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Middle East North America Health

Express Breast Milk (EBM) Verification System

Professional User Manual

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1. Introduction

The Express Breast Milk (EBM) Verification System is a comprehensive solution designed to ensure that the right breast milk is given to the right baby in hospital settings. This system provides a robust framework for tracking baby information, capturing biometric data, generating QR codes for milk bottles, tracking milk delivery and usage, and implementing multiple verification methods to prevent mix-ups and ensure safe feeding practices.

In healthcare environments, particularly in neonatal intensive care units (NICUs) and maternity wards, ensuring that each baby receives the correct breast milk is of paramount importance. Breast milk mix-ups can lead to serious health risks, including potential exposure to infectious diseases and allergic reactions. The EBM Verification System addresses this critical need by implementing a multi-layered verification process that combines digital tracking with biometric identification.

The system, developed by Halebi, offers a user-friendly interface accessible through web browsers, allowing healthcare professionals to efficiently manage the entire process from milk expression to feeding. The platform incorporates role-based access control, ensuring that users can only access features relevant to their responsibilities, whether they are administrators, nurses, or parents.

This professional user manual provides comprehensive guidance on using all aspects of the EBM Verification System. It covers everything from basic login procedures to advanced verification workflows, troubleshooting common issues, and understanding system reports. Whether you are a new user learning the system for the first time or an experienced user seeking specific information, this manual will serve as your complete reference guide.

Key Features

The EBM Verification System includes the following key features:

User Management: The system implements role-based access control with distinct permissions for SuperUsers, administrators, nurses, and parents. This ensures that each user type can access only the features and information relevant to their role.

Baby Information Management: Complete demographic and medical information for babies can be stored and managed, including MRN (Medical Record Number), name in both English and Arabic, date of birth, gender, gestational age, and weight.

Biometric Capture: The system supports the storage of multiple biometric identifiers for babies, including face photos, footprints, and retina prints, providing additional verification methods beyond traditional identification.

QR Code Generation: Unique QR codes can be generated for milk bottles and baby wristbands, facilitating quick and accurate identification during the verification process.

Milk Tracking: The system enables complete tracking of milk from expression to feeding, including recording of expression dates, delivery dates, volumes, and usage information.

Verification Workflow: A step-by-step process ensures that milk is verified before feeding, with requirements for dual verification by different nurses to enhance safety.

Messaging System: Built-in communication tools allow for sending announcements and messages between system users, facilitating coordination and information sharing.

Reports and Analytics: Comprehensive reporting on milk usage and verification activities provides valuable insights for quality improvement and audit purposes.

Profile Management: Users can view and edit their profile information and change their passwords, maintaining security and accuracy of user data.

The following sections of this manual will guide you through each of these features in detail, providing step-by-step instructions and helpful tips to ensure efficient and effective use of the EBM Verification System.

2. System Overview

The Express Breast Milk (EBM) Verification System is a web-based platform designed to operate seamlessly across various devices and browsers. This section provides an overview of the system architecture, components, and how they interact to ensure the safe administration of breast milk to infants in healthcare settings.

System Architecture

The EBM Verification System is built on a secure client-server architecture that allows for real-time data processing and verification. The system is hosted on reliable cloud infrastructure, ensuring high availability and performance. Users access the system through a standard web browser by navigating to the system URL (https://halebi5.fly.dev/), making it accessible from any internet-connected device without requiring special software installation.

The backend database securely stores all critical information, including user accounts, baby demographics, biometric data, milk tracking records, and verification histories. All data transmission between the client browser and server is encrypted using industry-standard protocols to maintain privacy and security of sensitive healthcare information.

System Components

The EBM Verification System consists of several integrated components that work together to provide a comprehensive solution:

User Management Module: This component handles user authentication, authorization, and profile management. It enforces role-based access control, ensuring that each user can only access features appropriate to their role in the system.

Baby Information Module: This component manages all baby-related information, including demographics, medical data, and relationships to parents. It provides search capabilities and detailed views of baby profiles.

Biometric Capture Module: This specialized component interfaces with cameras and scanning devices to capture and store biometric identifiers for babies, including facial features, footprints, and retina scans.

QR Code Generation Module: This component creates unique QR codes for milk bottles and baby wristbands, encoding identifying information that can be quickly scanned during the verification process.

Milk Tracking Module: This component records and manages the complete lifecycle of expressed breast milk, from expression and delivery to usage or disposal, maintaining a comprehensive audit trail.

Verification Workflow Module: This critical component implements the step-by-step verification process, including dual nurse verification, to ensure that the right milk is given to the right baby.

Messaging Module: This component facilitates communication between system users, allowing for announcements and direct messages between healthcare providers and parents.

Reporting Module: This component generates various reports and analytics based on system data, providing insights for quality improvement and administrative oversight.

Data Flow

The EBM Verification System follows a logical data flow that mirrors the real-world process of breast milk handling in healthcare settings:

1. Baby information is entered into the system, establishing a unique identity in the database.
2. Biometric data is captured and associated with the baby's profile, enhancing identification capabilities.
3. QR codes are generated for milk bottles and baby wristbands, linking physical items to digital records.
4. Milk expression and delivery information is recorded, creating a trackable inventory of available milk.
5. During feeding, the verification process ensures matching between the milk bottle and the baby through QR code scanning and/or biometric verification.
6. Dual nurse verification provides an additional safety layer before milk administration.
7. Milk usage is recorded, completing the audit trail from expression to consumption.

This systematic approach ensures that each step in the breast milk handling process is documented and verified, significantly reducing the risk of errors and enhancing patient safety.

The following sections of this manual will provide detailed instructions for using each component of the system, guiding users through specific workflows and procedures based on their role and responsibilities.

3. Getting Started

This section guides you through the initial steps of accessing and navigating the Express Breast Milk (EBM) Verification System, including account creation, logging in, and understanding the dashboard interface.

Account Creation

Before you can access the EBM Verification System, you need to have a registered account with the appropriate role assignment. The system supports multiple user roles, each with specific permissions and access levels.

To create a new account:

1. Navigate to the system URL in your web browser: https://halebi5.fly.dev/
2. On the login page, click the "Create an Account" link.
3. Complete the registration form by entering all required fields (marked with an asterisk *).
4. Select the appropriate role for your position (Nurse, Parent, or Administrator).
5. Submit the form by clicking the "Register" button.

It's important to note that newly created accounts remain inactive until approved by an administrator or SuperUser. This security measure ensures that only authorized personnel can access the system. After registration, you will need to wait for account approval notification before attempting to log in.

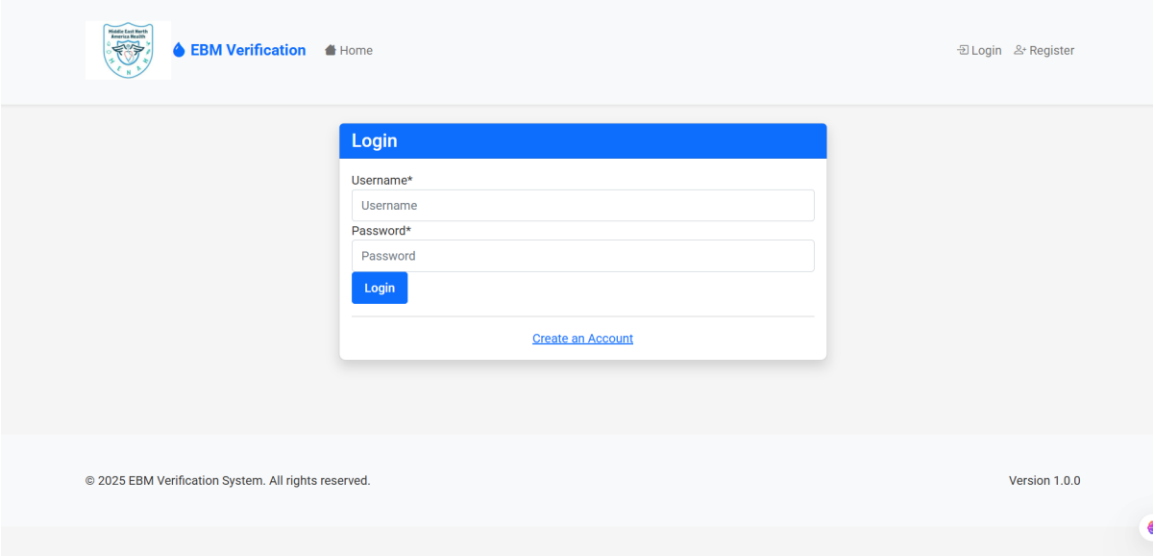


Figure: Login Screen

For parents creating accounts, it's recommended to do so before the nurse attempts to add mother information to a baby's profile, as the parent account will need to be linked during that process.

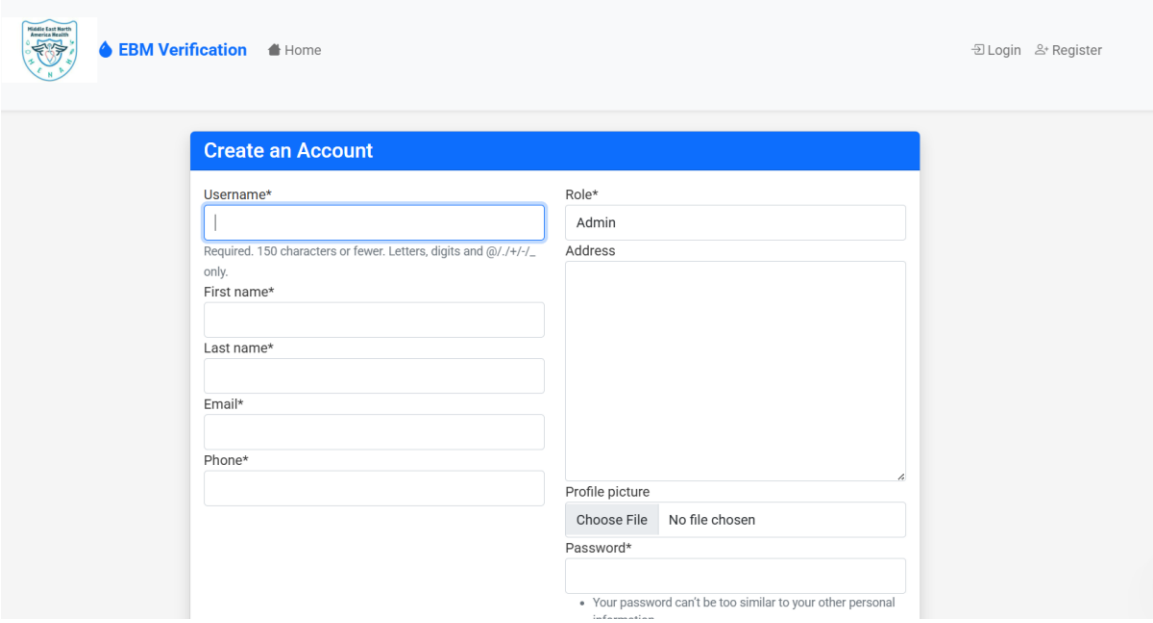


Figure: Account Creation Form

Logging In

Once your account has been approved by an administrator, you can log in to the system:

1. Navigate to the system URL in your web browser: https://halebi5.fly.dev/
2. On the login page, enter your username and password in the designated fields.
3. Click the "Login" button to authenticate.

If your credentials are valid and your account is active, you will be directed to the dashboard appropriate for your role. If you encounter any issues during login, refer to the following common error scenarios:

- If you receive the message "Username or password incorrect," verify that you are entering the correct credentials. Usernames and passwords are case-sensitive.
- If you receive the message "Contact administrator," your account may be disabled or pending approval. Contact your system administrator for assistance.

For security reasons, the system will automatically log you out after a period of inactivity. If this occurs, you will need to log in again to continue using the system.

Dashboard Overview

After successfully logging in, you will be presented with a dashboard tailored to your user role. The dashboard serves as a central hub, providing quick access to the modules and functions relevant to your responsibilities.

SuperUser and Administrator Dashboard

If you are logged in as a SuperUser or Administrator, your dashboard will display control cards for:

- **User Management**: Access to user lists, approval of new accounts, and user activity monitoring.
- **Settings**: System configuration options and preferences.
- **Reports**: Access to system-wide reports and analytics.

SuperUsers have full control over all user accounts, including administrators, nurses, and parents. Administrators can manage nurse and parent accounts but cannot modify SuperUser accounts. Both roles can approve new account registrations and deactivate existing accounts when necessary.

Nurse Dashboard

If you are logged in as a Nurse, your dashboard will display control cards for:

- **Baby Management**: Access to baby lists, adding new babies, and managing baby information.
- **Biometrics**: Tools for capturing and managing baby biometric data.
- **Milk Management**: Functions for tracking milk expression, delivery, and usage.
- **Verification**: Access to the verification workflow for ensuring correct milk-to-baby matching.

Nurses are responsible for the day-to-day operations of the system, including maintaining baby records, capturing biometric data, generating QR codes, tracking milk bottles, and performing verification procedures.

Parent Dashboard

If you are logged in as a Parent, your dashboard will display control cards for:

- **Baby Profile**: Access to view information about your baby.
- **Milk Usage**: History of milk usage for your baby.

Parents have limited access to the system, primarily focused on viewing information related to their own baby. They cannot modify records or perform operational functions.

Profile Management

All users, regardless of role, have access to their profile management screen, which can be accessed from the dashboard. This screen allows you to:

- View your current profile information
- Edit your profile details
- Change your password

To access your profile, look for the profile icon or link typically located in the top navigation bar of the dashboard. Maintaining accurate profile information is important for system communications and accountability.

The dashboard is designed to be intuitive and user-friendly, with clear navigation paths to all system functions. As you become familiar with the system, you will find that the dashboard provides an efficient starting point for all your daily tasks within the EBM Verification System.

4. User Management

This section details the user management features of the Express Breast Milk (EBM) Verification System, including user roles, permissions, and the administrative functions for managing user accounts.

User Roles and Permissions

The EBM Verification System implements a role-based access control model with four distinct user roles, each with specific permissions and responsibilities. Understanding these roles is essential for proper system administration and security.

SuperUser

The SuperUser role represents the highest level of system access and control. SuperUsers have full administrative privileges across all system functions and can manage all other user types.

Key permissions for SuperUsers include:
- Creating, approving, and disabling all user accounts, including Administrator accounts
- Accessing and modifying all system configuration settings
- Viewing comprehensive system statistics and reports
- Overriding verification processes in emergency situations
- Monitoring user activity across the entire system

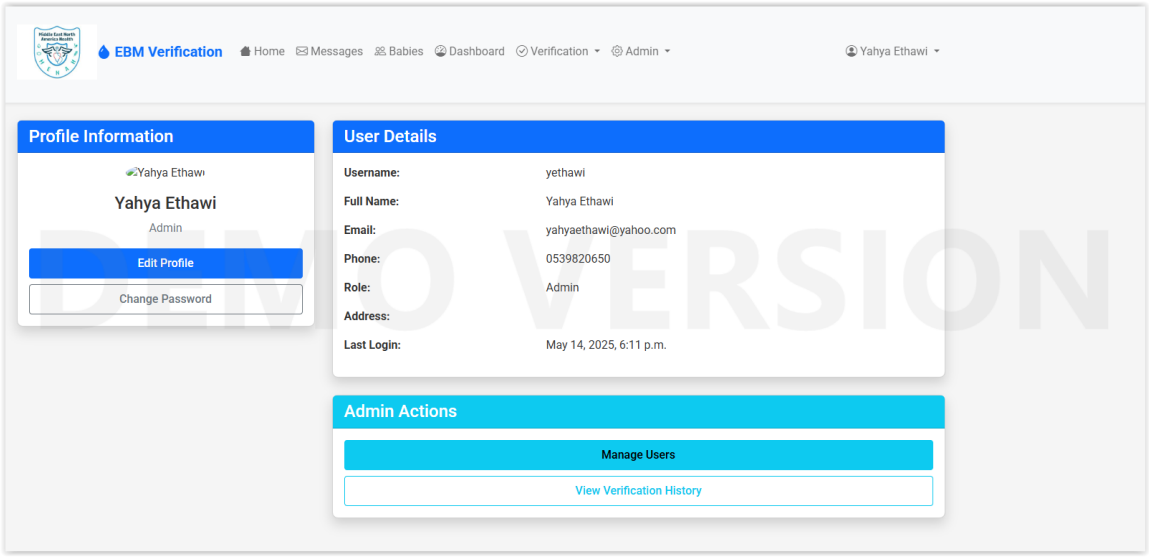


Figure: Profile Screen

SuperUsers are typically limited to key technical personnel responsible for overall system maintenance and security.

