

# Office of Health Information Technology

## Successful Strategies for Integrating EHRs and Practice Management Systems

**Date: 07/09/2009**

US Department of Health and Human Services  
Health Resources and Services Administration  
Office of Health Information Technology

# Introduction

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# Office of Health Information Technology

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AHRQ National Resource Center Portal

For HRSA Grantees:

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[HealthIT@hrsa.gov](mailto:HealthIT@hrsa.gov)

- US Department of Health and Human Services
- Health Resources and Services Administration
- Office of Health Information Technology

# **Successful Strategies for Integrating Electronic Health Record and Practice Management Systems**

**Community Care Network of  
Virginia**

**July 2010**



# Discussion

- Community Care Network of Virginia
- Historical Context for EMR\PM Integration
- Network Strategic HIT Agenda
- Factors Influencing Integration Decisions
- Current Integration Efforts

# Community Care Network of Virginia

- \* Health Center Controlled Network
- \* Network Formed in 1996
- \* Owned by all 25 Virginia FQHCs
- \* 105 practice locations in Virginia
- \* 350 providers
- \* 335,000 patients
- \* 900,000 patient visits in 2009

# Community Care Network of Virginia

## Programs

- **Health Information Technology** - eClinicalWorks (“eCW”) deployment, help desk, certified training, kiosk technology, HIE
- **Central Business Office** – specialized in eCW billing for health centers
- **Center for Data and Informatics** – data collection, aggregation, clinical, operational, financial performance improvement
- **Credentialing** – NCQA certified credentialing (18 states plus District of Columbia)
- **Contracting** – network based contracting with commercial insurers

# Community Care Network of Virginia

- Network EMR deployment (eClinicalWorks) completed 2008
- 20 of 25 centers use eCW
- 3 centers using EHS and NextGen
- 2 centers still thinking about it
- Mixed hosting architecture (individual and network)

# Historical Context for EMR\PM Integration (*what we had*)

- Purchased and deployed legacy PM system in 1999
- Centrally hosted by network
- Text based system
- Flat file database
- UNIX based operating system
- Modems for filing claims
- No master patient index

# Network Strategic HIT Agenda

*(where we wanted to go)*

- EMR deployment across the state at all FQHCs
- Centralized and decentralized architecture offerings
- Ability for the Center for Data and Informatics to collect and aggregate data at the network level for performance improvement
- Integrate additional applications such as dental, pharmacy, lab, etc.

# Network Strategic HIT Agenda

*(where we wanted to go)*

- Ability to share information (participate in health information exchange)
- Ability to deploy and integrate innovative technology (e.g. kiosks, home based monitoring)
- Close coordination with technology\data needs of the primary care association (VCHA)

# Integration Decision...

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**Replace legacy system with a new product application that included a built-in, integrated EMR and PM system with a single shared database.**

# Factors Influencing “Integration Decision”

- New owners of legacy software. No corporate track record
- Relatively few EMR products on the market
- Little to no FQHC experienced EMR vendors
- CCHIT certification\standards did not exist
- Multiple vendor cooperation
- Database compatibility (flat file-relational)

# Factors Influencing “Integration Decision”

- Hosting capacity, compatibility and hardware creep
- Coordination of trouble tickets and “problem ownership”
- Costs (initial programming, ongoing support, etc.)
- Training – investments in training (certified trainers, super users) and maintaining high levels of staff competency in 2 systems
- Significant concerns regarding reporting capabilities

# Current Integration Efforts

- Lab
- Dental electronic record software
- Innovative technology
- HIE
- ePrescribing

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# REPORTING SERVICES AT MAINE PRIMARY CARE ASSOCIATION/CONNECT

Maine Primary Care Association  
July 2010

# MePCA Background

- ▣ Maine
  - Rural...Elderly...Poor
  - 1 in 6 Mainers go to FQHC or look-alike
  - 1 in 4 Medicaid pts go to FQHC or look-alike
  - MePCA = 20 organizations, 100 sites, 200K pts
- ▣ Maine CHC EMR adoption
  - 80% of members have implemented an EMR
  - Additional 10% will implement an EMR in 1 year
  - EMRs = NextGen, Centricity, HealthPort, eClinical, EHS

# Maine's HCCN = CONNECT

- ▣ HCCN since 2004
- ▣ EMR implementation – 5 orgs, 19 sites, 50+ providers, NextGen – PMS/EMR
- ▣ CHCs have own servers (soon hosting option)
- ▣ Reporting Tools since 2008 – HRSA grants
  - Develop tools
  - Test, optimize, validate
  - Integrate into work flows

# Data Warehouse

- ▣ Repository from which reports are generated
- ▣ Started with NextGen CHCs only
- ▣ Restructured to be vendor/database neutral
  - Via Bangor Beacon Community Grant
- ▣ Designed as “on ramp” to connect CHC EMRs to state HIE for all PCA members

# Reporting Tools

- ▣ External Data Sharing Tools
  - Patient Health Portal (PHP) – provider tool
  - Link to state HIE (will replace PHP)
- ▣ Internal Reporting Tools
  - Chronic Disease, Preventive Practices
  - Clinical Summary
  - CHIPRA, Eligibility
- ▣ Public Health Tools
  - Immunization Interface
  - Syndromic Surveillance

# Patient Health Portal

## Portal Sign-in And Enter Search criteria

https://impact.mepca.org/php/Login.aspx?ReturnUrl=%2fphp%2fSearch.aspx - Windows Internet Explorer

https://impact.mepca.org/php/Login.aspx?ReturnUrl=%2fphp%2fSearch.aspx

File Edit View Favorites Tools Help

Web Search Bookmarks Settings HP Access HP Solutions HP Create HP Smart Deals Mail My Yahoo! Answers Anti-Spy

Norton Norton Safe Search Search Cards & Log-ins

Intermedia - Exchange Use... Home - Maine MSO Share... https://impact.mepc... Welcome to Tabbed Brow...

  
Maine  
Primary Care  
Association

Patient Health Portal

Log In

User Name:

Password:

Remember me next time.

Log In

https://impact.mepca.org/php/Search.aspx - Windows Internet Explorer

https://impact.mepca.org/php/Search.aspx

File Edit View Favorites Tools Help

Web Search Bookmarks Settings HP Access HP Solutions HP Create HP Smart Deals Mail My Yahoo! Answers Anti-Spy

Norton Norton Safe Search Search Cards & Log-ins

Intermedia - Exchange Use... Home - Maine MSO Share... https://impact.mepc... Welcome to Tabbed Brow...

[Logout](#) [Admin](#) [Search](#)

  
Maine  
Primary Care  
Association

Patient Health Portal

~\* Searchable Fields: Patient Name, Address, City, State, Zip, DOB, SSN, & Home Phone \*~

Done

Internet | Protected Mode: On 100%

Calendar - Mic... 2 Internet Exp... 2 Microsoft O... Presentation1 2 Windows Ex... 4:51 PM

# Patient Health Portal

## Select Patient

https://impact.mepca.org/php/Search.aspx - Windows Internet Explorer

https://impact.mepca.org/php/Search.aspx

File Edit View Favorites Tools Help

Web Search Bookmarks Settings HP Access HP Solutions HP Create HP Smart Deals Mail My Yahoo! Answers Anti-Spy

