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# Addressing Problems in Care Coordination: Experience of Care Management Plus

Presented by: David A. Dorr, for the Care  
Management Plus team

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# The Care Management Plus Team

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# Case study

Ms. Viera

a 75-year-old woman  
with diabetes,  
systolic hypertension,  
mild congestive heart failure,  
arthritis and  
recently diagnosed dementia.



## Ms. Viera and her caregiver come to clinic with several problems, including

1. hip and knee pain,
2. trouble taking all of her current 12 medicines,
3. dizziness when she gets up at night,
4. low blood sugars in the morning, and
5. a recent fall.

# Ms. Viera's office visit

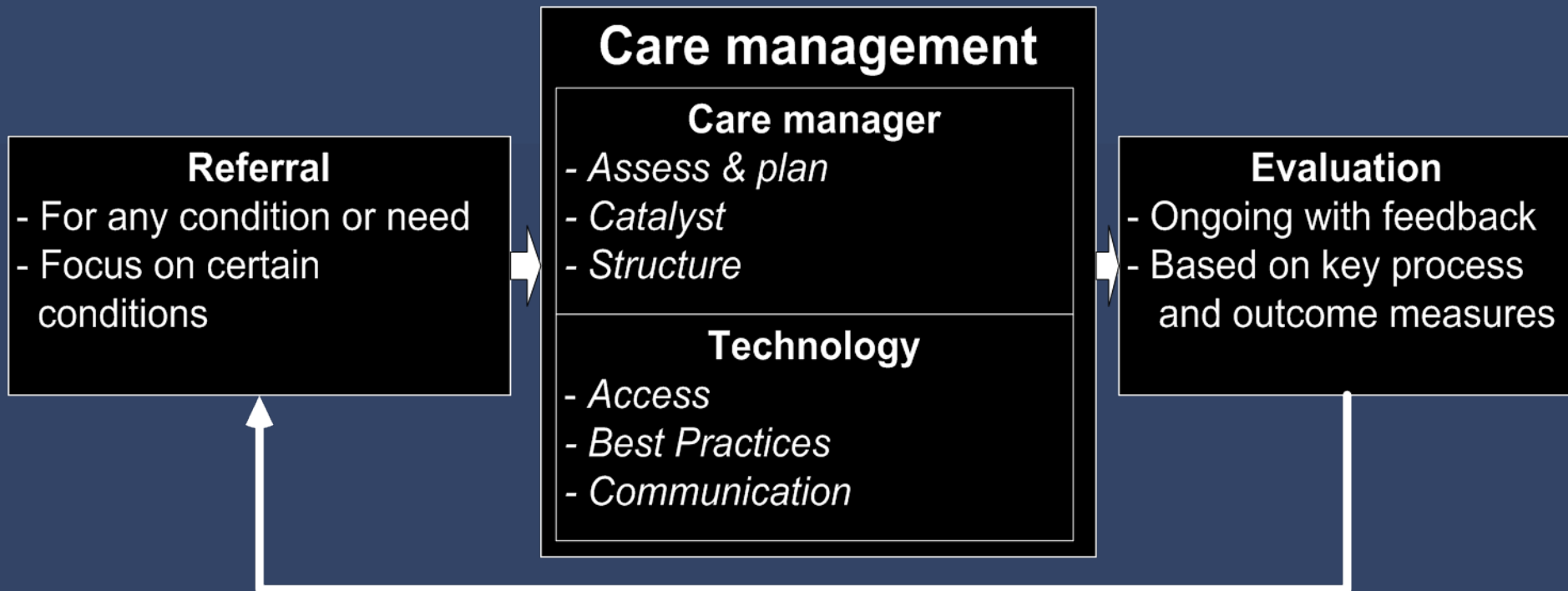
And Out in the hall:

6. The caregiver confidentially notes he is exhausted
7. money is running low for additional medications.

How can Dr. Smith and the primary care team handle these issues?

