



Surveillance System Integration to Improve Data Collection and Communication

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APHA
November 2007



Objectives



- Discuss system integration carried out to
 - enhance notifiable disease/condition reporting
 - assist in timely and effective public health response
- Describe process of system integration
 - Two previously existing stand alone systems (1. Merlin, 2. EpiCom)
- Describe system processes and operation



Background



- Public health surveillance and information systems were in development prior to recent formation of PHIN standards
- System design should account for methods to improve both the receipt and dissemination of information
- Florida implemented several enhancements to integrate
 - the notifiable disease surveillance system,
 - the outbreak information system and
 - Florida's Epi-X equivalent



System Integration



- **Merlin** is the FDOH, Bureau of Epidemiology's secure web-based disease reporting and epidemiologic analysis system
 - operates in all 67 counties
 - *Internal* facing application
- **EpiCom** serves as the state alerting system for epi/surveillance/response, accessible to users outside the FDOH firewall
 - *External* facing application
- Following PHIN guidance, these systems now function with a seamless user interface



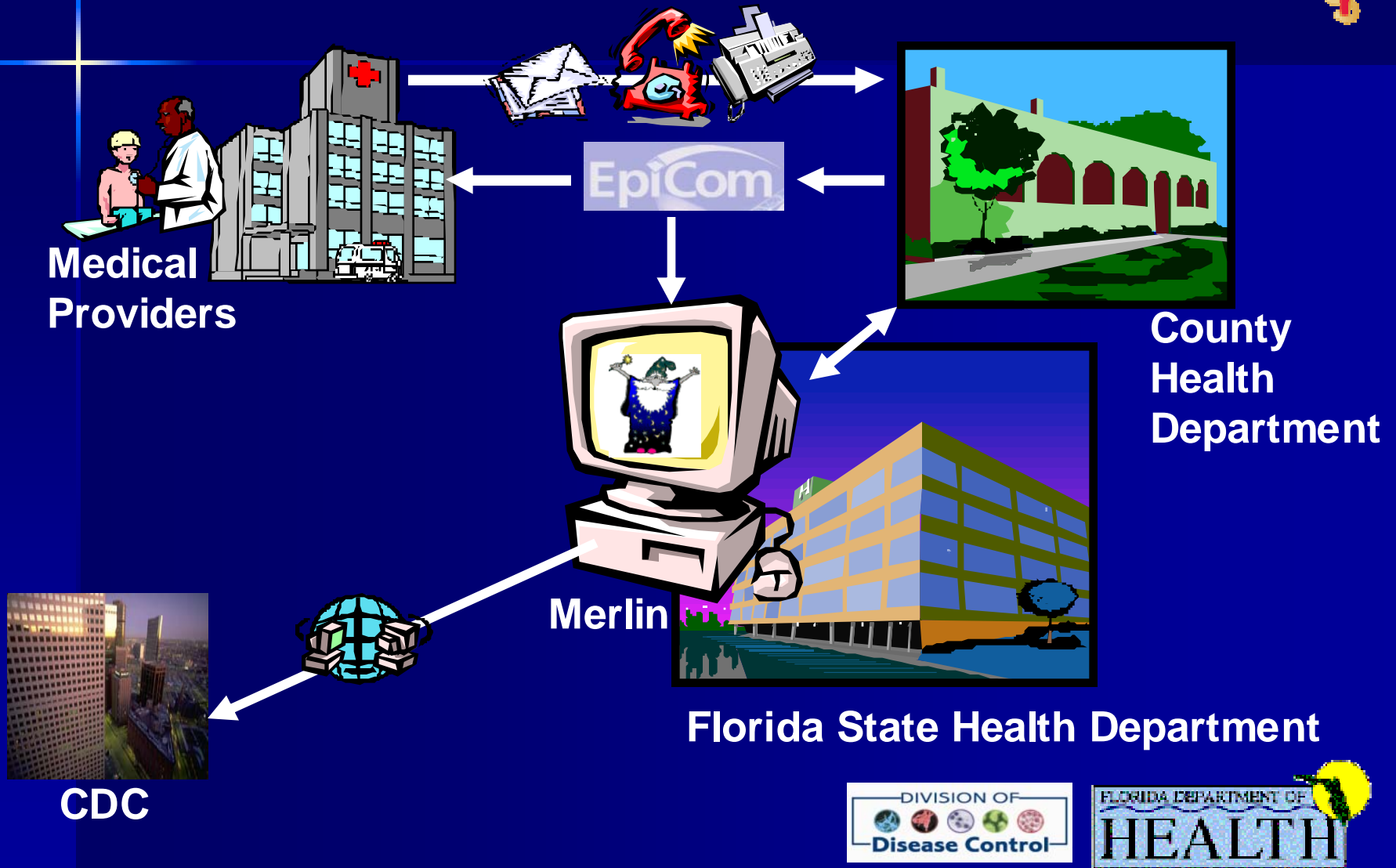
System Integration



- Integration of Merlin and EpiCom
 - Creation of a single portal to report diseases and receive information
 - CHD staff report case data into Merlin; receive health alerts via Merlin and/or EpiCom



