

How Clinical Decision Support Can Be Used to Monitor and Improve Population Health

November 18, 2008

Presenters:

Farzad Mostashari
New York City Dept. of Health and Mental Hygiene

Theresa Cullen
Indian Health Service

Moderator:

Teresa Zayas-Caban
Agency for Healthcare Research and Quality

The Primary Care Information Project

*Using Health Information
Technology to Advance Community
Health and Safety*

Farzad Mostashari, MD, MSc
New York City Department of Health and
Mental Hygiene

Public Health View of Medical Care

- Medical care and clinical preventive services increasingly important to population health
- Medical care not structured to deliver public health benefit, particularly in small practices
- Health care reform agenda has not sufficiently **focused** on improving quality of care for measures that matter

On ABCs, USA Gets an “F”

- People at increased risk of CVD who are taking aspirin – **33%**
- People with hypertension who have adequately controlled blood pressure – **44%**
- People with high cholesterol who have adequately controlled hyperlipidemia – **25%**
- Smokers who try to quit who receive medications to help – **20%**

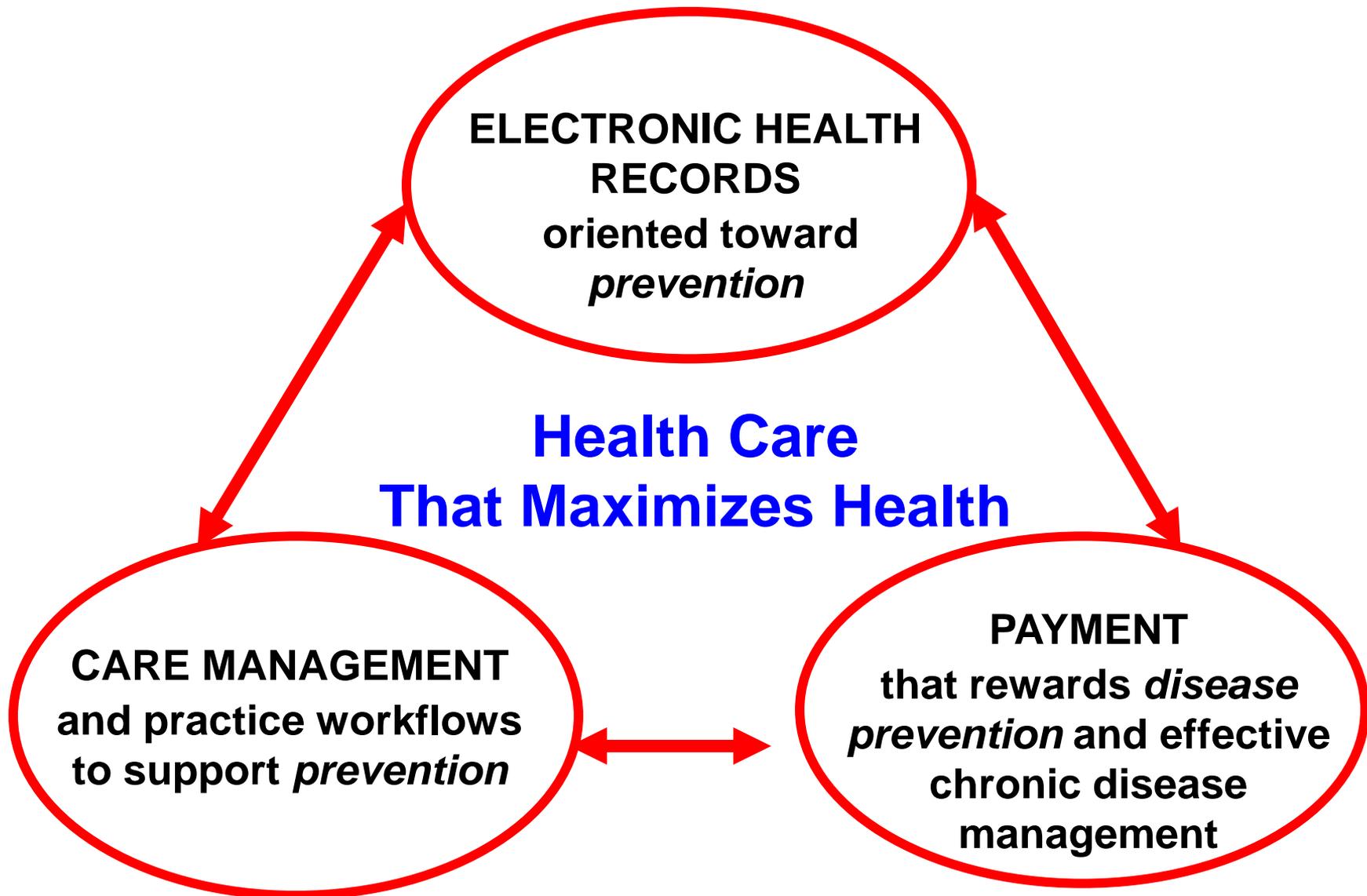
Despite spending 1 out of every 6 dollars on health care

What Is the Role of Government?

- Will health IT address priority public health issues?
- Will health IT adoption reach disadvantaged populations?

Primary Care Information Project

- Mission
 - Increase the quality of care in medically underserved areas through health information technology (IT)
- Resources
 - NY City: \$30 million and 40 staff
 - Practice contributions: >\$15 million
 - NY State: \$11 million
 - Federal: \$5 million (AHRQ, CDC)
 - Private: Robin Hood Fund \$3 million, Wellpoint Foundation 500k, HIP/GHI 150k



*Frieden TR, Mostashari F. JAMA. 2008
Feb 27;299(8):950-2.

2010 Goals

- ☑ Extend EHRs that support prevention to 2,500 Medicaid PCPs, over 1.5 million patients
- ☑ Provide practices with clinical quality scorecards and practice redesign technical assistance
- ☑ Design and implement pay-for-performance incentive program that supports and recognizes preventive measures
- ☑ Support EHR-enabled PCPs in standardized health information exchange

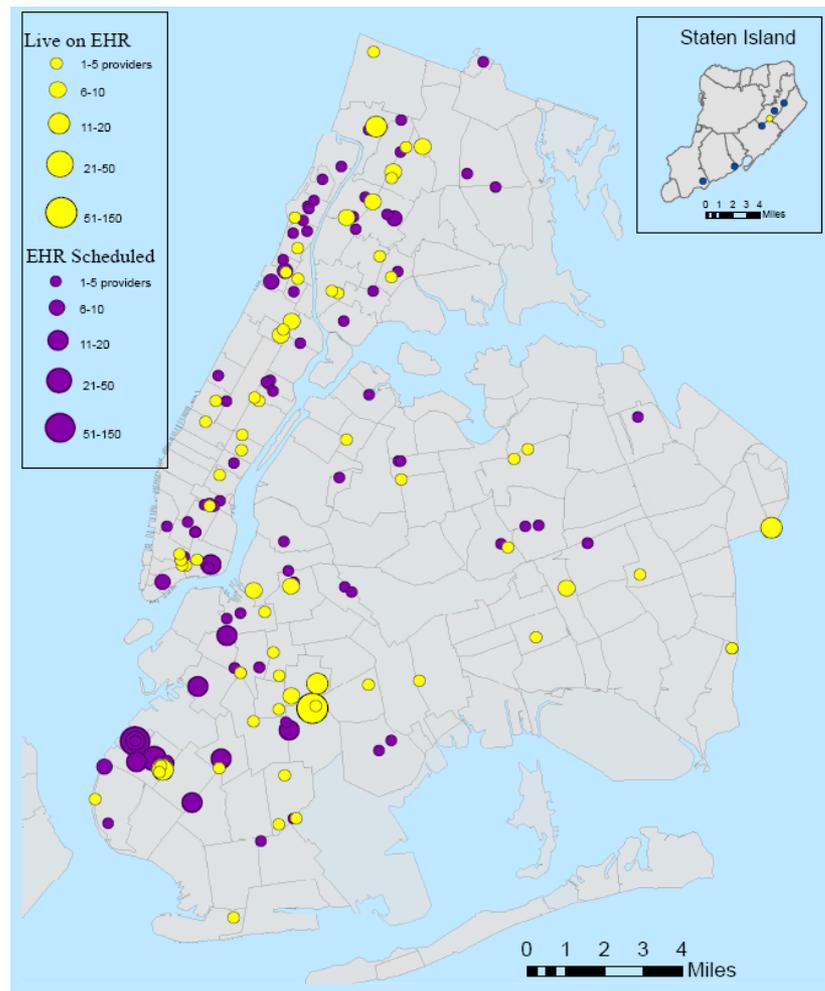
EHR Extension Approach

- Eligibility/ Commitment
 - Primary Care
 - Underserved populations (10% Medicaid, uninsured)
 - Quality Measure Reporting (summarized, confidential)
 - Financial Commitment
 - Hardware and Internet
 - \$4k per provider QI fund
- PCIP Package
 - Licenses to eClinicalWorks “TCNY” integrated EHR
 - On-site training, interfaces
 - 2 years software maintenance and support (\$1500/yr)

Progress to Date (Nov '08)

- **Signed Agreements**
 - 208 small practices- 420 MDs
 - 23 CHCs – 405 MDs
 - 4 Hospitals – 567 MDs
- **Live on EHR**
 - 138 practices
 - 160 sites
 - 843 providers

One new practice goes live on EHR ~every day



8 Key Features of the TCNY Build

1

MEASURE REPORTS

Side-by-side provider comparisons of performance on quality measures

2

ENHANCED REGISTRY

Identifies patients by structured data (e.g., diagnoses, drugs, labs, demographics)

3

AUTOMATIC VISUAL ALERTS

Highlights abnormal vitals

4

CDSS

Automatically displays preventive service alerts that are suppressed when addressed

5

QUICK ORDERS

One-click ordering of recommended preventive services

6

COMPREHENSIVE ORDER SETS

Displays best practice recommendations (e.g., for meds, labs, patient education)

7

eMedNY

With patient consent, displays 90-day history of all Rx's filled by Medicaid patients

8

CIR and School Health

Sends information to City Immunization Registry and generates school health forms

1. Measure Reports	2. Enhanced Registry	3. Automatic Visual Alerts	4. CDSS
5. Quick Orders	6. Comprehensive Order Sets	7. eMedNY	8. CIR and School Health

Dr. Bear wants to find out how he is performing compared to other physicians in his practice in controlling high blood pressure for his patients.

