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IMPROVING PHYSICIAN AWARENESS OF ALZHEIMER'S DISEASE AND ENHANCING RECRUITMENT: THE CLINICIAN PARTNERS PROGRAM

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Abstract

BACKGROUND—Primary care providers routinely evaluate older adults and are thus in a position to first detect symptoms and signs of Alzheimer's disease. In urban areas, diagnostic or management difficulties may be referred to specialists; however, in rural areas, specialists may not be available. The Clinician Partners Program (CPP) was initiated to enhance rural health providers' ability in dementia diagnosis and care, and to increase research recruitment into dementia research studies of participants from rural communities.

METHODS—The CPP is a 3-day "mini-residency" of didactic, observational and skill-based teaching techniques. Participants completed pre- and post-tests evaluating dementia knowledge, confidence in providing care, and practice behaviors.

RESULTS—Between 2000–2009, 146 healthcare professionals with a mean age of 45.7±10.8y attended the CPP; 79.2% were Caucasian, 58.2% were female, and 58% of participants had been in practice for more than 10y. Post-tests showed improvements in knowledge and confidence to diagnose and treat and increased use of dementia screening tools. Rural research participation in an urban Alzheimer Disease Research Center increased 52% over the pre-CPP period.

CONCLUSIONS—Primary goals were accomplished: increased knowledge and confidence, changed practice habits, and enhanced research recruitment. Educational programs such as the CPP may be beneficial for increasing access to accurate diagnoses and appropriate treatment of Alzheimer's disease while also enhancing research participation.

Keywords

Alzheimer's disease; physician education; research recruitment; dementia

Alzheimer's disease (AD) and related disorders are a major public health problem affecting more than 5 million Americans and more than 20 million individuals worldwide.¹ This medical crisis poses a considerable financial burden to society; total annual costs reach over \$172 Billion (US), and costs escalate with increased disease severity.² While current treatments provide only symptomatic relief, studies suggest that early diagnosis and treatment could slow disease progression,^{3–5} improve functional outcomes^{4,5} and quality of life,⁶ delay nursing home admission,^{7,8} and provide economic benefits.^{9,10} Of the 661,400 physicians in the US, 32% self-designate as primary care providers (PCPs).¹¹ PCPs evaluate

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the majority of older adults for routine medical care and thus are more likely to be in the position to first detect symptoms and signs of cognitive decline and dementia.¹² In urban areas, uncertain diagnoses or difficulties in management may be referred to a network of specialists (neurologists, psychiatrists, neuropsychologists, geriatricians). However, in rural and other underserved areas, specialists may not be readily available, and PCPs will be responsible not only for detecting and properly diagnosing symptoms, but also for managing symptoms throughout the course of the disease.

Missouri is a rural state in terms of geography and population distribution. Although four metropolitan areas (St. Louis, Kansas City, Columbia, Springfield) account for 68% of state residents,¹³ 90 of Missouri's 113 counties are rural/non-metropolitan and have 1.8 million (32%) of Missouri's 2000 census population. Missouri's rural counties have population densities of less than 102 persons per square mile, in sharp contrast to those of major metropolitan areas such as St. Louis County with a density of 5,600. Missouri's total population of adults aged 65 or older in 2000 was 13.5%, higher than the national average of 12.4%. A substantial number of households in rural counties included one or more older adults. The rural counties of north central and south central Missouri had particularly high percentages (up to 41%) of elder households in 2000. In fact, adults aged 85 and over represented the second highest growing population group in Missouri between 1990 and 2000. The number of older adults in this 85+ cohort rose 21.4% during this period.¹³

Although a substantial number of older adults reside in rural counties, relatively few physicians practice in these counties. Only 16% of all licensed physicians in Missouri practiced in rural counties in 2009. For example, rural Knox County in northeastern Missouri had a total population of 4,300,¹³ with 21% of residents over the age of 65 years, but only five licensed physicians. Older adults from Knox County must often travel many miles to other counties or metropolitan areas to access healthcare services. This scenario is not uncommon across rural US and is likely to complicate care for older adults with progressive dementia who must rely on others (family, friends, social services) to facilitate and otherwise follow up on medical appointments and general care needs. One approach to improving access to quality dementia care in rural and underserved communities is to educate the available local health professionals about dementia recognition, diagnosis and treatment.

