



Funded by the
John A. Hartford Foundation

www.caremanagementplus.org

Primary Care Decision Support for Clinical Teams: Creation of a Medical Home

David A. Dorr, MD, MS

Overview

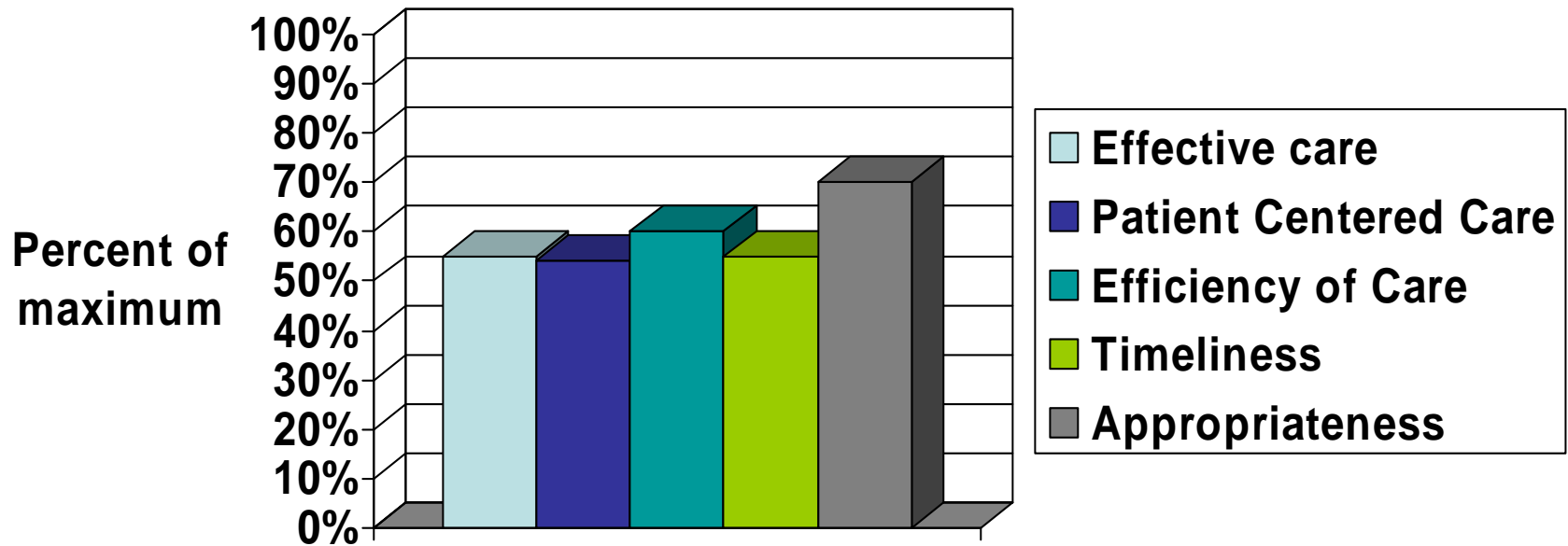
- Rationale for redesigning care
 - State of care is suboptimal (especially for patients with complex needs)
 - Case example: Medical Home – we can improve care through decision support and teamwork
 - Need to have broad definition of decision support
- 3 concepts for role of decision support

