Measuring the Advanced Medical Home

James M. Walker, MD, FACP

Chief Health Information Officer

GEISINGER

REDEFINING BOUNDARIES™

Geisinger

- 14 clinics, 3 hospitals, 31 counties
- 200,000 covered lives
- 100% outpatient EHR
- 100% inpatient EHR (large hospital)
- Patient EHR – 100,000 patients
- Outreach EHR – 500,000 records yearly
- Information Exchange – 10 organizations

Agenda

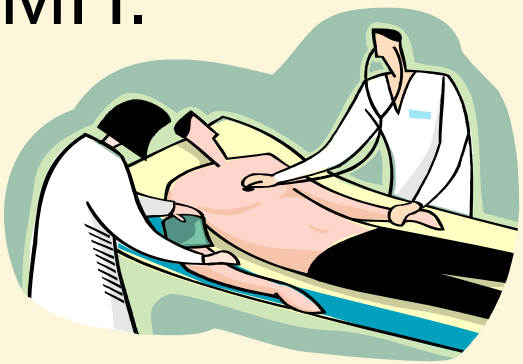
- Patient Experience
- Process Measurement
- Access
- Quality
- Efficiency
- Process Control

Agenda

- Patient Experience

Patient Experience

- 77 year-old man with COPD
  - 7 COPD-related admissions the year before.
  - Multiple pulmonary embolisms.
  - AMH COPD protocol.
  - Patient or spouse calls the “data-response center” with symptoms.
  - No admissions over one year of AMH.



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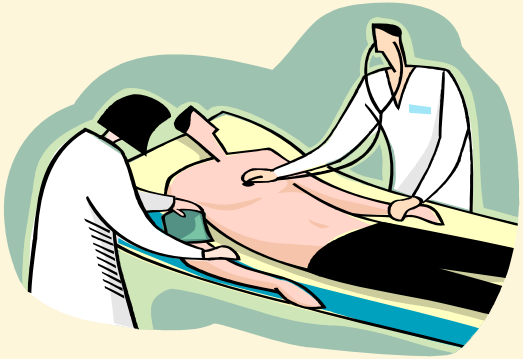
Patient Experience

- 80 year-old man with CHF post-Aortic-Valve-Replacement
  - 4 CHF and chest-pain admissions the year before AMH.
  - Case Manager and Diuretic Protocol.
  - No hospitalizations for one year.



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Agenda

- Patient Experience
- Process Evaluation

Medical Home Process Targets

Quality Indicator	Goal
Risk Assessment	over 90% of patients
Access	satisfaction score > National mean
Care During Visit	satisfaction score > National mean
Follow-Up Encounters	over 75% within 1 week of discharge
Plan Of Care	over 90% of case-managed patients
Diabetes	annual Improvement (site level)
CAD	annual Improvement (site level)
Pneumococcal Vaccination	over 90% immunized
Influenza Vaccination	annual increase pts w/ vaccine

Types of Performance Goals

- Optimum Performance
  - For many interventions (e.g., vaccination for shingles), the optimum is that 100% of patients should
    - Be vaccinated,
    - Have a contraindication documented, or
    - Receive education before declining.
  - For some interventions (e.g., HbA1c less than 7), patient preferences and adverse effects may dictate that the optimum is less than 100%.

Types of Performance Goals

- Optimum Performance
- Process-Management Thresholds
  - We must manage thousands of sub-processes (e.g., LDL under 100). Prioritization of effort requires identifying sub-processes that most need attention.
    - Needs Urgent Attention
    - Needs Attention
    - Acceptable Performance

Geisinger Health System

Clinical Quality Measures

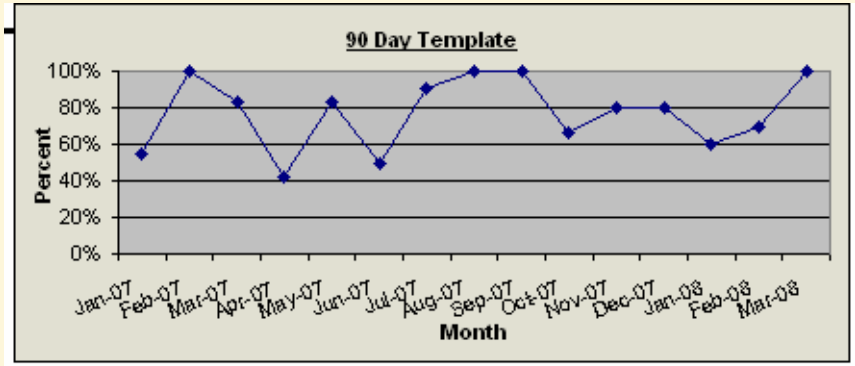
39142

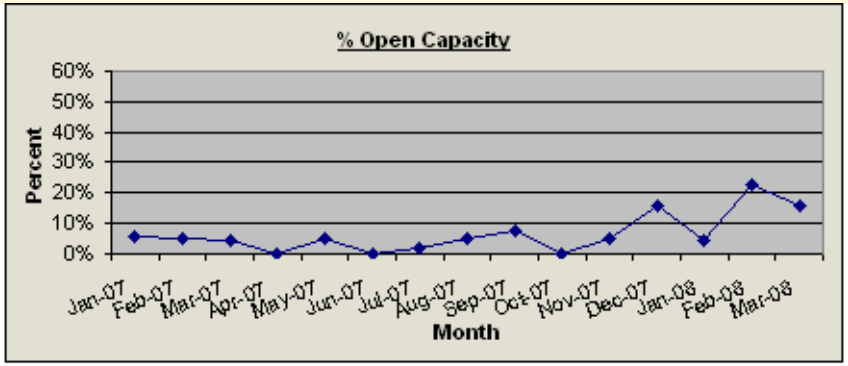
Status	Trend	Score	Measure	Target Performance: ! Unacceptable!	Needs Attention	Acceptable	Target	3rd-party Benchmark	Responsible Manager	Date
!	↓	78	Discharges without a reportable incident (%)	< 85	85-90	> 95	100			
!	↓	6.1	OSHA-reportable Workman's Compensation cases (per 100FTE/yr)	> 5	3.1-5	< 3	0	OSHA average is ~6		
!	→	74	Practice sites meeting their 3rd-available appointment target (%)	< 80	80-93	> 94	100			
!	↑	5.2	Time from arrival in ED to arrival in a floor bed (hrs)	> 5	5 -3.4	< 3.5	< 2	IHI		
	↓	54	Time from decision to admit to arrival in a floor bed (min.)	> 60	31-60	< 30	15			
	↓	62	Physical & Mental functional status (% above national medians)	< 50	50-69	> 70	?			
	→	1.4	Inpatient mortality (unadjusted; %)	> 2	0.99-2	< 1	?			
	→	2.3	Readmissions (within 7 days; %)	> 4	2 to 4	< 2	?			
	↑		Patients discharged without a hospital-acquired infection (HAI; %)			99	100			
	↑		Bundle compliance - AMI / HF / CAP (%)			100	100	95th percentile		
	↑		Bundle compliance - Diabetes (%)							
	↑		Bundle compliance - CHF (%)							
	↑		Patients not requiring an unscheduled transfer to an ICU (%)			99	100			
	↓		OR cases with a successful "timeout" (%)			99	100			
	↓		Patients with a Care Transition Plan			99	100			
	↓		Inpatient Encounters without a Fall (%)			99	100	confirming NDNQI as a		
	↓		Inpatient Encounters without worsening Pressure Ulcer (%)			99	100			
	→		Direct Nursing Hours per Patient Day (med-surg)			9.5	?			
	→		Patients immunized for Influenza & Pneumococcus (%)			99	100			
	→		Patients with an Advanced Directive (>/=50yo; %)							
	→		Tobacco Users with a counseling referral (%)							
	↑		Cancer screening rate - colon cancer (%)					HEDIS crosswalk		
	↑		Cancer screening rate - breast cancer (%)					HEDIS crosswalk		
	↑		Cancer screening rate - cervical cancer (%)					HEDIS crosswalk		
	↑		Immunization rate - by payer (pneumococcus; %)			?	parity			
	↑		Patients accessing MyGeisinger - new users (by quarter)							
	↑		Patients accessing MyGeisinger - total users (semi-annual)							
	↑		Patients capable of self-management (PAM survey; %)							