Administrator

The Administrator role provides broad administrative access but with some limitations compared to SuperUsers. Administrators are responsible for day-to-day system management and user administration.

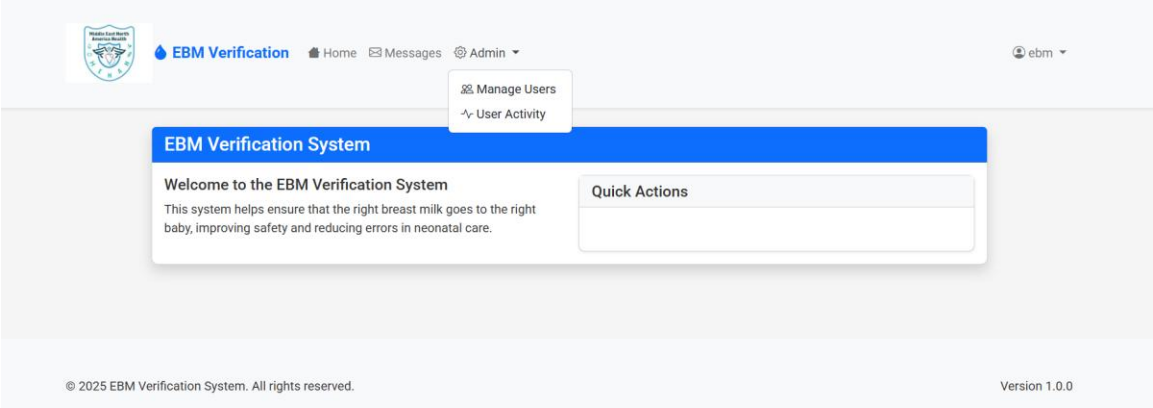


Figure: User Management Screen

Key permissions for Administrators include:
- Approving and disabling user accounts for Nurses and Parents only
- Accessing and modifying most system configuration settings
- Viewing comprehensive system statistics and reports
- Overriding verification processes in emergency situations
- Monitoring user activity for Nurse and Parent accounts

Administrators are typically department managers or designated system administrators within the healthcare facility.

Nurse

The Nurse role is designed for healthcare professionals who perform the operational functions of the EBM Verification System as part of their clinical duties.

Key permissions for Nurses include:
- Managing baby information and profiles
- Capturing and managing biometrics data
- Generating and printing QR codes for bottles and wristbands
- Recording milk expression, delivery, and usage
- Performing verification procedures
- Accessing basic reports related to their assigned babies
- Sending messages to other users

Nurses are the primary operational users of the system, responsible for ensuring that the right milk is given to the right baby through proper documentation and verification.

Parent

The Parent role provides limited access focused on viewing information related to a specific baby.

Key permissions for Parents include:
- Viewing their baby's information and profile
- Viewing milk usage history for their baby
- Viewing verification history for their baby
- Receiving and sending messages within the system

Parents cannot modify records or perform operational functions but can stay informed about their baby's care through the system.

User List and Management

SuperUsers and Administrators have access to user management functions through the Users module accessible from their dashboard.

Viewing User List

To access the user list:
1. Log in with a SuperUser or Administrator account.
2. From the dashboard, click select "Manage Users" from “Admin” on the top navigation menu.
3. The user list displays all users in the system with columns for Name, Role, Status, and Actions.

The user list provides a comprehensive view of all system users, allowing administrators to monitor account status and manage user access efficiently.

User Details and Editing

To view or edit a user's details:
1. From the user list, locate the user you wish to manage.
2. In the Actions column, click "Details" to see the user's details.

When editing user information, be careful not to change critical identifiers that might affect the user's ability to access the system or be associated with existing records.

Approving New Users

New user accounts remain inactive until approved by a SuperUser or Administrator. To approve a new user:

1. From the user list, filter to show pending approval accounts or look for users with an "Inactive" status.
2. Click "View" to review the user's registration details.
3. Verify that the user should have access to the system and that their role assignment is appropriate.
4. Click "Approve" to activate the account.
5. The user will now be able to log in to the system.

It's important to verify the identity and role of new users before approval to maintain system security and ensure appropriate access levels.

Disabling User Accounts

When a user should no longer have access to the system, their account can be disabled rather than deleted, preserving their historical activity records.

To disable a user account:

1. From the user list, locate the user you wish to disable.
2. In the Actions column, click "Deactivate."
3. Confirm your action when prompted.
4. The user's status will change to "Disabled," and they will no longer be able to log in.

Disabled accounts can be re-enabled if necessary by following the same process and selecting "Approve" instead.

User Activity Monitoring

The EBM Verification System maintains detailed logs of user activity, providing accountability and an audit trail for system operations.

To view user activity:
1. From the dashboard, click select "Users Acivity" from “Admin” on the top navigation menu.

The activity log includes information such as login times, record modifications, verification actions, and other significant system interactions. This information is valuable for troubleshooting, security monitoring, and compliance purposes.

Effective user management is essential for maintaining the security and integrity of the EBM Verification System. By carefully controlling user access and monitoring activity, administrators can ensure that the system is used appropriately and that sensitive patient information remains protected.

5. Baby Information Management

This section covers the processes and procedures for managing baby information within the Express Breast Milk (EBM) Verification System, including adding new babies, editing baby information, adding mother information, and viewing baby details.

Baby List and Search

The baby list provides a comprehensive view of all babies registered in the system and serves as the starting point for most baby-related operations.

To access the baby list:
1. Log in with a Nurse account.
2. From the dashboard, click on the "Babies" card or select "Babies" from the top menu.
3. The system will display a list of all babies with basic information such as MRN, name, and date of birth.

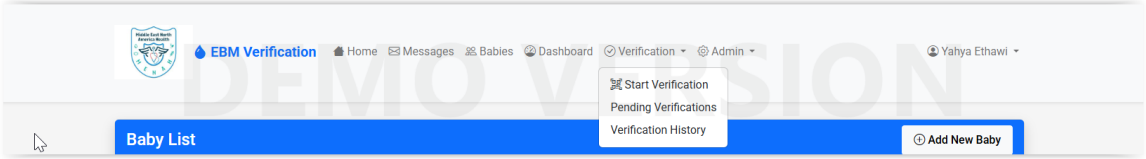


Figure: Baby List Screen

The baby list includes powerful search functionality to help you quickly locate specific babies in the system. To search for a baby:
1. From the baby list screen, locate the search field at the top of the list.
2. Enter search criteria such as MRN, baby's name, or mother's name.
3. Click the "Search" button or press Enter.
4. The list will filter to show only babies matching your search criteria.

If your search returns no results, you will see the message "No babies match your criteria." In this case, try broadening your search terms or checking for typographical errors in your search input.

Adding a New Baby

Adding a new baby to the system is a fundamental operation that creates the foundation for all subsequent milk tracking and verification activities.

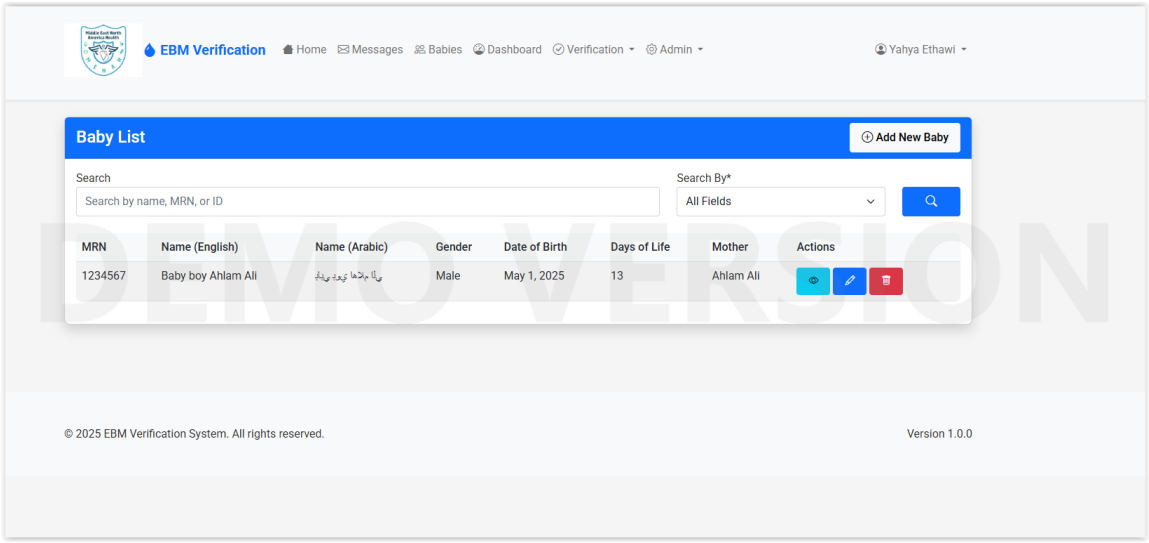


Figure: Baby Details View

To add a new baby:

1. From the baby list screen, click the "Add New Baby" button.
2. Complete the new baby form with all required information:
   - MRN (Medical Record Number): The unique hospital identifier for the baby
   - Name in English: The baby's full name using English characters
   - Name in Arabic (if applicable): The baby's name in Arabic script
   - Date of Birth: The baby's birth date in the specified format (typically MM/DD/YYYY)
   - Gender: Select Male or Female from the dropdown menu
   - Gestational Age: Enter the gestational age in weeks and days
   - Weight: Enter the baby's birth weight in the specified unit (typically grams)
3. Ensure all required fields (marked with an asterisk) are completed accurately.
4. Click the "Save" button to create the new baby record.

When entering the date of birth, be careful to use the correct format as specified by the system. If you enter an invalid date format, the system will display an error message: "Please enter a valid date." The date must be entered in the format shown in the field placeholder.

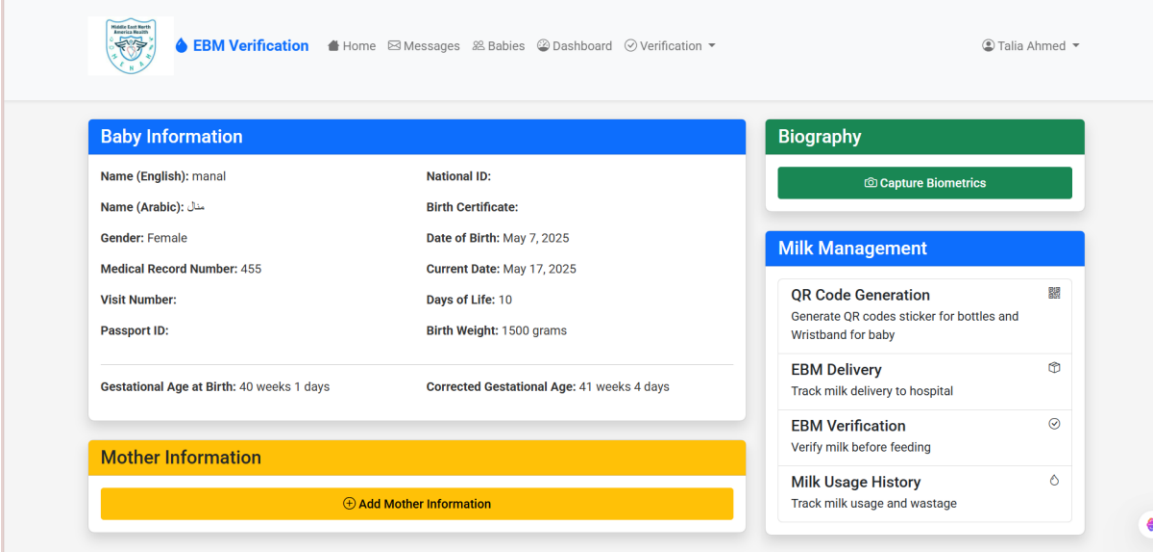


Figure: Baby Details

After successfully saving the new baby record, the system will redirect you to the baby details screen where you can add additional information such as mother details and biometric data.

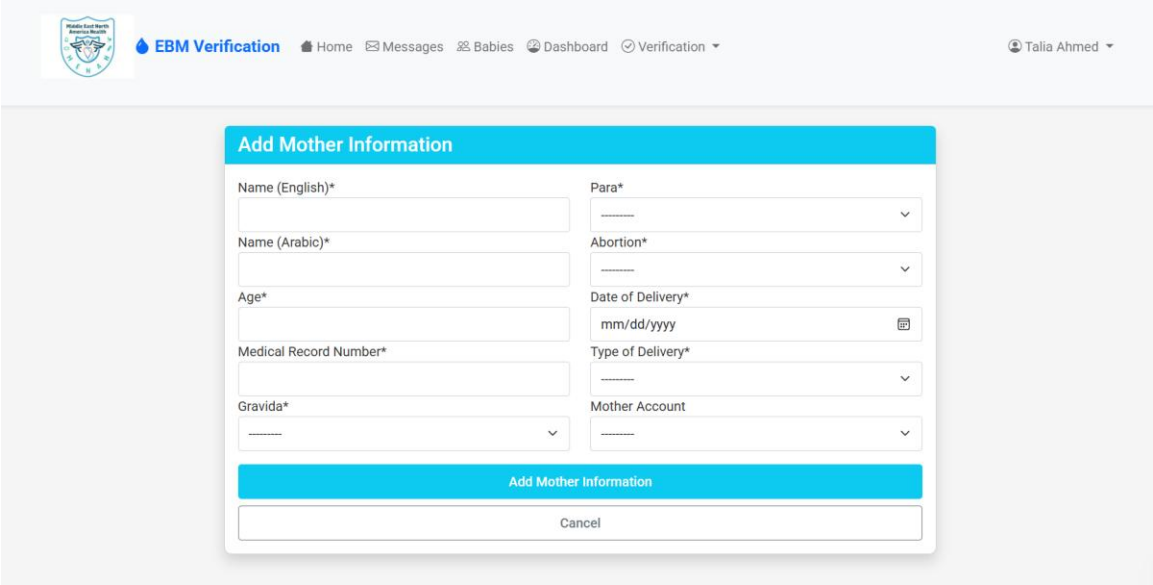


Figure: Mother Information Form

Editing Baby Information

Baby information may need to be updated as changes occur during the baby's hospital stay.

To edit baby information:

1. From the baby list, locate the baby whose information you need to update.
2. In the Actions column, click "Edit" for that baby.
3. The system will display the edit form with the baby's current information.
4. Make the necessary changes to the baby's information.
5. Ensure all required fields remain completed.
6. Click "Save" to update the record.

When editing baby information, be careful to maintain the accuracy of critical identifiers such as MRN, as these are used throughout the system to link records and ensure proper verification.

Adding Mother Information

Linking a baby to their mother is an important step in the EBM Verification System workflow, as it establishes the relationship between the milk provider and the baby.

Before adding mother information, ensure that the mother has created a Parent account in the system. This account will be linked to the baby's record during the mother information setup process.

To add mother information:
1. From the baby details screen, click the "Add Mother Information" button in the right section under Biography.
2. Complete the mother information form with all required details:
   - Mother's Name in English: The mother's full name using English characters
   - Mother's Name in Arabic (if applicable): The mother's name in Arabic script
   - Mother's MRN: The unique hospital identifier for the mother
   - Contact Information: Phone number or other contact details
   - Parent Account: Select the mother's parent account from the dropdown list
3. Ensure all required fields (marked with an asterisk) are completed accurately.
4. Click "Save" to link the mother information to the baby's record.

After successfully saving the mother information, the system will redirect you to the updated baby details screen, which will now display the mother's information in the baby's profile.

Baby Detail View

The baby detail view provides a comprehensive overview of all information related to a specific baby, serving as a central hub for managing that baby's records in the system.

To access the baby detail view:
1. From the baby list, locate the baby you wish to view.
2. In the Actions column, click "View" for that baby.
3. The system will display the baby detail screen with all available information.

The baby detail screen is organized into several sections:

Baby Information: Displays the baby's demographic and medical information, including MRN, name, date of birth, gender, gestational age, and weight.

Mother Information: Shows the linked mother's details, including name, MRN, and contact information (if mother information has been added).