General Principles:
Simplify and
Match workflow

Local Benefits:
Context and
Flexibility

Sustainability:
Reimbursement
and
Happiness

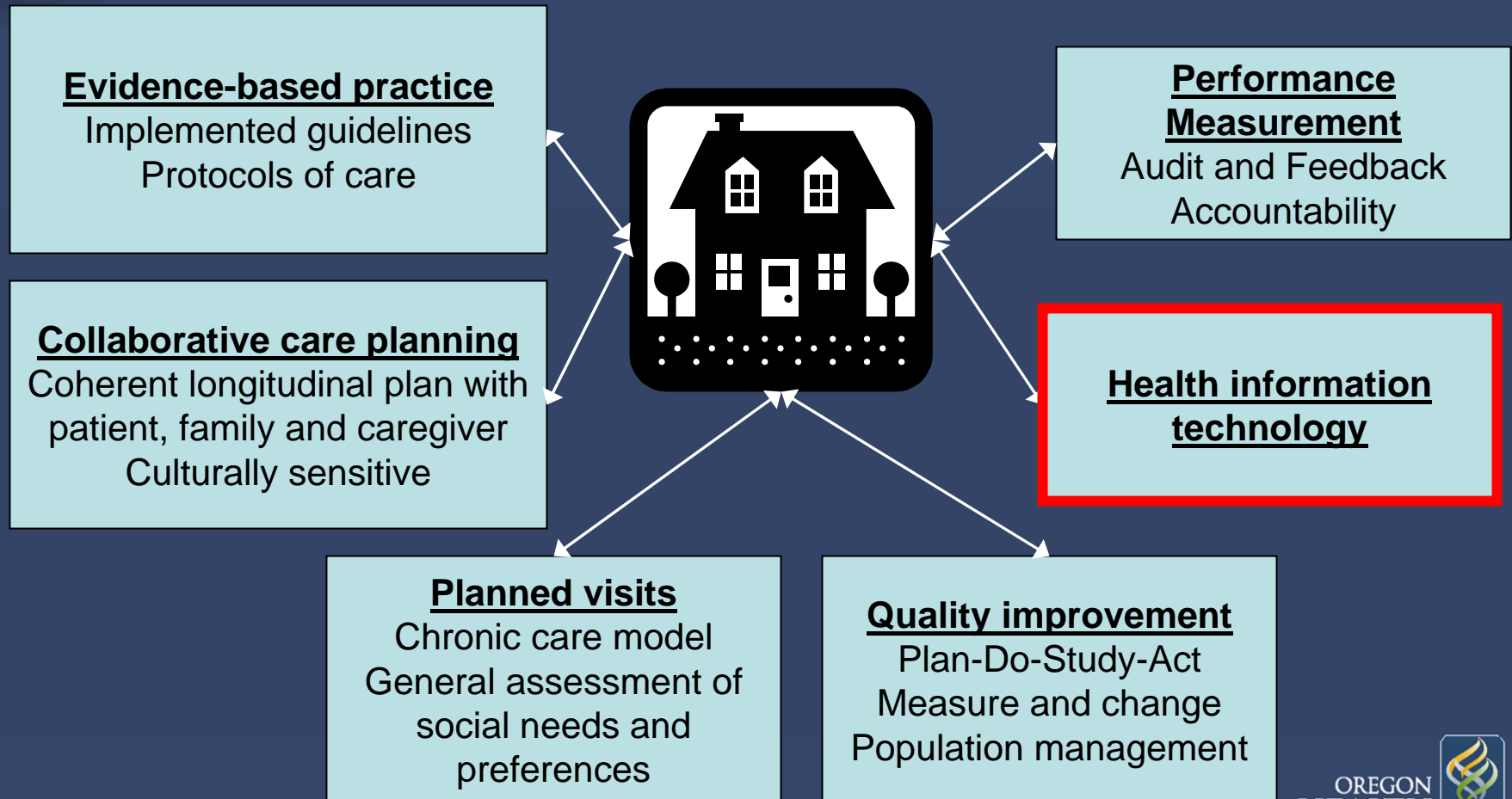
The state of care: Quality of Health Care in the United States is mediocre (or poor) in a number of categories.



Sources: RAND, 2003; Commonwealth Fund, 2005; WHO, 2003; AHRQ, 2005; Dartmouth Atlas, 2005.

Medical home: concepts

Health care teams partner with patients & caregivers to ensure that all of their health care is effectively managed and coordinated.



Medical Home Rationale

- Special requirements of ambulatory care
 - Chronic illness and prevention = Longitudinal follow-up
 - Populations of patients (not always 'in sight')
 - Information from many different sources, summarized quickly (e.g., 15 minutes)
 - Care coordination very important
 - 2+ chronic illnesses (70% of Medicare population) = 4 different ambulatory phys;
 - 5+ (20% of medicare) = 13 ambulatory physicians each year

Focus outside of episodic medical model

- Team-based approach
- Education/motivation/lifestyle changes
- Community resources
- Patient preferences

