survey-duration]). Note: This only occurs when required fields are left empty on the first page of the survey, not on subsequent pages. While this fix will prevent the issue from occurring in the future, it will unfortunately not be able to retroactively fix the issue for already-affected responses that are missing their start time and duration values. (Ticket #226240)
- Bug fix: If the E-signature feature is disabled system-wide via the Modules/Services Configuration page in the Control Center, the user rights option "Locking/Unlocking with E-signature authority" would mistakenly still appear when adding/editing a role or user. Additionally, if the E-signature feature is enabled system-wide but is not available for a specific user to use (e.g., if using Entra ID authentication but not using Two-Factor Authentication with the E-signature 2FA PIN option enabled), the user rights option

"Locking/Unlocking with E-signature authority" would mistakenly still appear for that specific user. (Ticket #227220)

- Bug fix: When using CDP, encounter diagnosis mappings and potentially other kinds of conditions in CDP projects were not being applied correctly, causing data not to be imported correctly from the EHR. (Ticket #227307)

Version 14.0.17

CHANGES IN THIS VERSION:

- Bug fix: In specific situations when downloading an instrument PDF in a longitudinal project, the process would mistakenly crash when using PHP 8. (Ticket #226047)
- Bug fix: When utilizing the project-by-project Unicode Transformation process, which is done using a cron job via Step 2 on the Unicode Transformation page, the data in the Data Resolution Workflow related table might mistakenly not get transformed (i.e., the comments for data queries in DRW).
- Bug fix: When using CDIS, some mapping for Adverse Events were not being pulled, such as causality.
- Bug fix: Multi-language Management mistakenly failed to translate a number of survey exit pages (survey offline, response limit reached), and the language selector would be inaccessible. (Ticket #226237)
- Bug fix: When using CDP or DDP Custom, the "database" icon would mistakenly not be displayed next to a mapped field on the data entry form for right-aligned Notes fields. (Ticket #226554)
- Bug fix: When using CDP or DDP Custom, the Record Status Dashboard page might mistakenly attempt to automatically pull data from the EHR for records on the page when viewing that page as an administrator that is not a user in the project. Instead, it will now only do this for project users.
- Bug fix: The "characters/words remaining" message mistakenly was not translated on data entry and survey pages when using Multi-language Management. (Ticket #226676)
- Bug fix: When using the Stats & Charts page in a longitudinal project, in which some data had been collected on specific instruments and then later those instruments were undesignated for certain events, thus orphaning some of the data, the charts displayed on the page would mistakenly include the orphaned data for the undesignated instruments when they should be excluding that data. (Ticket #30382)
- Bug fix: When a confirmation email is defined for a survey on the Survey Settings page, and then later the user selects "No" to disable the confirmation email on that page, it would mistakenly not disable the confirmation email setting after clicking the Save Changes button. Note: This would only be noticeable if the user returned to the page afterward. (Ticket #226697)
- Bug fix: When an inline image is used in the body of an alert, the image might mistakenly not be displayed (i.e., a broken image icon would appear) when a user views an already-sent alert message in the Notification Log. (Ticket #226089)
- Bug fix: When using the Data Resolution Workflow while a project is in Analysis/Cleanup status with data as Read-only/Locked, users might still be able to

submit a data entry form after navigating to the form in a specific way from the Resolve Issues page. Users should not be able to submit a data entry form while in Analysis/Cleanup status with data as Read-only/Locked. (Ticket #226735)

- Bug fix: When the datediff() function is used in a calculated field, in which it contains "today" or "now" as one of the two parameters and the other parameter is a DMY or MDY formatted date/datetime field from another event and also exists on a repeating event or repeating instrument, a calculation error message might appear on the survey page or data entry form, thus preventing the page from working correctly. (Ticket #226037)
- Bug fix: When taking a survey using a mobile device, in certain situations the Submit button might be partially obscured by the browser window and thus might not be clickable. (Ticket #226895)
- Bug fix: If a project has a repeating Automated Survey Invitation, and then later the survey instrument is set to be no longer repeating (via the Project Setup page settings), the ASI would continue to function as if the survey was still a repeating instrument.
- Bug fix: When a regular user (non-admin) is uploading a CSV data file via the Background Data Import, the upload process might mistakenly fail due to a PHP error if the user is not assigned to a Data Access Group. (Ticket #226639)

