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Provider Perspective on Readiness to Implement a Cognitive Screening Protocol

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Provider Perspective on Readiness to Implement a Cognitive Screening Protocol

A Scholarly Project Presented to the Faculty of the
Nicole Wertheim College of Nursing and Health Sciences
Florida International University

In partial fulfillment of the requirements
For the Degree of Doctor of Nursing Practice

By

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Abstract

Background: The prevalence of neurocognitive disorders (NCDs) is expected to increase dramatically with an aging population. Although early detection of cognitive decline is beneficial for patients, care partners, and society, NCDs are frequently underdiagnosed in primary care settings worldwide. Primary care providers (PCPs) are ideally positioned to conduct cognitive screenings, but they encounter many barriers in assessing, diagnosing, and managing NCDs. The purpose of this Doctor of Nursing Practice (DNP) quality improvement project was to explore PCPs' readiness for implementing a feasible, evidence-based approach for cognitive screening among older adults.

Methods: This DNP project utilized a descriptive cross-sectional study design. A survey was administered to a voluntary sample of PCPs in seven South Florida medical centers. The survey items explored PCPs' perceptions for implementing a cognitive screening protocol among older adult patients.

Results: Of the 21 eligible participants, 20 PCPs completed the survey, a participation rate of 95%. The sample consisted of experienced medical doctors (*n* = 7) and advanced practice registered nurses (*n* = 13). Monthly, PCPs reported an average of 199.4 (*SD* = 99.7) encounters with older adults and newly diagnosing a mean of 20.2 (*SD* = 37.7) patients with mild cognitive impairment. Most (65%; *n* = 13) PCPs reported feeling comfortable evaluating and managing dementia. Although, 90% (*n* = 18) of PCPs reported they would evaluate more patients for dementia if they had access to a dementia clinical team and more time (80%, *n* = 16). Forty-five percent (*n* = 9) of the PCPs reported feeling discomfort in delivering "bad news" of a dementia diagnosis.

Conclusions: This DNP project explored PCPs' perceptions for evaluating dementia symptoms among older adults in primary care. The key study findings included PCPs' report of insufficient time to evaluate dementia and a lack of access to a dementia clinical team. Although, PCPs appear prepared to conduct dementia screening, organizational support to address time constraints and access to a dementia clinical team should be considered.

Keywords: Primary care, provider, cognitive impairment, dementia, early detection

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Introduction

Dementia currently affects more than 55 million people in the world, and there are about 10 million new cases each year (World Health Organization [WHO], 2022). Rates are projected to increase due to an aging population, particularly among Black and Hispanic minority groups (Lin et al., 2021; United States Preventive Services Task Force [USPSTF], 2020). Early identification of individuals affected by neurocognitive disorders (NCDs) has many benefits including improved quality of life, anticipatory guidance, and advanced care planning (Bernstein et al., 2019). Early diagnosis allows patients and providers to collaborate in modifying risk factors, implementing lifestyle changes, and initiating treatments to manage the progression of disease (Bernstein et al., 2019). Despite many benefits, NCDs are significantly underdiagnosed in global healthcare settings, with 29% to 76% of affected individuals remaining undiagnosed (Sabbagh et al., 2020; USPSTF, 2020).

Screening for cognitive decline enables early detection of NCDs and identification of reversible causes. Primary care providers (PCPs) are ideally positioned to conduct cognitive screenings, but they face many barriers, including lack of confidence diagnosing and managing NCDs, time constraints, and stigma relating to dementia impacting reporting of symptoms (Bandini et al., 2022; Bernstein et al., 2019). In addition, the United States Preventive Services Task Force (2020) does not recommend cognitive screening for asymptomatic older adults, leading to lack of consensus in clinical guidelines. Given the projected increase of dementia, particularly among minority populations, implementation of cognitive screenings in primary care is an important area of study. Efforts to understand providers' perceptions of cognitive screening protocols and related barriers are vital in identifying solutions and creating organizational reform to promote early detection of NCDs.

Problem Statement

Delayed diagnosis of NCDs places great burden on patients, care partners, and healthcare systems globally. With an increasing prevalence and knowledge that management of chronic disease and lifestyle can delay progression of disease, there is a need for implementing protocols to achieve early detection of cognitive decline (Akpan et al., 2019; Rasmussen & Langerman, 2019). Although many studies have reported benefits of early detection, there is a gap in studies evaluating providers' perceptions for implementing cognitive screening protocols. The purpose of this DNP project was to administer a structured survey to explore PCPs' readiness for implementing a feasible approach for cognitive screenings among older adults. Providers' perceptions may help target efforts toward early detection through the development of attainable cognitive screening protocols, in order to support patients, families, and providers in navigating this complex disease.

Background

In this DNP project, dementia is defined as an umbrella term for several diseases that affect memory, cognitive abilities, behavior, and independence in activities of daily living (WHO, 2022). It is a progressive syndrome that occurs as a result of primary and secondary diseases affecting the brain; however, the most common cause of dementia among older adults is Alzheimer's Disease (AD) (WHO, 2022). AD occurs on a continuum that begins with brain changes that are unnoticeable to the affected individual, progressing to subjective and objective cognitive impairment, and eventually severe physical disability that requires extensive multidisciplinary care (Alzheimer's Association, 2023a; Centers for Disease Control and Prevention [CDC], 2018). Although age is the greatest non-modifiable risk factor for AD, this is not an inevitable outcome of aging (McDonald, 2017). The progression of dementia has been shown to be affected by modifiable risk factors and chronic disease management, including physical activity and tobacco use, as well as control of hypertension, diabetes mellitus, obesity, and depression (USPSTF, 2020; WHO, 2019). The positive effects of modifiable risk factors highlight the importance of early detection, as it presents an opportunity to prevent or delay the progression of cognitive decline.

Disparities

Underdiagnosis of NCDs is a clinical issue that affects global healthcare systems; however, disparities exist in the rates of affected minority populations. Black and Hispanic minority groups have a higher proportion of missed or delayed dementia diagnosis when compared to their White counterparts (Lin et al., 2021). These groups also have a worsened degree of cognitive decline and functional ability at the time of diagnosis. The estimated delay in diagnosis for Black and Hispanic adults is 34.6 and 43.8 months, respectively; however, White adults have a shorter delay of 31.2 months (Lin et al., 2021). In addition, Black and Hispanic groups are disproportionately affected by comorbidities that increase the risk of developing NCDs, such as hypertension and diabetes mellitus (Suran, 2022). Disparities among these groups are further exacerbated by social determinants of health that influence their access to healthcare, living conditions, and employment opportunities (Alzheimer's Association, 2022). These disparities emphasize a need for identifying methods for early detection of NCDs among high-risk populations that experience a heavier burden of this disease.

