

ImmuNet User Interface and Navigation Redesign

In Collaboration with DXC Technology

Patricia Swartz, MS, MPH, Center for Immunization

2018 AIRA National Meeting

ImmuNet Background



CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

MENU CDC A-Z SEARCH

Immunization Information Systems (IIS)

[CDC](#) > [IIS Home](#) > [Functional Standards](#)

2013-2018 Immunization Information System (IIS) Functional Standards

[f](#) [t](#) [+](#)

This document is the final version of the revised IIS Functional Standards for implementation by CDC-funded Immunization programs during the period 2013 to 2018.

[IIS Functional Standards, 2013-2018, Printer-friendly version](#) [7 pages], [Table only](#) [2 pages], [Appendix B – Core Data Elements](#) [1 page]

[IIS Minimum Functional Standards, 2001-2012](#)
Superseded by IIS Functional Standards 2013-2018

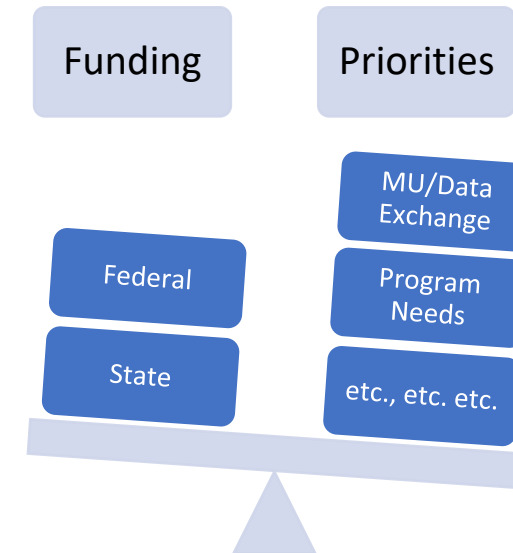
IIS Functional Standards, 2013-2018

The purpose of this document is to define and provide supporting references to the Immunization Information System (IIS) Functional Standards for 2013-2018. These standards have been developed by the Immunization Information

Format:

On This Page

- Functional Standards, 2013-2018
- General considerations
- Programmatic Goals
- Functional Standards by Programmatic Goal
- Appendix A - Work Group Participants
- Appendix B - IIS Core Data Elements



Why Redesign Now?

- Primary driver for redesign → Maryland's 2017 VFC Provider mandate to use the User Interface (UI) inventory feature to order vaccines and to report administered doses
 - MDH must support existing and new users (from ~800 VFC sites) to use UI inventory feature that were not previously accessible
- ImmuNet UI from original 1999 design followed internet/web standards at that time
 - Lacks intuitive interface and intuitive navigation

Login Page

The screenshot shows the Maryland Department of Health and Mental Hygiene's Infectious Disease and Environmental Health Administration website. The page has a dark blue header with the state seal and navigation links. A left sidebar contains a login form and a warning message. The main content area features a 'Hot Topics' section with a table of contents. A yellow highlight is present on a browser compatibility message. Blue callout boxes with arrows point to specific design elements: 'Font size' points to the login form text, 'Old MDH standard leaves too much space' points to the large left sidebar, 'Page primary function?' points to the 'Hot Topics' section, and 'Unused space' points to the large empty area at the bottom of the page.

Problem Solver | Maryland.gov | Online Services | State Agencies | Phone Directory

Search

Email Friend print page

MARYLAND
ImmuNet: Maryland's Immunization Registry

UAT Region

User Id:

Password:

Login

DO NOT ATTEMPT TO LOG ON
UNLESS YOU ARE AN
AUTHORIZED USER.

IF YOU FORGOT YOUR
PASSWORD, PLEASE
CONTACT YOUR
ADMINISTRATIVE USER AND
THEY CAN RESET YOUR
PASSWORD. IF YOU CANNOT
LOCATE YOUR
ADMINISTRATIVE USER,
PLEASE CONTACT THE
IMMUNET HELP DESK
(410)767-6606.

HOME FORMS RELATED LINKS

Immunet works best with the most current version of Internet Explorer or Google Chrome.