Version 14.0.16

CHANGES IN THIS VERSION:

- Bug fix: When viewing the Stats & Charts page in a longitudinal project, the page might mistakenly crash in very specific scenarios when running PHP 8. (Ticket #225493)
- Bug fix: The API method "Export a File from the File Repository" would mistakenly output an incorrect MIME type for a file being exported. (Ticket #225517)
- Bug fix: Modifying the value of a Notes field that has the @RICHTEXT action tag would mistakenly not cause the "Save your changes" prompt to be displayed if a user attempts to leave the page afterward. (Ticket #225367)
- Bug fix: The special function concat_ws() would mistakenly include fields with blank values in its output. It is expected that blank values should not be included. For example, if we have @CALCTEXT(" and ", [dob1], [dob2], [dob3]), it would mistakenly output "2024-03-01 and and 2024-03-01" when field "dob2" is empty/blank, whereas it should instead output "2024-03-01 and 2024-03-01".
- Bug fix: If a participant attempts to load a survey using a non-public survey link after the participant's record has been deleted in the project, they would be mistakenly redirected to the REDCap login page, which is confusing. Instead, an appropriate error message is now displayed to let them know the survey is no longer active or that they are no longer a participant. (Ticket #225427)
- Bug fix: When using the Clinical Data Pull in CDIS, specifically when launching the CDP window in an EHR context, an undefined JavaScript function might produce a JavaScript error, thus causing certain things not to function correctly on the page.
- Bug fix: When using the Clinical Data Pull in CDIS, the "address-district" demographics field was mistakenly missing, and thus EHR data could not be pulled for it.

- Bugfix: When MLM is active, matrix headers mistakenly were shown over each line of a matrix field when output as an instrument PDF. (Ticket #225203)
- Bug fix: If matrix field labels contain
  tags, the downloaded PDF of the instrument might mistakenly display the field labels overlapping each other.
- Bug fix: When using Double Data Entry as DDE person 1 or 2, records that are locked at the record level would not appear to be locked and might mistakenly allow a user to modify a locked record. (Ticket #225431)
- Bug fix: When creating an alert in a longitudinal project, the "Email To" option would display an event-ambiguous email field (i.e., "Any Event") that could be chosen. However, in many situations, this might cause the alert not to be sent (or it is attempted to be sent with a blank sender address). To prevent this issue, the "Any Event" field options are now no longer displayed as choices for the "Email To" field for alerts. (Ticket #224839)
- Bug fix: When using MLM, importing UI translations would mistakenly not be possible in projects with subscribed languages, even when UI overrides are explicitly allowed.
- Bug fix: When exporting data to R, any backslashes in the R syntax file would mistakenly not get escaped. Now all backslashes are replaced with a double backslash in the resulting R code. (Ticket #225046)
- Bug fix: When a project's first instrument is a repeating instrument, and a user is performing a data import of new (not existing) repeating instances for another repeating instrument in the project, new empty instances would mistakenly get created for the first instrument when new instances should only get added for the desired repeating instrument. (Ticket #224932)
- Bug fix: When viewing scheduled alerts on the Notification Log page for alerts that are recurring, the scheduled send time might mistakenly appear to be incorrect in the Notification Log if the alerts are set to recur every X minutes/hours/days, in which X is a number with a decimal (i.e., not an integer). Note: This does not appear to prevent the alert from being sent at the appropriate time, but this is simply a display issue in the Notification Log. (Ticket #225860)
- Bug fix: When using a mobile device and attempting to open Messenger, the Messenger panel might mistakenly be obscured and not viewable in certain contexts.
- Bug fix: A fatal error might occur when calling REDCap::saveData() when providing "array" data in an incorrect format to the method while running PHP 8. (Ticket #225896)
- Bug fix: The API Playground's example R code for the API Export File method was not correct and has been fixed. (Ticket #101454b)
- Bug fix: When calling the "Import Users" API method and providing the data payload in CSV format, the "forms_export" privileges provided in the CSV might mistakenly not get parsed correctly, which might cause the API script to return an error, specifically when using PHP 8, or it would mistakenly set the user's data export rights to "No Access" across the board for all instruments.
- Bug fix: The query cache efficiency check on the Configuration Check page might mistakenly display a false positive saying that the MySQL query cache is not efficient when actually it is. (Ticket #225731)