The Clinician Partners Program (CPP) was initiated in 2000 by the Rural Satellite of the Charles F. and Joanne Knight Alzheimer Disease Research Center (ADRC) at Washington University to address two major needs. First, we wished to provide educational opportunities to rural health providers to learn about AD and related disorders and enhance dementia-related diagnosis, treatment and care for the benefit of rural elders. A secondary goal was to increase recruitment of research participants from rural communities into longitudinal studies of memory and aging in the ADRC to enhance generalizability.

METHODS

Clinician Partners Program

The CPP is structured as a 3-day "mini-residency" for health professionals who serve older adults living in rural areas of Missouri. The primary goal of the CPP is to enhance dementia-related diagnosis, treatment and care for the benefit of rural elders by educating a select group of rural clinicians each year. An important emphasis of the CPP is early detection of AD and dementia-related symptoms through effective clinical interviewing and assessment procedures. We also reviewed with the participants community resources available in their practice areas including their local chapter of the Alzheimer's Association.

Referrals to CPP are received as self-nomination, word-of-mouth referrals from CPP graduates or recommendations made by a local organization or authority (e.g., Alzheimer's Association, Area Agency on Aging). Approximately 15 clinicians are invited each year to come to Washington University for this training experience; typically 3 sessions with 5 trainees each are held annually. The CPP is open to clinicians who provide primary care to older adults residing in rural or semi-rural areas of Missouri. Physicians, advanced practice nurses and physician's assistants are the primary targets for this program, although other professionals (e.g. licensed social workers, psychologists, therapists) may attend depending on their specific circumstances and space in the program. Clinicians from other states are considered for entry on a case-by-case basis.

Clinicians from the primary target groups receive a daily stipend of \$200, 20 hours of AMA Category 1 continuing medical education credit (or related credits for non-physicians), and travel expenses. In return, CPP participants are encouraged to apply what they have learned to benefit their older patients and to inform their patients about ADRC-sponsored research projects for which they may qualify. CPP graduates are added to our newsletter mailing list so that these connections to rural communities are maintained and all graduates kept informed of our Center's research and activities.

Curriculum

The CPP curriculum typically encompasses three full days of training and includes a mix of didactic, observational and skill-based teaching techniques. The 3-day format allows for in-depth coverage of pertinent information. While the schedule for each CPP session may vary slightly depending upon the availability of ADRC faculty and staff, the general topics typically remain the same for each session (Table 1). Participants also attend the weekly ADRC seminar series and clinical meetings.

Implementing the CPP curriculum is truly a Center-wide activity involving contributions from many faculty and staff. CPP participants receive a 3-ring reference binder containing helpful articles, screening instruments such as the AD8,¹⁴ diagnostic criteria and practice guidelines, and other items, to inform their practice at home. This reference manual is revised on a regular basis to ensure that participants receive the most valid and up-to-date information.

Tests of Knowledge and Confidence

Improvements in medical knowledge related to Alzheimer's disease were evaluated with the University of Alabama-Alzheimer's Disease Knowledge Test for Health Professionals (UAB-ADKT),¹⁵ a 12-item, scale designed to measure knowledge about the assessment and management of Alzheimer's disease. The UAB-ADKT was developed to evaluate knowledge differences among clinician groups (physicians, nurses, social workers, psychologists) and to guide group-specific continuing education interventions. Validated by Barrett and colleagues on a sample of 693 clinicians, the UAB-ADKT showed reasonable internal consistency reliability ($\alpha .72$).¹⁵ When measures for this investigation were determined in 2000, the UAB-ADKT was the only clinician-specific knowledge measure available. A general test by the same name, the Alzheimer's Disease Knowledge Test,¹⁶ was also available but intended for use with both lay and professional groups. A study at the time¹⁷ had validated the UAB-ADKT as a clinician measure.

