Clinical Transformation: Primary care redesign and health information technology

BEACON communities
October 2010

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Care Management Plus: Dissemination of Information Technology Tools for the Care of Seniors, www.caremanagementplus.org

Supported by **The John A. Hartford Foundation**, AHRQ, NLM, Intermountain, OHSU

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Overview

- Primary care redesign experience (ours + others)
- Health Information Technology is ***necessary*** but not nearly sufficient
- Dissemination
- Opportunities for Beacon Communities

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Primary Care Revitalization Gurus

- The Medical Home (1967)
- Practice Redesign (1993)
- Chronic Care Model (1998)
- Idealized Design of Clinical Office Practices (1998)
- IOM Quality Chasm, Six Aims: Safe, Effective, Patient-centered, timely, efficient , equitable health care
- Future of Family Medicine's "New Model of Care" (2004)
- TransformMED (2005)
- AAFP Practice Enhancement Forum (2005)
- Joint Principles of the Patient Centered Medical Home (2007)
- The Commonwealth Fund/Qualis Health Medical Home RFP
- Medicaid Medical Home Demonstration

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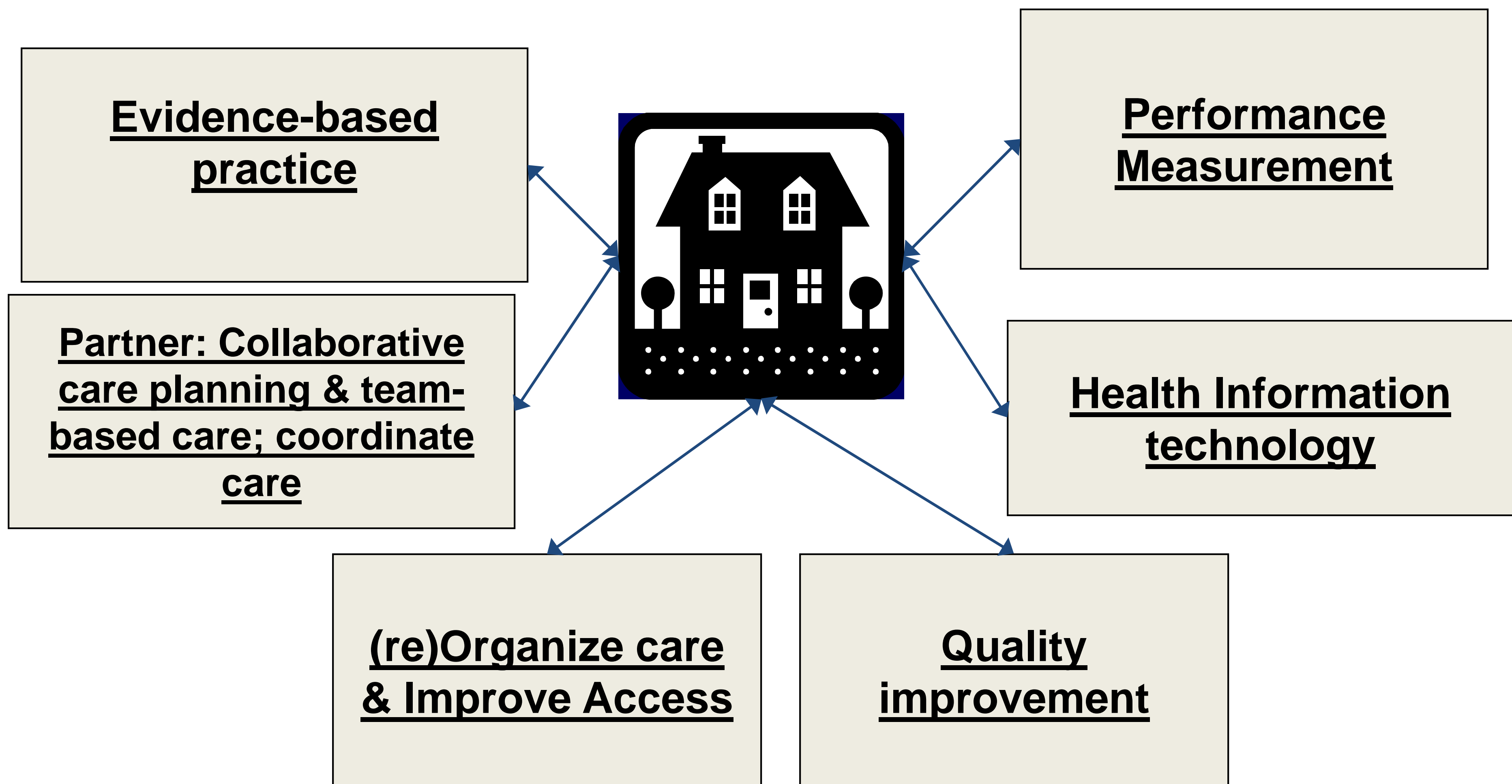
(some) Elements of a Medical Home



