

# **QAPI Centralized Database Platform, Version Release Notes**

## **A0.1 Created Database Structure**

- Introduced UI & Backend Tables to Store Data.

## **B0.2 Encrypted Front End & Back End Platforms**

## **B0.3 Placed Front End Database System on Universally Accessible Network Location**

## **B0.4 Developed Automatic Database Deployment/Update process**

- Batch File 1: Creates Directory on users C: Drive
  - Copies Newest Version of Database to QAPI Directory
  - Copies Shortcut to run in minimized mode to QAPI Directory
  - Runs QAPI Database Platform
- Batch File 2: Copies Shortcut to User Desktop
  - Shortcut Initializes VBS Script to run Batch File 1 & 2
- VBS Script File: Initializes batch files to run hidden

## **V1.0 Initial release including the Pages/Features**

- Login Dialog
  - Automatic Network Credential Login
- Access Code Dialog
  - Specified Number Sequence for access to the application
  - Protects unauthorized users from creating accounts
- Account Creation Page
- Splash Screen
- All Departments Screen
- Admissions Menu
  - Admissions Data Entry Pages
- Nursing Menu
  - Nursing Data Entry Pages
- Risk Management Menu
  - Risk Management Data Entry Pages
- Quality Management Menu
  - Quality Management Entry Pages
- Patient Safety Menu
  - Patient Safety Entry Pages
- Diet Management Menu
  - Diet Management Entry Pages
- Pharmacy Menu
  - Pharmacy Data Entry Pages
- Health Information Management Menu
  - Health Information Management Data Entry Pages
- Staff Development & Training Menu
  - Staff Development & Training Data Entry Pages
- Rehab Menu
  - Rehab Data Entry Pages
- JRCP Menu
  - JRCP Data Entry Pages

- Social Work Menu
  - Social Work Data Entry Pages
- Psychology Menu
  - Psychology Data Entry Pages
- Laboratory Menu
  - Laboratory Data Entry Pages
- Human Resources Menu
  - Human Resources Data Entry Pages
- Purchasing Menu
  - Purchasing Data Entry Pages
- Fiscal Menu
  - Fiscal Data Entry Pages
- MIS Menu
  - MIS Data Entry Pages
- Infection Control Menu
  - Infection Control Data Entry Pages
- B&G Menu
  - B&G Data Entry Pages
- Information Center Menu
  - Code logging Page
- CSC Menu
  - MOT Logging Page
  - Transfers Logging Page
  - CSC Reports Page

#### 1.0.1 Fixed Fatal Design Flaw

- Fixed flaw allowing users to submit only part of their data by filling out only the last submission combo box.
- Hard Stop created to prevent this work-around.

#### 1.0.2 Fixed Core Application Backend Bug

- MODATE linked excel table would open when users were trying to input their data.
- Localized MODATE table to prevent this bug from happening.

#### 1.0.3 Fixed Bug in Admissions Data Entry

- Data was submitting backwards into the table.
- Columns within the SQL command were switched to fix this problem.

#### 1.0.4 Fixed JRCP Bug

- JRCP combo number limit needed to be increased.

#### 1.0.5 Fixed Pharmacy Bug

- Pharmacy combo number limit needed to be increased.

#### 1.0.6 Created Bug Reporting, Resolutions & Notifications.

- Bugs, Questions, Concerns, Suggestions Data Entry to report directly to QAPI Administrator.
- Ability to be anonymous.
- Resolutions page created to view “Bugs, Concerns, Etc.”

- Ability to mark “Resolved” if a problem “Needs Attention.”
- Notification Marker to notify the Administrator of a user’s submissions.

#### 1.1.0 Backup Documentation Feature

- New upload button displayed on all department menus.
- Ability to browse and upload any supporting documents for data submitted.
- Once uploaded QAPI program will place it in the corresponding month and year folder on the network.

#### 1.1.1 Multiple Account Creation

- Fixed the bug not allowing multiple accounts to be created.
- Though duplicate names and Employee ID’s are created, table structure will be modified in the future to fix this problem.

#### 1.2.1 Addition of Code Clearing Function

- Users can now clear data if a mistake was made during entry.
- This will default them back to the code type by setfocus.

#### 1.2.2 Addition of View Data Screen

- Eye icon created on all department menu screens to open and view data they have submitted.
- If your data view is not available it will display the message coming soon.

#### 1.2.3 Data View All Departments

- Users have the ability to look at all department data by using the combo box on the menu bar at the top.
- Users will be brought to their specified departmental data when navigating to this page.