Detection and Screening

The latest recommendations by the USPSTF (2020) reported there is insufficient evidence to recommend for or against cognitive screenings for asymptomatic, community dwelling adults aged 65 years and older. However, the Centers for Medicare and Medicaid

Services (CMS) require a cognitive screening during the annual wellness visit, but they do not recommend a specific screening tool (Cordell et al., 2013; Zhuang, et al., 2019). Despite requirements by CMS, it is estimated that only half of Medicare beneficiaries obtain an Annual Wellness Visit (AWV), and less than one-third report having a structured cognitive assessment (Jacobson & Zissimopoulos, 2020). It is important to note that Medicare pays approximately $266 for cognitive assessment and care plan services during the AWV and covers a separate visit for a thorough assessment of cognitive function and the development of a care plan (Centers for Medicare and Medicaid Services [CMS], 2023). In addition, although many organizations have developed guidelines for the assessment and management of AD in primary care, there is lack of consensus for a national standardized protocol, leading to high variability in the delivery of care (Bernstein et al., 2022; Blaire et al., 2022).

Screening Tools

The two most frequently used screening tools are the Mini-Mental State Examination (MMSE) and the Montreal Cognitive Assessment (MoCA) (Scott & Mayo, 2018). The MMSE was proposed in 1975 for PCPs to have a brief screen to identify cognitive changes among older adults (Folstein et al., 1975). At the time, most cognitive screens required 30 minutes to complete, making the MMSE a brief screen requiring about 10 minutes. In today's primary care setting, the MMSE may not be considered brief, but it is the most widely used tool and is available in multiple languages (Scott & Mayo, 2018). It assesses five areas of cognition including orientation, memory, language, attention, and visuospatial ability (Scott & Mayo, 2018). Its reliability has ranged from 0.31 to 0.96 depending on the setting and the screener, and over time, it has continued to show moderate validity in a wide range of populations (Scott & Mayo, 2018). The tool's sensitivity to identify cognitive impairment ranges from 61% to 91%

and specificity ranges from 86.2% to 99% (Scott & Mayo, 2018). However, the MMSE has limited accuracy in differentiating normal cognition from mild cognitive impairment (MCI), and enforcement of the MMSE copyright and fee for clinical use has become an added barrier for accessibility (Cordell et al., 2013).

The MoCA was proposed in 1995 and published in 2005 with the aim of identifying patients with MCI and providing another feasible cognitive screening tool for providers (Hobson, 2015; Nasreddine et al., 2005). The MoCA takes 10 to 15 minutes to complete and assesses six cognitive domains including short-term memory, executive function, attention, language, orientation, and visuospatial ability (Scott & Mayo, 2018). It is comparable to the MMSE in length and psychometric properties, although the MoCA is superior in identifying MCI (Pinto et al., 2019). Test-retest reliability on average was 0.92 and validation against the MMSE was 0.87 (Scott & Mayo, 2018). Sensitivity for identifying MCI and AD ranged from 90% to 100%, and specificity was 87% (Nasreddine et al., 2005). The MoCA has been made available in almost 100 languages and can be administered remotely in five languages (MoCA Cognition, 2023). It is also available to providers for free and is an ideal tool for differentiating normal cognition from MCI (Scott & Mayo, 2018).

In addition, the Alzheimer's Association identified screening tools suitable for primary care settings including the General Practitioner Assessment of Cognition (GPCOG), the Mini-Cognitive Assessment Instrument (Mini-Cog), and the Memory Impairment Screen (MIS) (Cordell et al., 2013). These tools are suitable for this setting, as they require less than 5 minutes to administer, have been validated in primary care, can be administered by non-physician staff, have good psychometric properties, lack educational/cultural/language biases, and may be used without payment for copyright (Cordell et al., 2013). A systematic review by Karimi et al. (2022)

had similar recommendations in that the GPCOG, Mini-Cog, and MIS tools were beneficial in primary care settings and could replace the MMSE in identifying cognitive disorders and dementia. Furthermore, the Dementia Screening Indicator (DSI) is another tool worth noting because it was developed for use in primary care, specifically to identify a subgroup of high-risk patients that could be targeted for cognitive screening (Barnes et al., 2014). This tool uses information that is already available in the electronic health record (EHR) or easily accessible to identify a patient's risk. The DSI determines risk based on age, educational attainment, history of stroke, diagnosis of diabetes mellitus, level of difficulty in managing money or medications, low body mass index, and depression. The accuracy of the DSI was shown to be consistent across four large cohort studies with a wide range of demographic and racial/ethnic characteristics, and concordance statistics ranged from 0.68 to 0.78, which is similar to other widely used clinical risk indices (Barnes et al., 2014).

Barriers

Barriers to early detection of cognitive decline are multifactorial and involve patients, care partners, providers, and healthcare systems. Provider-level barriers include high variability in the diagnosis and management of NCDs and varying levels of dementia education, which have been shown to impact providers' attitudes and comfort levels in managing dementia (Romano et al., 2019). In addition, providers report difficulty in differentiating pathologic cognitive decline from normal age-related changes. Furthermore, they fear harming patients with an inaccurate diagnosis of dementia (Judge et al., 2019). Patient-related barriers include lack of symptom awareness, belief that cognitive decline is normal, unwillingness to disclose symptoms, and stigma relating to disease (Romano et al., 2019; Sideman et al., 2022). System-level barriers include time constraints, reimbursement, competing medical priorities, and accessibility to dementia specific care (Judge et al., 2019; Romano et al., 2019). These barriers present the complexity of this global health problem and emphasize the importance of this DNP project: to explore providers' perceptions with the overarching goal of achieving early detection of NCDs.

Treatment

While there is no cure for dementia, a variety of pharmacologic and nonpharmacologic treatments exist to manage AD. Pharmacologic options can be subdivided into symptom-management and disease-modifying drugs (Perneczky, 2019). Symptom management drugs include acetylcholinesterase inhibitors, which increase cortical concentration of acetylcholine, typically reduced in AD. This class of medication is recommended in all stages of dementia (Perneczky, 2019). Another is an N-methyl-D-aspartate (NMDA) receptor antagonist that protects neurons from the toxic effects of glutamate; it is recommended in moderate to severe stages of dementia. These medications may delay symptoms over time and have inconsistent impact on daily function (Perneczky, 2019). Disease-modifying drugs include Aducanumab and Lecanemab, which reduce beta amyloid, a toxic protein that creates brain plaques in AD and leads to cognitive and functional decline (Alzheimer's Association, 2023a). These medications may delay the progression of disease and reduce clinical decline due to AD (Alzheimer's Association, 2023a). It is important to note that disease-modifying drugs are approved specifically for individuals affected with early AD or MCI, further emphasizing the importance of early detection (Alzheimer's Association, 2023a).