Biography: Indicates which biometric data has been captured for the baby, such as face photo, footprint, and retina print :-

Biometrics Status and Capture Biometrics: Opens the biometrics capture screen

Control Section: Located on the right side of the screen, this section provides quick access to various functions related to the baby, including:
- QR Code Generation: Opens the QR code generation screen
- EBM Delivery: Opens the milk delivery recording screen
- EBM Verification: Starts the verification process for this baby

Bottle List: Displays a list of all milk bottles generated for this baby, showing their status (available, used, or discarded) and relevant dates.

The baby detail view is designed to provide easy access to all functions related to a specific baby, streamlining workflows for healthcare providers and ensuring that all relevant information is readily available during care activities.

Effective baby information management is the foundation of the EBM Verification System, ensuring that accurate data is available for milk tracking and verification processes. By maintaining complete and up-to-date baby records, healthcare providers can enhance patient safety and improve the efficiency of breast milk handling procedures.

6. Biometric Capture

This section details the procedures for capturing and managing biometric data within the Express Breast Milk (EBM) Verification System. Biometric data provides an additional layer of identification and verification, enhancing the safety and accuracy of the milk administration process.

Biometrics Overview

The EBM Verification System supports three types of biometric identifiers for babies:

Face Photo: A digital image of the baby's face, providing visual identification that can be compared during verification.

Footprint: A digital capture of the baby's footprint, which has unique patterns similar to fingerprints and can serve as a distinctive identifier.

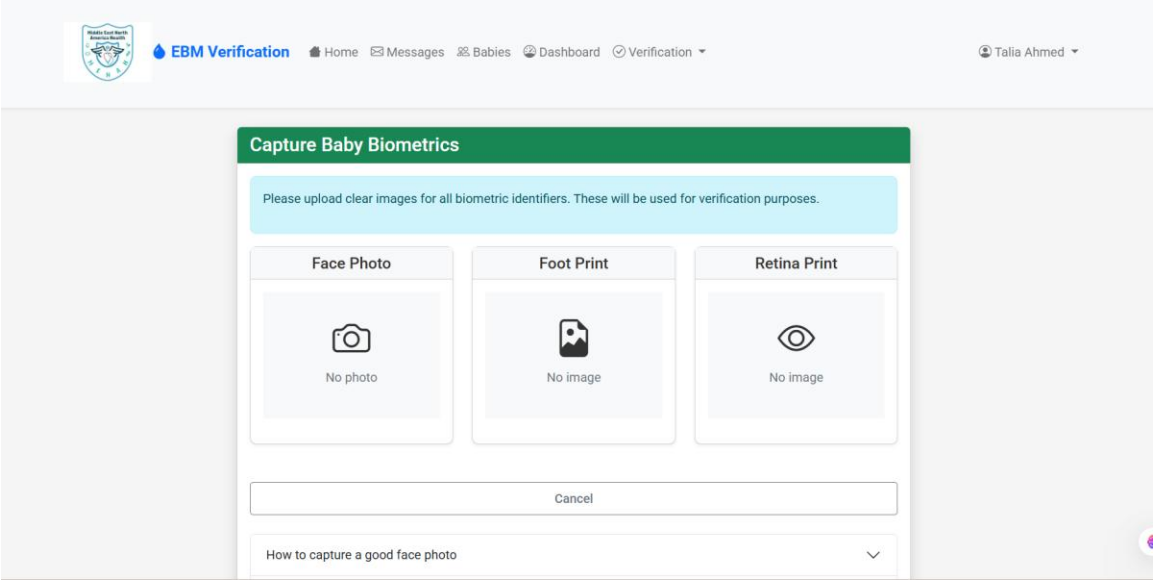


Figure: Biometrics Screen

Retina Print: A digital image of the baby's retina pattern, which is highly unique and can provide reliable identification.

These biometric identifiers complement the traditional identification methods such as wristbands and MRNs, creating a multi-factor verification system that significantly reduces the risk of milk administration errors.

Accessing the Biometrics Module

To access the biometrics module for a specific baby:

Figure: Biometrics Capture Interface

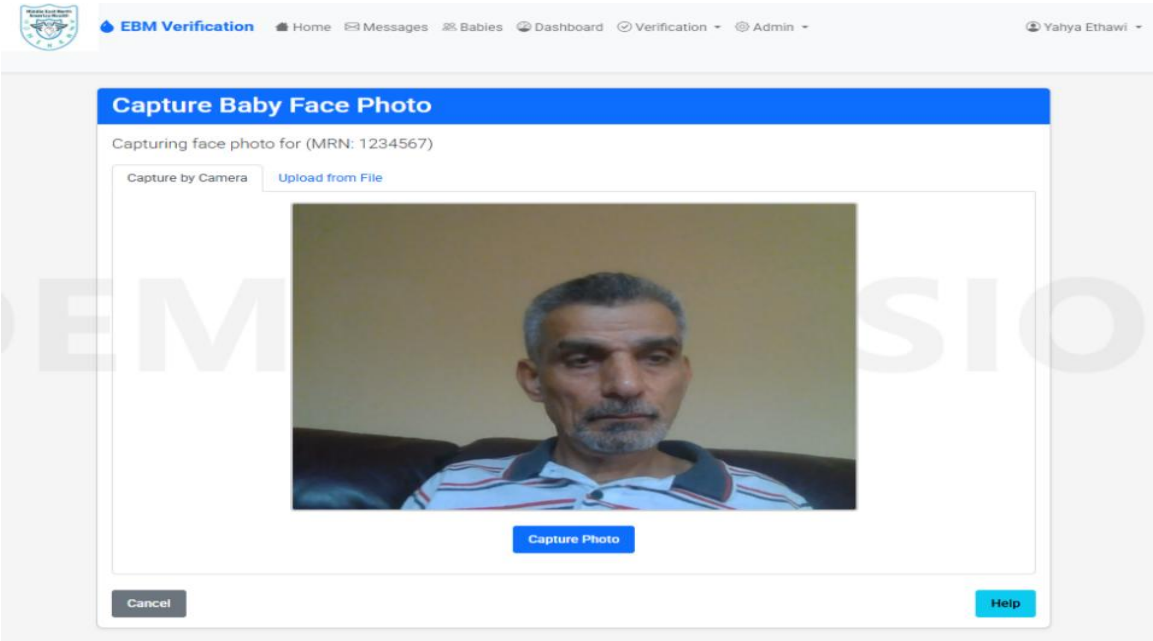
1. Navigate to the baby's detail page by finding the baby in the baby list and clicking "View" in the Actions column.
2. In the control section on the right side of the screen, click "Capture Biometrics."
3. The system will display the biometrics screen showing the current status of biometric data for the baby.

Capturing Face Photo

A clear face photo is an important visual identifier that can be used during the verification process. To capture a face photo:

1. From the baby details screen, click on the "Capture Face Photo" button under Biography.
2. The system will activate the connected camera (ensure your device has a functioning camera and appropriate permissions are granted).
3. Position the baby's face in the center of the frame, ensuring good lighting and a neutral background.
4. Avoid shadows across the face and ensure the baby's eyes are visible if possible.
5. When the baby's face is properly positioned, click the "Capture" button.
6. Review the captured image for clarity and proper framing.
7. If the image is satisfactory, click "Save" to store it in the baby's record.
8. If the image is not satisfactory, click "Retake" to capture a new image.

For optimal face photo quality, consider these best practices:
- Use consistent, diffused lighting to avoid harsh shadows
- Position the camera at the baby's eye level when possible
- Ensure the baby's entire face is visible in the frame
- Remove any obstructions such as blankets or pacifiers if possible
- Capture the image when the baby is relatively calm



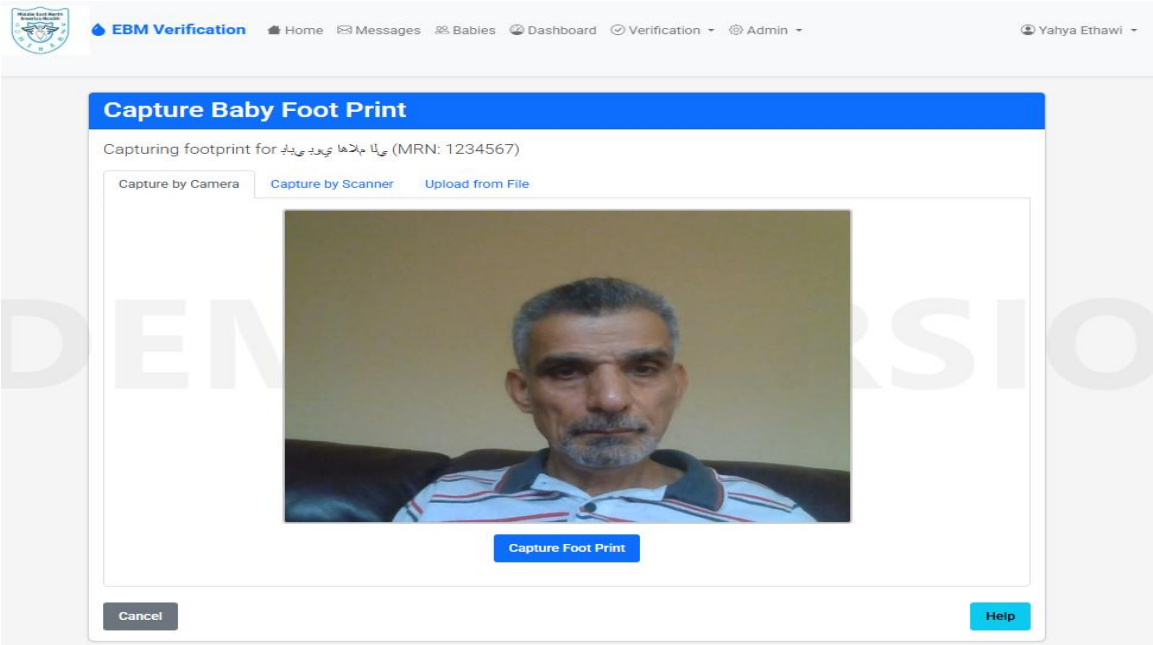
Capturing Footprint

Footprints provide a unique biometric identifier that can be used for verification. To capture a footprint:

1. From the biometrics screen, click on the "Capture Footprint" button.
2. The system will display instructions for capturing a clear footprint.
3. Ensure the baby's foot is clean and dry before attempting to capture the print.
4. Follow the on-screen instructions for positioning the foot on the scanning surface or for using an alternative capture method as specified by your facility's procedures.
5. When the foot is properly positioned, click the "Capture" button.

6. Review the captured footprint for clarity and completeness.
7. If the footprint is satisfactory, click "Save" to store it in the baby's record.
8. If the footprint is not satisfactory, click "Retake" to capture a new print.

For optimal footprint quality, consider these best practices:
- Ensure the foot is completely clean and dry
- Capture the entire foot, including the heel and all five toes
- Apply gentle, even pressure to ensure all parts of the foot make contact with the scanning surface
- Avoid movement during the capture process
- If using ink methods, ensure even application of ink and proper transfer to the scanning medium

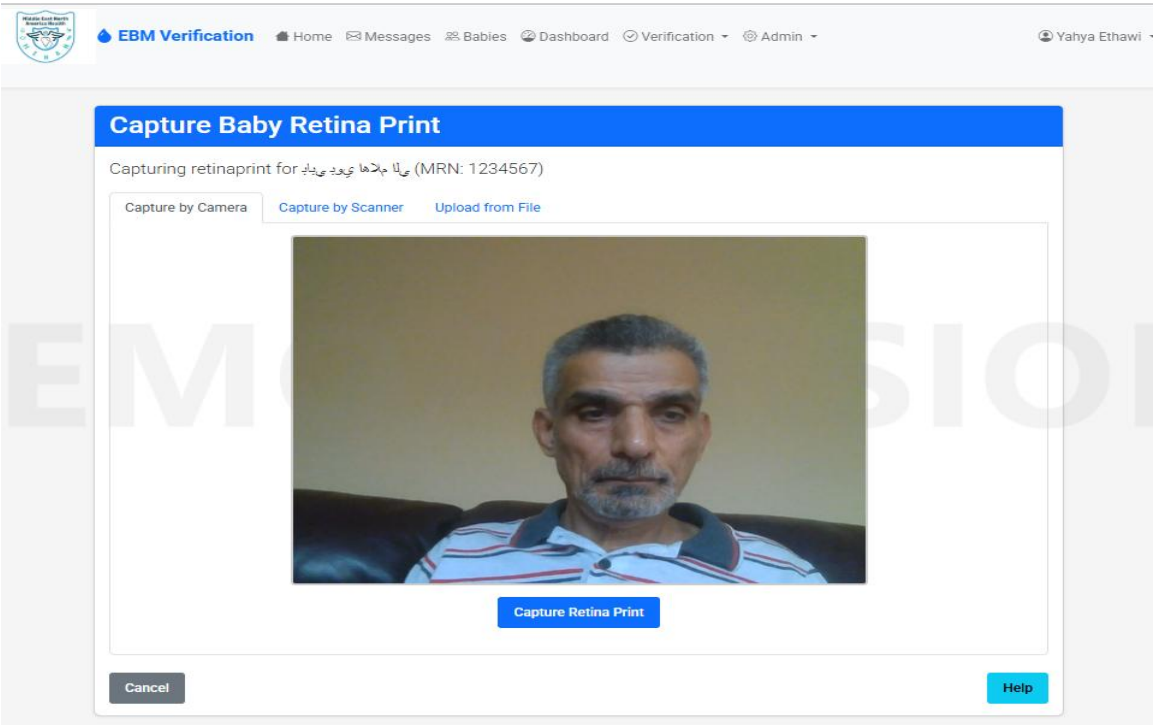


Capturing Retina Print

Retina prints provide a highly unique biometric identifier. To capture a retina print:

1. From the biometrics screen, click on the "Capture Retina Print" button.
2. The system will display instructions for capturing a clear retina print.
3. Follow the on-screen instructions for positioning the specialized retina scanning device (if available at your facility).
4. Ensure proper lighting conditions as specified in the instructions.
5. When the eye is properly positioned, click the "Capture" button.
6. Review the captured retina print for clarity and proper imaging.
7. If the retina print is satisfactory, click "Save" to store it in the baby's record.
8. If the retina print is not satisfactory, click "Retake" to capture a new print.

Retina scanning requires specialized equipment and may not be available in all facilities. Follow your facility's specific procedures for retina capture if this biometric method is implemented.



Managing Biometric Data

After capturing biometric data, you can manage it through the biometrics screen:

1. To view existing biometric data, navigate to the baby's biometrics screen.
2. Each type of biometric data will be displayed with its capture date and a preview if applicable.
4. To delete biometric data (if permitted by your role and facility policies), click the "Delete" button next to the specific biometric type and confirm when prompted.

Biometric data should be updated periodically as babies grow and their physical characteristics change. Your facility may have specific policies regarding the frequency of biometric data updates.

Using Biometrics in Verification

During the verification process, biometric data can be used as an additional identification method:

1. When verifying a baby's identity, you can select "Use Biometrics" in the verification screen.
2. Choose the biometric method you wish to use (face, footprint, or retina).
3. The system will display the stored biometric data alongside instructions for comparison.
4. For face photos, visually compare the stored image with the baby.
5. For footprints and retina prints, follow the specific verification procedures established by your facility.
6. Confirm the match or non-match as part of the verification process.

Biometric verification provides an additional layer of safety in the milk administration process, particularly in situations where traditional identifiers like wristbands may be compromised or unclear.

The effective use of biometric data within the EBM Verification System enhances patient safety by providing multiple, independent methods of identification and verification, significantly reducing the risk of milk administration errors.

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7. QR Code Generation and Printing

This section explains the processes for generating and printing QR codes for milk bottles and baby wristbands within the Express Breast Milk (EBM) Verification System. QR codes serve as a critical component of the verification process, enabling quick and accurate identification of both babies and milk bottles.

Understanding QR Codes in the EBM System

QR (Quick Response) codes are two-dimensional barcodes that can be scanned using the system's scanning functionality. In the EBM Verification System, QR codes serve two primary purposes:

Bottle Identification: Each milk bottle receives a unique QR code that links it to a specific baby in the system database. When scanned, this code immediately identifies which baby the milk is intended for, along with relevant details about the milk expression and storage.