Hot Topics

HT-1 HT-2 HT-3 HT-4 HT-5 HT-6 HT-7

Table of Contents
Click the HT links on the right to access the information below: Posted on 04/07/2011

- HT-1 Table Of Contents
- HT-2 ImmuNet Training Videos
- HT-3 ImmuNet Login Instructions: Enrolled Users Switching To The New System
- HT-4 System Changes To Be Aware Of In The New ImmuNet
- HT-5 Light Bulb ImmuNet Tool: Screen Specific Help For ImmuNet Users
- HT-6 B-Free: Maryland's Perinatal Hep B System

Copyright © 1999 - 2018 State of Wisconsin. All rights reserved.

Font size

Old MDH
standard leaves
too much space

Page primary
function?

Unused space

Home Page

Points to
same function

Menu options

Font size

Labels
(where is....?)

home manage access/account forms related links logout help desk

organization Test1 • user Patricia Swartz • role Admin User (Provider)

Immunet works best with the most current version of Internet Explorer or Google Chrome.

announcements:

NEW 11/16/2016 ~ [this is samir test announcement!](#)

NEW 11/03/2014 ~ [ImmuNet Maintenance Window Scheduled for Friday November 7th](#)

NEW 12/11/2012 ~ [Updated Data Exchange Specifications](#)

NEW 08/13/2012 ~ [New trade name Menhibrix added to ImmuNet](#)

NEW 06/15/2012 ~ [New CVX codes available for Tetanus series](#)

NEW 06/01/2012 ~ [New CVX codes available for Td series](#)

NEW 05/18/2012 ~ [MCV4, Unspecified Formulation and TENIVAC added to ImmuNet](#)

NEW 03/02/2012 ~ [Influenza Series Updates](#)

NEW 12/19/2011 ~ [Polio Series Updates and new trade name Fluzone Intradermal](#)

NEW 09/08/2011 ~ [Meningococcal Updates and Addition of Menveo in ImmuNet](#)

NEW 07/11/2011 ~ [PPD Test now available in ImmuNet](#)

NEW 10/08/2009 ~ [H1N1 VIS Statements Now Available!](#)

[more announcements](#)

release notes:

NEW 08/13/2015 ~ [Release Version 1.9.9](#) Release 1.9.9

[more release notes](#)

Vaccine Order/Transfer Notification ...

Type	Shipped	Awaiting Return Shipment	Rejected
Order(s)		No Order Notification	
Transfer(s)		No Transfer Notification	

Active Inventory that is Going to Expire or Expired Lots with a Quantity ...

Site Name	Trade Name	Lot Number	On Hand	Public	Exp Date
No vaccines are currently set to expire.					

Inventory that is Running Low by Vaccine Group ...

Vaccine Group	Quantity On Hand	Public
No vaccine groups have a low inventory.		

Inventory that is Running Low by Trade Name ...

Trade Name	Quantity On Hand	Public
No trade names have a low inventory.		

Account /
Menu
options

Page
primary
function?

Relevant
info or
Noise?

Unused
space

Goals & Objectives

- Increase user independence and reduce Help Desk calls
 - Improve the ease for users to find a particular screen
 - Improve the effectiveness of the labels
- Align to Maryland's web-based application standards

Define Project Scope



2-day in-person meeting with DXC

Focus

4

Items

Common user tasks

Style Sheet
(font/layout)

Menu Group
(set of options)

Login Page

Home Page

March 2016

January 2017

Timeline to completion

DXC Recommendations

- Style Sheet updates
 - Grouped the style sheet for easier update, single standard style sheet
 - Standard makes coding more efficient and timely
 - Cascading the style sheet across the application should go faster
- User Interface elements
 - Restructured navigational components to align closer to user workflow experience
 - Updated input controls and informational components to reduce clutter

Login Page (BEFORE)

The screenshot shows the Maryland Department of Health and Mental Hygiene's Infectious Disease and Environmental Health Administration website. The page features a dark blue header with the state seal and navigation links. A left sidebar contains a login form with fields for 'User Id' and 'Password', a 'Login' button, and a warning message. The main content area has a 'Hot Topics' section with a table of contents and a list of links. A yellow banner at the top of the main content area reads: 'Immunet works best with the most current version of Internet Explorer or Google Chrome.' The page is annotated with four blue boxes: 'Font size' pointing to the login form text, 'Old MDH standard leaves too much space' pointing to the large empty space below the login form, 'Page primary function?' pointing to the 'Hot Topics' section, and 'Unused space' pointing to the large empty space at the bottom of the page.