The Dementia Care Confidence Scale (DCCS), a 7-item questionnaire, was used to assess clinician confidence in the diagnosis, treatment and care of dementia patients.¹⁸ Items are scored on a 5-point Likert scale; higher scores indicate greater reported confidence (e.g., "In general, how confident are you in treating the symptoms of dementia," "In general, how

comfortable are you with disclosing a diagnosis of dementia to the patient”). The DCCS was selected to evaluate the impact of the CPP intervention because no scales like the DCCS were available in the published literature when reviewed in 2000; those that existed were mostly qualitative in nature. Since 2000, a number of research groups have published alternative approaches to clinician confidence measurement.^{19,20} The DCCS remains one of the better validated approaches.

Program Evaluation

CPP participants complete the following evaluation materials: a pre-test evaluating clinical practice characteristics, medical knowledge about dementia, confidence in providing care, and various practice behaviors; a standard program quality rating form completed immediately after CPP training; a 3-month follow-up questionnaire similar to the pre-test; and a 1-year follow-up with the same fields as the 3-month follow-up. Return rates on both the 3-month and 12-month evaluations were 47%. Open-ended questions assessed respondents’ perceived strengths and weaknesses in assessing older adults in the pre-test and how practice has changed in the post-test.

Statistical Analyses

Statistical analyses were performed using SPSS, v17.0 (Chicago, IL). Descriptive statistics were used to characterize the participants. Spearman coefficients were used to examine strength of association between Knowledge, Confidence and sample characteristics. The Wilcoxon signed rank test was used to compare pre- and post-tests of Knowledge and Confidence and use of screening tests. A p-value < 0.05 was considered significant; p-values between 0.05 and 0.1 were reported as trends. Effect size of changes in Knowledge and Confidence were estimated with Cohen’s d.

RESULTS

Sample Characteristics

Between May 2000 and January 2009, 146 individuals (48% physicians, 25% advance practice nurses and physician assistants, 23% psychologists, social workers, and other health professionals, 4% other) graduated from the CPP. The sample mean age was 45.7±10.8y, 79.2% were Caucasian and 58.2% were female. The sample was clinically experienced with 57.9% of participants in practice for more than 10y, 67.8% providing at least 5 days per week of clinical care and 72.9% reporting involvement with long term care facilities accounting for up to 20% of their patient population. The participants had little formal training in brain aging and dementia (8.5% reported post-graduate training). CPP graduates came from 20 rural counties across Missouri, some over 200 miles from St. Louis. This distribution speaks to the program’s reach and the motivation and otherwise unmet educational needs of rural practitioners to sacrifice three days of clinical work in order to participate in this training.

Clinician Experience with Dementia

The CPP participants were asked to describe their practice and experience with evaluating for dementia. Clinicians reported that 60% of their patients came from rural communities. The majority of clinicians (72%) reported their practice was made up of more than 50% geriatric patients; the clinicians reported that 29.3% of their patients had memory problems, and 22.4% had a formal dementia diagnosis. The CPP participants were asked to report the tools they used to evaluate their patients for dementia; at baseline 8.5% reported they did not use any methods. The most commonly used tool was the Mini Mental State Examination²¹

(80.5%), followed by the Short Blessed Test²² (9.8%), Clock Drawing²³ (6.1%) and the AD8¹⁴ (3.7%).

Baseline Knowledge and Confidence Regarding Dementia

We examined the associations between CPP characteristics and Knowledge and Confidence. Knowledge and Confidence were strongly correlated ($r=.63$, $p<.001$). There was no association between CPP participants' knowledge about dementia and respondent age, gender, race, years of practice or amount of clinical care provided. Higher levels of confidence about dementia diagnoses was associated with age ($r=.41$, $p=.02$) and experience ($r=.46$, $p=.01$). Comfort in discussing dementia with the patient and family was associated with age of respondent ($r=.40$, $p=.03$) but not years of experience.