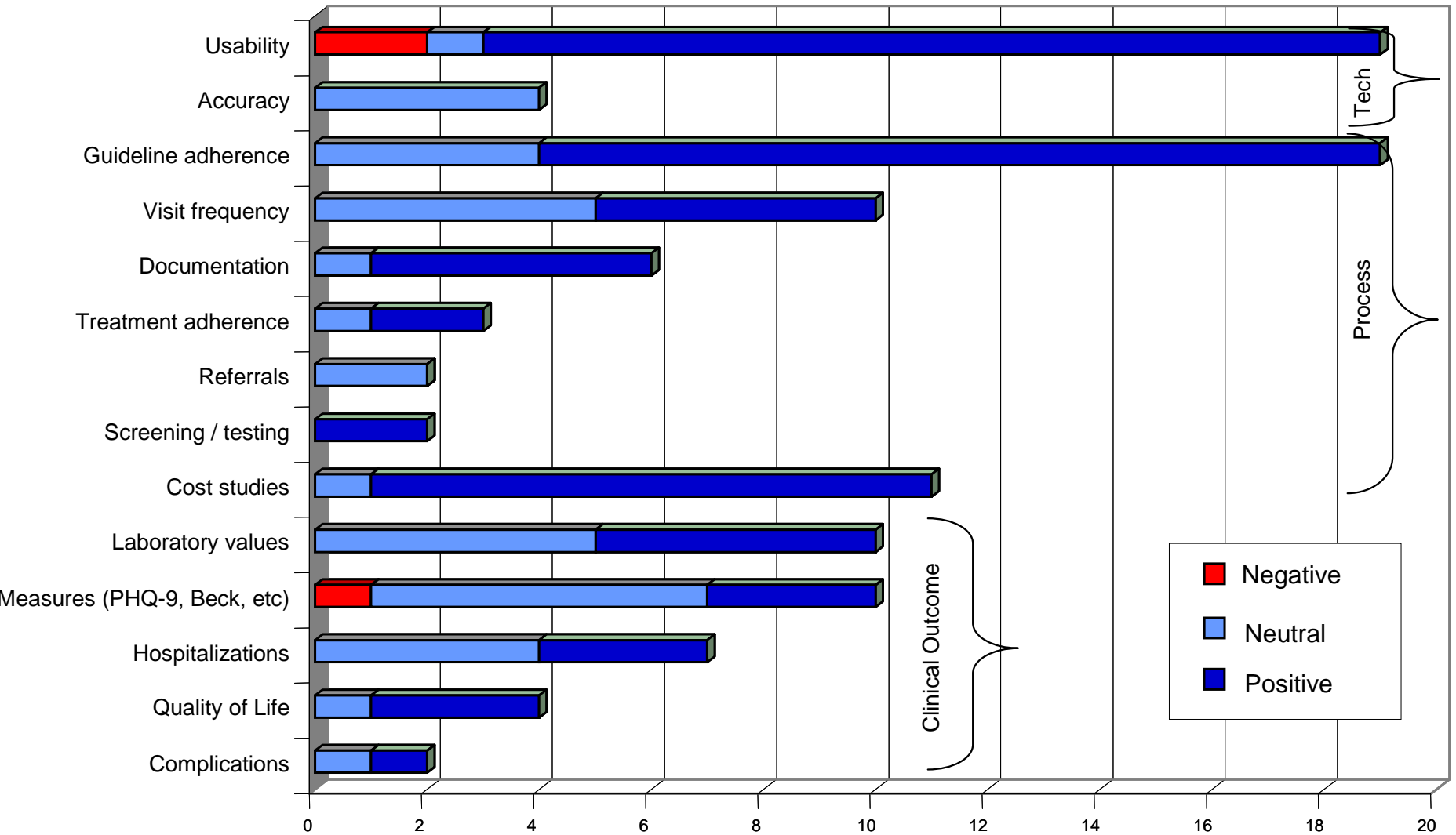
Care Management Plus is a flexible, IT intensive program intended to provide many components of a medical home.

In primary care clinics



For more information, see www.caremanagementplus.org.

Chronic illness programs fail to achieve clinical outcomes > 50% of the time.



Evidence-based practice

Core challenges

1. Accumulation of patient data over years
2. Multiple guidelines many alerts = fatigue
3. Rapid workflow needs

Solutions

Simplify

Summarization of individual data in forms

Simplify

'Hidden' decision support

Workflow

Team-based work and facilitators (think big!)

