Healthcare in 3D: Creating a New Model that Puts Consumers, Physicians and Payers Front and Center through Information Sharing

September 9, 2010

MEDai
an Elsevier Company

Enhancing healthcare, improving quality and reducing costs
with award-winning predictive analytics and data mining.

ELSEVIER

Presenter

Swati Abbott

President/CEO

MEDai, *an Elsevier Company*

Introduction to MEDai, an Elsevier Company

Elsevier, the Science, Technology & Medical (STM) division, is the leading provider of high quality scientific, technical and medical information to the academic, research and healthcare communities.

Elsevier Clinical Decision Support is a division of Health and Science dedicated to providing quality electronic health care solutions and services. Whether improving healthcare workflow, building competency through our eLearning solutions or providing intelligence through data mining and predictive analytics, our aim is to improve the quality, safety and cost effectiveness of patient care.

Leader in healthcare analytics and data transformation offering award-winning solutions for the improvement of healthcare delivery. Utilizing cutting-edge technology, payers and providers can predict patients at risk, identify cost drivers for their high-risk population, forecast future health plan costs, evaluate patient patterns over time and improve outcomes.
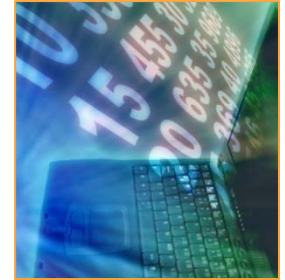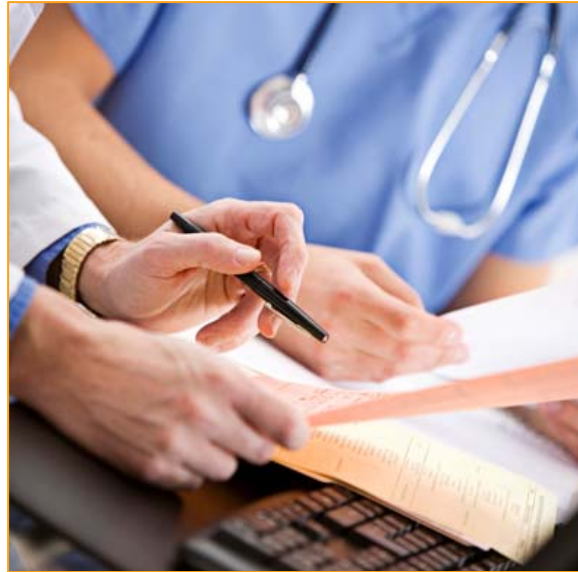
The Problem?

![MEDai - an Elsevier Company]

Enhancing healthcare, improving quality and reducing costs
with award-winning predictive analytics and data mining.

Waste in US HealthCare Spending estimated at 700B to 1.2 T

Address the waste in our current healthcare delivery system:

- Unnecessary Care = 40%
  - Overutilization
  - Inappropriate medication and diagnostic testing
- Fraud = 19%
  - Fraudulent claims and kickbacks
- Administrative Inefficiency = 17%
  - Redundant paperwork
- Provider Errors = 12%
  - Medical errors
- Preventable Conditions = 6%
  - Dollars spent on hospitalizations for controllable conditions (i.e., Diabetes)
- Lack of Care Coordination = 6%
  - Inefficient communication between providers
  - Lack of access to medical data
  - Duplication of efforts and inappropriate treatments
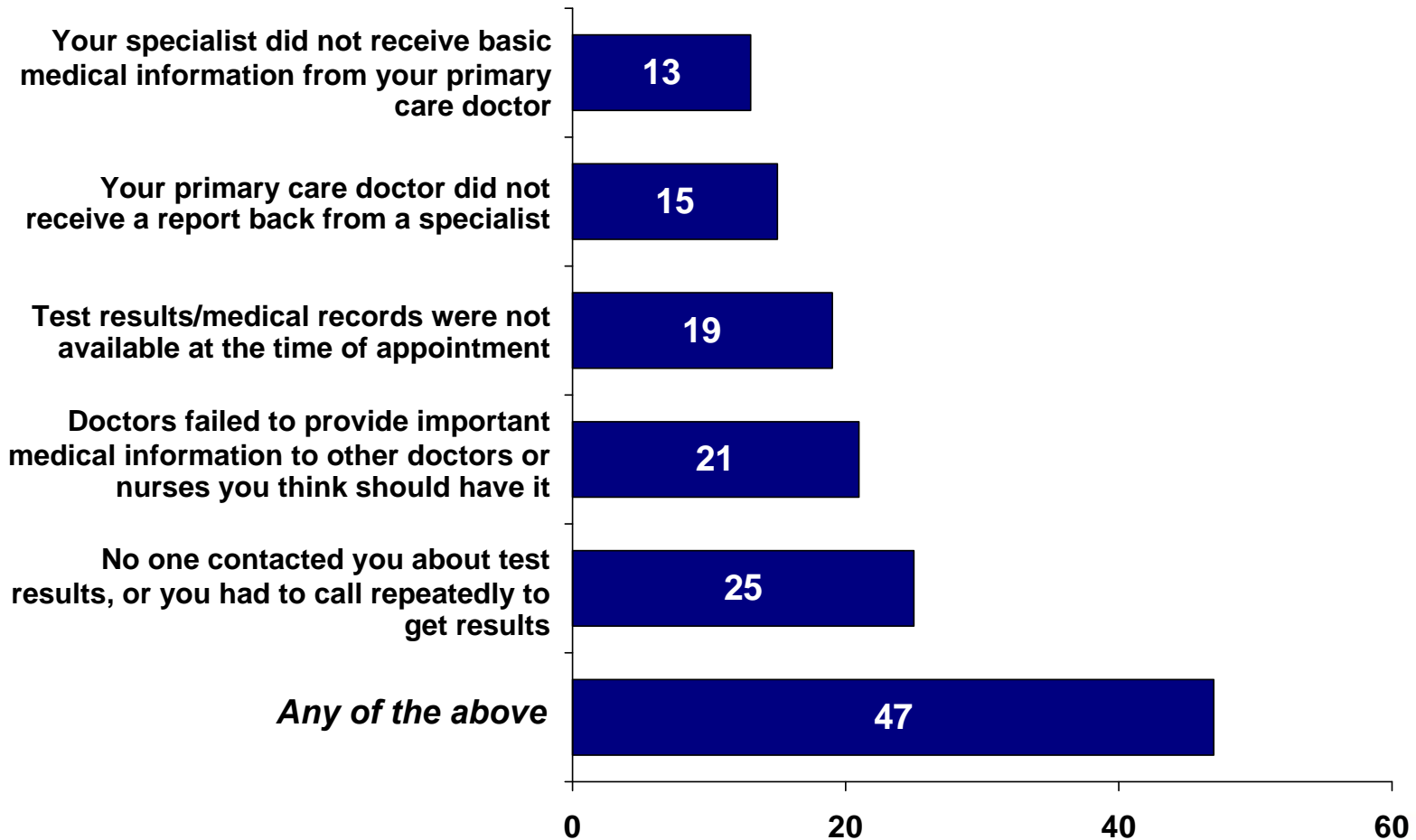
MEDai
an Elsevier Company

ELSEVIER

Non-Adherence to Evidence-Based Services: Clinical and Economic Impact

- Up to 60% of chronically ill patients have poor adherence to evidence-based treatment