Program Evaluation

CPP participants completed a program evaluation form scoring questions on a 1–5 Likert scale (1=poor, 5=excellent). The CPP received high marks in all quality indicators, achieving an overall quality rating of 4.83. The CPP graduates scored the variety of learning experiences as 4.90, the usefulness of handouts as 4.87 and the relevance to clinical practice as 4.65. All participants reported that the training objectives were achieved, 96% reported that the program was free of commercial bias, and 98% reported that they learned specific tools that will enhance their clinical practice.

Gain of Knowledge and Confidence

Sixty-nine CPP graduates returned the 3- and 12-month post-tests (47% response rate). No differences existed in baseline characteristics (age, gender, race, years of practice, type of practice, days of clinical care, % patients over age 65 or prior training in geriatrics or dementia care) between responders and non-responders. As demonstrated in Table 2, pre-test and 3-month post-test data document significant improvements in medical knowledge related to Alzheimer's disease using the UAB-ADKT and confidence to diagnose/treat patients with memory loss using the DCCS. For example, the first question of the UAB-ADKT asks the most common cause of memory loss in older adults. At the pre-test, CPP participants reported AD 85% of the time with 8% reporting normal aging and 6% hardening of the arteries. At the 12-month post-test, CPP graduates improved their scores with 93% reporting AD as the most common cause of memory loss (Wilcoxin p -value 0.02). Recall the UAB-ADKT is a 12-item measure and the DCCS is a 1–5 Likert scale, thus small changes in Knowledge and Confidence reach statistical significance. To provide an estimate of the clinical meaningfulness of these findings, we calculated the effect size for each construct. The change in Knowledge (Cohen's $d = 0.62$) and Confidence (Cohen's $d = 0.91$) suggests medium to large effect sizes. There were no differences between 3-month and 12-month post-test scores, supporting retention of confidence and knowledge gained as a result of attending the CPP.

We were interested in which aspects of the CPP program needed further refinement. A further breakdown on individual confidence measures is provided in Table 2. While confidence in diagnosing, treating symptoms and managing care all showed gains, the clinicians remained unsure about a) differentiating between dementia, delirium and depression and b) disclosing dementia diagnoses to families compared with patients. This analysis revealed areas in the curriculum needing improvement or revision.

Change in Practice

Notably, 98% of attendees agreed that they had learned new tools from the training that would enhance their clinical practice. CPP graduates reported increased use of dementia

screening tools in their practice at the 3-month and 12-month post-test (Table 2), in particular identifying the combination of a performance test such as the Short Blessed Test²² and an informant questionnaire such as the AD8¹⁴ useful. At the time of the pre-test, 13% of clinicians were not using any dementia screening tools in their practice, however by the 12-month post-test, all CPP graduates who completed the post-test were using at least 1 dementia screening tool and 66% were using a combination of 2 or more instruments. CPP graduates were also asked to describe changes in their practice at the post-test periods in open-ended responses. Comments ranged from better recognition of dementia symptoms to more comfort with treatment modalities and increased awareness of community resources. A sample of comments from CPP graduates is provided in Table 3.

Enhanced Recruitment to Research Projects

In addition to physician education, another goal of the CPP was to enhance recruitment to the longitudinal research from rural areas to improve generalizability. Our annual recruitment goals vary from year to year depending of specific need but averages approximately 100 new participants with a current total cohort of 549 active longitudinal participants (includes both cognitively normal older adults and individuals with AD). Prior to their participation in the CPP, only 6.1% of participants had ever referred a patient to a research study. At the completion of the program, CPP graduates were asked to assist in our recruitment efforts through referral of patients to participate in ADRC studies. We evaluated the percentage of participants from rural Missouri zip codes during each of the five year funding cycles of the ADRC grant. Prior to the initiation of the CPP, just over 8% of our participants were drawn from rural locations (Figure 1). Since the CPP was initiated in 2000, the number of rural research participants increased to 12.8% (2000–2003), representing a 52% increase over the pre-CPP period. In the next 5-year cycle (2004–2009), rural participants further increased to 13.2% of the research sample, representing an increase of 30–40 participants from rural communities per funding cycle.