- Bug fix: It is possible to perform data imports in which the record name contains a line break or carriage return character. Those characters should not be allowed in record names. (Ticket #224506)

Version 14.0.15

CHANGES IN THIS VERSION:

- **Critical bug fix:** The code released in REDCap 14.0.14 LTS was mistakenly REDCap 14.2.1 Standard. This was an error with the release process. Our apologies. Please upgrade to 14.0.15 immediately if you are currently on 14.0.14. If there is any error with any of the SQL upgrade script, please skip any line of SQL that fails and continue with the upgrade SQL at the next line until all the SQL has been run. After upgrading, run any SQL that is provided in the Control Center (via the auto-fix option) to fix the database.

Version 14.0.14

CHANGES IN THIS VERSION:

- **Major security fix:** A Stored XSS (Cross-site Scripting) vulnerability was discovered in which a malicious user could potentially exploit it by inserting custom JavaScript in a specially crafted way into a field's data value when viewed on the Data Comparison Tool page. The user must be authenticated into REDCap in order to exploit this in a project. Bug exists in all REDCap versions for the past 10 years.
- **Major security fix:** A Stored XSS (Cross-site Scripting) vulnerability was discovered in which a malicious user could potentially exploit it by inserting custom JavaScript in a specially crafted way into specific translated labels when using Multi-Language Management. The user must be authenticated into REDCap in order to exploit this in a project. Bug exists in all REDCap versions beginning with v12.0.0.
- **Major security fix:** A Stored 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 folder name of a folder created in the File Repository. The user must be logged in to REDCap and also must have File Repository privileges in the project in order to exploit this. Bug emerged in REDCap 13.1.0.
- Bug fix: If a user assigned to a Data Access Group is importing records via the Background Data Import, those records would mistakenly not get assigned to the user's DAG. In addition, if record auto-numbering has been selected for the import, it would also not prepend the record names with the DAG ID number and a dash. (Ticket #224833)
- Bug fix: When using "OpenID Connect & Table-based" authentication, clicking the "Logout" link in REDCap might mistakenly result in a logout error in the Identity Provide/SSO service. Bug emerged in REDCap 13.10.4. (Ticket #224757)

- Bug fix/change: The "Azure AD" authentication is now referred to as "Microsoft Entra ID (formerly Azure AD)" in the REDCap user interface due to the fact that Microsoft renamed the product to "Microsoft Entra ID" at the end of 2023.
- Bug fix: A fatal PHP error might occur for PHP 8 when viewing the Record Home Page or Record Status Dashboard for a record on an arm that has no events. (Ticket #225089)
- Bug fix: When entering text for an alert message when adding/editing an alert on the Alerts & Notifications page, in which the field list menu would appear after entering the "[" character, clicking a field in the field list would mistakenly not inject that variable name into the alert message. (Ticket #224895)
- Bug fix: When using the repeatable settings in the External Modules configuration dialog, removing a single repeating setting instance would mistakenly remove all repeating instances in the dialog. Bug emerged in REDCap 13.11.0. (Ticket #225171)
- Bug fix: When using the Data Resolution Workflow, a fatal PHP error for PHP 8 in certain situations when data is being saved in certain contexts, such as data imports, when some data values have been "Verified". (Ticket #225198)
- Bug fix: If using certain versions of MariaDB, the "YOUR REDCAP DATABASE STRUCTURE IS INCORRECT!" error message might display as a false positive in the Control Center, even when nothing is wrong with the database table structure.
- Bug fix: When Double Data Entry is enabled, and the current user is either DDE person #1 or #2, in which Form Display Logic has been defined in the project, the Form Display Logic might mistakenly not work correctly when viewing the Record Home Page. (Ticket #225125)

Version 14.0.13

CHANGES IN THIS VERSION:

- **Medium security fix:** A Reflected XSS (Cross-site Scripting) vulnerability was discovered on the Data Quality page in which a malicious user could potentially exploit it by inserting custom JavaScript in a specially crafted way into parameters in certain AJAX requests.
- Bug fix: The EHR launch process in CDIS might mistakenly fail in specific situations where Azure AD is the authentication method in REDCap.
- Bug fix: The Rapid Retrieval caching system might mistakenly fail with a fatal PHP error in some specific instances. (Ticket #224840)
- Bug fix: The developer method REDCap::getUserRights() would mistakenly not return instrument-level Data Export Rights information. (Ticket #224887)
- Bug fix: If using CDIS, the Clinical Data Pull mapping tool might mistakenly throw a JavaScript error. Additionally, Descriptive fields were mistakenly being excluded from the CDP mapping tool.
- Bug fix: If the @SETVALUE action tag exists on a field on an e-Consent survey, it would mistakenly allow the field's value to be overridden even when the e-Consent setting "Allow e-Consent responses to be edited by users" is not checked. (Ticket #225008)

Version 14.0.12

CHANGES IN THIS VERSION:

- Bug fix: When the "Auto-suspend users after period of inactivity" setting is enabled, users who recently had their account created but had not logged in yet would mistakenly get auto-suspended. Bug emerged in the previous version. (Ticket #224266)
- Bug fix: If any text used in an outgoing SMS text message contains an HTML hyperlink, in which the link's text is virtually the same as the link's URL, it would mistakenly display the URL in parentheses after the link text in the resulting SMS message. It should only do this when the link text is different from the URL. (Ticket #109648)
- Several bug fixes for the External Module Framework.
- Bug fix: When an Automated Survey Invitation with conditional logic is being evaluated when a record's data is being saved, in which the conditional logic references a field in a repeating instrument or repeating event where the field does not have an X-instance Smart Variable appended or an instance number appended to itself, the logic might not get evaluated as expected.
- Bug fix: When using the datediff() function in which the Daylight Saving Time barrier is crossed when calculating the result of two datetime values, in specific cases the result might mistakenly be one hour off if using units of "h", "m", or "s" for the function. (Ticket #223682)
- Bug fix: In some cases when inline PDFs are attached to Descriptive fields, and a user downloads the PDF of the instrument, if the iMagick PHP extension is installed on the web server, there would mistakenly be a blank page following the inline PDFs in the resulting REDCap-generated PDF of the instrument. (Ticket #222014)
- Bug fix: In places that display a drop-down list of records for the "Test logic with a record" feature, most notably in the branching logic dialog, Survey Queue setup dialog, and ASI setup dialog, the dialog might mistakenly never load if the project contains many thousands of records. For now on, it will display a normal drop-down list if the project contains 1000 records or fewer, and if the project contains more than 1000 records, it will instead automatically revert to displaying an auto-suggest text box to allow the user to manually enter the record name (rather than attempting to display an extremely long drop-down). (Ticket #224531)
- Bug fix: If the Custom Event Label is used in a longitudinal project and contains any HTML tags, all the tags would mistakenly get stripped out when exporting the project's Project XML file. (Ticket #224571)

Version 14.0.11

CHANGES IN THIS VERSION:

- Bug fix: When utilizing the project-by-project Unicode Transformation process, which is done using a cron job via Step 2 on the Unicode Transformation page, if processing individual projects that do not have any surveys enabled, it would mistakenly execute

several unnecessary, long-running SQL queries on each project lacking surveys, which would make the overall process take much longer to fully complete than it should.

- Bug fix: It might be possible for users or participants to manipulate an HTTP request in a specially-crafted way in order to upload files of any file type into a Signature field on a data entry form or survey. Note: This does not pose a security issue of any kind, and if certain file extensions are defined in the "Restricted file types for uploaded files" list in the Control Center, then those file types will be blocked immediately and not saved in the system.
- Bug fix: In some rare cases, the "collation_connection" setting for the REDCap database connection might mistakenly be taking effect, which could thus lead to possible encoding issues when pulling information from or storing information in the REDCap database.
- Bug fix: The simultaneous user prevention check on data entry forms would mistakenly prevent multiple users from accessing and editing different repeating instances of the same record-event-instrument in a project.
- Bug fix: On certain pages/dialogs, the calendar datepicker popup might mistakenly fail to be displayed when expected (e.g., when editing an alert). Bug was supposedly fixed in the previous version but still persists in some places throughout the application. (Ticket #223627)
- Bug fix: When importing Form Display Logic via a CSV file, the checkboxes for the FDL's optional settings would mistakenly all become unchecked after the import. (Ticket #223666)
- Bug fix: When the "Auto-suspend users after period of inactivity" setting is enabled, users who have not been added to any projects might mistakenly not get auto-suspended. (Ticket #223659)
- Bug fix: When uploading a CSV file to add or rename Data Access Groups on the DAG page in a project, in which the user provides a unique group name in the CSV file for a DAG that does not yet exist, the error message provided would be confusing as to what the problem is. In this situation, a more detailed error message is provided to inform the user that the unique group name is only used for renaming DAGs and should be left blank when creating new DAGs. (Ticket #223526)
- Bug fix: When the Rapid Retrieval caching feature is using file-based storage and is utilizing the alternate storage location (instead of using REDCap temp for storage), it might store some of the RR files in the REDCap temp directory by mistake. (Ticket #223738)
- Bug fix: When using Google Cloud Storage for file storage in the system, uploading a file on the main Send-It page might mistakenly not work successfully. (Ticket #221098b)

