Longitudinal Evaluation of Care Management for Elderly Patients with Comorbidities

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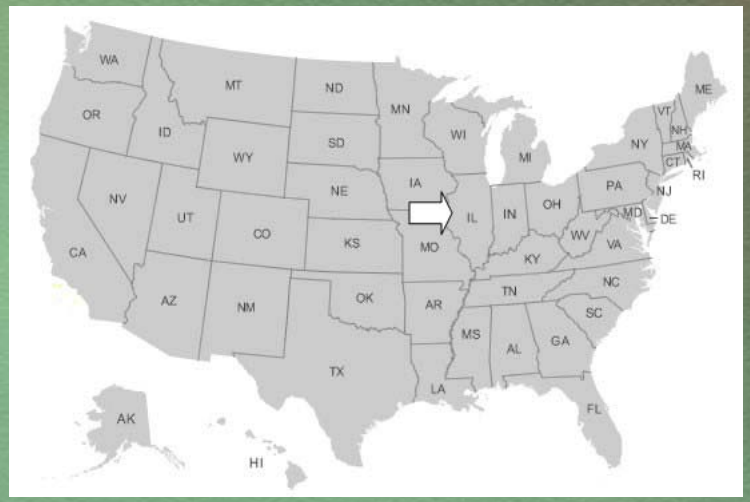
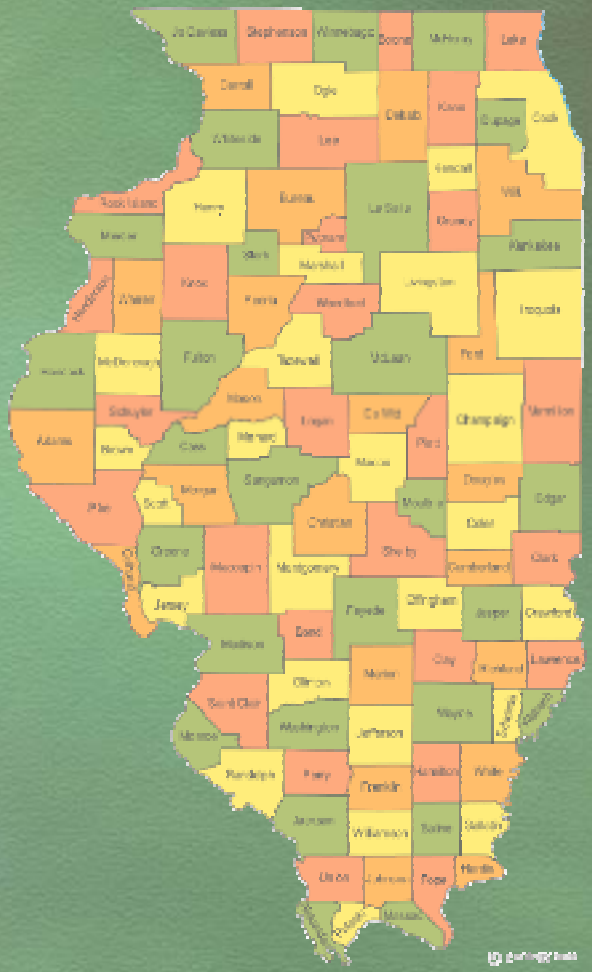
MCCD

- Medicare Coordinated Care Demonstration (MCCD)
  - Authorized by the U.S. Balanced Budget Act of 1997
  - Targets beneficiaries with chronic conditions that represent high costs to the Medicare program
- Improve care for patients with targeted chronic conditions
- Implement research-based medical, nursing, dietitian & patient self-management guidelines
- Improve patients' clinical health status, self-management practices and satisfaction with care
- Maintain Medicare "budget neutrality"



MCCD Eligibility Criteria

- Have both Medicare parts A & B
- Reside in the designated 13-county service area
- Have one or more of the specified chronic conditions: CAD, diabetes, CHF, COPD, atrial fibrillation
- Have 3+ medical office visits or a hospitalization in the previous 12 months
- Not be enrolled in a Medicare HMO, have end stage renal disease, use hospice services, or live in a nursing home



