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Health System Strategies to Improve Chronic Disease Management and Prevention: What Works?

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Current State of Chronic Disease Management

- Americans with chronic health problems receive the recommended care just over 50 percent of the time
McGlynn EA et al. NEJM 2003;348 (26): 2635-2645.
- Less than 50% have satisfactory levels of disease control
- Majority of Americans don't feel that the chronically ill get good care
- Physicians feel frustrated with chronic illness care



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Diabetes Care in Academic Medical Centers

	General Medicine	Diabetes/ Endocrinology
HbA1c < 7%	34%	34%
BP < 130/80	30%	38%
Foot Exam in Past Year	35%	64%
Eye Exam in Past Year	42%	55%

Grant et al., Diabetes Care 2005; 28:337

Slow Rates of Treatment Intensification for A1c among Patients with Diabetes*

When Diet & Exercise aren't enough . . .

Average # months above 8% = 8.7 mo

Average A1C at intervention = 8.6 %

When Sulfonylurea Alone isn't enough . . .

Average # months above 8% = 20.5 mo

Average A1C at intervention = 8.8 %

When Metformin Alone isn't enough . . .

Average # months above 8% = 14.5 mo

Average A1C at intervention = 9.1 %

When Combination (M + S) isn't enough . . .

Average # months above 8% = 25.6 mo

Average A1C at intervention = 9.6 %

*Brown J et al. Diabetes Care 2004; 27:1535-1540



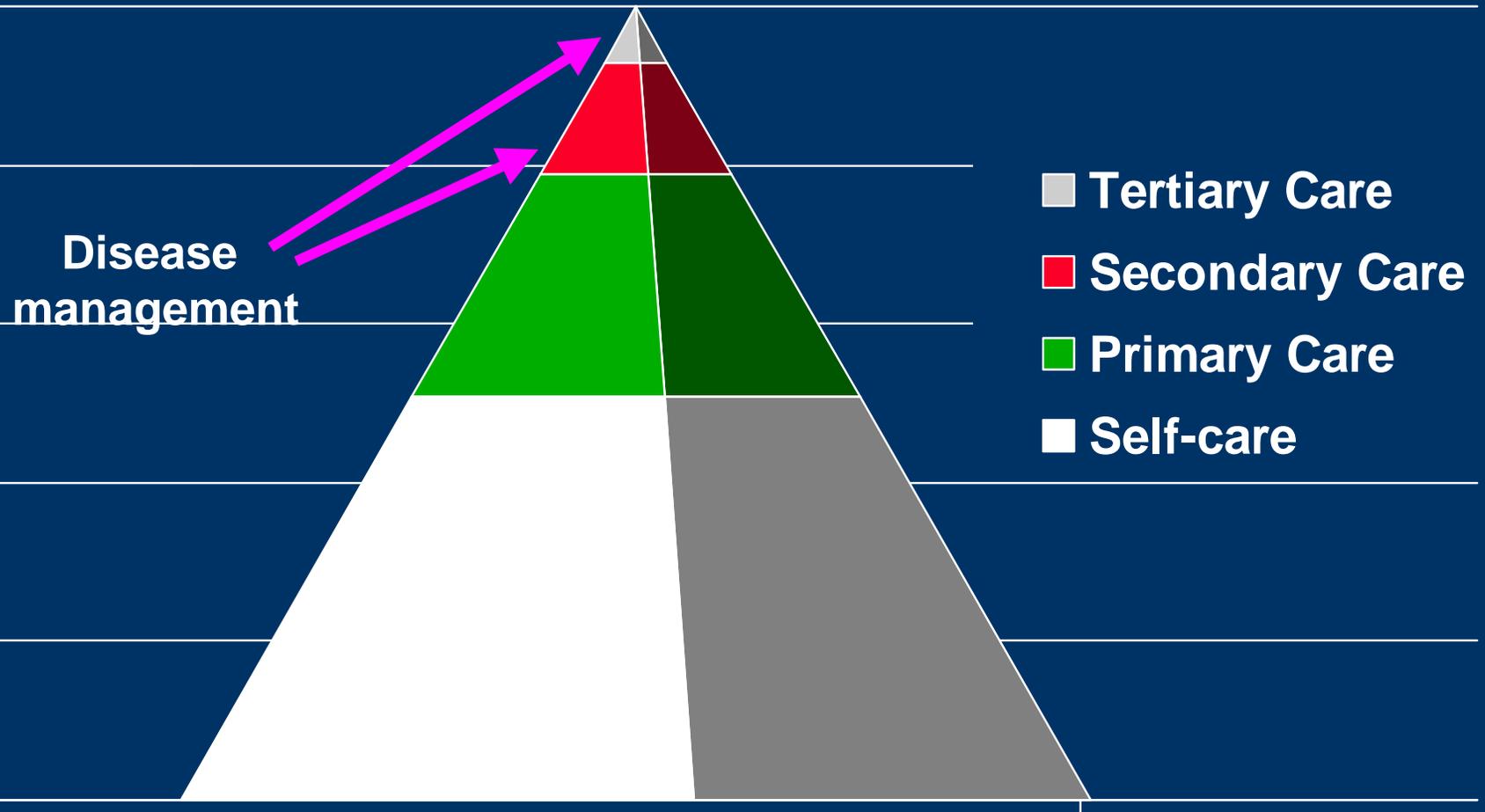
When Appropriate Treatments are Prescribed, Patients Often Aren't Taking Them

