

HIT for Performance Measurement and Performance Improvement: Happening Now

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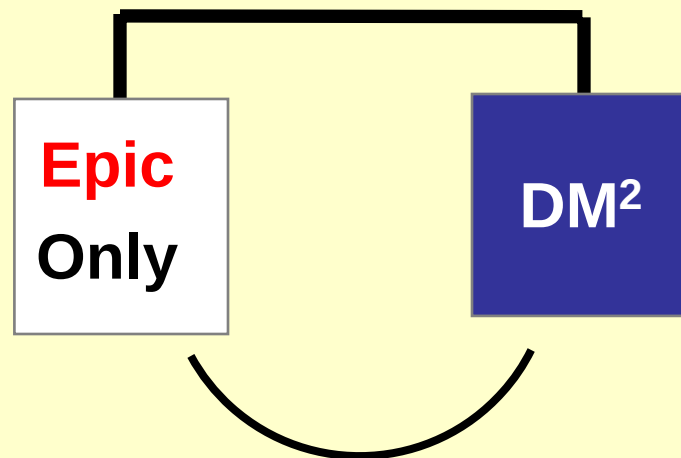
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Diabetes Improvement Group – Intervention Trial (DIG-IT*)

- EMR-facilitated real-time clinical decision support and performance measurement
 - Design
 - Patient assignment
 - Clinical decision support
 - Registry, performance feedback
 - Some results to date (ongoing)

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Design: Random Assignment of Practices to Disease Management for Diabetes Mellitus (DM²)



2 Clusters
10 Practices
~65 PCPs
~8000 Patients

EMR-Based Assignment of Patients

- Patient Eligibility:
 - Diagnosis: ICD-9 codes or antidiabetic meds
- PCP Links/Attribution:
 - Two or more eligible patient visits with PCP
 - Initialization of Lists: PCP can report:
 - “Not my patient” or “Not Diabetic”
 - Conflicts adjudicated (<.1%)
 - Weekly Updating:
 - New patients
 - Transfers within or across practices

Real-time Clinical Decision Support

- Alerts and Linked Order Sets
- Patient and Physician Education
- Patient Lists/Registry, Current Status
- Practice panel performance feedback

Encounter-based Alerts

BestPractice Alerts (View Only)

▼ **Consider prescribing ACE inhibitor or ARB (Microalbumin 30 or higher)**

(Last MICROALB=34 on 3/3/2005)
(Last CR=1.3 on 7/31/2001)
(Last K=4.3 on 5/8/2001)

{Links to Automated Order Set}

What do we know about this patient?

- **She has diabetes and is visiting her PCP**
- **Her kidneys are leaking protein.**
- **She is not on an ACE inhibitor or ARB and has no documented allergies to them.**
- **She has no other contraindications (K, Cr)**
- **There are several alternative drugs/doses**

SmartSet Linked to ACE/ARB Alert

Epilo Hyperspace - WP INTERNAL MEDICINE - MetroHealth | Patient name: ETER(M || Results, Overdue Results

Desktop Action Patient Care Scheduling HIM Billing Reg/ADT Referrals Reports Tools Admin Help

Back Forward Home Schedule In Basket Review Encounter Tel Enc Refill Patient Lists References Print Log Out

Home Zztest.A Workspaces

Patient name: 15 yea M 5/9/1990 MRN: 5014774 Allergies: Penicillins, Cat Dander, Salicylat* PCP: GRECO, PETER * Alerts: HM INS: SELF-FUNDED (!*

Activities

- SnapShot
- Chart Review
- Results Review
- Flowsheets
- Graphs
- Growth Chart
- Demographics
- History
- Problem List
- Letters
- Musweb
- Imm/Injections
- Health Maintenanc...
- Order Entry
- Allergies
- Medications
- Visit Navigator

SmartSet - Decision Support

Association Primary Dx Edit Item Add to Favorites Pharmacy Questionnaire Health Maint Accept/Pend Accept/Sign Cancel

