PA Case Management System (iCMS)  
SaaS Implementation  

Treatment Center (TC)  
Training
What is iCMS?

• Internet Case Management System (iCMS), a web-based software application
• Used by the Pennsylvania Department of Health's Division of Newborn Screening and Genetics (DNSG) for case management, tracking and managing the follow-up of newborn filter paper and point-of-care (POC) screening results for infants born/residing in PA
• Developed and supported by Neometrics, a division of Natus
Service Vendor

• Neometrics, a Division of Natus, incorporated in 1978
• Based in Hauppauge, NY
• Staff has over 100 years of experience in newborn screening and data management
• Market leader in newborn screening software for:
  — Testing, reporting and case management
  — Electronic data transfer (via HL7)
  — Federal reporting
Lisa Hudson, Applications Systems Analyst II and Certified HL7 Control Specialist, has over 20 years of public health systems experience

Responsibilities include:

• Provide assistance and training to existing clients (users and IT staff)
• Provide technical expertise on application, network and database issues
• Create user manuals, documentation and training materials
• Prepare iCMS users for training and go-live
• Train iCMS users

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PA DNSG

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Charu Pahwa, IT Project Manager - c-chapahwa@pa.gov
Training Schedule

1:30 pm - 3:00 pm
  • Introduction
  • Programmatic Requirements
  • Pending Referrals
  • Final Diagnosis Needed
  • Completed Evaluations

Break

3:15 pm - 4:30 pm
  • Case Management
  • User Administration
Training Materials

The training folder includes the following:

- Trainer Slides
- Login Information Sheet
- Go Live Check List
- WebEx Schedule
- Training Evaluation Form
Implementation Goals

Provide a *single comprehensive* data system that:

- supports the newborn metabolic, hearing and critical congenital heart defects (CCHD) screening follow-up programs
- supports unlimited DOH and external users, with different scopes and levels of access based on their roles
- provides fast and accurate identification of infants and their newborn screening results
- provides a secure interface for exchanging protected health information (PHI) with the contracted laboratories, submitters and treatment centers
- increases timeliness and efficiency of follow-up and reporting
Implementation Plan

- **Phase I**: Laboratories are able to send newborn filter paper screening data to iCMS, using HL7 messaging. DOH users are able to perform newborn screening follow-up activities and run reports in iCMS. An ad-hoc reporting tool is also provided for DOH to build custom reports, as needed.

**Current Phase**

- **Phase II**: Treatment Centers (TCs) are provided access to iCMS for specified diagnostic follow-up activities and hospitals, midwives and birthing centers are able to manually enter or electronically submit hearing screening data to iCMS.

- **Phase III**: Audiologists, Cardiologists and other health care professionals working with the newborns are provided access to iCMS for specified in-patient and out-patient diagnostic evaluation follow-up activities.
Phase II Objectives

• Bring the Pennsylvania newborn screening and genetics program in-line with other newborn screening and genetics programs across the country.

• Reduce and eventually eliminate the need for the current email of workbooks between state and TCs.

• Provide TCs direct access to referred cases for easy and quicker reporting of diagnostic results, leading to timely follow-up and treatment.
TC Responsibilities

Following the PA iCMS TC Training Course

• Within 2 weeks of attending this training
  — train the team members
  — complete proficiency exercises
  — coordinate a go-live date with Lisa Hudson
  — participate in weekly TC Training Support WebEx for a total of 6 weeks

Go-Live

• Begin updating all referrals and diagnostic results directly in iCMS
Data Entry Learning Objectives

• Be able to log into iCMS
• Use iCMS to track and complete referrals
• Use iCMS to track and complete diagnostic evaluations
• Be prepared to train others on how to use the system
• Be prepared to create user accounts in iCMS for other users
• Feel comfortable using PA iCMS
iCMS Concepts