System Integration: Health Alert Network (EpiCom) & Notifiable Disease Reporting (Merlin)



System Integration



- System enhancements:
 - Seamless user interface for Merlin and EpiCom
 - Single sign-on feature
 - Email alerting features to notify state surveillance staff of case investigations of associated case activities
 - Outbreak module integration



Merlin Home Page

Display EpiCom posts or link to system



Communicable Disease Reporting



Home	Cases	Outbreak	Analysis	Resources	Task	Admin	EpiCom
Help	Log Off						

10 Most Recent EpiCom Posts

There have been no alerts activated during the last 72 hours.

Date	Title	Topic	Forum	Criticality	Posted By
03/23/2007	FDA Finalizes Report on 2006 Spinach Outbreak	E-coli	Food and Waterborne Disease	NOTIFICATION	Hammon
03/22/2007	Week 11 Disease Table	Weekly Disease Tables 2006	Merlin	NOTIFICATION	Harris, D.
03/22/2007	NOAA Red Tide Bulletin 3/22/07 Patchy Moderate Impacts SWF	Red Tide	Aquatic Toxins	ADVISORY	Reich, An
03/22/2007	Acute GI illness in a long-term care facility, Alachua County	2007 Outbreaks	Norovirus and NLV	NOTIFICATION	Wilson, E
03/22/2007	Suspected outbreak of Norovirus in a Day Care Facility in Franklin County	2007 Outbreaks	Norovirus and NLV	NOTIFICATION	Hammon
03/20/2007	Norovirus at a Nursing Home in Highlands County	2007 Outbreaks	Norovirus and NLV	NOTIFICATION	Gray, Ste
			EpiCom		

Message of the Day

Merlin Tip of the Week

Hello Merlin Users!

The next time you generate an **Epi Curve**, choose the **Daily** option in the **Group By Intervals:** field. This will produce an Epi Curve that will allow you to drill-down on the bar for a specific date and obtain a list of cases that make up the total for that day. You will be able to print out the list of cases, as well as selecting each case individually to drill-down to a 'read only' version of the Basic Case page.

Note: Best viewed when selecting smaller date ranges. If you have questions related to the Epi Curve, or any of the Merlin features, please feel free to contact the Merlin helpdesk via email at Merlin_Helpdesk@doh.state.fl.us . Thanks and have a great week!BR>

Intro to Merlin Surveillance Module



- Merlin implemented in January of 2001
- Major modules since implementation:
 - Lead Poisoning Prevention Module
 - Perinatal Hepatitis B Prevention Module
 - Rabies Module
 - Influenza Module
 - Electronic Laboratory Reporting



Merlin Outbreak Module



- Tool for *documenting* and *analyzing* outbreaks and unusual disease occurrences investigated by county health department epidemiology programs and the state health office.