ACE/ARB FOR MICROALB 30+ (VN) - SmartSet # 690

- Consider prescribing ACE inhibitor or ARB (Microalbumin 30 or higher)
- (Last MICROALB=34 on 3/3/2005)
- (Last CR=1.3 on 7/31/2001)
- (Last K=4.3 on 5/8/2001)
- Select a medication to initiate
 - Medications: (single)
 - Lisinopril 5mg 1 po qd (#30/5)
 - Lisinopril 10mg: 1 po qd (#30/5R)
 - Lisinopril 20mg: 1 po qd (#30/5R)
 - Losartan (Cozaar) 50mg: 1 po qd (#30/5R)
 - Candesartan (Atacand) 16mg: 1 po qd (#30/5R)
 - Valdesartan (Diovan) 80mg: 1 po qd (#30/5R)
 - Laboratory Tests: (multiple)
 - BMP in 4 weeks
 - Diagnosis: (multiple)

Re-cap of indications

Choice of Rx/doses

Follow-up testing

Authorizing Provider: GRECO, PETER J. [0559 ...]

Consign for Procedures

Meds Fill Options: Fill Later Patient Waiting

SmartSet Notes: No notes defined for this SmartSet.

Updated PCP Patient List, Ed Materials

The screenshot displays the Epic EMR interface. At the top, a navigation bar includes links like Back, Forward, Home, Schedule, In Basket, Review, Encounter, Tel Enc, Refill, Patient Lists, References, Print, and Log Out. Below this is a 'Patient Lists' section with a 'Close' button and a toolbar with icons for Create, Properties, Remove, Add Patient, Copy, Paste, and Open Chart. A red arrow points to the 'Open Chart' icon with the text 'Click on tab to sort'.

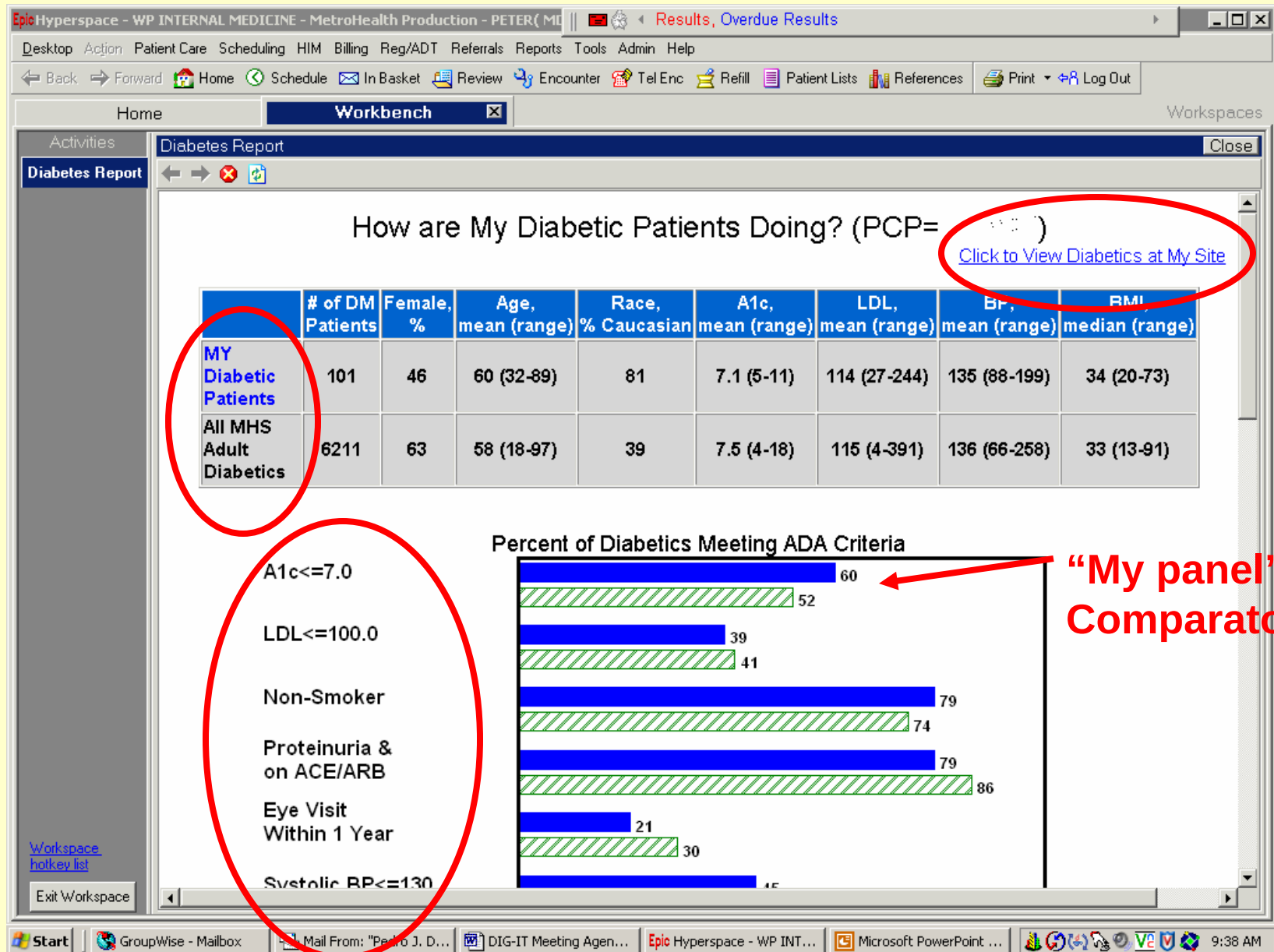
The main section is titled 'DIABETES- Physician name as of 0947'. It contains a table with the following columns: Patient Name, Tobacco, HbA1c val/ico, HbA1c due (mos), LDL val/ico, LDL due (mos), Microalb val/ico, Microalb due (mos), Pneumovax Due, and Eye Exam Due. A black box on the left side of the table contains the text 'Patient names in this column.'.