- **50% of patients with chronic diseases take their prescribed medications** *Haynes RB, JAMA 2002*
- **Cost of poor medication adherence in the US >\$100 billion annually** *Berg JS, Ann Pharm, 2003*
- **Drugs don't work in patients who don't take them**



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Chronic Illness Care in US





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Consider the following patient...

- Gene Davis is a 55 year old woman with diabetes, hyperlipidemia, HTN, and COPD:
- Every day she needs to:
 - take multiple medications
 - follow a diabetes and low-salt diet
 - try to exercise
 - monitor and respond to her symptoms
 - carry on with her life as best as she can





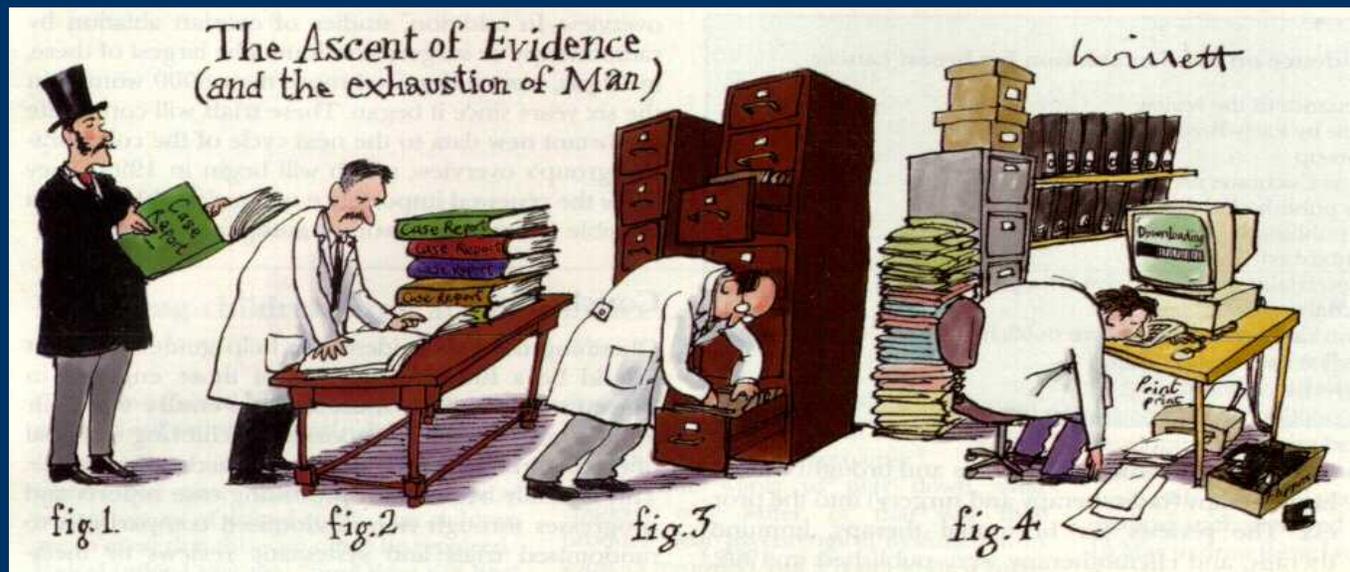
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Consider Ms. Davis's doctor...