In addition, there are pharmacologic treatments for the management of behavioral and psychiatric symptoms related to dementia, such as depression, anxiety, and agitation. The Food and Drug Administration (FDA) approved Brexpiprazole as the first treatment for agitation associated with dementia due to Alzheimer's Disease (AD). Agitation includes symptoms such as pacing, restlessness, and verbal and physical aggression and has been linked to faster disease progression and higher nursing home placement (Food and Drug Administration [FDA], 2023). Atypical antipsychotics have also been used for the treatment of agitation; however, they must be used with caution due to an increased risk of death in older patients with dementia-related psychosis (Alzheimer's Association, 2023b). The FDA has also approved Suvorexant for the treatment of insomnia related to AD. Pharmacologic treatments for treating depression and anxiety associated with AD are used "off label;" therefore, they are prescribed for a different purpose than that which they are approved for. Antidepressants include selective serotonin reuptake inhibitors such as Citalopram and Fluoxetine and anxiolytics include benzodiazepines such as Lorazepam and Oxazepam (Alzheimer's Association, 2023b).

Furthermore, a wide array of nonpharmacologic treatments are available that may be used prior to initiating medications or may be used in combination. These nonpharmacologic treatments help maintain cognitive function and manage the behavioral symptoms of AD as previously described. Treatments include cognitive stimulation, psychotherapy, music therapy, and meaningful activities (Alzheimer's Association, 2022; Scales et al., 2018). These treatments are vital in encouraging normalcy in the lives of affected individuals and their families and can be administered by care partners at home with minimal time and resources (Scales et al., 2018).

Focused DNP Project Literature Appraisal

The following literature appraisal includes nine studies focusing on providers' perceptions of cognitive screenings, management of NCDs, and related barriers in primary care. This literature was searched using databases including PubMed, Cumulated Index to Nursing and Allied Health Literature (CINAHL), and Medline. The keywords included cognitive impairment OR cognitive dysfunction OR cognitively impaired OR dementia OR Alzheimer's AND screening OR assessment OR examination OR early detection AND primary care OR primary care provider. This search was limited to studies completed within the last 5 years, among providers working with older adults in a primary care setting, and available in the English language. This search yielded an estimate of 200 research articles, which were carefully reviewed for inclusion. Studies focused on providers' perspective regarding assessment, diagnosis, and management of NCDs in primary care were included. Studies focused on the efficacy of cognitive assessment tools, cognitive impairment related to post traumatic stress disorder or substance abuse, and studies completed on younger populations were excluded.

Key Research Studies

The following nine studies identify providers' perceptions of cognitive screening protocols, management of NCDs, and related barriers in primary care. The studies were ranked from level III to level V according to Dearholt and Dang's (2017) evidence hierarchy.

Quantitative Studies

The following four articles used a quantitative design and were ranked level III on the evidence hierarchy.

Bernstein et al. (2019). The primary aim of this study was to identify PCPs' and neurologists' perspectives regarding the evaluation and management of NCDs. Data was collected using a 51-item survey to assess providers' confidence, attitudes, current practices, and barriers relating to NCDs. The sample included 100 PCPs and 50 neurologists who evaluated more than 10 patients over the age of 55 every month. Key findings among providers included lack of confidence interpreting cognitive tests and neuroimaging, poor knowledge of diagnostic criteria, high variability in assessing for NCDs, and low confidence engaging in practices that promote early diagnosis. This study concluded that there are many barriers influencing PCPs' lack of confidence and suggests PCPs may benefit from education in assessing NCDs, using objective cognitive screening tools, and recognizing patterns of cognitive performance to differentiate between distinct NCDs. A modified version of this study's survey was used in the current DNP project.

Giezendanner et al. (2019). The primary aim of this study was to identify providers' perceptions of early detection of NCDs and cognitive screening. Data were collected using a mailed survey evaluating providers' perceptions of dementia and related barriers and enablers to early detection. The sample consisted of 882 PCPs. Key findings included a positive overall perception of early dementia diagnosis, although some PCPs reported frustration in diagnosing dementia and perceived minimal benefit of early diagnosis due to limited treatment options. PCPs who perceived more enablers to early dementia diagnosis, rather than barriers, were more likely to recommend treatment options. Those who perceived greater barriers were likely to take a "watchful waiting" approach. This study concluded that providers' attitudes toward early dementia diagnosis may impact the quality of care provided.

Judge et al. (2019). The primary aim of this study was to describe the perceptions of PCPs and specialists in diagnosing mild cognitive impairment (MCI) and Alzheimer's Disease (AD). Data were collected using a cross-sectional online survey that included a prespecified list of diagnostic barriers identified in the literature. Barriers were divided into four domains including patient barriers, physician barriers, setting barriers, and clinical profile of AD related barriers. The sample consisted of 1365 PCPs and specialists including neurologists, geriatricians, and psychiatrists. Key findings for patient barriers included a belief that cognitive decline was related to aging, unwillingness to disclose symptoms, and stigma relating to dementia. Physician barriers included difficulty differentiating MCI from normal age-related cognitive decline, fear of harming patients, and uncertainty in diagnosing dementia. Setting-related barriers included limited availability of specialists, time constraints, and lack of available diagnostic tools and standardized guidelines. Clinical profile barriers included lack of definitive biomarker tests and similarities in the presentation of AD and normal age-related cognitive decline. This study concluded barriers previously identified in the literature continue to impact dementia care, delay diagnosis, and are encountered by both PCPs and specialists.

Lee at al. (2020). The primary aim of this study was to identify providers' perceptions of barriers relating to dementia care and their learning needs. Data were collected over 10 years using a pre- and post-online survey. Providers attended either a 5-day team-based dementia education program or a continuing medical education (CME) workshop. The multidisciplinary sample consisted of 1008 physicians, nurses, and allied health professionals who completed a 5-day education program and 292 family physicians who completed a CME workshop. Key findings among providers included lack of preparedness in delivering dementia care and lack of confidence in developing patient relationships, managing patient needs, and collaborating with community services. Lower rates of preparedness were associated with higher rates of perceived difficulty in providing dementia care. This study concluded there is a need for developing a dementia competent workforce in primary care.