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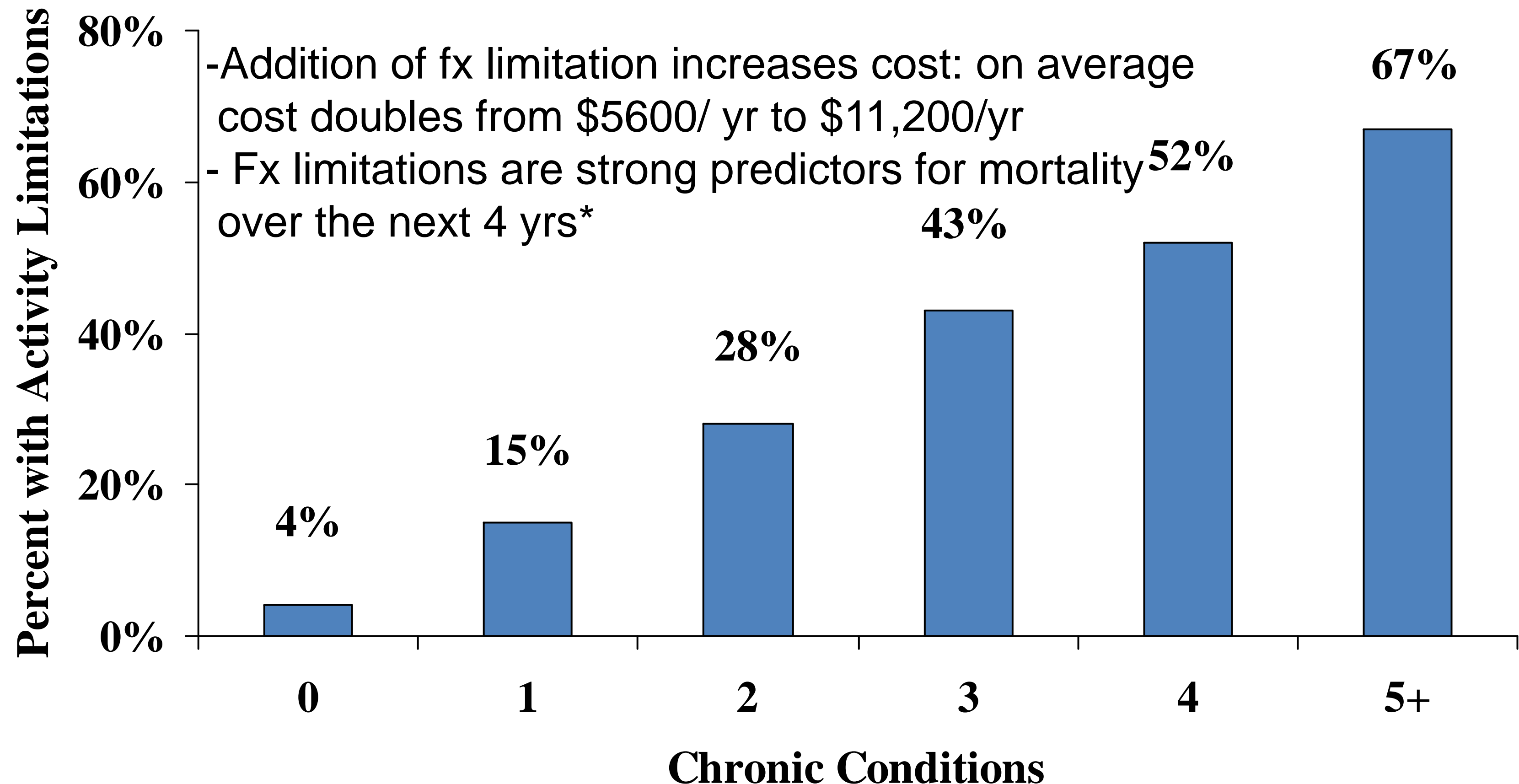
Activity Limitations by Number of Chronic Conditions



Source: G. Anderson, "Hospitals and Chronic Care", PowerPoint Presentation to the American Hospital Association. Partnership for Solutions. 16 June 2004.

S. Lee, "Development and Validation of a Prognostic Index for 4-Yer Mortality in Older Adults" JAMA. 2006;295(7):801-808.