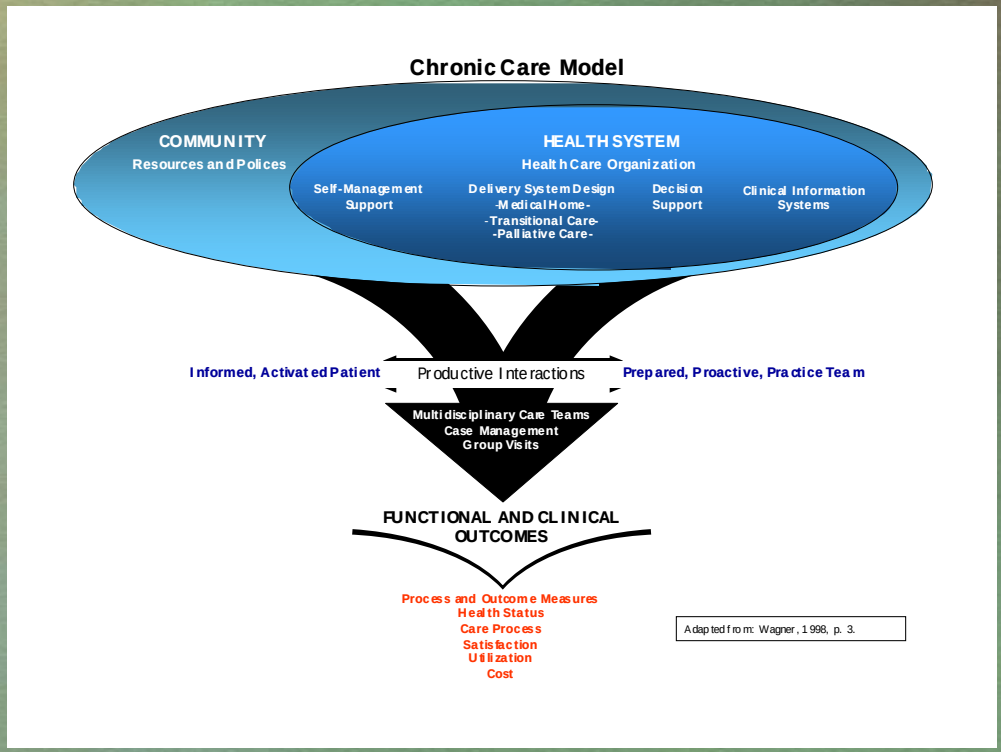
MCCD Enrollment

- Carle has enrolled over 3,200 patients since April 2002

- Current active enrollment as of Oct 2007
  - 1,099 Intervention
  - 1,131 Control

Chronic Care Model Components

- Health Care Organization
- Community Resources and Policies
- Delivery System Design
- Self-Management Support
- Decision Support
- Clinical Information Systems



Health Care Organization

- Integrated Delivery System
- Medical Director Advisory Team
- Mechanism to fund Team Conferences and Collaborative Visits

Community Resources & Policies

- Expanded benefit funds community-based services
  - Respite care, homemaker, transportation, etc.
- Establish contracts with community agencies to expand services
- Develop network for referral to community providers and resources

Delivery System Design

- Implement Collaborative Team Model and roles (Patient/Family, Nurse Partner, APN, RD, CA, PCP)
- Implement Case & Disease Management
- Implement patient risk stratification & corresponding clinical interventions

Self-Management Support

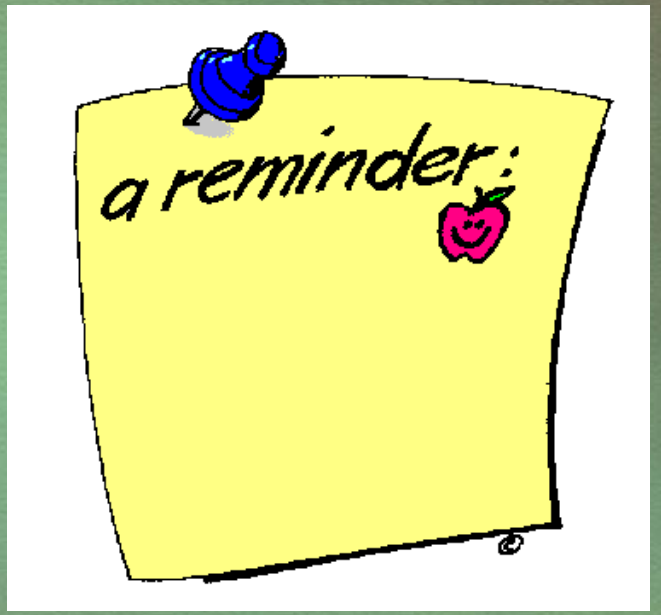
- Collaborate with patient and family to define problems, identify solutions and set goals
- Encourage self-responsibility and self-monitoring
- Facilitate problem solving and decision-making
- Provide disease-specific education packets, patient monitoring of health status, community resources information for support
- Education classes, group visits, targeted mailings, newsletters

Decision Support

- Implement disease-specific, evidence-based medical and nursing guidelines
- Provide education for providers, patients and families utilizing multiple modalities
- Implement standing orders and order sets
- Disseminate process, outcome and financial reports to management and collaborative team members on a regular schedule

Clinical Information Systems

- Provide individual patient reminders and care plans (Rx for health notes, care plan letters, patient “to do” lists)
- Maintain comprehensive clinical alert system to provide real-time alerts for specific patient healthcare encounters (hospitalization, ED visits, physician visits, etc.)
- Maintain Care Management Information System and optimize Electronic Medical Record



Research Design

- Prospective, RCT
- Intent-to-treat analysis plan, outcomes evaluated at:
  - 12 months post enrollment (Year 1)
  - 24 months post enrollment (Year 2)
  - 36 months post enrollment (Year 3)
  - 48 months post enrollment (Year 4)
- Study Population
  - Enrolled April 2002-April 2003
  - Control = 1,140; Intervention = 1,161