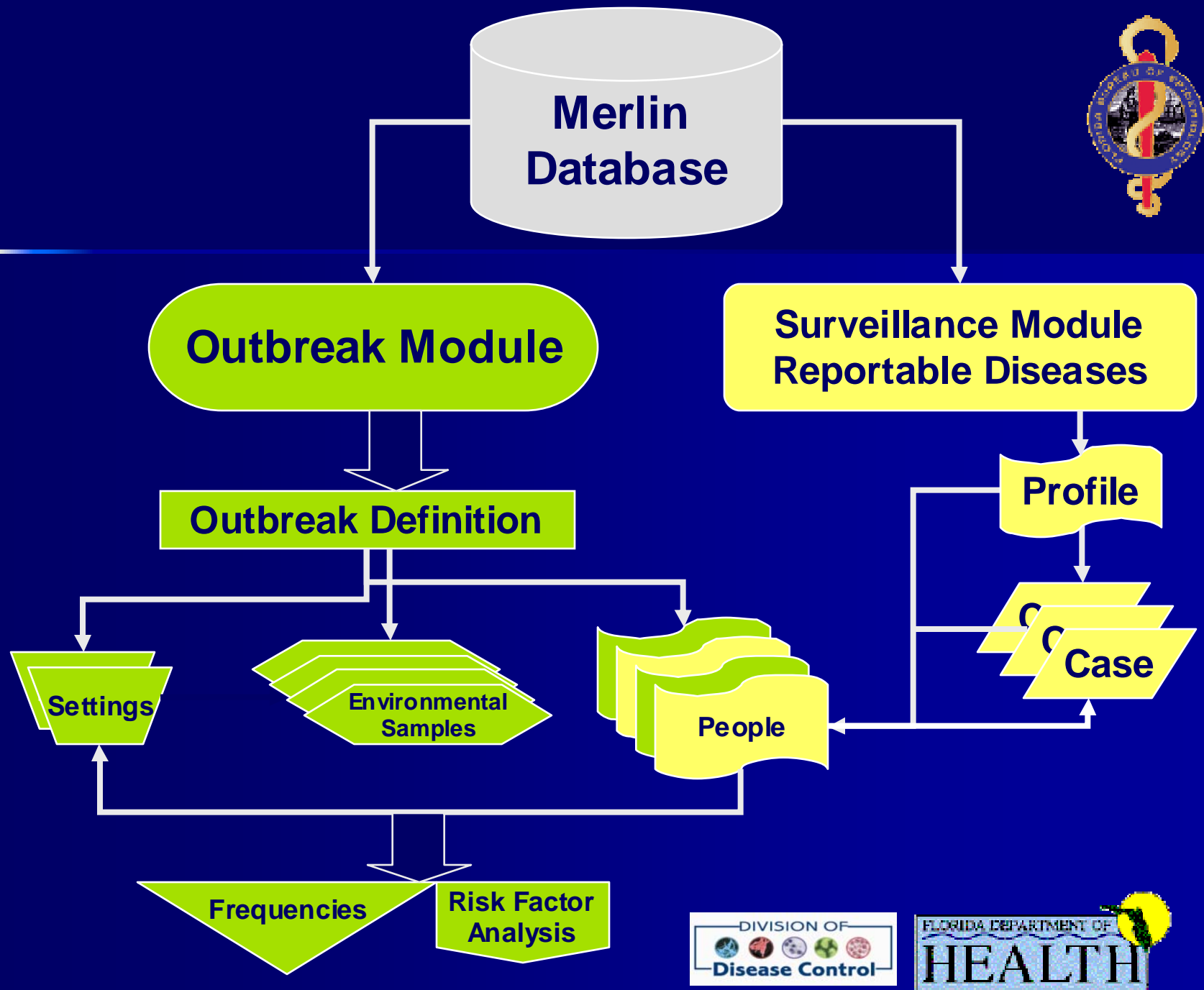


Merlin Outbreak Module



- Facilitates more complete outbreak reporting
- Provides a tool to CHDs to guide and train staff in outbreak investigation and epidemiology
- Keeps outbreak data collection in the statewide central database
- Provides a drop-in surveillance tool using the statewide central database
- Provides a simple way for state staff to assist counties manage outbreaks





Outbreak Module Key Design Considerations



- Highly integrated: ready exchange of records of people and cases between surveillance application and outbreak module (bidirectional)
- Easy navigation and data entry, mirrors surveillance application
- Multiple simultaneous users, statewide, different user roles



Key Design Considerations



- Flexible: easy to design and implement questionnaires
- Create and display relationships (case and contact, settings)
- Useful for large and small outbreaks
- Outbreak summary and analysis features, data export



Linking Cases Between the Outbreak Module and Reporting Module



- (1) When working with a person in the Merlin Outbreak Module that turns out to have a case of a notifiable disease, you just check a box and that case appears in the Merlin Surveillance Module.
- (2) When working with cases in the Merlin Surveillance Module, if you realize a case is part of an outbreak, you add the outbreak number to the Merlin record and it appears as a case in the corresponding outbreak.



Linking cases between the outbreak module and reporting module



Outbreak Information
9.13

Outbreak ID:	1062	Outbreak Name:	STATE - E. COLI AND/OR HUS
Outbreak Date:	03/25/2005	County:	STATE
Outbreak Type:	DISEASE	Outbreak Status:	OPEN

Summary Definition Settings **People** Contacts Environmental Event Log Frequencies Risk Factor Survey Closure Reports

Individual Group

Reason Included: COMMON SETTING
Date Added: 03/25/2007
Last Name: HAMIL First Name: TES
Case #: **116054** [Print Outbreak Form](#) [Remove Link](#)

*FL Disease Code: ENTEROHEMORRHAGIC E. COLI (EHEC) O157:H7 - 41601
Case Status: INCOMPLETE
*Dx Status: CONFIRMED [Set Dx Status](#)
Investigator: JACKSONJ
CHD Ref. #:
Outcome: RECOVERED

Animal Exposure
*Imported: ACQUIRED IN FLORIDA
Origin: **116054**
*Outbreak: OUTBREAK ASSOCIATED
Outbreak ID: 1062 By Outbreak ID Detail Search
OB Name: [STATE - E. COLI AND/OR HUS](#)
Definition: SUSPECT CASE: INDIVIDUALS WITH DIARRHEA WITH VARIABLE SEVERITY (+/- BLOOD) THAT MAY BE COMPLICATED BY HEMOLYTIC UREMIC SYNDROME (HUS) WHO HAVE RECENTLY ATTENDED FLORIDA FAIRS OR FESTIVALS. CONFIRMED CASE: SUSPECT CASE WITH LABORATORY CONFIRMED E. COLI [Remove Link](#)

(1)

(2)



EpiCom



- Florida Department of Health outbreak communications and emergency notification system
- Users both from within state and local public health and private providers



Welcome **Janet Hamilton**, Alert ID = 0873

[active topics](#) [search](#) [edit profile](#) [log off](#)

The time now is 5:40:46 PM

[inbox](#) [User Manual](#)

Alerts Activated in the Last 72 Hours

There have no been alerts activated during the last 72 hours.