Below the table is a 'Report: MHS DIABETES' section. It includes a header 'Diabetes Report for A Patient name, hosp number and phone #' and a 'References:' section with two links: 'Diabetes Library' and 'Patient education'. A red circle highlights these links, and a red arrow points to them with the text 'Downloadable educational matls'.

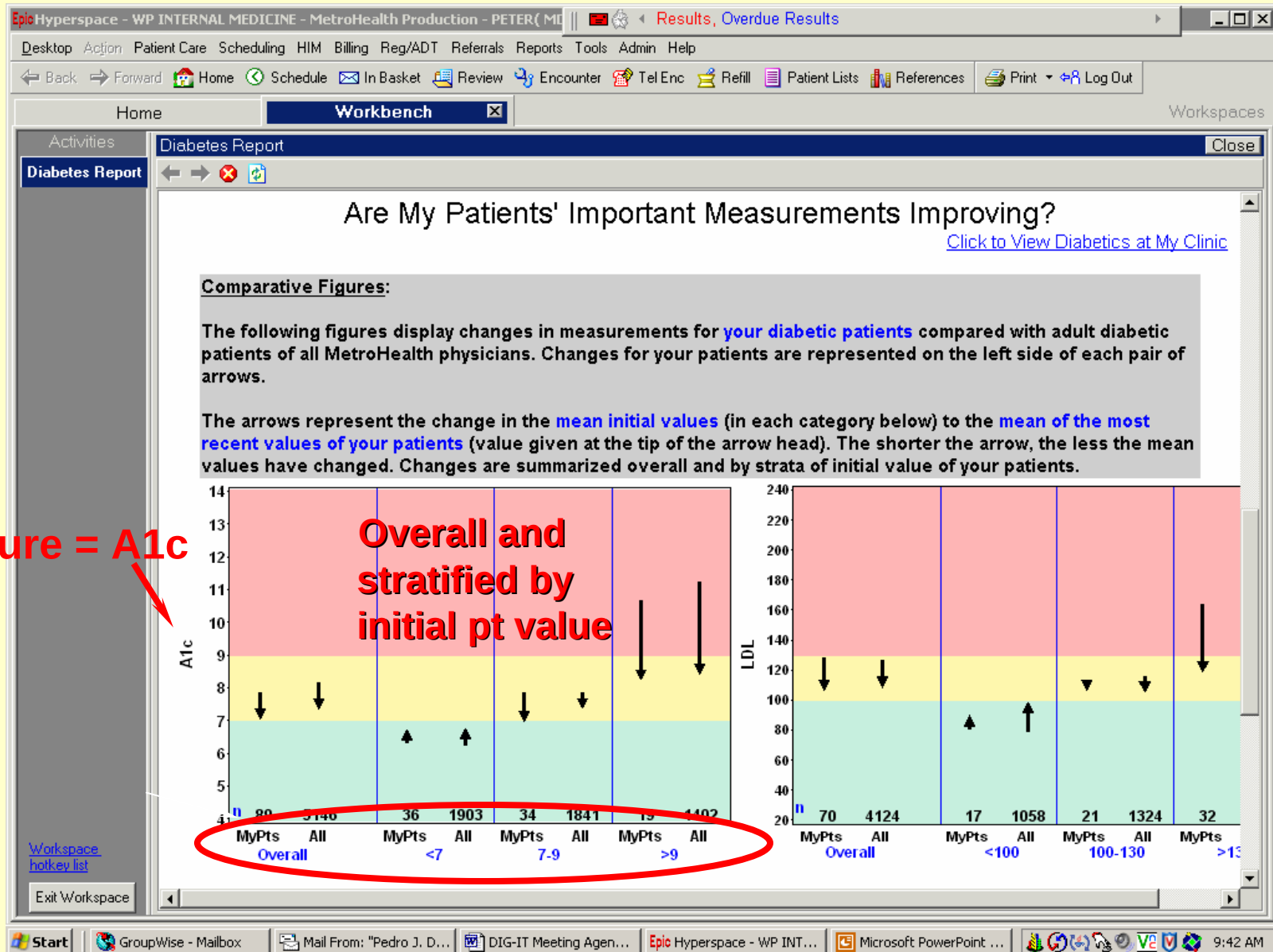
The bottom of the screen shows a Windows taskbar with various open applications, including GroupWise - Mailbox, Mail From: "Pedro J. D...", DIG-IT Meeting Agen..., Epic Hyperspace - WP INT..., and Microsoft PowerPoint ...

Patient Name	Tobacco	HbA1c val/ico	HbA1c due (mos)	LDL val/ico	LDL due (mos)	Microalb val/ico	Microalb due (mos)	Pneumovax Due	Eye Exam Due
	Not Asked		Now		Now		Now	Now	04/01/2006
	Quit	11.4	5	102	11	200	3		03/21/2006
	Quit	11.4	3	87	11	254	1		12/21/2005
	Quit	11.3	Now	188	6	6	Now		07/09/2005
	Never	11.3	1	110	7	121	Now		06/07/2005
	Never	10.5	5	95	8	4	Now		08/06/2005
	Never	10.5	4	115	8	15	10		06/01/2005