Norton Norton Safe Search Search Cards & Log-ins

Intermedia - Exchange Use... Shared Documents https://impact.mepc... X

Health Reach	<a href="#">Lana Testa</a>	19 Meadow Crossing Drive	Gorham	NH	04038	F	07-10-1945	034-34-3893	(207) 839-8832
Sacopec Valley	<a href="#">Linda Test</a>	101 Hit The Highway	Parsonsfield	ME	04047	F	09-03-1987		(299) 999-9999
Sacopec Valley	<a href="#">Love Test</a>	PO BOX 777	Parsonsfield	ME	04047	F	01-06-1957		(207) 999-9999
Sacopec Valley	<a href="#">Mary Test</a>	HAVE SOME FUN	Parsonsfield	ME	04047	F	07-18-1990		(207) 999-9999
Sacopec Valley	<a href="#">Me Test</a>	Test Road	Parsonsfield	ME	04047	F	01-01-1965		(999) 999-9999
Sacopec Valley	<a href="#">Mental Health Test</a>	211 Depression Lane	Parsonsfield	ME	04047	F	05-20-1965	999-99-9999	(207) 999-9999
Sacopec Valley	<a href="#">Miss Test</a>	123 Wheres Lunch Lane	Hiram	ME	04041	F	02-07-1955		(207) 999-9999
Sacopec Valley	<a href="#">Mitchell Test</a>	Why Oh Why Street	Parsonsfield	ME	04047	M	07-10-1969		(207) 999-9999
Health Reach	<a href="#">Mom TestingHealthreach</a>	123 Big Bird St	North Anson	ME	04958	F	02-03-1973	498-45-1654	(207) 555-5555
Sacopec Valley	<a href="#">New Test</a>	70 Main Street	Porter	ME	04068	F	09-03-1965		(207) 999-9999
Sacopec Valley	<a href="#">Patti Test</a>	101 Fm Street	Parsonsfield	ME	04047	F	06-05-1928		(207) 999-9999
Sebasticook Family Practice	<a href="#">Pediatric Test</a>	TruRob 123 SFD Lane	Newport	ME	04953	F	07-04-2005	999-99-9999	(207) 207-1234
Sebasticook Family Practice	<a href="#">Pittsfield Test</a>	10 Pittsfield Dr	Parsonsfield	ME	04047	M	03-26-1950	003-26-5984	(207) 123-4567
Health Reach	<a href="#">Reach TestingHealth</a>								N
Sacopec Valley	<a href="#">Rete Test</a>	555 Apple Lane	Cornish	ME	04020	N	03-12-1968		(207) 999-9999
Health Reach	<a href="#">Robert F Testin</a>	302 Apollo Dr	Seneca	SC	29672	M	07-20-1935	337-30-2568	(214) 748-3647
Sacopec Valley	<a href="#">Samantha Test</a>	PO BOX 489	Parsonsfield	ME	04047	F	02-13-2003		(207) 999-9999
Sebasticook Family Practice	<a href="#">SFD C Test</a>	6 Easy St	Portsmouth	NH	03801	M	03-01-1970	026-36-9854	(603) 236-5987
Sebasticook Family Practice	<a href="#">SFD FEMALE PTONE</a>	TEST LAB ST	Portsmouth	NH	03801	F	03-26-1960	003-48-2378	(603) 123-4567
Sebasticook Family Practice	<a href="#">SFD MALE PTTWO</a>	LAB TEST LANE	Portsmouth	NH	03801	M	10-31-1958	009-87-6543	(603) 789-6543

https://impact.mepca.org/php/Details.aspx?pid=84ec1bcd-a50f-4852-a2f1-8e9f195eb845&db=Sebasticook Family Practice

Internet | Protected Mode: On 100%

Calendar - Microso... https://impact.m... MRH | Contact 207-... DocumentL - Micro...

4:10 PM



**PATIENT:** Andrea P Test

**SEX:** F

**DOB:** 05-19-1981

**SS#:** 999-99-9999

**ADDRESS:** 1 Okay Lane

**CITY:** Gardner **STATE:** ME **ZIP:** 09999

**TEL:** (207) 999-9999

Active Problems

<u>Active Problems</u>	<u>Onset Date</u>
Acute pancreatitis	
Alcohol Abuse Unspecified	9/30/2009 12:00:00 AM
Alcohol withdrawal	
Anxiety state, unspecified	10/10/2008 12:00:00 AM
Backache, unspecified	
Bipolar disorder, unspecified	10/10/2008 12:00:00 AM

Chronic Problems

<u>ProblemDescription</u>	<u>DiagnosisCode</u>
Chronic pancreatitis	577.1
Narcotic Abuse	304.90
Alcohol Abuse Unspecified	303.90
Bipolar disorder, unspecified	296.80
Anxiety state, unspecified	300.00
Depression	311

Active Medications

<u>Active Medications</u>	<u>Sig Description</u>	<u>Start Date</u>
CLONAZEPAM 1 MG TABLET	1 BY MOUTH FOUR TIMES A DAY	3/9/2010 12:00:00 AM
FLUOXETINE HCL 20 MG CAPSULE	take 2 capsule (40MG) by ORAL route every day in the morning	2/11/2010 12:00:00 AM
SEROQUEL 200MG TABLET	take 1 tablet (200MG) by ORAL route at bedtime every day	11/20/2009 12:00:00 AM

### Allergens

<u>Allergens</u>	<u>Reaction Description</u>	<u>Allergy Type</u>	<u>Brand</u>
PENICILLIN G POTASSIUM		Ingredient	PENICILLIN

### Encounters

<u>Encounter Date</u>	<u>Visit Time</u>	<u>Description</u>	<u>Status</u>	<u>ICD9 Code</u>
2/11/2010 2:00:00 PM	Office Visit	Chronic pancreatitis	None Entered	577.1
2/11/2010 2:00:00 PM	Office Visit	Constipation, unspecified	Recurrent	564.00
2/11/2010 2:00:00 PM	Office Visit	Depression	Worse	311
10/10/2008 8:28:54 AM	Chart Update	Depression	Chronic	311
10/10/2008 8:28:54 AM	Chart Update	Pain, Knee Joint	Chronic	719.46
10/10/2008 8:28:54 AM	Chart Update	Bipolar disorder, unspecified	Chronic	296.80

### HMP

<u>Type</u>	<u>Last Done</u>	<u>Interval</u>	<u>Due Date</u>	<u>Status</u>
GYN		1 Year	3/9/2010 12:00:00 AM	Over Due
H & P		1 Year	3/9/2010 12:00:00 AM	Over Due
Influenza				
Lipid Panel	3/4/2008 12:00:00 AM			
Mammogram				
MD/RN Breast Ex		1 Year	3/9/2010 12:00:00 AM	Over Due
Pneumococcol				
Sigmoidoscopy				
Td	10/10/2004 12:00:00 AM	10 Years	10/10/2014 12:00:00 AM	

# Dashboard of Reports



SQL Server Reporting Services

Home >

## Dashboard

Contents

Properties

New Folder New Data Source Upload File Report Builder

- [Cardio Aggregate \(by Location\)](#)
- [Cardio Aggregate \(by Organization\)](#)
- [Cardio Feedforward And Feedback](#)
- [Cardio Feedforward and Feedback \(Printable\)](#)
- [CHIPRA Churning Report](#)
- [CHIPRA Churning Report - Ages 19 and Under](#)
- [CHIPRA Churning Report - Ages 20 and Over](#)
- [Diabetes Aggregate \(By Location\)](#)
- [Diabetes Aggregate \(by Organization\)](#)
- [Diabetes Feedforward and Feedback](#)

- [Diabetes Feedforward and Feedback \(Printable\)](#)
- [Help.pdf](#)
- [Patient Clinical Summary](#)
- [QIO Aggregate \(by Location\)](#)
- [QIO Aggregate \(by Organization\)](#)
- [QIO Detail \(by Location\)](#)
- [QIO Detail \(by Organization\)](#)
- [QIO Feedforward and Feedback](#)
- [QIO Feedforward and Feedback \(Printable\)](#)

# Diabetes Aggregate Report

SQL Server Reporting Services  
 Home >  
**Diabetes Aggregate (by Location)**

**View** Properties History Subscriptions

New Subscription

Select Org Name

1 of 1 100% Find | Next Select a format Export

**MAINE MSO, LLC. Diabetic Care Aggregate Report (by Location)**

**Drill Down to Provider Level**

to Report by Organization

	Total Pts	Diabetics	A1C	LDL	BP	mAlb	Eye	Foot	Smoker
+	50,207	2,294							
			1,518	1,051	2,010	466	358	514	499
	3640	86							
	3106	78							
	3070	192							
	7156	422							
	6721	116							
	2758	32							
	7150	445							
	4619	317							
	2739	45							
	5311	430							
	6857	214							