- Sequence of data entry
- Work grids
- PHI and emails (trusted sender Neometrics.com)
- Individual logins
Let’s Get Started...
Referral-Diagnosis Work Flow

**Current Process**
- CHN creates a referral in iCMS and emails a workbook to the TC
- TC submits status information via email and CHN enters it into iCMS
- TC submits diagnostic workbook via email and CHN enters it into iCMS

**To-Be Process**
- CHN creates the referral in iCMS and an automatic email notification is sent to the TC
- TC completes the referral or cancels it in iCMS
- TC enters the diagnostic results directly in iCMS
New Referral-Diagnosis Work Flow

- The MS Excel workbooks will no longer be needed
- TCs will have direct access to the system, to provide status update and enter diagnostic results for assigned cases
- TCs will be notified by an automatic email when a new referral is assigned to their facility
- Expected response time for status updates and final diagnosis will vary based on the disorder

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Max # of Days to Update Referral</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAH</td>
<td>within 4 days of referral</td>
</tr>
<tr>
<td>CF</td>
<td>within 3 weeks of referral (21 days)</td>
</tr>
<tr>
<td>CH</td>
<td>within 4 days of referral</td>
</tr>
<tr>
<td>HGB</td>
<td>within 3 weeks of referral (21 days)</td>
</tr>
<tr>
<td>META</td>
<td>within 4 days of referral</td>
</tr>
<tr>
<td>SCID</td>
<td>within 4 days of referral</td>
</tr>
</tbody>
</table>

- TC users will have the ability to log into iCMS at any time to access new and pending referrals, cases that need final diagnosis and completed cases for their facility
Referral Email

You are receiving this email because a referral was made to your facility for a condition listed on the Pennsylvania Newborn Screening Panel. Please log into the Pennsylvania Department of Health’s newborn screening case management system, iCMS, to view the case details.

You must update the referral in iCMS with initial contact and initial assessment information. Once a diagnosis is determined, you must enter the Diagnostic Results in the system, no later than ten business days following the date of diagnosis.

Please do not hesitate to contact the Newborn Screening Follow-up Program with any questions or concerns, by calling 717.783.8143.

Click here to access this information.

Healthcare practitioners, including physicians and surgeons, and healthcare facilities, including birthing centers and hospitals, are required to report final diagnoses of certain diseases in the newborn child to the Pennsylvania Department of Health, Bureau of Family Health, Division of Newborn Screening and Genetics; (see 35 P.S. §521.16; 28 Pa. Code §27.1; 28 Pa. Code §27.30; 28 Pa. Code §27.21a; and effective July 1, 2009 35 P.S. §623).

NEWBORN SCREENING & FOLLOW-UP PROGRAM
Pennsylvania Department of Health Bureau of Family Health | Division of Newborn Screening and Genetics
625 Forster Street, Seventh Floor East | Harrisburg, PA 17120
Phone: 717-783-8143

• Referral creation will send an automatic email to all affiliated designees

• “Click here” will open the iCMS login page
Defining Affiliations

- Treatment Center Name + Disorder
- Users are assigned to the Provider
- Referral email designees are configured to receive emails
In IE you must run in compatibility mode:
Tools -> Compatibility View Setting
Add this website → Click Add

URL For Training:
https://www.nbs.train.pa.gov/toolbar/login.aspx

URL For Production:
https://www.nbs.pa.gov/toolbar/login.aspx
Password Criteria

• Passwords must have 8 characters including an uppercase, lowercase, numeric and a symbol
• Password can not be one that was previously used within last 180 days
• Users can only change their password 1 time every 15 days
• TC Administrators can reset a user’s password at any time
• Temporary password is good for 14 days
• Password reset required every 60 days
User Terms and Conditions

- Users must agree to these terms and conditions to access iCMS
Landing Page

Top Toolbar:

- **Home (Landing Page)** – Daily tasks and system options
- **Release Notes** – Training Materials
- **Contact Us** – Newborn Screening home page
- **Logout** – Exit out of iCMS
Pending Referrals