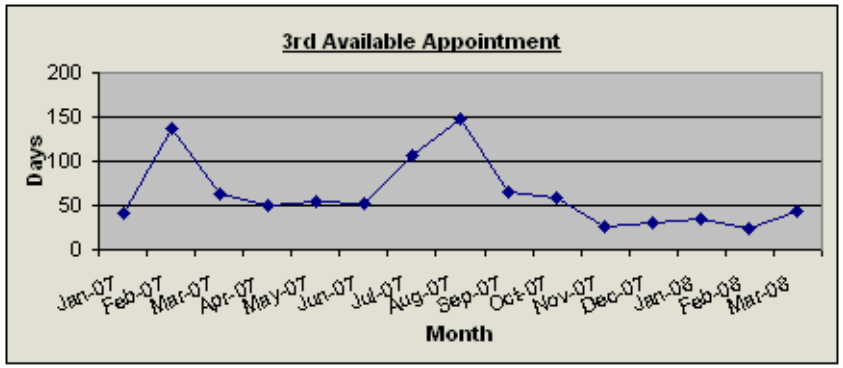
Agenda

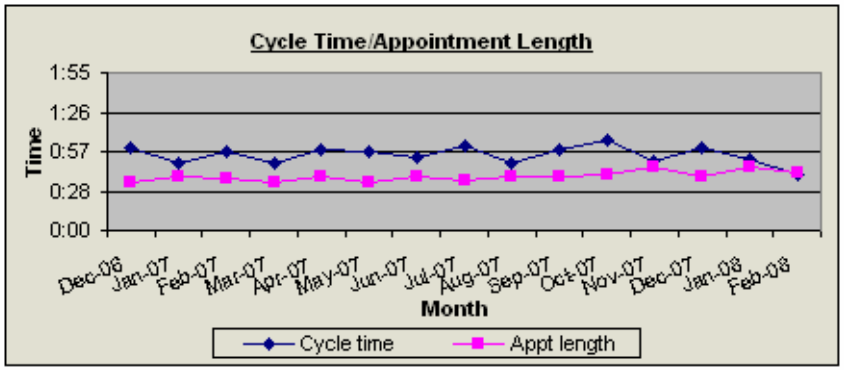
- Patient Experience
- Process Evaluation
- Access

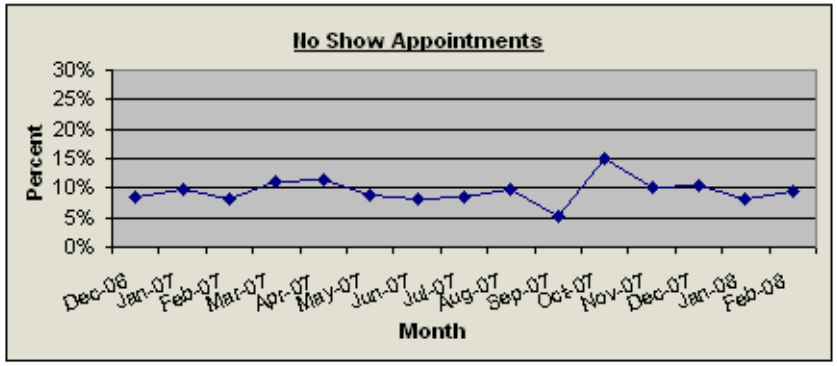
Access

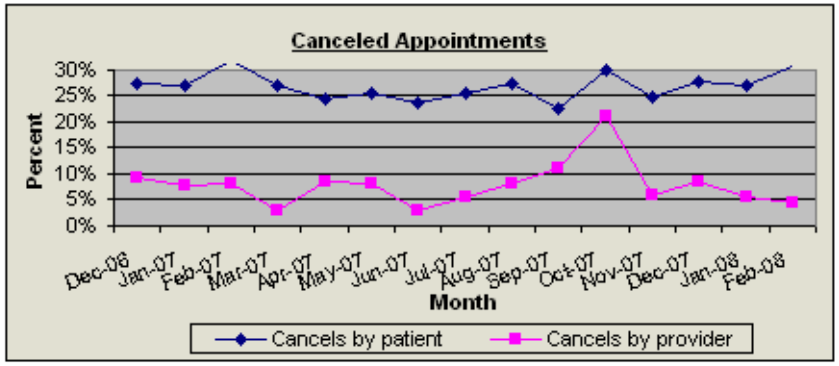












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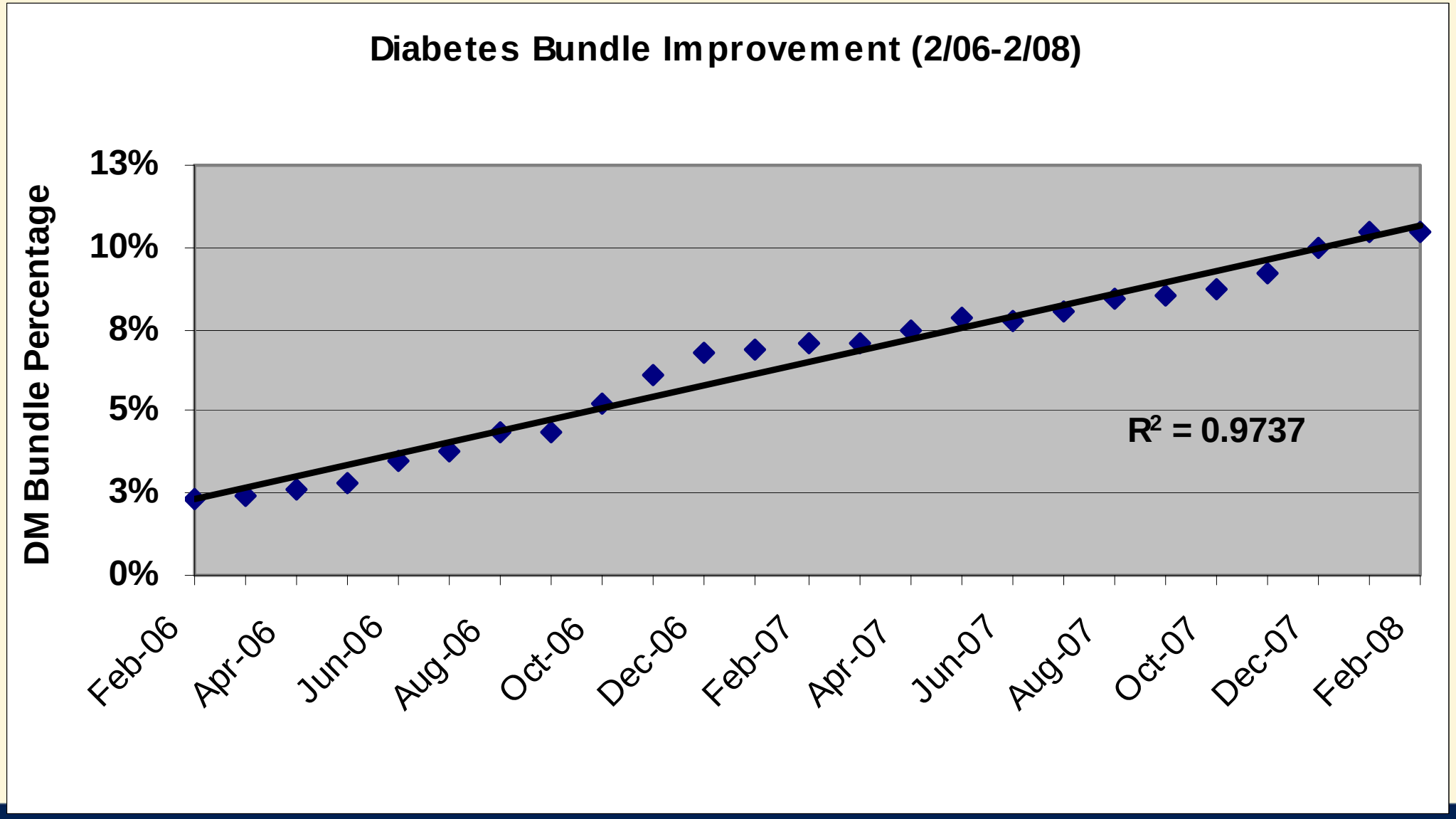
Agenda