The screenshot displays the 'Quality Measure Reports' section of the eClinicalWorks software. The report is for the measure 'BP control in HTN (140/90)' as of 02/21/2008. The table below shows the performance of several providers:

Provider	Numerator	Denominator	Percentage
Drew, Jen	254	365	69.59%
Willis, Sam	139	184	75.54%
Jones, Mary	304	362	83.98%
McCarthy, William	30	36	81.58%
Bear, James	40	120	33.33%

Using the **QUALITY MEASURE REPORTS FUNCTION**, Dr. Bear is inspired by the performance of his peers in managing the blood pressure (BP) of their hypertensive patients; only one-third of his hypertensive patients have achieved good BP control.

1. Measure Reports	2. Enhanced Registry	3. Automatic Visual Alerts	4. CDSS
5. Quick Orders	6. Comprehensive Order Sets	7. eMedNY	8. CIR and School Health

Dr. Bear wants to improve his score on BP control and queries the EHR to identify patients with poorly controlled hypertension

The screenshot shows the eClinicalWorks interface with the Registry function active. The Registry table lists the following patients:

Check	Patient Name	DOB	Sex	Age	Tel. No	Acc #
<input checked="" type="checkbox"/>	Doe, Jane	01/01/1960	F	48Y		
<input checked="" type="checkbox"/>	Hagland, Jason	04/04/1967	F	40Y		
<input checked="" type="checkbox"/>	Jackson, John	04/04/1967	M	40Y		
<input checked="" type="checkbox"/>	Johnson, Ken	05/05/1967	M	40Y		
<input checked="" type="checkbox"/>	Smith, Alex	01/02/1960	M	48Y	608-843-5678	

Below the table, the following criteria are displayed:

- Demographics :: Age >= 18 AND Sex = Both
- ICD :: 401.9
- Vitals :: AND BP >= 140/90

A letter template is visible in the background, addressed to Dan saHansome, 123 Worth St, New York NY 10007. The letter is dated 2/22/2008 and is signed by Sumir Sahgal MD. The letter text includes: "Dear Dan saHansome, Your last measured blood pressure measured in the clinic was greater than 140.80 and it's been more than three months since we seen you. I would like you to make an appointment where we can discuss possible changes to your treatment regimen. Please call the office at your earliest convenience to schedule an appointment. Sincerely, Sumir Sahgal MD".

Using the **ENHANCED REGISTRY FUNCTION**, Dr. Bear identifies five patients with high blood pressure who do not have an appointment scheduled, and reaches out to each patient; he generates a letter scheduling a follow-up visit with patient Jane Doe.

1. Measure Reports	2. Enhanced Registry	3. Automatic Visual Alerts	4. CDSS
5. Quick Orders	6. Comprehensive Order Sets	7. eMedNY	8. CIR and School Health

- Jane Doe receives the letter and makes a f/u appointment
- During the visit, Dr. Bear's assistant takes her history and vitals
- Jane mentions that she has had a few weeks of excessive thirst and fatigue

The screenshot displays the eClinicalWorks 7.0 interface for a patient named Jane Doe. The main window shows her progress notes, including sections for Surgical History, Hospitalization, Family History, Social History, Objective, Assessment, and Plan. In the Objective section, her vital signs are listed as BP 150/90, Ht 60, Wt 150, BMI 29.29. The blood pressure value '150/90' is circled in red, indicating an automatic visual alert. To the right, a 'Patient Graph' window titled 'Blood Pressure' shows a line graph of her blood pressure over time from 6/19/2006 to 2/22/2008. The graph plots Systolic (red line) and Diastolic (green line) blood pressure in mm Hg. The Systolic pressure shows a peak around 180 mm Hg in early 2007, which is highlighted in red on the graph, corresponding to the red circle in the notes above.

Jane's blood pressure is elevated (150/90) and highlighted in red by the **AUTOMATIC VISUAL ALERT FUNCTION**. Dr. Bear can trend her BP over time.

1. Measure Reports	2. Enhanced Registry	3. Automatic Visual Alerts	4. CDSS
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• Based on Jane's chief complaint of excessive thirst, Dr. Bear performs a fingerstick test and confirms his suspicion that Jane has diabetes

• Dr. Bear enters a diagnosis of diabetes into the EHR

The screenshot shows the eClinicalWorks interface for a patient named Jane Doe. The main area displays her progress notes, including vital signs (BP 150/90, Ht 60, Wt 150, BMI 29.29) and a recent diagnosis of Diabetes mellitus type 2. On the right side, the CDSS (Clinical Decision Support) panel is active, displaying four alerts circled in red:

- BP control in DM (130/80)
- Influenza vaccine (high risk)
- A1C testing
- LDL control (high risk)

Based on Jane's new diagnosis of diabetes, the **CLINICAL DECISION SUPPORT FUNCTION** identifies four preventive care services that should be performed. This list of services is automatically populated in the CDSS panel.

1. Measure Reports	2. Enhanced Registry	3. Automatic Visual Alerts	4. CDSS
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Dr. Bear agrees that these tests are appropriate and should be performed

The screenshot shows the eClinicalWorks interface for a patient named Jane Doe. The main window displays her progress notes, including objective data (BP 150/90, Ht 60, Wt 150, BMI 29.29), a lipid profile, and an assessment of Diabetes mellitus type 2. On the right side, a CDSS Alerts panel is visible, with the 'A1C testing' section circled in red. This section shows an order for 'GLYCO HGB A1-C' with a dropdown menu set to 'Order' and a red 'X' icon, indicating the test has been ordered. Other alerts include 'BP control in DM (130/80)' and 'Flu vaccine (high risk)'.

Dr. Bear uses the **QUICK ORDER FUNCTION** to order an HbA1C test for Jane, as well as a flu vaccine; the alerts disappear from the panel once they are ordered. Dr. Bear may also choose to suppress alerts, if he deems them unnecessary.

1. Measure Reports	2. Enhanced Registry	3. Automatic Visual Alerts	4. CDSS
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Dr. Bear also selects the “LDL control (high risk)” alert, which displays the order set for high LDL levels

ORDER SET: DM, IVD - LDL<100 **MEASURE:** 350-B **QUICK ORDER SET:** NO

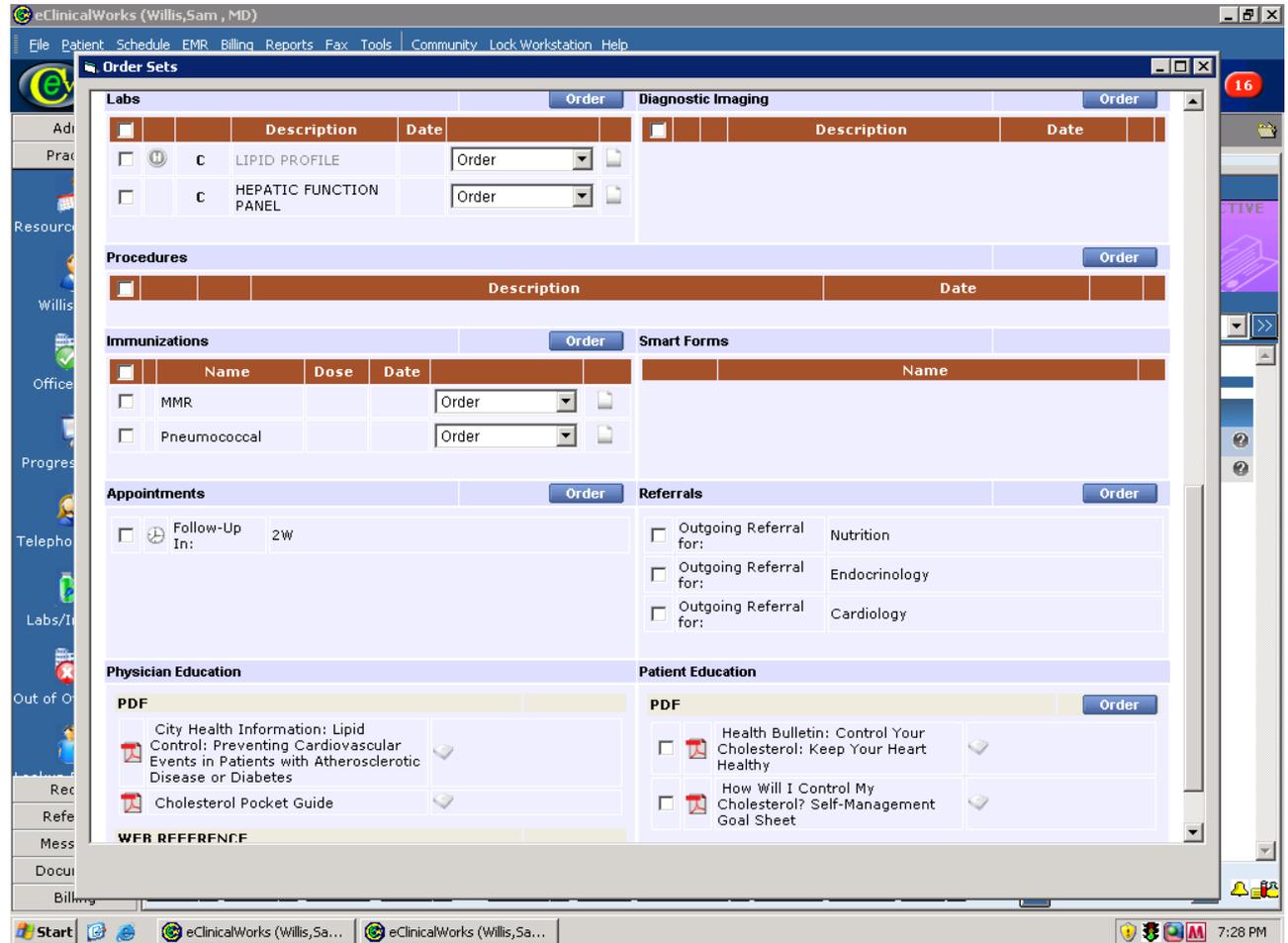
MESSAGE: Preventing Cardiovascular Events in Patients with Atherosclerotic Disease or Diabetes - Counsel all patients on lifestyle modification, the cornerstone of cardiovascular disease prevention. - Treat all patients with coronary or other atherosclerotic disease or diabetes to reach an LDL goal of <100 mg/dL; consider an LDL goal of <70 mg/dL for very high-risk patients. - Prescribe statins to lower LDL and reduce cardiovascular events and mortality by at least 30%. Source: City Health Information: Lipid Control: Preventing Cardiovascular Events in Patients with Atherosclerotic Disease or Diabetes. New York City Department of Health and Mental Hygiene.