- Responsible for up to one-quarter of all hospital and nursing-home admissions

- Costs from poor medication adherence estimated to exceed $100 billion annually

Source : Dunbar-Jacob, *Journal of Clinical Epidemiology* 54 (2001) S57-S60

MEDai
an Elsevier Company

ELSEVIER

Poor Coordination: Nearly Half Report Failure to Coordinate Care

Percent U.S. adults reported in past two years:

Category	Percent
Your specialist did not receive basic medical information from your primary care doctor	13
Your primary care doctor did not receive a report back from a specialist	15
Test results/medical records were not available at the time of appointment	19
Doctors failed to provide important medical information to other doctors or nurses you think should have it	21
No one contacted you about test results, or you had to call repeatedly to get results	25
Any of the above	47

MEDai
an Elsevier Company

ELSEVIER

Key Trends

1. HealthCare Reform

2. Push for EHR Adoption (ARRA)
   - Successful demonstration through meaningful use

3. Funding to develop and promote HIT/HIE
   - Connecting stakeholders and improving transparency

4. Shifting risk from payer to providers/consumers

US HealthCare Reform increases pressure on Key Stakeholders

- ## Payers
  - Claims volume will increase
  - MLR target limit
  - Increase rate pressure

- ## Providers
  - Manage risk : Pay for Performance/ACO model/Patient Centred Medical Home
  - EHR Adoption
  - Pressure to improve quality, outcomes, and cost
  - Increased reporting : JCAHO, CMS, Meaningful Use

ARRA's HITECH Act

"One of HITECH's most important features is its clarity of purpose. Congress apparently sees HIT — computers, software, Internet connection, telemedicine — not as an end in itself but as a means of **improving the quality of health care, the health of populations, and the efficiency of health care systems.** Under the pressure to show results, it will be tempting to measure HITECH's payoff from the $787 billion stimulus package in narrow terms — for example, the numbers of computers newly deployed in doctors' offices and hospital nursing stations. But that does not seem to be Congress's intent. It wants **improvements in health and health care through the use of HIT.**"

*- Dr. David Blumenthal, NEJM 4/9/09*

HIE/HIT: What the New Healthcare Model Needs to Address

Patients are discharged with prescriptions, education and instructions on how to comply.

Without follow-up, patients often fall into non-compliance due to misunderstanding, depression and the overall complexity of living with their disease.

Physicians need a view of what is happening with their patients between visits or post-discharge.
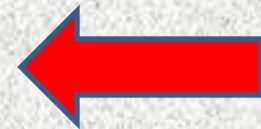
Need to Bring the Information Together

- Successful strategies link all providers delivering care to the patient

- Patients create information at multiple care settings in the community

- Cross-enterprise information exchange new to HIT industry

- Standards-based approaches emerging

Family Care

Consumer

Hospital
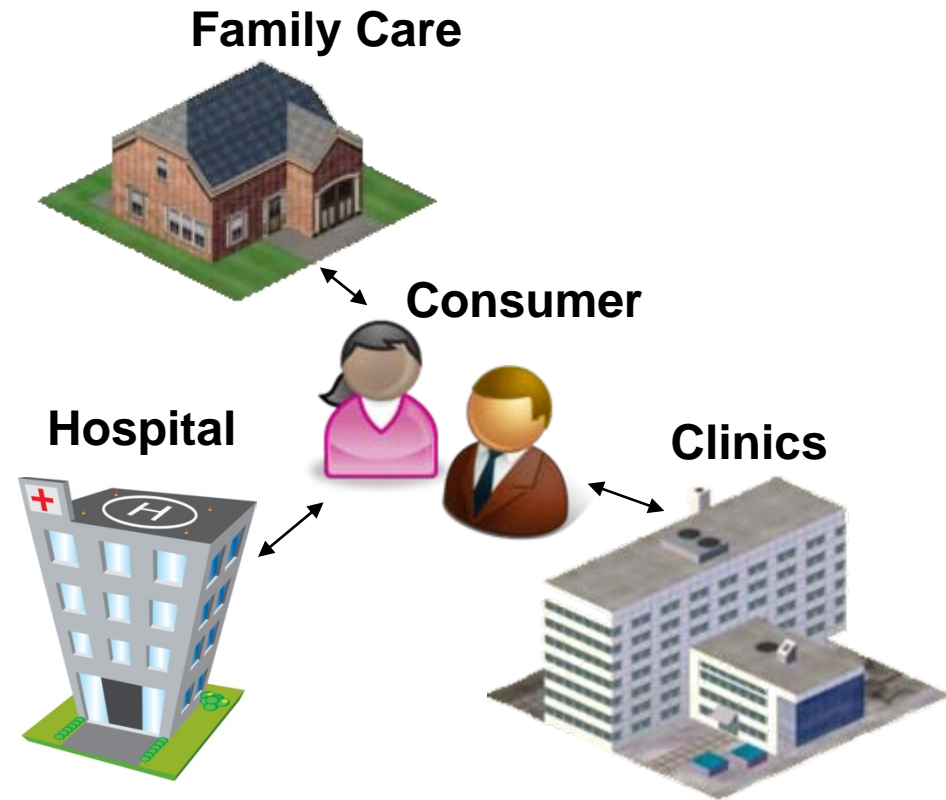
Clinics

Dealing with the Health Care Cost Crisis: Shift Risk to Providers and Consumers

- **Providers**
  - Decrease payments
  - Increase performance measurement

- **Consumers**
  - Increase premiums
  - Increase "one size fits all" cost sharing for clinician visits, diagnostic tests and prescription drugs

Cost Containment Efforts Should NOT Produce Avoidable Reductions in Quality of Care

- The archaic "one-size-fits-all" approach fails to acknowledge the difference in clinical value among medical interventions and among patients

- Ideally, higher patient co-payments would discourage the use of low-value care

- A growing body of evidence demonstrates that cost shifting leads to decreases in essential and non-essential care

Source: Mark Fendrick, MD University of Michigan Center for Value-Based Insurance Design

High Copays Reduce Adherence to Appropriate Medication Use

Change in Days Supplied for Selected Drug Classes When Copays Were Doubled

Change in Drug Days Supplied (%)

Diabetes	High Cholesterol	Hypertension
−25%	−34%	−26%
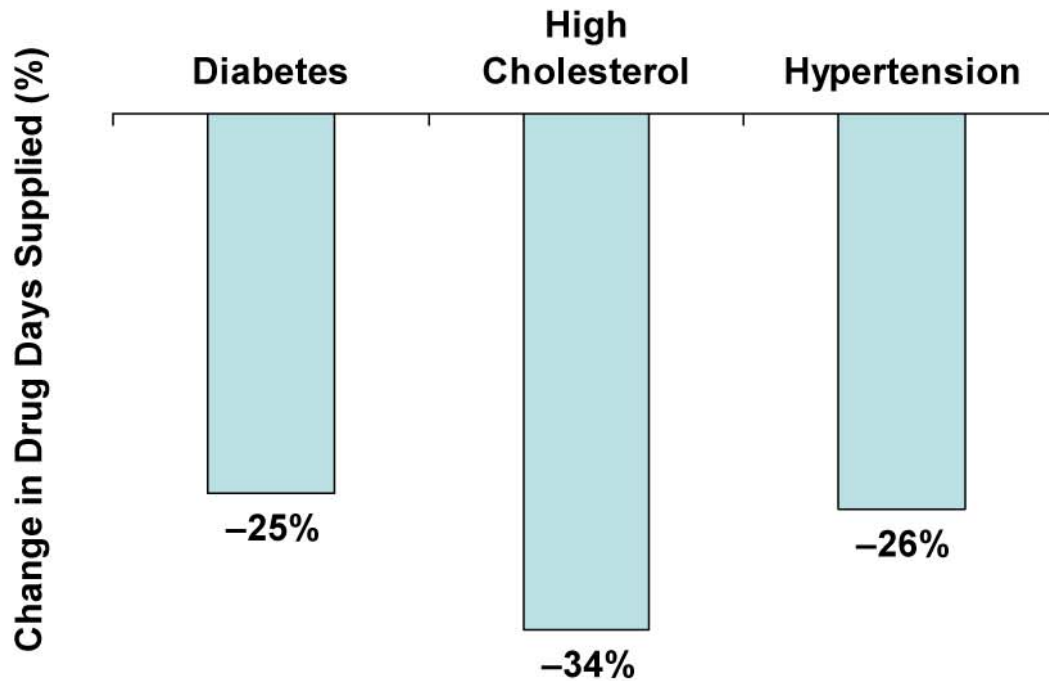
➤ **When copays were doubled, patients took less medication in important classes. These reductions in medication levels were profound**