- Link to all new and pending referrals
- Records based on role and affiliation
Pending Referrals

- Displays all referrals assigned to the TC and disorder, awaiting an update
- Defaults to referrals created in the past 90 days
- Overdue cases highlighted in yellow
- Use the filter options on the top to change the default settings
Pending Referrals

• The filter and sorting options described for this grid can be used throughout iCMS
• The “Export to Excel” will take all data displayed on the grid and create an excel file. This option also appears on all iCMS grids. When selected, a popup message will display at the bottom of the screen:

Do you want to open or save Export_8_5_2017_2_49_PM.xls from 10.24.3.131?
Pending Referrals

- Click “Select” to complete or cancel a referral
Pending Referrals

• The referral opens in edit mode
• Red asterisks (*) indicate mandatory fields
• Blue asterisks (*) indicate conditionally mandatory fields
Pending Referrals

The header of a case has several components:

- The center, blue banner identifies the infant
- The left-side navigation menu includes links for other case details
- The right top corner allows for system navigation
  - **Cancel** - Return to the previous screen
  - **Retry** - Return to the grid from where you selected the case
  - **Prev** and **Next** - Allow you to view additional filter papers for the case
Pending Referrals

- Mandatory data for Save
- Conditionally mandatory

- Option drop-down
- Calendar drop-down

- Click “Save” to update the referral
- Click “Cancel” to exit the record without updates
- “Comment” and other text fields have size limitations
Pending Referrals

- If mandatory data is missing or incorrect, error message(s) will display at the top of the screen when you click “Save”
- Fill in the required details correctly and click “Save” again

**Note**: The bottom of the form needs to be completed for Cystic Fibrosis referrals only.
Pending Referrals

- Once saved, the screen is redirected back to the Referrals summary page
- The referral status will be updated to “Completed”
- The referral will be removed from the “Pending Referrals” grid and added to the “Final Diagnosis Needed” grid
- To view and edit a referral, click “Select” next to it
Cancel Pending Referral

- Check the “Referral Cancelled” box
- Select a “Referral Cancelled Reason”
- Click “Save”
Pending Referrals - Exercise

• Login to the PA iCMS Training Site:
  https://www.nbs.train.pa.gov/toolbar/login.aspx
  — See the Exercise sheet for your login and password

• Navigate to the “Pending Referrals” grid
  — Complete 2 Referrals
  — Cancel 1 Referral
Final Diagnosis Needed

- Link to completed referrals for which a final diagnosis has not been entered yet
Final Diagnosis Needed

- Lists all completed referrals that are awaiting a final diagnosis
- Defaults to cases requiring a final diagnosis within the past 366 days
- Use the filter options on the top to change the default settings
- Click “Select” to view and edit a record
Final Diagnosis Needed

- Diagnostic Results form opens in edit mode
- There is a separate form for each disorder type, and it matches the current workbook format
- Mandatory field indicators (* and **) and drop-downs function the same way as they do on the “Edit Referral” form
Final Diagnosis Needed

- Enter additional information in “Comments”
- If it is the final diagnosis, check the box
- Click “Save” to update the Dx result
- Click “Cancel” to exit without saving changes
- If unable to save, scroll to the top of the screen for warnings and errors

**Note:** To cancel a diagnostic result, go to the “Edit Referral” screen and cancel it.
Final Diagnosis Needed

- If “Final Diagnosis” was checked, the “Evaluation Status” will be updated to “Completed”, else it will stay as “In Progress”
- The record will be removed from the “Final Diagnosis Needed” grid and added to the “Completed Evaluations” grid
- To view and edit a record, click “Select” next to it
Final Diagnosis Needed - Exercise

- Go to the “Final Diagnosis Needed” grid
- Enter a confirmed diagnosis and make final for 2 cases
- Enter “No Disorder Detected” and make final for a case