Report Run On: 6/30/2010 12:14:54 PM

# Diabetes Aggregate Report Drill Down

SQL Server Reporting Services  
 Home >  
**Diabetes Aggregate (By Location)**

View Properties History Subscriptions

New Subscription

1 of 1 100% Find | Next Select a format Export

MAINE MSO, LLC. **Diabetic Care Aggregate Report (by Location)**

Drill Down to Patient Level to Report by Organization

	Total Pts	Diabetics	A1C	LDL	BP	mAlb	Eye	Foot	Smoker
<b>Practice Totals:</b>	12,643	884							
<b>Practice Up-To-Date</b>			590	438	807	273	116	337	244
	1141	95							
Up-To-Date		7	80	72	84	41	11	49	25
Superior Control		3	52	49	50				
Intermediate Control		2	24	19	21				
Poor Control		2	4	4	13				
Not Up-To-Date		88	15	23	11	54	84	46	

# Diabetes Aggregate Report Drill Down Sub-Report

SQL Server Reporting Services  
 Home > Secured\_Unavailable >  
**Patient\_List\_Diabetes**

View Properties History Subscriptions

New Subscription

1 of 1 100% Find | Next Select a format Export

Diabetics Not Up-To-Date At SFD Hartland (88)										Out Of Date On				
Patient Name	Birthdate	Sex	PCP	Most Recent Visit	Next Visit	Next Visit Provider	Phone	Address		A1C	LDL	mAlb	Eye Exam	Foot Exam
...	5/7/1964	M	...	5/26/2010	6/15/2010	...	...	...					X	
...	6/20/1956	M	...	5/21/2010		...	...	...					X	X
...	4/25/1935	F	...	5/27/2010	7/7/2010	...	...	...				X		X
...	2/16/1942	M	...	6/9/2010	10/13/2010	...	...	...					X	X
...	2/19/1940	F	...	4/2/2010	6/17/2010	...	...	...					X	
...	3/29/1943	F	...	6/8/2010	8/5/2010	...	...	...					X	X
...	5/15/1959	M	...	6/3/2010	7/1/2010	...	...	...					X	
...	3/11/1945	F	...	3/25/2010	6/25/2010	...	...	...	X			X	X	X
...	8/27/1966	M	...	4/28/2010	7/28/2010	...	...	...					X	
...	12/29/1965	M	...	5/4/2010	7/7/2010	...	...	...					X	
...	12/26/1956	F	...	4/27/2010	7/26/2010	...	...	...				X	X	
...	8/18/1952	F	...	1/29/2010	7/23/2010	...	...	...	X	X		X	X	
...	10/21/1941	M	...	6/2/2010		...	...	...				X	X	
...	7/10/1967	F	...	2/25/2010		...	...	...				X	X	X
...	5/2/1961	M	...	1/27/2010		...	...	...				X	X	X
...	8/27/1961	F	...	4/14/2010	7/5/2010	...	...	...				X	X	X

# Diabetes Feed Forward Feedback



SQL Server Reporting Services

[Home](#) >

Diabetes Feedforward and Feedback

**View** Properties History Subscriptions

New Subscription

Days forward, Days back

1 of 45 100% Find | Next Select a format Export

MAINE MSO, LLC.

## Diabetic Care Feedback/Feedforward Report

Practice Name

Practice Provider Name

### Patients with diabetes seen in the last 7 days

ApptDate	Patient Name	Pt DOB	Last BP	A1C	LDL	mAlb	Eye Exam	Foot Exam	Smoker
7/2/2010	[REDACTED]	[REDACTED]	142/62	0	0	0	12/30/2009	12/31/2009	Non-Smoker
7/2/2010	[REDACTED]	[REDACTED]	118/83	6.8	87	0			Smoker

### Patients with diabetes who have appointments scheduled in the next 7 days

ApptDate	Patient Name	Pt DOB	Last BP	A1C	LDL	mAlb	Eye Exam	Foot Exam	Smoker
7/6/2010	[REDACTED]	[REDACTED]	150/68	0	114	8	4/7/2010	12/30/2009	Non-Smoker
7/12/2010	[REDACTED]	[REDACTED]	150/68	0	114	8	4/7/2010	12/30/2009	Non-Smoker
7/13/2010	[REDACTED]	[REDACTED]	114/77	7.4	0	0	4/21/2010	10/30/2009	Non-Smoker

Report Run On: 7/6/2010 11:32:35 AM

# Reports: Patient list

Diabetics Not Up-To-Date At SFD Behav Health (37)									
Patient Name	Birthdate	Sex	PCP	Most Recent Visit	Next Visit	Next Visit Provider	Phone	Address	
test, Scott	2/13/1952	M	Love PA, James	12/4/2008	6/10/2010	Love PA, James	(207) 998-9999	Po Box 000	Newport, ME 99999
Test, Sandra E	3/29/1950	F	Kavanagh DO, Cathal	2/18/2010	3/23/2010	Earley, PhD, LCPC, Thomas	(207) 938-9999	PO Box 999	Newport, ME 99999
Apple Sr, Test	5/16/1950	M	Rock FNP, Kathy	11/19/2008	4/7/2010	DeRaps, PhD, FNP-C, Penny	(207) 123-9999	5 Mellow lane Rd	Newport, ME 99999
Blue, Test	3/11/1950	F	Kavanagh DO, Cathal	3/16/2009	3/25/2010	Kavanagh DO, Cathal	(207) 456-7890	5 Where Ever Lane	Newport, ME 99999
Brown, test M	9/26/1950	F	Rock FNP, Kathy	9/24/2009	4/1/2010	Brooks Rock FNP, Kathy	(207) 987-6543	PO Box 111	Newport, ME 99999

# Cardiovascular Feed Forward Feedback Report

SQL Server Reporting Services  
 Home >  
 Cardio Feedforward and Feedback

**View** Properties History Subscriptions

New Subscription

Days forward, Days back

1 of 40 100% Find | Next Select a format Export

MAINE MSO, LLC. **Cardiovascular Feedback/Feedforward Report**

**Practice Name**

**Practice Provider Name**

**Patients with cardiovascular disease seen in the last 7 days**

ApptDate	Patient Name	Pt DOB	Last BP	Complete Lipid Profile	Last LDL	LDL Therapy	ASA/Antiplatelet	ACE-I/ARB	Beta Blocker After MI	Beta Blocker Continued	Smoking Addressed
7/2/2010	[REDACTED]	[REDACTED]	134/64	<i>Needs</i>		----	<i>Needs</i>	----	----	----	----
7/6/2010	[REDACTED]	[REDACTED]	98/60	<i>Needs</i>		----	<i>Needs</i>	----	----	----	----
7/6/2010	[REDACTED]	[REDACTED]	152/78	<i>Needs</i>		----	Has	----	----	----	----

**Patients with cardiovascular disease who have appointments scheduled in the next 7 days**

ApptDate	Patient Name	Pt DOB	Last BP	Complete Lipid Profile	Last LDL	LDL Therapy	ASA/Antiplatelet	ACE-I/ARB	Beta Blocker After MI	Beta Blocker Continued	Smoking Addressed
7/9/2010	[REDACTED]	[REDACTED]	110/70	<i>Needs</i>		----	<i>Needs</i>	----	----	----	----
7/12/2010	[REDACTED]	[REDACTED]	122/66	<i>Needs</i>		----	<i>Needs</i>	----	----	----	----
7/12/2010	[REDACTED]	[REDACTED]	110/60	<i>Needs</i>		----	Has	----	----	----	----