➤ **Reductions in medications supplied were also noted for:**
- ➤ NSAIDs 45%
- ➤ Antihistamines 44%
- ➤ Antiulcerants 33%
- ➤ Antiasthmatics 32%
- ➤ Antidepressants 26%

➤ **For patients taking medications for asthma, diabetes, and gastric disorders, there was a 17% increase in annual ER visits and a 10% increase in hospital stays**

ER = emergency room.

Goldman DP et al. *JAMA*. 2004;291:2344-2350.

9

Cost Containment Efforts Should NOT Produce Avoidable Reductions in Quality of Care

- The underlying Value Based Insurance Design (VBID) premise of is removing barriers to essential, effective services

- VBID adjusts patients' out-of-pocket costs and clinician reimbursement based on an assessment of the clinical benefit achieved

- The more clinically beneficial the therapy for the patient, the lower that patient's cost share and the higher the clinician's bonus

Source: Mark Fendrick, MD University of Michigan Center for Value-Based Insurance Design

Payer Challenges

"Facilitate Quality Improvement & Contain Costs"

- ## Have access to Claims Data
  - Can leverage claims data to provide a longitudinal view of a member's health status

- ## Provide Care Management
  - Addresses Prevention & Wellness initiatives
  - Promotes effective disease management initiatives

- ## Create Physician Performance Incentive Plans

Auditing Physician Performance

My Patient List

| Disease Registry | Diagnosis Profile | Utilization Profile | | Export Page | Export Report |

Physician Demographics (based on all patients for the current physician)

Physician Name	KHZGS, CHKKHTL H	# Patients	738
Physician ID	O461178	Avg Risk Index	1.99

First | < Prev | Next > | Last   Page 1 of 15 Pages   Go

Patient List — **Guideline Compliance Information**

Patient Name	DOB	Primary Disease	Risk Index ▼	Motivation Index	Asth...	CAD	COPD	CVA	Depr...	Diab...	Drug Man...	HIV	Heart Failu...	Hem...	Hep... C	Hyp...	Hyp...	Imm... - Child...	Low Back Pain	Migr... Hea...
VNJXHMZ, JTS...	02/0...	Gastrointestinal ...	48.46	1.99							100 %					100 %				
LVWTMHXK, IN...	04/1...	ENT neoplasm	29.67	1.40							100 %					0 %				
RTDSNM, OGEK...	08/0...	Breast neoplasm	17.09	1.50												0 %				
WXLORXE, ITL...	10/2...	Metabolic Disord...	11.74	0.79																
LNRXKXE, RSX...	12/0...	Breast neoplasm	10.57	1.35												0 %				100
VTOQT, QNUXQ...	02/1...	Degenerative Or...	9.53	1.69		100 %	75 %			100 %	100 %		100 %			100 %	100 %			
KXTVG, QHVJXE L	07/2...	Degenerative Or...	9.31	1.82						88 %	100 %					100 %	100 %		0 %	
CHKKHTLR, LTQ...	03/0...	Gastrointestinal ...	9.07	0.87		100 %				63 %						0 %	0 %			
GTLHKSNM, MT...	05/2...	Infectious Disease	8.98	1.22			50 %			50 %			100 %							
LXRRLNQX, RV...	08/1...	Degenerative Or...	8.78	1.12															67 %	
TKKXM, EBNMM...	06/2...	Degenerative Or...	8.42	1.66															100 %	
LTRRXE, KTQT L	09/0...	Genitourinary Dis...	7.55	2.02	100 %					43 %						100 %			100 %	
XLOHX, XWCH...	07/1...	Congestive Hear...	7.51	1.22		100 %	100 %			75 %	100 %		100 %			100 %				
GHWTIH, LNMH...	10/2...	Central Nervous ...	7.32	0.61												0 %				33
ZQXZNQE, VGT...	12/1...	Degenerative Or...	7.27	2.31							100 %					100 %				
UEQW, WTM R	02/1...	Cardiovascular ...	7.02	2.18		83 %		100 %			100 %					100 %				
RVGMXHWXQ, ...	04/2...	Cardiovascular ...	7.02	1.08							100 %					0 %				

MEDai — an Elsevier Company

ELSEVIER

Physician Challenges

- Multiple payers per physician practice
- Varied performance incentive programs by payers
- EMRs not yet widely available
- Retrospective feedback minimally useful
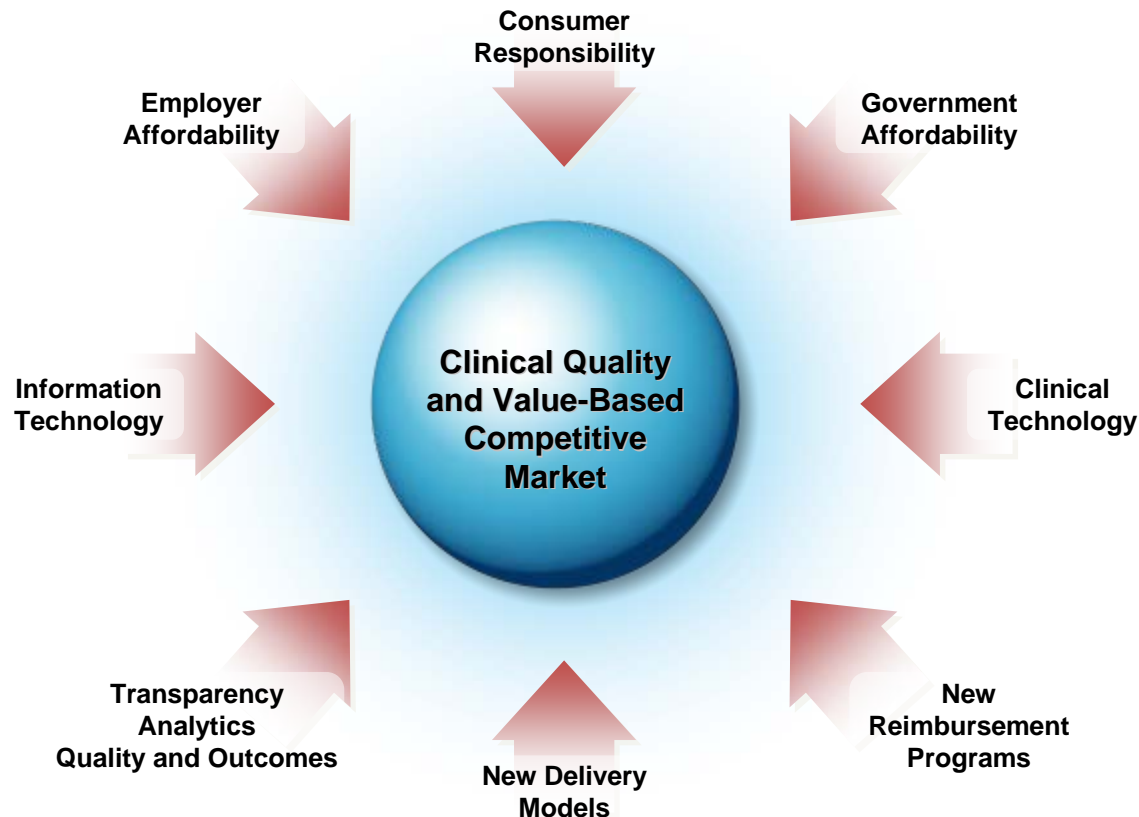- Who is ultimately responsible for the well-being of the patient???