Baby Identification: Babies can wear wristbands with QR codes that, when scanned, confirm their identity in the system. This provides a quick and reliable method for verifying the correct baby during the milk administration process.

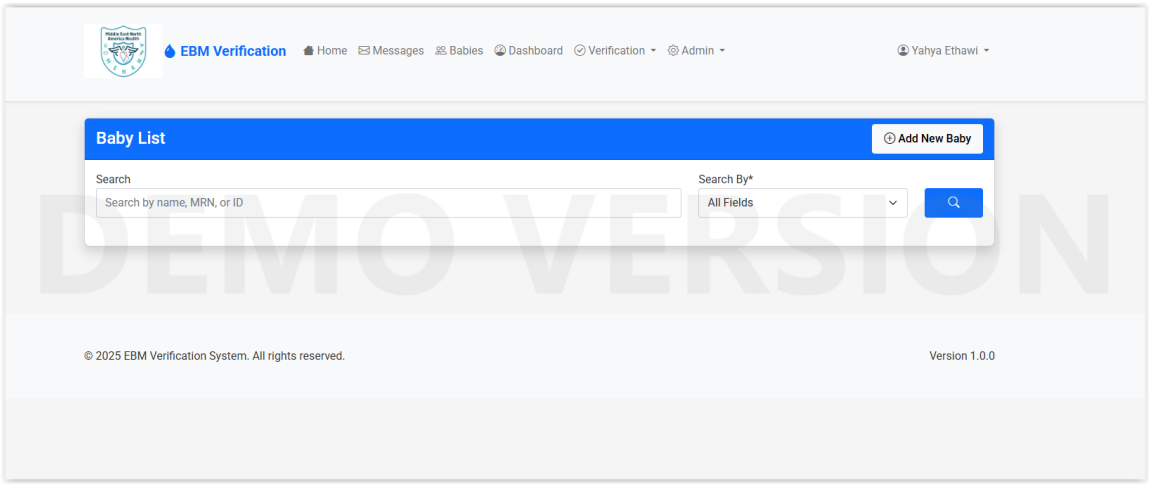

Figure: QR Code Generation Screen

The use of QR codes significantly reduces the risk of manual identification errors and streamlines the verification workflow, making the process both safer and more efficient.

Accessing the QR Code Generation Module

To generate QR codes for a specific baby:

1. Navigate to the baby's detail page by finding the baby in the baby list and clicking "View" in the Actions column.
2. In the control section on the right side of the screen, click "QR Code Generation."
3. The system will display the QR code generation screen with options for creating new QR codes.

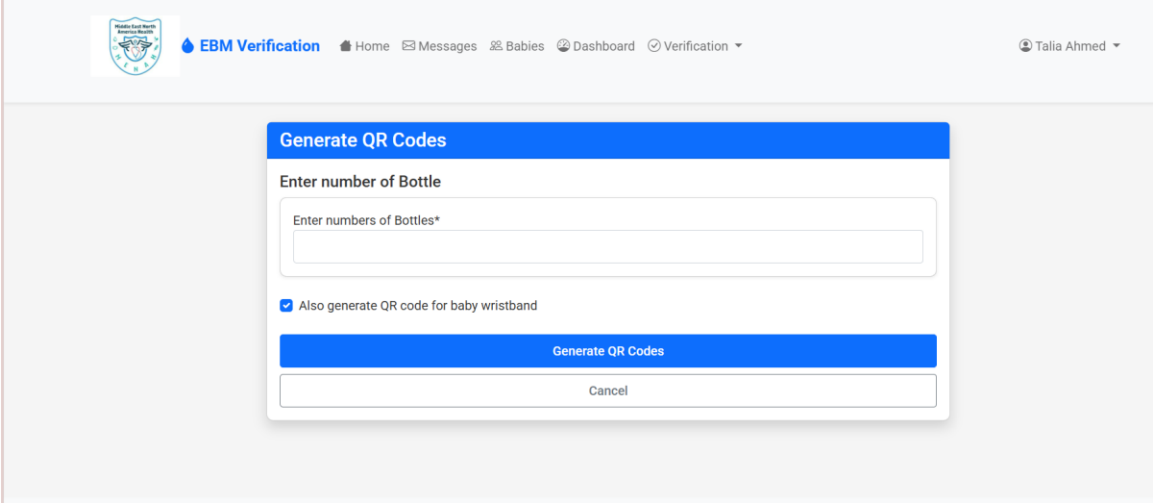

Figure: QR Code Print Preview

Generating Bottle QR Codes

Bottle QR codes need to be generated before milk expression is recorded in the system. To generate bottle QR codes:

1. From the QR code generation screen, enter the number of bottles you wish to generate in the "Number of Bottles" field.
2. This number should reflect the anticipated number of milk expressions for the baby over

a certain period, as determined by your facility's protocols.
3. If you also need to generate a wristband QR code for the baby, check the "Also generate QR code for baby wristband" option.
4. Click the "Generate QR Codes" button to create the specified number of unique bottle QR codes.
5. The system will process your request and display a list of the newly generated QR codes, each with a unique identifier.

When determining how many bottle QR codes to generate, consider:
- The frequency of milk expression
- The expected duration of the baby's stay
- Your facility's protocols for milk storage and handling
- The typical volume of milk per feeding and per expression

It's generally better to generate more QR codes than immediately needed to ensure availability, as additional codes can always be generated later if necessary.

Generating Baby Wristband QR Codes

Baby wristband QR codes provide a quick and reliable method for identifying babies during the verification process. To generate a wristband QR code:

1. From the QR code generation screen, check the "Also generate QR code for baby wristband" option when generating bottle QR codes.
2. Alternatively, if you only need to generate a wristband QR code without additional bottle codes, you can select the specific wristband generation option if available in your system version.
3. Click the "Generate QR Codes" button.
4. The system will create a unique wristband QR code linked to the baby's identity in the database.

Wristband QR codes should be generated as part of the initial setup process for each baby in the system. If a wristband is damaged or lost, a new one can be generated following the same procedure.

Printing QR Codes

After generating QR codes, they need to be printed and applied to bottles and wristbands. To print QR codes:

1. From the QR code generation screen, after generating the codes, click the "Print QR Codes" button.
2. A window will appear allowing you to select which QR codes to print from those recently generated.
3. Check the boxes next to the codes you wish to print, or use the "Select All" option to choose all codes.
4. Select the appropriate printer from the dropdown menu.
5. Choose the paper size that matches your label stock or wristband material.
6. Click "Preview" to see how the labels will appear when printed.
7. Verify that the preview shows the correct formatting and that all QR codes are clearly visible.
8. If the preview is satisfactory, click "Print" to send the job to the selected printer.
9. If the preview shows issues with formatting or visibility, adjust your printer settings or paper selection and preview again before printing.

For optimal QR code printing results:
- Use high-quality label stock appropriate for your printer type
- Ensure the printer has sufficient ink or toner
- Verify that the print resolution is set high enough for clear QR code reproduction
- Test scan a printed QR code to confirm it can be read by the system before proceeding with multiple prints

Applying QR Codes

After printing, QR codes must be properly applied to ensure they remain scannable throughout the milk handling process:

For Bottles:
1. Apply the QR code labels to clean, dry bottles before they are used for milk collection.
2. Position the labels consistently on each bottle, following your facility's protocol.
3. Ensure the labels are smooth and free of wrinkles or bubbles that might interfere with scanning.

4. If using bottles that will be refrigerated or frozen, ensure the labels are designed to withstand these conditions without degrading.

For Wristbands:
1. Apply the QR code to the baby's wristband following your facility's protocol.
2. Ensure the wristband is secured properly but not too tight.
3. Position the QR code so it can be easily scanned without disturbing the baby.
4. Regularly check that the wristband remains in good condition and the QR code is scannable.

Managing QR Codes

The EBM Verification System maintains a record of all generated QR codes and their status. To view and manage QR codes:

1. Navigate to the baby's detail page.
2. The bottle list section displays all QR codes generated for the baby, showing their status (unused, in use, or used).
3. This list can be filtered by status to help you locate specific bottles.
4. If a QR code becomes damaged or unscannable, it should be marked as unusable in the system and replaced with a new code.

Proper management of QR codes is essential for maintaining the integrity of the verification process. Regular audits of QR code usage and status can help identify any issues or patterns that might require process adjustments.

The effective generation, printing, and management of QR codes within the EBM Verification System provides a foundation for accurate identification and verification, significantly enhancing patient safety in the milk administration process.

8. Milk Tracking

This section details the processes for tracking expressed breast milk throughout its lifecycle in the Express Breast Milk (EBM) Verification System, from initial expression and delivery to eventual feeding or disposal.

Milk Tracking Overview

The EBM Verification System provides comprehensive tracking of breast milk from the moment it is expressed until it is fed to a baby or otherwise disposed of. This complete chain of custody ensures accountability and safety throughout the process.

The milk tracking workflow consists of three main phases:
1. Recording milk expression and delivery
2. Storing and managing available milk
3. Recording milk usage (feeding or disposal)

Each phase is carefully documented in the system, creating a complete audit trail that can be reviewed for quality assurance and process improvement.

Recording Milk Expression and Delivery

When breast milk is expressed and delivered for a baby, this information must be recorded in the system to begin the tracking process.

To record milk expression and delivery:

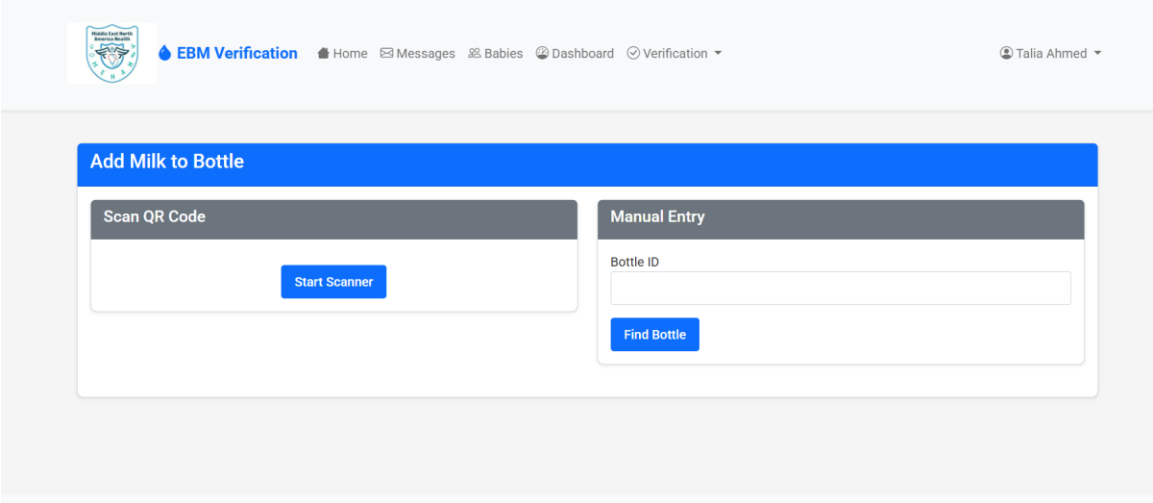

Figure: Bottle Scanning Interface

1. Navigate to the baby's detail page by finding the baby in the baby list and clicking "View" in the Actions column.
2. In the control section on the right side of the screen, click "EBM Delivery."
3. The system will display the milk delivery recording screen.
4. Click "Start Scan" to scan the QR code of the bottle you want to use for this milk.
5. Alternatively, you can manually enter the bottle ID in the provided field.
6. After scanning or entering the bottle ID, the system will display the bottle's details for confirmation.
7. Enter the following information:
   - Expression Date: The date and time when the milk was expressed
   - Delivery Date: The date and time when the milk was delivered to the unit
   - Volume: The amount of milk in the bottle, typically measured in milliliters (ml)
8. Add any relevant notes about the milk expression or delivery in the Notes field.
9. Click "Save" to record the milk delivery information.

The expression date is particularly important for determining milk storage duration and prioritization for use, as breast milk has specific storage guidelines based on when it was expressed. The delivery date helps track the chain of custody and calculate storage time in the facility.

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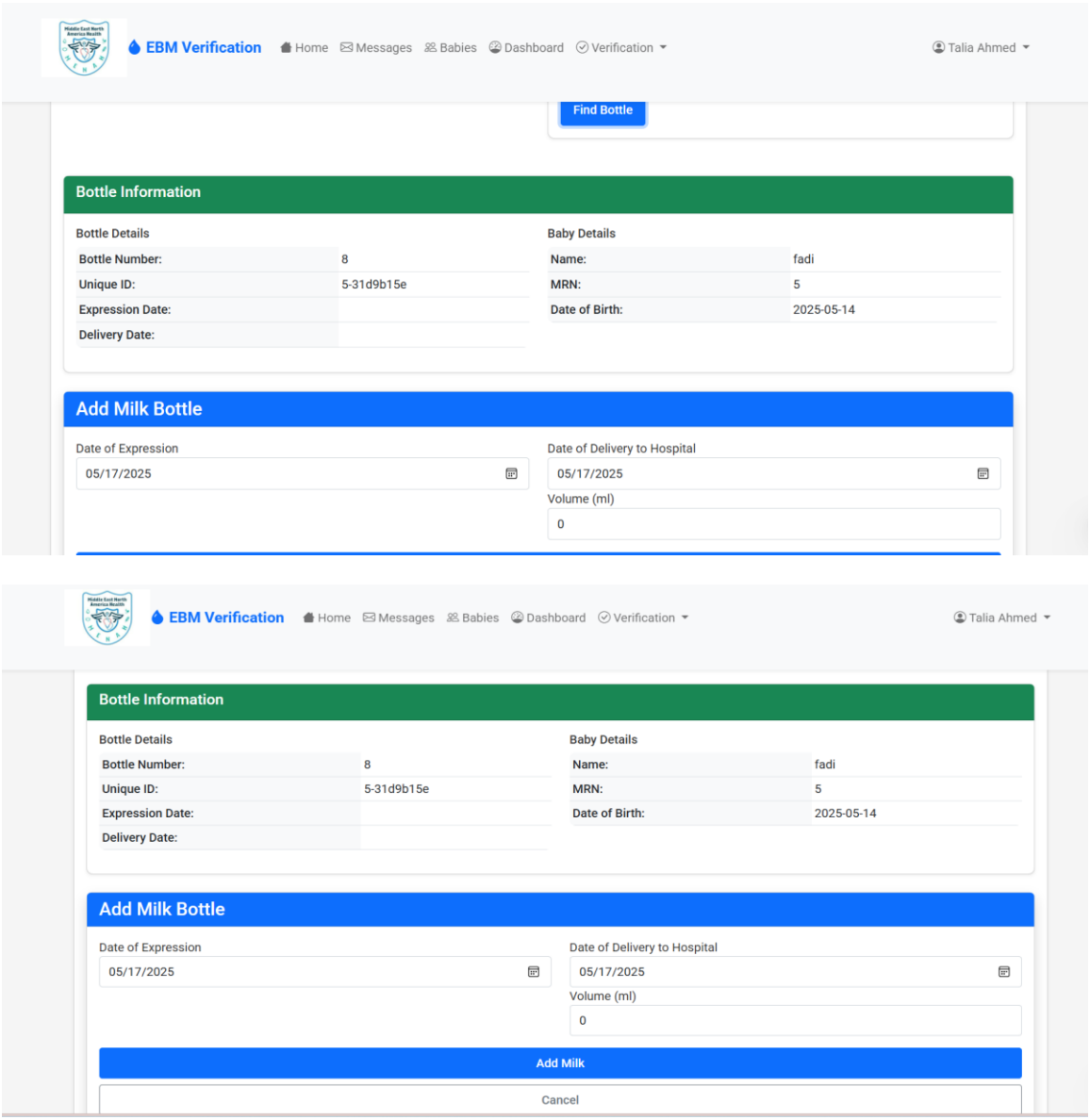


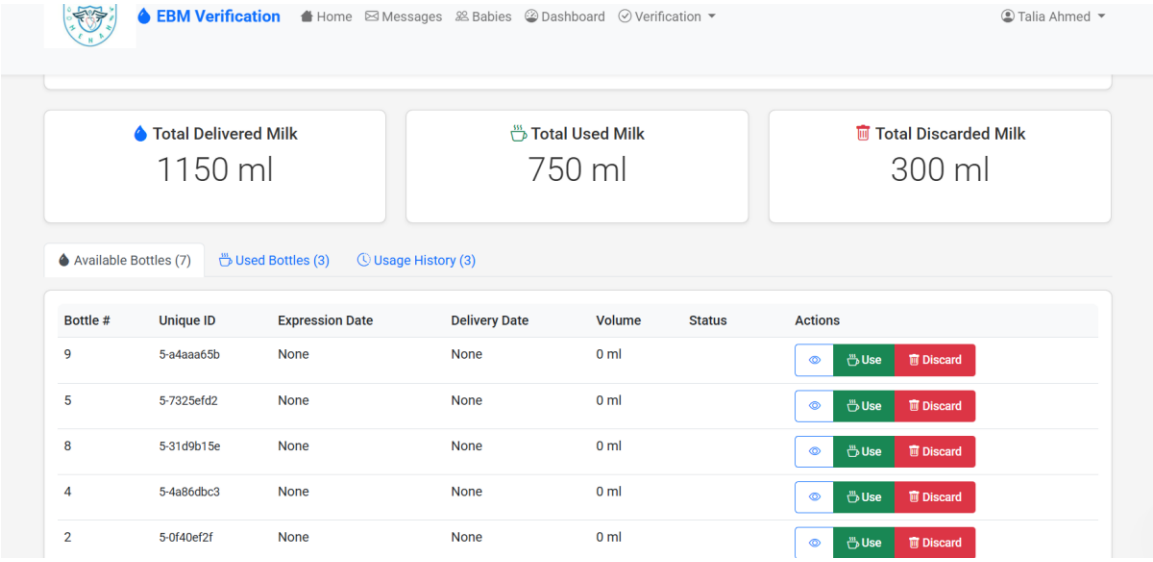
Figure: Add Milk To Bottle

Managing Available Milk

After milk has been recorded in the system, it becomes part of the available milk inventory for the baby. This inventory can be viewed and managed through the baby's detail page.