#### 1.2.4 Critical Date Selection Error

- Error with date selection when departments submitted their data causing inability to submit data for the correct date time.
- Temporarily fixed for current QAPI (February) to default to the current year and month for submission.

#### 1.2.5 Addition of Year Drop Down Data Submission

- Addition of data year drop down added to submit for any previous years missed.
- The Month combo box was reformatted using the Dateserial function, and correlating with the year combo box for the current year 12 months displaying.
- You can now submit for the current year plus or minus 2 years, as well as for each month individually.

#### 1.2.6 Pharmacy Page Update

- Data Structure changed supporting numerators and denominator to create a percentage of compliance.
- Backend code changed to accept multiple variables.
- Updated Data entry validation to prevent incorrect entry of data.

#### 1.3.0 New Survey/Audit Table Structure Created

- Table structure created for: ANSWERS, QUESTIONS, SURVEY, MAINSRVY
- Ability to create any type of survey to pull in data, without illogical table structure.
- Utilization & Treatment Team Audits went live following this implementation.

#### 1.3.1 Addition of B&G Inspection Screen

- BG and Inspection Tables created.
- Data being logged will include if the inspection was completed, not completed, or pending completion.
- Data display view created to monitor inspections.

#### 1.3.2 Addition of Centralized Staffing Program

- Program menu was created for staffing log, employee history, and reports.
- Logging: Features as all current employees linked by Employee ID. Including the type of shift or call or, sub-type, action, date, etc.
- Employee History: Includes all records submitted in the logging section. Ability to change Employee ID, Action, and date of record. This page also features multiple filters to find specified data that you need to edit or export.
- Reports: Includes one report at this time that uses a crosstab query to count each Job Title, for Added Shifts or Callouts, whether it is day evening or night shift.
- More reports will be created in the future.

#### 1.3.3 Rehab Page Update

- Credit hours per unit were changed to percentage per unit.
- Group Attendance by department was modified to support multiple departments for the main programing area, secure programing area, and on unit groups.
- Competition status indicator added to make sure all data is entered for each department.

#### 1.4.0 Complete 64-bit Architecture

- New 64-bit laptops through hospital refresh introduced coding module error.
- Solution was to use the new 64-bit coding module architecture; which initiated Ptrsafe on all private functions declaring a variable.
- Cross architecture compatibility for both 64 and 32-bit systems was added using if statements by sys32 status.

#### 1.4.1 QAPI Platform Added Stability

- Page rendering smoothness and speed was increased by changing the time rendering interval to 1000.
- This created a smoother UI interface with less screen & button flickers.

#### 1.4.2 Removed BAT File run prompt due to Windows 10

- Created registry file to install on users computer during update process.
- Registry file designates the specific file location all BAT files are located in order to white list the locations and prevent the run prompt user's encounter.

#### 1.4.3 Combined all individual BAT file processes into to one.

- Create new leading batch script to prevent BAT file from being run twice while it is already running.

- Following this process includes the implementation of registry installation, copy of the database, short cut to the desktop, and the running of the splash screen “QAPI Man.”

#### 1.4.4 Satellite Employee Database Update

- Creation of new update queries to add new information to current records for separation dates, internal transfer codes, and filtering out previous employee positions (prevents duplicate records).

#### 1.4.5 Centralized Staffing Printable Reports

- Newly created and organized reports for the centralized staffing program.
- Including current hospital letterhead, and the ability to download a PDF version to your desktop.

#### 1.4.6 Amended Right-Click Menus

- Right click menu feature for export to excel would crash the application.
- Due to this the feature has been removed.
- Right click menu feature for quick print would print the entire database window.
- Due to this the feature has been removed.

#### 1.4.7 Centralized Staffing Hours Logging

- The ability to track hours for each mandated or voluntary shift has been added to the program.
- Unlock of type description for call outs and shifts on the employee history log page.

#### 1.4.8 Date Range Added to Job Title and Shift Report

- Drop down options for the ability to print a singular day or multiple days at once was added.
- When multiple dates are selected the date range box will then appear for the user to type in a second date.

#### 1.5.0 Addition of Student Affiliation Database

- **ADD DETAILS AND FEATURES LATER**

#### 1.5.1 Prevention of Double Entry Centralized Staffing

- Coding with conditional SQL command to search by specific details entered to see if the current record being submitted would create a duplicate. Error message will then display and prevent the user from submitting the record.