"Engage Physicians"

- – EHR provides access to clinical & operational data including:
  - Complete medical claims history
  - Medication compliance
  - Historic lab results
  - Gaps in care

- – Tie EHR data with claims longitudinal view

- – Real-time compliance and outpatient/inpatient visit history

- – Facilitate ability to provide chronic care management at the point of care

Multiple Market Forces Are Redefining the Agenda for Hospitals, Including Clinical Quality and Operating within a Broader Set of Expectations and Collaboration

Independent of Reform, the widespread payer-led movement to focus on clinical quality and outcomes measures is an attempt to redefine provider-based competition and delivery accountability.

- Consumer Responsibility
- Employer Affordability
- Government Affordability
- Information Technology
- **Clinical Quality and Value-Based Competitive Market**
- Clinical Technology
- Transparency Analytics Quality and Outcomes
- New Delivery Models
- New Reimbursement Programs

However, to reshape the value creation model, meaningful and consistent quality and performance measures are necessary.

Hospital Challenges

- Loss of revenue

- Increased reporting pressure

- Non-payment for never events & readmissions

Event	Cost
General Readmissions	$246,571,138.00
Cardiac Readmissions	$14,246,143.00
Hospital Acquired UTI's	$16,000,000.00

For a 7-Facility System Over a 6-Month Period

MEDai
an Elsevier Company

ELSEVIER

Consumer Challenges
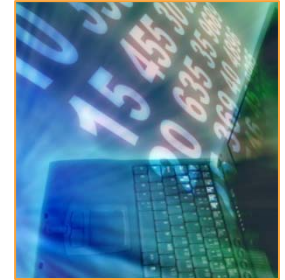
"Empower Consumers"

– Self-management tools to better manage their health

– Effective Care Plan

- Drugs

- Compliance

– Informed physician interactions

So Where Do We Go From Here?

"To fix medicine we need to do two things: measure ourselves and be more open about what we are doing."

Don Berwick, MD
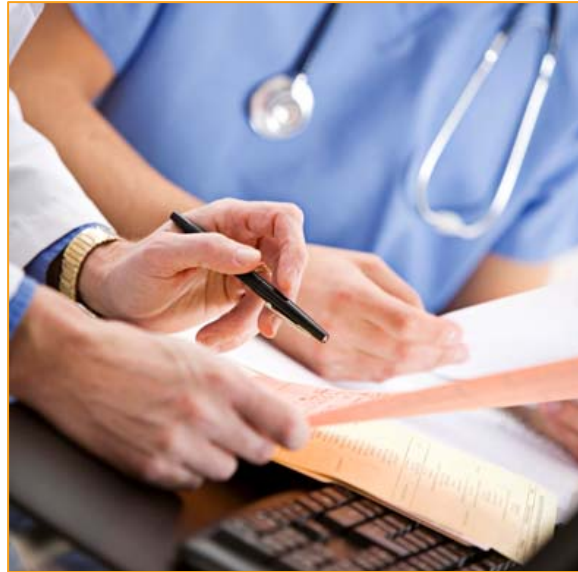
So... What Do We Need?

MEDai
an Elsevier Company

Enhancing healthcare, improving quality and reducing costs
with award-winning predictive analytics and data mining.

ELSEVIER

Two Levels of Clinical Decision Support

- **Macro - Organizational**
  - Quality is considered on a system, disease, more global basis
  - Focuses on processes and organizational level data
  - Utilizes HIT including order sets, CPOE, portals for regulatory reporting

- **Micro – Patient Specific**
  - Quality is considered on an individual/ case by case basis
  - Focuses on the application of analytics to patient specific data for patient specific improvement
  - Utilizes HIT including near real-time surveillance, predictive analytics, real-time alerting

Single Member Truth

Offer Caregivers the Appropriate Information to Identify the Right Member at the Right Time

- **<u>Access</u> to consistent patient actionable information for:**
    - Physicians
    - Consumers
    - Disease/Care Management
    - Hospitals

What Members Need to Know

- What should I do to maintain my health status?
  - Evidence-based Care Plan
  - Medication Compliance
  - Care History

Evidence-based Care Plan

Disease Guidelines

Disease	Description	Current Compliance	Future Compliance	Permanent	
CVA	Antiplatelet at discharge (clopidogrel, dipyridamole, ASA)	NO			Edit
	LDL-C screening performed	Yes			
	Non-Hemorrhagic: warfarin, indandione or platelet aggregation inhibitor.	Yes			
	With Hypertension: attention to blood pressure	Yes			
Diabetes	Eye exam (retinal) performed	Yes			
	Hemoglobin A1c (HbA1c) testing	Yes			
	Influenza immunization	NO			Edit
	LDL-C screening performed	Yes			
	Lipid profile or all component testing (total cholesterol, LDL-C, HDL-C, triglycerides)	Yes			
	Medical attention for nephropathy: screening or evidence of nephropathy	Yes			
	Microalbuminuria	NO			Edit
	With Hypertension: attention to blood pressure	Yes			
Drug Management	ACE or ARB: annual monitoring for persistent medication use	Yes			
	Statin: annual monitoring for persistent medication use	Yes			
Hyperlipidemia	Lipid-lowering medication, including niacin	Yes			
Hypertension	Multiple risk factors & receiving at least two agents from different classes	Yes			
	Receiving two or more agents, one should be thiazide diuretic	Yes			
	Thiazide diuretic	Yes			
Preventive Care	Colon cancer screening: Age 50 and older	NO			Edit
	Glaucoma screen: adults > = 65	Yes			
	PSA or DRE: males age >= 50	NO			Edit
	Pneumonia immunization: Age >=65 or 2-64 with chronic condition	NO			Edit

Medication Compliance

Maintenance Drug Compliance Summary					
Description	**# Times Filled**	**Total Days Supply Filled**	**Days w/o Drugs**	**% Compliant**	**Total Cost**
HYDROCHLOROTHIAZIDE	3	90	0	100.0 %	$ 22
GLIPIZIDE	7	210	37	85.0 %	$ 59
ALLOPURINOL	7	210	37	85.0 %	$ 40
GEMFIBROZIL	7	210	37	85.0 %	$ 66
NIACIN	3	90	0	100.0 %	$ 184
METFORMIN HCL	7	210	37	85.0 %	$ 56
LOVASTATIN	6	180	33	84.5 %	$ 76
LISINOPRIL	2	180	8	95.7 %	$ 24
ASPIRIN/DIPYRIDAMOLE	2	60	4	93.8 %	$ 269