Problem Solver | Maryland.gov | Online Services | State Agencies | Phone Directory

Search

Email Friend print page

THE MARYLAND DEPARTMENT OF HEALTH AND MENTAL HYGIENE
INFECTION DISEASE AND ENVIRONMENTAL HEALTH ADMINISTRATION

UAT Region

User Id:

Password:

Login

DO NOT ATTEMPT TO LOG ON
UNLESS YOU ARE AN
AUTHORIZED USER.

IF YOU FORGOT YOUR
PASSWORD, PLEASE
CONTACT YOUR
ADMINISTRATIVE USER AND
THEY CAN RESET YOUR
PASSWORD. IF YOU CANNOT
LOCATE YOUR
ADMINISTRATIVE USER,
PLEASE CONTACT THE
IMMUNET HELP DESK
(410)767-6606.

HOME FORMS RELATED LINKS

Immunet works best with the most current version of Internet Explorer or Google Chrome.

Hot Topics HT-1 HT-2 HT-3 HT-4 HT-5 HT-6 HT-7

Table of Contents Posted on 04/07/2011

Click the HT links on the right to access the information below:

HT-1 Table Of Contents

HT-2 ImmuNet Training Videos

HT-3 ImmuNet Login Instructions: Enrolled Users Switching To The New System

HT-4 System Changes To Be Aware Of In The New ImmuNet

HT-5 Light Bulb ImmuNet Tool: Screen Specific Help For ImmuNet Users

HT-6 B-Free: Maryland's Perinatal Hep B System

Copyright © 1999 - 2018 State of Wisconsin. All rights reserved.

Font size

Old MDH
standard leaves
too much space

Page primary
function?

Unused space

Login Page (AFTER)

Accommodated
new MDH
standard

Font size

Training Region

Maryland.gov | Phone Directory | State Agencies | Online Services

**MARYLAND**
.gov

ImmuNet:
Maryland's Immunization Information System
DEPARTMENT OF HEALTH

WEBSITE NOTICE:
ImmuNet works best with the most current version of Internet Explorer or Google Chrome.

[Home](#) | [Resources](#) | [About Us](#) | [Contact Us](#)



Login

[Forgot Password](#)

[Register Now](#)



For Healthcare Providers
How to gain access to ImmuNet, use ImmuNet and other resources that Healthcare Professionals may need.
[Click here for more....](#)



For School
How to gain access to ImmuNet and use ImmuNet to view student Immunization records.
[Click here for more....](#)



For Public
How to obtain an Immunization record for yourself or your child.
[Click here for more....](#)

Page
primary
function

Filled
unused space

Home Page (BEFORE)

Points to
same function

Menu options

Font size

Labels
(where is....?)

MARYLAND
UAT Region 1.8.3

Patients
enter new patient
manage patient

Immunizations
manage immunizations

Inventory
manage transfers
manage inventory
shipping documents
transaction summary
doses administered

Reports
check reminder status
manage custom letters
request callback
cocasa extract
check request status
vic report
group patients
check group status
parental notification
check parental status
assessment report
check assessment
benchmark report
check benchmark
ad hoc list report
ad hoc count report
ad hoc report status
reminder / recall

Data Exchange
exchange data
check status

Maintenance
manage schools
manage physicians
manage clinicians

organization Test1 • user Patricia Swartz • role Admin User (Provider)

Immunet works best with the most current version of Internet Explorer or Google Chrome.

announcements:

- NEW 11/16/2016 ~ [this is samir test announcement](#)
- NEW 11/03/2014 ~ [ImmuNet Maintenance Window Scheduled for Friday November 7th](#)
- NEW 12/11/2012 ~ [Updated Data Exchange Specifications](#)
- NEW 08/13/2012 ~ [New trade name Menhibrix added to ImmuNet](#)
- NEW 06/15/2012 ~ [New CVX codes available for Tetanus series](#)
- NEW 06/01/2012 ~ [New CVX codes available for Td series](#)
- NEW 05/18/2012 ~ [MCV4, Unspecified Formulation and TENVAC added to ImmuNet](#)
- NEW 03/02/2012 ~ [Influenza Series Updates](#)
- NEW 12/19/2011 ~ [Polio Series Updates and new trade name Fluzone Intradermal](#)
- NEW 09/08/2011 ~ [Meningococcal Updates and Addition of Menveo in ImmuNet](#)
- NEW 07/11/2011 ~ [PPD Test now available in ImmuNet](#)
- NEW 10/08/2009 ~ [H1N1 VIS Statements Now Available!](#)

[more announcements](#)

release notes:

- NEW 08/13/2015 ~ [Release Version 1.9.9](#) Release 1.9.9
[more release notes](#)

Vaccine Order/Transfer Notification ...