To view available milk:
1. Navigate to the baby's detail page.
2. Scroll to the "Available Bottles" tab in the bottle list section.
3. This tab displays all bottles that have been recorded but not yet used or discarded.
4. The list includes information such as bottle ID, expression date, delivery date, volume, and current status.

The available milk inventory is automatically sorted by expression date, with the oldest milk listed first. This helps implement the "first in, first out" principle recommended for breast milk management, ensuring that older milk is used before newer milk to minimize waste.



Recording Milk Usage

When milk is fed to a baby or discarded for any reason, this usage must be recorded in the system to maintain accurate tracking.

To record milk usage:
1. Navigate to "Milk Management" from the top menu.
2. Select "Babies" and then "View" to access the baby list.
3. Find the baby whose milk usage you want to record and click "View."
4. In the "Available Bottles" tab, locate the specific bottle you want to mark as used.
5. Click on the bottle to view its details.
6. Select the usage type:
   - "Feed" if the milk was fed to the baby
   - "Discard" if the milk was discarded without being fed
7. Enter the following information:
   - Usage Date: The date and time when the milk was used
   - Volume Used: The amount of milk that was fed or discarded (may be less than the total volume if partial feeding)
   - Reason (for discarding): If discarding, select the reason from the dropdown menu
   - Notes: Any relevant information about the usage
8. Click "Record Usage" to save the information.

Alternatively, after completing the verification process for a bottle, you will be prompted to record usage directly from the verification confirmation screen.

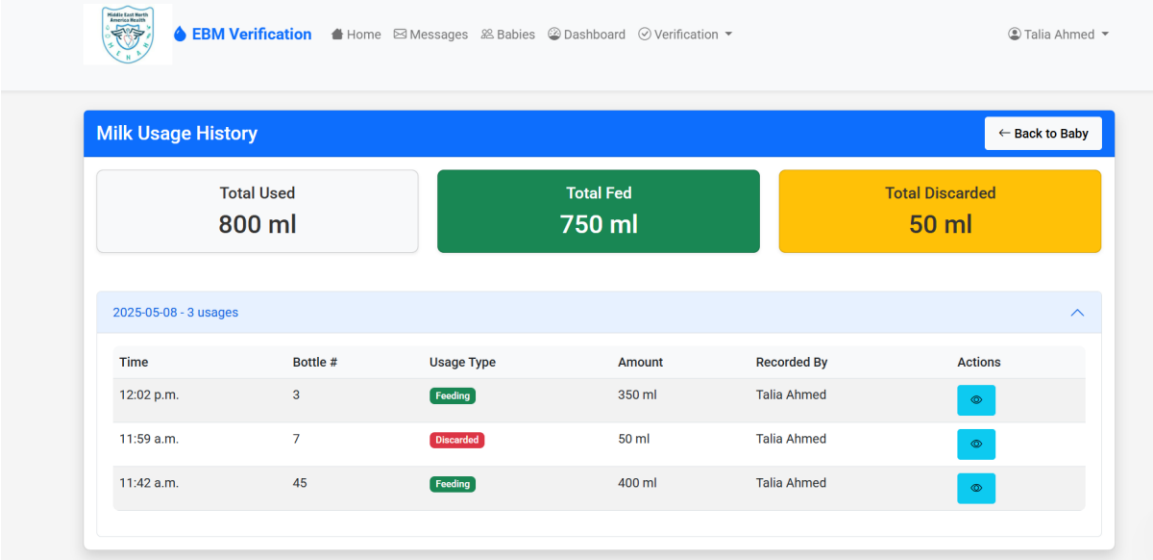
Viewing Milk Usage History

The EBM Verification System maintains a complete history of milk usage for each baby, providing valuable information for care planning and quality assurance.

To view milk usage history:
1. Navigate to the baby's detail page.
2. Click on "Milk Usage History" in the control section.
3. The system will display a chronological list of all milk usage records for the baby.
4. Each record includes information such as bottle ID, usage date, volume used, usage type,

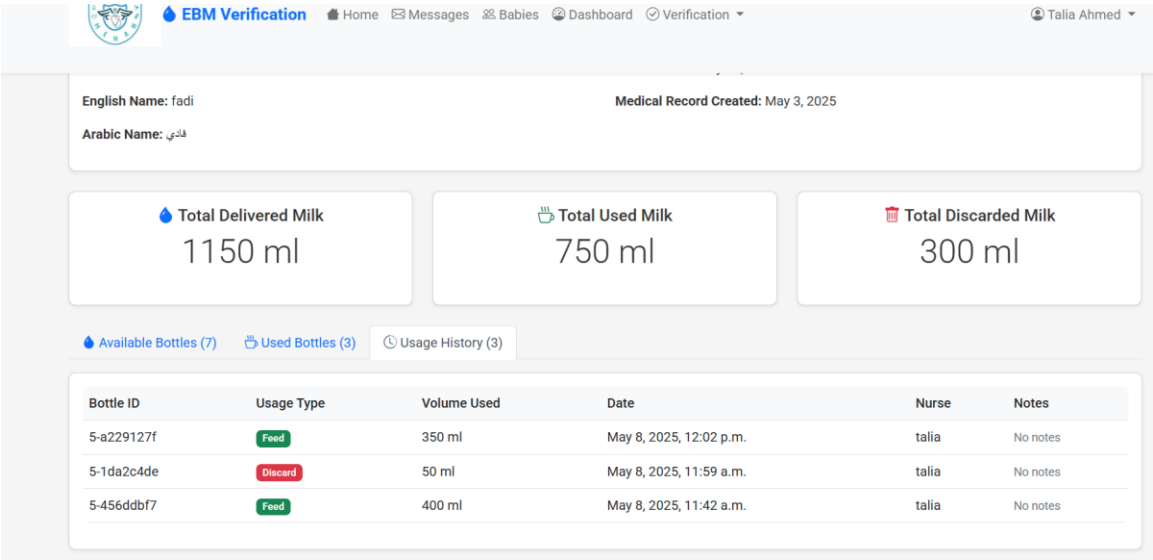
and any notes.

5. Use the filter and search options to locate specific usage records if needed.



Alternatively, you can view usage history for a specific bottle:

1. Navigate to "Milk Management" → "Babies" → "View."
2. From the "Used Bottles" tab, find the bottle you want to view.
3. Click on the bottle to view its details.
4. The "Usage History" section shows the complete usage record for that specific bottle.



The milk usage history provides important documentation for patient care and can be valuable for addressing any questions or concerns about milk administration. It also serves as a quality assurance tool, allowing for review of milk handling practices and identification of potential process improvements.

Effective milk tracking is essential for ensuring that the right milk is given to the right baby at the right time. By maintaining accurate records of milk expression, delivery, storage, and usage, the EBM Verification System helps healthcare facilities implement best practices for breast milk handling and minimize the risk of errors in this critical aspect of neonatal and pediatric care.

9. Verification Process

This section details the step-by-step verification process within the Express Breast Milk (EBM) Verification System, which is designed to ensure that the right milk is given to the right baby through a systematic and secure workflow.

Verification Process Overview

The verification process is the core safety mechanism of the EBM Verification System, implementing multiple checks to prevent milk administration errors. The process follows a dual-verification model, requiring two different nurses to confirm the match between milk and baby before feeding can occur.

The complete verification workflow consists of four main steps:
1. Initiating verification
2. Scanning the milk bottle
3. Scanning or biometrically identifying the baby
4. Secondary nurse confirmation

This multi-step approach creates redundancy in the verification process, significantly reducing the risk of errors and enhancing patient safety.

Starting Verification

There are two ways to initiate the verification process:

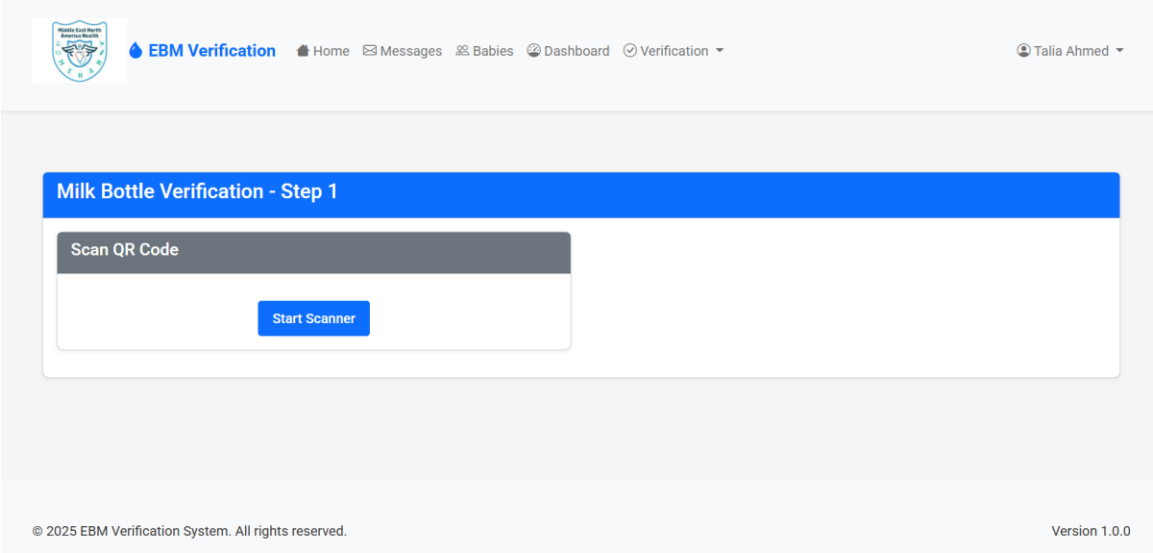


Figure: Bottle Scanning Screen

Method 1: From the Top Menu
1. Click on "Verification" in the top menu.
2. Select "Start Verification" from the drop down menu.
3. The system will display the verification initiation screen.

Method 2: From Baby Details
1. Navigate to the baby's detail page by finding the baby in the baby list and clicking "View" in the Actions column.
2. In the control section on the right side of the screen, click "EBM Verification."
3. The system will display the verification initiation screen with the baby's information pre-selected.

The verification initiation screen provides instructions for proceeding with the verification process and may display relevant alerts or reminders based on your facility's protocols.

Scanning Bottle

Once verification has been initiated, the next step is to scan the milk bottle to identify which baby it belongs to:

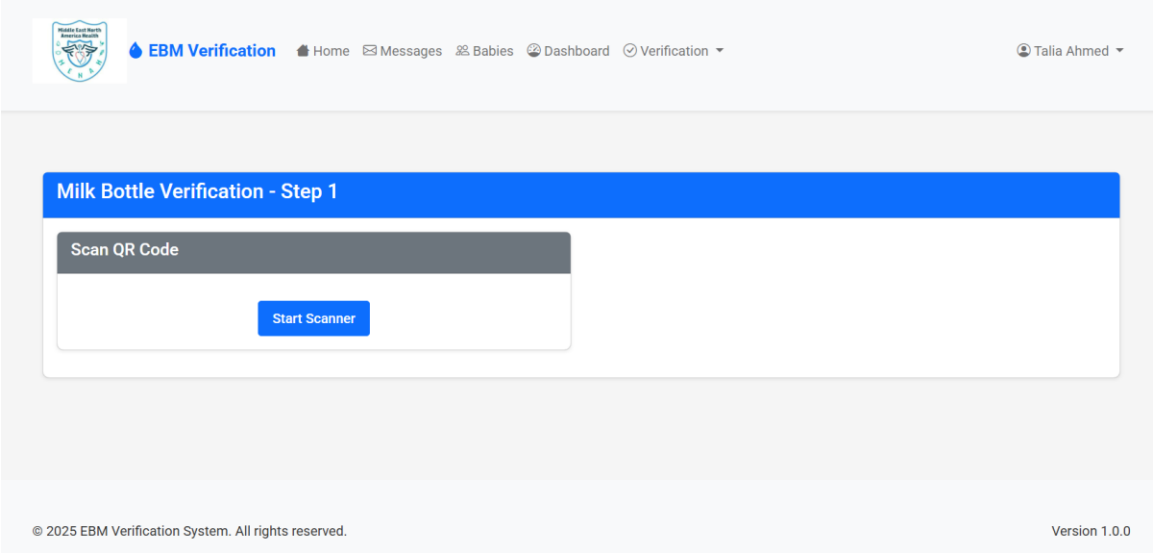


Figure: Scan Milk Bottle for Verification

1. From the verification screen, click "Start Scan" to activate the QR code scanner.
2. A scanning window will open, activating your device's camera.
3. Position the bottle's QR code within the scanning frame.
4. Hold the bottle steady until the system successfully scans the code.
5. Alternatively, if scanning is not possible, you can manually enter the bottle ID in the provided field.
6. After scanning or entering the bottle ID, the system will display the bottle's details, including:
   - The baby it belongs to (name and MRN)
   - Expression date and time
   - Delivery date and time
   - Volume of milk
   - Any notes associated with the bottle

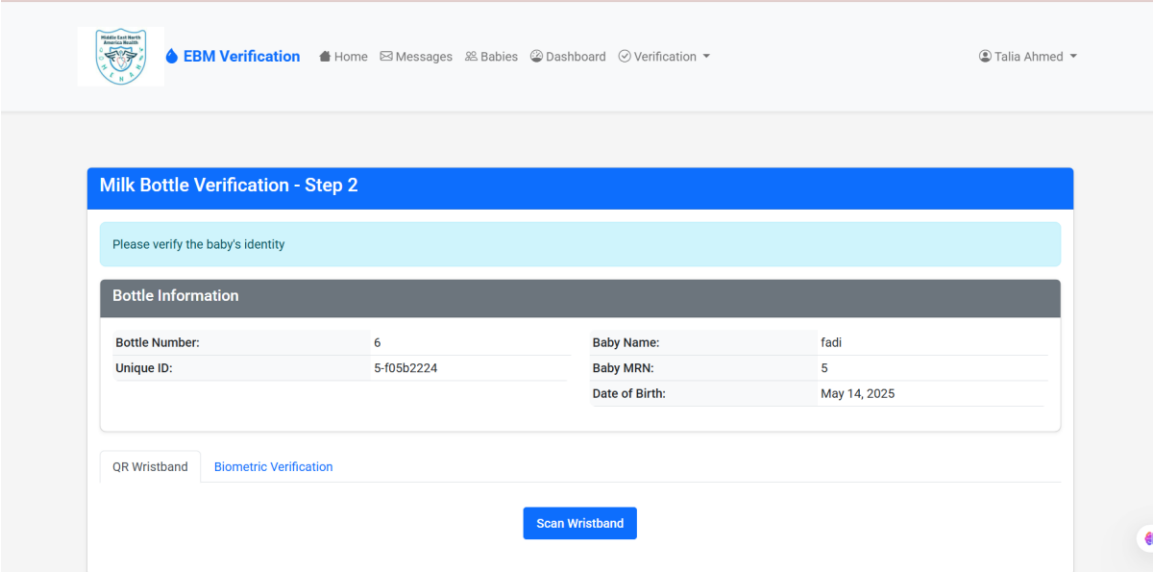


Figure: Information about Scanned Bottle

Review this information carefully to ensure it matches your expectations before proceeding. If any discrepancy is found, cancel the verification process and investigate the issue before attempting verification again.

