

IT-enabled Primary Care Models for Management of Chronic Disease

BEACON Communities
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David A. Dorr, MD, MS Oregon Health & Sciences University
Cherie P. Brunker, MD Intermountain Healthcare & University of Utah

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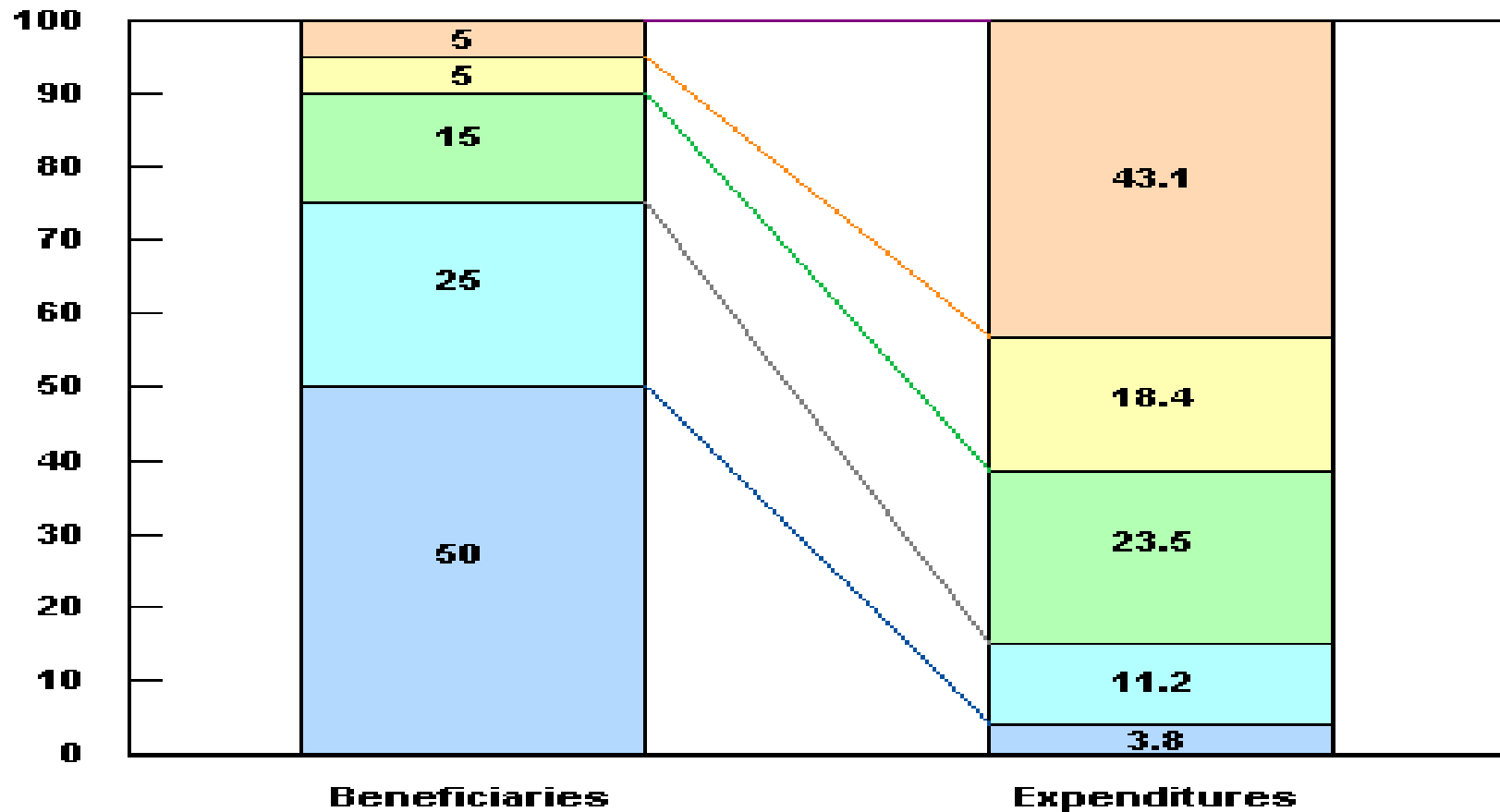
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Introduction: Realities of Disease Management

- Chronic Disease Management
 - Diabetes, Heart Failure, Depression, Asthma.....
- Multiple associated quality indicators with each chronic disease
- Complexities
 - Co-morbidities
 - Geriatrics: Assessing Care of Vulnerable Elders (ACOVE)

Expenditures for Health Care



Quartile with highest needs account for 63.5% of expenditures

Top 5% account for 43% of expenditures

Health and Technology Systems have difficulty meeting these needs.

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Question

Which of the following is the strongest predictor of risk of death in 4 years for adults 50 and older?