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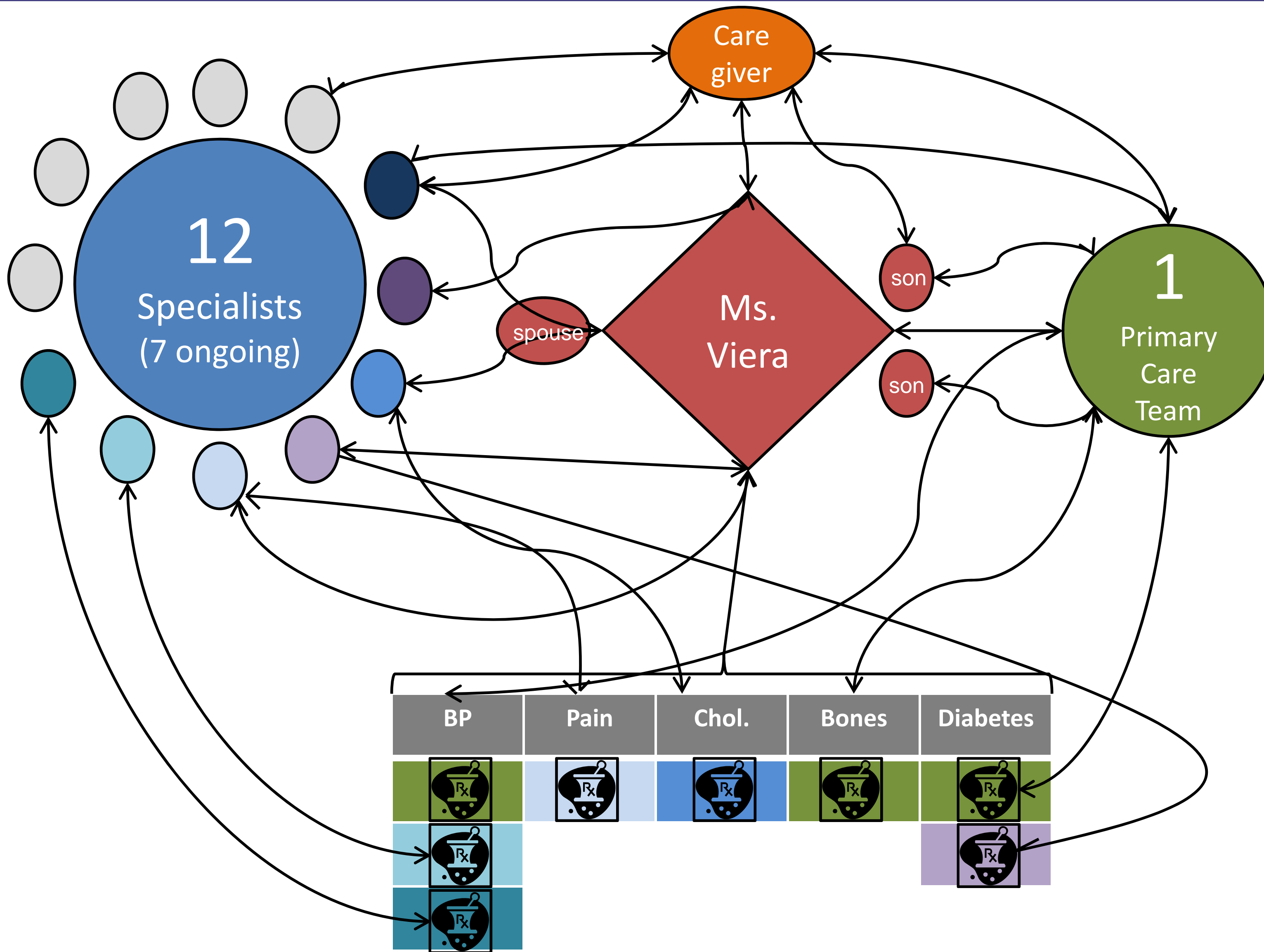
One person's Care patterns



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Past: Heroism in the face of multiple illnesses

- Multiple diseases increase risk and coordination *exponentially* (5+ : 90 x risk of hospitalization; 10x prescriptions; 13 providers vs. 2)
- To manage preventive and chronic illnesses in a primary care panel: 18 hours a day
- Patients with multiple illnesses *better* process quality scores but *worse* 'preventable' hospitalizations

Bodenheimer, JAMA;C. Boyd, JAMA; Wolff, JAGS; Dorr, JAGS

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Results from targeted redesign

EXHIBIT 4

Annual Outcomes For Seven Medical Home Demonstrations

	Hospitalization reduction (%)	ER visit reduction (%)	Total savings per patient ($)
Colorado	18	–	169–530[a]
Geisinger	15	–	–
Group Health[b]	11	29	71
Intermountain	4.8–19.2[c]	0–7.3[d]	640
North Carolina	40[e]	16	516[f]
North Dakota	6	24	530
Vermont[g]	11	12	215

Fields, 2010, Health Affairs

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Breakdown of costs from group health

EXHIBIT 5

Comparison Of Adjusted Costs (Dollars Per Patient Per Month) At the Group Health Patient-Centered Medical Home Prototype And Nineteen Other Clinics Over Twelve, Eighteen, And Twenty-One Months

Interval	Prototype clinic, $ (n = 7,018)	Other clinics, $ (n = 200,970)	Cost difference, $	*p* value
PRIMARY CARE				
12 mo.	50 (49, 51)	48 (48, 48)	1.81 (0.66, 2.96)	$p = 0.002$
18 mo.	50 (49, 51)	48 (48, 48)	1.72 (0.75, 2.70)	$p = 0.001$
21 mo.	50 (49, 51)	48 (48, 48)	1.63 (0.71, 2.55)	$p = 0.001$
SPECIALTY CARE				
12 mo.	93 (90, 97)	91 (90, 92)	2.34 (-1.24, 5.93)	$p = 0.200$
18 mo.	96 (92, 99)	92 (91, 93)	3.37 (0.11, 6.62)	$p = 0.042$
21 mo.	99 (95, 104)	93 (93, 94)	5.78 (1.13, 10.42)	$p = 0.015$
EMERGENCY DEPARTMENT AND URGENT CARE				
12 mo.	20 (19, 21)	23 (23, 24)	-3.67 (-4.71, -2.63)	$p < 0.001$
18 mo.	21 (20, 22)	25 (25, 25)	-3.98 (-4.91, -3.04)	$p < 0.001$
21 mo.	22 (21, 23)	26 (25, 26)	-4.02 (-4.92, -3.12)	$p < 0.001$
INPATIENT ADMISSIONS (ALL CAUSES)				
12 mo.	126 (115, 138)	136 (131, 141)	-9.59 (-20.50, 1.32)	$p = 0.085$
18 mo.	129 (120, 138)	143 (138, 147)	-13.94 (-21.91, -5.96)	$p = 0.001$
21 mo.	132 (124, 140)	146 (142, 151)	-14.18 (-21.26, -7.11)	$p < 0.001$
TOTAL COSTS				
12 mo.	466 (453, 480)	477 (471, 483)	-10.20 (-22.85, 2.45)	$p = 0.114$
18 mo.	480 (468, 491)	490 (485, 495)	-10.40 (-21.19, 0.38)	$p = 0.059$
21 mo.	488 (476, 500)	498 (493, 503)	-10.31 (-21.69, 1.08)	$p = 0.076$

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Results from CM+

In CM+, Odds of dying were reduced by 20-40%.