Patient Worksheet - summarization

Simplify:
Not entire chart

11 July 2003		Patient Worksheet			v1.0.21	
PATIENT NAME TEST, A A		SEX F	DOB 09/01/1964	MMI# 545073664	MRN# 545073664	
Problems						
Hypothyroidism Hypertension Diabetes mellitus type 2, insulin treated Coronary artery disease						
Active Medications						
1. - Digiloxin, 0.1mg, Tablet; 3 TABS 2. - Entex LA (Guaifenesin/PPA) 100mg, Extended Release Tablet; 88						
Preventive Care						
CV Risk Pap Smear 5%*(1.4x)** No Data						
Clinical Laboratory Data						
HgbA1c (<=7.0)		UA Protein		uAlb/Cr (<30)		24 Urine Albumin (<30)
No Data		06/01/2001 Negative 12/18/2000 Positive 11/06/2000 Negative		No Data		No Data
Serum Cr		Serum K		Lipid Profile		LDL (<100)
04/26/2003 1.1		04/26/2003 4.2		04/26/2003 10		93
10/25/2002 2.0		02/05/2003 4.1		02/05/2003 15		41
02/27/2002 1.6		10/25/2002 5.5		02/27/2002 14		41
10/03/2001 2.3		01/29/2002 6.1		02/05/2003 168		189
TC/HDL Ratio		HCT		hsCRP		Homocysteine
04/26/2003 3.5		02/05/2003 35.9%		04/08/2003 0.6 mg/l		04/06/2003 6 micromol/l
04/09/2003 5.2		10/02/2002 37.7%		02/24/2003 1.2 mg/l		
02/24/2003 5.4		08/23/2002 45.0%				01/02/2002 127
02/06/2003 7.2		07/19/2002 29.9%				12/20/2001 127
Clinic Data						
Date		Weight		BMI (<25)		Weight Class
No Data						
Last foot exam:		No Data		Blood Pressure (<130/80)		Heart Rate
Last dilated retinal exam:		No Data		01/25/2001 145/74 mmHg		01/25/2001 86
Reminders						
Preventive						
* Predicted % Risk over 10 years of a cardiovascular event (MI, revascularization, CVA, death). ** Relative Risk over 10 years of a cardiovascular event compared to lowest risk category. Pap and pelvic suggested every 3 years after three normal yearly Pap tests. For Patients with known Cardiovascular Disease, target LDL < 100. Blood Pressure measurement is suggested for adults every two years. Suggested follow-up for missing data - missing data on 4/26/03 Pneumovax suggested for all patients aged 65 and over, and residents of long-term care facilities, chronic illness.						
Diabetes						
Suggest repeat Urine Albumin Test more than (>) 1 year since last test. Last ALT = 28 on 4/26/2003, AST = 86 on 4/26/03 Suggested follow-up for missing data - missing data on 4/26/03, 10/25/02, 02/27/02, 10/03/01, 04/26/03, 04/09/03, 02/24/03, 02/06/03						
Hypertension						
ACE Inhibitors (ACEI) or if ACEI intolerant, Angiotensin II Receptor Blockers (ARBs) or the combination of ACEI or ARBs and Diuretics are the recommended initial drug therapy for patients who are diagnosed with hypertension in conjunction with Diabetes.						

Workflow:
Paper +
EHR
screen

Simplify and
Workflow:
Multiple passive
reminders

Problems and chronic conditions
Medication profile
Preventive care summary
Pertinent labs
Pertinent exams
Passive reminders
Organized by illness