# Care Management Plus fills in core gaps in many clinics through a proactive, flexible system.

*In 15 primary care clinics at Intermountain Healthcare*



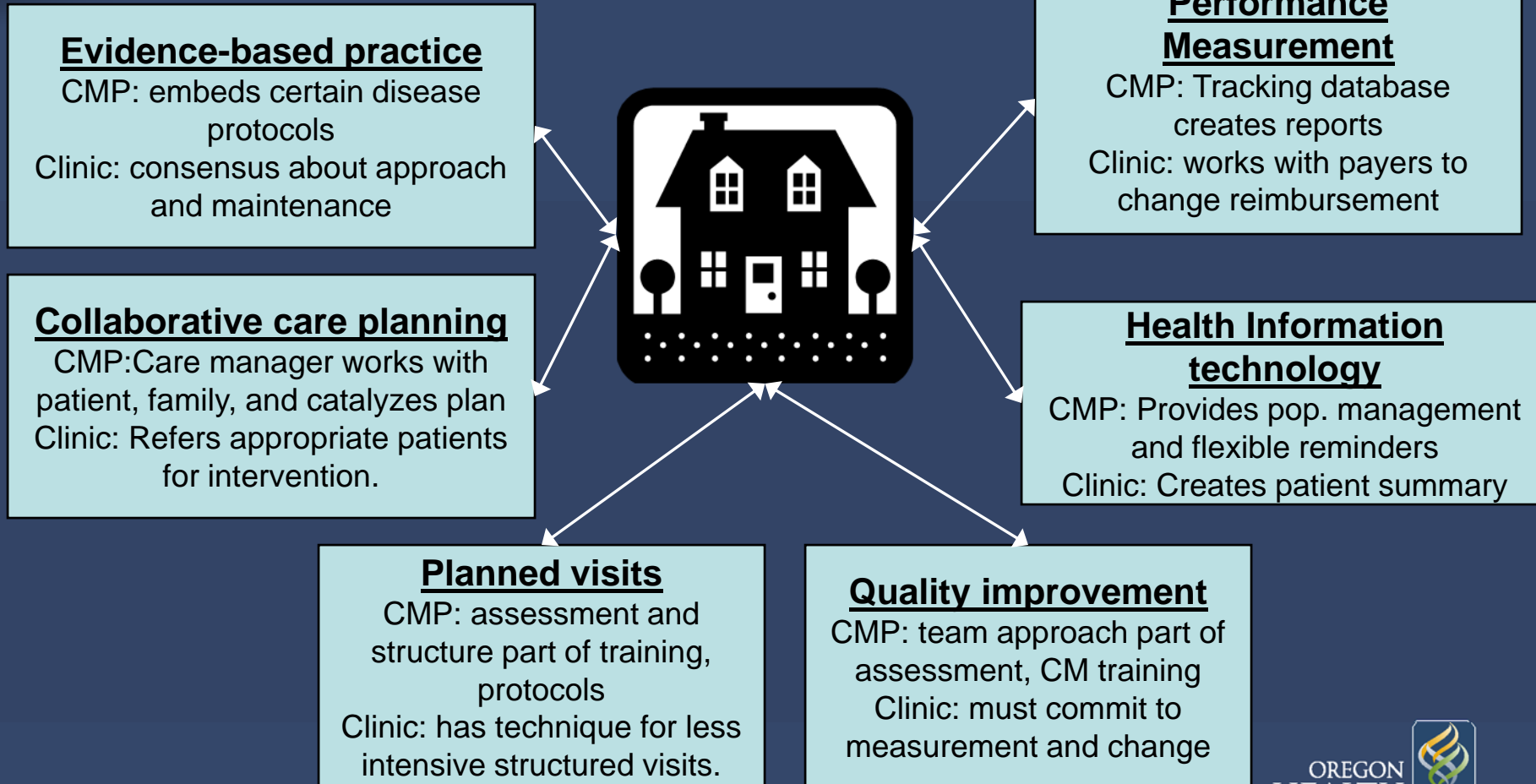
*Larger infrastructure: Electronic Health Record, quality focus*