	Name	Strength	Take	Frequency	Duration	Refills	Route	Formulation	Dispense	Date	Status
<input type="checkbox"/>	Niacin CR	500 MG	as directed				Orally	Capsule Extended Release			Order
<input type="checkbox"/>	Lipitor	20 MG	1 tablet	Once a day	30 day (s)		Orally	Tablet	30		Order
<input type="checkbox"/>	Lovastatin	20 MG	1 tablet with a meal	Once a day	30 day (s)		Orally	Tablet	30		Order
<input type="checkbox"/>	Pravastatin Sodium	40 MG	1 tablet	Once a day	30 day (s)		Orally	Tablet	30		Order
<input type="checkbox"/>	Crestor	10 MG	1 tablet	Once a day	30 day (s)		Orally	Tablet	30		Order
<input type="checkbox"/>	Simvastatin	20 MG	1 tablet every evening	Once a day	30 day (s)		Orally	Tablet	30		Order
<input type="checkbox"/>	Zetia	10 MG	1 tablet	Once a day	30 day (s)		Orally	Tablet	30		Order
<input type="checkbox"/>	Gemfibrozil	600 MG	1 tablet	Twice a day	30 day (s)		Orally	Tablet	60		Order

The 1st part of the **COMPREHENSIVE ORDER SET** displays a selected list of recommended medications (brand & generic) for lipid control.

1. Measure Reports	2. Enhanced Registry	3. Automatic Visual Alerts	4. CDSS
5. Quick Orders	6. Comprehensive Order Sets	7. eMedNY	8. CIR and School Health

Dr. Bear views other order sets for high LDL levels



The 2nd part of the **COMPREHENSIVE ORDER SET** displays a selection of recommended labs, immunizations, follow-up appointments, referrals as well as printable physician and patient education materials.

1. Measure Reports	2. Enhanced Registry	3. Automatic Visual Alerts	4. CDSS
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• Dr. Bear wonders if he should change Jane's medication regimen to better control her lipids and wants know what medications have been filled by her in the past 90 days

• Jane has signed a consent form to give the provider access to her medication history

The screenshot shows the 'Rx External History' window in eClinicalWorks. The 'Retrieved Date' is set to 20080129. The table below shows the medication history for the patient.

Name	Provider Name	Quantity/Units	Direction	Last Fill Date	Refill
SIMVASTATIN 10 MG TABLET	SATISH GUPTA	30.0/Not Specified		12/07/2007	
SIMVASTATIN 10 MG TABLET	SATISH GUPTA	30.0/Not Specified		11/18/2007	
SIMVASTATIN 10 MG TABLET	SATISH GUPTA	30.0/Not Specified		10/16/2007	
SIMVASTATIN 10 MG TABLET	SATISH GUPTA	30.0/Not Specified		09/11/2007	
SIMVASTATIN 10 MG TABLET	SATISH GUPTA	30.0/Not Specified		08/13/2007	
AMOXICILIN 250 MG CAPSULE	MIHAELA STOIAN	30.0/Not Specified		11/08/2007	
AZITHROMYCIN 250 MG TABLET	SATISH GUPTA	6.0/Not Specified		12/27/2006	
CHERATUSSIN AC SYRUP	SATISH GUPTA	180.0/Not Specified		12/27/2006	
AZITHROMYCIN 250 MG TABLET	SAQIB QURESHI	6.0/Not Specified		12/14/2006	
H-C TUSSIVE SYRUP	SAQIB QURESHI	240.0/Not Specified		12/14/2006	
CHLORHEXIDINE 0.12% RINSE	MUSTAFA KHALIL	473.0/Not Specified		05/20/2006	

Since Jane is a Medicaid patient, Dr. Bear can use the **eMedNY FUNCTION** to view her 90-day medication history. He notices that Jane has not filled her lipid medication (simvastatin) for the past three months; she admits that she has stopped taking them because she wondered if her tiredness might have been due to these pills.

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- While she's there, Jane asks Dr. Bear for a school health form for her 5 year-old (Tim) who is entering day care.
- Dr. Bear generates a preloaded NYC School Health form populated with Tim's information for Jane to take with her.

Test Facility

Ph: Fax:

New Admission Examination Form

TO BE COMPLETED BY PARENT OR GUARDIAN

Form No: [REDACTED]

Student Last Name: Doe First: Tim Middle: [REDACTED] Gender: male DOB: 01/01/03

Race: Native Hawaiian or other Pacif Ethnicity: Hispanic

Relationship: Mother Last: Doe First: Jane

Address: 112 Nashua dr, City: Westborough State: MA Zip: 01581

Home Phone: 508-976-5879 Work Phone: 508-247-1365

School District: [REDACTED] Number: [REDACTED] Type: [REDACTED] School Name: [REDACTED] Annex: [REDACTED]

Health Insurance: Yes

TO BE COMPLETED BY THE HEALTH CARE PROVIDER

Does the student have a past or present medical history of the following:

Asthma: No Onset Date: [REDACTED] Diabetes: Present Onset Date: [REDACTED]

(If present attach medication administration forms) (If present attach medication administration forms)

Speech Problems: No Onset Date: [REDACTED] Cancer: No Onset Date: [REDACTED]

Allergies: Present

Penicillin G Sodium : hives (Allergy) ,

Allergies:

Surgery: No Onset Date: [REDACTED] Hospitalizations: No Onset Date: [REDACTED]

Orthopedic Problems: [REDACTED] Onset Date: [REDACTED] Serious Illness: [REDACTED] Onset Date: [REDACTED]

Print Preview... Print... Fax Save Close

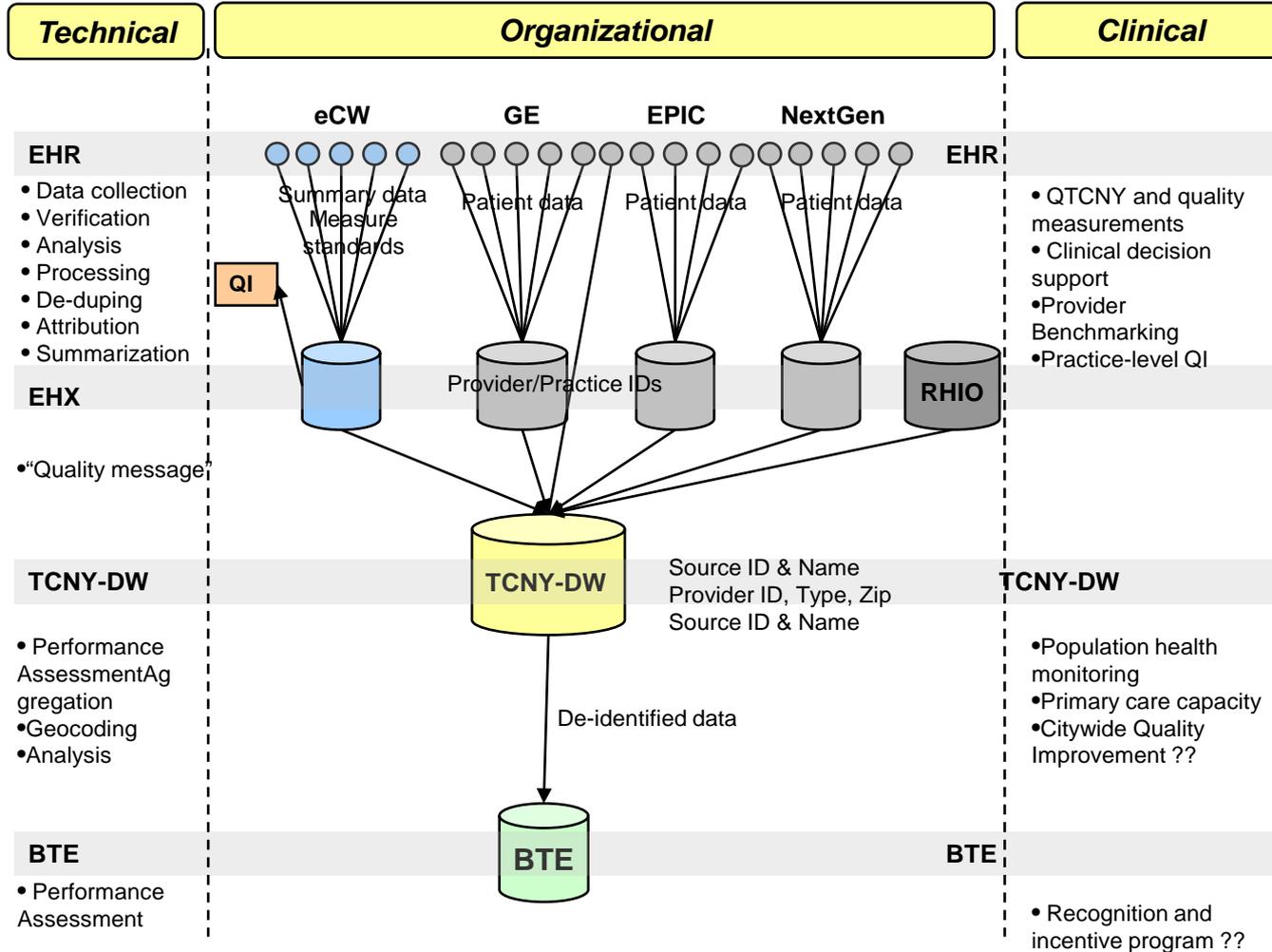
Start eClinicalWorks (Willis,Sa... eClinicalWorks (Willis,Sa... 7:39 PM

Tim's information has already been automatically uploaded to the **CITYWIDE IMMUNIZATION REGISTRY**. The CIR will maintain a complete record of Tim's immunizations which can be accessed by other providers as needed.