DISCUSSION

We were able to accomplish our two primary goals: increase knowledge and confidence regarding the diagnosis, treatment and management of AD and enhance recruitment to our longitudinal studies. We were also able to change practice habits as evidenced by the incorporation of dementia screening tools such as the Short Blessed Test²² and the AD8¹⁴ into the CPP graduates' evaluations of older adults. The program was well received as evidenced by not only high quality ratings from the graduates but also by the word-of-mouth referrals and nominations of the graduates' colleagues to the CPP program. The CPP curriculum was developed to provide intensive training involving faculty presenters with various backgrounds and many opportunities for informal discussion and observational learning. An important message of the CPP is that AD can be both diagnosed and treated.

While it is impossible to measure the full impact of the CPP on research recruitment, it is notable that since the initiation of the CPP program, research participants referred from rural communities increased by over 50% with the only significant change in the Center's activity being the initiation of the CPP. We believe this has to do with accomplished goals of the CPP. First, we were able to demonstrate improvements in knowledge about dementia and confidence in diagnosing dementia with sustained changes in practice. This suggests that providers who previously were not making many dementia diagnoses may be recognizing more cases. Secondly, CPP graduates left with a favorable impression of AD research in general, and of our Center in particular. Many new referrals for CPP participants are recommendations from CPP graduates. It is plausible to conclude that these same CPP graduates who are more confident in diagnosing dementia and referring their colleagues to

train with us may also be referring more patients for participation in research studies since rural participation has increased with the only initiative being the CPP.

Caring for dementia patients is a demanding task, and, to date, little is known about clinicians' knowledge and confidence in diagnosis, treating and supporting dementia patients and their families.^{24,25} Dementia education can provide additional resources that may assist the primary provider. Cameron and colleagues²⁶ recently proposed academic detailing as a strategy to increase early detection of dementia. Their strategy was to provide a series of 15-minute educational sessions, which led to a 55% increase in referral to community agencies such as the Alzheimer Association and changes in practice habits. Alternatively, training and education can be enhanced by establishing quality benchmarks²⁷ and creating tool kits and checklists to improve quality of care. Such a program has already been adopted by Kaiser Permanente²⁸, leading to higher rates of provider and caregiver satisfaction and increased referrals to community resources.

While the development of guidelines may cause initial improvements²⁵, adherence to these guidelines may be poor,²⁹ suggesting that some intervention is required to improve outcomes. One approach is to hold disease management programs in primary care providers' offices led by health care organizations; such programs have led to improvement in patient quality of life, quality of patient care and caregiver support.²⁹ However, these programs have been applied in urban areas to predominantly Caucasian, well-educated patients; thus, the generalizability to other patients and geographic regions is unknown.

In addition to direct medical services, referrals to community resources such as the Alzheimer's Association have the potential to improve the quality of care provided to dementia patients.³⁰ However, many physicians remain unaware of these services. Physicians and other health professionals are the predominant source of support services for dementia patients,³¹ but few offices are equipped to provide extensive case management, counseling and caregiver support. The CPP incorporated presentations from representatives of the Alzheimer's Association to increase clinicians' awareness of available support.

Primary care providers play an important role in dementia care.³² Sufficient knowledge about dementia-related issues is necessary for adequate management. In a qualitative study with family physicians associated with academic settings, Pimlott and colleagues³³ identified 5 major themes related to dementia care: diagnostic uncertainty, complexity of dementia cases, insufficient time, importance of caregivers and familiarity with the patients. Primary care providers displayed uncertainty about diagnosing dementia and expressed a need for expert verification. A limitation in this and similar studies is how to address the needs of providers in rural or underserved communities who do not have access to specialists.³⁴ In a study of rural general practitioners in Australia,³⁵ respondents reported confidence in diagnosing and managing dementia, but a lack of confidence in the use of dementia medications. In a study of rural Ireland, providers blamed their lack of knowledge and training for their delayed recognition of dementia and reported a sense of geographic disadvantage regarding access to specialists and diagnostic modalities.³⁴ In a series of interesting studies in Germany,^{36,37} primary care providers tended to over diagnose vascular dementia and under diagnose AD, leading to an underuse of dementia medications. These studies suggest rural providers desire additional training opportunities to improve patient care and that increasing knowledge about dementia in general would be insufficient to improve outcomes. Rather, a more detailed discussion of differential diagnoses is required such as that included in the CPP curriculum.