Qualitative Studies

The following three articles used a qualitative design and were ranked level III on the evidence hierarchy.

Bandini et al. (2022). The primary aim of this study was to evaluate patient, family, and provider perspectives on cognitive screenings among older adults in primary care. Data were collected using virtual focus groups with patients and caregivers and videoconference interviews with providers. The sample included 18 patients aged 65 and older with no history of cognitive impairment, 11 PCPs, and five caregivers. Key findings identified by patients included minimal use of formal screenings to assess their cognition and high variability in the screening process. A key finding by caregivers was delays in dementia diagnosis, usually made in the late stages of the disease. Key findings from provider interviews included cognitive screenings only completed during the Medicare annual wellness visit, lack of standardized screening protocols, time constraints, and difficulty screening patients with limited English proficiency and low education level. The study concluded that patients, caregivers, and providers strongly support routine cognitive screenings, and they experience many barriers to early detection of cognitive decline.

Blaire et al. (2022). The primary aim of this study was to explore providers' experiences diagnosing MCI, and their perspectives on MCI and dementia education. Data were collected using semi-structured interviews to identify providers' experiences, diagnostic practices, and knowledge of MCI. The sample included 8 cardiologists, 7 neurologists, and 7 internists for a total of 22 physicians. Key findings among providers included poor differentiation between MCI and dementia, infrequent use of MCI as a diagnosis, lack of training, and frequent use of informal methods to assess cognitive decline. This study concluded there is variability among physicians diagnosing MCI, providers feel inadequately prepared to use formal diagnostic procedures, and there is a need for educational interventions to improve providers' knowledge of MCI.

Wollney et al. (2022). The primary aim of this study was to identify providers' perceptions for disclosing a dementia diagnosis, and related barriers. Data were collected using semi-structured telephone interviews that assessed providers' practices when disclosing a dementia diagnosis. The sample included 15 providers who had varying levels of experience in disclosing a dementia diagnosis. Key findings were subdivided into patient/caregiver barriers, clinical barriers, and triadic interaction barriers, defined as those encountered by the patient, caregiver, and provider. Patient/caregiver barriers included lack of social support, misunderstanding of a dementia diagnosis, and denial. Provider barriers included time constraints, diagnostic uncertainty, and difficulty delivering “bad news.” Triadic interaction barriers included difficulty meeting multiple goals and competing priorities, as well as caregiver requests for non-disclosure of diagnosis. This study concluded that there are multifactorial barriers to communicating a dementia diagnosis in primary care, and there is a need for improving the frequency and quality of disclosure among providers. This study supports the need for the current DNP project.

Mixed Methods Study

The following article used a mixed-methods design and was ranked level III on the evidence hierarchy.

Harmand et al. (2018). The primary aim of this study was to describe providers’ usual practices in assessing and managing dementia. Data were collected using telephone interviews inquiring about providers’ usual practices and a written questionnaire consisting of a 30-item Alzheimer’s Disease Knowledge Scale (ADKS). The ADKS is a scale that assesses overall knowledge of Alzheimer’s disease among patients, caregivers, and healthcare professionals. Higher scores are expected among groups with increased exposure and experience managing Alzheimer’s Disease (Carpenter et al., 2009). The sample in this study consisted of 102 providers who had at least 1 patient with a dementia diagnosis in a previous follow-up visit. Key findings among providers included high confidence ratings in managing dementia, disclosing a diagnosis, recommending non-pharmacological treatments, and knowledge of diagnostic criteria. Providers reported low confidence in recommending pharmacological treatments and community resources. Although providers reported high confidence in their knowledge of dementia, there was a gap in objective knowledge on the ADKS with a mean score of 14.8 (*SD* = 2.4) out of 30 points. In the validation study of the ADKS conducted by Carpenter et. al (2009), a mean ADKS score among healthcare professionals of 27.40 (*SD* = 1.89) was observed. Perceived barriers for diagnosing dementia included lack of effective pharmacological treatments, time constraints, lack of interest in making a formal diagnosis, and belief that dementia is an age-related occurrence. This study concluded that providers' confidence influenced their dementia practices. Providers with higher self-confidence were more likely to implement actions to manage cognitive impairment. The study identified a need for educating providers on dementia assessment and management, particularly in areas of community resources and pharmacological treatments.

Quality Improvement

The following article used a quality improvement design and was ranked level V on the evidence hierarchy.

Rosenbloom et al. (2018). The primary aim of this study was to evaluate the actions of PCPs and specialists when managing patients with positive Mini-Cog screenings. The Mini-Cog is a cognitive screening tool with similar sensitivity and specificity as the MMSE described previously. It is a brief tool ideal for the primary care setting, which can be administered under 5 minutes, is free of language/educational biases, and is recommended by the Alzheimer's Association workgroup for use during the AWV (Cordell et al., 2013; Scott & Mayo, 2018). Data regarding providers' actions was collected using an electronic health record (EHR), and data for healthcare utilization was collected via insurance claims. Provider actions when managing a positive Mini-Cog included an in-depth cognitive screening, referral for neuropsychological testing, referral to a dementia clinic, braining imaging, and cognition enhancing medications. A key finding was that positive Mini-Cog screen results only influenced some providers to initiate a dementia relevant action. The majority of providers did not change their actions due to a positive screen. In addition, increased cognitive screenings did not reduce healthcare utilization. This study concluded that positive Mini-Cog screening results led to minimal changes in providers' practices, and screening alone did not significantly alter providers' usual practices. This study highlighted a need for standardized guidelines to assess, diagnose, and manage NCDs.

Summary of the Literature

This DNP project's literature review aimed to explore PCPs' perceptions of cognitive screenings, management of NCDs, and related barriers in primary care A number of findings from the literature informed the current DNP Project. First, multiple studies reported low confidence and lack of preparedness among providers diagnosing and managing dementia (Bernstein et al., 2019; Lee at al., 2020; Wollney et al., 2022). Providers reported difficulty disclosing a dementia diagnosis, communicating "bad news," and interpreting cognitive tests and neuroimaging (Bernstein et al., 2019; Lee et al., 2020; Wollney et al., 2022). Lack of confidence was reflected in providers commonly referring patients with cognitive decline to specialists, rather than testing and diagnosing themselves (Bernstein et al., 2019). Furthermore, providers perceived low academic preparation for dementia management and disclosure of diagnosis (Bernstein et al., 2019; Lee et al., 2020; Wollney et al., 2022). This was correlated with a high interest in learning about normal age-related cognitive decline and MCI, suggesting a workforce eager to expand their knowledge (Lee et al., 2020). In addition, while Harmand et al. (2018)

found that providers were highly confident in managing dementia, their findings differed from other studies. Providers' self-perceived barriers to early detection of NCDs included lack of confidence and poor academic preparation in diagnosing and managing dementia. These are important areas of focus for this DNP project to support providers in achieving early detection of cognitive decline.

