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EFFECT OF A DEMENTIA CARE MANAGEMENT INTERVENTION ON PRIMARY CARE PROVIDER KNOWLEDGE, ATTITUDES, AND PERCEPTIONS OF QUALITY OF CARE

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Abstract: *The impact of a multi-component dementia care management program on primary care provider knowledge, attitudes, and perceptions of dementia care quality was assessed via a clinic-level randomized controlled trial. The program included provider education and care manager protocols to communicate with patients' medical providers. 232 medical providers (129 from 9 intervention clinics; 103 from 9 usual care clinics) were surveyed 9 months after the program was implemented; 166 (72%) providers responded. Multivariable linear and logistic regression models demonstrated that providers at clinics randomized to the program had better knowledge about assessing decision-making capacity than usual care clinic providers (adjusted difference in % correct = 12%; Adjusted Odds Ratio = 2.4, 95% confidence interval = 1.2-4.8), and viewed dementia patients as more difficult to manage in primary care (p=0.03). However, there were no differences on 8 other knowledge or attitude measures following implementation of this dementia care management program.*

Key words: *Dementia, quality of care, provider knowledge.*

INTRODUCTION

Serious deficiencies in dementia care quality have been documented, including a lack of appropriate assessments and an absence of care

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coordination within and between health systems and community resources [1]. Quality improvement for other chronic disease has included various care management arrangements. Until recently, care management has not been systematically evaluated as a strategy for dementia.

A clinic-level, randomized controlled trial to evaluate a quality improvement program for dementia care (Alzheimer's Disease Coordinated Care for San Diego Seniors; ACCESS) included system change through care management and direct provider education. Eighteen clinics in 3 healthcare systems in San Diego, California were randomized (9 intervention, 9 usual care). The study enrolled 408 dementia patient/informal caregiver pairs and evaluated the program's impact on adherence to dementia care guidelines over 18 months. Quality of care was substantially higher for the intervention group with overall 64% mean adherence to per-patient guideline recommendations compared to 33% for the usual care group. The program was shown to positively impact patients' health-related quality of life, caregivers' social support, and caregivers' assistance needs [2].

Because primary care providers play a central role in the care of this population, the significant improvements in quality seen in ACCESS might have been due to improvements in provider knowledge and attitudes. There could have been a direct influence through targeted lectures on specific dementia care issues, or indirect influences through interactions of providers with care managers. Previous literature suggests that high provider knowledge is necessary (but not sufficient) for quality of care improvement [3]. Providers who were exposed to care management might also have developed more favorable attitudes about caring for affected patients in addition to identifying their health system as providing higher care quality for this condition.

In this study, all primary care providers who were employed at clinics participating in the ACCESS trial were surveyed by mail, comparing intervention and usual care clinic respondents' knowledge, attitudes, and perceptions of dementia care quality. The degree and type of exposure (e.g., seminars, number of enrolled patients) to provider-directed components of the program were assessed for associations with any observed positive impacts on provider knowledge, attitudes, and perceptions specific to dementia care.

METHODS

The ACCESS intervention included dementia care managers, formal procedures for communication between care managers and medical providers and for referrals to community agencies, collaborative care

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planning with caregivers, caregiver self-management support, and ongoing follow-up. Communication from care managers to providers included routine, standardized, written summaries of care manager assessments. Care managers identified clinical problems that might require medical attention, and care management protocols facilitated physician follow-up for these problems.

Provider Education

Intervention arm clinic providers were offered five educational modules totaling 100 minutes of presentation and discussion at their clinical facility. Module topics were: 1) an overview of the dementia care management program; 2) the role of care managers and care protocols; 3) recognition and treatment of dementia and depression; 4) recognition and treatment of dementia and delirium; and 5) assessment of capacity for medical decision-making. Materials covering these topics were also posted on a web site (http://www.adc.ucla.edu/access/access.swf) available to all session attendees.

Subject Sample

Surveys were sent to all primary care providers who were employed at his/her practice within the 18 study clinics prior to the date in which educational sessions began at each organization. Providers included internists, family physicians, nurse practitioners, and physician's assistants.

Survey Instrument

The survey instrument measured provider knowledge and attitudes regarding dementia care, perceptions of care quality, and other provider characteristics and included: 5 multiple choice knowledge questions targeting 4 key issues in the education modules; 3 questions on enthusiasm for dementia screening, the perceived therapeutic effectiveness of dementia care, and perceived difficulty in managing dementia; and provider perceptions of their organization's resources and ability to coordinate care for dementia patients. Other questions included medical / professional graduation year, duration at current practice setting, and the percent of providers' patients who were $\geq$ 65 years. Research assistants monitored attendance at all educational sessions (potential range 0-5). Exposure to the care management component of the program was measured as the number of intervention patients per provider as well as the number of visits with

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enrolled subjects.

Data collection

Approximately 9 months after initiation of the intervention, surveys were mailed to all 232 eligible primary care providers (129 at intervention clinics and 103 at usual care clinics). Non-responders received follow-up surveys at 4 and 8 weeks after the initial mailing.

Analyses

Demographic and practice characteristics were compared between intervention and usual care provider respondents. Intention-to-treat analyses of the intervention's impact on provider knowledge, attitudes and care quality perceptions were performed using multivariable logistic and linear regression models adjusted for healthcare system and provider specialty, and clustered by clinic. Post hoc analyses of only intervention providers were conducted to assess associations between the intensity of specific intervention exposure to the provider education sessions, the number of patients in the intervention arm, and study outcomes that were improved significantly by the intervention.