- A. Has a doctor told you that you have diabetes or high blood sugar?
- B. Because of a health or memory problem, do you have difficulty with bathing or showering and difficulty with walking several blocks?
- C. Has a doctor told you that you have cancer or a malignant tumor, excluding minor skin cancers?
- D. Do you have a chronic lung disease that limits your usual activities or makes you need oxygen at home?
- E. Has a doctor told you that you have congestive heart failure?

Care Manager Tracking Function Screen in ICCIS

Function - Windows Internet Explorer
https://iccis.ohsu.edu/Function.aspx?pd=1fONVMIAsPg%3d

Add Function

Patient: Harry, Binnes **ID: 1324234**

Assessment Date:

Activities of Daily Living Score (ADL) Able to do without help:	Instrumental Activities Score (IADL) Able to do without help:
1. Get out of bed or chair <input type="radio"/> yes <input type="radio"/> no	1. Shop <input type="radio"/> yes <input type="radio"/> no
2. Walk <input type="radio"/> yes <input type="radio"/> no	2. Use a telephone <input type="radio"/> yes <input type="radio"/> no
3. Take a bath or shower <input type="radio"/> yes <input type="radio"/> no	3. Cook <input type="radio"/> yes <input type="radio"/> no
4. Get dressed <input type="radio"/> yes <input type="radio"/> no	4. Travel outside the home <input type="radio"/> yes <input type="radio"/> no
5. Go to the toilet <input type="radio"/> yes <input type="radio"/> no	5. Bills, Checkbook, Finances <input type="radio"/> yes <input type="radio"/> no
6. Feed self a meal <input type="radio"/> yes <input type="radio"/> no	6. Housekeeping <input type="radio"/> yes <input type="radio"/> no
	7. Take medications <input type="radio"/> yes <input type="radio"/> no

ADL: 0 **IADL: 0**

Total ADL or IADL score is the number of functions the individual is able to do independently: 6 = full function; 4 = moderate impairment; 2 = severe impairment

Mini Mental Status Exam Score (MMSE): Pain Score (0-10):
MMSE: Pain Score:

Notes:

Done Internet 100%

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Jack Wennberg (Dartmouthatlas.org)


- Eliminate Underuse of Effective Care & Medical Mistakes
- Learn What Works (Outcomes Research)
- Establish Informed Patient Choice (Shared Decision Making)
- **Achieve Efficient and Effective Management of Chronic Illness**
- Achieve Efficient Allocation of Resources geared to Size of the Population Served

Patient Worksheet

- Summary of patient information
 - Conditions, medications, allergies
- Lab and clinic data relevant to chronic conditions
 - Function, Diabetes, heart failure, depression, hypertension
- Includes advisories for preventive care and chronic conditions (CLINICAL DECISION SUPPORT)

Patient Worksheet

Wilcox, Proc of AMIA Symp, 2005

16 November 2006		 Patient Worksheet			U1.07D 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
Problems					
Diabetes Mellitus, Type 2 Hyperlipidemia					
Chronic conditions					
Active Medications					
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 4. - Calcium Carbonate/Vitamin D (Calcium 500mg-Vitamin D), 500mg, Tablet, 1 TABLET, Bid					
Medications					
Allergies					
(-) Penicillins - A Drug Allergen Group; Reaction (-) Rash					
Allergies					
Disease Management					
Functional status					
ADL	Pain Score (0-10)		MMSE		
11/15/2006	5	11/15/2006	4	11/15/2006	24
Preventive Care					
Preventive care summary					
Pap Smear No Data					
Mammogram No Data					
Clinical Laboratory Data					
HgbA1c (<7.0)	U.A. Protein	UA/bCr (<30)	24 Urine Albumin (<30)	Serum Cr	
No Data	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	No Data	No Data
Pertinent labs					
HCT	InCRP	Homocysteine			
No Data	No Data	No Data			
Clinic Data					
Date	Weight	BMI (<25)	Weight Class	Blood Pressure (<130/80)	Heart Rate
01/15/2006	144 lbs	23	Normal	01/15/2006 122/74 mmHg	01/15/2006 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
Pertinent exams					
Last foot exam:	11/2005	Abnormal	Last dilated retinal exam:		11/2005
Abnormal					
Reminders					
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 s					
] Mammogram - Suggested yearly for women age 40 and above, every 2 years age 50 and above.					
] Pap smears - Suggested for all Patients with Diabetes every 2 years, or every 1 year if there is a history of abnormal Pap smears.					
] Tetra tominololol - Suggested for all Patients with Diabetes every 2 years.					
] 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.					