- 48 year old physician with 1500 patients
- Every day she needs to spend:



- 7.4 hours providing recommended preventive care
- 10.6 hours providing recommended chronic care





The IOM Quality Report:

“The current care systems cannot do the job.”

“Trying harder will not work.”

“Changing care systems will.”

"We are carrying the 19th-century clinical office into the 21st-century world. It's time to retire it."

Donald Berwick, Institute for Healthcare Improvement



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What Patients Need

- 1. A “continuous--and coordinating-- healing relationship”**
- 2. With a care team and practice system organized to meet their needs for:**
 - Effective Treatment (clinical, behavioral, supportive)**
 - Information and support for their self-management**
 - Systematic follow-up and assessment tailored to clinical severity**
 - Coordination of care across settings and professionals**
 - Linkages with effective community resources**



Quality of Chronic Disease Care

Studies have found that high-quality chronic care requires:

A systematic and organized approach

Effective coordination and collaboration among all available personnel within a practice and with external resources (specialists, diabetes educators, behavioral coaches)—*a team-based approach*



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Specialists Vs. Generalists?

“A rapidly growing body of health services research points to the design of the care system, not the specialty of the physician, as the primary determinant of chronic care quality.”

- AA Rothman, PhD, MHS, and Edward H. Wagner, *Ann Intern Med.* 2003;138:256-261.

“The appropriate deployment and use of practice teams seem to be far more important to improving chronic illness care than physician specialty”

Wagner EH. The role of patient care teams in chronic disease management. *BMJ.* 2000;320:569-72.



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Four Key Areas at the Practice Level

- Delivery system design (who's on the health care team and in what ways we interact with patients)
- Decision support (what is the best care and how do we make it happen every time)
- Clinical information systems (how do we capture and use critical information for clinical care).
- Self-management support (how we help patients live with their conditions and make behavioral changes to improve health)



Randomized Trials of System Change Interventions: Diabetes

Cochrane Collaborative Review and JAMA Re-review

- About 40 studies, mostly randomized trials
- Interventions classified as decision support, delivery system design, information systems, or self-management support
- 19 of 20 studies which included a self-management component improved care
- All 5 studies with interventions in all four domains had positive impacts on patients

Renders et al, Diabetes Care, 2001;24:1821
Bodenheimer, Wagner, Grumbach, JAMA 2002;
288:1910

Relationship Between Organizational Systems and Diabetes Quality*

- Studied 134 managed Medicare organizations
- Collected diabetes quality measures (**HbA1c, LDL, microalbuminuria and eye exams**)
- Assessed 32 care elements based on the CCM (**e.g., reminders, guidelines, registries, self-management**)
- Compared top and bottom quartiles on quality (**e.g., A1c>9.5– 20% vs. 50%**)
- Top quartile more likely to employ CCM elements, especially:
 - computerized reminders**
 - practitioner involvement on QI teams**
 - guidelines supported by academic detailing**
 - formal self-management programs**
 - a registry**



Evidence on Effective Approaches to Improve Clinical Management of Chronic Diseases

- **A 2005 AHRQ-sponsored systematic review of 63 quality improvement (QI) interventions concluded that organizational interventions that assigned non-physician staff to address chronic disease management had the largest effects on outcomes.**
- **Just adding team members alone was not enough: a key ingredient of the most successful case management interventions was allowing nurse or pharmacist case managers to make medication changes without waiting for physician approval.** (Shojania et al., 2006)

Ways to Improve Self-Management Support During Medical Encounters

- **To improve support during medical encounters:**
 - Patient-doctor interactions
 - Increased role of non-MD clinic staff (teams)
 - Computerized assessments while patients are waiting
Glasgow RE et al, Pt Ed Coun 1997
 - Innovative clinic-based programs, such as group visits and self-management training
Wagner EH et al, Diab Care 2001
Lorig K et al, Med Care 1998

What Are Effective Ways To Increase Self-Management Support **BETWEEN** Medical Visits?