- Patient Experience
- Process Evaluation
- Access
- Quality

Preventing Complications of Diabetes

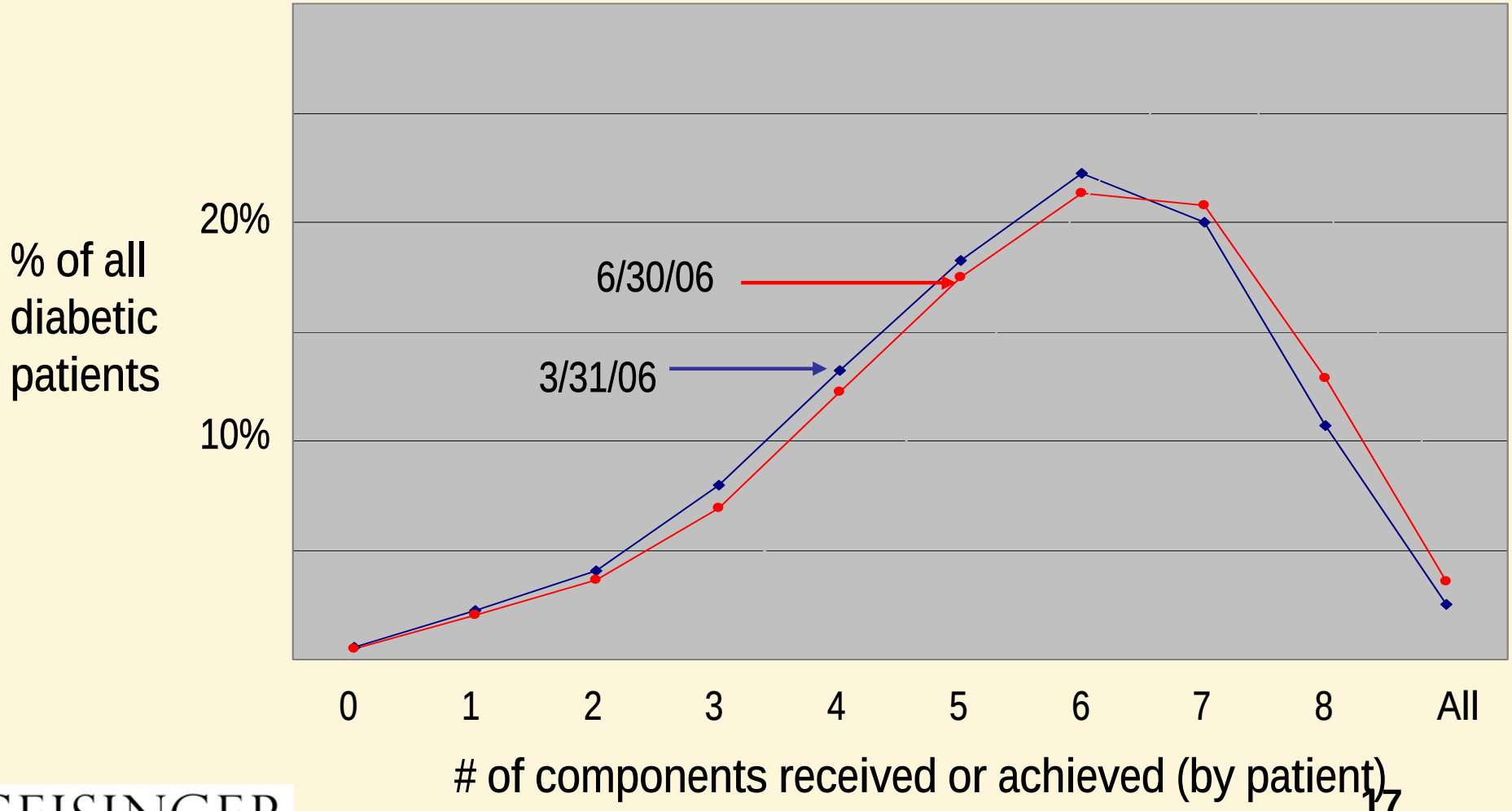
(22,010 patients)	2006	2008
Complete Bundle	2.4%	10.9%
Influenza Vaccination	57%	75%
Pneumococcal Vaccination	59%	85%
Microalbumin Order	58%	87%
HgbA1c < 7.0	33%	44%
LDL < 100	50%	57%
BP < 130/80	39%	48%
Documented Non-Smokers	74%	85%

Diabetes Bundle
Primary Care Average



Diabetes Bundle Improvement

(*All Primary Care, >20K patients*)



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Diabetes Bundle Improvement

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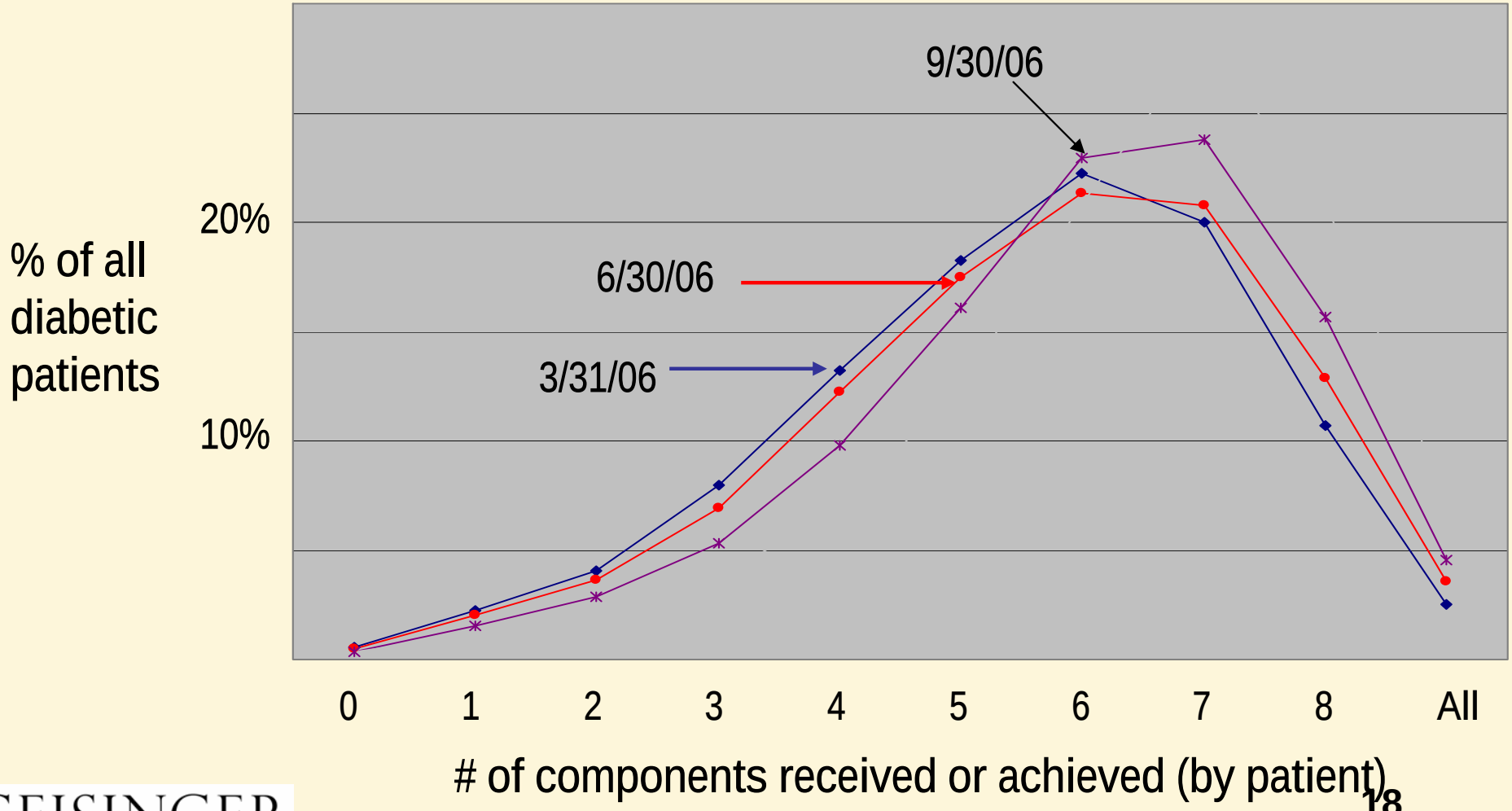

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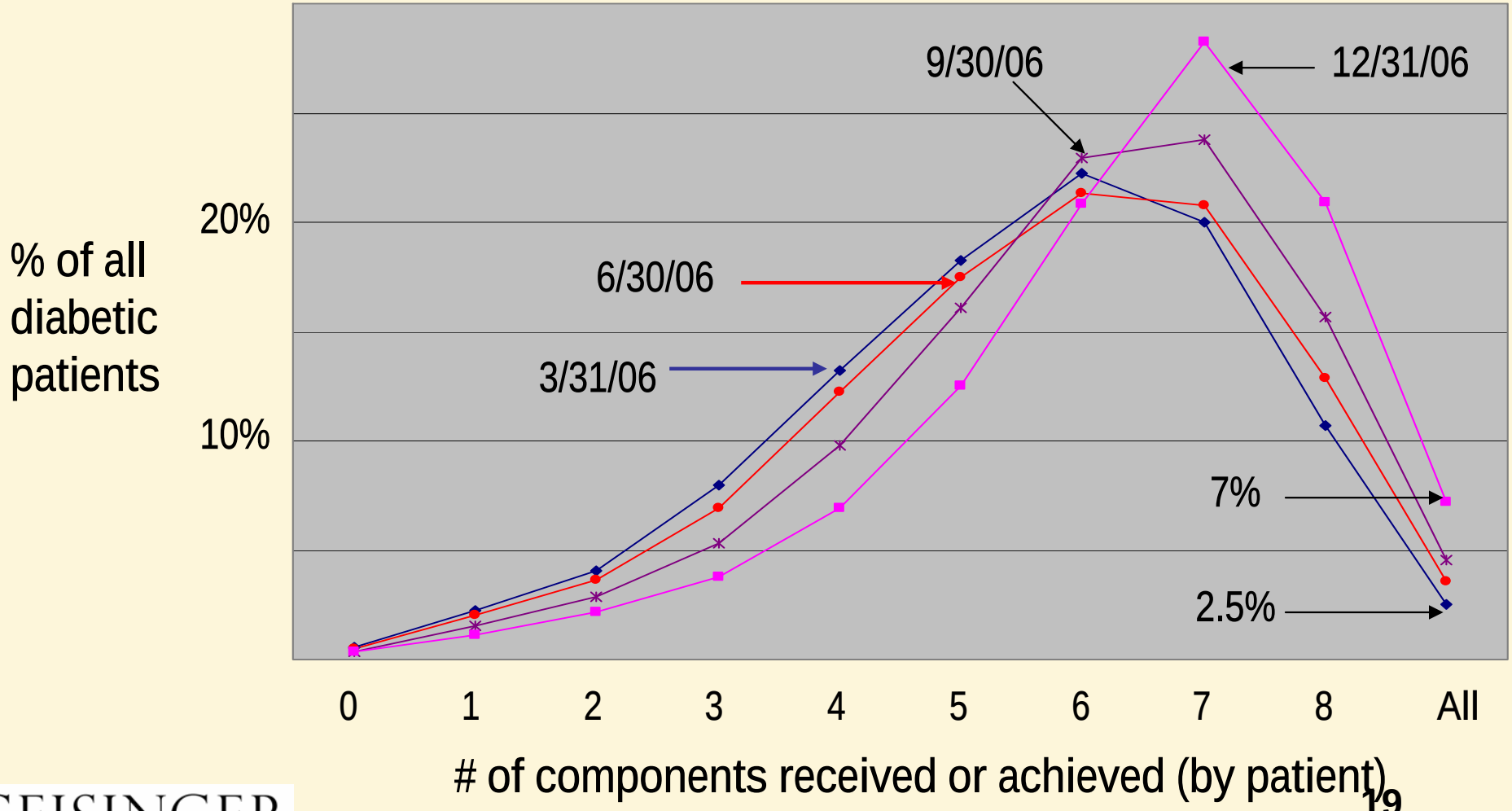
Diabetes Bundle Improvement