Variable	Time	CM+	Control	Difference
All Patients		(N=1,144)	(N=2,288)	
	at 1 year	6.5%	9.2%	-2.7%
Deaths	at 2 years	13.1%	16.6%	-3.5%
Multiple illnesses		(N=557)	(N=1114)	
	at 1 year	6.2%	10.6%	-4.4%
Deaths	at 2 years	12.9%	18.2%	-5.3%

Dorr, JAGS, 2008

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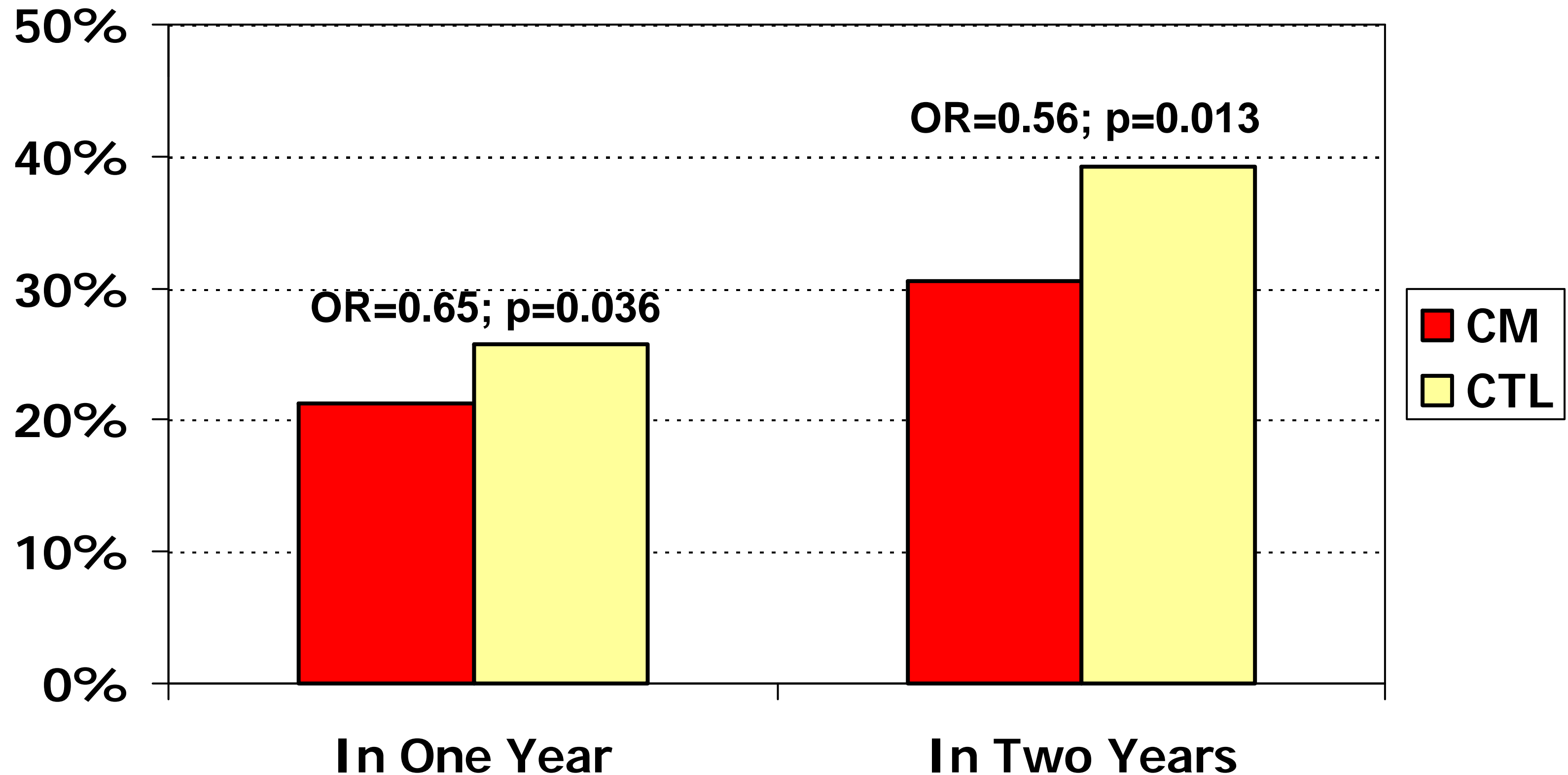
Reduction in hospitalizations from CM+