Multiple studies explored providers' perceptions of environmental barriers that influence cognitive screenings and early dementia diagnosis. One perceived barrier in primary care was lack of time to implement cognitive screenings, and consequently manage patients who screen positive. Providers felt adding a routine cognitive screening may exacerbate time constraints with patients who already have multiple co-morbidities and competing medical priorities (Bandini et al., 2022; Blaire et al., 2022; Wollney et al., 2022). In addition, limited availability of specialists was identified as a barrier because providers felt it would further overwhelm the healthcare system (Bandini et al., 2022). Nevertheless, most providers managed positive cognitive screenings with referrals to specialists, rather than performing diagnostic evaluations themselves. This may be related to providers' reports of low confidence in diagnosing and managing dementia as discussed previously. Furthermore, providers identified a need for standardized guidelines in screening, diagnosing, and managing NCDs (Bernstein et al., 2019; Blaire et al., 2022; Judge et al., 2019; Rosenbloom et al., 2018).

Finally, many studies explored providers' perceptions regarding the management and clinical profile of NCDs. Giezendanner et al. (2019) found that most providers had a positive attitude toward early dementia diagnosis, but multiple studies showed providers were hesitant to initiate routine cognitive screenings. Providers perceived minimal benefit to early diagnosis due to limited pharmacologic options with low efficacy, and they felt dementia was not a clinically actionable diagnosis (Giezendanner et al., 2019; Harmand et al., 2018; Judge et al., 2019). In addition, dementia was reported to be a phenomenon of aging, although age alone was insufficient to initiate a cognitive evaluation (Harmand et al., 2018; Judge et al., 2019). Multiple studies also reported minimal use of formal cognitive tests. Providers commonly implemented informal assessment methods or a “watchful waiting” approach when suspecting cognitive decline (Bernstein et al., 2019; Giezendanner et al., 2019). Furthermore, stigma relating to NCDs was another barrier that influenced providers’ willingness to perform screenings due to fear of causing patients emotional harm (Wollney et al., 2022). These findings suggest providers’ perceptions of NCDs weigh heavily on their daily practices, leading to high variability in the delivery of dementia care.

Measures of Providers’ Perceptions

Studies included in this literature review used a variety of measures to assess providers’ perspectives of cognitive screenings and management of NCDs. Four studies administered surveys using online and postal formats to assess providers’ current practices, attitudes, and related barriers to cognitive screenings (Bernstein et al., 2019; Judge et al., 2019; Lee et al., 2020; Giezendanner et al., 2019). Surveys were developed using different methods including theoretical frameworks, such as the Behavioral Change Wheel, and predefined barriers identified in the literature. Surveys commonly used a Likert scale format for responses, although in addition to that, Bernstein et al. (2019) used multiple choice questions, Lee et al. (2020) used open-ended questions, and Giezendanner et al. (2019) included a hypothetical case study to assess providers’ management of dementia.

Four studies administered semi-structured interviews using in person, telephone, and videoconferencing formats to elicit specific information about providers’ unique clinical practices (Bandini et al., 2022, Blaire et al., 2022, Harmand et al., 2018, Wollney et al., 2022). The final study evaluated providers' actions using an electronic health record to identify dementia relevant actions (Rosenbloom et al., 2018). Similar to many studies reviewed, this DNP project implemented an in-person survey that was adapted from Bernstein et al. (2019) to assess providers' perspectives of cognitive screenings and dementia assessment in primary care.

This DNP project's literature review summarized providers' perceptions for cognitive screenings in primary care and related barriers. It presented the complexity of this global health problem and the multifactorial barriers that impact early detection of NCDs. While providers may feel early detection is important, they face many barriers including low self-confidence, stigma, time constraints, competing medical priorities, and limited treatment options. This literature review highlighted the importance of this DNP project to utilize PCPs perceptions to develop a feasible approach for cognitive screenings in primary care.

Purpose of DNP Project

The purpose of this DNP project was to explore primary care providers' readiness for implementing a feasible approach for cognitive screenings among older adults.

Definition of Terms

Neurocognitive Disorder (NCD)	Cognitive decline from a previous level of performance in one or more cognitive domains (complex attention, executive function, learning and memory, language, perceptual motor, social cognition); Can be divided into Delirium, Major NCD, and Mild NCD (American Psychiatric Association [APA], 2022). The term NCD consists of a group of disorders whose primary clinical deficit is in cognitive function. NCDs are acquired and not developmental; therefore, they present a decline from a previous level of cognitive function (American Psychiatric Association [APA], 2022). Major and Mild NCDs exist along a continuum and can be classified by subtypes of diagnoses including Alzheimer's Disease (AD), Vascular Dementia, Dementia with Lewy Body, Frontotemporal Lobar Degeneration, Traumatic Brain Injury, substance or medication use, and Human Immunodeficiency Virus (HIV) (APA, 2022).

Major Neurocognitive Disorder	Significant cognitive decline from a previous level of performance in one or more cognitive domains that also interferes with independence in activities of daily living. Neuropsychological testing performance falls two or more standard deviations below the appropriate norms (APA, 2022).
Mild Neurocognitive Disorder	Modest cognitive decline from a previous level of performance that does not interfere with independence in activities of daily living but may require greater effort or more time than previously. Neuropsychological testing performance falls in the one-two standard deviations range for appropriate norms (APA, 2022).
Mild Cognitive Impairment (MCI)	An objective decline in one or more cognitive domains without significant impairment in daily activities (Sabbagh, 2020). MCI is an early stage of memory loss or other cognitive ability loss in a person who maintains independence in activities of daily living (Alzheimer's Association, 2022). MCI is congruent to Mild Neurocognitive Disorder (APA, 2022).
Subjective Cognitive Decline (SCD)	A self-reported experience of worsening or increased frequency of memory loss or confusion (CDC, 2019b).
Dementia	In this DNP project, dementia is defined as an umbrella term for symptoms of underlying conditions affecting the brain, which cause impaired memory and cognitive abilities and behavioral changes and interfere with activities of daily living (WHO, 2022) Dementia is a general term for symptoms of impaired ability to remember, think, or make decisions, which interfere with daily activities (CDC, 2019a). It is a progressive syndrome that occurs due to primary and secondary diseases affecting the brain, such as Alzheimer’s Disease, Lewy Body Dementia, cerebrovascular accident, HIV, and repetitive physical injuries to the brain (WHO, 2022).
Alzheimer’s Disease (AD)	A type of dementia that progressively affects memory, thinking, and behavior, with symptoms that become severe enough to interfere with daily tasks and activities of daily living such as bathing, feeding, and dressing (Alzheimer’s Association, 2023a; CDC, 2018). AD is the most common form of dementia (WHO, 2022). Symptoms may include forgetfulness, becoming lost in familiar places, needing help with personal care, difficulty communicating, inability to recognize relatives, and walking impairment (WHO, 2022).
Care Partner	A person who assists an individual with a health condition to meet their self-care deficits, as a partner dyad. This term recognizes that individuals with self-care deficits are also contributing to their own care, alongside their care partner (Bennet et al., 2017).