Guideline Adherence in Diabetes: Results of Care Managers

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

Assessing Care Of Vulnerable Elders (ACOVE)

- Identified vulnerable elders (age, ↓ function)
- Defined quality indicators based on literature review and expert panel for 22 conditions that affect older persons
- Examined as process of care (by structured interview and chart review) for each condition

http://www.rand.org/pubs/working_papers/WR515.3/

ACOVE Categories

- **Appropriate Use of Medication**
- **Chronic Pain**
- **Continuity and Coordination of Care**
- **Dementia**
- **Depression**
- **Diabetes Mellitus**
- **End-of-Life Care**
- **Falls and Mobility Problems**
- **Hearing Loss**
- **Heart Failure**
- **Hospitalization**
- **Hypertension**
- **Ischemic Heart Disease**
- **Malnutrition**
- **Osteoarthritis**
- **Osteoporosis**
- **Pneumonia**
- **Pressure Ulcers**
- **Preventive Care**
- **Stroke and Atrial Fibrillation**
- **Urinary Incontinence**
- **Visual Impairment**

Example: ACOVE Quality Indicators

- ALL vulnerable elders (VEs) should be evaluated annually for changes in memory and function.
- IF a VE has newly diagnosed dementia, THEN s/he should be screened for depression within 3 months.
- ALL VEs should have an up-to-date medication list readily available in the medical record, accessible by all healthcare providers, and including over-the-counter medications.
- IF a VE is discharged from a nursing home to home, THEN there should be a discharge summary in the outpatient medical record.

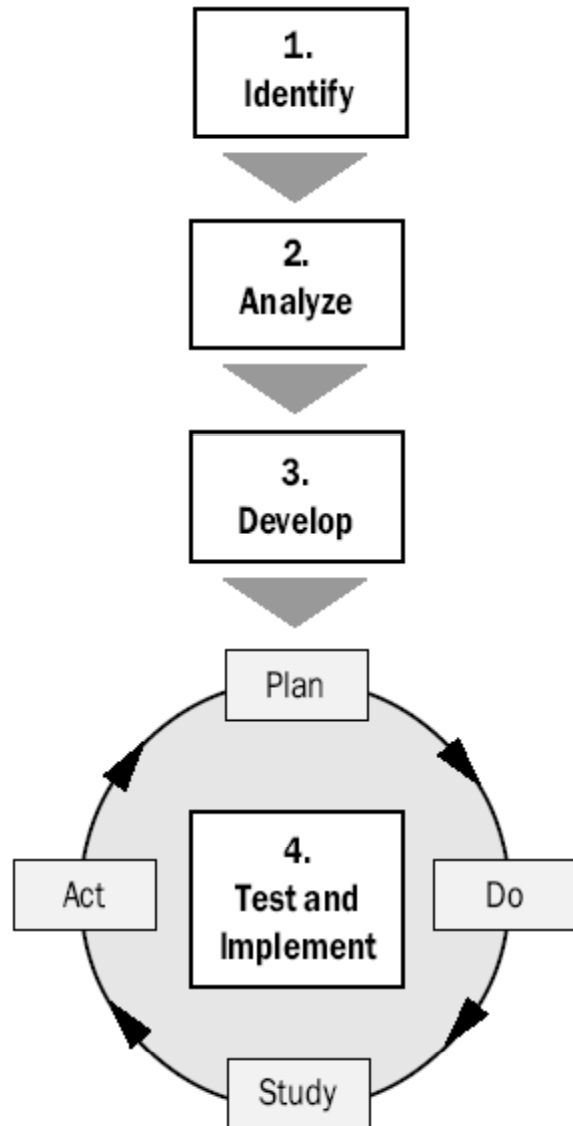
ACOVE Findings

- Overall 54% of quality indicators met
- High numbers of quality indicators met for common diseases in older persons (hypertension, diabetes)
- Low numbers (29-41%) of quality indicators met for geriatric conditions (dementia, incontinence, etc.)

PROCESS

Step1. Choose evaluation metrics based on organizational priorities	Which metrics?
Step2. Create evaluation plan	Review time frame for prior and after measurements; population; assistance
Step3. Data collection plan	What matters most to your Community?
Step4. Implement plan	How do you start? What's next? How do you work best as a Beacon Community team?

Evaluating process



1. Identify	Determine what to improve
2. Analyze	Understand the problem
3. Develop	Hypothesize about what changes will improve the problem
4. Test/ Implement	Test the hypothesized solution to see if it yields improvement; based on the results, decide whether to abandon, modify, or implement the solution

From Massoud, et al, 2001

Getting Started

1. TEAM comes to consensus on GOALS, start DOCUMENTATION, identify problems and run PDSA CYCLES.
2. Focus: COMMUNICATION: UNDERSTANDING, FEEDBACK, RESPECT, CONNECT
3. Establish TEAM roles (especially who will do care management, follow-up, and population management)
4. Know milestone GOALS to manage!

Evaluating Processes

- Documenting
 - How do you know what is happening now and what needs to be fixed?
 - Examples: team discussions, observing and writing down processes
- Testing
 - How will you know your changes are successful?
- Monitoring processes

Next: CASE and DISCUSSION

Contact Information

- dorrd@ohsu.edu
- cherie.brunker@imail.org
- www.caremanagementplus.org