What Physicians Need to Know

- For Medical Home/Primary Care: Which patients need to be addressed?
  - Evidence-based Medicine Care Plan
  - Medication Compliance
  - Care History
  - Is the patient motivated to maintain their health status?
- For Emergency Room Physicians
  - Medication History
  - Care History

Comprehensive View of Patient History

Patient Profile

Lab Profile	Chronological Care History			Export Page

Patient Demographics

Patient Name	OHXQVX, KEMM	Age	62
Address	123 MAIN STREET ANYTOWN, ST 12345-6789	Gender	F
		Risk Index	3.89
		RX Detail?	Yes

Top Patient Diagnosis Care History Maintenance Drugs Lab Opportunities Guideline Compliance

Patient Diagnosis

Primary Condition	Diabetes, Type 2, with comorbidity
Co-Morbidities	Conditions associated with menstruation, w/o surgery
	Benign hypertension with comorbidity
	Hyperlipidemia, other
	Screen & immunizations incidental - Cholesterol
	Ongoing Rx therapy wo Prov intervention - Irritable Bowel Disease Therapy

Top Patient Diagnosis Care History Maintenance Drugs Lab Opportunities Guideline Compliance

Care History

Visit Type	Date of Service	Primary Diagnosis	Procedure Description	Provider Name
Outpatient	04/27/2007	OTH SCRN MAMMO MALIG NEOP BREAST	COMPUTER-AIDED DETECTION (COMPUTER ...	LXSGNWHRS GNROHSTK VXMSQTK...
Outpatient	04/27/2007	OTH SCRN MAMMO MALIG NEOP BREAST	SCREENING MAMMOGRAPHY, PRODUCING DI...	LXSGNWHRS GNROHSTK VXMSQTK...
Professional	12/18/2007	BENIGN HYPERTENSION	OFFICE/OUTPATIENT VISIT, ESTABLISHED ...	KHZGS, CHKKHTL

Top Patient Diagnosis Care History Maintenance Drugs Lab Opportunities Guideline Compliance

Maintenance Drug Compliance

Drug Name	Last Fill Date	% Compliance	Next Fill Date
SERTRALINE HCL	12/18/2007	92.5%	03/18/2008
ATORVASTATIN CALCIUM	09/14/2007	100%	12/14/2007
SITAGLIPTIN PHOSPHATE	12/26/2007	98.2%	03/26/2008
GLIPIZIDE	10/17/2007	78.7%	11/17/2007
METFORMIN HCL	12/26/2007	97.8%	03/26/2008
LISINOPRIL	11/23/2007	93.4%	02/22/2008
PIOGLITAZONE HCL	09/10/2007	99.6%	12/10/2007

Care Plan

Guideline Compliance

Disease	Description	Current Compliance	Future Compliance	Permanent	
Diabetes	Eye exam (retinal) performed	NO			Edit
	Hemoglobin A1c (HbA1c) testing	Yes			
	Influenza immunization	NO			Edit
	LDL-C screening performed	Yes			
	Lipid profile or all component testing (total cholesterol, LDL-C, HDL-C, triglycerides)	Yes			
	Medical attention for nephropathy: screening or evidence of nephropathy	Yes			
	Microalbuminuria	Yes			
	With Hypertension: attention to blood pressure	Yes			
Drug Management	ACE or ARB: annual monitoring for persistent medication use	Yes			
	Statin: annual monitoring for persistent medication use	Yes			
Hyperlipidemia	Lipid-lowering medication, including niacin	Yes			
Hypertension	Multiple risk factors & receiving at least two agents from different classes	NO			Edit
	Thiazide diuretic	NO			Edit
Preventive Care	Colon cancer screening: Age 50 and older	Yes			
	Influenza immunization: Individuals age 5-64 with chronic conditions	NO			Edit
	Influenza immunization: Individuals age 50 to 64	NO			Edit
	Pneumonia immunization: Age >=65 or 2-64 with chronic condition	NO			Edit
Preventive Care - Women	Breast cancer screening: Women 40-69 years	Yes			
	Cervical cancer screening: Pap test within the previous 2 years	Yes			

Care Management Strategies

- Identify actionable members
  - Overall Risk Score

  - High probability of acute care episodes in the next 12 months (Acute Impact)

  - High Incidence of Evidence-based Medicine Guideline Gaps (Chronic Impact)

  - Member Motivation level

Stratify Members for Intervention

Filter Information

Physician List	Group List	Impact Profile Batch Report

Active Filters : Member Is Active AND Primary Diagnosis = Diabetes

First | < Prev | Next > | Last   Page 1 of 72 Pages   Go   Export Page | Export Report

Member List

Member ID	Forecas... Risk Index	Acute Impact	Chronic Impact ▼	Motivation Rank	Name	Gender	Age	Months Enrolled	Total Cost	Forecast... Cost	Primary Diagnosis	Physician	Care Mgmt	Group	Case Manager	Click to Edit
M4144...	6.33	96.00	100.00	43	TARSHM...	F	48	12	$ 14,381	$ 18,221	Diabetes	WAMUT...	SP ER	GROUP:...		·
M4053...	6.55	92.00	100.00	99	RVNSS, ...	F	45	12	$ 15,604	$ 18,838	Diabetes	QXEMNK...	SP SP	GROUP:...		·
M4146...	5.15	80.00	100.00	100	GTQSZ...	F	40	12	$ 14,639	$ 14,820	Diabetes	VQTCYN...	SP	GROUP:...		·
M4174...	4.29	93.00	100.00	97	LTWHRN...	F	45	12	$ 11,345	$ 12,329	Diabetes	OTQST...	SP BC	GROUP:...		·
M4061...	5.27	85.00	100.00	95	KTVJXE,...	F	57	12	$ 10,676	$ 15,163	Diabetes	YTKXEX...	SP	GROUP:...		·
M4106...	8.09	98.00	100.00	43	VGTMW...	M	53	12	$ 22,989	$ 23,284	Diabetes	VNYYXE...	BC SP	GROUP:...		·
M4044...	6.21	97.00	100.00	33	UQNNLX...	F	50	12	$ 13,776	$ 17,871	Diabetes	TKTE, Q...	SP BC	GROUP:...		·
M4103...	7.06	96.00	100.00	64	KNMZ, ...	F	42	12	$ 17,143	$ 20,298	Diabetes	YKNNW,...	SP BC	GROUP:...		·
M4130...	3.72	79.00	100.00	91	UQHSSN...	F	54	12	$ 9,784	$ 10,716	Diabetes	QNUUH...	SP SP	GROUP:...		·
M4097...	4.04	85.00	100.00	82	WTMHX...	F	55	12	$ 6,711	$ 11,637	Diabetes	OTQJ, I...	SP	GROUP:...		·
M4091...	4.72	90.00	100.00	92	GNARSN...	M	43	12	$ 10,854	$ 13,573	Diabetes	UHMZ, ...		GROUP:...		·
M4132...	4.55	87.00	100.00	84	UTQSN...	F	15	12	$ 11,751	$ 13,093	Diabetes	YHRVGX...		GROUP:...		·
M4199...	6.94	91.00	100.00	68	UQNCM,...	F	46	12	$ 14,190	$ 19,957	Diabetes	OTMMN...	SP	GROUP:...		·
M4165...	3.59	76.00	100.00	79	GTQBXK...	F	53	12	$ 7,704	$ 10,329	Diabetes	WHLQH,...	SP	GROUP:...		·
M4053...	6.65	91.00	100.00	98	LAQOGE...	F	60	12	$ 14,375	$ 19,143	Diabetes	UNZZR, ...	SP	GROUP:...		·
M4033...	3.52	80.00	100.00	95	KHOX, T...	M	60	12	$ 17,874	$ 10,131	Diabetes	KTMX, ...	SP	GROUP:...		·