(*All Primary Care, >20K patients*)



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Med Reconciliation

Microsoft Excel - Provider Medication Reconciliation March 2008

E379 94.1765305401669

Provider Medication Reconciliation - Summary Report
Reporting Period: 3/1/2008 to 3/31/2008
Generated on: 4/16/2008 at 3:25:00PM

Enc Dept Name	Enc Dept ID	Total Encounters	Total Enc Reconciled & Reviewed	% Reconciled & Reviewed	Total Reconciled - Yes	% Reconciled - Yes	Total Reconciled - No Meds	Reconcile
ALLERGY/IMMUN SCENERY PARK	378	157	157	100.0%	157	100.0%	0	
CARD THOR SURG GWV HH	103953	41	41	100.0%	41	100.0%	0	
CARDIOLOGY LAKE SCRANTON	103421	5	5	100.0%	5	100.0%	0	
CARDIOLOGY MT POCONO	101119	17	17	100.0%	17	100.0%	0	
CARDIOLOGY SHAMOKIN	103824	5	5	100.0%	5	100.0%	0	
CARDIOVASCULAR SVCS LOWS RD BLOOM	105211	74	74	100.0%	74	100.0%	0	
CENTRE CO WEEKEND CLINIC	380	212	212	100.0%	191	90.1%	20	
CHILD ADVOCACY CENTER	104710	5	5	100.0%	0	0.0%	5	
CLINTON CO WEEKEND CLINIC	103677	34	34	100.0%	34	100.0%	0	
CONVENIENT CARE MOONLIGHTING CLINIC	104701	93	93	100.0%	93	100.0%	0	
DERM SELINS SPECIALITY CL	104588	89	89	100.0%	89	100.0%	0	
DERMATOLOGY BLM REICHART RD	103617	24	24	100.0%	24	100.0%	0	
DERMATOLOGY GSCW	103310	598	598	100.0%	598	100.0%	0	
DERMATOLOGY LOCK HAVEN	103671	140	140	100.0%	140	100.0%	0	
ENDO SELINS SPECIALITY CL	104587	16	16	100.0%	15	93.8%	1	
ENDOCRINOLOGY DANVILLE	6006	489	489	100.0%	487	99.6%	2	
ENDOCRINOLOGY FRACKVILLE	103799	13	13	100.0%	13	100.0%	0	
ENDOCRINOLOGY GSCW	103311	622	622	100.0%	621	99.8%	1	
ENDOCRINOLOGY KNAPPER CL DANVILLE	6055	6	6	100.0%	6	100.0%	0	
ENDOCRINOLOGY LEWISTOWN	471	12	12	100.0%	12	100.0%	0	
ENDOCRINOLOGY SCENERY PARK POD3	510	10	10	100.0%	10	100.0%	0	
ENDOSCOPY MT NITTANY	104615	2	2	100.0%	2	100.0%	0	
FAM PRAC BERWICK	103498	777	777	100.0%	725	93.3%	52	
FAM PRAC KINGSTON WEEKEND	101036	39	39	100.0%	39	100.0%	0	
FAM PRAC LYCOMING	103875	766	766	100.0%	766	100.0%	0	
FAM PRAC MAHANOY CITY	103680	375	375	100.0%	364	97.1%	11	
FAM PRAC MCELHATTAN	103690	540	540	100.0%	540	100.0%	0	
FAM PRAC MILLVILLE	103700	586	586	100.0%	548	93.5%	38	
FAM PRAC MILTON	103710	601	601	100.0%	562	93.5%	39	
FAM PRAC MOUNTAINHOME	101100	711	711	100.0%	711	100.0%	0	
FAM PRAC PATTON FOREST	14001406	1,504	1,504	100.0%	1,423	94.6%	81	

Summary | 030108-030808 | 030908-031608 | 031708-032408 | 032508-033108

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Med Reconciliation (by provider)

Microsoft Excel - Provider Medication Reconciliation March 2008

P26 PILGRAM MD, PHILIP A

Provider Medication Reconciliation - Detail Report
Reporting Period: 3/1/2008 to 3/8/2008
Generated on: 4/16/2008 at 3:22:41PM

MRN	Enc Date	Visit Provider	Prov ID	Enc Dept Name	Dept ID	Visit Type Name	Visit Type ID	Reconciled Date Recorded	Reconciled Entry User ID	User Name	Reconciled Value	Com ments	Reviewed Date Recorded
	03/04/08			INT MED MO VALLEY	475	RETURN NCR	1	03/04/08	7039		Yes		3/4/2008
	03/04/08			INT MED MO VALLEY	475	RETURN NCR	1	03/04/08	23682		Yes		3/4/2008
	03/03/08			INT MED MO VALLEY	475	RETURN NCR	1	03/03/08	1244		Yes		3/3/2008
	03/07/08			INT MED MO VALLEY	475	ACUTE	22	03/07/08	7039		Yes		3/7/2008
	03/01/08			INT MED MO VALLEY	475	RETURN NCR	1	03/01/08	96575		Yes		3/1/2008
	03/06/08			INT MED MO VALLEY	475	RETURN NCR	1	03/06/08	7039		Yes		3/6/2008
	03/04/08			INT MED MO VALLEY	475	RETURN NCR	1	03/04/08	96575		Yes		3/4/2008
	03/06/08			RHEUMATOLOGY SCENERY	260	NEW PATIENT REFERRAL REQUIRED	171	03/06/08	76932		Yes		3/6/2008
	03/03/08			FAM PRAC SCENERY PARK	317	RET FAM PRAC SCENERY PARK	31703	03/03/08	1290		Yes		3/3/2008
	03/07/08			NEUROLOGY MO VALLEY	482	NEW NEUROLOGY MO VALLEY	482003	03/07/08	8612		Yes		3/7/2008
	03/04/08			GENERAL SURGERY DANVI	6026	NEW PATIENT NCR	16	03/04/08	93048		Yes		3/4/2008
	03/05/08			INT MED MO VALLEY	475	ACUTE	22	03/05/08	23682		Yes		3/5/2008
	03/07/08			INT MED MO VALLEY	475	RETURN NCR	1	03/07/08	8167		Yes		3/7/2008
	03/05/08			FAM PRAC DANVILLE	6025	RETURN NCR	1	03/05/08	1403		Yes		3/5/2008
	03/03/08			INT MED MO VALLEY	475	COMPLETE PHYSICAL	18	03/03/08	7039		Yes		3/3/2008
	03/07/08			INT MED MO VALLEY	475	RETURN NCR	1	03/07/08	8167		Yes		3/7/2008
	03/07/08			INT MED MO VALLEY	475	RETURN NCR	1	03/07/08	1244		Yes		3/7/2008
	03/05/08			INT MED MO VALLEY	475	RETURN NCR	1	03/05/08	23682		Yes		3/5/2008
	03/05/08			INT MED MO VALLEY	475	ACUTE	22	03/05/08	1244		Yes		3/5/2008
	03/03/08			INT MED MO VALLEY	475	ACUTE	22	03/03/08	96575		Yes		3/3/2008
	03/04/08			INT MED MO VALLEY	475	RETURN NCR	1	03/04/08	1244		Yes		3/4/2008
	03/03/08			INT MED MO VALLEY	475	ACUTE	22	03/03/08	96575		Yes		3/3/2008
	03/07/08			INT MED MO VALLEY	475	RETURN NCR	1	03/07/08	8167		Yes		3/7/2008
	03/04/08			INT MED MO VALLEY	475	RETURN NCR	1	03/04/08	8167		Yes		3/4/2008
	03/06/08			INT MED MO VALLEY	475	ACUTE	22	03/06/08	1244		Yes		3/6/2008
	03/04/08			INT MED MO VALLEY	475	ACUTE	22	03/04/08	96575		Yes		3/4/2008
	03/03/08			NEUROLOGY SCENERY PAR	259	RETURN NEUROLOGY SCENERY PAR	25904	03/03/08	8259		Yes		3/3/2008
	03/04/08			INT MED MO VALLEY	475	RETURN NCR	1	03/04/08	8167		Yes		3/4/2008
	03/03/08			INT MED MO VALLEY	475	RETURN NCR	1	03/03/08	23682		Yes		3/3/2008
	03/04/08			CARDIOLOGY DANVILLE CA	6005	CONGEST HEART FAIL CL NEW	25984	03/04/08	40570				3/4/2008
	03/04/08			THORACIC MED DANVILLE C	6014	NEW PATIENT REFERRAL REQUIRED	171	03/04/08	63357		Yes		3/4/2008