# Care Coordination and Care Management

Care Coordination	Care Management Plus - People	Care Management Plus – Technology
Identify & Assess Patient	Referral to Care Manager (usually RN) & Protocol	Algorithm to prioritize referrals & focus assessment
Co-Develop the Care Plan	General + Disease specific protocols ; prioritization	Protocols embedded in Tracking System; Patient worksheet
Communicate with All Relevant Participants	Empowered self-management / navigation	Tracking database for all communications
Monitor and Adjust	Follow-up planning; incomplete components	Reminders / tickler
Evaluate Health Outcomes	Quality – achievement of health goals + control of disease; Efficiency – health system and societal	

# Care Management Plus can help create a medical home.

Care Managers act as a guide, coordinator, and helper to facilitate patients receiving coordinated, sensitive care.



# Patient Worksheet

Wilcox, Proc of AMIA Symp, 2005

16 November 2006		Patient Worksheet			u1.070 Comprehensive Version	
Selected to Print for: All Patients, All Sections, Last Clinical Note						
PATIENT NAME TEST, BED		SEX F	DOB 01/01/1911	MRN# 650730	MRN# 5992114	
<b>Problems</b>						
Diabetes Mellitus, Type 2 Hype lipidemia		<b>Chronic conditions</b>				
<b>Active Medications</b>						
1. - Glucophage (Metformin HCl), 500mg, Tablet, 1 TABLET, Daily 2. - Simvastatin, 10mg, Tablet, Oral; 1 TABLET, Daily 3. - Lisinopril, 10mg, Tablet, Oral; No dose for 1 day 4. - Calcium Carbonate/Vitamin D (Calcium 500/W-Vitamin D), 500-200, Tablet, 1 TABLET, BID		<b>Medications</b>				
<b>Allergies</b>						
(+/-) Penicillins - A Drug Allergies Group; Reaction (+): Rash						
<b>Disease Management</b>						
ADL		Pain Score (0-10)		mMSE		
11/16/2006	5	11/16/2006	4	11/16/2006	8	8
<b>Preventive Care</b>						
Pap Smear		Mammogram				
No Data		No Data				
<b>Clinical Laboratory Data</b>						
HgbA1c (<=7.0)		UA Protein	uAlb/Cr (<=30)	24 Urine Albumin (<=30)	Serum Cr	
No Data	-	No Data	-	No Data	-	No Data
Serum K		Lipid Profile	LDL (<=100)	Trig (<=150)	HDL (>=45)	CHOL (<=200)
No Data	-	No Data	-	No Data	-	No Data
HCT		HsCRP		Homocysteine		
No Data	-	No Data	-	No Data	-	-
<b>Clinic Data</b>						
Date	Weight	BMI (<=25)	Weight Class	Blood Pressure (<=130/80)		Heart Rate
01/16/2006	144 lbs	23	Normal	01/16/2006	122/74 mmHg	01/16/2006 74
01/11/2005	155 LBS	25	Normal	01/11/2005	122/74 mmHg	01/11/2005 74
05/12/2003	50.00 N/A	-	-	05/12/2003	122/74 mmHg	05/12/2003 74
Last foot exam: 11/2005		Abnormal		Last dilated retinal exam: 11/2005		Abnormal
<b>Reminders</b>						
Lab						
[ ] Creatinine - Patient on Metformin product(s) and no Creatinine on record.						
[ ] HgbA1C - Urine Albumin Test - LDL - Serum Cr (should be done on all Patients with Diabetes)						
[ ] HCT - Serum K (should be done on all Patients with Diabetes)						
Procedure						
[ ] Mammogram - Suggested yearly for women age 40 and above, every 2 years age 50 and above.						
[ ] Pneumonia - Suggested for all Patients with Diabetes. Suggested yearly for 2 years after diagnosis of disease.						
[ ] Tetanus Immunization - Suggested for all Patients with Diabetes.						
[ ] DEXA Screening - Suggested for women age 65 and over. Follow-up screening for those treated for osteoporosis recommended every 2-3 years.						
[ ] Colon Cancer screen - Suggested yearly fecal test or sigmoidoscopy Q 5 years, or colonoscopy Q 10 years.						