Collaborative Care Planning: Context and Flexibility

Needs

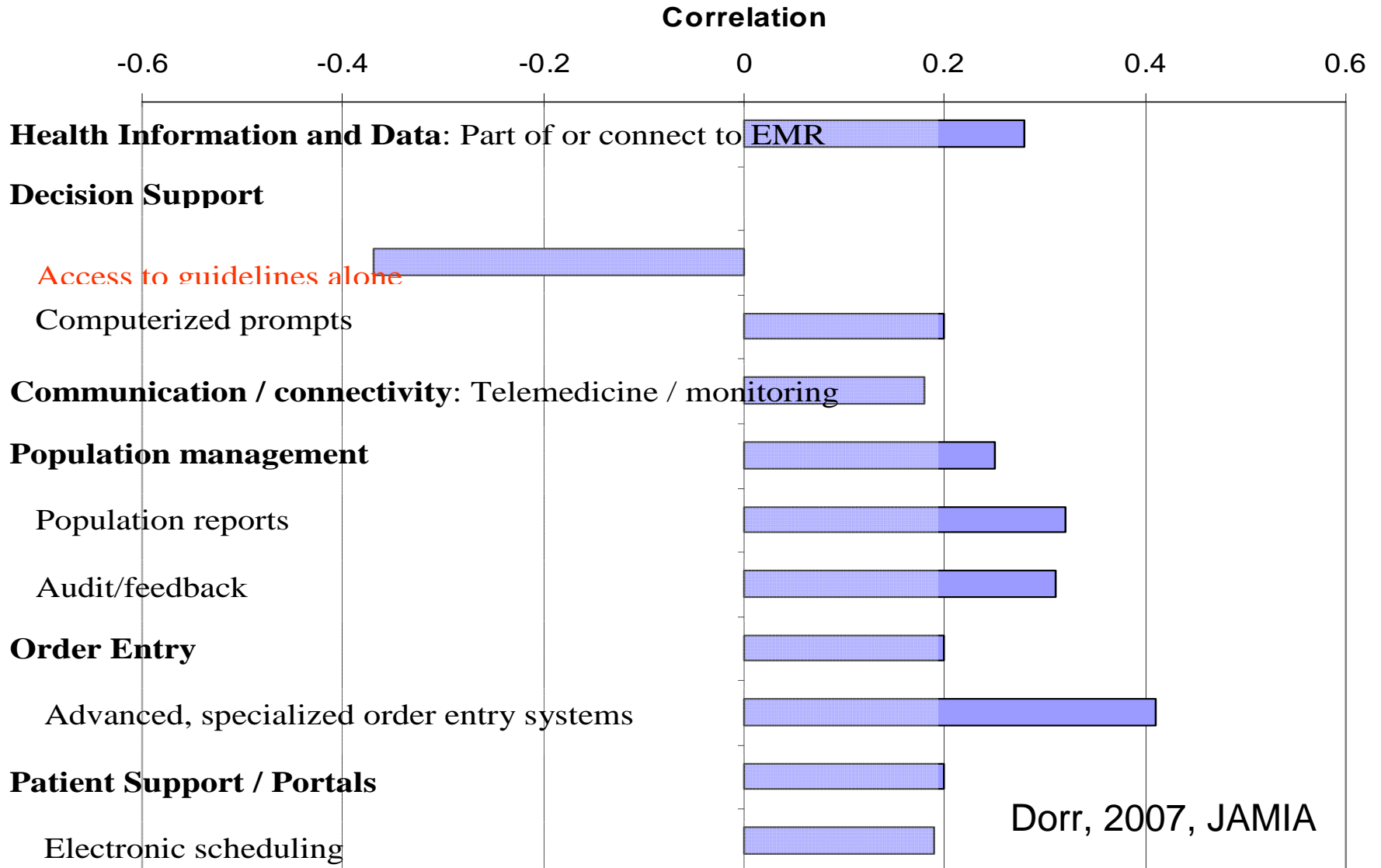
- General assessment = setting individual care plan with the patient/caregivers
- Prioritization = timing care plan elements based on top priorities
- Coordination = interacting with many different team members over time

Decision support role

Workflow

- Recognizing the need for **communication** and **many team members**
- Using different **metrics** for success
- Allowing **flexible protocol implementation**