#### 1.5.2 Special Characters Bug

- In Long Text boxes within the QAPI Database special characters were throwing an error not allowing for successful submission, this was solved by converting the fields to rich text and also triple quotes “”” around the SQL statement for the comment record column.

#### 1.5.3 Rehab Page Addition of Building 1 & 2 Department Compliance

- Two step process starting with building 1 with check list feature to show progress as data is submitted.
- Building 2 data submission is on the next page after building 1 data is successfully entered.

#### 1.5.4 Addition of Employee Leave Centralized Staffing

- Main and sub-trees were made for the following leave types: WC, FMLA, STD, & Admin.

- Error preventing employee history page from being updated or edited fixed.

#### 1.5.5 Addition of Social Work Diversions

- Monthly amount of diversions submission screen created for social work.

#### 1.5.6 Double entry Centralized Staffing bug

- Bug did not allow data entry due to logic mishap.
- This was fixed by changing the dlookup function to search on a specified query instead of a raw table.

#### 1.5.7 Employee Satellite Database Update

- Process did not update to employees new positions if changed within the facility.
- This updates position #, names, job title, department, etc.
- This update process was created to have accurate and up to date employee demographic details for QAPI Database usage.

#### 1.5.8 Employee History Page Blank Employee Names

- The names were not showing up due to separation date within the query that the pages data runs off of.
- The fix was initiated by making a simple date range change to the existing query.

#### 1.5.9 Removal of selecting separated employees for QAPI applications

- Employees now have a 14 day grace period to enter data for separated individuals.
- This prevents errors when associating data with employees who no longer work at the facility.

#### 1.6.0 Implementation of the Employee Repository

- Migrated HR data including roles and job classification,
- Migrated education data and licensure data
- Migrated employee position data, chain of command, and all categorical data.
- Interface created to search for employees and their basic information through the find first and bookmark VBA functions.
- All employee list view search made possible with a dynamic field search VBA function that will instantly query the data related to what you type in the text box.
- Homepage employee repository icon created to allow repository availability to all users.

#### 1.6.1 Creation of Radiology Menu & Data Entry

- Data submission indicators for mobile X-ray & in-house X-ray's created.

#### 1.6.2 Employee Repository QAPI App Shortcuts

- Implementation of the employee repository on all QAPI apps that have the ability to log specific employee related data. Quick search of who the employee is to ensure correct selection is made.

#### 1.6.3 Creation of Work Order data upload

- Browse and import interface created for the B&G department to submit TMS data regarding work orders on a monthly basis.

#### 1.6.4

##### Universal Computer User Login Process

- This offers the ability for users to login to their QAPI account on any computer without have to create a new account.
- New process will prompt the user that they are using a new computer, and will ask if they would like to verify QAPI usage on the new computer they are using.
- New login screen with name and recognition of who you are.
- If there is a new user the login screen will display “Hello new user, please create an account to continue.”
- A security update was implemented by blocking users from logging in if the remote app shutdown is activated and the database is under construction.

#### 1.6.5

##### Infection Control Hand Washing Data Entry & Report System

- This user interface allows the infection control nurse to log all of the handwashing by individual employees and units.
- This is then related back to the individual employee data record over-time.
- 5 step process grading was used, allowing the user to enter how many steps the employee got correct during the hand washing process. Ultimately outputting the overall graded handwashing percentage.
- This data is then calculated with all employee history and averages are displayed by unit with reporting feature addition.

#### 1.6.6

##### Employee Repository Update.

- The system now has the ability to track users and who they specifically are looking up within the repository.
- Mask for only the last four of the employee ID was created, but an admin passcode was implemented to allow access to authorized individuals.
- The year of the employee’s birthdate was take away to only show the month and day for confidentiality.

#### 1.6.7

##### Fit Testing QAPI Application

- Three layered structure for data entry of the fit testing process. The entire process was mapped out with a process flow chart and the QAPI fit testing application as the core basis for data integrity, organization, and user entry.
- Layer one involves the data entry from the HR department of the medical screening form that approves the employee to be fit tested, then the physical paperwork is stored in the employee file. Once this process is complete the system will update the status of the employee to “Send for Fit testing.”
- Layer two involves the ability for any manager in the hospital have access to their employee fit testing status, so they can track and schedule their employees for the next steps in the process. They also have access to which mask’s the employees are fitted for once the process is fully completed.
- Layer three involves the data entry for the fit tester who is fitting specific masks to each employee. The fit tester will enter data for the specified employee for the mask they passed fit testing for. This will then relate to employee’s fit testing status on the manager’s (Layer two) end to ensure proper prioritization of their employees and the PPE their unit needs.