Summary | 030108-030808 | 030908-031608 | 031708-032408 | 032508-033108

Ready

Start | Measuring the Adv... | HIT Support for the ... | May 19-20 | Microsoft Excel ... | 7:34 AM

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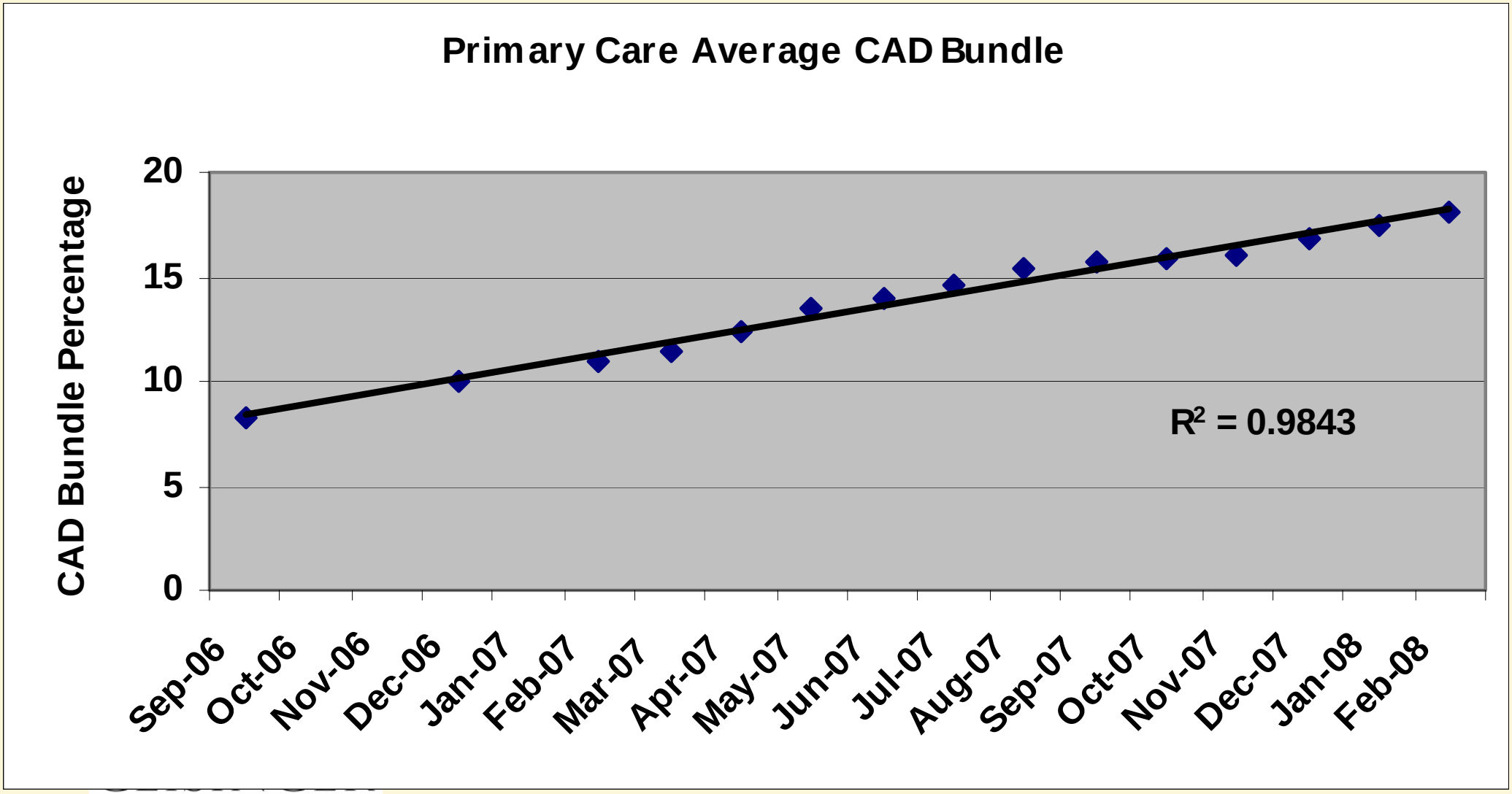
Preventing Complications of CAD

(14,183 patients)	2006	2008
Complete Bundle	8%	19%
LDL <100 or <70 if High Risk	38%	45%
ACE/ARB in LVSD,DM, HTN	65%	75%
BMI measured	79%	97%
BP < 140/90	74%	76%
Antiplatelet Therapy	89%	92%
Beta Blocker use S/P MI	97%	97%
Documented Non-Smokers	86%	87%
Pneumococcal Vaccination	80%	86%
Influenza Vaccination	60%	76%

CAD Bundle Primary Care Average



Adult Preventative Care

(205,813 patients)	11-2007	3-2008
Complete Bundle	9.2%	11.1%
Breast Cancer Screening	46%	46%
Cervical Cancer Screening	64%	65%
Colon Cancer Screening	44%	48%
Prostate Cancer Discussion	72%	75%
Lipid Screening	75%	75%
Diabetes Screening (Every 3 yr > 45)	85%	85%
Obesity Screening (BMI recorded)	77%	88%
Documented Non-Smokers	75%	76%
Tetanus Diphtheria Immunization	35%	36%
Pneumococcal Immunization	84%	84%
Influenza Immunization	47%	50%
Chlamydia Screening	22%	27%
Osteoporosis Screening	52%	55%
Alcohol Intake	84%	85%