MEDai
an Elsevier Company

ELSEVIER

Member History

Member Profile

| Member List | Risk Profile | Impact Profile | Lab Profile | Maintenance Rx | Injectibles Rx | Misuse Rx | | Export Report | Show Details |

Member Information

Member ID / Alternate ID	M41444856-01	**Total Cost**	$14,381
Member Name	TARSHM, VKTHQ	**Forecasted Cost**	$18,221
Member SSN	597950383	**Forecasted IP LOS**	2.00
Group Name	GROUP:2000	**Forecasted ER Visits**	4.00
Age/DOB	48 / 4-26-1959	**Forecasted Rx Cost**	$4,610
Gender	F	**Forecasted Risk Index**	6.33
Months Enrolled	12	**Forecasted Risk Category/Percentile Ranking**	Category 5 / Rank 99
Active (Y/N)	Y	**Impact Score**	Acute=96.00/Chronic=100.00
Rx Benefits(Y/N)	Y	**Motivation Index/Percentile Ranking/Category**	0.81 / 43 / Category 1
Rx Type		**Line of Business**	Aged, Blind & Disabled
Active PCP Name	WAMUTQ WTBHXR,CHMMHYQXW	**Care Mgmt Program**	SP ER
DEA #		**Primary Diagnosis**	Diabetes
Address	123 MAIN STREET ANYTOWN, ST 12345-6789	**Phone Number(s)**	(home) 1112223333

Diagnosis Groups

Show Details

Top Diagnosis Group Drug Professional Inpatient Outpatient Case Mgmt

Diagnosis Category	Rx	Mgmt	Facility	Ancillary	Total Diagnosis Cost
Bronchitis	$ 9	$ 82	$ 0	$ 71	$ 162
Congestive Heart Failure	$ 20	$ 129	$ 0	$ 0	$ 149
Degenerative Ortho disease	$ 123	$ 641	$ 0	$ 1,241	$ 2,005
Dermatology	$ 84	$ 241	$ 0	$ 0	$ 325
Diabetes	$ 1,567	$ 681	$ 0	$ 2,926	$ 5,174

Member Care Plan

Risk Summary

Show Summary

Risk Group	Risk Driver	Contribution to Forecast	Risk Contribution ▼
CHF Conditions	Congestive Heart Failure ETG or CHF Binary measure	$ 1,434	7.87%
Diabetic Disorders	Insulin Dependent Diabetes	$ 1,206	6.62%
Metabolic Conditions	Therapeutic Class Count Electrolytes and Miscellaneous Nutrie...	$ 1,030	5.65%
Miscellaneous Conditions	Adverse React/Poison by Meds or Biologic Substance	$ 1,000	5.49%
Chronic Respiratory Disorders	Chronic Obstructive Airway Disease	$ 933	5.12%
Major Infection Related Conditions	Cellulitis Present	$ 827	4.54%
Diabetic Disorders	Uncontrolled Diabetes	$ 705	3.87%
	Diabetes ETG or Diagnosis	$ 704	3.86%
Urinary Disorders	Therapeutic Class Count Urinary Antibacterials	$ 702	3.85%
Musculo-skeletal Disorders	Degenerative Orthopedic ETG	$ 602	3.30%
Gastrointestinal Disorders	Diseases of the Esophagus	$ 597	3.28%
Miscellaneous Conditions	Therapeutic Class Count Narcotic Analgesics	$ 597	3.27%
Psychological Disorder	Tranquilizer drugs without Psych related diagnosis	$ 587	3.22%

Member Care Plan

Disease Guidelines

Disease	Description	Current Compliance	Future Compliance	Permanent	
COPD	Spirometry testing to confirm diagnosis	NO			Edit
Diabetes	Eye exam (retinal) performed	Yes			
	Hemoglobin A1c (HbA1c) testing	Yes			
	Influenza immunization	Yes			
	LDL-C screening performed	Yes			
	Lipid profile or all component testing (total cholesterol, LDL-C, HDL-C, triglycerides)	Yes			
	Medical attention for nephropathy: screening or evidence of nephropathy	Yes			
	Microalbuminuria	NO			Edit
	With Hypertension: attention to blood pressure	Yes			
Drug Management	ACE or ARB: annual monitoring for persistent medication use	Yes			
	Diuretic: annual monitoring for persistent medication use	Yes			
	Statin: annual monitoring for persistent medication use	Yes			
Hyperlipidemia	Lipid-lowering medication, including niacin	Yes			
Hypertension	Multiple risk factors & receiving at least two agents from different classes	Yes			
	Receiving two or more agents, one should be thiazide diuretic	NO			Edit
	Thiazide diuretic	NO			Edit
Low Back Pain	Minimized potential narcotic misuse: <3 Rx within 30 days	NO			Edit
Preventive Care	Influenza immunization: Individuals age 5-64 with chronic conditions	Yes			
	Pneumonia immunization: Age >=65 or 2-64 with chronic condition	NO			Edit
	Smoking cessation interventions	NO			Edit
Preventive Care - Women	Breast cancer screening: Women 40-69 years	Yes			
	Cervical cancer screening: Pap test within the previous 2 years	NO			Edit
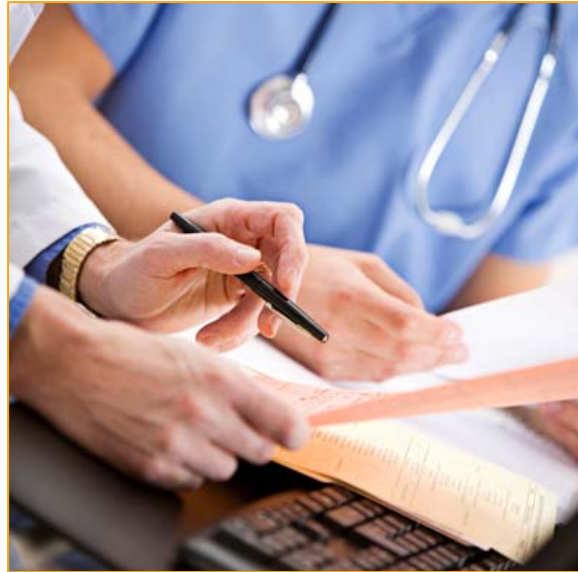
Patient Centred Medical Home Model

The Geisinger Story

MEDai
an Elsevier Company

Enhancing healthcare, improving quality and reducing costs
with award-winning predictive analytics and data mining.

Proven Health Navigator Strategy

- Deliver optimal health status for individuals and population-based *value* outcomes via a *partnership* between PCPs and GHP that provides 360 degree, 24/7 care and guidance to the practice population.