Theoretical Framework

The theoretical framework used to guide this DNP project was the Behavior Change Wheel (BCW). This approach was developed from multiple behavior change frameworks that include interventions and policies to enable change. The BCW consists of three conditions that are essential for behavior change: capability, opportunity, and motivation. These conditions form the core of the BCW and are surrounded by nine interventions to address behavioral deficits within these conditions and seven policy categories that enable interventions to occur (Michie et al., 2011). Capability can be defined as a PCP's evidence-based knowledge and ability to engage in a behavior, such as having the up-to-date information and overall competency to provide dementia care. Opportunity is defined as the external factors that make a behavior possible, such as having access to screening tools to objectively assess cognition. Motivation is defined as the cognitive processes that direct and inspire a behavior, which include habits and emotional responses. Since the development of the BCW, it has been used to study the effects of interventions in healthcare including tobacco control and obesity (Michie et al., 2011; Richardson et al., 2019). The BCW framework was used to guide this DNP project to explore providers' perspectives for implementing a cognitive screening protocol in primary care.

Methodology

Setting and Participants

The setting for this DNP project was a national healthcare organization made up of 66 primary care medical centers across Florida, Tennessee, New York, and Texas. This healthcare organization has 53 medical centers in Florida that employ 107 providers. The population of providers is ethnically diverse with 78% Hispanic, 8% White, 4% Black, and 10% other. This Medicare Advantage organization follows a capitation agreement with insurance plans and, therefore, receives a risk-adjusted amount of money per patient annually regardless of the volume of services the patient obtains (American Academy of Family Physicians, 2021). This DNP project was conducted in seven South Florida medical centers. Within these centers, providers are predominantly Hispanic and bilingual, speaking English and Spanish. The patient population consists primarily of older adults of Hispanic descent, and the majority are Spanish speaking with limited fluency in English. A voluntary convenience sample of 20 PCPs was recruited from seven medical centers, consisting of seven medical doctors and 13 advanced practice registered nurses.

Procedures

This DNP project utilized a descriptive cross-sectional design to administer a voluntary in-person survey to PCPs. The study protocol was approved by the Institutional Review Board (IRB) of Florida International University (see Appendix A for IRB approval letter).

The survey aimed to explore providers' perceptions for implementing cognitive screenings among older adults in primary care. Providers were invited to participate in the survey during a 30-minute meeting. Providers were notified of the meeting via an email sent by medical center administrators. At the meeting, providers were informed of the survey and given an informational letter that delineated voluntary and anonymous participation. All providers who attended the meeting received envelopes containing a copy of the informational letter and the survey. Providers were instructed to place the completed survey in a sealed envelope and deposit it in a designated box. Providers were given privacy to anonymously accept or decline participation and complete the survey. Measures were taken to ensure providers' comfort and confidentiality throughout the survey administration process.

Eligibility Criteria

Eligible participants included 21 PCPs working in seven South Florida medical centers. The sample consisted of 20 providers, including seven medical doctors and 13 advanced practice registered nurses. Exclusion criteria consisted of specialty providers and other disciplines working in these medical centers.

Survey

There were two parts to the provider survey. In Part 1, participant demographics were collected, including professional title, years of experience working with older adults, and years working in primary care. In Part 2, the perspective of PCPs was assessed with a shortened version of the 51-item survey by Bernstein et al. (2019) entitled the University of California San Francisco (UCSF)/Quest Dementia Care Pathway Outcomes Survey. The survey was developed by a team of researchers at UCSF and was theoretically and expert-informed (A. Bernstein, personal communication, April 3, 2023). It was previously administered by Dr. Alissa Bernstein, a health policy researcher, and Assistant Professor at UCSF, dedicated to improving the care of persons living with AD and related dementias (UCSF Profiles, 2023). The aim of the survey was to identify and compare the perspectives of PCPs and neurologists regarding the evaluation and management of NCDs (Bernstein et al., 2019). The theoretical framework used to guide the survey was the Behavior Change Wheel, as previously discussed.

The survey has been administered in multiple unpublished studies and has undergone a face validity process. Bernstein completed a “Talk Aloud” validity test via two focus groups and interviews with PCPs (A. Bernstein, personal communication, April 3, 2023). Revisions of the survey have been modified to include questions about comorbidities, language, and social determinants of health (A. Bernstein, personal communication, April 3, 2023). The survey has been administered to 100 PCPs and 50 neurologists. A limitation of this survey is that self-perceived confidence may not reflect effectiveness in practice (Bernstein et al., 2019).

The 51 survey items are organized into four domains: confidence (15 items), barriers (7 items), behaviors (8 items), and attitudes/beliefs/motivations (10 items). The domain of confidence explored providers' confidence diagnosing NCDs, educating caregivers about community resources, and interpreting cognitive tests. The barriers domain focused on knowledge of diagnostic criteria, accuracy of cognitive assessment tools, comfort delivering a dementia diagnosis, time, and access to specialists. Additionally, the behaviors domain assessed providers' use of cognitive tests, formal/informal approaches to cognitive assessment, reasons for initiating a cognitive screen, and frequency of specialist referrals. Lastly, the survey's attitudes domain assessed the usefulness of cognitive tools, assessing cognition through observation, the impact of cognitive tests on diagnosis and management, and competing medical priorities. The survey uses a Likert multiple choice response format (Bernstein et al., 2019).