# Preventative (QIO) Feed Forward Feed Back



## Prevention Feedback/ Feedforward Report

### Dr. Doolittle

#### patients seen in the last 7 days

Appt Date	Patient Name	Age	Last Breast Cancer Screening	Last CRC Screening	Last Influenza Immunization	Last Pneumococcal Pneumonia
3/12/2010 08:00 AM	Greene, One	0000052	-----	<i>Needs</i>	-----	-----
3/12/2010 09:15 AM	Fish, Blue	0000051	-----	<i>Needs</i>	-----	-----
3/12/2010 02:45 PM	Fish, Girl D	0000057	10/22/2009	<i>Needs</i>	-----	-----
3/15/2010 09:30 AM	HerseyBar, Carol	0000084	-----	-----	<i>Needs</i>	<i>Needs</i>
3/15/2010 11:15 AM	Gold, Arlene S	0000059	<i>Needs</i>	<i>Needs</i>	-----	-----
3/15/2010 03:30 PM	Test, Claudia J	0000059	5/1/2008	<i>Needs</i>	-----	-----
3/16/2010 11:00 AM	Tester, Linda M	0000052	<i>Needs</i>	<i>Needs</i>	-----	-----

#### patients who have appointments scheduled in the next 7 days

Appt Date	Patient Name	Age	Last Breast Cancer Screening	Last CRC Screening	Last Influenza Immunization	Last Pneumococcal Pneumonia
3/19/2010 08:30 AM	Test, Constance J	0000062	3/9/2010	<i>Needs</i>	-----	-----
3/19/2010 01:15 PM	Testa, Louise E	0000066	5/11/2009	<i>Needs</i>	12/15/2009	<i>Needs</i>
3/19/2010 02:00 PM	Patient, Sandra M	0000067	<i>Needs</i>	<i>Needs</i>	<i>Needs</i>	<i>Needs</i>
3/22/2010 08:00 AM	Patients, Debbie	0000053	6/24/2008	1/14/2009	-----	-----
3/22/2010 09:00 AM	Tessst, Charles R	0000057	-----	<i>Needs</i>	-----	-----

## Quality Improvement Organization

Report Run On: 7/6/2010 11:32:35 AM

**Patient Name:** John Doe  
**Date of birth:** 8/3/1936  
**Gender:** M  
**Address:** 123 Main Street  
 Anytown, ME 12345

**Today's Provider:** Dr. Doolittle  
**Primary Care Provider:** Dr. Dre  
**Last Visit:** 9/3/2009 **With:** Dr. Who  
**Next Visit:** **With:**

**Allergies:**  
 No Known Allergies

Medications:	Dosage:	Refills:
Lipitor 1 PO qhs	40MG	3
Allopurinol 1/2 PO daily	300MG	0
Atenolol 1/2 PO daily	100MG	1
Nitrostat 1 SL q 5min x3 pm Chest pain	0.4MG	0
One Touch Test Strips -check twice weekly Dx: 250.00		3
Primivil Take one by mouth daily	20MG	3
One Touch Lancets use as directed Dx 250.00 test twice per week		1
Genacote Take one by mouth daily	325MG	0

Active Problems:	Onset Date:
Atrial fibrillation	10/17/2007
Gout, unspecified	07/13/2007
Osteoarthritis	07/13/2007
ASHD	04/20/2007
Diabetes mellitus	04/20/2007
Hyperlipidemia	04/20/2007
Hypertension, Essential	04/20/2007
A Bstractin	
ASHD	
Diabetes mellitus	
Diverticulosis of colon (without Hyperlipidemia)	
Hypertension, Essential	
Pain Abdominal, LLQ	
Screening for malignant neoplasm	

Vital Signs:	Last Reading:	Today's Reading:
Height	02/25/2009 67.0"	
Weight	09/03/2009 184.0 lbs	
BMI	02/25/2009 28.66	
BP	09/03/2009 140/80	
Pulse	09/03/2009 60	
Temp	02/25/2009 98.1F	

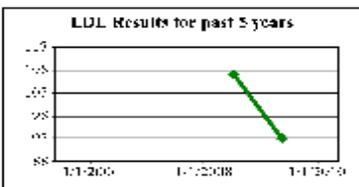
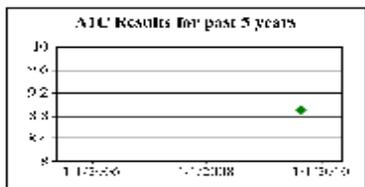
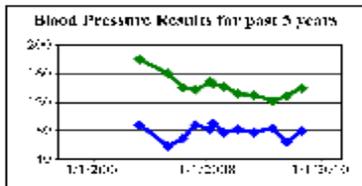
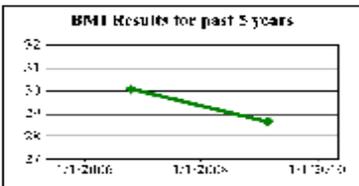
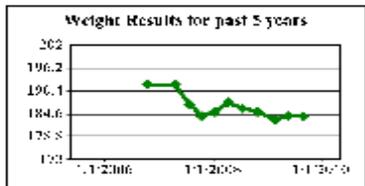
**Risk Factors:**  
 Alcohol Use

Managed Problems:	Status
Cardiovascular Disease	Not Up-To-Date
Diabetes	Not Up-To-Date
Prevention	Not Up-To-Date
Risk Factors	Not Up-To-Date

Management Plans:					
Item	Reason	Date	Level	Quality	Next Due
Blood Pressure	Cardiovascular Disease/Diabetes	09/03/2009	140/80	☹️ Poor	09/03/2010
Consume Alcohol	Risk Factors	09/03/2009	Yes	☹️ Consumes Alcohol	09/03/2010
A1C	Diabetes	08/24/2009	8.9%	☹️ Intermediate	08/24/2010
Colon Rectal Cancer Screening	Prevention	08/04/2009	Colonoscopy	☹️ Up-To-Date	08/02/2019
Smoker	Cardiovascular Disease/Diabetes/Risk Factors	07/13/2007	No	☹️ Not Up-To-Date	07/13/2008
Pneumococcal Vaccine	Prevention	07/27/2002	-----	☹️ Up-To-Date	06/22/4740
Foot Exam	Diabetes	05/26/2009	-----	☹️ Up-To-Date	05/26/2010
LDL	Cardiovascular Disease/Diabetes	05/19/2009	93 MG/DL	☹️ Ideal	05/19/2010
Eye Exam	Diabetes	05/17/2007	-----	☹️ Not Up-To-Date	05/16/2008
Complete Lipid Profile	Cardiovascular Disease	-----	-----	☹️ Not Up-To-Date	05/14/2010
Influenza Immunization	Prevention	-----	-----	☹️ Not Up-To-Date	05/14/2010
mAlb	Diabetes	04/14/2008	10.7 ug/mL	☹️ Not Up-To-Date	04/14/2009
Aspirin/Antiplatelet	Cardiovascular Disease	-----	ASPIKIN	☹️ Currently Taking	-----

**Patient Name:** John Doe  
**Date of birth:** 8/3/1936  
**Gender:** M  
**Address:** 123 Main Street  
 Anytown, ME 12345

**Today's Provider:** Dr. Doolittle  
**Primary Care Provider:** Dr. Dre  
**Last Visit:** 9/3/2009 **With:** Dr. Who  
**Next Visit:** **With:**