Taking into account **context** and scope of work are essential



Dorr, 2007, JAMIA

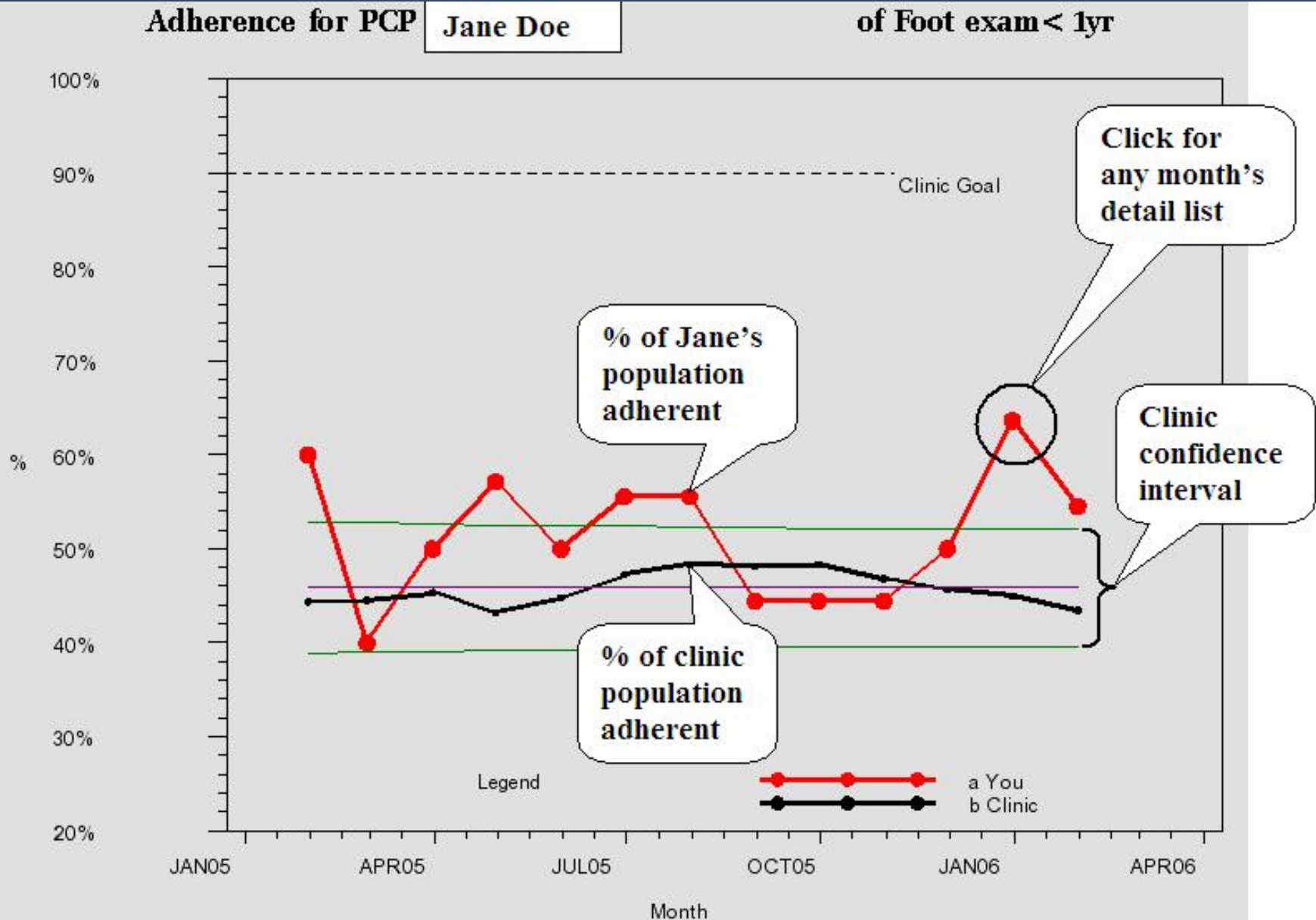
General assessment and prioritization: what metrics?

- Readiness to change
- Cultural Competency
- Patient Activation Measure
- Care Plan tracking: Goal setting, protocols

	Diag. Date	Diagnosis	Status		Sched Date	Sched Time	Encounter Type	Status	
Edit	2/28/2005	CHF	Active		Edit	4/30/2005		Telephone Contact	Pending
Edit	3/30/2004	Anxiety	Active		Edit	1/30/2005		Home Visit	Resolved
Edit	3/30/2004	Depression	Active		Edit	1/26/2005		Telephone Contact	Resolved
					Edit	10/18/2004		Telephone Contact	Resolved

	MH Packet Date	Symp	Severity	Fctnal Diff	Dysth.	Q9	Suicide State	Suicide Risk	[Mood 1 2 3]	MoodImp	MoodSx	AnxImp	AnxSx
Edit	1/26/2005	1	3	Somewhat	<input checked="" type="checkbox"/>	0		No Risk					
Edit	9/1/2004	0	4	Not at all	<input checked="" type="checkbox"/>	0		No Risk		16	45	14	52
Edit	5/4/2004	8	22	Somewhat	<input checked="" type="checkbox"/>	1	1. Thoughts Only	Low Risk					

Quality Improvement / Performance Measurement



To do lists are a familiar item and may be more easily understood (usability) by the entire team

For Patient Name MRN Phone [Give Feedback](#)

The patient should be notified of tests or visits needed. Please fill out SmartForm if needed

Process

1. Order **HbA1c test** (suggested every 6 months): Last *Unknown*
2. Order **LDL test** (due every 12 months): Last *06/06/02*
3. Order **Microalbumin test** (due every 12 months): Last *Unknown*
4. Order/check on **eye exam** (due every 12 months): Last *Unknown*
5. Check for **monofilament foot exam**, bring in if not done (due every 12 months): Last
6. Check on / order **flu shot** (due every 12 months): Last *Unknown*
7. Check for / order **pneumovax** (due every 5 year): Last *Unknown*