Type	Shipped	Awaiting Return Shipment	Rejected
Order(s)		No Order Notification	
Transfer(s)		No Transfer Notification	

Active Inventory that is Going to Expire or Expired Lots with a Quantity ...

Site Name	Trade Name	Lot Number	On Hand	Public	Exp Date
No vaccines are currently set to expire.					

Inventory that is Running Low by Vaccine Group ...

Vaccine Group	Quantity On Hand	Public
No vaccine groups have a low inventory.		

Inventory that is Running Low by Trade Name ...

Trade Name	Quantity On Hand	Public
No trade names have a low inventory.		

Account /
Menu
options

Page
primary
function?

Relevant
info or
Noise?

Unused
space

Home Page (AFTER)


Consolidated
links to same
page

Menu
options

Font size

Labels
(where
is...?)

Welcome Patricia Swartz logged in as: > Organization: test test Role: Admin User (Provider) > My Account > Logout

**ImmuNet:**
Maryland's Immunization Information System
DEPARTMENT OF HEALTH

WEBSITE NOTICE:
ImmuNet works best with the most current version of Internet Explorer Google Chrome.

Home Resources Contact Us Help


UAT Region 2.17.0
.....


Patients
Organization Reports
Inventory and Ordering
 > Create and View Orders
 > Manage Inventory
 > Manage Transfers
 > Transfer Shipping Documents
Data File Loading
Manage Org Selections


Patient Search Click to locate a patient, enter a new patient, view patient records or add immunizations to a patient record.


VFC Inventory / Orders Click to proceed to the VFC Order Screen to enter your inventory on hand for your VFC order to be processed.


My Organization's Inventory Status

 Active Inventory expiring soon or has expired with quantity left.

 Inventory running low by Vaccine Group.

 Inventory running low by Trade Name.

 No review needed.

 Attention needed, please click on the status link to review.

.....

Copyright © 1999 - 2018 State of Wisconsin. All rights reserved.