# Patient Clinical Summary Keys Sheet

MAINE MSO, LLC		Patient Clinical Summary Report	
<b>Patient Name:</b> [REDACTED] <b>Date of birth:</b> [REDACTED] <b>Age:</b> 35 <b>Gender:</b> Female <b>Address:</b> [REDACTED]		<b>Today's Provider:</b> [REDACTED] <b>Primary Care Provider:</b> [REDACTED] <b>Last Visit:</b> 6/15/2010 <b>Next Visit:</b> [REDACTED]	
Management Plan Definitions			
Diabetic	A1C	😊	0 ≤ A1C < 7
Diabetic	A1C	😐	7 ≤ A1C < 9
Diabetic	A1C	😞	A1C ≥ 9
Diabetic	A1C	🚫	A1C has not been done in the past 365 days
Diabetic	Blood Pressure	😊	0/0 ≤ Blood Pressure < 130/80
Diabetic	Blood Pressure	😐	130/80 ≤ Blood Pressure < 140/90
Diabetic	Blood Pressure	😞	Blood Pressure ≥ 140/90
Diabetic	Blood Pressure	🚫	Blood Pressure has not been done in the past 365 days
Diabetic	Eye Exam	😊	Eye Exam has been done within the past 365 days
Diabetic	Eye Exam	🚫	Eye Exam has not been done in the past 365 days
Diabetic	Foot Exam	😊	Foot Exam has been done within the past 365 days
Diabetic	Foot Exam	🚫	Foot Exam has not been done in the past 365 days
Diabetic	LDL	😊	0 ≤ LDL < 100
Diabetic	LDL	😐	100 ≤ LDL < 130
Diabetic	LDL	😞	LDL ≥ 130
Diabetic	LDL	🚫	LDL has not been done in the past 365 days
Diabetic	mAlb	😊	mAlb has been done within the past 365 days
Diabetic	mAlb	🚫	mAlb has not been done in the past 365 days
Diabetic/Risk Factors	Smoking Status	😊	Currently does not smoke
Diabetic/Risk Factors	Smoking Status	😐	Currently smokes
Diabetic/Risk Factors	Smoking Status	😞	Current Smoking Status is unknown
Diabetic/Risk Factors	Smoking Status	🚫	Smoking Status has not been reviewed in the past 365 days
Influenza Vaccine	Influenza Vaccine	😊	Influenza Vaccine has been given during the most recent Flu season
Influenza Vaccine	Influenza Vaccine	🚫	Influenza Vaccine has not been given during the most recent Flu season
Risk Factors	Alcohol Consumption	😊	Alcohol Consumption has been reviewed within the past 365 days
Risk Factors	Alcohol Consumption	😐	Current Alcohol Consumption Status is unknown
Risk Factors	Alcohol Consumption	🚫	Alcohol Consumption has not been reviewed within the past 365 days
Risk Factors	Tobacco Cessation	😊	Tobacco Cessation has been done in the past 365 days
Risk Factors	Tobacco Cessation	😐	Tobacco Cessation has not been done
Risk Factors	Tobacco Cessation	🚫	Tobacco Cessation has not been done in the past 365 days

# Churning Report Patient List

SQL Server Reporting Services  
 Home > MSOReports >  
**CHIPRA Churning - Ages 20 And Over**

**Churn Date in February**  
 Report rupdate: 01/19/2010

View Properties History Subscriptions

New Subscription

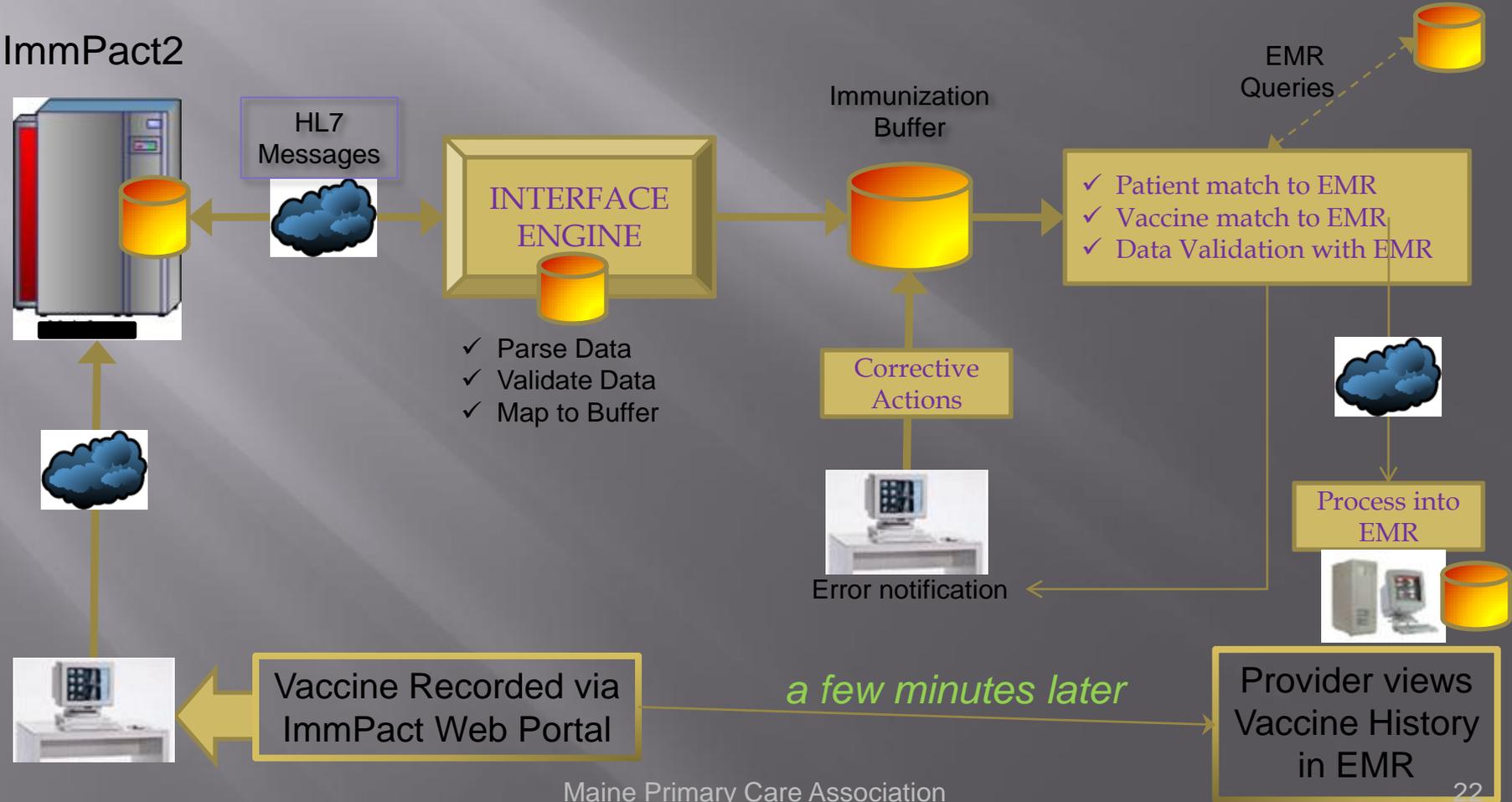
1 of 10 100% Find | Next Select a format Export

MAINE MSO, LLC. **MaineCare Churning Alerts**

Patient	Age	MaineCare ID	Head of Household	Phone	Email Address	Address
<b>Churn Date in February</b>						
Anyone, Isabelle	21	33649101A	Anyone, Father	207-622-0001		58 Narly Lane Augusta, ME
Anyone, Karalee	34	44849910A	Anyone, Father	207-622-0001		58 Narly Lane Augusta, ME
Artichoke, Greenie	66	55087761A	Greenjeans, Mr. Farmer			2 Captain Kangaroo Street Augusta, ME
Badgirl, Betsy	32	84710870A	Badgirl, Shurley	207-630-1901		PO Box 10000 APT 2 Augusta, ME
Cross, Christopher Robin	32	84710870A	Cross, EMR	207-211-3342		1500 Sailing Song Lane Hallowell, ME
Cheese, Guda	32	38013221A	Cheese, Ms. Curd	207-889-8989		12 Cottage Cheese Pkwy Portland, ME
Cheese, Blue	58	65130020A	Cheese, Ms. Curd	207-889-8989		12 Cottage Cheese Pkwy Portland, ME
EMR, Patient Peds	24	52330061A	EMR, Victoria	207-234-5678		456 Continental Blvd Farmingdale, ME
EMRpatient, Teen	47	35081030A	EMRpatient, Stressed	207-987-6543		7 Lucky Lane Augusta, ME
Foul, YoungDuckling	47	02905611A	Duck, Daffy	207-878-7878		Puddleduck Rd Manchester, ME
Famous, Frank	34	08344981A	Famous, Fenway	207-123-4567		1909 Red Hot Road, Augusta, ME
Famous, BabyBoy	71	02139313A	Famous, Star	207-456-7890		32 Circle Rounds Hallowell, ME
Fever, Pediatric	26	02166213A	Fever, Johnny	207-000-0000	jfever@yo.com	WKRP Blvd. Drive Gardiner, ME
Growing, Girl	58	85089621A	Growing, Adult	207-656-0000		100 Madeup Road Somewhere, ME
McDonalds, Grimmace	29	70221423A	McDonalds, Ronald	207-999-9999		23 Restaurant Drive Augusta, ME
Maxwell, Child	23	42260641A	Maxwell, Dad	207-111-1111	maxwell4me@usa.com	123 Unknown Circle Roundabout, ME

