

Enhancing Public Health Data Management Via the Web:



Health System Transformation



Objectives:

- Historical view.
- Development: Conception to Birth and Beyond.
- Functional overview of application.
- Programmatic benefits of the application.
- Where to from here.

The Bucket: A Public Health Solution



Eastern
Health



www.easternhealth.ca

What's in a Name?

- We needed a name for the application that holds public health data



- The first module started out as a way to track vomiting and diarrhea



- Common theme was The Bucket!

The Problem

- Public Health Databases were predominantly paper-based with manual reporting.
- Excel programs were developed for vaccine management and immunization data collection.

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PUBLIC HEALTH VACCINE INVENTORY

Note: If any vaccine has been exposed through Cold Chain Break, please indicate that quantity in **red font**
PLEASE REPORT ALL QUANTITIES IN DOSES

Vaccine Name	Recommended Office Stock	January							February					
		Expiry	Quantity	Expiry	Quantity	Total # of doses on hand	Stock Doses Required	Seasonal - or - School Doses Required	Total Doses to be ordered	Expiry	Quantity	Expiry	Quantity	Total # of doses on hand
Diphtheria, Tetanus, Acellular Pertussis	30	Apr-16	5	Jan-17	9	14	16		16	Apr-17	30			30
Diphtheria, Tetanus, Acellular Pertussis & Polio	20	1-May	23			23	-3		0	Dec.2016	17	Sep-17	10	27
Diphtheria, Tetanus, Acellular Pertussis, Polio & Haemophilus influenzae type b	15	Aug-16	12			12	3		3	Apr-17	17	Mar-17	5	22
Haemophilus influenzae type b	2	1-Apr	5	Oct-15	1	6	-4		0	May-17	2			2
Hepatitis A - Adult	0					0	0		0					0
Hepatitis A - Pediatric	0					0	0		0					0
Hepatitis A & B - Adult	0					0	0		0					0
Hepatitis A & B - Pediatric	0					0	0		0					0
Hepatitis B - Dialysis Prep	0					0	0		0					0
Hepatitis B - 1.0 ml	12	2016June	12			12	0		0	1-Jun	4	Apr-17	12	16
Hepatitis B - 0.5 ml	12	2015Nov	8	2015Sept.	1	9	3		3	1-Apr	2			2
Human Papillomavirus	0	2015Aug	2			2	-2		0	Nov-16	14			14



VACCINE ALARM RESPONSE PROTOCOL

1. In the event of forecasted adverse weather or if there is a fridge failure/power loss during regular working hours, pack all vaccine as per Cold Chain Incidents (section 3.8 of CDC Program Manual found in the workbook shared drive) and ship to the site designated in the "vaccine fridge details" section of your site specific workbook.
2. When packaging your vaccine, place in paper bags with your site clearly labeled on the bag. Using the "Relocated Vaccine Inventory" form (found in the "links to commonly used forms" in the site specific CDC workbook), take an inventory of the vaccine being sent to another site and send a copy of the inventory form with the vaccine and keep a copy in your office.

What is The Bucket

- Secure, web-based application.
- Created in-house by our HTDM team In consultation with frontline users.
- Modules were developed to be robust and dynamic to allow expansion to changing needs, policy, and technology.



Vaccine Management

- Two Components live in Eastern Health :
vaccine inventory and Influenza
immunization tally reporting
 - Phase one: Implemented October 2014
 - Basic features for influenza vaccine only
 - Phase two: Implemented March 2016
 - Includes all public health vaccine inventory
 - Features: vaccine transfers, recalls, wastage and cold chain break reporting

Construction

- Designed directly mirror current processes.
- Frontline heavily consulted in requirements gathering.
- Meticulous attention to build details.
- Constant feedback loop for improvement.



The Bucket | Vaccine Management



CDC Vaccine Depot Inventory



Site Vaccine Inventory



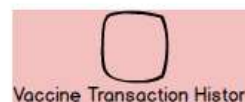
Influenza Initial Shipment



Influenza Tally Site Summary



Add Influenza Tally



Vaccine Transaction History



Vaccine Recall



Reports



Vaccine Management



Government
Inventory



Site/Depot Inventory



Add Tally



Print Tally Form



Reports

Public Health - Vaccine Management

Public Health - The Basket > Vaccine Management > Depot Inventory > Mount Pearl

Depot Inventory

Change Depot

Depot Demographics

Name:

Address:

Contact Name:

Contact #:

3 Pending Shipments

Inventory Shipping/Receiving Transfer/Wastage MyOrders Documents History

Influenza, Type: Flu Mist, Recommended Office Stock: N/A, Total Doses on Hand: 140, Stock Doses Required: 60

Lot Number ▲	Doses ▲	Original Expiry Date	Current Expiry Date	Last Updated	
123451	37	01-Jul-2014	05-Jul-2014	05-Jul-2014	<input type="button" value="Edit"/>
123452	12	01-Jul-2014	05-Jul-2014	05-Jul-2014	<input type="button" value="Edit"/>
123453	2	01-Jul-2014	05-Jul-2014	05-Jul-2014	<input type="button" value="Edit"/>
123454	14	01-Jul-2014	05-Jul-2014	05-Jul-2014	<input type="button" value="Edit"/>
123455	<input type="text" value="23"/>	01-Jul-2014	05-Jul-2014	05-Jul-2014	<input type="button" value="Update"/> <input type="button" value="Cancel"/>

-CW is a cold chain wastage
 -CC is a cold chain break (Usable)

Influenza, Type: Agriflu, Recommended Office Stock: N/A, Total Doses on Hand: 40, Stock Doses Required: 60

Hepatitis A, Type: Type of Vaccine, Recommended Office Stock: 50, Total Doses on Hand: 50, Stock Doses Required: 0

Rabies, Type: Type of Vaccine, Recommended Office Stock: 256, Total Doses on Hand: 140, Stock Doses Required: 16

Vaccella, Type: Type of Vaccine, Recommended Office Stock: 200, Total Doses on Hand: 100, Stock Doses Required: 100

Submit Monthly Order

Manual Order

Print Inventory

Report Cold Chain Break

Demographics

Name:

Government Admin

First Name:

Address:

Contact #:

Inventory

Depot Inventory

▸ Agriflu, Type: TIV

▸ Fluad, Type: TIV

▾ Flumist (Trivalent), Type: LAIV

Lot Number	Original Expiry	Current Expiry	Doses	
CK2060	February 09, 2015	February 09, 2015	1700	Edit
CL2125C	March 16, 2015	March 16, 2015	300	Edit

Public Health - Vaccine Management

Public Health - The Bucket > Site Inventory > WAT

Influenza Vaccine Tally Form Season 2014 - 2015

Select site: Select immunizer:

Site Demographics

Name: Contact Name:

Address:

Office: Contact #:

Influenza Tally Sheet

Non-Employees

Lot #	Date	TIV						LAIV						Edit	Remove
		6 mths to 4 yrs		5-8 yrs		9-59yrs	60+ yrs	2-4 yrs		5-8 yrs		9-59yrs			
		1st Dose	2nd Dose	1st Dose	2nd Dose	9-59 Yrs	60+ yrs	1st Dose	2nd Dose	1st Dose	2nd Dose	9-59 Yrs			
1111111	01-Jul-2014	3						5							
1111111	01-Jul-2014	3													
1111112	01-Jul-2014	3				5									
1111113	01-Jul-2014	3								5					
<input type="text" value="1111111"/>	<input type="text" value="/"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="Update"/>	<input type="text" value="Cancel"/>
<input type="text" value="1111112"/>														<input type="text" value="Add"/>	

EH-Employees

Influenza Vaccine Tally Form

2014 - 2015

Select Depot:

Mount Pearl Square Depot ▾

Select Site:

Mount Pearl Square (site) ▾

Select Immunizer:

Trina Hillyard@eastern ▾

Influenza Tally Sheet

TIV

Lot #	Date	6 Mths - 4 yrs	5 - 8 yrs	9 - 19 yrs	20 - 44 yrs	45 - 64 yrs	>=65 yrs	
149402	11-Dec-2014	1	0	0	0	0	0	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Components

- Monthly Orders
- Vaccine movement tracking
- Global recall
- Cold chain break
- Transfer/Wastage
- Built in reporting
- Immunization data collection

Benefits

- Increased Accessibility.
- Increased Data consistency.
- Near real time data reporting.
- Informed decision making.
- Increased Efficiency.
- User friendly.
- Adaptability/ versatility.

The Future

- Provincial investment in application to be used across the province in all jurisdictions.
- Addition of further Immunization statistics gathering beyond influenza.
- Development of Provincial Communicable Disease reporting and Contact tracing module.

**SOMETIMES AFTER A LONG DAY OF WORK,
IT'S NICE TO JUST KICK BACK AND SAY**



BUCKET



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