Dorr, JAGS, Dec 2008

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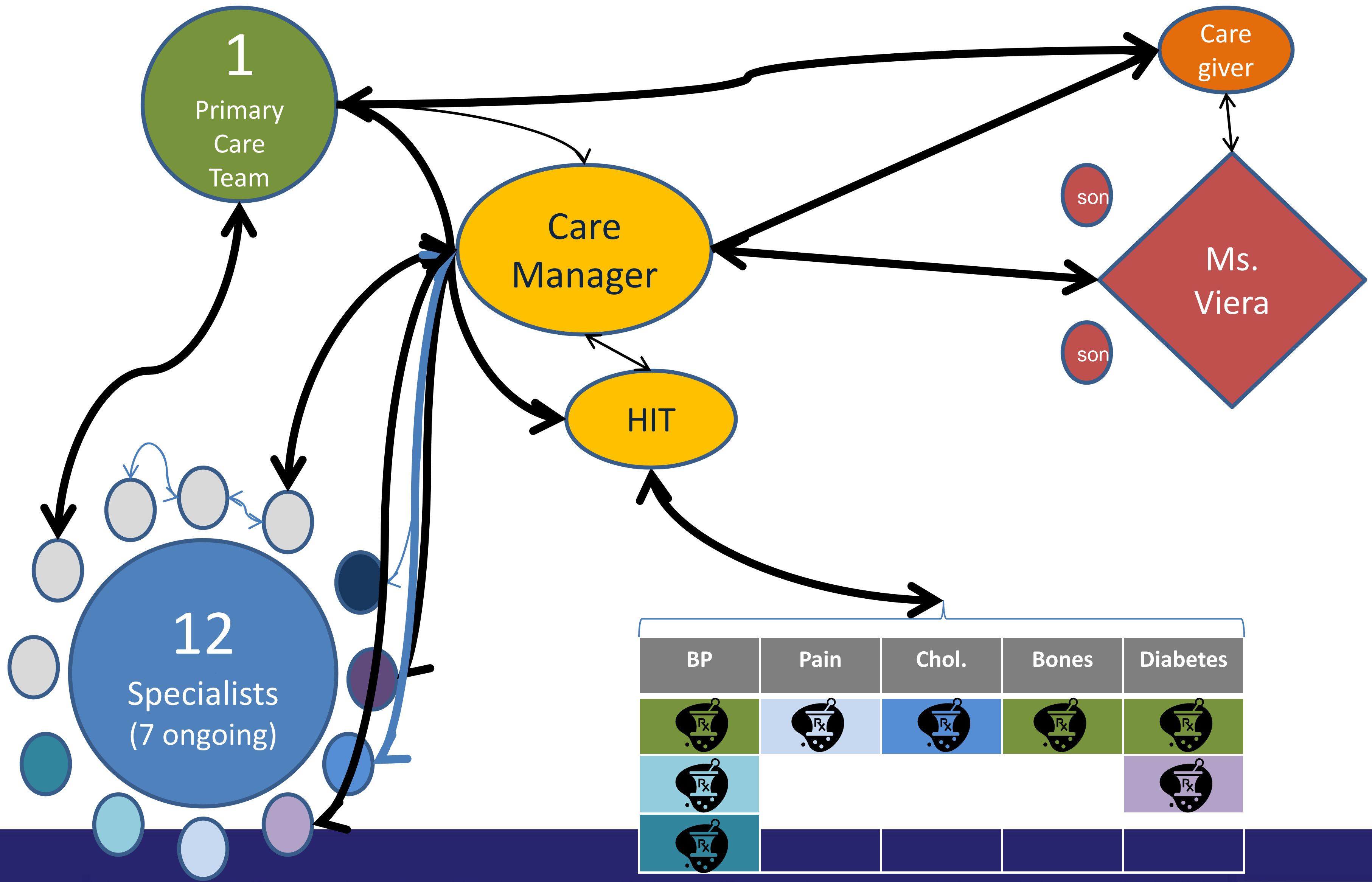
What changes with CM+ and other new models?



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Intervention: Care Management Plus fills in core gaps

Larger infrastructure: Electronic Health Record, quality focus

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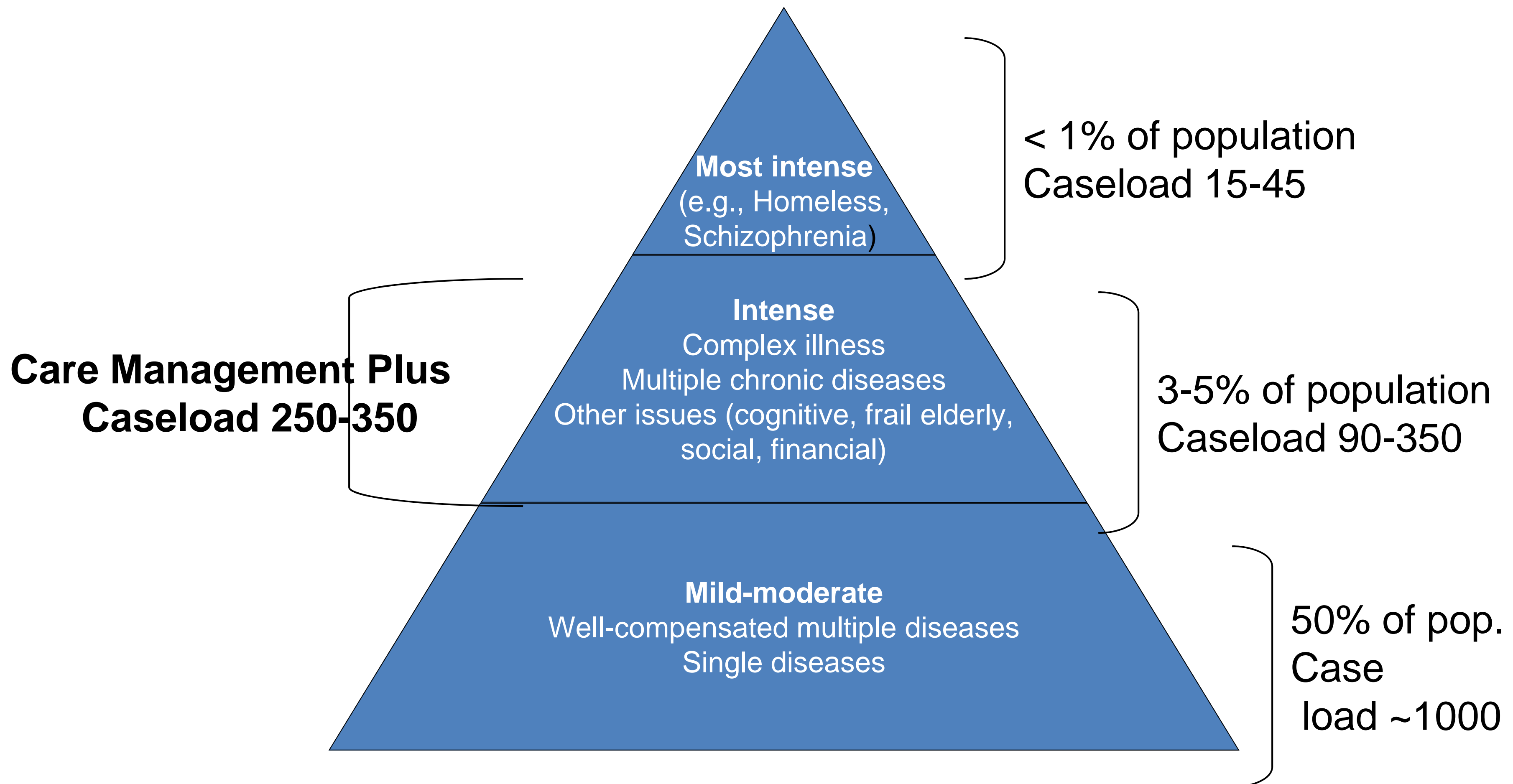
Care management varies in intensity and function for different populations and needs