# MePCA-ImmPact Process Overview

## Automated Dataflow and Processing



# ImmPact Process Improvements

## Traditional Method

Double data entry

No Quality Checks

Manual Corrections

Offline  
Immunization  
History

## New Integrated Method

Single data entry

Auto Quality  
checks &  
notifications

Rule Driven  
Corrections

EMR-based  
Immunization  
History

# General Requirements for Participation

- ▣ Authorization for Data Sharing
  - MePCA agreement for secure data exchange
  - CHC release to MeCDC (ImmPact2)
- ▣ Access to EMR database via VPN
  - Implement web service on EMR database server
  - Map, validate, test

# For Further Information:

- ▣ Bob Kohl  
HIT Project Director  
Maine Primary Care Association  
[bkohl@mepca.org](mailto:bkohl@mepca.org)  
(207) 621-0677 x205



**Health Choice Network**  
Communities that care<sup>®</sup>

# EHR / PMS Integration Strategy

Michele Russell

Senior Director, Business Development

Health Choice Network, Inc.



Health Choice Network  
Communities that care<sup>®</sup>

[www.hcnetwork.org](http://www.hcnetwork.org)

# Our Mission

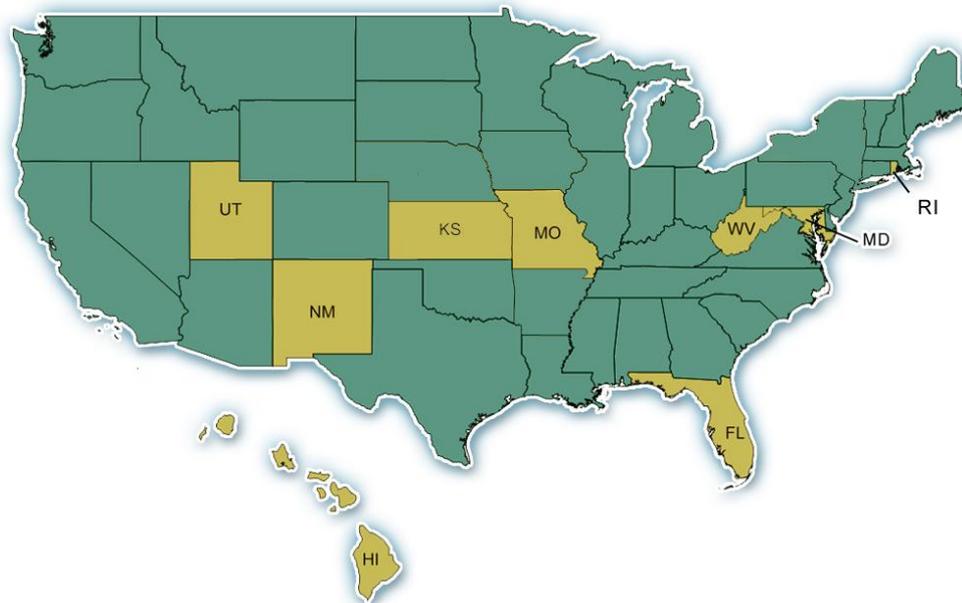
To provide high quality service, support and expertise to member organizations and to act as a vehicle for strategic efforts that strengthen our community health partners.

# Our Vision

Health Choice Network is a national model for effective collaboration among health care partners, positioning our members as an integral part of the healthcare delivery system.

# Our Footprint

- 501c(3) Health Center Controlled Network. Member Center CEOs serve as Board of Directors
- 33 member centers in 9 states (FL, HI, KS, MD, MO, NM, RI, UT, WV)
- Over 700,000 patients with more than 2 million visits



# HCN PMS/EHR Implementation History

- 2001 - Roll out of Medical Manager PMS / legacy EHR
- 2004 – Implemented Dentrix Electronic Oral Health Record
- 2007 / 2008 – 5 FQHCs live on Medical Manager PMS / Stand Alone Interigy EHR
- 2008 – Selected Interigy Integrated PM / EHR
- 2009 / 2010 – Tasked by Board of Directors to migrate 27 FQHCs to Interigy EHR from legacy system

# Integration



Internal Labs



e-RX PPI



External Labs



Behavioral Electronic Health Record



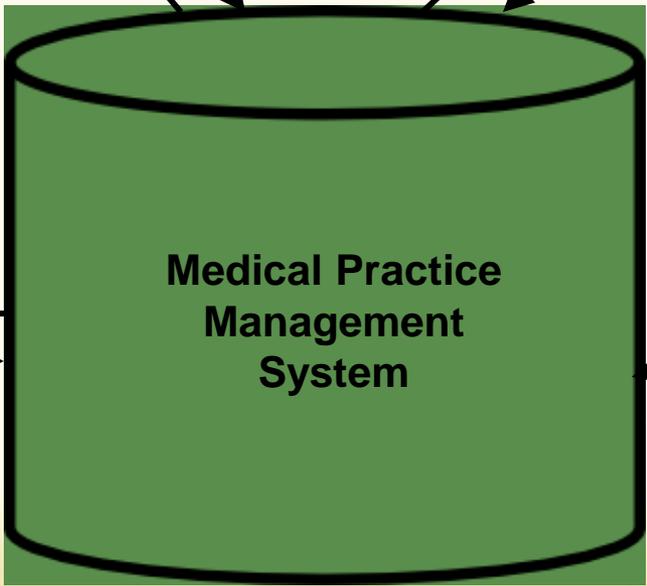
Immunization Registries



Medical Electronic Health Record



Dental Electronic Health Record



Medical Practice Management System



E-Claims

# Interfaces

- HL7 used for pushing demographics from Intergy Practice Management to the Oral and Behavioral EHRs.
- HL7 also used for pulling charge data from the Oral and Behavioral EHRs.
- PPI (Prescriber / Pharmacist Interface) used for e-prescribing.
- Labs / Claims – emdeon clearinghouse