- **Case management**
- **(Interactive Voice Response) IVR systems**
- **Develop and forge links with community resources (e.g., support groups)**
- **Community health promoters and peer support**
- **Other creative uses of telephone and computer technologies (Internet and email)**

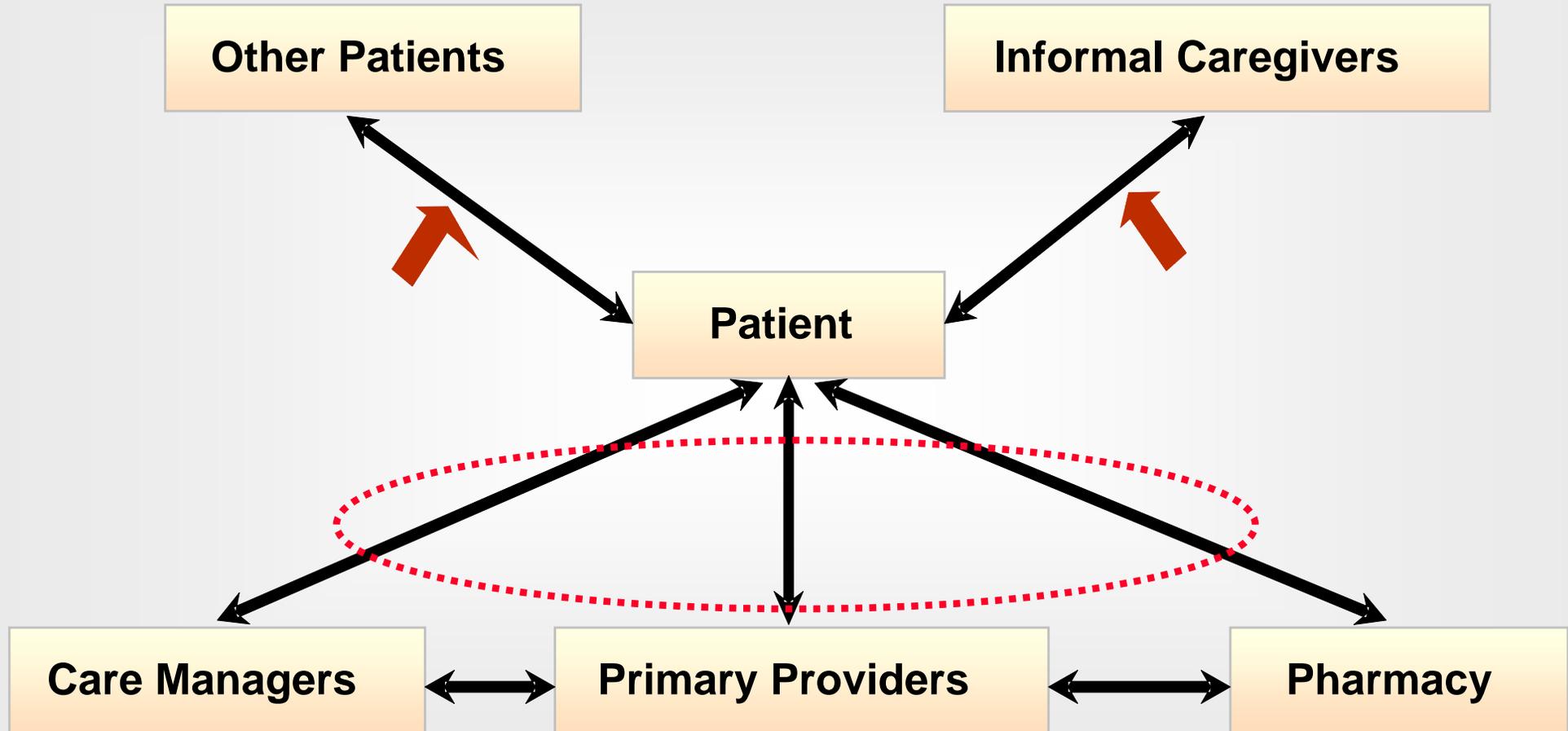
Link these mechanisms with usual clinical care to be most effective!