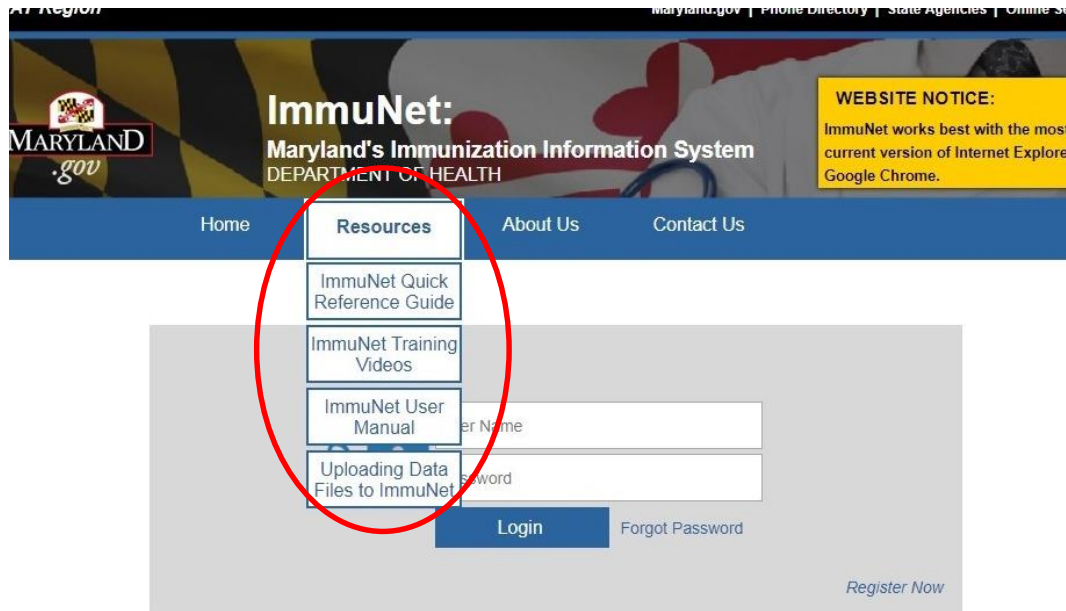
Account
info

Menu
options

Page
primary
function

Relevant
info only

Prepare VFC Providers for Mandate

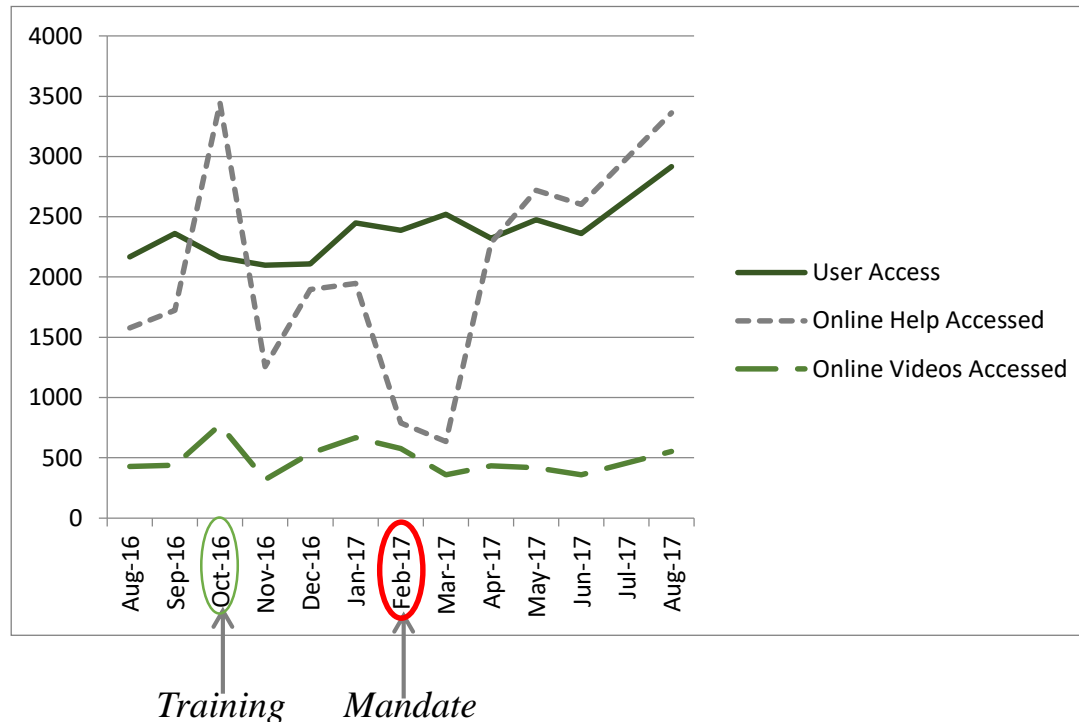


- Prepare VFC providers
 - Webinar training for provider offices
 - Resources posted in ImmuNet and website
 - Links to Quick Reference Guides, training slides/videos, FAQs, etc.