# Why Integrate?

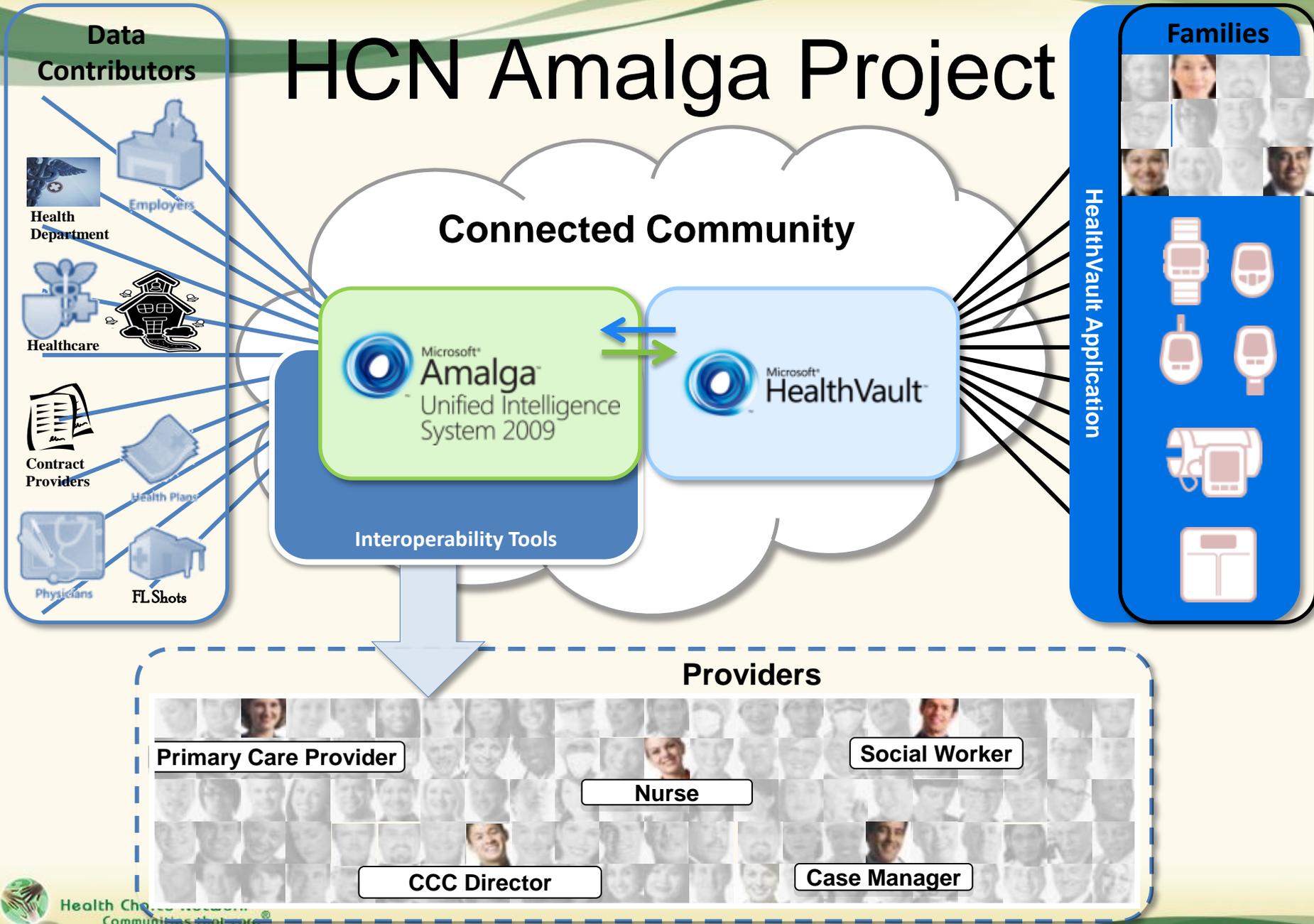
- UDS Reports
  - Integration allows UDS reports to come from a single system.
- Accounting
  - Accounts Receivable for all Clinical services resides in one system.
    - Reduces system set up requirements
    - Reduces end user training for multiple systems

Our Future:

**MEANINGFUL USE**



# HCN Amalga Project



# Why Microsoft Amalga?

- Clinical dashboard and reporting tools via SharePoint on desktop – MU requirement
  - Data warehouse for Intergy, Dentrix and Avatar with unlimited data parsing and feeds
  - No data limitations or restrictions
- Patient access to their health record via Health Vault
- Enterprise Master Patient Index (eMPI) – unique patient identifier ensures our centers are ready to exchange data with State HIE and National Health Information Network (NHIN) – MU requirement
  - Access to EHR data across HCN member centers
  - State registries



# Why Microsoft Amalga? (Cont'd)

- Vendor neutral so accepts feeds from multiple applications and EHRs
  - Intergy, Epic, Cerner, Dentrix, Avatar etc.
- Data aggregation algorithm from disparate systems
  - School data with CHC data to create a comprehensive Health Record
- HCN supported application vs. vendor proprietary
  - HCN can continue expanding system

# HCN Amalga Scope of Work

1

**0-6 Months - HCN Applications across all Health Centers (Intergy, Dentrix, Avatar, Labs, Rx, etc.)**

2

**7-12 Months - Immunization Registries (FL Shots, UHIN, etc.) + Initial Hospital Data Feeds**

3

**13-18 Months - The Children's Trust + Miami Dade Public Schools**

4

**19-24 Months - New Data Feed "X" (i.e. State HIE/HIO, Hospitals, etc.)**



# HCN Amalga Scope of Work

5

**25-30 Months - New Data Feed “Y”**

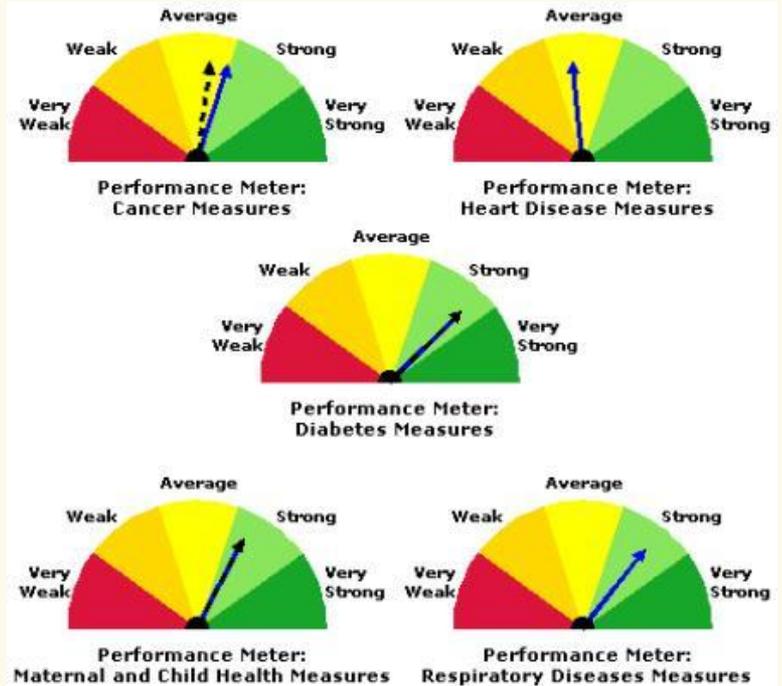
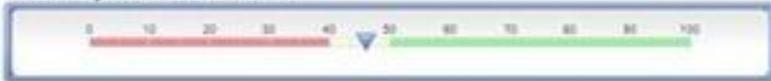
6