**Passive reminders**  
**Organized by illness**

Call

### Care Manager Encounter Tickler List

Care Manager: Ann Larsen

Sched. Dt. and Time	Encounter Type	Enc. Reason	MMH	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)	Met
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)	Rur
2/17/04 3:00 PM	CM Office Visit					(801)	Wa
2/17/04 3:50 PM	MD Office Visit					(801)	Wo

# Population Tickler

Before 3/10

IHC. Also detail

Do. want pay est. sent

pm from 812-33-003

5 people

pcp Access Test

who 14 people

Client - do making

Home - gen info

Back - heal

Turn on 5' 7" 110

710 deep - 3 m.

If from cat office

Dr. McBride

# What was the effect of CMP on patient outcomes?

## Study design:

- Retrospective cohort
- Comparison of care managed (CM) patients (7 clinics) with patients from similar clinics w/out care managers (n=4)
- CM patients matched to controls on key characteristics

## Outcomes

- Mortality, disease control, death, hospitalization
- Efficiency

# Guideline Adherence in Diabetes: Results

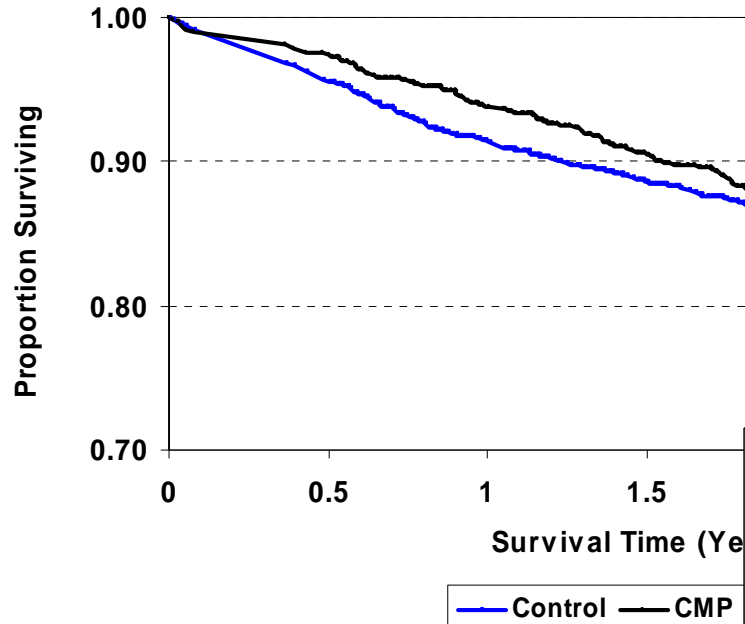
Outcome	Odds Ratio
Overdue for HbA1c test	0.79*
HbA1c Tested	1.42*
HbA1c in control (<7.0)	1.24*