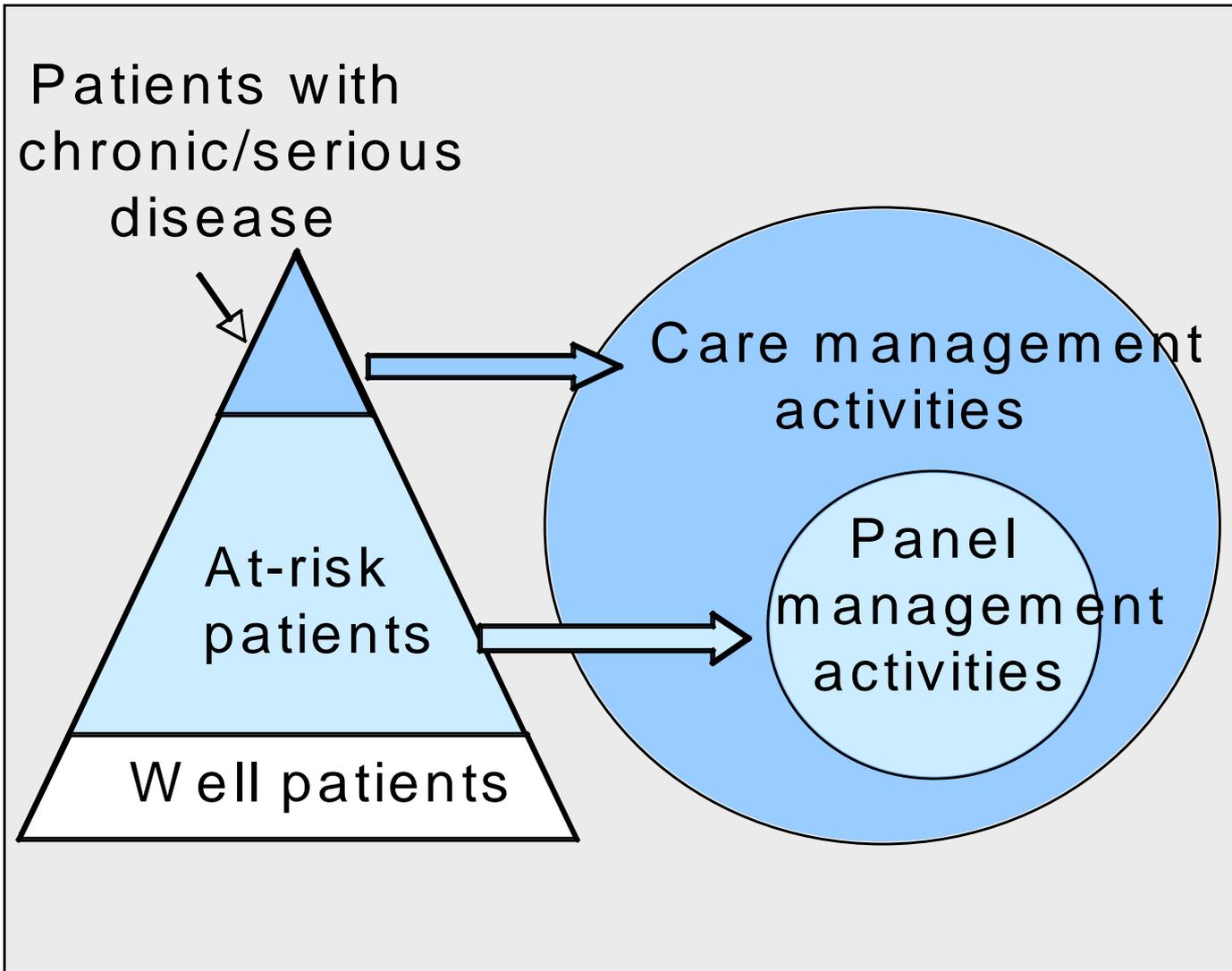
Other Key Activities

- Quality Improvement Curriculum
 - Organized around Patient Centered Medical Home
 - Monthly on-site visits by QI specialist
 - Automated registries and panel management
 - Core focus on cardiovascular disease prevention
- EHR-Based Recognition and Rewards
 - Clinical quality measures at the point of care
 - Includes all patients, longitudinal pt data, actionable
 - \$3-6 million seed funding by donor
- Linkages to public health
 - Communicable disease reporting and syndromic surveillance