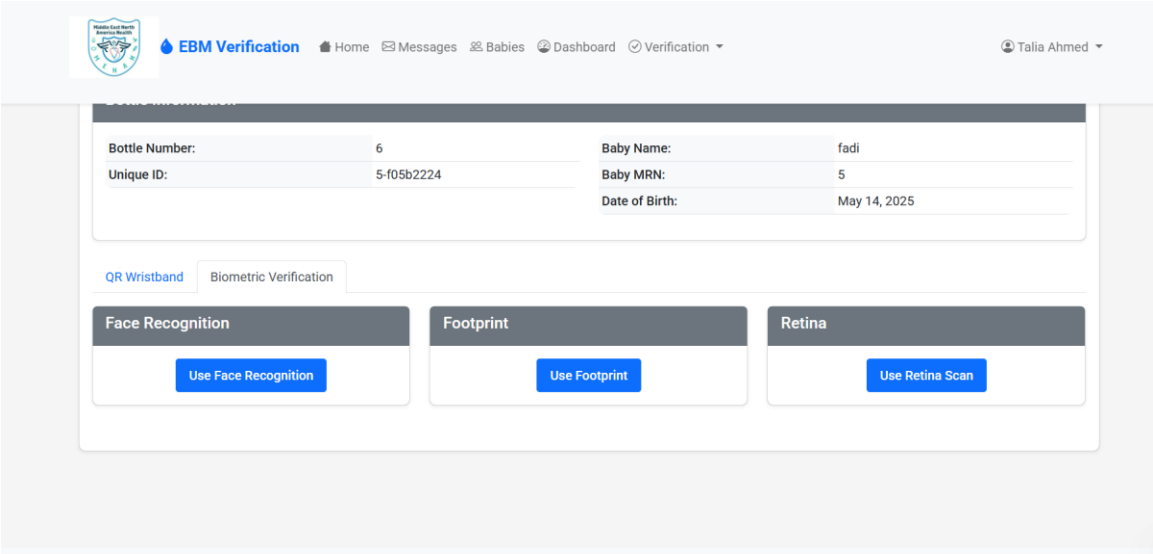
Scanning Baby

After confirming the bottle information, the next step is to verify the baby's identity:

1. From the bottle confirmation screen, you will be prompted to identify the baby.
2. You can use one of two methods:
 - Scan the baby's wristband QR code by clicking "Scan Wristband" and following the same scanning procedure used for the bottle.
 - Use biometric verification by clicking "Use Biometrics" and selecting the biometric method (face, footprint, or retina) you wish to use.
3. If using wristband scanning, position the wristband's QR code within the scanning frame and hold steady until scanned.
4. If using biometric verification, follow the specific instructions for the selected biometric method:

- For face verification, compare the stored photo with the baby's face.
- For footprint verification, follow your facility's protocol for comparison.
- For retina verification, use the specialized equipment as directed.

5. After scanning the wristband or confirming biometric match, the system will display the baby's information for confirmation.
6. Verify that the baby information matches the bottle information, confirming that the milk belongs to this baby.

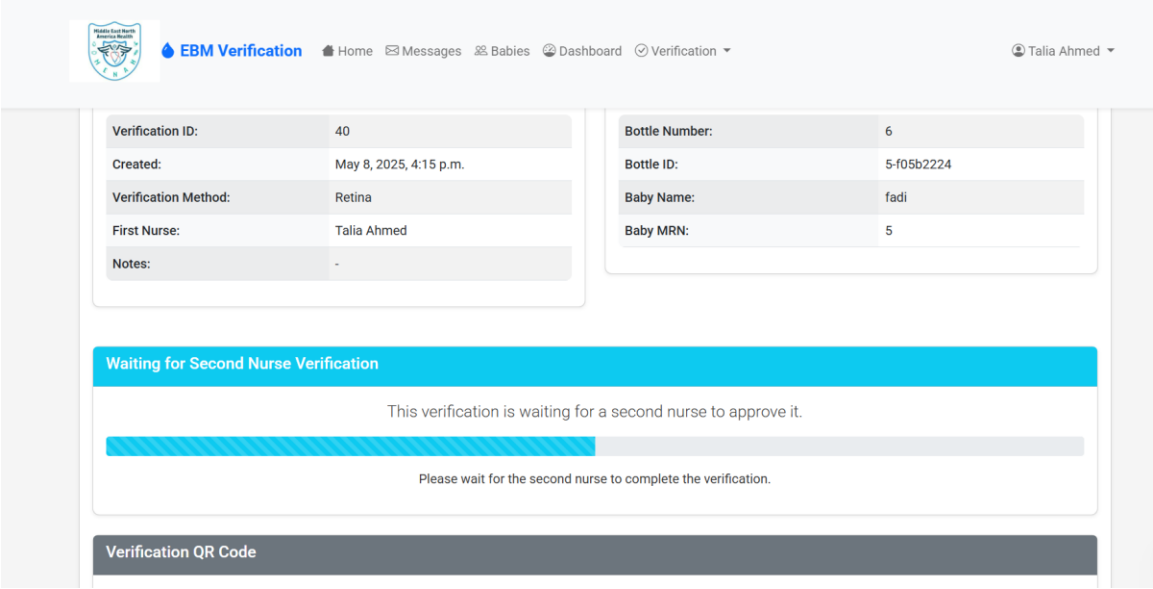


If the baby information does not match the bottle information, the system will display a warning and prevent you from proceeding with verification. This is a critical safety feature that helps prevent milk administration errors.

Confirming Verification

After successfully matching the bottle to the baby, the verification requires confirmation from a second nurse:

1. The system will display a verification pending screen, indicating that secondary confirmation is required.
2. A notification will be sent to the verification queue, visible to other nurses.
3. The second nurse must log in to their own account to complete the verification.
4. From their account, the second nurse navigates to "Verification" → "Pending Verification" from the top menu.
5. The pending verification list will display all verification awaiting secondary confirmation.



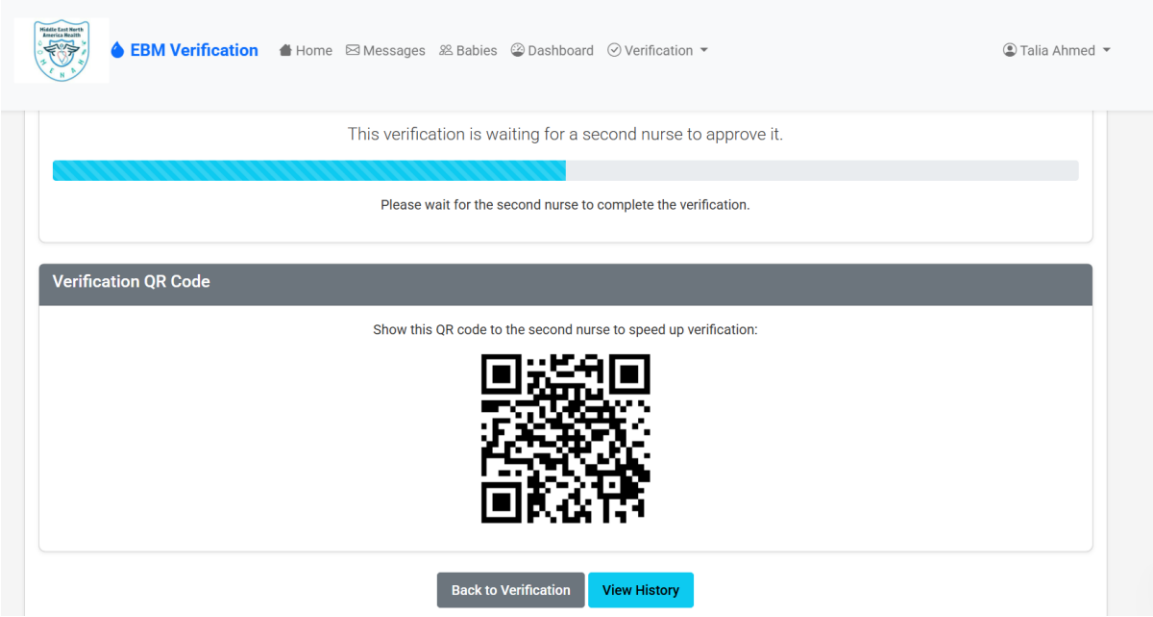


Figure: verification awaiting secondary confirmation.

From another nurse's account

from top menu select Verification → Pending Verification

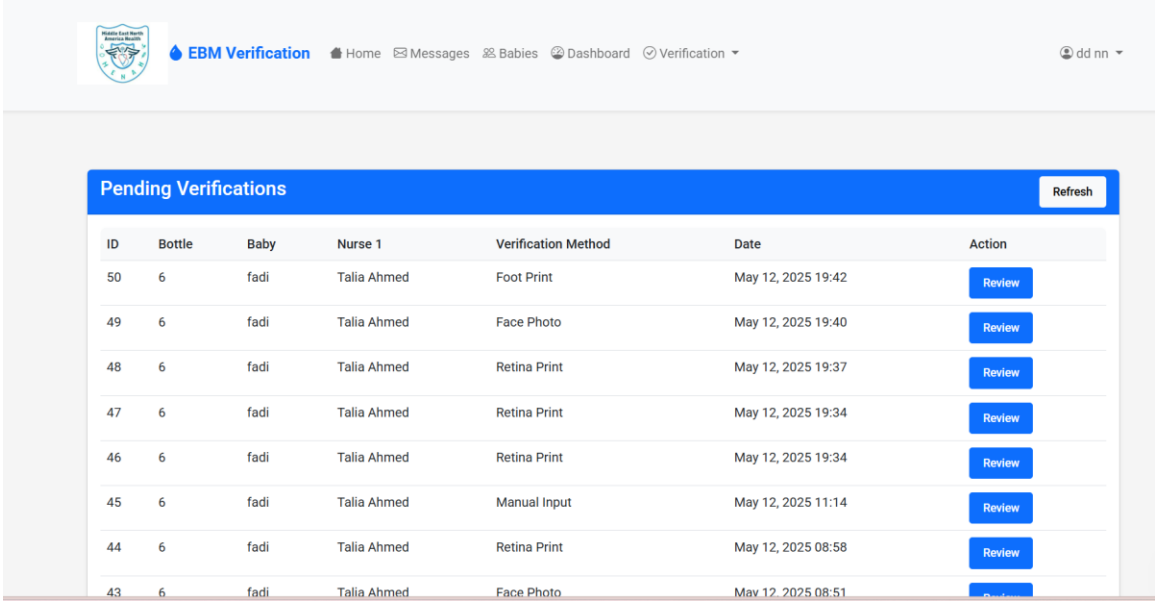


Figure: Pending verifications.

6. The second nurse selects "Review" for the relevant verification.
7. The system displays the complete verification details, including:
 - Baby information
 - Bottle information
 - First nurse's confirmation
 - Timestamp of initial verification
8. The second nurse reviews all information for accuracy.
9. If everything is correct, the second nurse enters any notes in the provided field and clicks "Approve."
10. If any discrepancy is found, the second nurse clicks "Reject" and provides a reason for rejection.
11. Upon approval, the system marks the verification as complete and the milk can be administered to the baby.
12. The system will prompt for recording milk usage after verification is complete.

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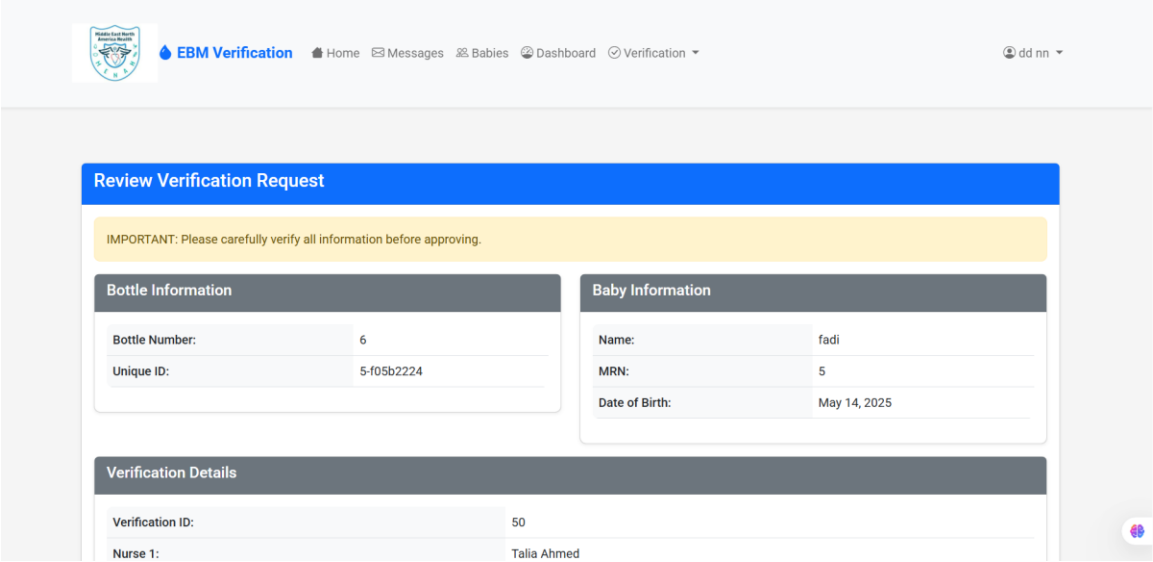

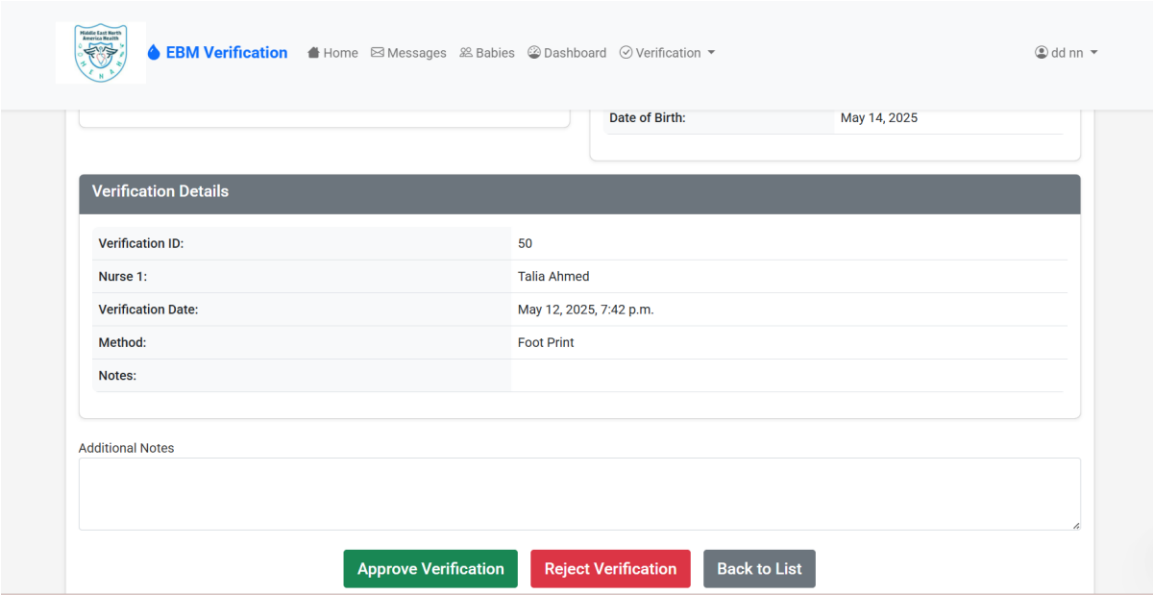

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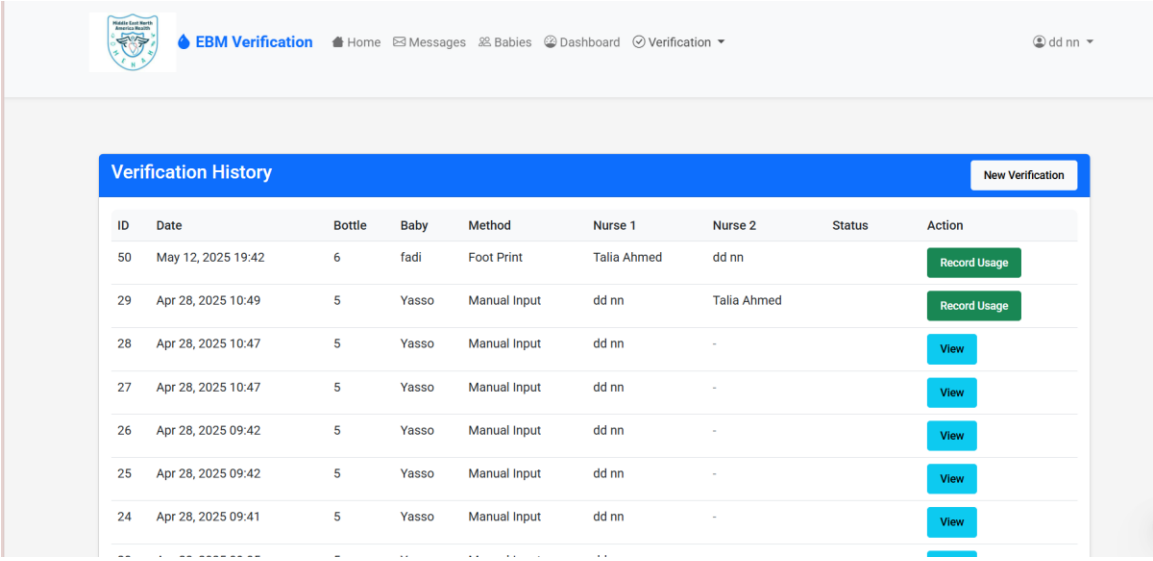
The dual-nurse verification process provides an essential safety check, ensuring that two independent healthcare providers confirm the match between milk and baby before administration. This significantly reduces the risk of errors due to distraction, fatigue, or other human factors.