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Model consistencies

- Care coordinator / care manager
- Integration with primary care team
- Improved access
- Access to real-time, population-based data
- ***Effective incentive payments***

Fields, 2010, Health Affairs; Peikes, JAMA, 2009;
Brown, NYAM/SWC, 2009

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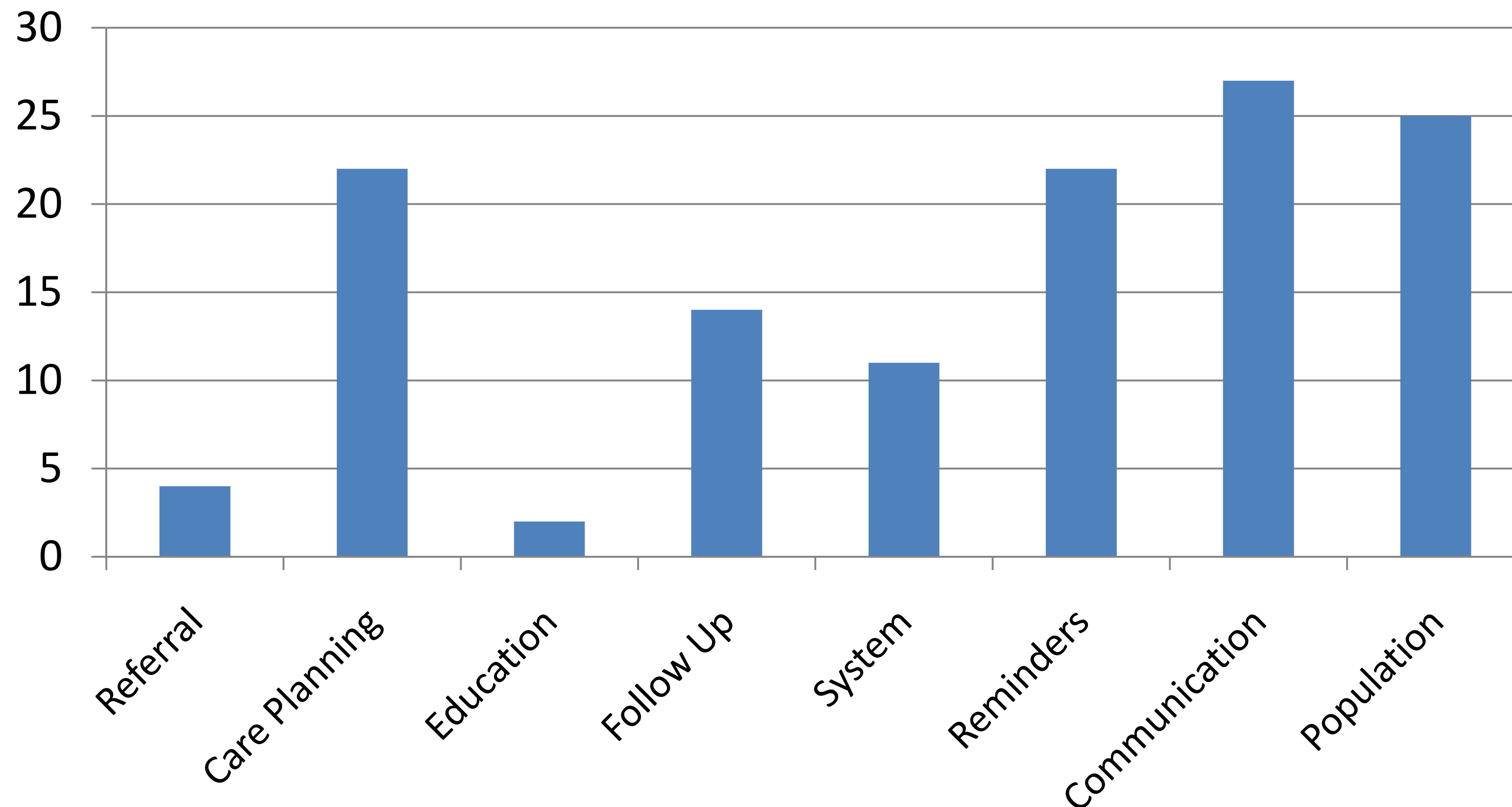
Required but not sufficient: “Hello, Computer”

Most EHRs, as implemented, STILL don't have these functions



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Behkami, Proc AMIA, 2009

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Insufficiencies

- The 80/20 rule: 80% organizational & workflow / 20% technology
- Incentives
- Encoding dysfunctional processes
- Acculturation and tradition
- The installed tool doesn't fit the picture

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What have we learned about dissemination in rolling out the program to 143 clinical teams?