Version 14.0.10

CHANGES IN THIS VERSION:

- **Major security fix:** A Reflected XSS (Cross-site Scripting) vulnerability was discovered on the "Importing instrument from the REDCap Shared Library" page in which a malicious user could potentially exploit it by inserting custom JavaScript in a specially

crafted way into input elements on the page. The user must be authenticated into REDCap in order to exploit this. Bug exists in all REDCap versions for the past 10 years.

- **Major security fix:** A Reflected XSS (Cross-site Scripting) vulnerability was discovered in the Database Query Tool in which a malicious user could potentially exploit it by inserting custom JavaScript in a specially crafted way into saved queries on the page. The user must be an admin and must be authenticated into REDCap in order to exploit this. Bug emerged in REDCap 12.3.0.
- **Major security fix:** A Reflected XSS (Cross-site Scripting) vulnerability was discovered on the Alerts & Notifications page in which a malicious user could potentially exploit it by inserting custom JavaScript in a specially crafted way into parameters in certain AJAX requests. The user must be authenticated into REDCap in order to exploit this. Bug emerged in REDCap 9.0.0.
- **Major security fix:** A Reflected XSS (Cross-site Scripting) vulnerability was discovered on the confirmation page displayed for users who have put in specific requests to the REDCap administrator (e.g., requested a project be moved to production) in which a malicious user could potentially exploit it by inserting custom JavaScript in a specially crafted way into the URL. The user must be authenticated into REDCap in order to exploit this. Bug exists in all REDCap versions for the past 10 years.
- **Medium security fix:** A Broken Access Control vulnerability was discovered in which a logged-in user who is not a REDCap administrator could create Custom Application Links and have those open on the left-hand menu for any and all projects in the system. Only admins should be able to create, modify, and delete Custom Application Links in the Control Center. This could be used to trick users into navigating to potentially malicious websites.
- **Medium security fix:** Lower-level REDCap administrators (e.g., with "Manage user accounts" rights) could potentially escalate their own admin privileges by utilizing information from certain tables in the database via the Database Query Tool page. Going forward, only administrators with 'Admin Rights' privileges, 'Modify system configuration pages' privileges, or 'Access to all projects and data with maximum privileges' privileges are allowed to access the Database Query Tool.
- **Medium security fix:** There is a possibility in very specific situations that a malicious user might be able to reactivate another user's session and take it over after the other user has logged out of REDCap. This would require obtaining the other user's session ID.
- **Minor security fix:** Cross-site Request Forgery (CSRF) protection was mistakenly not applied to the user action of deleting arms on the Define My Events page.
- **Minor security fix:** If a logged-in user has specific knowledge of the REDCap system, they might be able to manipulate the parameters of a specific AJAX endpoint in order to send custom crafted emails impersonating any email sender (i.e., they can set the email's From address to anything they wish).
- **Major bug fix:** On certain pages/dialogs, the calendar datepicker popup might mistakenly fail to be displayed when expected (e.g., when composing survey invitations). Bug emerged in the previous version. (Ticket #223277)
- Bug fix: The Rapid Retrieval caching feature might mistakenly cause some API calls to hang and eventually time out. (Ticket #223083)
- Bug fix: Since Microsoft will soon be deprecating their Azure Storage PHP client libraries that are currently used by REDCap, the Azure Storage library has now been

replaced in REDCap with new custom-built methods for making calls directly to the Azure Blob Storage REST API. (Ticket #216356)