Viewing Verification History

The EBM Verification System maintains a complete history of all verification activities, providing valuable documentation for quality assurance and process improvement.

To view verification history:
1. Click on "Verification" in the top menu.
2. Select "Verification History" from the drop down menu.
3. The system will display a chronological list of all verification activities.
4. Use the filter options to narrow the list by date range, baby, nurse, or verification status.
5. Click on any verification record to view its complete details.



The verification history provides important documentation for patient care and can be valuable for addressing any questions or concerns about milk administration. It also serves as a quality assurance tool, allowing for review of verification practices and identification of potential process improvements.

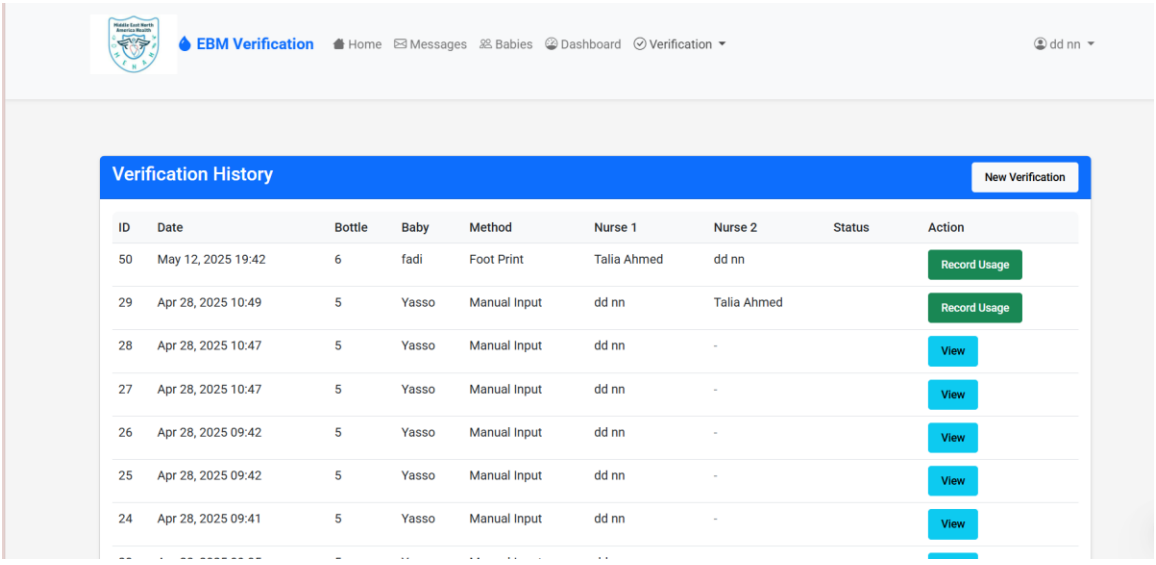
Recording Usage After Verification

After a verification has been successfully completed, the system will prompt you to record the usage of the verified milk:

1. From the verification confirmation screen, click "Record Usage."
2. The system will display the usage recording form with the bottle information pre-filled.
3. Enter the following information:
   - Usage Date: The date and time of feeding (typically the current time)
   - Volume Used: The amount of milk fed to the baby
   - Notes: Any relevant information about the feeding
4. Click "Record Usage" to save the information.

If you choose not to record usage immediately after verification, you can do so later through the milk tracking module as described in the Milk Tracking section of this manual.

The verification process is the cornerstone of safety in the EBM Verification System, implementing multiple checks and balances to ensure that each baby receives the correct breast milk. By following this systematic process for every milk administration, healthcare providers can significantly reduce the risk of errors and enhance patient safety.



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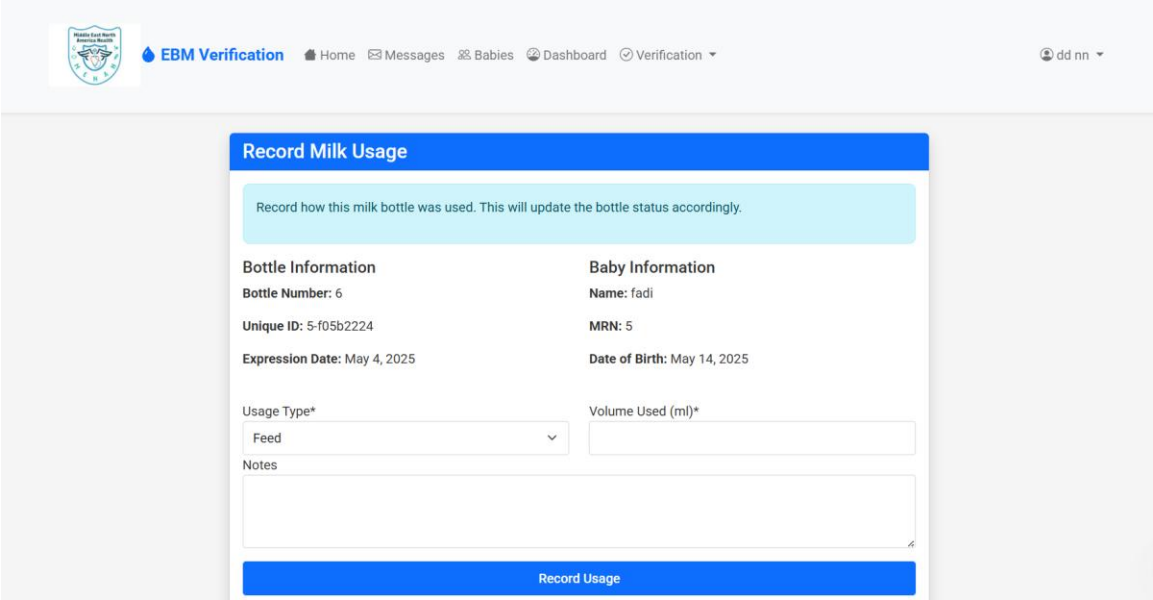

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10. Messaging System

This section details the messaging functionality within the Express Breast Milk (EBM) Verification System, which facilitates communication between healthcare providers and parents.

Messaging System Overview

The EBM Verification System includes an integrated messaging system that allows users to communicate within the platform. This feature enhances coordination among healthcare team members and provides a direct communication channel between healthcare providers and parents.

The messaging system supports several types of communications:
- Announcements from administrators to nurses or parents
- Direct messages between healthcare providers
- Communications between nurses and parents regarding a specific baby
- System notifications about important events or actions required

All messages are securely stored within the system and accessible only to authorized users, ensuring privacy and confidentiality of communications related to patient care.

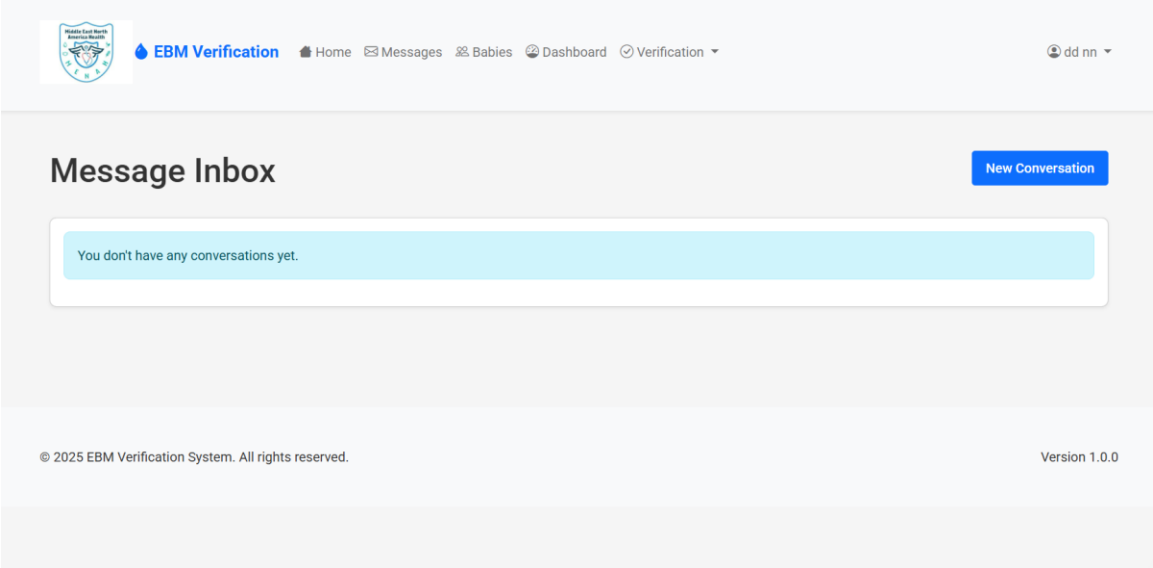

Figure: Messaging Inbox

Accessing the Messaging Module

To access the messaging module:

1. Click on "Messages" in the top navigation menu.
2. The system will display the messaging interface, which includes:
   - An inbox showing received messages
   - Options for creating new messages

The messaging interface is designed to be intuitive and similar to common email applications, making it easy for users to adapt to the system.

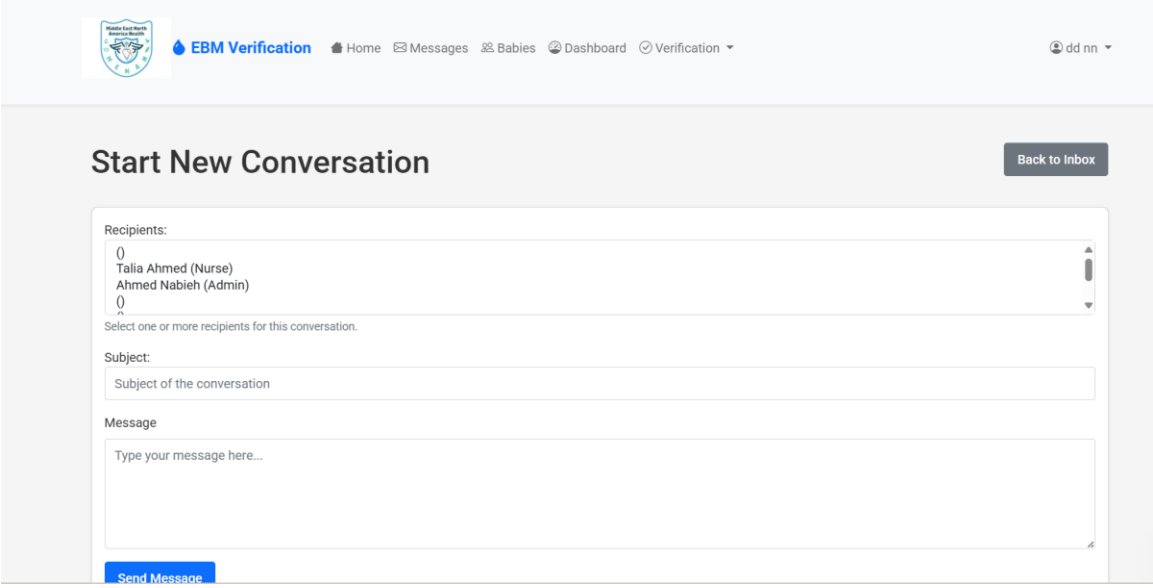

Figure: New Message Composition

Sending Messages

To send a new message:

1. From the messaging screen, click the "New Conversation" button.
2. The system will display the message composition form.
3. Select the recipients for your message:
   - You can select individual users by name
   - If you are a nurse or administrator, you can select specific parents related to babies under your care
4. Enter a subject for your message in the Subject field.
5. Compose your message in the Message field.
6. Review the message for accuracy and completeness.
7. Click "Send Message" to deliver your message to the selected recipients.

When composing messages, consider these best practices:

- Use clear, concise subject lines that indicate the purpose of the message
- Keep messages focused on a single topic when possible
- Include all necessary information to minimize back-and-forth communications

- Maintain professional tone and language appropriate for healthcare communications
- Respect privacy by including only necessary information about patients

Viewing Messages

When you receive messages in the system, they will appear in your inbox:

1. Navigate to the messaging screen by clicking "Messages" in the top menu.
2. Your inbox will display all received messages, with the most recent messages at the top.
3. Unread messages are typically highlighted or marked to distinguish them from read messages.
4. Click on any message to view its complete content.
5. From the message view, you can:
   - Reply to the sender
   - Reply to all recipients if there are multiple
   - Attache file with replying

The system maintains a history of all messages for reference and documentation purposes. This history can be valuable for tracking communications related to patient care and ensuring continuity of information among healthcare team members.

Managing Message Notifications

The EBM Verification System can provide notifications when new messages are received. Depending on your system configuration and user preferences, these notifications may include:

- Visual indicators within the system interface

Proper configuration of notification preferences helps ensure that you receive timely alerts about important communications while minimizing unnecessary interruptions.

Using Messages for Coordination

The messaging system can be particularly valuable for coordinating care activities related to breast milk management:

- Nurses can notify parents when more milk is needed
- Parents can inform nurses about planned milk deliveries
- Nurses can coordinate verification activities with colleagues
- Administrators can send announcements about policy updates or system changes

Effective use of the messaging system enhances communication among all stakeholders involved in the breast milk management process, contributing to improved coordination and patient care.

The integrated messaging functionality of the EBM Verification System provides a secure and convenient channel for communications related to breast milk management, enhancing coordination among healthcare providers and facilitating parent involvement in their baby's care.

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11. Profile Management

This section covers the procedures for managing user profiles within the Express Breast Milk (EBM) Verification System, including viewing and editing profile information and changing passwords.

Profile Overview

Every user in the EBM Verification System has a profile that contains their personal information, contact details, and account settings. Maintaining accurate profile information is important for system communications, accountability, and security.