\* $p < 0.01$

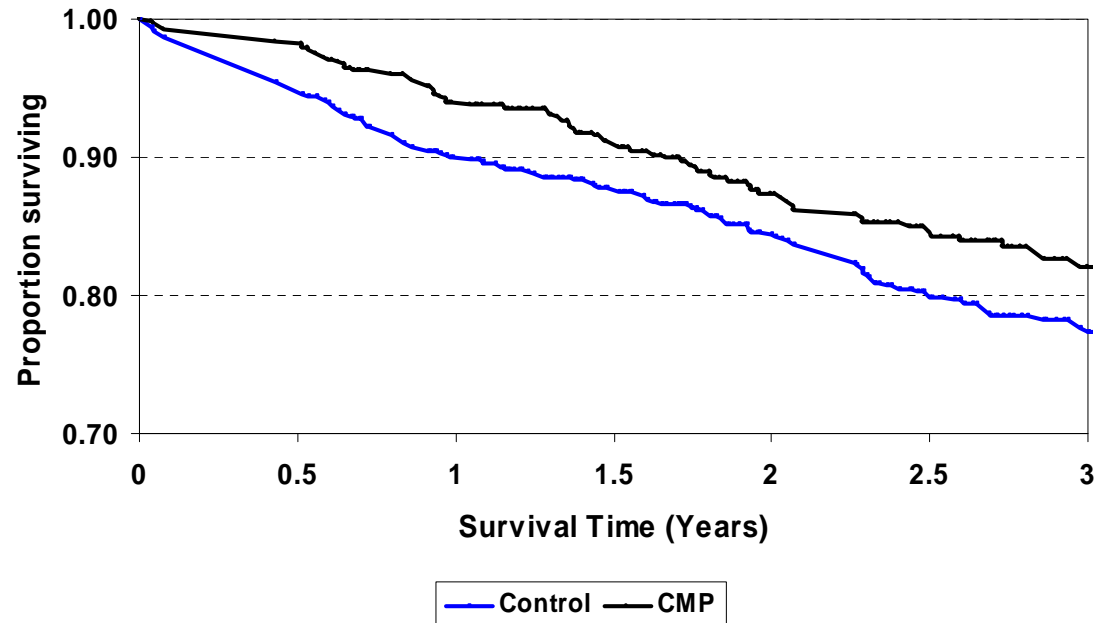
Dorr, HSR, 2005

# Odds of dying were reduced significantly.

1.a All Patients

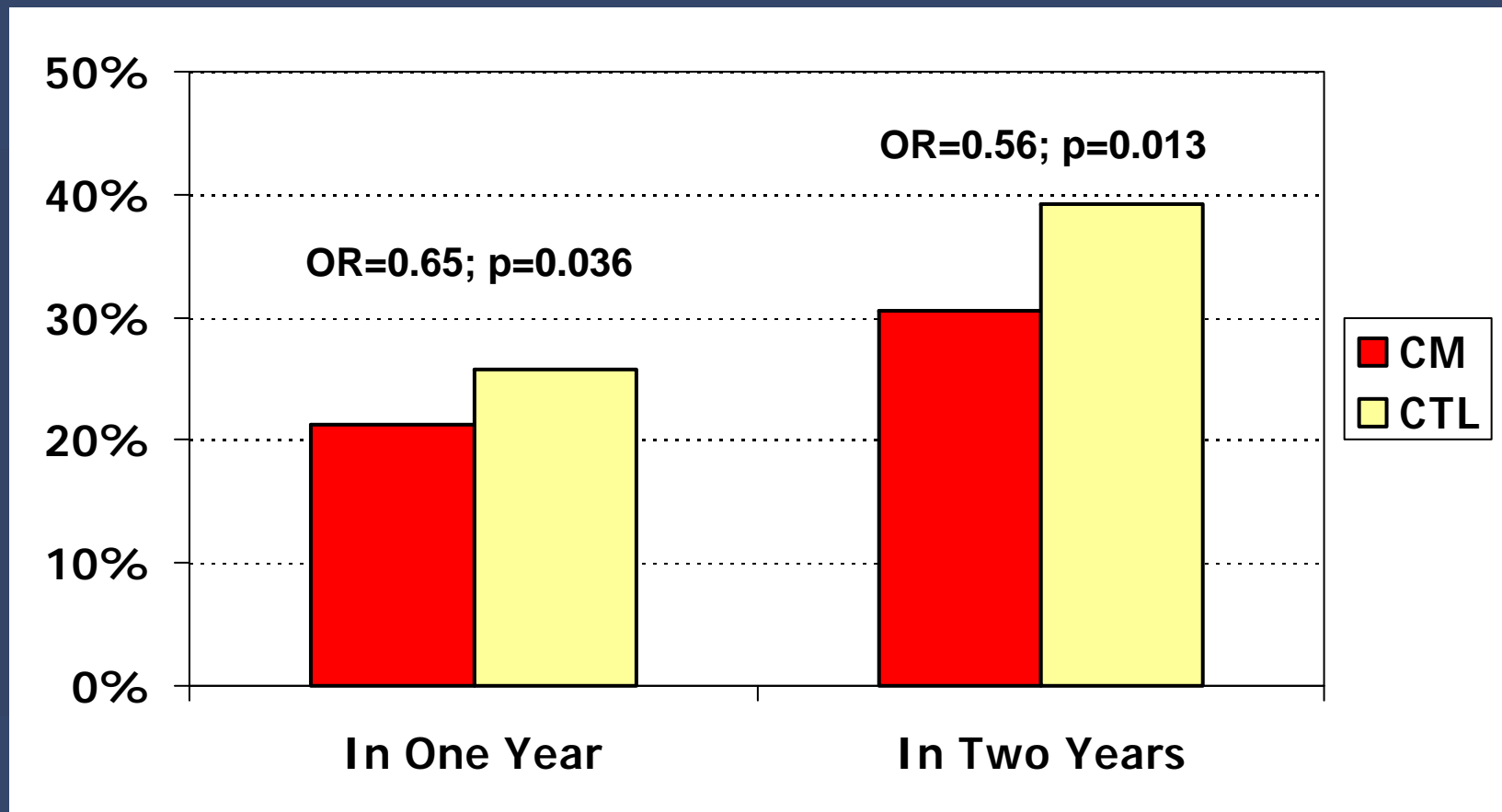


1.b Patients with diabetes



Dorr, AcademyHealth, 2006

Odds of admission (any cause) were reduced by 27-40% for patients with complex diabetes.



# Care Management Plus has other benefits... quality and efficiency

- For the primary care group
  - who can improve efficiency through improved
    - Patient self-management / empowerment
    - Efficient clinical processes from complex care
  - through the care manager
- For patients and society
  - Fewer exacerbations = lower costs

# Problems in creating Care Coordination

Area	Our experience	Next Steps
Variability	Population success differs	More accurate prescribing
Reliability	'Dosage' required	Dissemination and fidelity
Reimbursement	Misaligned incentives	Thoughtful reform
Cost Neutrality	Varies by population	Focus population

# Variability of results across programs and populations

Category of Outcomes (Number of Measures)	AVE	CAR	CEN	CCI	COR	GEO
Health Education (5)	●●	●●●●●	●●●●●		●●	
Knowledge and Behavior (8)	○		●			