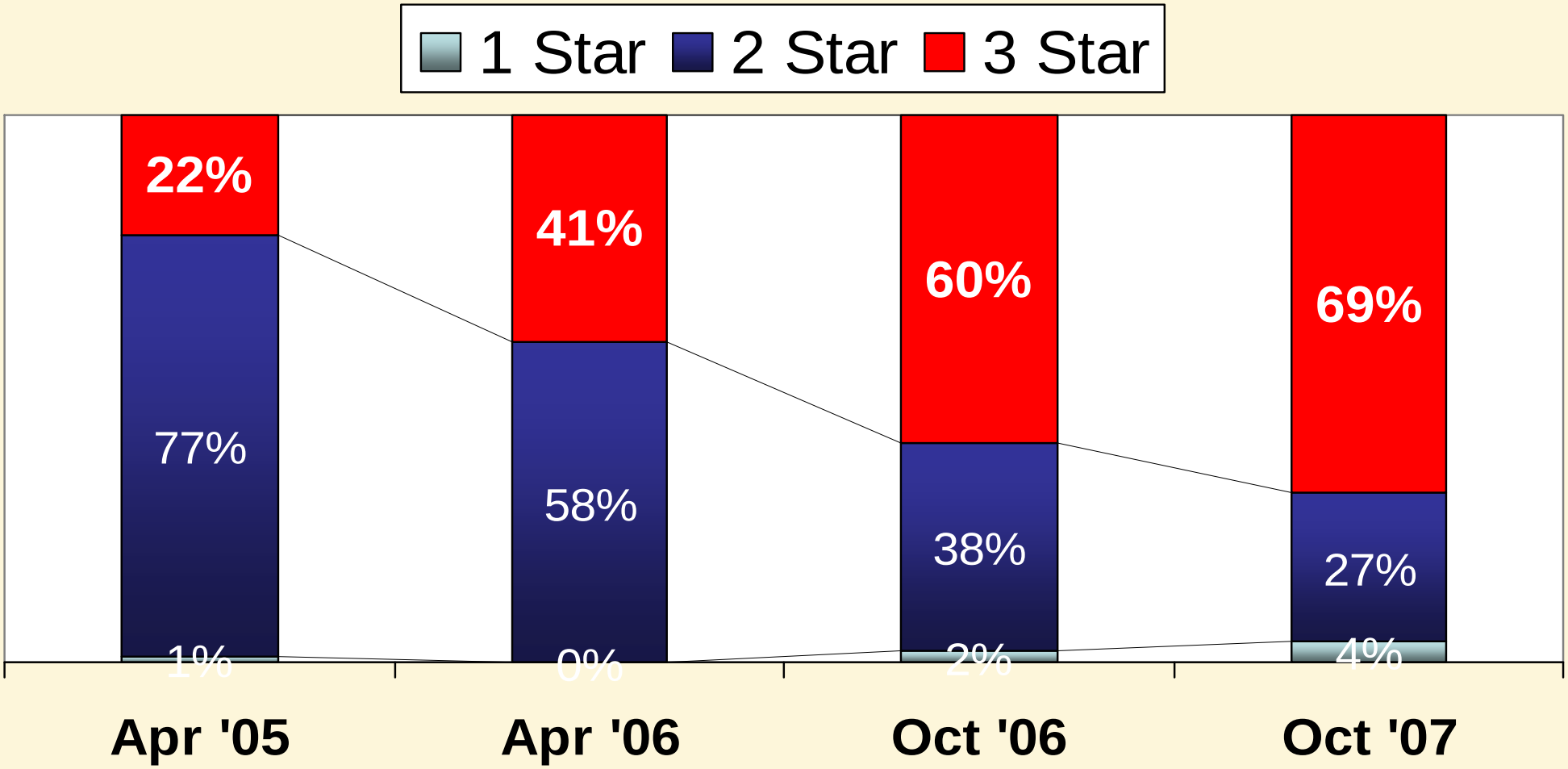
PGP Year-2 Quality - Diabetes

Measure	%	Goal %
DM-1 HbA1c Management	**97**	**87**
DM-2 HbA1c Control (HbA1c > 9)	**10**	**< 28**
DM-3 Blood Pressure Management	**75**	**75**
DM-4 Lipid Measurement	**94**	**83**
DM-5 Cholesterol Level (LDL < 130)	**86**	**73**
DM-6 Urine Protein Testing	**97**	**58**
DM-7 Eye Exam	**76**	**72**
DM-8 Foot Exam	**18**	**17**
DM-9 Influenza Vaccination	**89**	**71**
DM-10 Pneumonia Vaccination	**95**	**75**

Physician Quality Summary (PQS)

- 9 Quality Metrics
  - Clinical care
  - Patient service
  - Value
- Public Reporting by Site
- Provider-specific reports for providers

PQS Ranking of Primary-Care Sites



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Quality Summary

	Clinical Care		Service				Value		
Address	Preventive Health Measures	Chronic Illness Measures	Satisfaction with PCP Site	Member Access	Voluntary PCP Change	Extended Office Hours	Efficiency of Care	Emergency Care	Pharmaceutical Care
[redacted]	★	★	★★★	★	★★★	★★	★★★	★★★	★★★
[redacted]	★★	★	★★★	★★	★★★	★	★	★	★★
[redacted]	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★
[redacted]	★★	★★	★★★	★★★	★★★	★	★★★	★	★
[redacted]	★★★	★★★	★★	★★★	★★★	★	N/A	★	★
[redacted]	★★	★★	★★★	★★★	★★★	★★★	★★★	★★★	★★
[redacted]	★★	★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★
Geisinger Medical Group Lewisburg 250 Reitz Blvd. Lewisburg, PA 17837	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★

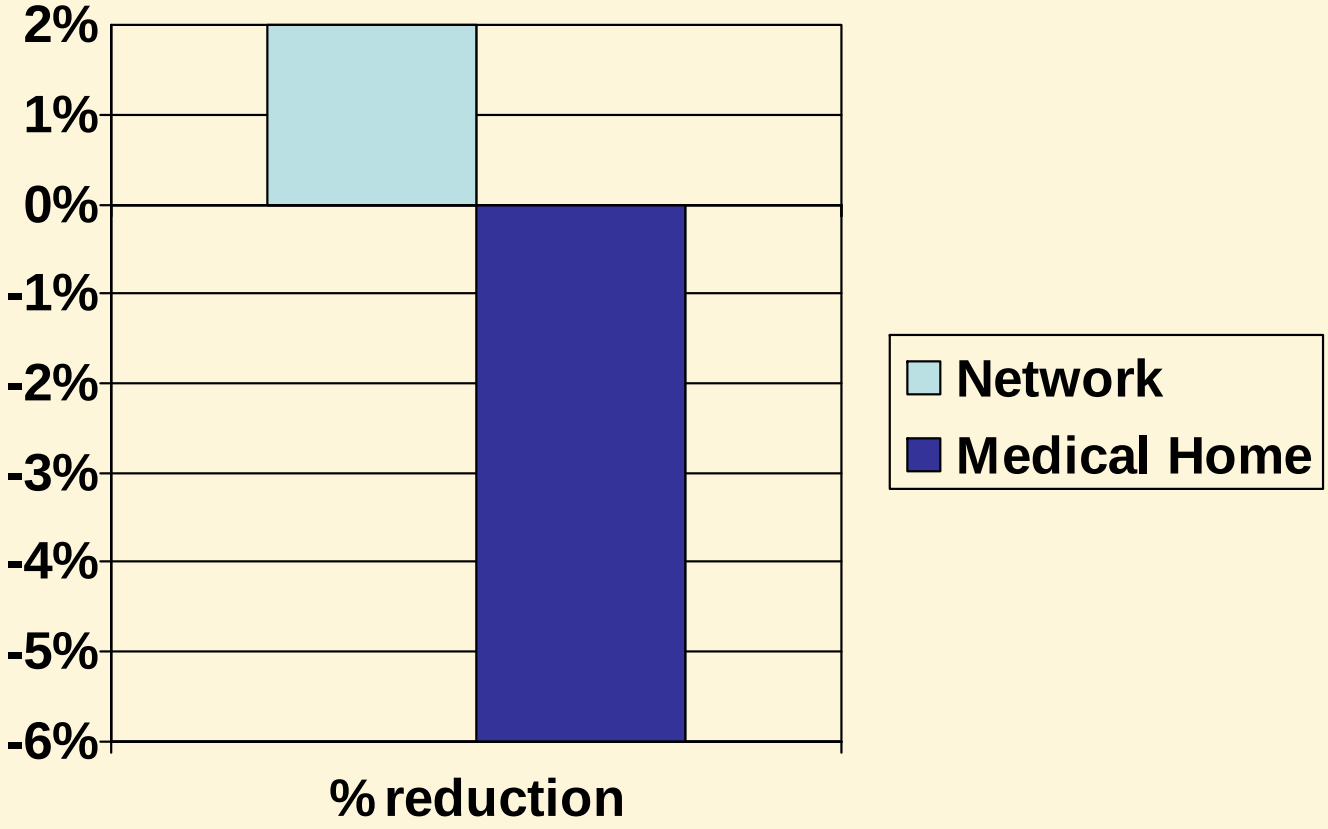
Managing Transitions of Care

- Inpatient/ED/SNF Discharges
  - Physician follow-ups
  - Care Manager follow-ups
  - Phone follow-ups
- Total Follow-Ups
- Follow-Up Rate