**31-36 Months - New Data Feed “Z”**



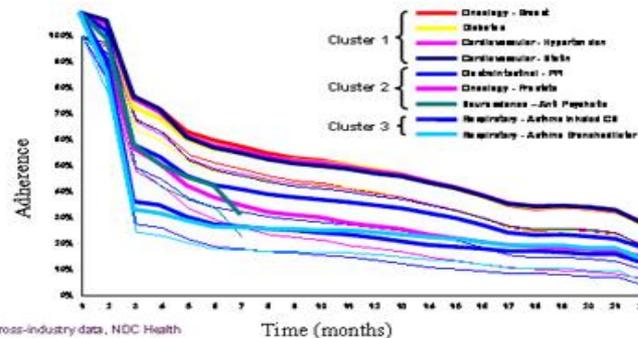
# Clinical Dashboards

Total Physician Health: 46



## Rate at which patients adhere to taking their medicine

Data courtesy of Dr T Chesworth AstraZeneca



New Dashboard... Properties...  
 Publish... Delete Clone

Refresh Off Refresh On  
 Presentation Mode

New Chart... Edit Chart...  
 Paste Chart Copy Chart Delete Chart

Dashboards ◀ ▶

My Private Dashboards

Diarrhea vs Precipitation Over Time copy

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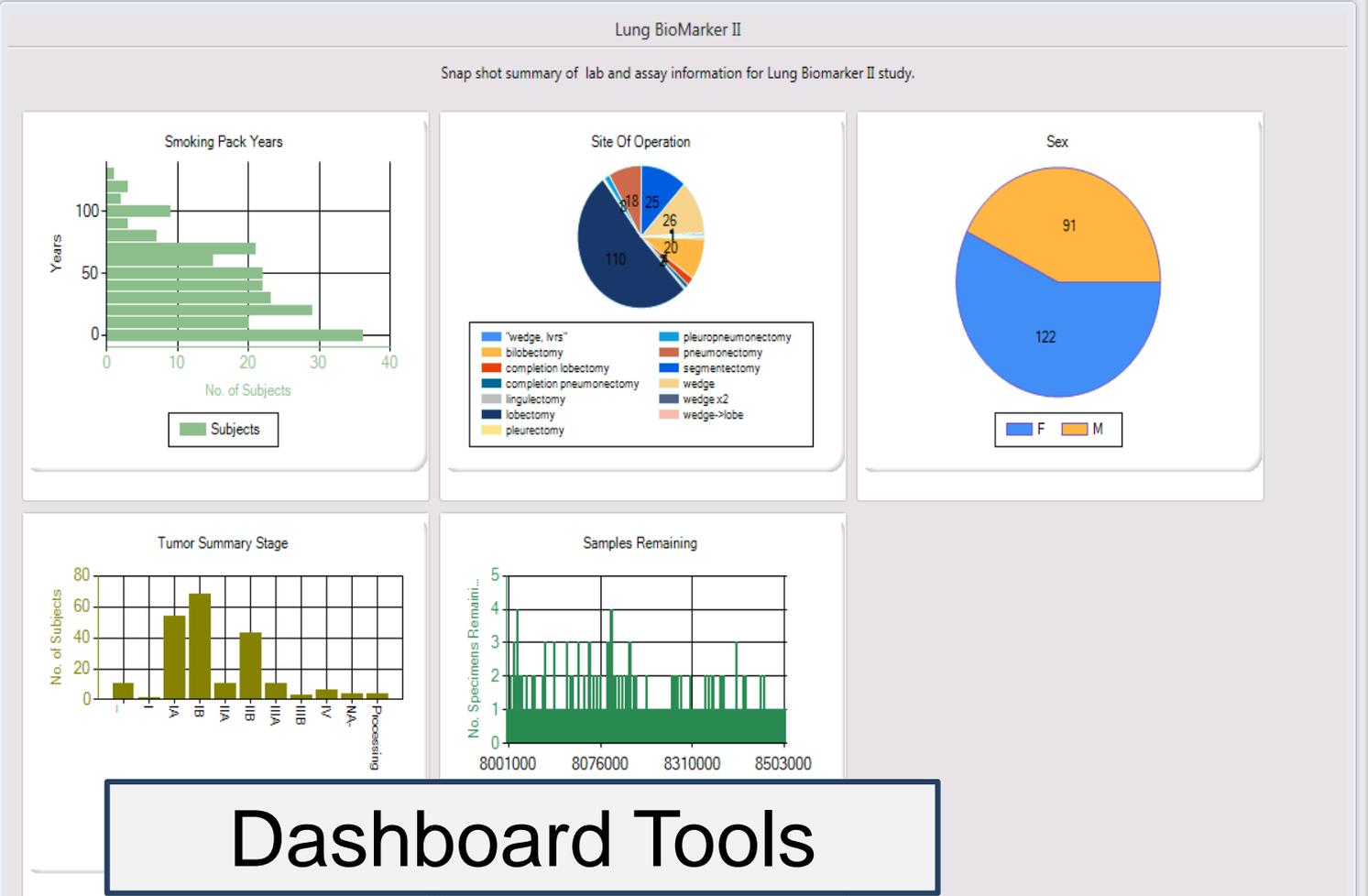
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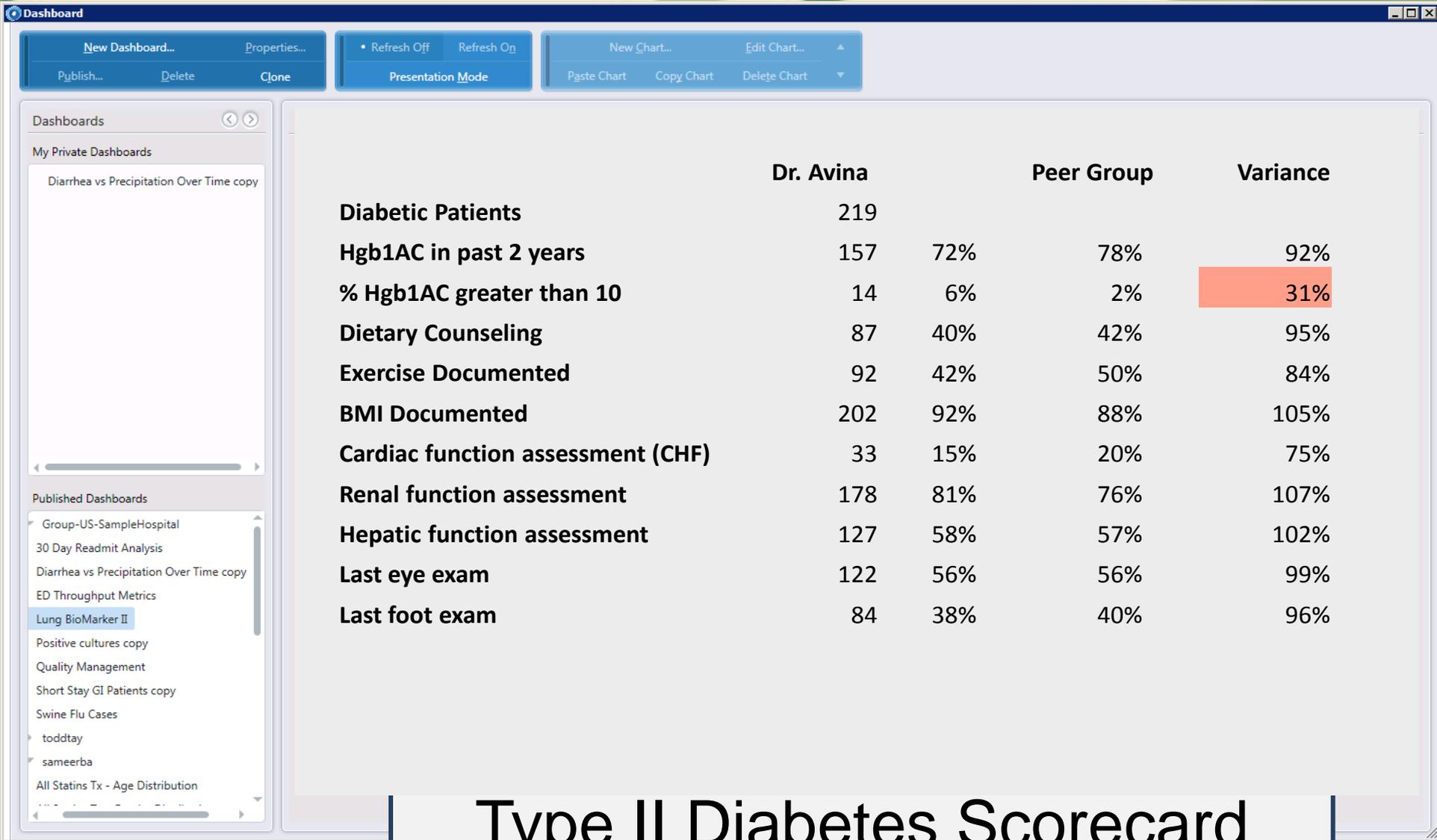
Published Dashboards

- Group-US-SampleHospital
- 30 Day Readmit Analysis
- Diarrhea vs Precipitation Over Time copy
- ED Throughput Metrics
- Lung BioMarker II**
- Positive cultures copy
- Quality Management
- Short Stay GI Patients copy
- Swine Flu Cases
- todday
- sameerba
- All Statins Tx - Age Distribution

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◀ ▶





# Type II Diabetes Scorecard

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# HealthVault – Patient Tools

- Capture information such as weight, blood pressure and cholesterol
- Create a history of your personal health concerns such as sleep patterns, headache frequency, eating habits and exercise
- Reach health goals by tracking information over time
- Share progress with your healthcare providers





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<http://www.hcnetwork.org>