RESULTS

Of the 232 providers at 18 clinics, 166 (71.6%) responded. Respondent and non-respondent characteristics did not differ. Intervention and usual care provider respondents did not differ in terms of age, gender, years in practice, or percent patients 65 years and older. The average number of study patients $\pm$ standard deviation (SD) of intervention and usual care providers were similar, 1.8 $\pm$ 1.9 versus 1.8 $\pm$ 2.1, respectively; and number of visits of study subjects did not differ between groups. Intervention providers attended a median of 1 educational module of a possible total of 5.

A higher percentage of intervention compared to usual care providers answered both capacity determination questions correctly (adjusted difference=12%; adjusted odds ratio (AOR) = 2.4, 95% confidence interval (CI) = 1.2-4.8) (Table 1). There were no between-group differences in other knowledge areas. Intervention providers endorsed the statement, "Older patients with dementia are difficult to manage in primary care" more than usual care providers with a mean score of 4.6 versus 4.1(range: 1 – 6; 6 = "strongly agree"; 1 = "strongly disagree"), (adjusted between group difference = 0.4, 95% CI = 0.0-0.7). No other differences in attitude between

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intervention and usual care providers or differences in providers' perceptions about care quality regarding their organization's expertise, resources, or care coordination in managing dementia were observed.

Table 1
Intention to Treat Provider Outcomes*

	Adjusted Estimates, n (%) or mean (SE)		Adjusted Analysis for Intervention versus Usual Care	
	Intervention n = 96	Usual Care n = 70	t-statistic	p-value
Knowledge (% correct)				
2-Item Capacity Assessment for Decision Making, (both items correct) †	27 (28.4)	13 (16.1)	2.62	0.02
Delirium Evaluation, 1-item	60 (64.5)	44 (67.1)	-0.87	0.40
Patient Safety, 1-item	46 (52.3)	40 (58.0)	-0.52	0.61
Depression Treatment, 1-item	68 (72.7)	57 (82.0)	-1.02	0.32
Attitudes				
Older patients should have dementia screening ‡	5.4 (0.10)	5.1 (0.13)	1.14	0.27
Physicians can significantly improve dementia quality of life ‡	4.8 (0.08)	4.7 (0.06)	0.64	0.53
Older patients with dementia are difficult to manage in primary care ‡§	4.6 (0.13)	4.1 (0.14)	2.36	0.03
Perceptions of Care Quality				
Our organization has the expertise, resources, and care coordination to handle dementia care (6 = "strongly agree" 1 = "strongly disagree" for 2 items; (range: 2-12) **	7.9 (0.21)	7.8 (0.28)	-0.12	0.90
Frequency of information received about dementia patients (4 = "regular basis"; 1 = "never")	2.4 (0.04)	2.5 (0.09)	0.18	0.86
Utility of information received*** (5 = "extremely useful"; 1 = "not useful")	3.0 (0.08)	3.2 (0.10)	-1.53	0.14

*Adjusted by provider specialty, healthcare organization, and clustered by clinic; ** Cronbach's alpha 0.75; † Adjusted odds ratio (AOR): 2.4; 95% Confidence interval (CI): 1.2 – 4.8 for both items correct versus one or both incorrect; ordered logistic regression (none versus one versus both correct) AOR: 2.4; 95% CI: 1.2 – 4.9; ‡Likert scale: 6 = "strongly agree" to 1 = "strongly disagree"; § $p < 0.05$; *** For this question, the number of respondents is 145 because 21 providers who indicated in the preceding question never receiving information about their dementia patients were directed to skip it.

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Neither the number of intervention dementia patients (AOR = 1.3, 95% CI = 0.8-2.0), the number of visits for those patients (AOR = 1.0, 95% CI = 0.8-1.3), nor the number of educational modules attended (AOR = 1.0, 95% CI = 0.6-1.5) was associated with either provider knowledge of capacity for decision-making, or provider attitudes about managing dementia.

DISCUSSION

The ACCESS intervention yielded significant improvements in quality of care for dementia patients and informal caregivers, yet providers' knowledge and attitudes were minimally affected. Despite better knowledge about capacity determination and a stronger perception among intervention providers that dementia is difficult to manage in primary care, no other differences in knowledge, attitudes, or care quality perceptions were found. Moreover, the degree of provider exposure to the intervention was not associated with these study outcomes.

The weak effects of the educational sessions may be due to poor attendance reducing the opportunity for influence. In addition, because there were no immediate opportunities to practice specific skills, lasting change was less likely to occur [4]. More referrals to primary care providers in the intervention group than in the control group for determining patient capacity may have played a role in knowledge differences about capacity for decision-making. Establishing capacity for medical decision-making was an important focus of this intervention in light of serious deficiencies in physician knowledge and practice in this area. Indeed, the largest gap of the four knowledge areas we assessed was with respect to capacity determination [5], thus knowledge gain was easier to demonstrate in this area.

Dementia care was perceived as more difficult among intervention providers, a finding that was unexpected. Following a guideline may be perceived as more difficult, even if facilitated by additional resources. Though the number of ACCESS intervention patients and number of intervention patient visits did not account for this perception, other unmeasured variables, such as the number of care manager requests for additional assistance may have impacted provider perception. Better understanding of this issue is critical for the sustainability of similar interventions.

Limitations in the study design that may have affected results are worth noting. This survey was administered as a post-only assessment, thus lacking the ability to control for baseline differences in knowledge, attitudes or perceptions. Possible unmeasured response biases may have affected

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study results. The relatively few number of knowledge questions limited the evaluation of knowledge differences. Finally, the intervention exposure duration – 9 months – may have been too brief to observe real changes resulting from the intervention.

Despite an intensive care management intervention involving medical care providers in an enhanced system of care, few appreciable impacts on provider knowledge, attitude or perceptions of care quality were noted. Quality of care improvements that focus on system changes may be successful even with less emphasis on provider education or attitudinal change that might facilitate provider-directed care procedures.

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