Distributed Reporting Architecture



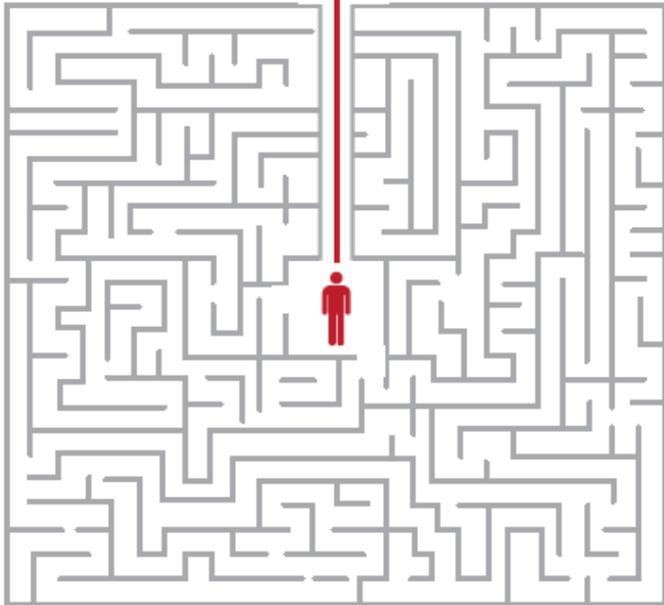
EHR and Population Health Management



Change Is Coming

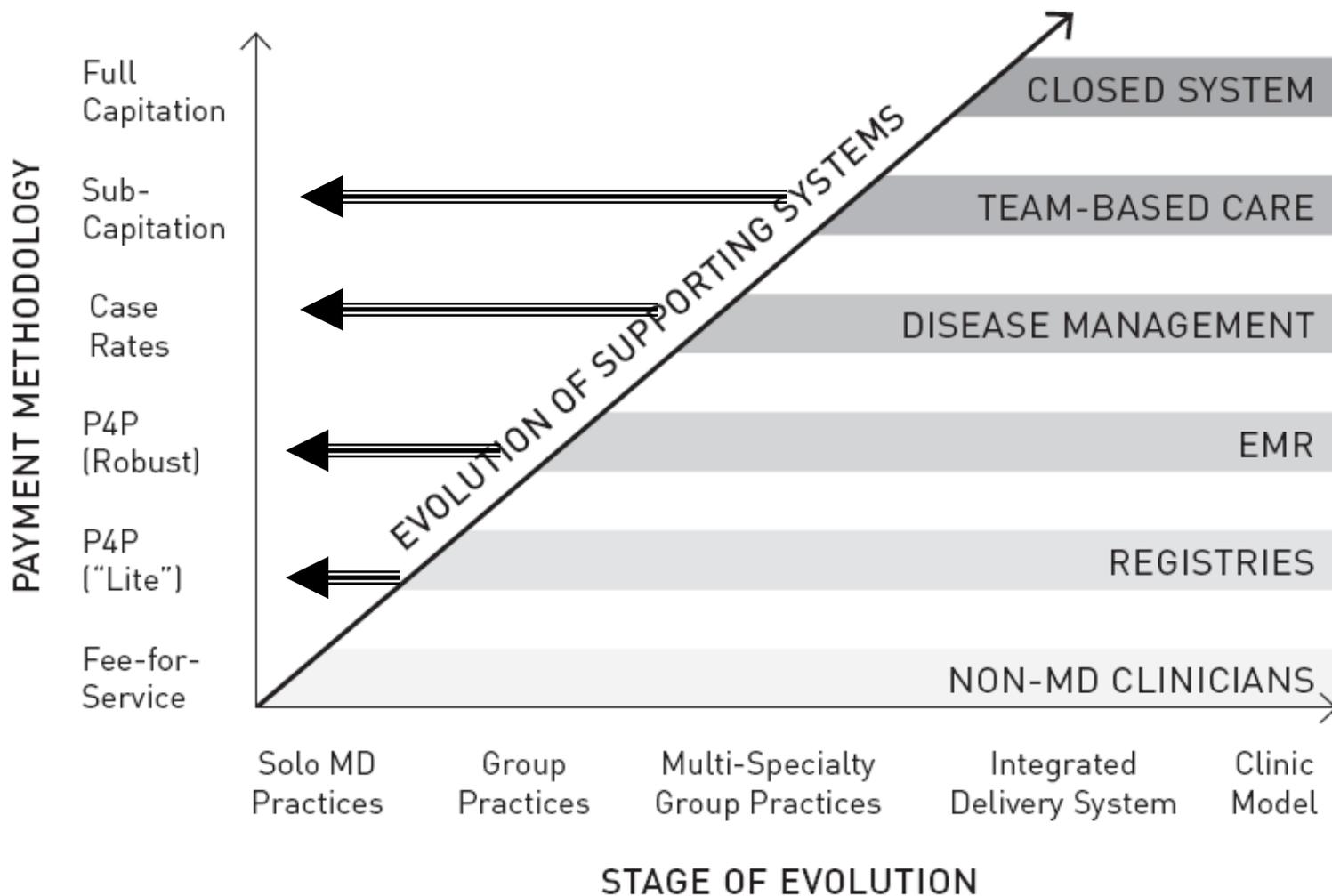
The Health Care Delivery System

A Blueprint for Reform



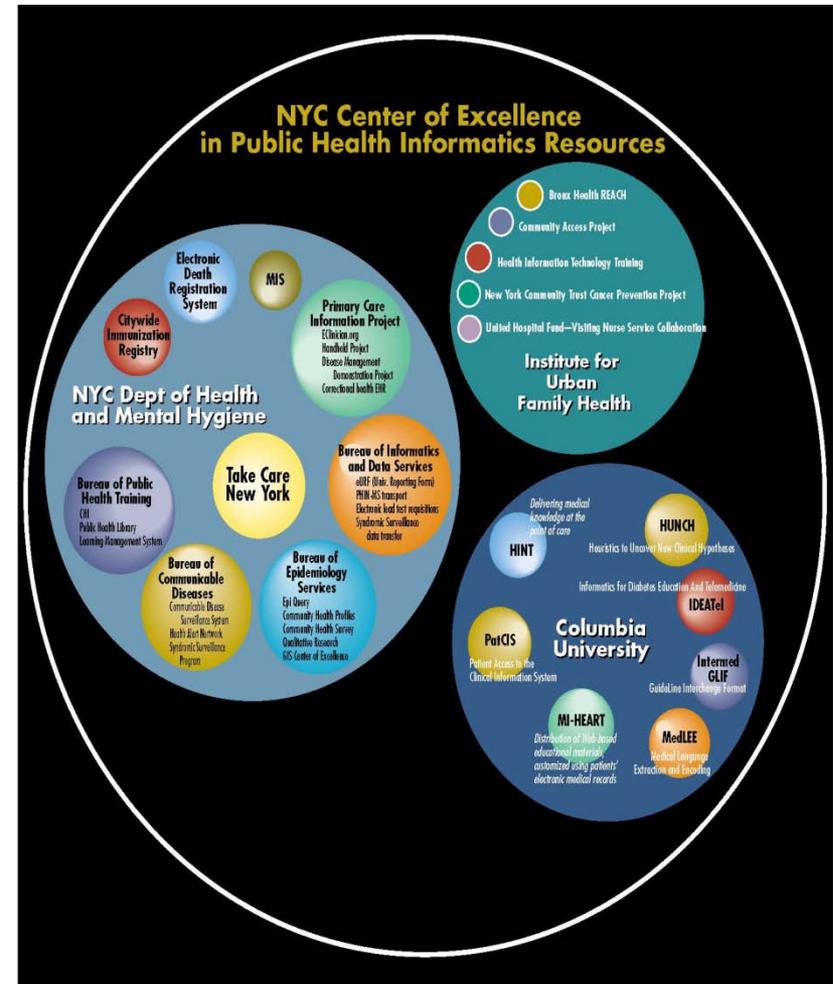
» “The federal government needs to be much more assertive than it has been to promote integration of providers into a variety of potential organizational structures that would better support high quality and improved patient-centered care.”

Health Care Delivery System: Blueprint for Reform (cont'd)



Acknowledgement

- CDC Center of Excellence in Public Health Informatics
8P01-CD000275
- AHRQ “Bringing Measurement to the Point of Care”
1R18HS017059-01



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Andrew Snyder
Fiona Somers
Nicholas Soulakis
Remle Stubbs-Dame
Sal Volpe

Farzad Mostashari, MD, MSc
New York City Dept. of Health and Mental Hygiene
fmostash@health.nyc.gov

Integrating CDS to Improve Population Health Outcomes: the Indian Health Service Experience

Theresa Cullen, MD, MS
Chief Information Officer
Indian Health Service



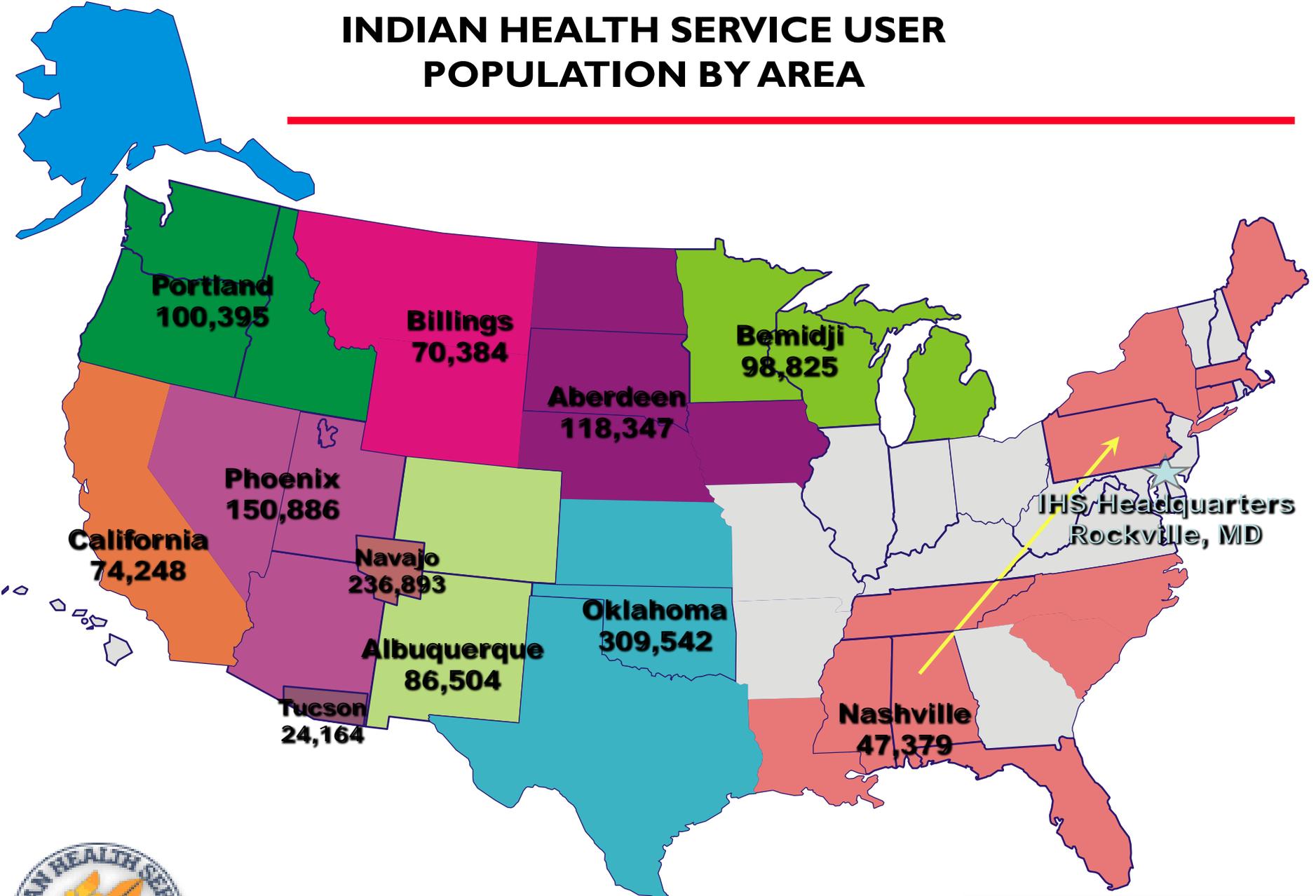
CDS and Population Health in the IHS

- **IHS Health Care**
- **Health IT System**
 - **Integration of CDS**
- **Measuring Quality**
- **The Future**



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INDIAN HEALTH SERVICE USER POPULATION BY AREA

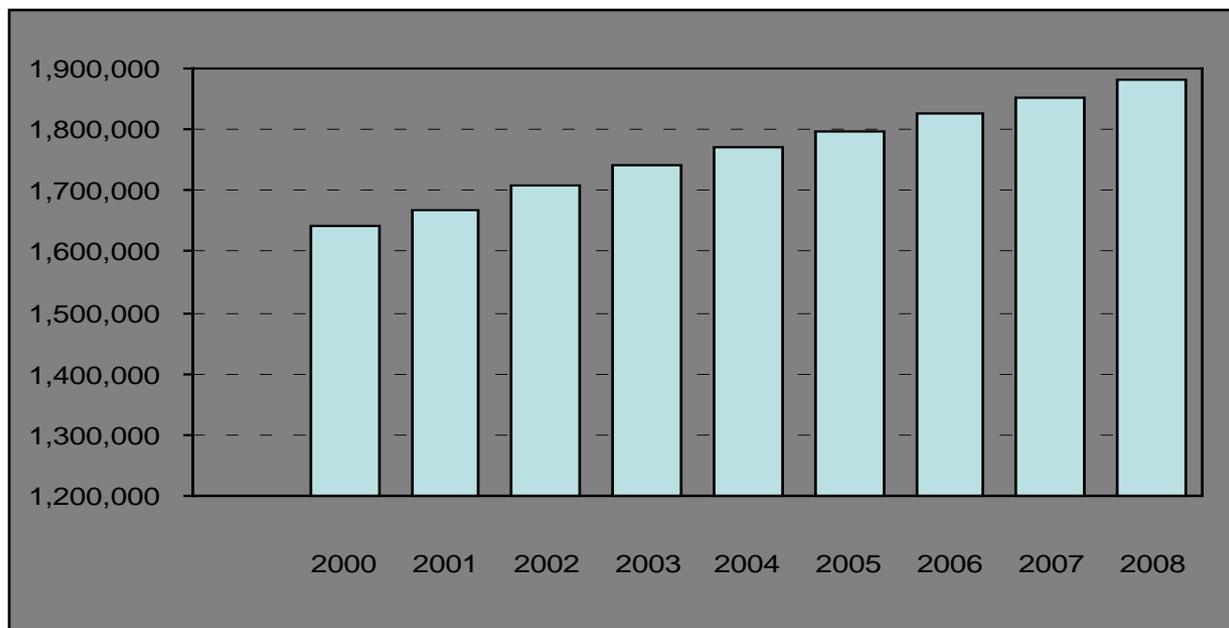


TOTAL IHS USER POPULATION
FOR FY 2006: 1,448,249



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THE INDIAN POPULATION WE SERVE