**Remember**: To cancel a diagnostic result, you must go back to the “Edit Referral” screen and cancel it.
Completed Evaluations

- Link to all completed cases
Completed Evaluations

- Allows quick review of completed cases
- Lists only the records that have the “Final Diagnosis” checkbox marked
- By default displays records with a final diagnosis date in the past 30 days
- To view a record, click “Select” next to it

**Tip:** Filter on the “Dx” column to find confirmed diagnostic results.
Completed Evaluations - Exercise

• Go to the “Completed Evaluations” grid
• Filter the grid to find cases with confirmed diagnosis
• Select a case with confirmed diagnosis and edit the diagnostic result record by adding a note “Dx reviewed with family” and your name
• Save the Dx with the note
Case Management

- Allows users to search for specific cases based on selected criteria
Case Management

- To find a record, enter a value in one or more of the fields and click “Search”
  - A combination of fields can be used, e.g. Infant Last Name and DOB
  - Wildcard cards can also be used, e.g. Infant Last Name as “SM*”
- Click “Reset” to clear the search
- If the search returns more than 10,000 records, a warning message will be displayed
Case Management

- Click “Select” to view a record from the search results
The header of a case has several components:

- The center, blue banner identifies the infant
- The left-side navigation menu includes links for other case details
- The right top corner allows for system navigation
  - **Cancel** - Return to the previous screen
  - **Retry** - Return to the grid from where you selected the case
  - **Prev** and **Next** - Allow you to view additional filter papers for the case
Case Menu

- **Demographics** – current demographic data for the case
- **Referrals** – all referrals for the case
- **Document Capture** – lab reports and other case documents; .doc, .docx, .xls, .xlsx, .pdf, .jpg, .gif and .png files
- **Laboratory Results** – filter paper results
- **Lab Demographics** – demographics from the filter paper
- **Diagnostic Results** – diagnostic results for the case
### Case Demographics

- Displays the most recent demographic information in view-only mode

- If you have more recent demographic information, please email it to the CHN assigned to this case

<table>
<thead>
<tr>
<th>Patient Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Newborn ID</strong></td>
<td>PAN013</td>
</tr>
<tr>
<td><strong>DRD#</strong></td>
<td>12345</td>
</tr>
<tr>
<td><strong>POC Hearing CHN</strong></td>
<td>67890</td>
</tr>
<tr>
<td><strong>POC CHN</strong></td>
<td>09876</td>
</tr>
<tr>
<td><strong>Infant Last Name</strong></td>
<td>SMITH</td>
</tr>
<tr>
<td><strong>Infant First Name</strong></td>
<td>JOE</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>M</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td>White</td>
</tr>
<tr>
<td><strong>Hispanic Origin</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Mother’s Hispanic Origin</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Date of Birth</strong></td>
<td>01/01/2020</td>
</tr>
<tr>
<td><strong>Birth Time</strong></td>
<td>12:34</td>
</tr>
<tr>
<td><strong>Birth Weight</strong></td>
<td>2345</td>
</tr>
<tr>
<td><strong>Medical Record Number</strong></td>
<td>67890</td>
</tr>
<tr>
<td><strong>Medical Assistance</strong></td>
<td>Transferred</td>
</tr>
<tr>
<td><strong>Transfused Blood</strong></td>
<td>Antibiotics</td>
</tr>
<tr>
<td><strong>AMA Last Name</strong></td>
<td>SMITH</td>
</tr>
<tr>
<td><strong>AMA First Name</strong></td>
<td>JOE</td>
</tr>
<tr>
<td><strong>TNF</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Cytomegalovirus</strong></td>
<td>No</td>
</tr>
<tr>
<td><strong>Guardian’s First Name</strong></td>
<td>MOTHER</td>
</tr>
<tr>
<td><strong>Guardian’s Last Name</strong></td>
<td>SMITH</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mother’s Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mother’s Last Name</strong></td>
<td>SMITH</td>
</tr>
<tr>
<td><strong>Mother’s First Name</strong></td>
<td>MARY</td>
</tr>
<tr>
<td><strong>Mother’s Initial Street Address</strong></td>
<td>123 Main St.</td>
</tr>
<tr>
<td><strong>City</strong></td>
<td>NEW YORK</td>
</tr>
<tr>
<td><strong>State</strong></td>
<td>NY</td>
</tr>
<tr>
<td><strong>Mother’s Country</strong></td>
<td>USA</td>
</tr>
<tr>
<td><strong>Mother’s Home Phone</strong></td>
<td>123-456-7890</td>
</tr>
<tr>
<td><strong>Work Phone</strong></td>
<td>123-456-7891</td>
</tr>
<tr>
<td><strong>Fax</strong></td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emergency Contact</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong></td>
<td>JOHN DOE</td>
</tr>
<tr>
<td><strong>Relationship</strong></td>
<td>Father</td>
</tr>
<tr>
<td><strong>Emergency Contact # 1</strong></td>
<td>123-456-7890</td>
</tr>
<tr>
<td><strong>Emergency Contact # 2</strong></td>
<td>987-654-3210</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Birth Hospital Information</th>
<th></th>
</tr>
</thead>
</table>
**Document Capture - Add**