Evidence on Effective Approaches to Improve Medication Adherence

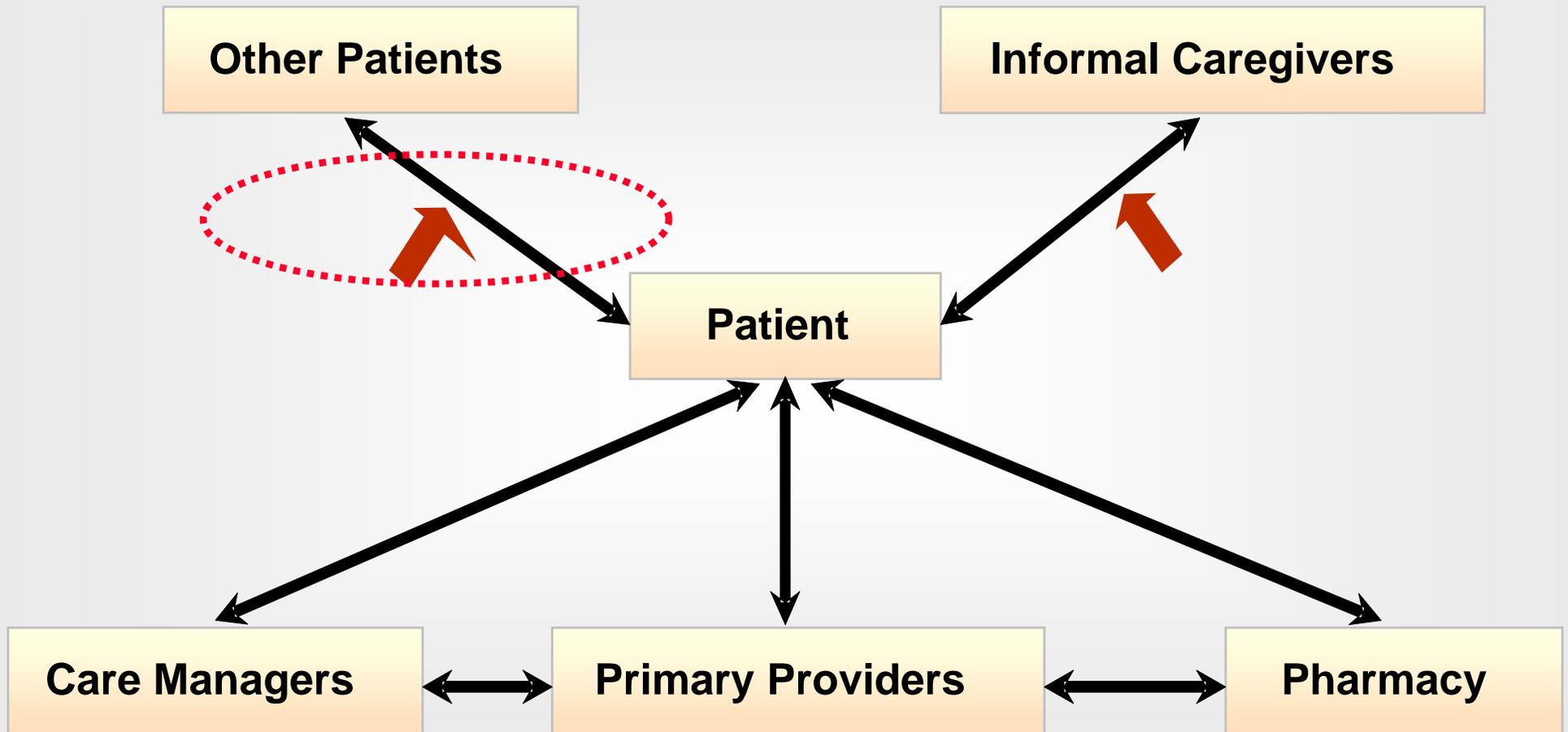
- **A meta-analysis of 153 adherence interventions found that multi-faceted behavioral interventions resulted in improvements in medication adherence and disease control.** (Roter et al., 1998)
- **Nurse case-managers and clinical pharmacists trained in behavioral approaches can improve patient adherence to BP medications and improve BP control.** (Bosworth et al., 2005, Bosworth et al., 2005, Bosworth et al., 2005, Krass et al., 2005, Rothman et al., 2005)
- **In particular, there is growing evidence that motivational interviewing-based approaches improve medication adherence and other health behaviors.** (Williams et al., 1998, Resnicow et al., 2004)