Only list non-adherent measures

Outcomes

1. Intensify **hypoglycemic control**: Last HbA1c *Unknown*
2. Intensify **Blood Pressure control**: Last BP */.*
3. Intensify **cholesterol treatment**: Last LDL *120*
4. Monitor for nephropathy: Last microalbumin *Unknown*

Separate outcome actions

For Patient Name MRN Phone [Give Feedback](#)

The patient should be notified of tests or visits needed. Please fill out SmartForm if needed

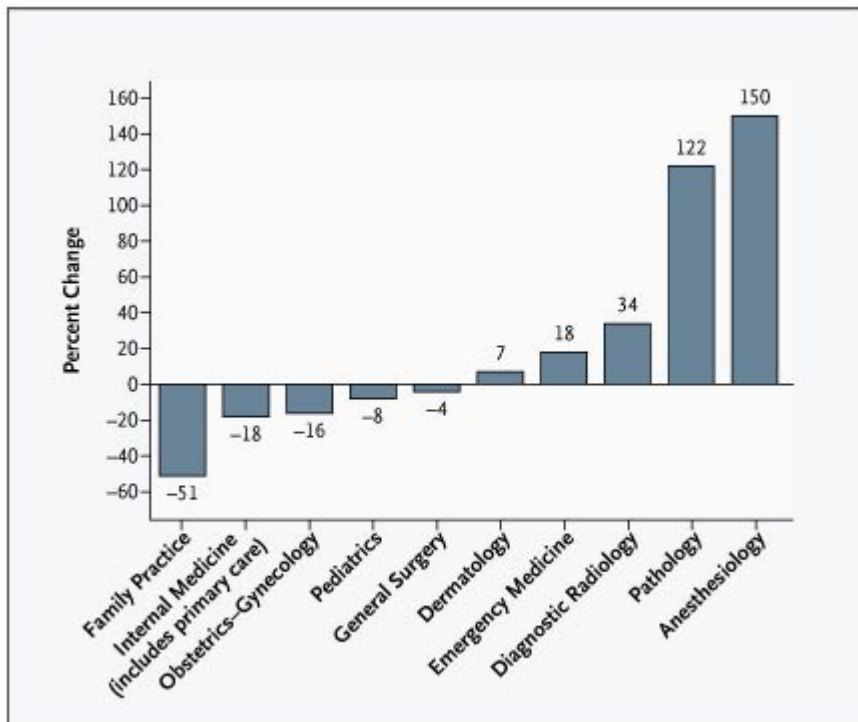
1. Etc ...

Sustainability : Happiness

- Primary care provider satisfaction and recruitment is at an all time low
- By improving care coordination over time with decision support, health care teams

can be happier.

16/18 rated
being highly satisfied
with CMP.



Wu, NEJM, 2006

Sustainability : reimbursement

Challenges – billings related to services given, not services prevented due to health.

Pay for quality

Pay for use

Pay for coordination

"Geriatric Assessment and Chronic Care Coordination Act of 2007,"

S.1340, May 9th

Aging.senate.gov



Sustainability : reimbursement

Pay for quality

Performance	Data source / decision support	Reimbursement
>80% of patients with BP < 140/90	Electronic BP ; Individual and/or pop. reminders	If in top 10%, +2% increase in pay

Pay for use

Performance	Data source / decision support	Reimbursement
Install (and use) EHR	Electronic clinical data / unclear	Group negotiations for 'appropriate' EHR; subsidized...

Pay for coordination

Performance	Data source / decision support	Reimbursement
Better care planning	Tracking db / Population risk assessment	Capitated payment or pay per case

Thank you!

The Care Management Plus Team

Funded by the John A. Hartford Foundation

- OHSU
 - David Dorr, MD, MS
 - K. John McConnell, PhD
 - Kelli Radican
 - Hanh Tran
 - Rachel Burdon
 - John Welte
- Intermountain Healthcare
 - Cherie Brunner, MD
- Columbia University
 - Adam Wilcox, PhD

Advisory board

- Larry Casalino
- Tom Bodenheimer
- Cheryl Schraeder
- Heather Young

www.caremanagementplus.org ; dorrd@ohsu.edu