As with any educational program, the most critical aspect is the outcome evaluation of the success of such programming. Our experience over the last 9 years has allowed us to make a

number of changes to the structure and curriculum to meet unmet needs in forthcoming programs. New curriculum models addressing differentiation of delirium, depression and dementia, and disclosure of diagnosis to patients and families, have been added to address deficiencies identified in the previous curriculum. Additional changes have included changing the test of knowledge to a more up-to-date evaluation, The Alzheimer's Disease Knowledge Scale.³⁸ We re-evaluated our methods for measuring outcomes of the CPP. Return rates of the 3-month and 1-year post-tests were less than desirable (47%). In addition, at 3-months it is difficult to assess knowledge gained from the CPP as opposed to other educational opportunities available to the CPP attendees. We therefore added a post-test to be completed at the end of the CPP alongside the satisfaction survey. This will allow us to test gain in knowledge as a direct result of the CPP. We can then evaluate retention of new knowledge and application to clinical practice in the 3-month and 1-year follow-up post-tests. These changes will allow us to better assess our primary goal, to raise awareness of Alzheimer disease and its consequences among health professionals in rural settings.

Changes were also implemented to allow us to more directly address our second and sometimes less tangible goal (given the distance of the rural population from our center), to enhance recruitment to ongoing research projects. New fields have been added to our Center's intake form ("*How did you hear about us?*") in order to enhance our efforts to determine how new participants heard about our Center and its research studies. This new data entry will allow us to directly link participants with programming.

This study has limitations. The low response rate (47%) at 3 and 12 months may limit generalizability of the findings especially because non-response bias is difficult to assess.³⁹ Mailed survey response rates for the general population typically approach 60%, while response rates for physicians varies widely (from 11–90%).⁴⁰ In a meta-analysis, Kellerman and colleagues reported that demographic variables (age, gender, income, area and type of practice) are not different between physician responders and non-responders.⁴¹ Physicians tend to be more homogeneous in knowledge, training, attitudes and behaviors than the general population. Non-responders to the post-test in this study did not differ in baseline characteristics from responders. It is impossible to determine whether the physician actually ever received the post-test as office staff may open and "pre-screen" the mail. An alternative interpretation of the low response rate could be that those who did not respond to the survey had an inherently poor view of research and thus did not respond to the survey.

Future use of the CPP may include translation to other communities. Modifications of dementia education courses have been successfully applied in other settings as distance-learning.⁴² The CPP could be expanded to a web-based training program where clinicians could view and review individual modules from their computers. Providing easy, up-to-date, user-friendly educational materials on dementia diagnosis is likely to improve clinical care and enhance recruitment to research projects from primary providers.³⁹ Theories of diffusion of innovation,⁴³ suggest that we should expect early, middle, and late adopters of new medical information such as that pertaining to dementia evaluation and treatment. Because innovation adoption has a strong social component, collegial interactions and discussions, along with enlisting key local opinion leaders, may facilitate adoption among practitioners.^{44,45} Thus, CPP graduates provide an excellent platform for diffusion of information back to their communities, engaging colleagues, improving care to patients, and, in some instances, referring patients for participation in research studies. Developing educational programs with the goal of increasing physician awareness and knowledge of AD and related disorders is critical to increasing access to accurate diagnoses and appropriate treatment.⁴⁶ Programs such as the CPP can fill the gaps in post-graduate dementia training.

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Figure 1.