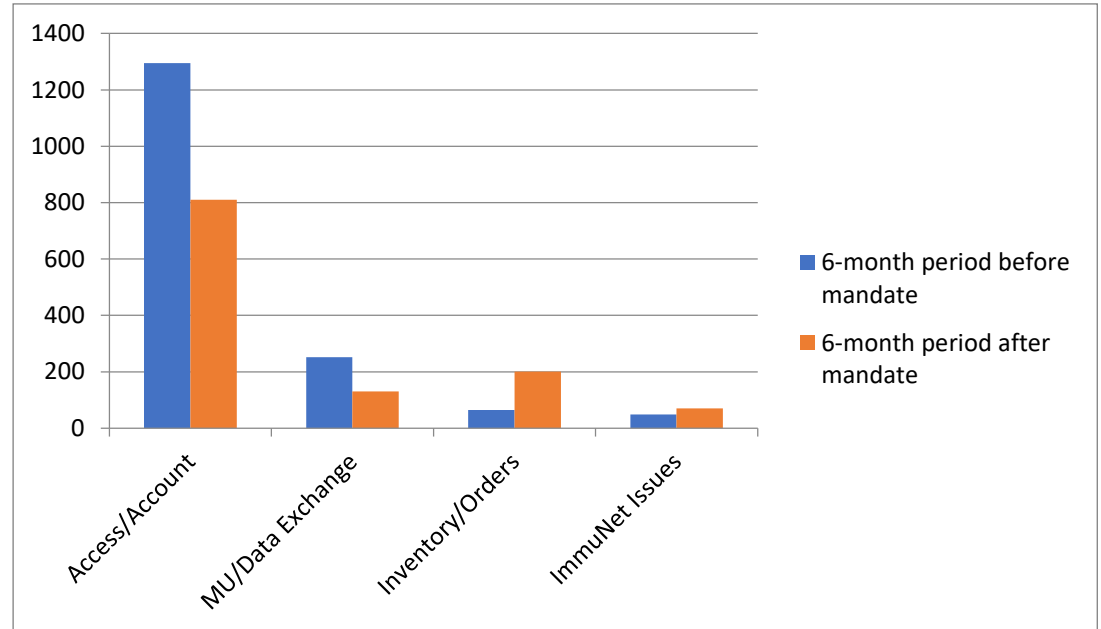


Successful Deployment

User Access



Help Desk calls and emails wrt mandate



More on ImmuNet access than UI/navigation issues

→ Redesigned UI did not create barrier to comply with VFC mandate

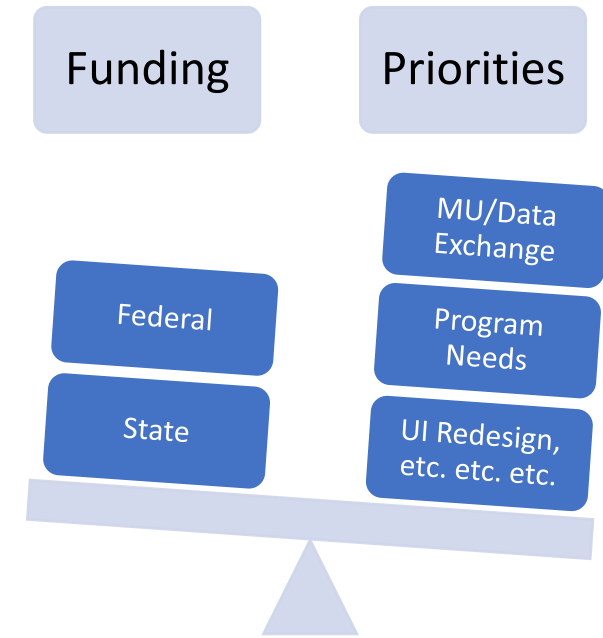
Limitations

- Cost and Time!
 - Not able to include end-user input or pre/post usability studies
 - Excluded other commonly used functionalities, for example, organization reports, manage clinicians/physicians, account access, inventory module, etc.

Conclusion



Navigated ideas from differing opinions



- Focus has been on MU/Data Exchange past few years
- VFC mandate to use UI paved way to prioritize UI redesign
- UI redesign still held value and remains important - keep users in mind

Progressive Enhancements

- Focus on meeting 2018-2022 Functional Standards
 - Improve reports usability to meet FS requirements, e.g. coverage rates
 - May update home/landing page with pertinent reports information for providers, e.g. reporting status (as with inventory status)
- UI updates to other commonly used functionalities
 - Wishlist
 - As funding and time allows!

Acknowledgements

- **DXC Technology**

- Katie Reed (defined project scope)
- Nanette White, former Project Manager
- Business Analysts
 - Jeanne Becker (Lead BA)
 - Samir Baisnav, Saad Karoum, LeAnn Bartolotti, Mayra Andrade, Chris Mattson
- Developers
 - Lawrence Johnbosco (Lead Developer)
 - Harish Muvva, Tejaswini Kodali, Senthil Kumar Devarajan, Naveen Kumar Seelam

- **MDH Center for Immunization**

- Greg Reed (project initiator)
- Kurt Seetoo, Program Manager
- ImmuNet Team
 - Nate Czarnota (UI Redesign Lead)
 - Cherry Angeles
 - Jason Linker
 - Rashid Malik

- **Wisconsin Department of Health Services and New York State Department of Health**

- For sharing IIS

Thank you!

Questions