Latest Forum Posts

Merlin - [Weekly Disease Tables 2006](#) - Friday, June 15, 2007 at 3:30:54 PM
 Merlin - [Weekly Disease Tables 2006](#) - Friday, June 15, 2007 at 3:30:49 PM
 Food and Waterborne Disease - [Outbreaks](#) - Thursday, June 14, 2007 at 3:02:15 PM
 Food and Waterborne Disease - [Outbreaks](#) - Thursday, June 14, 2007 at 2:08:43 PM
 Food and Waterborne Disease - [Outbreaks](#) - Thursday, June 14, 2007 at 2:07:55 PM
 Childhood Lead Prevention Program - [2007 Alerts](#) - Thursday, June 14, 2007 at 9:33:29 AM

Forum Statistics

There are 2497 Posts in 167 Topics in 55 Forums
 Last Post on Friday, June 15, 2007 at 3:30:54 PM
 Last Post by [lharrisd](#)
 There are 1659 Forum Members
 The Newest Forum Member is [hughesbi54](#)

Forum View All	Posts	Last Post
2007 Alerts	17	Thursday, June 14, 2007 at 9:33:29 AM By lead program →
Botulism		
2004 Cases	25	Thursday, December 23, 2004 at 1:34:13 PM By Kumars →
2005 Cases	16	Tuesday, April 04, 2006 at 12:09:10 PM By ackp →
2006 Cases	10	Friday, October 13, 2006 at 4:26:23 PM By roberta →
2007 Cases	3	Tuesday, June 12, 2007 at 6:21:53 PM By leahtovah →
Vaccine Preventable Diseases 2007		
Diphtheria	0	There are no messages →
Measles	8	Friday, June 08, 2007 at 10:27:10 AM By EmilyWilson →
Mumps	4	Monday, April 09, 2007 at 9:54:10 PM By antibiotic →

EpiCom

Web board posting



Welcome **Janet Hamilton**



<<Information contained on this page is intended for registered members of EpiCom only. Please do not distribute>>

[All Forums](#)

[Influenza](#)

Topic: Deaths and Encephalopathy in Children Under 18

[Post Message](#)

David Atrubin
on December/28/2006 at 5:30 PM [User Profile](#) [Search](#) [Edit](#) [Delete](#)

Message Title : **Pediatric Influenza Death** Criticality : **NOTIFICATION**

Message Title: Pediatric Influenza Death in Hillsborough County

On Wednesday, December 27, 2006, the Hillsborough County Health Department Epidemiology Program received a call from the Medical Examiner's office reporting the death of a female child suspected of having died from influenza. Specimens from the deceased were sent to the FDOH Bureau of Laboratories - Tampa Branch for testing. Lung, tracheal, and nasopharyngeal specimens have tested positive for influenza type A (subtype H1 by real time RT-PCR).

The patient experienced fever, cough and upper respiratory infection symptoms beginning on 12/23. Nausea, vomiting, cold sweats, and body aches developed on 12/26, and the patient sought emergency room care. The patient went into cardiac arrest at home in the early hours of 12/27, was rushed to the hospital, and was pronounced dead shortly thereafter.

EpiCom post access



- Items posted to EpiCom, are made available to users in several ways:
 - (1) Log on to EpiCom and look at all the posts; the new ones are at the top; attachments accessible;
 - (2) Users can request to get an e-mail every time an item is posted, with the text of the post; can be customized by topic area;
 - (3) Merlin users can see and read the 10 most recent EpiCom posts every time they open Merlin;
 - (4) Receive a daily e-mail with the titles of all new EpiCom posts since yesterday in areas of interest.



Conclusions



- Intersection of “traditional PH surveillance” methods with new technological capabilities = opportunity to focus on the end user of the systems, not the data capture flow
- Functional system integration enables the best features of each system to be effectively utilized in order to improve public health surveillance and information exchange



Acknowledgements



- Richard Hopkins
- Christie Luce
- Bernhard Schmid
- Travis McLane
- Kim Wiley
- Stu Gash
- Juan Gutierrez
- Greg Baker
- Lalit Heda
- Tom Stankus
- Paul Lindamen