Communication Links Targeted by Interventions for Patients with Chronic Conditions





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Heisler M. (2006). Building peer support programs to manage chronic disease: seven models for success. *A Report from the California Healthcare Foundation.*



Old interaction vs. New interaction

Old Interaction

- **Between individual provider and patient**
- **Face-to-face**
- **Problem-initiated and focused**
- **Topics are clinician's concerns and treatment**
- **Ends with a prescription**

New Interaction

- **Between patient and care team supported by clinical information and decision support**
- **Multiple modalities**
- **Based on care plan: "planned visit"**
- **Collaborative problem list, goals and plan**
- **Ends with a shared plan of care and follow-up**



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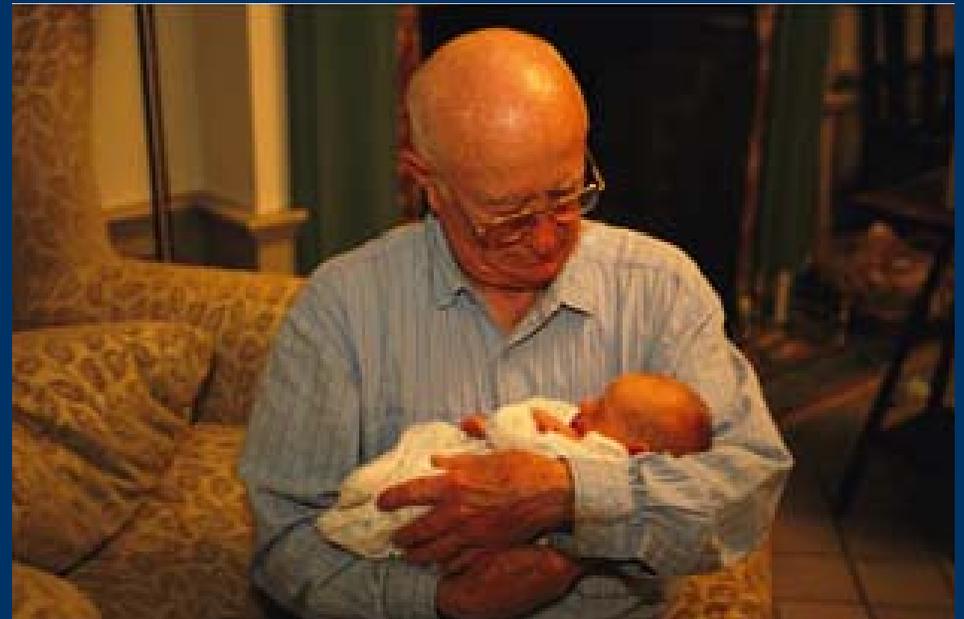
Outcomes

- Well-organized, efficient practices
- Satisfied patients on the right medication with excellent self-management and healthy behaviors
- Satisfied providers able to provide outstanding patient care without feeling overwhelmed