- Click “Add New File”
Document Capture - Add

- Click “Browse” to locate the file

- Once selected, add a description and click “Upload”
• File types supported: .doc, .docx, .xls, .xlsx, .pdf, .jpg, .gif and .png
• If system accepts the image type and description, you will be prompted to “Submit”
Document Capture - View

- To view an existing document, click 🔍
Laboratory Results

<table>
<thead>
<tr>
<th>Select</th>
<th>Group</th>
<th>Disorder</th>
<th>Mnemonic</th>
<th>Comment</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select</td>
<td>T4 and TSH</td>
<td>T4 (CH)</td>
<td>WNL</td>
<td>Within Normal Limits</td>
<td>Normal</td>
</tr>
<tr>
<td>Select</td>
<td>AA</td>
<td>AA</td>
<td>WNL</td>
<td>Within Normal Limits</td>
<td>Normal</td>
</tr>
<tr>
<td>Select</td>
<td>AA</td>
<td>MSUD</td>
<td>WNL</td>
<td>Within Normal Limits</td>
<td>Normal</td>
</tr>
<tr>
<td>Select</td>
<td>AA</td>
<td>PKU</td>
<td>WNL</td>
<td>Within Normal Limits</td>
<td>Normal</td>
</tr>
<tr>
<td>Select</td>
<td>Gal</td>
<td>GAL</td>
<td>WNL</td>
<td>Within Normal Limits</td>
<td>Normal</td>
</tr>
<tr>
<td>Select</td>
<td>Gal</td>
<td>GALBEU</td>
<td>WNL</td>
<td>Within Normal Limits</td>
<td>Normal</td>
</tr>
<tr>
<td>Select</td>
<td>CAH</td>
<td>CAH</td>
<td>WNL</td>
<td>Within Normal Limits</td>
<td>Normal</td>
</tr>
<tr>
<td>Select</td>
<td>Hgb</td>
<td>HGB</td>
<td>FA</td>
<td>Within Normal Limits</td>
<td>Normal</td>
</tr>
<tr>
<td>Select</td>
<td>BIO</td>
<td>BIO</td>
<td>WNL</td>
<td>Within Normal Limits</td>
<td>Normal</td>
</tr>
<tr>
<td>Select</td>
<td>CF</td>
<td>CF</td>
<td>WNL</td>
<td>Within Normal Limits</td>
<td>Normal</td>
</tr>
<tr>
<td>Select</td>
<td>SCID</td>
<td>SCID</td>
<td>WNL</td>
<td>Within Normal Limits</td>
<td>Normal</td>
</tr>
<tr>
<td>Select</td>
<td>AC</td>
<td>AC</td>
<td>WNL</td>
<td>Within Normal Limits</td>
<td>Normal</td>
</tr>
</tbody>
</table>