- 1.6.8 Employee Satellite Database Update
- Current Employee discretionary data updates when they switch positions.
  - Bug preventing job classification and roles updating once an employee changed positions.
  - All employee information is now updated through this new process if it changes within the HRIS system.
- 1.6.9 Manager & Acting Manager View
- This is a manager (Or you can act as a manager if given authorization) only interface.
  - All managers' position numbers are queried to give authorization, and all employees they supervise are delegated through the employee supervisor relationship.
  - Managers are only able to view employees they supervise directly.
  - This screen features the fit testing manager view with multiple employee management apps to be implemented in the future once developed.
  - Some examples of future applications include the follow: Employee Training Record, Evaluations, Work Profiles, and medical record delinquencies.
- 1.7.0 Introducing QAPI User Multiple Roles
- A need for multiple users to be able access different types of information as the usage of the QAPI database increased, so the ability for a user to have multiple roles was created along with a control panel to manage this employees current roles; which can be given and taken away.
  - If an employee does not have multiple roles they will continue to go straight to their original account role homepage. If the employee has been given two or more roles they will be sent to the role selection page where they will select the specific role they would like to use.
- 1.7.1 HR Medscreen data migrated to QAPI
- Originally the med screen data was being kept in the HRIS system, but the efficiency of the updating was a fatal flaw that would slow down the process flow significantly.
  - Thus all data tables were migrated to the QAPI database to centralize all functionality of the fit testing system
- 1.7.2 Sign-up Genius Link
- Within the manager fit testing view a sign up genius link was implemented to the manager's straight to the scheduling portal to schedule their employees for fit testing.
- 1.7.3 Employee Repository Bug
- Fatal flaw regarding the employee search feature allowed for the possibility of data corruption with error 2126.
  - This was fixed by implementing newer stable VBA coding instead of unstable macro function to search for employees.
  - This fix resulted in faster search results, and ensures the integrity of the data with safer coding design.
- 1.7.4 Control Panel Menu
- This menu was initially implemented when the multiple roles was implemented, but has been given much more functionality and future updateability.
  - The control panel features many automated administrator controls for users that do not have coding experience or direct knowledge of how the database functions on the backend.



- Some features include: remote database/app shutdown, QAPI apps quality control, QAPI database movement log, Individual user roles and security access levels, and more to be implemented in future updates.

#### 1.7.5 Fixed Duplicate Employees in Fit Testing System

- The fit testing master manager query was experiencing duplicate records on the manager's view.
- This was caused by multiple medical screen form entries on different days as well as multiple fit testing mask's being entered.
- This was solved by creating a categorical query that selects and only displays the records with the most recent dates for both data entry methods, but storing old records for historical purposes as well.

#### 1.7.6 Logged in as Status

- System wide Identity verification to display the user's name and their windows network alias ID.
- This identification system also allows for any quality control data recording to take place if needed.
- The QAPI database uses the user alias and timestamp when a user enters data as a standard security feature. This allows forensic tracking if data is manipulated to ensure data integrity.

#### 1.7.7 Added Sizing to Fit Testing

- The size of each mask for fit testing was requested to be added to the data entry platform.

#### 1.7.8 Department Data Compliance Visualizer

- System wide data compliance functionality added to ensure users enter their data on a month to month basis; whether they are a monthly data submission user or a day to day user.
- This function is incorporated within the admin all department menu, and when clicking the check button on this menu it shows which departments have submitted their data and who has not. It also displays with a notification counter to show how many months a department has not submitted for.
- A new check button has been added to each individual department's menu; which allows them to see which month's they have not submitted for yet.

#### 1.7.9 Quality Control Increase

- Quality control was expanded to all movements made within the database. Any page or function that is used will create a user record that shows the user, the computer they used, what function triggered, and what time it happened.

#### 1.8.0 Trusted Locations Registry File

- After over a year of looking for the solution to the "enable content" button, one was finally found through the use of a registry file.
- The registry file specified the network location as a trusted location, and upon initial installation of the QAPI database the registry file marks the location on the network safe and prevents the user confusion with pressing the "Enable content" button.
- This increases the overall security of the application by 100%, by ensuring that no tampering can be done during the initial installation of the app whatsoever.