Percentage of New Research Participants from Rural Areas of Missouri in 5-Year Increments The bar graph presents the percentage of research participants from rural Missouri in five year increments representing 5-year funding cycles of the ADRC grant from the National Institutes of Health. From 1979 to 1999, only 6–8% of our research participants resided outside the metropolitan St Louis area. The black arrow represents the start of the Clinician Partner Program (CPP) in 2000, the only initiative undertaken by the ADRC to increase rural participation. Following initiation of the CPP, there was a 52% increase in research participants from rural areas of Missouri that has been maintained over the past 10 years.

Table 1**Clinician Partners Program (CPP) Curriculum**

Overview of AD
Differential diagnosis of dementia
Office-based assessment of older adults and review of current screening guidelines and measurements
Clinical interviewing for early detection
Neuropsychological testing in AD
Instruction on administration and interpretation of the Clinical Dementia Rating scale
The neuropathology of AD (didactic, brain cutting and microscopy)
The genetics of AD (didactic and lab tour)
Depression and AD
Assessment of driving skills and counseling for driving retirement
Observation of participant and caregiver interviews and dementia assessments
Introduction to the services of the Alzheimer Association and other community resources
Other topical issues: Nutrition, Caregiver stress, grief and burden

Key: AD=Alzheimer's disease

Table 2

Change in Knowledge, Confidence and Practice Following CPP Program

Parameter	Pre-test ¹	3-month Post ²	12-month Post ²	Difference ³ Pre v. 3mo Post	Difference ³ Pre v. 12 mo Post
Knowledge of AD	9.0 (2.1)	10.2 (1.6)	9.9 (2.2)	0.02	0.1
Dementia Care Confidence	20.7 (6.0)	25.9 (5.1)	26.5 (6.4)	0.005	0.001
Use of screening tests ⁴	1.5 (0.8)	1.7 (1.1)	1.9 (1.0)	0.1	0.01
Care Confidence Construct					
Confidence assessing and diagnosing dementia				Difference ¹ Pre v. 3 mo Post	
Confidence treating symptoms of dementia				.003	
Confidence managing the care of the demented patient				.02	
Confidence differentiating delirium from dementia				.005	
Confidence differentiating depression from dementia				.06	
Comfort disclosing dementia diagnosis to patient				.08	
Comfort disclosing dementia diagnosis to family				.06	
Comfort disclosing dementia diagnosis to family				.09	

Mean (SD)

¹ Means include all 146 participants

² Means are on 69 participants who returned post-tests at both 3 and 12 months

³ Wilcoxon signed rank test, p-values reported

⁴ Increase due to addition of Short Blessed Test and AD8, featured measures in the CPP Curriculum

Table 3**Qualitative Assessment of Change in Practice**

Three month post-test
1. Advanced Practice Nurse (Female): "I am more comfortable with this (dementia assessment), the testing is much easier because I was able to set in with actual patient interviews." "I feel more competent in the diagnosis of Alzheimer's and in the testing to differentiate from other processes." "I was familiar with some drugs but the CPP was beneficial in reassessing appropriate drugs."
2. Physician (Male): "I Used Short Blessed routinely, more aware of factors in differential diagnosis"
3. Physician (Male): "I think more in terms of early dementia" "I think I provide a better array of resources now for patient and family"
Twelve month post-test
1. Physician (Male): "I feel more confident that I am using the right tools and asking the right questions" "I feel more comfortable making the diagnosis and discussing AD with families"
2. Nurse (Female): "I now use some of the assessment tools used in the ADRC" "I am much more comfortable giving the diagnosis of AD" "I have a greater knowledge base to educate families and colleagues" "I found this CPP so valuable that I would welcome follow-up in any topic! Thank you for this wonderful experience and opportunity!"
3. Advanced Practice Nurse (Female): "I am able to provide a more appropriate and thorough assessment for dementia-related diseases" "I feel more confident and comfortable making a diagnosis than I did before"
4. Physician (Female): "I am much more confident in diagnosing and explaining the disease course to patients and families" "I am less hesitant to treat Alzheimer's and am better able to explain treatment goals to family."