Service Arrangement and Unmet Needs (7)				●	●●	
General and Disease-Specific Preventive Care (12)	○○	●●●●●	●○			
General and Disease-Specific Potentially Preventable Hospitalizations (8)	○		●●○			●●
Functional Status (9)	○	○○○		○	○	
Health Status and Well-being (8)	●		●	○	●●●	

Care Management Plus has similar issues across populations: specific benefits are tied to specific populations.

From the Medicare Coordination of Care Demos, 2 year Summary Report, March 21<sup>st</sup>, 2007; available from [cms.gov](http://cms.gov)

# Reliability: Lack of a framework for describing differences

By program description

By what a patient actually receives ('dosage')

Care Coordination	Service category	All patients
Identify & Assess Patient	ALL	22,899
Co-Develop the Care Plan	Following evidence-based protocols	12,955 (56.6%)
Communicate with All Relevant Participants	General education	6,808 (29.7%)
Monitor and Adjust	Communication	6,789 (29.7%)
Evaluate Health Outcomes	Motivating patients	6,243 (27.3%)
	Social issues / barriers	8,221 (35.9%)

# Reimbursement and Cost Neutrality

Group	% decrease in expenditures	(with costs)
Medicare Coord Care	-2%	+11%
CMP – diabetes	-14%	-7%
CMP - others	+0-3%	+4-7%