- 1.8.1 Fit Testing Admin & Other Roles added
- With the expansion of the fit testing application new roles for specific tasks within the database were required for data integrity.
  - Fit Testing Admin, Fit Testing Medical Screen, and Fit Testing Masks roles were created.
- 1.8.2 Near Miss Application
- New near miss form was mirrored to be supported within the QAPI Program to track and trend the forms outcomes.
  - Initial features include in depth data entry, near miss history, and near miss location report.
  - Included in this update was the fix of the handwashing percentage decimals from .2 to .5 for hand sanitizing grade. This allowed percentages to show correctly on the history page.
- 1.8.3 Fit Testing Employee Scheduled
- This feature was implemented to change the status from “Schedule for Fit Testing” to “Pending Fit Test” to ensure managers have credit for scheduling their employees for being fit tested.
  - This status will change to “Screened & Fitted” once the mask data is entered by the individual fit testing employees.
- 1.8.4 Master Manager View
- This view is only limited to very few users, and displays all employee related data statuses instead of only seeing one manager’s data at a time.
  - This master view is and will be available for all current and future manager applications.
- 1.8.5 HIM Delinquency Program
- List all Features
- 1.8.6 Fit Testing Data Manage Update
- Fit Tester mask entry now has the ability to edit individual employees mask data.
  - Excel spreadsheet download has all been made available to view and use the fit testing data outside of the database.
  - Also data validation hard stops were implemented for all fit testing data entry areas in order to ensure the correct type of data was being entered into the system.
- 1.8.7 Delinquency Program Update
- Addition of current employee/user filter for the delinquencies that they are specifically working with.
  - Scaling issue fixed within the delinquency repository, by replacing a dlookup function with a hard coded SQL sum query.
- 1.8.8 Training Record Application
- This application is being implemented due to the lack of compliance software features within the Virginia Learning Center online application.
  - The QAPI program is being used as an extension to the VLC as a compliance layer to track and trend the training compliance of all hospital staff.
  - The user of the QAPI Training Record maintains VLC user ID’s and matches them to the employee ID; which then allows us to relate all of training our employees take back to them through the data.

- The user will also initiate classes that are created in the VLC into the QAPI program in order to relate all classes to the employees who are required to take them.
- Notification bubbles have been added to count how many classes need to be added, and how many user ID's need to be assigned as well.
- The user will upload a weekly class completion data file from the VLC. This will then line up with what employees need to complete which training.
- Dynamic class role requirements have been implemented into the system. Meaning only certain roles or all role require a specific class.
- Complex compliance query accounts for the status of each employees training for specific classes. This includes classes that are quarterly, annual, or one-time only. Service breaks and separation status have been account for within the compliance query to ensure that any employee not present during the time period of class completion are or are not accountable for specific training.

#### 1.8.9 General Bug and Features Update

- Updated the quality management data import submission verification dlookup check. The verification now checks to see if there is any data for the submitting month instead of the old VERIFY table. This streamlines the process and ensures data is always able to be submitted when needed.
- New update to the staffing log history page to allow users to edit or modify individual entries; which also includes quality control tracking to show which values have been changed.
- Bug fixed under the HIM data indicators where indicator ID's were not lining up correctly with the combo boxes where the data is submitted, resulting in incorrect labeling of numbers. This data is in the process of being reconciled.

#### 1.9.0 Manager View (Beta)

- Manager contracts
- Manager Digital Signature
- Manager Employee Management
- Manager Policies
- Additional updates: Added vaccine data entry for infection control department.

#### 1.9.1 Delinquency Program Update 1

- Added comments
- Fix bug preventing update to resolution status once marked resolved.
- Added employee separation status to all data screens.
- Expand and shrink function for subform.
- Enlarge font one menus.
- Hide comment box after record submission
- Added delete button.

#### 1.9.2 Delinquency Program Update 2

- Bug preventing patient resolution from filtering correctly fixed. Individual outstanding delinquencies will now display per patient selected in the delinquency repository.
- Delete delinquency justification implemented, to understand the rationale behind deleting delinquencies.

### 1.9.3

#### Delinquency Program Update 3

- Added individual (Full History) patient delinquency reports. Can be accessed on the delinquency repository page.
- Fixed error not allowing users to enter multiple of the same sub category by editing the validation code. Now the code will justify a duplication by the comment attached to the delinquency.
- Replaced the alias attached to delinquencies with the names of the individual auditing the medical record.
- Additional Updates: Added expiration date status to the fit testing program, as well as improved the logic behind the fit testing pipeline status (More efficient error-less if statements).