Five Functional Components of the Geisinger Medical Home

1. Patient Centered Primary Care
2. Integrated Population Management
3. Care Systems
4. Quality Outcomes Program
5. Value Reimbursement Program

GHP's Health Navigator

- Medical Home Plus
- Partnership with Primary Care sites
  - Patient-centered care model
  - Enhanced access for routine and acute care
  - Embedded case managers in primary care sites
  - Targeted action plans for high risk
  - 360 degree 24/7 awareness of population
  - Quality plans for full population
  - Redesigned payment model

Results Are Promising

- Quality – improved outcomes
- Efficiency – improved medical trend

Proven Health Navigator Quality Metrics

Quality Metric	Site #1 Baseline CY2006	Site #1 PY1 CY2007	% Improvement
Risk assessment	0	100%	100%
Plan of Care	0	99%	99%
Follow-up Encounters	N/A	84%	84%
Ability to get desired appts	84%	84%	0%
Care received during visit	91%	92%	1%
Pneumococcal Vaccine	82%	86%	5%
Influenza Vaccine	68%	63%	-7%
Diabetes	9%	11%	22%
CAD	11%	16%	45%

Positive Efficiency Results

	Phase 1 Sites 2006/2007 Trend*	Non-HN Sites 2006/2007 Trend*
Inpt Allowed PMPM	- 15%	+ 10%
Pre-Rx Allowed PMPM	- 4%	+ 7%
Total Allowed PMPM	+ 3%	+ 12%
Total Admits/1000	- 12%	+ 6%
Readmission Rate	- 11.7%	- 2%

* Risk Adjusted
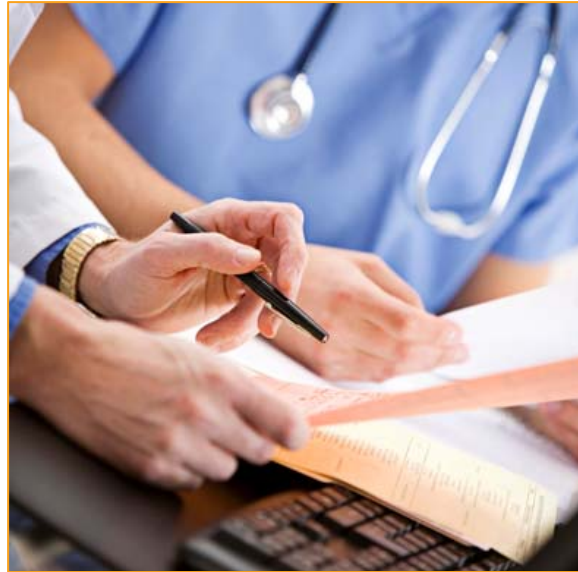
Hospital Quality Improvement
How can Analytics help?

Enhancing healthcare, improving quality and reducing costs
with award-winning predictive analytics and data mining.

ELSEVIER

Clinical Solutions for Providers

- *Quality Indicators*
  - *Retrospective Analysis*

- *Executive Dashboards*
- *Core Measure Tracking*
- *Physician Credentialing*

DEFINE & MEASURE

MONITOR & ANALYZE

PREDICT & IMPROVE

TRACK & REPORT

- *Predicts Decubitus Ulcers & Readmissions*
- *Real-time Alerts*

- *Data Collection*
- *Regulatory Reporting*
- *Track Performance*

MEDai
an Elsevier Company

ELSEVIER
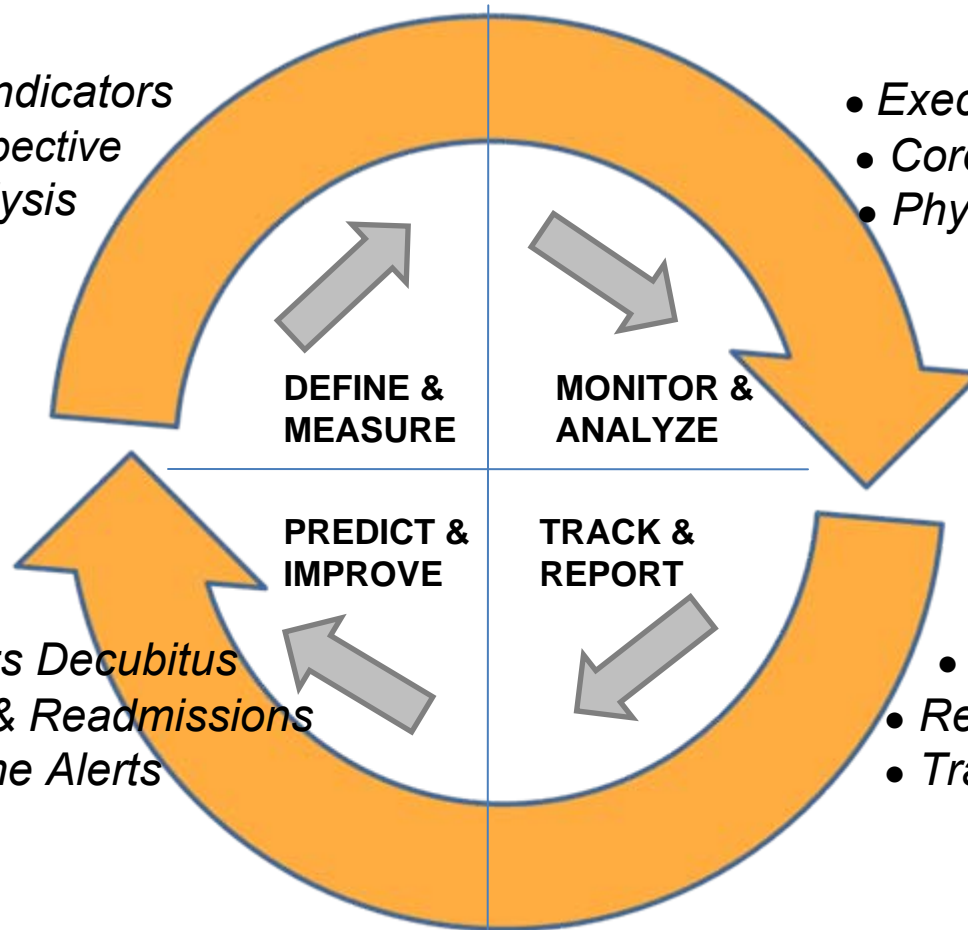
A Desire for Change

- Client Goal: Superior Outcomes at a predictable cost

- Physician-Led Clinical Best Practice Guidelines

- Need: A Partnership designed to analyze, facilitate, and track change

Executive Reporting – *System Level Cost Savings Report*

Executive Reporting *- Key Indicator Summary System Level*

Acute MI-Lower Mortality

Search | This Book ▼ | for [   ] | Search

You are here: Home > Books > Lip: Comprehensive Hypertension > Beta-blocker

✉ Email to Colleague ⊞ Add to My Folder 🖶 Print Ve

Contents | Index

Lip: Comprehensive Hypertension, 1st ed.

Beta-blocker

<< Previous | Next

In the absence of contraindications such as acute heart failure, conduction defects, advanced peripheral artery disease, and pulmonary disease, beta-blockers should be considered as first-line therapy particularly in the first few hours of AMI. Beta-blockers can be administered either orally or by infusion, and intravenous agents such as esmolol and metoprolol have a short half-life, with fast onset and offset of action.