The profile management features allow users to:
- View their current profile information
- Update personal details as needed
- Change their password periodically for security
- Configure certain user preferences (if supported by your system version)

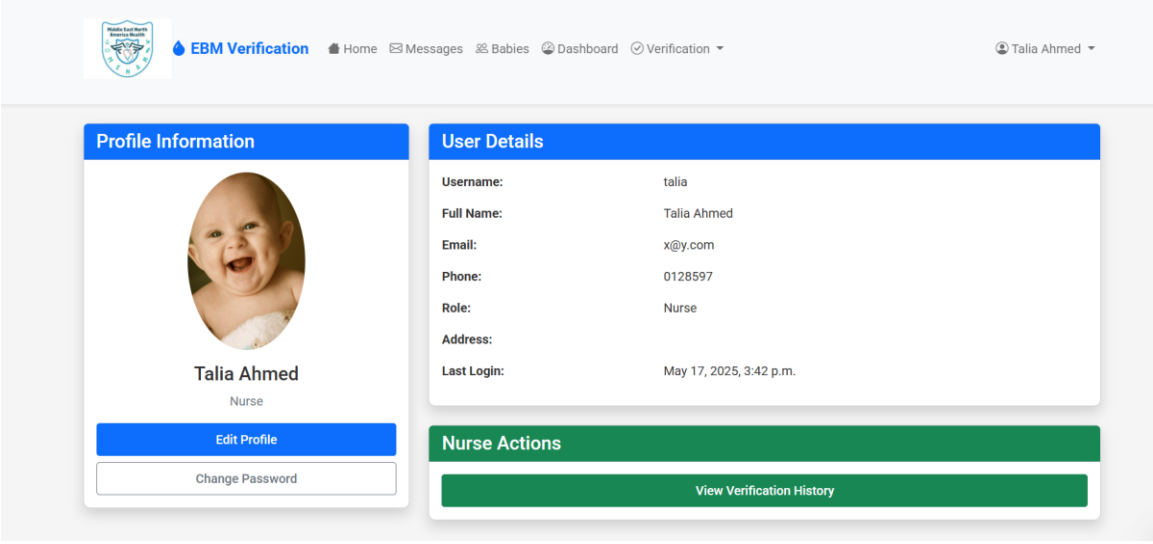

Figure: Profile View Screen

All users, regardless of role, have access to their own profile management functions, though the specific information displayed and editable may vary based on role.

Accessing Profile Management

To access your profile management screen:
1. Log in to the EBM Verification System with your credentials.
2. Locate the profile icon or link, typically found in the top navigation bar of the dashboard.
3. Click on the profile icon or link to open the profile management screen.

The profile screen is designed to be intuitive and user-friendly, with clear sections for different types of information and settings.

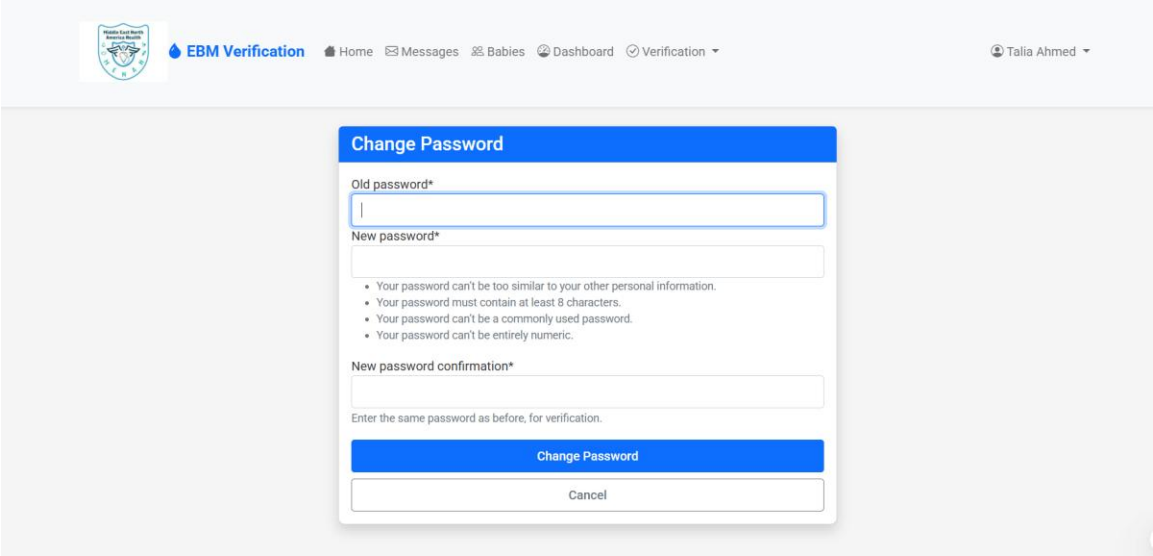

Figure: Password Change Interface

Viewing Profile Information

The profile view screen displays your current information as stored in the system:
1. Navigate to the profile management screen as described above.
2. The system will display your profile information, which typically includes:
   - Name (as it appears throughout the system)
   - Username (used for login)

- Email address (used for system notifications)
- Role assignment (SuperUser, Administrator, Nurse, or Parent)
- Contact information
- Last login date and time
- Other role-specific information

Regularly reviewing your profile information helps ensure that all details are current and accurate, particularly contact information that may be used for important system notifications.

Editing Profile Information

To update your profile information:
1. Navigate to the profile management screen.
2. Look for an "Edit Profile" button or link, typically located near your profile information.
3. Click "Edit Profile" to enter editing mode.
4. The system will display editable fields for your profile information.
5. Make the necessary changes to your information.
6. Ensure all required fields (typically marked with an asterisk) remain completed.
7. Click "Save" to update your profile with the new information.
8. The system will validate your changes and, if successful, display the updated profile.

When editing your profile, be aware of the following considerations:
- Some fields may be read-only and cannot be changed (such as username or role)
- Email address changes may require verification before taking effect
- Changes to contact information should be made promptly when your details change
- Some information may be visible to other users, depending on system configuration

Changing Password

Regular password changes are an important security practice. To change your password:
1. Navigate to the profile management screen.
2. Look for a "Change Password" button or link, typically located in the security section of your profile.
3. Click "Change Password" to access the password change form.
4. Enter your current password for verification.
5. Enter your new password, following the system's password requirements.

6. Confirm your new password by entering it again.
7. Click "Save" or "Update Password" to apply the change.
8. Upon successful password change, you may be required to log in again with your new password.

When creating a new password, follow these best practices:
- Use a combination of uppercase and lowercase letters, numbers, and special characters
- Avoid using easily guessable information such as birthdays or names
- Use a different password than those used for other systems or websites
- Consider using a password manager to generate and store strong, unique passwords
- Never share your password with others, even colleagues or supervisors

12. Common Errors and Troubleshooting

This section provides guidance on identifying and resolving common errors that may be encountered while using the Express Breast Milk (EBM) Verification System. Understanding these errors and their solutions can help users maintain efficient workflow and ensure system reliability.

Understanding Error Messages

The EBM Verification System displays error messages to alert users when something goes wrong. These messages are designed to be informative and, where possible, to suggest corrective actions. When encountering an error message:

1. Read the complete message carefully.
2. Note any error codes or specific technical terms mentioned.
3. Consider the context in which the error occurred.
4. Follow any suggested actions provided in the message.
5. If the suggested actions don't resolve the issue, refer to this troubleshooting guide.

Most error messages in the system fall into several categories: authentication errors, data validation errors, network connectivity issues, and backend processing errors. The following sections address common examples in each category.

Authentication and Access Errors

"Username or password incorrect."

This error occurs during login when the credentials entered do not match those in the system.

Possible causes:
- Incorrect username entered
- Incorrect password entered
- Caps Lock is enabled when entering case-sensitive credentials

Solutions:
- Verify that you are entering the correct username

- Check that Caps Lock is not enabled
- Contact your system administrator if you continue to experience issues

"Contact administrator."

This error typically indicates that your account exists but has been disabled or is pending approval.

Possible causes:
- Your account is newly created and awaiting approval
- Your account has been disabled by an administrator
- Your account has been flagged for security reasons

Solutions:
- If you are a new user, wait for account approval notification
- Contact your system administrator to check your account status
- Request reactivation of your account if it has been disabled

Data Validation Errors

"Please enter a valid date."

This error appears when entering dates in an incorrect format or invalid dates.

Possible causes:
- Date entered in wrong format (e.g., MM/DD/YYYY vs. DD/MM/YYYY)
- Invalid date entered (e.g., February 30)
- Future date entered when not allowed

Solutions:
- Check the expected date format (usually shown as a placeholder in the field)
- Ensure the date is valid
- Use the date picker tool if available to avoid format errors

"Missing required fields"

This error occurs when attempting to save a form without completing all mandatory fields.

Possible causes:
- Required field left blank
- Invalid data entered in a required field

Solutions:
- Look for fields highlighted in red or marked with an asterisk (*)
- Complete all required fields with valid information
- Check for any validation messages under specific fields

Technical Errors

"Expected BEGIN_ARRAY but was STRING..."

This is a technical error related to data format issues between the frontend and backend.

Possible causes:
- Backend API returning data in unexpected format
- System update that created incompatibility

Solutions:
- Refresh the page and try the operation again
- Clear browser cache and cookies, then log in again
- Report the error to your system administrator with details about what you were doing when it occurred

"No module named 'rest_framework'"

This error is typically visible only to system administrators and indicates a server configuration issue.

Possible causes:
- Missing software dependency on the server
- Incomplete system installation

Solutions:
- For system administrators: Install the missing package with `pip install djangorestframework` and add it to INSTALLED_APPS
- For regular users: Report the error to your IT support team

"RecursionError: maximum recursion depth exceeded"

This technical error indicates a programming issue in the system.

Possible causes:
- Circular references in system configuration
- Software bug in recent update

Solutions:
- For system administrators: Check for circular includes in urls.py and remove duplicate includes
- For regular users: Report the error to your IT support team

"Network failure: malformed JSON"

This error indicates a problem with data transmission or formatting.

Possible causes:
- Network connectivity issues
- API returning invalid data format
- Temporary server problem

Solutions:
- Check your internet connection
- Refresh the page and try again
- If the problem persists, report it to your system administrator

Functional Issues

QR Code Scanning Problems

If you experience difficulties with QR code scanning:

Possible causes:
- Poor lighting conditions
- Damaged or wrinkled QR code
- Camera focus issues
- Camera permission not granted to browser

Solutions:
- Ensure adequate, even lighting on the QR code
- Hold the device steady and at an appropriate distance
- Check that the QR code is not damaged or obscured
- Ensure your browser has permission to access the camera
- If scanning repeatedly fails, use the manual entry option to input the bottle or wristband ID

Verification Process Interruptions

If the verification process is interrupted or fails to complete:

Possible causes:
- Network connectivity issues
- Session timeout due to inactivity
- Another user modified relevant records simultaneously

Solutions:
- Check your network connection
- Restart the verification process from the beginning
- Ensure that no other users are attempting to verify the same bottle simultaneously
- If problems persist, contact your system administrator

Reporting Unresolved Issues

If you encounter an error that cannot be resolved using the guidance in this manual:

1. Note the exact error message and the context in which it occurred
2. Take a screenshot of the error if possible
3. Document the steps you were taking when the error occurred
4. Note the date and time of the error
5. Report this information to your system administrator or IT support team

Providing detailed information about unresolved errors helps the technical team identify and fix issues more quickly, improving the system for all users.

By understanding common errors and their solutions, users can more effectively navigate the EBM Verification System and maintain efficient workflows even when challenges arise.

Regular system updates may address known issues, so keeping the system updated is an important part of error prevention.

13. Glossary

This section provides definitions for key terms and acronyms used throughout the Express Breast Milk (EBM) Verification System and this manual. Familiarity with these terms will help users better understand system functionality and documentation.

Key Terms and Definitions

Administrator: A user role with broad system management permissions, including approving and disabling nurse and parent accounts, accessing system configuration settings, and viewing comprehensive reports.

Biometric Data: Unique physical characteristics used for identification, including face photos, footprints, and retina prints in the EBM Verification System.

Bottle ID: A unique identifier assigned to each milk bottle in the system, encoded in the QR code and used for tracking throughout the milk lifecycle.

Dashboard: The main screen displayed after login, providing quick access to system functions based on the user's role.

Discard: The process of disposing of expressed breast milk that will not be used, with the reason and volume recorded in the system.

EBM: Express Breast Milk, referring to breast milk that has been expressed (pumped) for later feeding to a baby.

Expression Date: The date and time when breast milk was expressed, important for determining storage duration and prioritization.

Gestational Age: The length of pregnancy at birth, typically measured in weeks and days, recorded as part of a baby's information.

MRN: Medical Record Number, a unique identifier assigned to patients (both babies and mothers) within the healthcare facility.

Parent: A user role with limited access focused on viewing information related to their own baby, including milk usage history.

QR Code: Quick Response Code, a two-dimensional barcode that can be scanned to quickly identify bottles and babies in the system.

SuperUser: The highest-level user role with full administrative privileges across all system functions, including managing administrator accounts.

Usage: The process of feeding expressed breast milk to a baby or discarding it, recorded in the system to maintain accurate tracking.

Verification: The process of confirming that the right milk is given to the right baby, requiring dual nurse confirmation in the system.

Wristband: An identification band worn by the baby, which may include a QR code for quick scanning during verification.

Acronyms

API: Application Programming Interface, a set of rules that allows different software applications to communicate with each other.

DOB: Date of Birth, recorded as part of a baby's basic information.

GA: Gestational Age, the length of pregnancy at birth.

JSON: JavaScript Object Notation, a data format used for transmitting data between the system's frontend and backend.

NICU: Neonatal Intensive Care Unit, a specialized unit for the care of premature or ill newborn infants, where the EBM Verification System is often implemented.

UI: User Interface, the visual elements through which users interact with the system.

URL: Uniform Resource Locator, the web address used to access the EBM Verification System (https://halebi5.fly.dev/).

Understanding these terms and acronyms will help users navigate the EBM Verification System more effectively and communicate clearly about system functions and processes.

14. Contact Support

This section provides information on how to get assistance with the Express Breast Milk (EBM) Verification System when issues cannot be resolved using the troubleshooting guidance in this manual.

Support Resources

The EBM Verification System is supported by a dedicated team that can assist with technical issues, provide guidance on system use, and address questions about functionality. Several support channels are available to users:

System Administrator: Your facility's designated system administrator is the first point of contact for most issues. This individual has received specialized training on the EBM Verification System and can address many common problems directly.

IT Support Team: For technical issues related to hardware, network connectivity, or system integration, your facility's IT support team can provide assistance.

Halebi Support: For issues that cannot be resolved locally, the Halebi support team is available to provide specialized assistance with the EBM Verification System.

When to Contact Support

Consider contacting support in the following situations:

- Persistent error messages that cannot be resolved using the troubleshooting guidance
- System performance issues such as slowness or unresponsiveness
- Unexpected system behavior that affects workflow or patient safety
- Questions about system functionality not covered in this manual
- Suggestions for system improvements or feature requests
- Training needs for new staff members

Early reporting of issues helps ensure prompt resolution and minimizes potential impact on workflow and patient care.

Information to Provide

When contacting support, be prepared to provide the following information to help expedite problem resolution:

1. Your name and role in the system
2. A detailed description of the issue or question
3. The specific steps that led to the problem (if applicable)
4. Any error messages displayed (exact text if possible)
5. The date and time when the issue occurred
6. The impact of the issue on your work
7. Any troubleshooting steps you have already attempted
8. Screenshots of the issue if available

The more specific information you can provide, the more quickly support personnel can identify and address the root cause of the problem.

Support Contact Information

System Administrator:
- Contact your facility's designated EBM Verification System administrator
- Name: [To be filled in by your facility]
- Email: [To be filled in by your facility]
- Phone: [To be filled in by your facility]

IT Support:
- Contact your facility's IT help desk
- Email: [To be filled in by your facility]
- Phone: [To be filled in by your facility]

Halebi Support:
- Email: support@halebi.com
- Support Portal: https://support.halebi.com
- Phone: [To be filled in by your facility]
- Hours of Operation: Monday to Friday, 8:00 AM to 5:00 PM (Local Time)

Feedback and Suggestions

The EBM Verification System is continuously improved based on user feedback. If you have suggestions for enhancing the system or ideas for new features, please share them with your system administrator or directly with Halebi Support.

Your insights as a daily user of the system are invaluable for guiding future development and ensuring that the EBM Verification System continues to meet the needs of healthcare providers and the babies in their care.

Effective support ensures that any issues with the EBM Verification System are promptly addressed, minimizing disruption to workflow and maintaining the safety and efficiency of breast milk management in your facility.