Comparative Feedback on Practice Panel



Comparative Improvements in Measures



Clinical Measure of Improvement

“ADA Scores” Measured Every Week

Clinical Outcome: Change in Scores

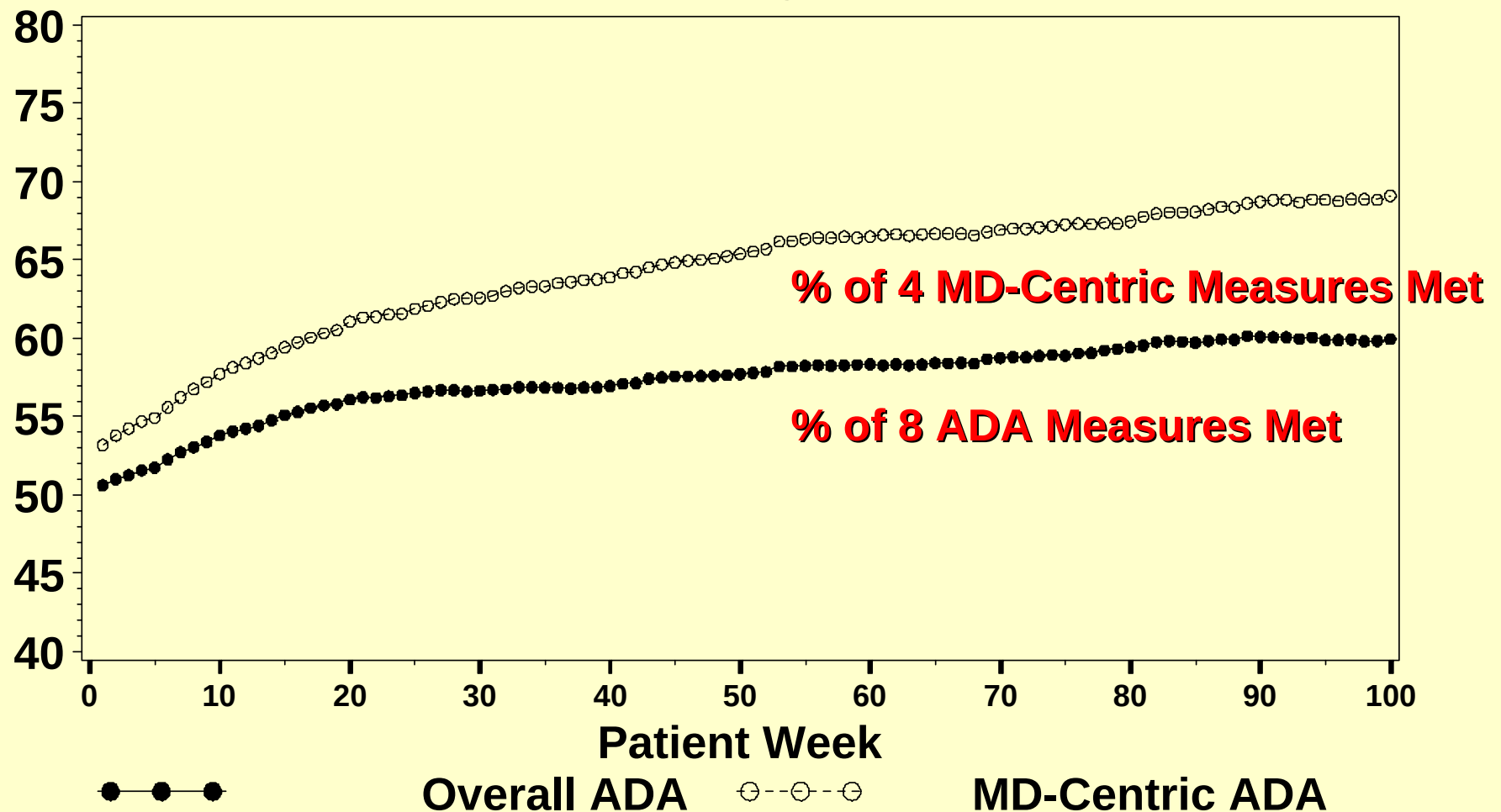
Ace/ARB*	1
Pnvx*	1
Eye Exam*	1
LDL<100*	1
A1C<7%	1
BMI<30	1
Non-Smker	1
SBP<130	1

0-8 points

* “MD-centric measures”

Changes in ADA Scores for Experimental Group Patients (n=5288)

Percent ADA Score by Patient Week



HIT for Performance Measurement: Some Summary Thoughts About P4P

- Are Our Data Complete?
 - NO
- Are There Biases in Our Data?
 - Probably , yes
 - Mostly Under-ascertainment
- Absent full HIE, are EMR-based system-level data Fair for P4P?
 - For system-level P4P, probably yes
 - For cross-system comparisons, it depends

HIT for Performance Measurement: Some Summary Comments

- Using EMR-centered data, we can:
 - Identify and link patients satisfactorily
 - Measure performance at a granular level pretty well
 - Measure performance on all eligible patients, regardless of insurance status
 - Monitor and provide meaningful feedback in a timely way
 - Measure improvement in process and outcomes