These drugs are effective at lowering BP, and have beneficial cardiac effects by lowering the heart rate, myocardial oxygen demand, wall stress, ventricular arrhythmias, and cardiac output. [14] Furthermore, there is compelling evidence that beta-blockers as acute secondary prevention reduce the risk of all-cause mortality, coronary mortality, recurrent nonfatal MI, and sudden death in these patients. [15]

Following fibrinolytic therapy, intravenous metoprolol was associated with a diminished incidence of subsequent nonfatal reinfarction and recurrent ischemia, together with lowered rate of re-infarction or death if given early (<2 hours). [16] Such an effect appears in patients who are not receiving thrombolysis, with early studies suggesting a modestly favorable influence on infarct size and mortality benefit as well. [17,] [18] However, caution should be observed in patients with AMI precipitated by cocaine use because of the risk of exacerbating coronary spasm. [19]

Randomized trials of beta-blocker therapy in patients undergoing primary PCI have not been performed. However, for those with transient or sustained LV dysfunction, beta-blocker use has been associated with a reduction in composite endpoint of all-cause and cardiovascular mortality, and recurrent nonfatal MIs, whether patients had thrombolysis or PCI for AMI. [20] In the context of primary PCI, [21] beta-blockers can reduce malignant ventricular tachycardia [22] and minimize myocyte necrosis, as assayed using periprocedural creatinine kinase release. [23,] [24] Pre-treatment may also reduce mortality within the hospital and at a year. [25] As potential inhibitor of vascular smooth muscle–cell migration and proliferation, [26] some data even suggest that beta-blockers may lower clinical restenosis following PCI. [27]
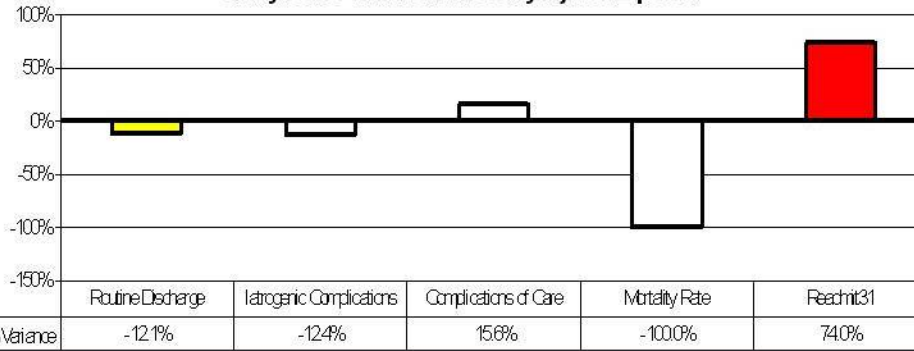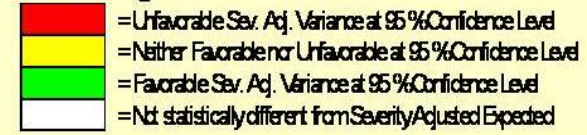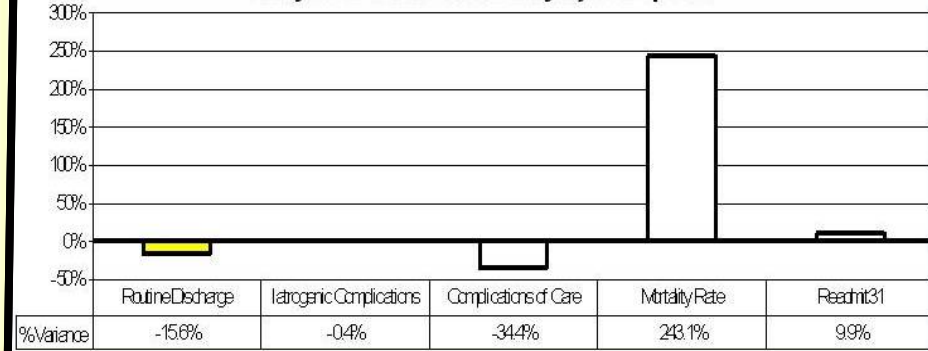
<< Previous | Next
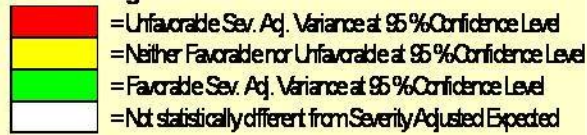
MEDai
an Elsevier Company

ELSEVIER

Success
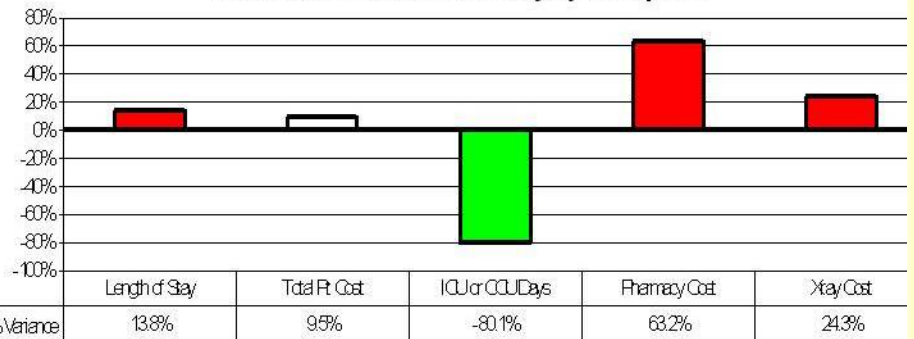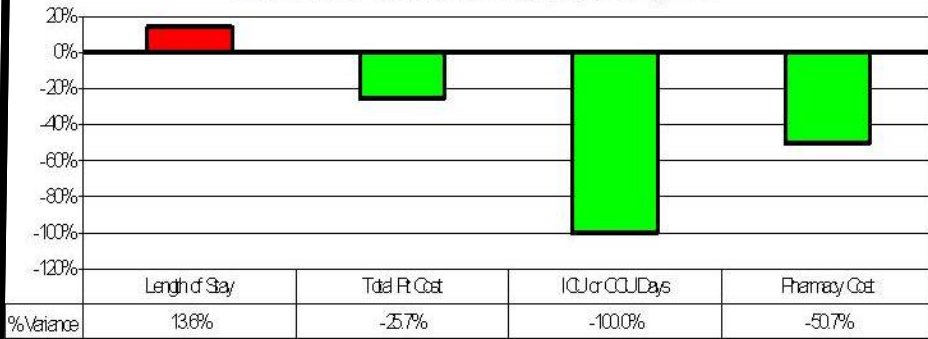
Real-time Clinical Surveillance and Forecasting

- Identify Patients at Risk for Preventable Re-admit and Decubitus Ulcer
  - *High Risk:* Stratify all patients at risk using probability scores
  - *Movers:* Identify patients with a change in risk
  - *Why?*: View risk drivers to identify prevention strategy

- Provide Near Real-time Clinical Surveillance
  - Intelligent Alert feature with customized alert delivery options
  - Powerful data filtering features
  - Reporting by Hospital, Admitting Physician, Unit/Nursing Station, Diagnosis

- Use EHR data
  - Vital Signs
  - Lab Results
  - Pharmacy
  - Procedures
  - Central Supply

MEDai
an Elsevier Company

ELSEVIER

Clinical Surveillance at the System or Facility Level

What if a patient in your hospital...

• Was found to have a bedside glucose range check below 50 or above 180 (mg/dl)?

• Has a Creatinine that increased by more than 0.5 (mg/dl) since last reading?

• Has had 2 blood sugars out of range in 24 rolling hours?

• Had surgery but has not received Venous Thromboembolism prophylaxis?

  • Initial Antibiotic Received within 6 hours of arrival for patient with Diagnosis of Pneumonia

  • Blood Cultures Performed Within 24 Hours Prior to or 24 Hours After Hospital Arrival for Patients Who Were Transferred or Admitted to the ICU Within 24 Hours of Hospital Arrival

  • Screening for an MRSA culture

MEDai
an Elsevier Company

ELSEVIER

Thank You

Questions?