# Thank you!

## CMP Contacts:

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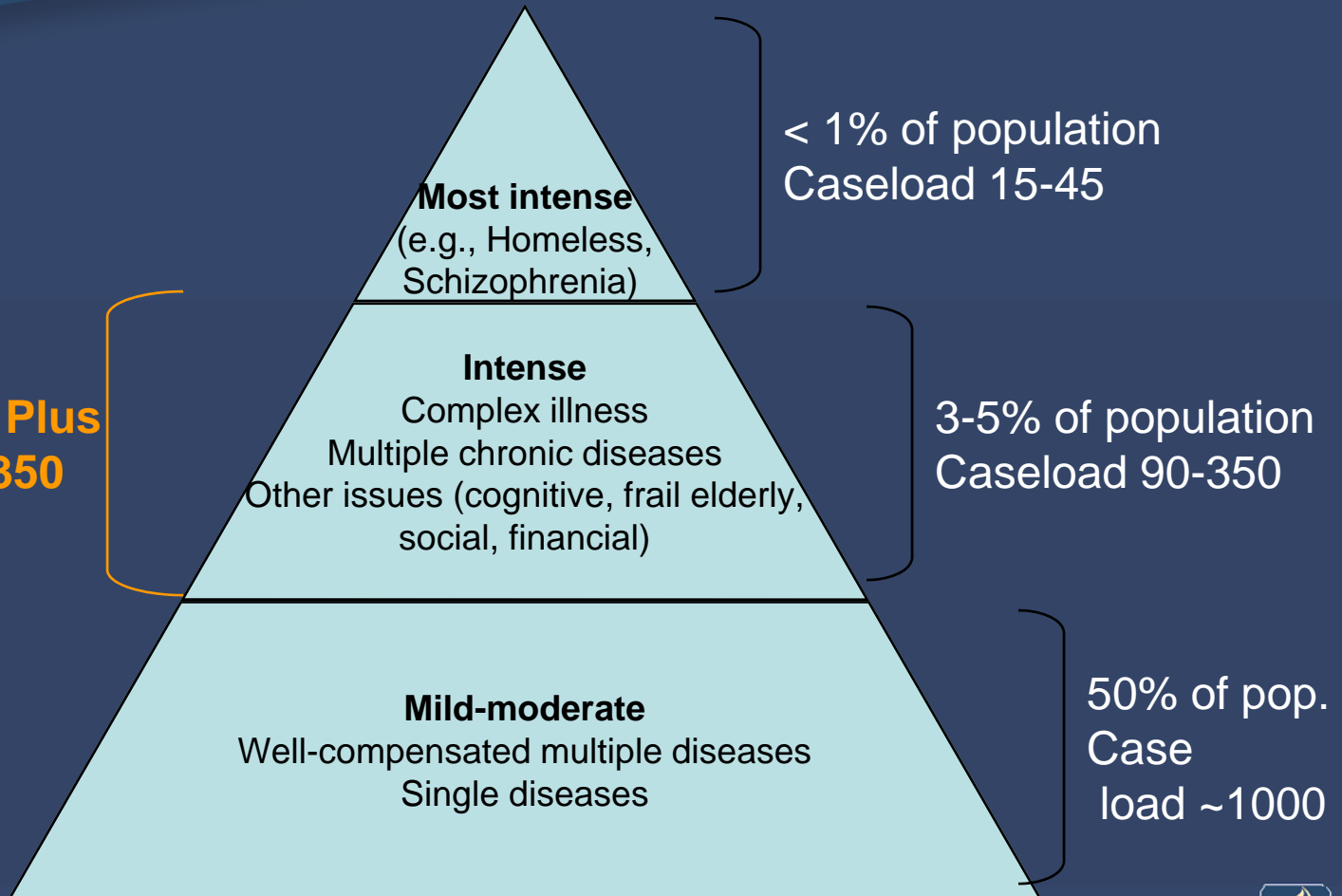
Kelli Radican (Project manager)

radicank@ohsu.edu

503.494.2567

or visit [www.caremanagementplus.org](http://www.caremanagementplus.org)