Agenda

- Patient Experience
- Process Measurement
- Access
- Quality
- Efficiency

Medical Home Cost Trend



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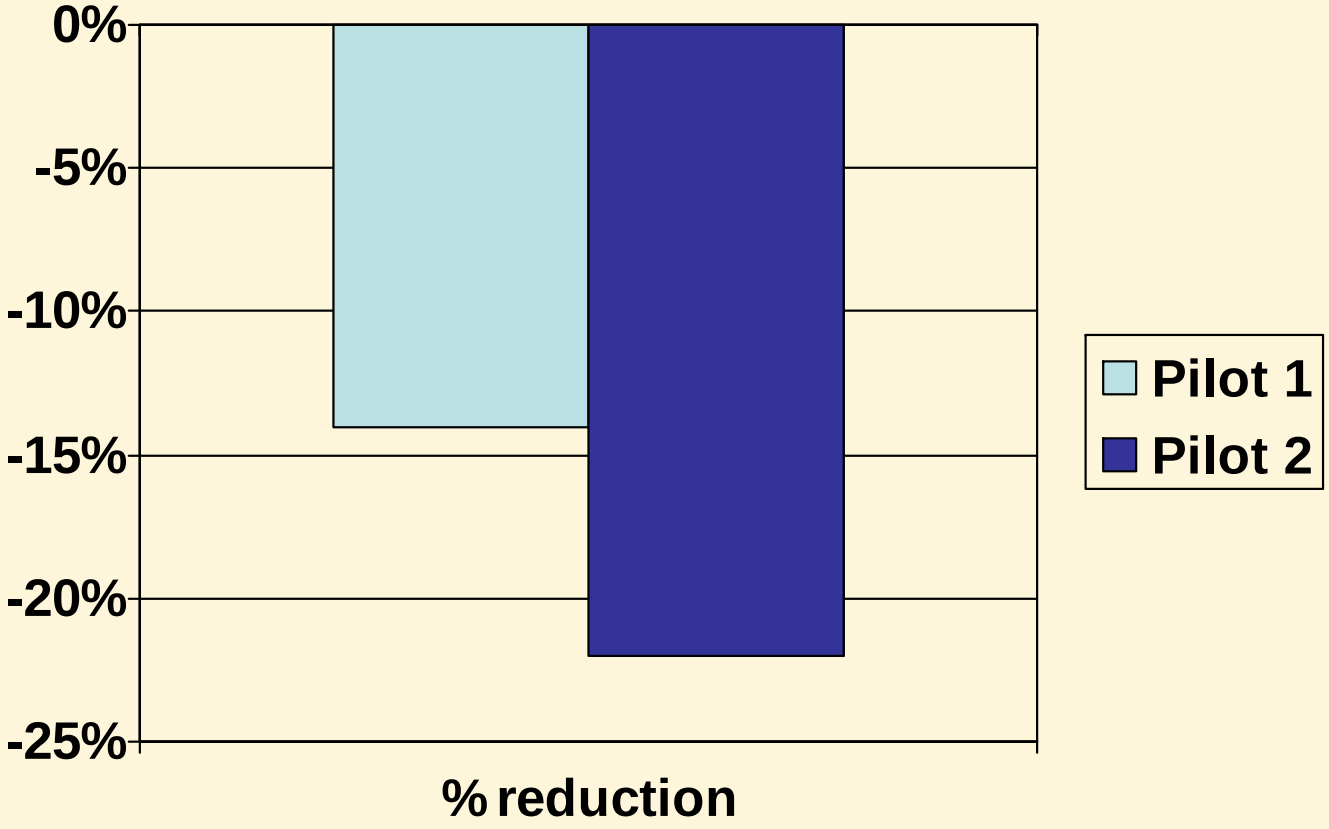
Decreased Acute Admissions



per 1,000 patients

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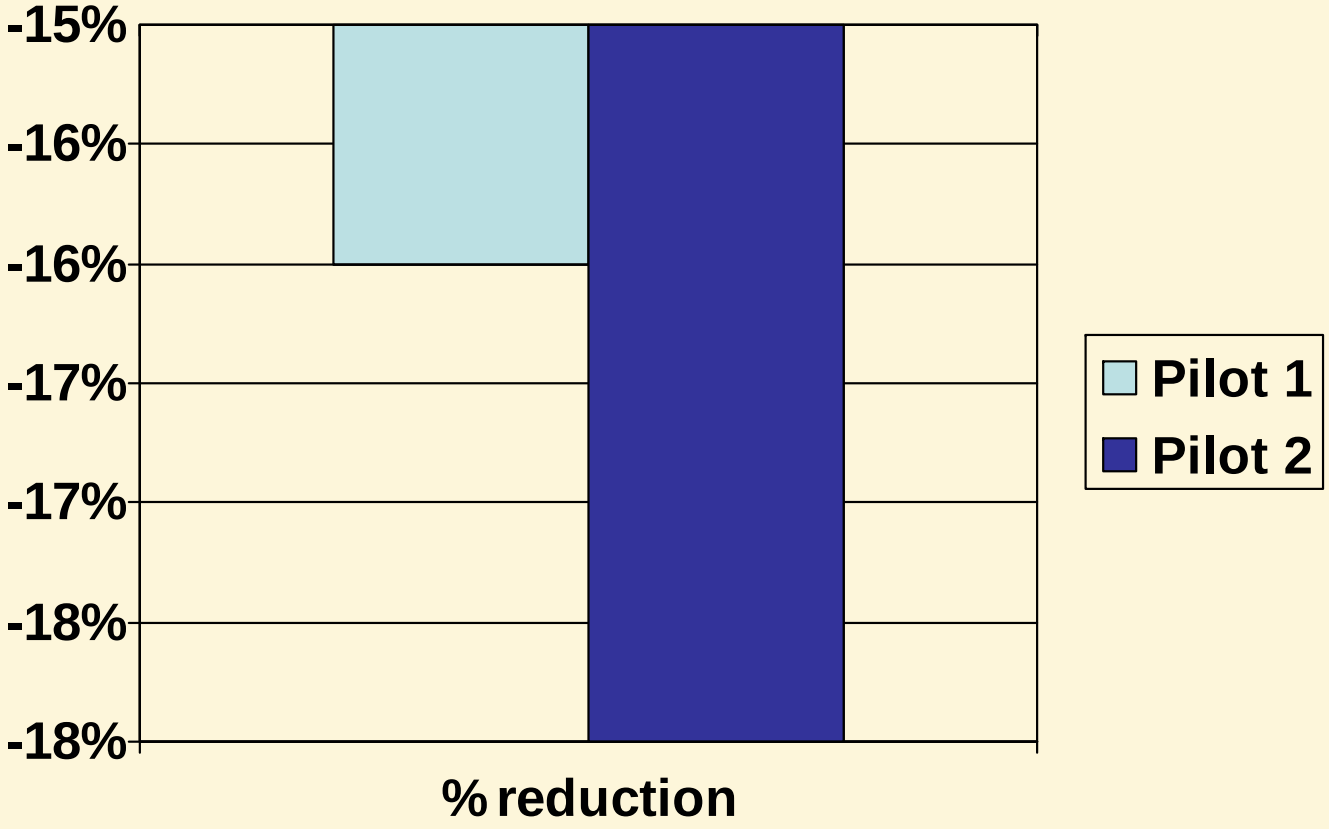
Decreased Readmissions



per 1,000 patients

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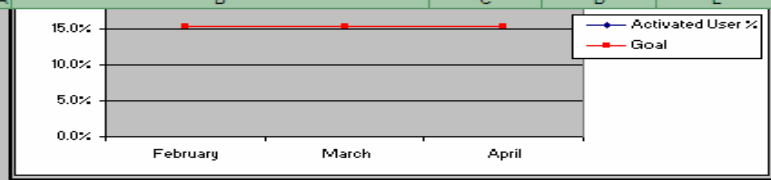
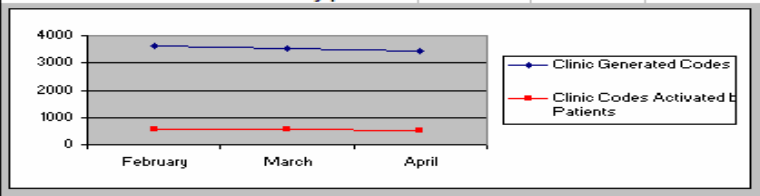
PHR Dashboard

http://infoweb.geisinger.edu/se_mygeisinger_info/reports/monthly/dashboards/april_2008/total_pr – Microsoft Internet Explorer

Address http://infoweb.geisinger.edu/se_mygeisinger_info/reports/monthly/dashboards/april_2008/total_primary_care.xls



MyGeisinger Activation Codes	February	March	April
Clinic Generated Codes	3604	3514	3429
Clinic Codes Activated by patients	588	558	513
% Codes Activated by patients	16.3%	15.9%	15.0%

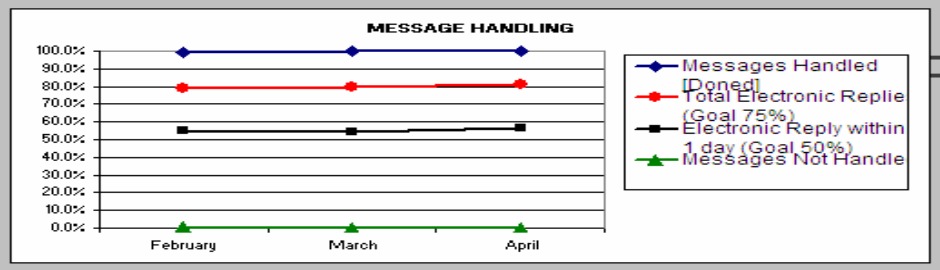


Email Addresses on File	February	March	April
Activated Users with Email on File	70,127	71,465	72,379
Percentage	95.6%	95.7%	95.7%
Goal Percentage	96.0%	96.0%	96.0%

Preferred Pharmacy	February	March	April
# Users with Preferred Pharmacy on File	51,013	52,387	53,791
Percentage	69.5%	70.1%	71.2%
Goal Percentage	80.0%	80.0%	80.0%

Message Responses	February	%	March	%	April	%
Messages Requiring Reply	7,573		8,060		8,304	
Messages Handled [Doned]	7,527	99.4%	8,053	99.9%	8,287	99.8%
Messages Not Handled	36	0.5%	3	0.0%	11	0.1%
Electronic Reply within 1 day (Goal 50%)	4,146	54.7%	4,383	54.4%	4,678	56.3%
Total Electronic Replies (Goal 75%)	5,959	78.7%	6,396	79.4%	6,750	81.3%
Forwarded Messages	1,462		1,682		1,618	
Fwd Messages Handled [Doned]	1,390	95.1%	1,611	95.8%	1,558	96.3%
Incoming Phone Calls Avoided	6717		7146		7337	

Info by Epic Pool at: http://infoweb.geisinger.edu/se_mygeisinger_info/reports/resprate.html



Direct Scheduling	February	March	April
Total Visits	97,774	95,114	95,564
No-Shows	5,609	5,141	5,216
No-Show %	5.7%	5.4%	5.5%
Visits Direct Scheduled	491	476	434
% of Total Visits Direct Scheduled	0.5%	0.5%	0.5%
No-Shows from direct scheduling	15	13	9
No-Show % from direct scheduling	3.1%	2.7%	2.1%

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PHR Efficiencies

- 81% of patient messages “e-answered”.
- Avoid 150 phone calls per clinic per month.
- Self-scheduled no-show rate is 2.1% (versus 5% for staff-scheduled).