- Bug fix: If the first instrument in a project is taken as a public survey, it can end up with two different (but equally valid) return codes, assuming the survey has "Save & Return Later" enabled. However, it could be confusing for users to see two different return codes and think something is wrong. For consistency, the return code on the data entry form will now match the return code displayed to the participant on the survey page. (Ticket #208079)
- Bug fix: In very specific situations when using branching logic on a multi-page survey that is a repeating instrument/survey, some survey pages might get mistakenly skipped if the repeating instance number is greater than "1" when all fields on the page have branching logic that references field values on the current repeating instance. (Ticket #223126)
- Bug fix: For Step 2 when editing an alert and setting "Send it how many times?" to "Multiple times on a recurring basis", the number interval of the recurrence could mistakenly only be 4 characters long at the maximum. (Ticket #223020)
- Bug fix: When a REDCap administrator has limited data export privileges in a project and then calls the Export Report API method, REDCap would mistakenly remove many of the fields in the resulting data set, which should not happen to administrators. (Ticket #223259)
- Bug fix: When using Multi-Language Management, certain types of fields (yesno, truefalse, matrix field choices) would fail to be properly piped when the fields do not exist on the same form. (Ticket #222446)
- Bug fix: In some situations, it might be possible for a user or admin to duplicate the process of moving a project to production status, which would inadvertently cause the project to end up in Analysis/Cleanup status instead. (Ticket #222935)
- Bug fix: When using the @if action tag on a survey question, in which the participant is returning to the survey via their "Save & Return Later" return code, the @if logic might mistakenly not get evaluated correctly on the page to which they return, thus possibly utilizing the wrong action tags for the field. Note: This does not occur for subsequent pages in the survey after returning to the survey but only to the initial page loaded upon their return. (Ticket #223291)

Version 14.0.9

CHANGES IN THIS VERSION:

- Bug fix: When downloading an Instrument Zip file or various CSV files, the process might crash due to a fatal PHP error if the user has Space or Tab as their preferred "Delimiter for CSV file downloads" (as defined on their Profile page). (Ticket #222524)
- Bug fix: The simultaneous user prevention check on data entry forms would mistakenly prevent multiple users from accessing and editing different repeating instances of the same record-event-instrument in a project.
- Bug fix: When using Multi-Language Management, floating matrix headers were not aligned properly on surveys for right-to-left languages. (Ticket #222689)

- Bug fix: When upgrading from a version prior to REDCap 14.0.1, an SQL error might occur during the REDCap upgrade with regard to an "alter table" statement for the database table "redcap_outgoing_email_sms_log".
- Bug fix: When viewing the "Stats & Charts" page for any report that has one or more Live Filters selected on the page, and then the user selects an instrument and/or record in the Display Options box near the top of the page, all Live Filter selections would mistakenly get reset back to a blank value. (Ticket #222699)
- Bug fix: When using Multi-Language Management, the Forms/Surveys tab on the MLM setup page might fail to load due to a JavaScript error.
- Bug fix: If a file in the Recycle Bin in the File Repository is permanently deleted by a REDCap admin, the file would be marked as having been permanently deleted but would mistakenly still exist in the file storage system. (Ticket #222787)
- Bug fix: When using CDIS, an issue might occur if REDCap is using Azure AD OAuth2 & Table-based authentication method, particularly during an EHR launch for Clinical Data Pull.
- Bug fix: When using the text "month", "day", or "year" followed by an opening parenthesis inside quotes in a @CALCTEXT equation, the calculation would not get parsed correctly, thus resulting in a calculation error on the survey page or data entry form. (Ticket #222973)
- Bug fix: When the calendar datepicker popup is displayed near the rich text editor, in some situations part of the calendar might mistakenly get covered up by the editor's toolbar. (Ticket #223011)
- Bug fix: When Rapid Retrieval is disabled, REDCap might still be creating *.rr cache files in the temp folder. (Ticket #223076)
- Bug fix: If an administrator is not a user in a project but clicks the "Create API token now" button on the project's API page, the token would not be created (as expected) but it would mistakenly log the event "Create API token for self" as if it was created. (Ticket #222977)