# Care management varies by intensity and function for different populations and needs.



# Description as 'dosage'

Different drugs = breadth

Amount

R  
Amoxicillin 500mg  
One pill po q6hrs x 7 days  
Dispense #28

Duration

Frequency

Different services = breadth

Amount

R  
Education 1 hr  
Every 3 weeks x 6 mos  
Dispense: CM

Duration

Frequency

Dorr, JGIM, 2007; Adapted from work by Huber et al

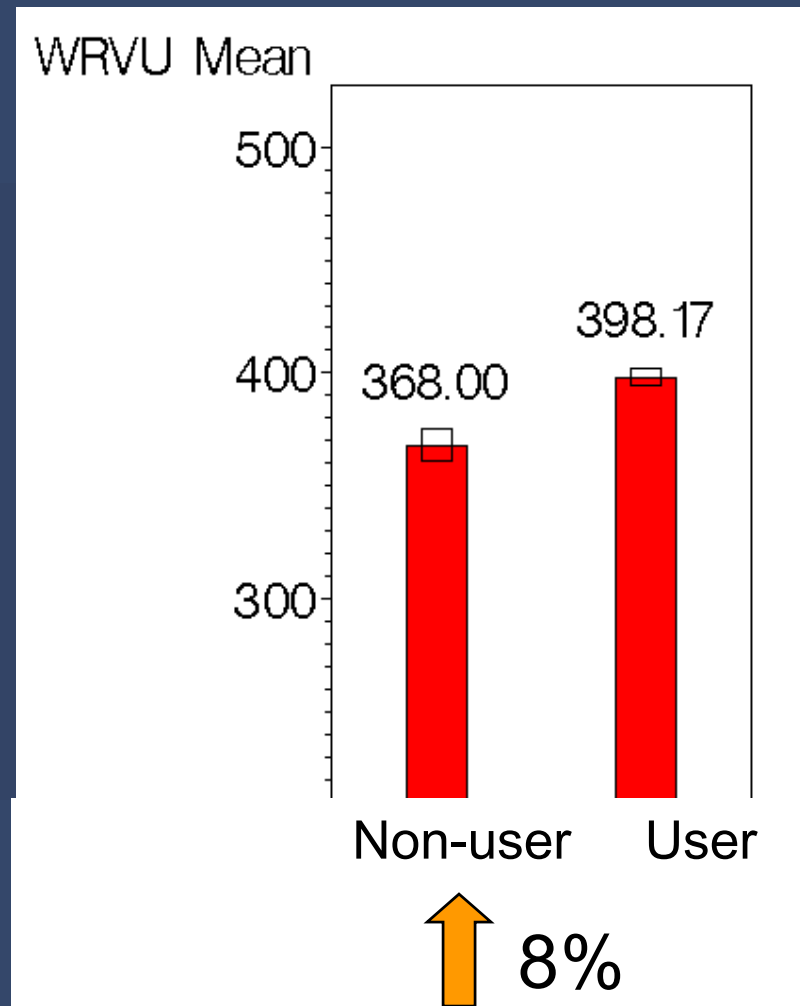
Physicians were more efficient through better documentation, a slight increase in visits, and a change in practice pattern.

- Physicians who referred to care managers:

***8% more productive***

- Than peers in same clinic

Dorr, AJMC, 2007



# Patient Information

ID Number:  Last Name:  First Name: 
 DOB:  \* Age:  Race:  Sex:

Phone:  Cell Phone:  Email: 
 PCP:  PCP Phone:

Insurance:  Facility: 
 Diab Collaboration FPP:

Date of Referral:  \* Care Mgr:  Status:

**Patient Search**

ID Number:

Last Name:

First Name:

Care Mgr:

Diag Date	Diagnosis	Status	Sched Date	Sched Time	Encounter Type	Status
	CHF	Active			Telephone Contact	Pending
<input type="button" value="Edit"/>	3/30/2004	Anxiety			Home Visit	Resolved
<input type="button" value="Edit"/>	3/30/2004	Depression			Telephone Contact	Resolved
<input type="button" value="Edit"/>			1/26/2005		Telephone Contact	Resolved
<input type="button" value="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
<input type="button" value="Edit"/>	1/26/2005	1	3	Somewhat	<input checked="" type="checkbox"/>	0		No Risk					
<input type="button" value="Edit"/>	9/1/2004	0	4	Not	<input checked="" type="checkbox"/>	0		No Risk		16	45	14	52
								1. Thoughts Only					

Diab Assess Date

Diagnosis

Encounter

Meds

MH Instruments

Pediatric Assess

Diabetes History

Diab Pre/Post Knowledge Assess

Patient Goals

HF Follow-Up

New Patient

Save Patient

Delete Patient

Generate Clinical Note by Date

CMT database - example

# Steps to Implementation