- “Select” the test to view the result values
Lab Demographics

- View only
- Populated from the filter paper
Case Management – Exercise

• Go to Case Management
  — Search for NB ID# PA160206680

• Search and Select a case
  — Use the left-hand side menu to review the case
    • Demographics
    • Lab Results
    • Lab Demographics
    • Document Capture
      — View Lab Report
User Administration

TC Administrators can:

- Create New Users
- Unlock Users
- Reset Passwords
User Administration

- Lists all users in your affiliated facilities
- Has color coded entries for active, inactive and locked users

<table>
<thead>
<tr>
<th>Select</th>
<th>User ID</th>
<th>User Name</th>
<th>Full Name</th>
<th>Email</th>
<th>Phone</th>
<th>Last Login</th>
<th>Organization</th>
<th>Audits</th>
<th>Reset Password</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select</td>
<td>745</td>
<td>SMITH</td>
<td>Joe Smith</td>
<td>LISA.HUDSON@NAT...</td>
<td>( ) -</td>
<td></td>
<td></td>
<td>Audit</td>
<td>Reset Password</td>
</tr>
<tr>
<td>Select</td>
<td>746</td>
<td>GGREEN</td>
<td>Sara Green</td>
<td>LISA.HUDSON@NAT...</td>
<td>( ) -</td>
<td></td>
<td></td>
<td>Audit</td>
<td>Reset Password</td>
</tr>
<tr>
<td>Select</td>
<td>600</td>
<td>TCU_CAH</td>
<td>TC User CAM Test Staging</td>
<td>DONL.ANTONELLI@NAT...</td>
<td>( ) -</td>
<td>7/27/2017 3:15:07 AM</td>
<td></td>
<td>Audit</td>
<td>Reset Password</td>
</tr>
</tbody>
</table>
Add Users

- Click “Add New User”
Add Users

- Enter the user name and full name
- Use the first name initial + last name as the user name
- If the username already exists, add a number at the end, e.g. JSMITH2
Add Users

Select the user’s role, which should be limited to:

- “Treatment Center User” + Disorder

Note that TC Admins can only create TC users with the same disorder.
Add Users

- Select the user’s affiliations
- TC Admins can only create users with the same affiliations
Add Users

- Enter the mandatory information
- Click "Save"

If the configuration for the user account is correct, a confirmation message will display.
Add Users

- If any required data is missing, a red prompt will display on the top of the “User Information” Tab
- Enter the missing data, and click “Save” again
Add Users

- An email will automatically be sent to the new user with their user name and initial temporary password
- The users will have 14 days to setup their new password and security question or the TC Administrator will need to reset the password for them
- Email is sent from customersupport@neometrics.com
Reset Password

- Click “Reset Password” to reset the password for a user
- A prompt will confirm the reset and an email will be sent to the user with their new temporary password
Unlock User

- Click “Select” to view the user details
- Click through the configuration tabs until you get to the “User Information” tab
Unlock User

- Check the “Active” box
- Click “Save”
Inactivate User

- Uncheck the “Active” box
- Select “Save”
User Administrator - Exercise

- Add new user
- Inactive a user
- Re-active a user
TC Responsibilities

Following the PA iCMS TC Training Course

- Within 2 weeks of attending this training
  - train the team members
  - complete proficiency exercises
  - coordinate a go-live date with Lisa Hudson
  - participate in weekly TC Training Support WebEx for a total of 6 weeks

Go-Live

- Begin updating all referrals and diagnostic results directly in iCMS
Questions

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Kelly Holland
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Natus Helpdesk
866-639-3439

Slide deck created with assistance from the Pennsylvania Department of Health.