Evaluation Strategy

- Our Thinking was …
- Increased Access to Primary care …
  - Leads to Increased Testing Rates and Self-Management/Self-Efficacy Skills …
  - Which Leads to …
  - Increased Therapeutic Control Rates …
  - Which Leads to …
  - Decreased Hospitalization/ED Visit Rates
  - Budget Neutrality in Medicare Costs

Baseline Characteristics

Characteristics	Control Group	Intervention Group
Age, y	76	76
Female	49%	45%
Minority Race	7%	6%
< High School	11%	11%
Lives Alone	30%	29%
Fair/Poor Health	31%	29%
Depression	16%	17%
> 5 Medications	63%	61%
ADL Impairments, avg.	1.0	0.9

Baseline Characteristics

Characteristics	Control Group	Intervention Group
Verified Health Conditions, %		
• AFib	22	22
•CAD	49	47
•CHF	20	20
•COPD	27	29
•Diabetes	38	36
•2+ Conditions	41	39

48 Month Outcomes

Outcome	Control Group	Intervention Group	*P*
Daily Weighing, CHF	23%	46%	<.05
Annual Foot Exam, DM	42%	60%	<.05
Annual Lipids Testing	69%	73%	>.05
LDL Control	70%	71%	>.05
HbA1c Testing, DM	69%	75%	>.05
HbA1c Control	51%	56%	>.05
BP Control	57%	62%	>.05

Patient Satisfaction: 48 Months

Outcome	Control Group	Intervention Group	*P*
Overall Healthcare	8.7	8.9	<.05
Primary Physician	9.1	9.3	<.05
Physician office RN / Nurse partner	9.1	9.3	<.05

Nurse Partner Patient Contacts Year

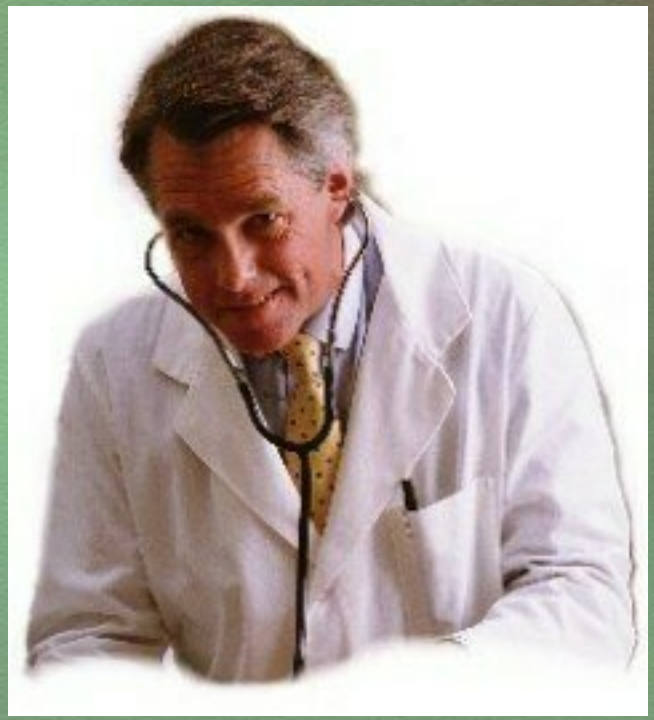
Outcome	Contact / % Time
Avg. # Nurse Partner/Patient Contacts	9.0
Avg. Nurse Partner/Patient Time (hours)	6.0
Assessment and Monitoring	36%
Patient Education	20%
Identify and Arrange Services	8%
Emotional Support	4%
Documentation/Meetings/Travel	32%

Utilization & Cost Outcomes

- Through the end of 2005
  - No differences in hospitalization rates
  - Intervention has not been budget neutral (increased Part B$)
  - Patient Sub-Groups (potential budget neutrality)
    - All Cause Mortality; No Baseline MD Visits; 10+ MD Baseline MD Visits; 2+ Chronic Conditions and Baseline Hospitalization

Physician Impressions – MPR Surveys

- 80% - 100%: Program helped their practice
- 85%: Program helped maintain, improve continuity of care
  - 85%: Program made coordinating with the family a little to a lot better
  - 66%: Program helped coordinate with other physicians
- 92%: Program improved patients' quality of care overall



Conclusions

- Maintained high enrollment rates for over 4 years; largest enrollment of any MCCD site in the country
- Significant differences in self-management behaviors:
  - Daily weighing (patients with CHF)
  - Annual foot exams (patients with DM)
  - Laboratory testing according to medical guidelines for lipids, HbA1c, and microalbuminuria at Y1, Y2 and Y3
- Although not significant, clinical health status trends (higher rates of control for LDL, triglycerides, HbA1c, blood pressure) are increasing for the Intervention Group compared to the Control Group

Conclusions

- Significant differences in patient satisfaction
- Physicians report program has positive impact on care
- Analyses of patient subgroups and components of the intervention may yield additional significant results related to utilization and cost
- Perhaps most important, at the end of 3 years losing treatment effects between control and intervention groups. Suggests that perhaps PCP practice patterns are converging with the use of evidence-based clinical guidelines.

Contact Information

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