The 51 survey items were reviewed by the DNP student in collaboration with a member of the DNP project team (medical doctor). To address this project's purpose, the survey was shortened to focus on PCPs' perspectives for initiating a cognitive assessment, routine dementia work-up, their comfort in diagnosing dementia, perceived usefulness of cognitive tests, and confidence in differentiating MCI from normal aging. The survey was modified to include only 20 survey items and the remainder were excluded as they were beyond the scope of this study. Minor edits were made to survey questions to increase readability by participants. Displayed in Appendix C is the shortened version of the survey. The shortened survey was organized under the following domains: behaviors (6 items), attitudes/ beliefs/motivations (6 items), confidence (3 items), and barriers (2 items).

Data Entry and Analysis

All data was obtained via paper surveys and was entered into FIU Qualtrics, a secured online survey platform available through FIU. The DNP student conducted data analysis in consultation with the DNP project team. Paper data was securely maintained in a locked filing cabinet inside a locked room, and electronic data was secured via Qualtrics and accessed using a password protected computer. Data was analyzed using descriptive statistics including frequencies, mean, and percentages. Continuous variables including providers' years of experience working in primary care and years working with older adults were analyzed using mean and standard deviation. Categorical variables including providers' behaviors, attitudes, confidence, and barriers relating to cognitive screenings were analyzed using frequencies and percentages.

Results

Provider Demographics

Table 1 displays PCP participant demographics. The participation rate was 95% (20/21). Sixty-five percent (*n* = 13) of participants were advanced practice registered nurses with an average of 9.5 years (*SD* = 7.7) working in primary care with an average of 12.4 years (*SD* = 9.4) working with older adults. Providers reported seeing an average of 199.4 (*SD* = 99.7) older adults in a typical month. In addition, PCPs diagnosed on average 20.2 (*SD* = 37.7) new cases of mild cognitive impairment (MCI) monthly.

Table 1

Demographics of Providers (N =20)

Survey Item	Number (%)	Mean (SD)
1. Title, number (%)		
MD	7 (35)	
APRN	13 (65)	
PA	0	
2. Years practicing as a PCP, mean (SD)		9.5 (7.7)
3. Years working with older adults aged 65 years and older, mean (SD)		12.4 (9.4)
4. Patients aged 65 years and older evaluated during a typical month, mean (SD)		199.4 (99.7)
5. Patients newly diagnosed with Mild Cognitive Impairment during a typical month, mean (SD)		20.2 (37.7)

Provider Behaviors/Current Practices

Participants were queried about reasons that would prompt a cognitive assessment. The most frequently identified reasons were patient or family members expressing cognitive concerns and cognitive changes assessed by the provider. Sixty-five percent (*n* = 13) of providers initiated a cognitive assessment due to the Medicare Annual Wellness visit, and 55% (*n* = 11) reported assessing cognition in all patients aged 65 years and older, regardless of symptoms.

The most frequently identified practices for evaluating dementia included use of cognitive assessment tools (90%, *n* = 18), conducting functional assessments (70%, *n* = 14), and performing laboratory tests (65%, *n* = 13). Forty-five percent (*n* = 9) of providers reported assessing cognition during a patient interview without the use of a cognitive assessment tool, and 30% (*n* = 6) reported ordering magnetic resonance imaging (MRI) as part of their diagnostic workup. Providers were also queried about reasons that increased their likelihood of referring a patient to a dementia specialist. Ninety-five percent (*n* = 19) of providers reported referring patients with severe symptoms and 50% (*n* = 10) of providers reported referring patients with mild symptoms. Furthermore, 30% (*n* = 6) of PCPs reported they referred over 75% of patients with undiagnosed cognitive impairment for a dementia specialty workup.

Provider Attitudes

Table 2 displays providers' attitudes regarding dementia assessment and care. Sixty-five percent (*n* = 13) of PCPs reported feeling comfortable evaluating and managing patients with dementia. Seventy percent (*n* = 14) of PCPs reported cognitive screening tools were useful in evaluating patients with cognitive symptoms. Fifty-eight percent (*n* = 11) of PCPs agreed they could provide appropriate care to a patient with cognitive impairment without formally diagnosing them with dementia. Ninety percent (*n* = 18) of PCPs reported they would evaluate more patients for dementia if they had access to a dementia clinical team.

Table 2

Participant Reported Attitudes in Dementia Symptom Assessment and Care (N =20)

Survey Item	Strongly Disagree n (%)	Disagree n (%)	Agree n (%)	Strongly Agree n (%)
13. I can provide appropriate care to a patient with cognitive impairment without providing a diagnosis of dementia (*1 response missing*).	5 (26.32)	3 (15.79)	6 (31.58)	5 (26.32)
14. I feel cognitive impairment is adequately assessed through history and observation during the clinical interview.	3 (15)	8 (40)	5 (25)	4 (20)
15. I would evaluate more patients for dementia if I had access to a dementia clinical team.	1 (5)	1 (5)	10 (50)	8 (40)

Provider Confidence

Table 3 data displays survey results focused on the level of confidence PCPs reported. Eighty percent (*n* = 16) felt confident/very confident in their ability to differentiate MCI from normal age-related cognitive changes. Seventy percent (*n* = 14) of PCPs reported high confidence in educating patients and caregivers about cognitive impairment, dementia management, and community-based resources. In addition, 75% (*n* = 15) of PCPs reported feeling confident in managing the needs of patients with dementia who have other competing co-morbidities.

Table 3

Participant Reported Confidence in Dementia Symptom Assessment and Care (N =20)

Survey Item	Not Confident n (%)	Somewhat Confident n (%)	Confident n (%)	Very Confident n (%)
16. Detecting mild cognitive impairment versus normal aging	0	4 (20)	12 (60)	4 (20)
17. Educating patients/caregivers about dementia management and community resources	0	6 (30)	7 (35)	7 (35)
18. Managing needs of patients with dementia who have other competing comorbidities	0	5 (25)	11 (55)	4 (20)

Barriers

The data displayed in Table 4 provides survey data focused on barriers to dementia assessment and care. Eighty percent (*n* = 16) of PCPs reported they have insufficient time with patients that have multiple comorbidities impacting their ability to evaluate and diagnose dementia. Forty-five percent (*n* = 9) of PCPs felt discomfort in delivering a dementia diagnosis.