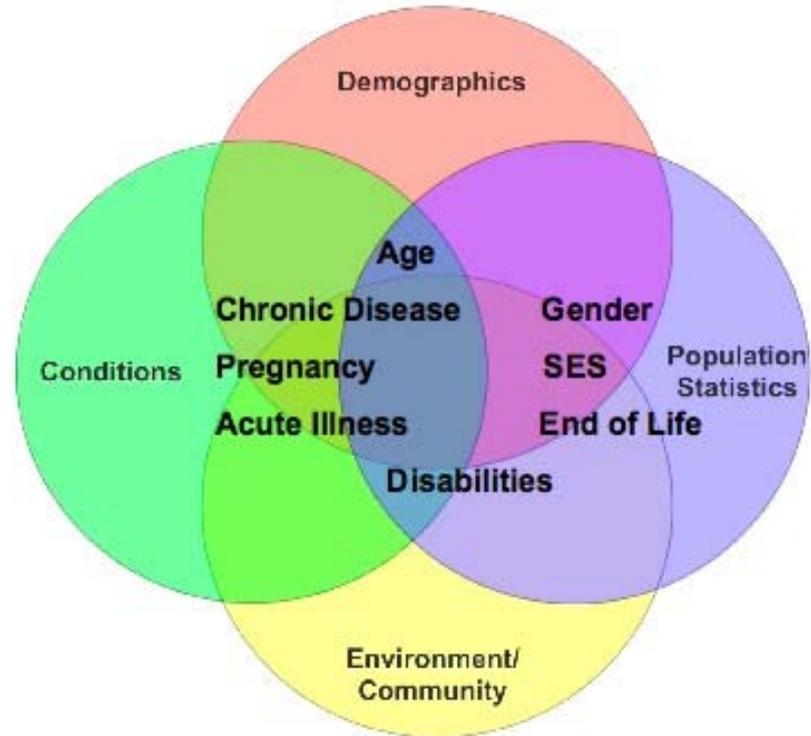
IHS Service Population Growth

- Average population growth rate since 2000 is 1.8% per year
- 71% high school graduates (80% U.S.) & 10% college graduates (24% U.S.)
- 29% of AI/ANs fall below poverty standard
- Unemployment is 4.0 times the US rate for males and females
- Less than 22% with self reported access to the Internet



Indian Health Service: a Broader Picture of Health

- Personal Health
- Family Health
- Community Health
- Public Health
- Population Health
- Transparency of Data



- Patient needs based on demographics, environment and community, population data, and conditions



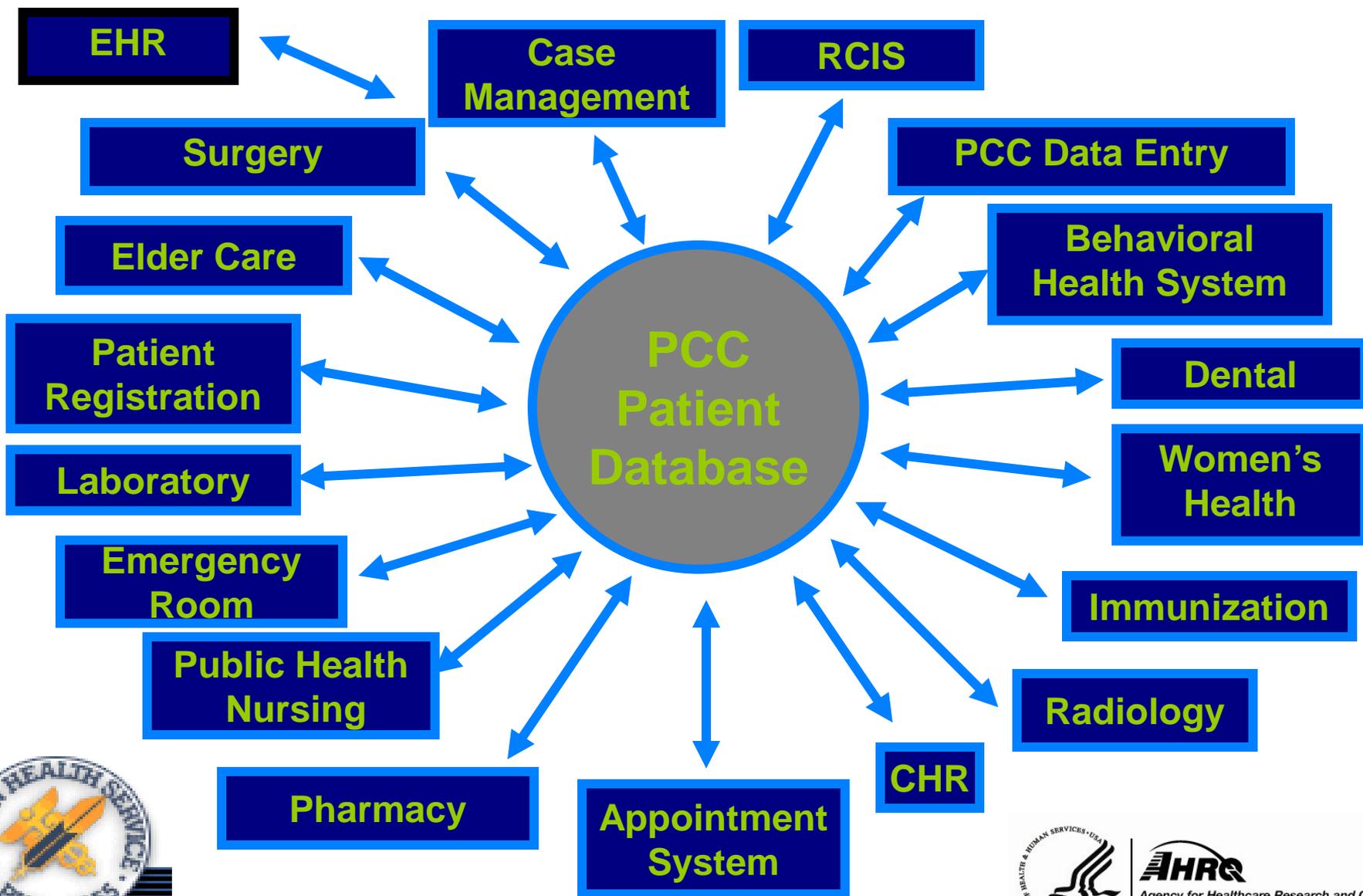
IHS Health IT Solution

Resource and Patient Management System- RPMS

- A decentralized automated information system comprised of over 60 integrated software applications
- Over 25 years old with a GUI placed 'on the top' in 2003
- 4 major categories of software:
 - Infrastructure applications
 - Practice Management applications (CDS)
 - Clinical applications (CDS)
 - Population / Public Health (CDS)



RPMS Integrates Multiple Clinical Systems



What we do have? Quality Improvement Tools

- **Clinical Information System**
 - Standardized quality reports
 - Population health reports
- **Clinical system**
 - iCARE
 - Clinical quality (HEDIS, Elder, Patient Education, GPRA)
 - Bundled measures/ exceptions monitored/denominator
- **On the fly audit with on the fly denominator and numerator defined by end user**
- **Patient Wellness Handout**
- **Quality of Care Web Site**
 - Includes site specific information
 - Includes patient screening tools and 'questions to ask'- not just information
 - Consistent with patient wellness handout



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Clinical Decision Support

- Part of the 'fabric' of RPMS
- Relies upon patient data, appropriate measures, implementation, execution and data evaluation
 - **Development of appropriate logic**
 - **Ability to passively 'push out' changes to the health IT system that are consistent between sites**
 - **Allows for local modification of any measure through**
 - Denominator definition
 - Frequency of reminders
 - Tagging of patients and acceptance or rejection of the 'tag'
 - **Standardized code sets/ data dictionary/ metadata registry**
 - Clinical Decision Support
 - 'Smart' reminders



Clinical Decision Support: what is it good for?

- Patient based clinical reminders and their execution
- Tracking reminder compliance/ exceptions, including refusals
- Rapid cycle creation and implementation facilitates evaluation and analysis of innovative changes
- Quality of care report with population health data available at the POC



Clinical Decision Support: what we don't have

- Robust differential diagnostic decision-making help
- Ability to embed diagnostic probability based on population data into the decision making process
 - E.g. abdominal pain in a 12 year old AI/AN female in certain tribes is GB disease until you prove that it isn't
- Non traditional determinants of health status and ways to measure and improve the individual measures as well as 'a bundled measure' that matters
 - Literacy/ Barriers to Care (measured in our system)
 - Adverse Childhood Events (developed for implementation)
 - Violence (IPV screening and follow up adequate in our system)
 - Socioeconomic status (yes, but what do we do with it? EITC? Gateway for case management, services, access, etc.)
 - Traditional housing, water, and transportation access



iCARE

- **Functionality**
 - Comprehensive knowledge management couplers
 - Community health data
 - Population health data
 - Defined Clinical quality for any denominator, as well as defined denominator
 - Comparative health status based on quality measures
 - Access to care



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Create Patient Panels

- By provider
- By appointment
- By register
- By search
- By visit date
- By diagnosis
- By community
- By age or gender

IHS iCare - Women's clinic Dec 1-31, 2007 - Panel Definition

Definition | Layouts | Sharing | Preview | Auto Repopulate Options

***Panel Name:** Women's clinic Dec 1-31, 2007
Panel Description: over 50; Diabetes, PreDM; Obese

Population Search Options:

- No Predefined Population Search - Add Patients manually
- My Patients
- Patients Assigned to
- Scheduled Appts: *Date: 12/01/2007 to 12/31/2007 *Select at least one code*
 - By Appt Code: WOMEN'S WELLNESS CENTER
 - By Visit Code
- QMan Template
- RPMS Register
- Ad Hoc Search

Apply Additional Filters?