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Incorporating Self-Management Support into Office Flow

Prior to visit

Mailed reminder about goal set at last visit, self-monitoring records (e.g., blood glucose, diet, exercise), recommended laboratory tests



Waiting room

Patient complete self-management form or computer assessment



Check In Assessment

Nurse gives feedback on changes since last visit. Inquires about self-management goal since last visit. Nurse checks self-management form and asks which area is currently of most concern (circles area for physicians; reinforces patient interest; educates on self-care)

Incorporating Self-Management Support into Office Flow, cont'd

Physical examination

Doctor checks self-management form and discuss area of most concern to patient. Reinforce patient's willingness to change behavior and refer to nurse or CDE for specific plan



Nurse or CDE follow-up

Review and clarify goals for behavior change in one area of self-care

Proportional Contribution to Premature Death

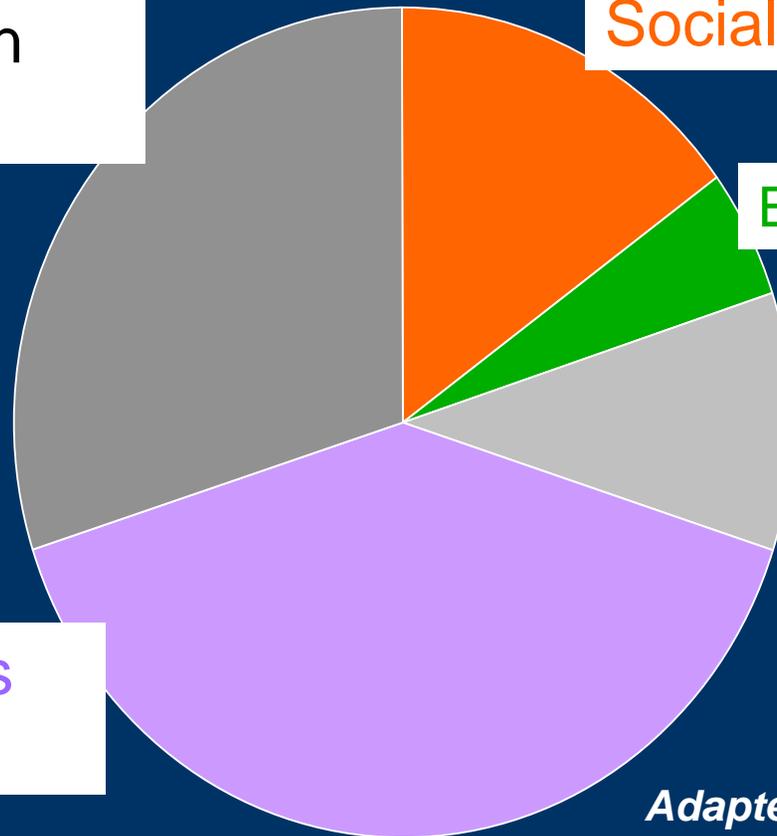
Genetic predisposition
30%

Social circumstances 15%

Environmental exposure 5%

Medical Care
Deficiencies 10%

Behavioral patterns
40%



*Adapted from McGinnis JM et al.
Health Aff (Millwood) 2002;21(2):78-93*



Key Questions to Ask About Your Provider's Practice's Diabetes Care

- **Decision Support**
 - 1. Availability of evidence-based guidelines**
 - 2. Involvement of specialists in improving diabetes care**
 - 3. Provider education for diabetes care**
 - 4. Informing patients about guidelines**

Assessment of Chronic Illness Care (ACIC)



Key Questions About Your Physician's Practice (**continued**)

- Delivery System Design

1. Practice team functioning
2. Practice team leadership
3. Appointment system
4. Follow-up
5. Planned visits for diabetes care
6. Continuity of care



Key Questions About Your Provider's Practice (continued)

- Clinical Information Systems

1. Registry (list of patients with diabetes)
2. Reminders to providers
3. Feedback
4. Information about subgroups of patients needing services
5. Patient treatment plans

Benefits of Self-Management Training Diminish With Time