PGP Financial Performance Year 2

	Year 1	Year 2
Person Years	24,859	24,594
Target Per Capita	$7,641	$7,912
Total Target	$189,945,773	$194,590,833
Total Actual	$188,986,781	$195,714,082
Net	$ -958,992	$ +1,123,249
2% Medicare Bar	$-3,789,915	$-3,891,817

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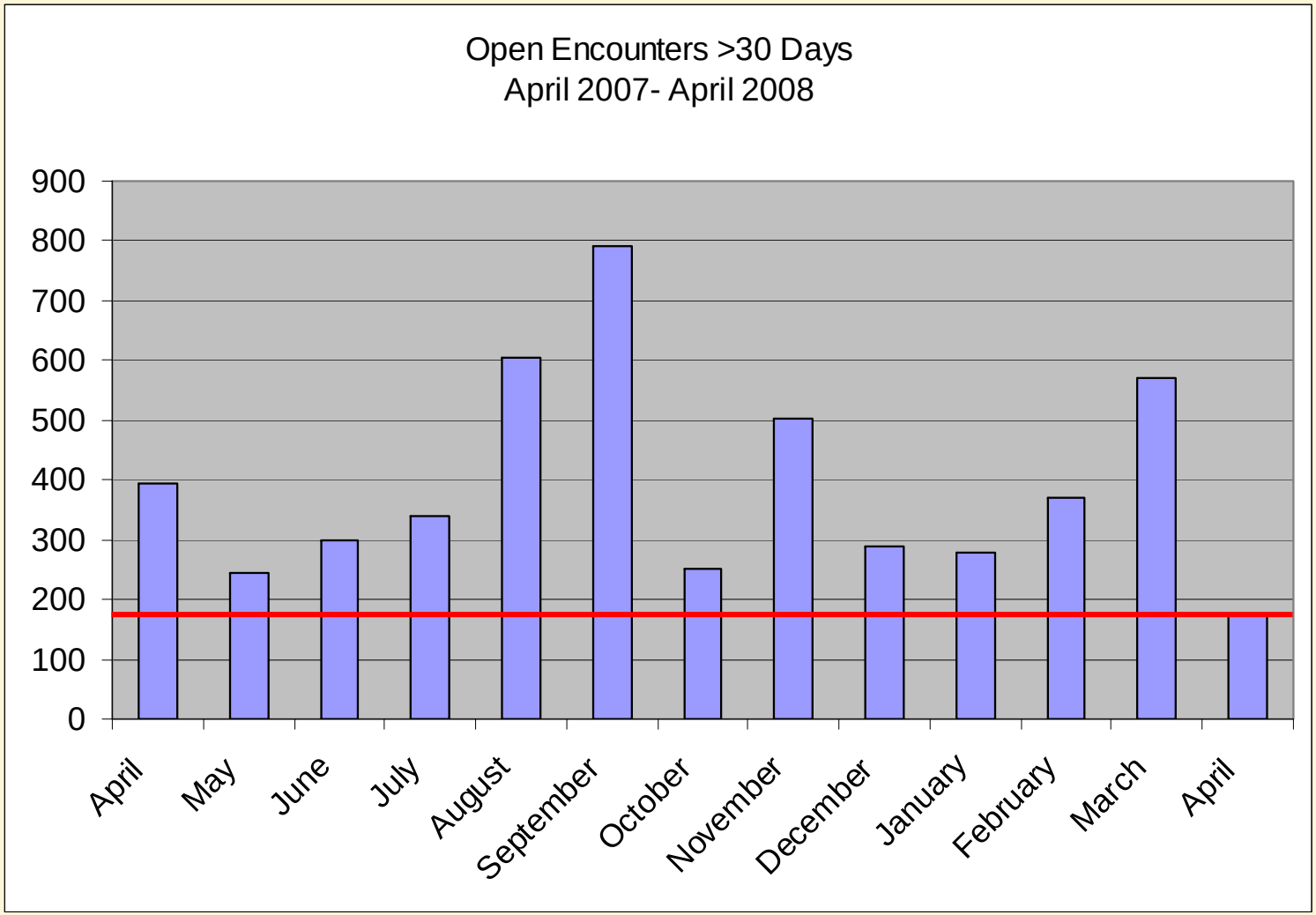
Agenda

- Patient Experience
- Process Measurement
- Access
- Quality
- Efficiency
- Process Control

Process Control



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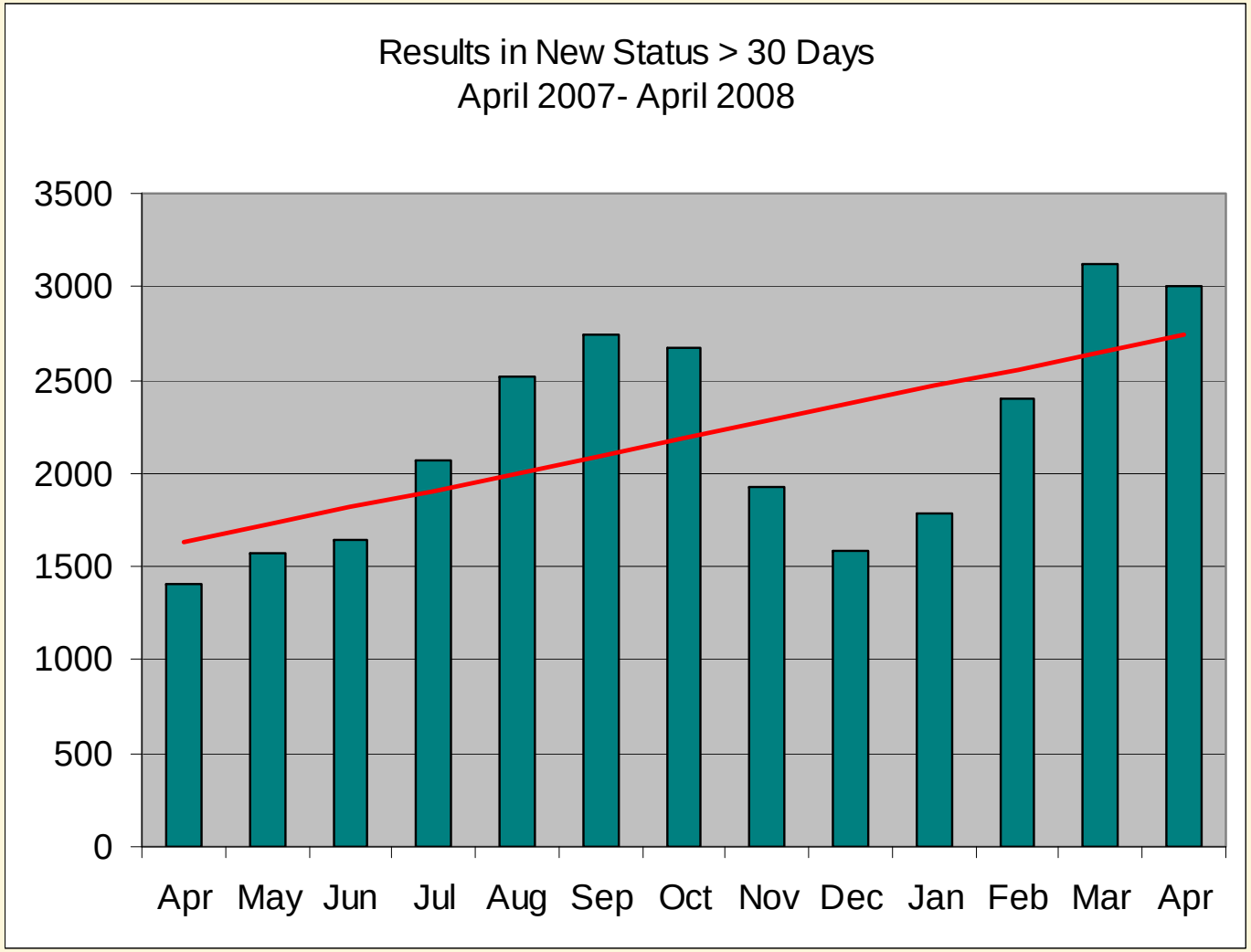
Process Control



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