Filter Options: *Select at least one filter* * indicates required field

Visit Date: (none) to (none)
Min # of Visits within Date Range: 1

Visit Provider:

Age: greater than or equal to 50 YRS

Gender: Female

Panel:

Community:

Community Taxonomy:

Diagnosis: Diabetes
Obese
PreDM Metabolic Syndrome



See How Your Panel Meets Outcomes

IHS iCare - Diabetic Teens - Panel View

Diabetic Teens
Demo panel

Quick Patient Search:

Total Patients = 24
Patient List Last Updated: Nov 06, 2007 01:20 PM
by GEBREMARIAM, CINDY

Properties

Patient List | Flags | Reminders | Reminders Aggregated | Natl Measures | **Natl Aggregated**

National Performance Measures data from CRS 2007 current as of: Nov 03, 2007 08:34 AM

Category	Clinical Group	Measure Name	# Patients in Denominator	# Patients in Numerator	% Met	2007 Goal	IHS National 2006 Performance	2010 Goal	
National GPRA	BEHAVIORAL HEALTH	Depression Screen 18+	2	0	0.0%	Maintain	15.0%	68.0%	
		FAS Prevention 15-44	13	2	15.4%	Maintain	28.0%	25.0%	
	CANCER-RELATED		IPV/DV Screen 15-40	13	2	15.4%	Maintain	28.0%	40.0%
			Colorectal Cancer 51-80	0	0	0.0%	Maintain	22.0%	33.0%
			Mammogram Rates 52-64	0	0	0.0%	Maintain	41.0%	70.0%
			Pap Smear Rates 21-64	0	0	0.0%	60.0%	59.0%	90.0%
			Tobacco Cessation	5	0	0.0%	Maintain	12.0%	72.0%
	CVD-RELATED		Children 2-5 w/BMI =>95%	0	0	0.0%	Maintain	24.0%	Reduce
			IHD: Comp CVD Assessment	0	0	0.0%	Baseline	N/A	15.0%
	DENTAL		Dental Access General	24	0	0.0%	24.0%	23.0%	40.0%
			Sealants	0	0	0.0%	Maintain	246,645	N/A
	DIABETES		Topical Fluoride-# Pts	0	0	0.0%	Maintain	95,439	N/A
			Controlled BP <130/80	9	0	0.0%	Maintain	37.0%	50.0%
			Diabetes Dx Ever*	24	22	91.7%	N/A	11.0%	N/A
			Documented A1c*	9	3	33.3%	N/A	79.0%	50.0%
			Ideal Glycemic Control <7	9	1	11.1%	32.0%	31.0%	40.0%
			LDL Assessed	9	0	0.0%	Maintain	60.0%	70.0%
			Nephropathy Assessed**	9	0	0.0%	Baseline	55.0%	70.0%
			Poor Glycemic Cont >9.5	9	2	22.2%	15.0%	16.0%	N/A
			Retinopathy (All Sites)	9	2	22.2%	Maintain	49.0%	76.0%
		IMMUNIZATIONS		Active IMM 19-35 mos***	0	0	0.0%	78.0%	80.0%
			Influenza 65+	0	0	0.0%	59.0%	58.0%	90.0%
			Pneumovax Ever 65+	0	0	0.0%	76.0%	74.0%	90.0%
	OTHER CLINICAL		Prenatal HIV Testing	0	0	0.0%	Maintain	65.0%	95.0%
		CANCER-RELATED	Tobacco Use Prevalence	4	0	0.0%	N/A	N/A	12.4%
	Other National Measures		Tobacco Assessment 5+	24	4	16.7%	N/A	TBD	N/A
		CVD-RELATED	20+ With Normal BP	0	0	0.0%	N/A	N/A	N/A

Click here to begin

Selected Rows: 1 | Visible Rows: 69 | Total Rows: 69



See How Well Individual Patients Meet Outcomes

IHS iCare - Diabetic Teens - Panel View

File Edit Natl Measures Tools Window Help Quick Patient Search:

Diabetic Teens Total Patients = 24

Demo panel Patient List Last Updated: Nov 01, 2007 01:20 PM

Properties by GEBREMARIAM, CINDY

Patient List Flags Reminders Reminders Aggregated **Natl Measures** Natl Aggregated

National Performance Measures data from CRS 2007 current as of: Oct 27, 2007 01:34 AM

Glossary Copy Patient(s) Layout

Patient Name	HRN	G...	DOB	Age	Documen...	Controlle...	LDL Asse...	Next Ap...
BETA,FOUR	141414-DH 134538-DIH 134540-URA	M	Jul 06, 1991	16 YRS	NO	NO	NO	
ETA,ONE	221213-DH 134103-DIH 134105-URA	F	Jun 05, 1991	16 YRS	N/A			
THETA,FOUR	221235-DH 133917-DIH 133919-URA	F	May 11, 1991	16 YRS	N/A			
EPSILON,TWOD	181818-DH 131385-DIH 131387-URA	F	Jul 01, 1990	17 YRS	N/A	N/A	N/A	
IOTA,ONE	221212-DH 131091-DIH 131093-URA	F	May 24, 1990	17 YRS	NO	NO	NO	
ALPHA,ONE	112211-DH 130842-DIH 130844-URA	F	May 15, 1990	17 YRS	N/A	N/A	N/A	
OMIKRON,TWOD	221237-DH 130554-DIH 130556-URA	F	Jan 25, 1990	17 YRS	YES	NO	NO	
KAPPA,TWOD	221216-DH 129990-DIH 129992-URA	M	Dec 25, 1989	17 YRS	NO	NO	NO	
KAPPA,ONE	221215-DH 129534-DIH	F	Oct 11, 1989	18 YRS	YES	NO	NO	

Documented A1c*

DM: Documented Hgb A1c: Patients diagnosed with diabetes documented Hemoglobin A1C lab test in the past year. Patients with at least one diabetes diagnosis over one year ago and at least one diabetes visits this year.



Clinical Reporting System

- Clinical Reporting System (CRS)- since 2000
 - Automated tracking of clinical performance (over 50 unique measures)
 - Eliminates the need for manual chart audits
 - Used at over 95% of I/T/U facilities (data on 1.5 M)
 - All patients served by IHS direct sites and over 80% of tribally operated health facility users report data

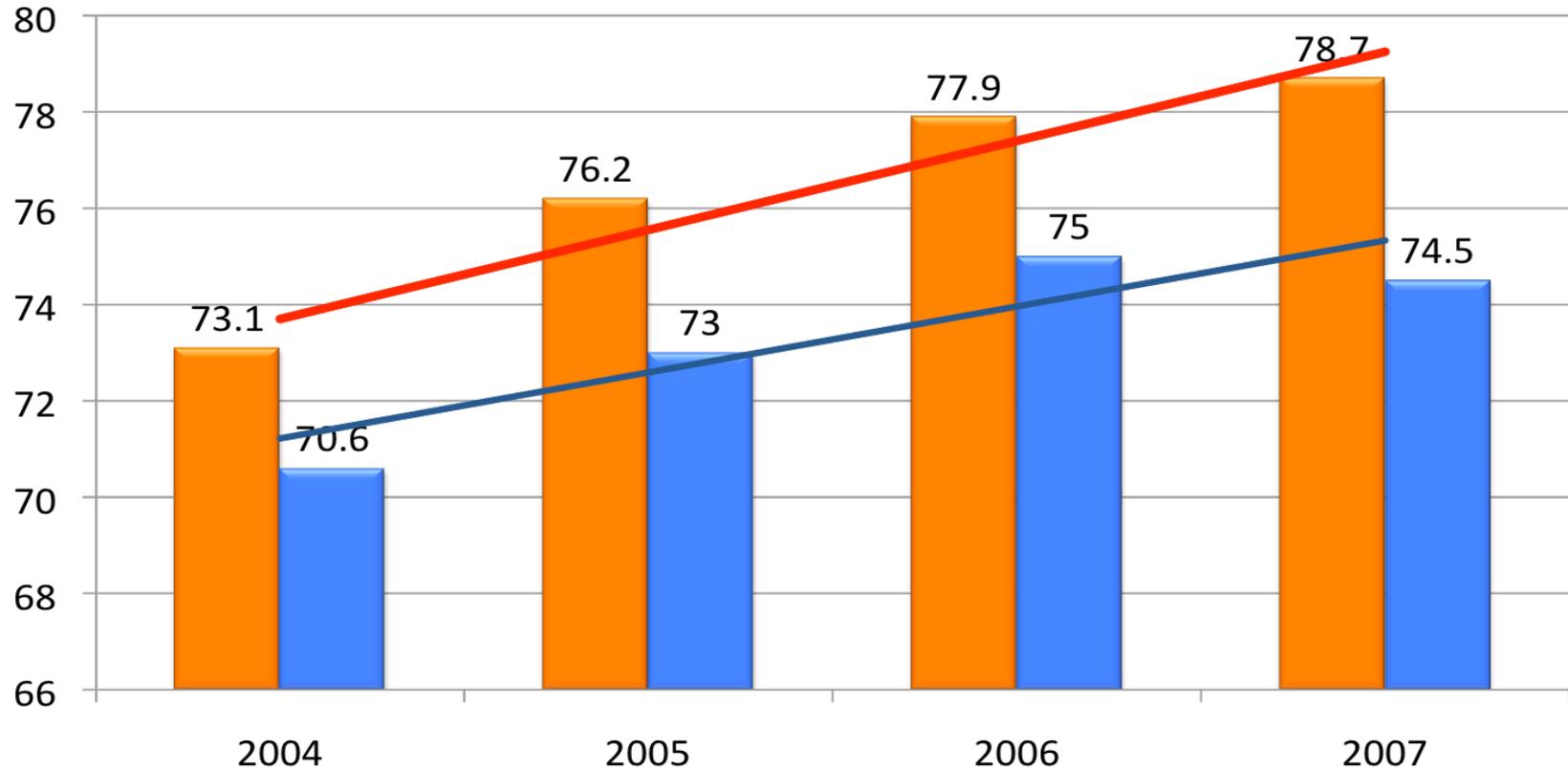


Some Measures

- Prevention
 - Pap, Mammo, Colorectal Cancer, IMM, BMI, tobacco use,
 - Bundled measures-service delivered
- Treatment
 - Diabetes, CVD, asthma
 - Bundled measures-control
- Behavioral Health
 - Depression
 - HIV
 - Alcohol Use
 - Intimate Partner Violence
 - Suicide tracking
- Outcome
 - Mortality
 - Injury