OHSU (9 teams)

PeaceHealth (20)

Intermountain (16)

Klamath Open Door

Colorado Access (16)

HealthCare Partners

Daughters of Charity (5)

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Challenges in dissemination

- Studies done in integrated delivery settings, but many in your community don't practice there.
- Aligning incentives
- Dissemination is a process of moving toward a goal, but every team needs to make their own way there… OR

Happy families are all alike; every unhappy family is unhappy in its own way. Leo *Tolstoy*, Anna Karenina

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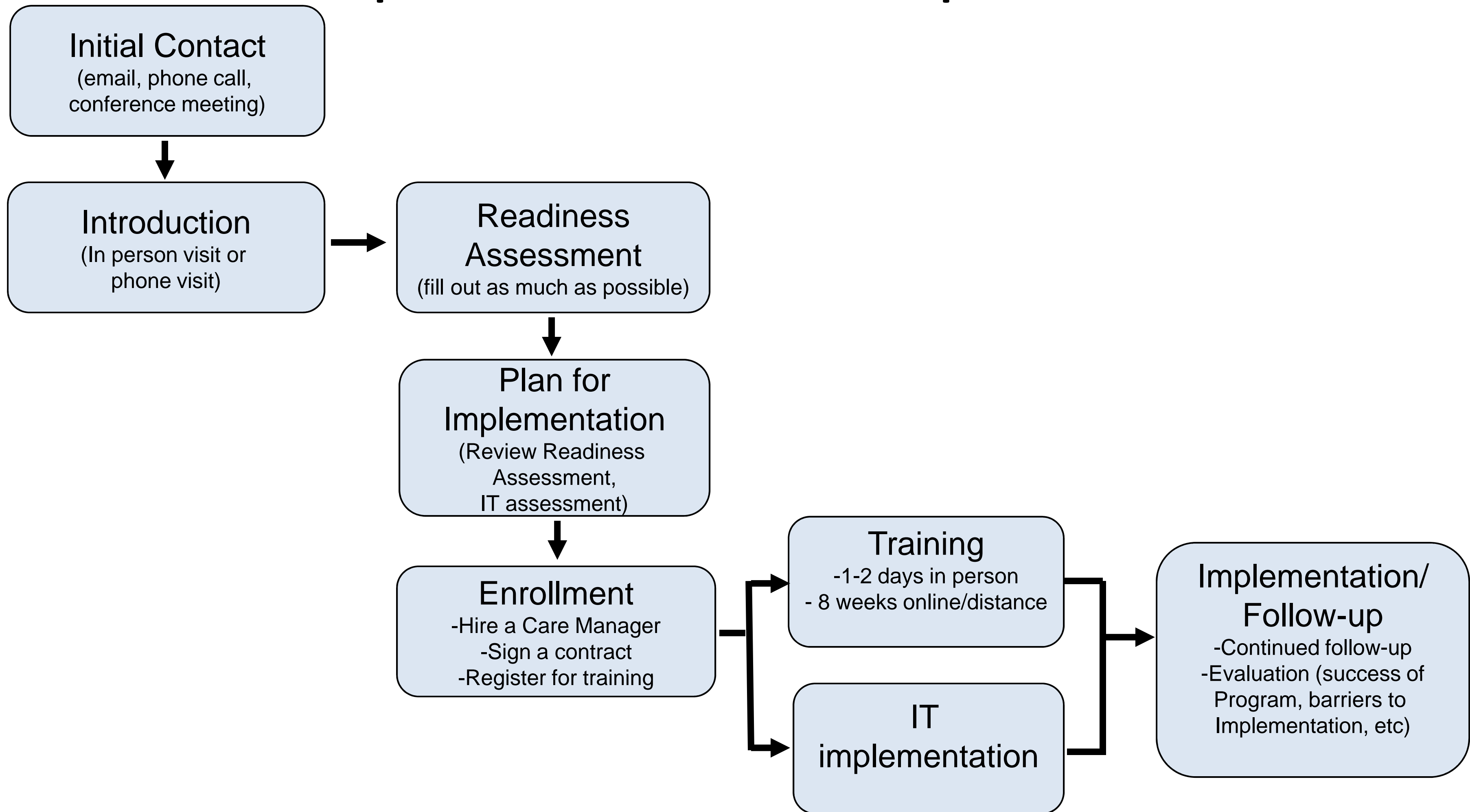
Implementation is a process



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Readiness Assessment

Reimbursement

Capitation case rate

No P4P

SITES
Anonymous

PROVIDERS
11 MDs (4 Clinic, 6 Hospitalists, 1 Cancer Center); 25 RNS; 1 LPN; 10 PT/OT/STs; 1 wound specialist; 1 Cancer Center patient navigator

CARE MANAGERS

1 CM

POPULATION SEEN:
100% Complex Patients

Chronic Illness / Delivery
Chronic Care Model; SBAR; Care Transitions; teleheath monitoring; Stanford Group Model –Kate Lorig (several Leaders and Trainer); CDE's do Diabetes Education groups outpatient. Plans to increase group offerings for COPD & CHF & Advanced PHR. Plan to use patient activation measure to assess self-management needs

Information Technology:
EHR – Meditek 4.2e & Meditek Client Server & PTCT Live Clinical Model
Practice Management System – Centricity –live in late April 2010;

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Meaningful Use of Health Information Technology categories as a guide to organize HIT uses

- Improving quality & safety & reducing disparities
- Care Coordination
- Population Management
- Patient & Family Engagement

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Care coordination: population Tickler

Call

Care Manager Encounter Tickler List

Care Manager: Ann Larsen

Sched. Dt. and Time	Encounter Type	Enc. Reason	MMI	First Name	Last Name	Phone Number	Pri
2/17/04	Telephone Contact	DM F/U				(801)	Wo
2/17/04	Telephone Contact	DM F/U				(801)	Wo
2/17/04	Telephone Contact	DM F/U				(801)	Wo
2/17/04	Telephone Contact	DM F/U				(801)	Wo
2/17/04	Telephone Contact	Depression F/U				(801)	Ob
2/17/04	Telephone Contact	Dep F/U				(801)	Sm
2/17/04	Telephone Contact	DM F/U				(801)	Wo
2/17/04 8:30 AM	CM Office Visit					(801)	Wo
2/17/04 9:00 AM	Class					(801)	Sm
2/17/04 9:00 AM	Class					(801)	Me
2/17/04 9:00 AM	Class					(801)	Ob
2/17/04 9:00 AM	Class					(801)	Wo
2/17/04 10:40 AM	MD Office Visit	DM F/U				(801)	Wo
2/17/04 1:50 PM	MD Office Visit	DM F/U				(801)	Ru
2/17/04 3:00 PM	CM Office Visit					(801)	Wa
2/17/04 3:50 PM	MD Office Visit					(801)	Wo

Remind about communication tasks

Facilitate the nuts and bolts of teamwork

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Tracking workflow: priorities and automation

	Scheduled Date	Scheduled Time	Encounter Type	Reason	EHR ID	First Name	Last Name	Phone	PCP	Notes
Select	2009-12-05		CM Office Visit	Depression	15463147563	hank	Commons	541.214.3566	Jeremy Rogers	
Select	2009-12-05		Telephone Contact	Family/Caregiver Check	4987651	Jerry	Montoya	124.256.3526	Hillary Caseman	Check on care giver status. How is wife coping after fall?
Select	2009-12-04	08:00	Telephone Contact	Goals	1324234	Harry	Binnes	9874584587	Parnel Fieldman	PHQ9 Follow-Up: Goals Follow Up:
Select	2009-11-28		CM Office Visit	Clinical Protocol (s)	4582317	Mariah	Bouchard	456.732.5236	Carl Generic	

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Population management: Proactive and focus on risks

Population registries usually focus on disease

- Improve disease-specific indicators
- Less effective at overall improvement (utilization)
- Risk stratification may help (Dorr et al, JAGS, 2006)…
- But must deliver to those who need it!

Risk lists

High Risk Patient List

ICCIS Only Clinic Only Both ICCIS & Clinic

EHR ID	Last Name	First Name	Clinic Priority	ICCIS Priority
1324234	Binnes	Harry	High	
65748398	Cline	bobby	High	

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Interactive Quality Improvement

Select another Measure

Selected Measure: Diabetics with hemoglobin A1c measured in the past 6 months (18-75)

Total: 127

Print

Value Adherence Rate: 60.63%

Date Adherence Rate: 31.496%

Update

Update

No Longer in Practice	Assign to CM Task	Patient	Phone	Physician	Lab	Lab Result	Lab Date	Exclude from ALL Diabetes Measures	Exclude from this Measure ONLY
☐	☐				A1C	5.9	12/23/2008	☐	☐
☐	☐				A1C	5.7	09/24/2009	☐	☐
☐	☐				A1C	6.2	02/11/2008	☐	☐
☐	☐				A1C	7.4	09/18/2009	☐	☐
☐	☐				A1C	8.0	01/14/2009	☐	☐

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Patient & family engagement: Health Information summary sheet reminds but does not direct.

Wilcox, Proc of AMIA Symp, 2005

16 November 2006

Patient Worksheet

Selected to Print for: All Patients, All Sections, Last Clinical Note

v1.0.7.0
Comprehensive Version

PATIENT NAME	SEX	DOB	MM#	MRN#
TEST, BED	F	01/01/1911	650730	5992114

Problems

Diabetes Mellitus, Type 2
Hyperlipidemia

Chronic conditions

Active Medications

Medications

Allergies

Allergies

Disease Management

Functional status

Preventive Care

Preventive care summary

Clinical Laboratory Data

Pertinent labs

Clinic Data

Pertinent exams

Reminders

Passive reminders

Organized by illness

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Unique opportunities for BEACON communities

- Advanced exchange of information at baseline – solve accuracy and completeness sooner
- Never lose sight of the end goal – improved patient outcomes
- Collaborations required, move to leverage
- Real implications of reform can be transformed by your results

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- Oregon Health & Science University
  - David Dorr, PI
  - Kelli Radican
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  - Kristin Dahlgren
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