Facility #1- Control



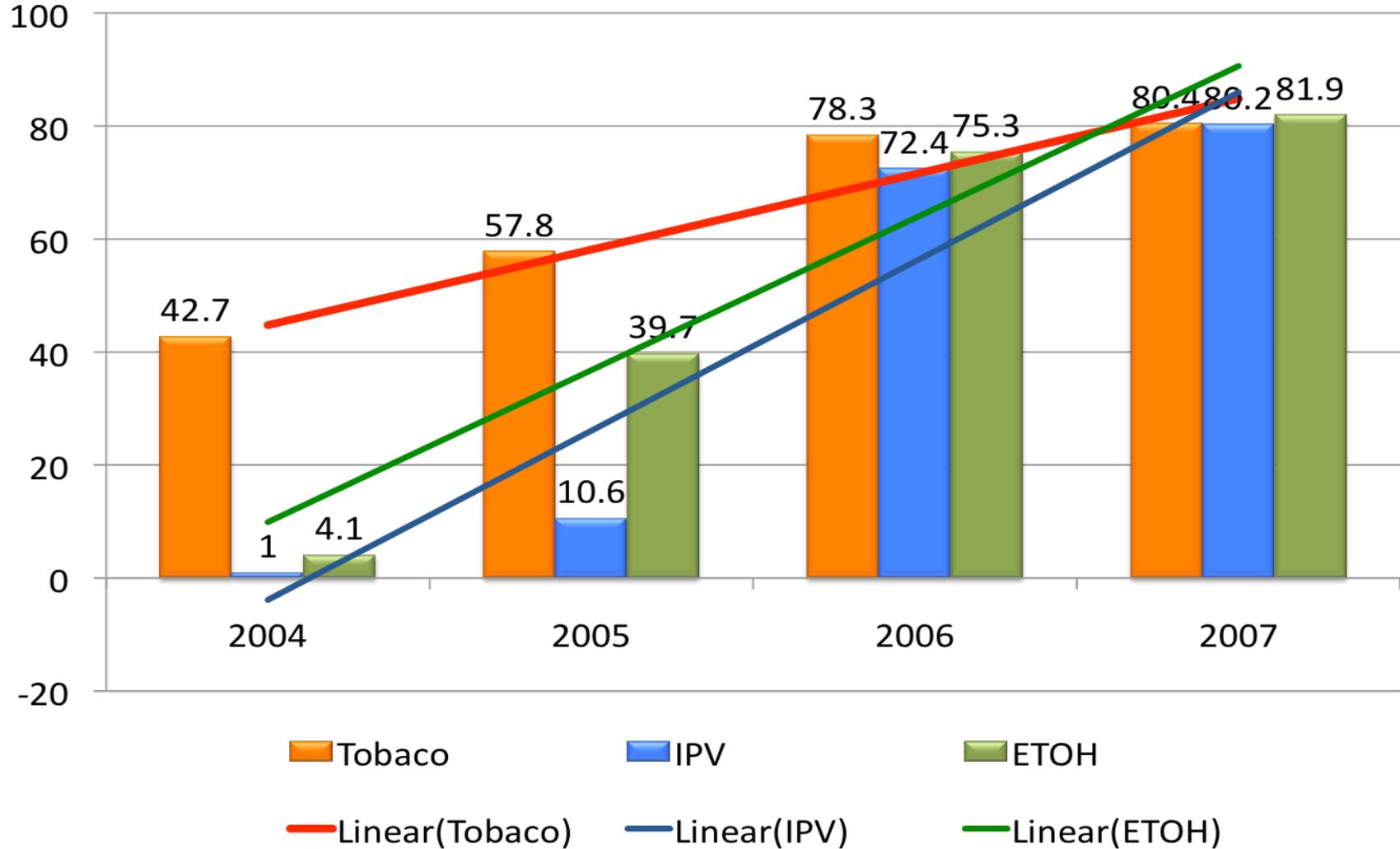
■ Blood Pressure Controlled (<140/90)

■ LDL Controlled (<130)

— Linear(Blood Pressure Controlled (<140/90)) — Linear(LDL Controlled (<130))



Facility #1- Screening



Clinical Information System Optimization

Day-to-day Function

- **Proactive Planned Care**
- **Optimization of the care team**

Decision Support

Reminders:

Align and use EHR and Health Maintenance Reminders and quality reports

Reports: iCARE/ CRS/ traditional registry applications

Decision Making

Self Management

Use Self-management goal setting

Access for patient and family to their own data

Handouts and other education materials readily available

Care Plan

Maximize the use of Problem Lists

Collaboratively develop a plan of care for each individual that summarizes all pertinent patient info in one place

Use patient specific goals and standards

System Redesign

Utilize RPMS to plan for visits (iCare and reminders)

Manage the population proactively – finding groups in need of specific types of care and then delivering that care to them

Designated Provider function to manage panels of patients & organize care teams

Develop a multidisciplinary team that optimizes the role of each team member

Response to reminders

Integration of the care team – enhance sharing of info

Clinical Information System

Case management by Nurses

Flow of information to & from systems outside of IHS

Improved documentation and input into EHR



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Clinical Information System Optimization

Facilitate Improvement
• *Create an ongoing Learning Community that includes consumers*

Reporting

reporting of measures for improvement on monthly basis

Sharing/
interconnectivity

Maximize use of WebEx

Enhance Training Strategies (recorded sessions, User Manuals)

Sharing of lessons learned

Knowledge Management

A system where knowledge is continuously organized and utilized to increase knowledge levels throughout the organization

A central location/system for knowledge sharing and accumulation

Measurement for improvement

Define quality goals

Align improvement measures with quality goals

Instruction manuals for measures and measure reporting

others



The IHS Health IT VISION

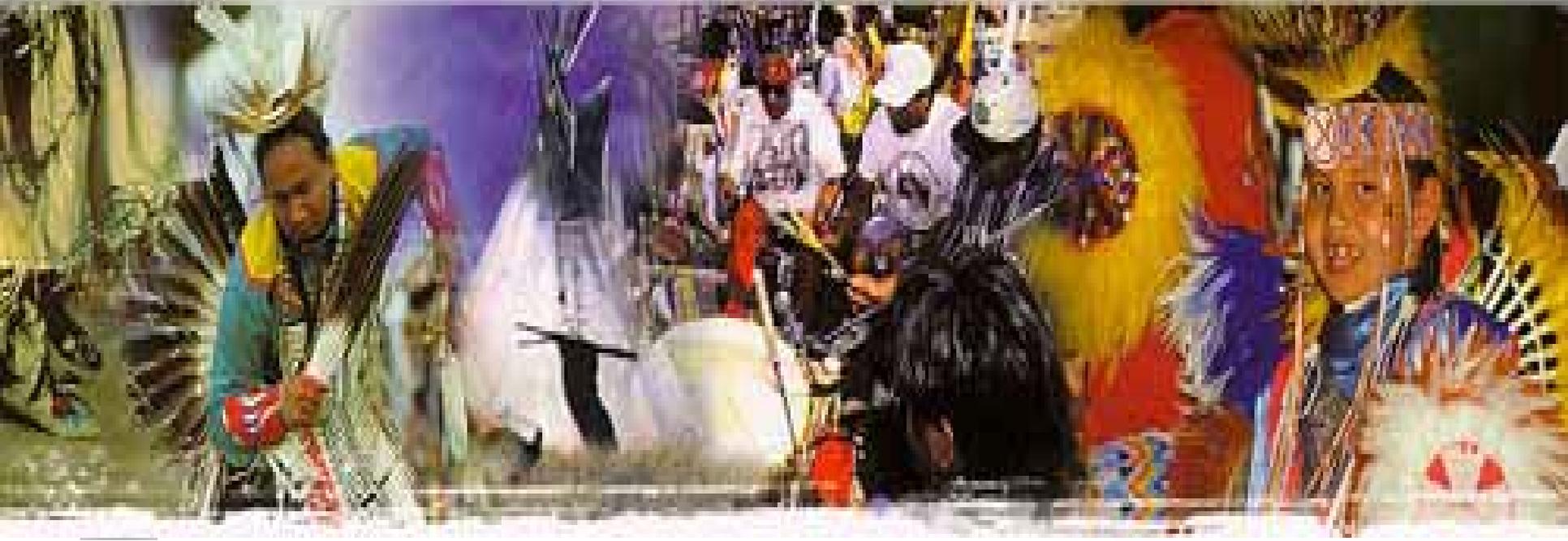
- The elimination of health inequities, using health IT as a major enabler
- A health care IT system that INTEGRATES family, population, public and community health as a cornerstone of personal health care delivery (not just an afterthought) at the point of care
- Data standards that address the non traditional determinants of health status
- Inclusion of non traditional data information into the traditional patient, provider, family and community perspective





Indian Health Service

www.ihs.gov



***In beauty may I walk.
All day long may I walk.
Through the returning seasons may I walk.
On the trail marked with pollen may I walk.
With grasshoppers about my feet may I walk.
With beauty may I walk.
With beauty before me may I walk.
With beauty behind me may I walk.
With beauty above me may I walk.
With beauty all around me may I walk.
In old age wandering on a trail of beauty, lively, may I walk.
In old age wandering on a trail of beauty, living again, may I
walk.
If it finished in beauty,
It is finished in beauty.***

DINE' PRAYER



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Thank you!

Theresa Cullen, MD, MS
Indian Health Service



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Questions & Answers

Our Panel:

**Farzad Mostashari, MD, MSc, New York City Department
of Health and Mental Hygiene**

Theresa Cullen, MD, MS, Indian Health Service

Coming in January!

Our Next Event

Fourth and final teleconference in our four-part series on Clinical Decision Support

Stay tuned for exact date and time
and information on how to register

Thank You for Attending

This event was brought to you by the
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A recording of this Web conference will be available on the AHRQ National Resource Center Web site within two weeks.

<http://healthit.ahrq.gov>