Table 4

Participant Reported Barriers in Dementia Symptom Assessment and Care (N =20)

Survey Item	Strongly Disagree n (%)	Disagree n (%)	Agree n (%)	Strongly Agree n (%)
19. I have insufficient time with my patients who have multiple chronic conditions.	1 (5)	3 (15)	13 (65)	3 (15)
20. I feel discomfort in delivering "bad news" of a dementia diagnosis since patients and caregivers fear stigma of this diagnosis.	3 (15)	8 (40)	7 (35)	2 (10)

Discussion

There are several important findings from this DNP Project to consider in developing a future quality improvement program at this primary care practice focused on increasing identification of cognitive impairment. In interpreting these results, a strength of this study was a survey participation rate of 95% of all eligible PCPs. This participation rate was higher than other similar studies, in which the average participation rate ranges from 21% to 91.1.% (Giezendanner et al., 2019; Lee et al., 2020).

A key finding from the survey was that most PCPs in this organization felt comfortable evaluating and managing dementia. This finding differed from the literature, which reported PCPs often had low confidence and perceived inadequate educational preparation in assessing and managing dementia (Bernstein et al., 2019; Lee at al., 2020; Wollney et al., 2022). Similarly, most of the PCPs in the current study reported feeling confident in differentiating MCI from normal age-related cognitive changes and educating patients and care partners about dementia and community resources. These findings also differed from the literature, which reported that providers often experience difficulty differentiating MCI from age-related cognitive changes, and may not be familiar with community dementia care resources (Blaire et al, 2022; Harmand et al., 2018; Judge et al., 2019). In addition, 55% of PCPs reported assessing cognition in all older adults regardless of cognitive symptoms or concerns. This finding emphasizes PCPs' knowledge that cognitive symptoms may not always be expressed by patients or be severe enough to be observed by the family or provider.

A second key finding was 80% (*n* = 16) of PCPs agreed they have insufficient time to evaluate cognitive symptoms. This finding is consistent with the reviewed literature that reported time is a barrier to cognitive screenings, early detection of dementia, and overall dementia care in primary care settings (Bandini et al., 2022; Blaire et al., 2022; Wollney et al., 2022). Time restriction in primary care has also been cited as a barrier to providing healthcare for older adults in general, not only in the area of dementia (Prasad et al., 2020; Yahanda & Mozersky, 2020). One survey showed that only 14% of physicians in America report having enough time to provide high-quality care (The Physician's Foundation, 2016). This is an important finding as time constraints in primary care may lead to negative consequences for patients and providers by increasing work-related stress, decreasing PCPs' diagnostic accuracy, and minimizing use of guidelines for preventive care and chronic disease management (Porter et al., 2022; Von Dem Knesebeck et al., 2019).

A third key finding was 90% of PCP study participants reported they would evaluate more patients for dementia if they had access to a dementia clinical team. This is a common finding in the literature, which shows that PCPs feel dementia care is within their scope of practice, but they face system-level barriers that hinder their ability to provide optimal care

(Sideman et al., 2023). Commonly identified barriers include lack of time, lack of support services, and difficulty collaborating and coordinating care with other providers (Mansfield et al., 2019; Sideman et al., 2023). A theme in the literature to address this problem is the use of a collaborative approach for diagnosing and managing dementia in primary care (Galvin et al., 2014; Moloney et al., 2018; Sourial et al., 2022). Furthermore, several authors identify the need for a multi-disciplinary assessment, care plan, and a dementia coordinator (Moloney et al., 2018). A collaborative approach has also been identified as a primary care quality indicator, with 77% of providers agreeing "coordination between healthcare providers" is vital to managing dementia in primary care (Sourial et al., 2022). These survey results indicate PCPs may require increased organizational support for early detection of dementia, specifically more time and access to a dementia clinical team.

A fourth interesting survey finding was that nearly 60% of PCPs surveyed indicated appropriate patient care could be provided to those with cognitive impairment without a formal diagnosis of dementia. This finding is consistent with the literature, which reports that up to 81% of patients who meet criteria for dementia do not have a documented diagnosis (Cordell et al., 2013). The failure to document a dementia-related diagnosis may result in delayed access to available treatments, inadequate care and follow-up by providers, and lack of access to community resources to improve symptoms and maintain quality of life (Brooks et al., 2022; Cordell et al., 2013). A documented diagnosis enables access to appropriate services, legal/financial support, and access to potential research opportunities (Rasmussen & Langerman, 2019). A related finding is that 45% of PCPs in this study reported feeling discomfort in disclosing a dementia diagnosis. This finding is similar to the literature that shows that even when providers suspect a dementia diagnosis, they fail to disclose it to patients (Wollney et al., 2022). In addition, less than half of Medicare beneficiaries with a billing code for dementia report being aware of the diagnosis (Wollney et al., 2022). There are several potential reasons for this, which can be divided into provider- and patient-level barriers to disclosing a dementia diagnosis. These barriers include provider discomfort disclosing “bad news” of a dementia diagnosis, and difficulty communicating diagnostic uncertainty since cognitive symptoms can have varying underlying etiology. Patient-level barriers include lack of awareness of denial of symptoms, stigma relating to dementia, and belief that cognitive decline is a normal part of aging (Judge et al., 2019; Wollney et al., 2022). These findings highlight an area of focus for educating providers on the importance of formally diagnosing dementia and disclosing the diagnosis to patients and care partners.

In conclusion, two of the barriers most identified by these PCP study participants were a lack of time and access to a dementia clinical team. These are common findings in the literature and often faced in primary care settings (Bandini et al., 2022; Harmand et al., 2018; Sideman et al., 2023; Wollney et al., 2022).

Implications

This DNP project was guided by the BCW framework, which helped to interpret these study findings as they pertained to PCPs’ capability of managing dementia, opportunities for improving dementia care, and PCPs’ motivations and related emotions toward dementia. The provider survey adapted from Bernstein et al. (2019), used in this study, was also guided by the BCW framework to understand providers’ behaviors and develop strategies for improving the assessment and management of NCDs.

At the core of the BCW are three components: capability, opportunity, and motivation, which are essential to impacting behavior (Michie et al., 2011). *Capability* is defined as an individual’s knowledge, skill set, and ability to participate in behavior change (Michie et al., 2011). The majority of PCPs in this study reported high confidence rates in evaluating and managing dementia, in differentiating MCI from normal age-related cognitive changes, and in educating patients/care partners about community resources. Overall, these findings show that PCPs feel they have the knowledge, skills, and *capability* to deliver dementia care and participate in early detection of cognitive decline.

The next component of the BCW is *opportunity*, which can be defined as the external factors that make a behavior possible. The majority of PCPs in this study reported lack of time was a barrier to evaluating and diagnosing dementia. Time is an external factor that is frequently reported in the literature as a barrier to performing routine cognitive screenings and managing dementia in primary care. PCPs are expected to perform a history and physical exam, diagnose, discuss prognosis and provide counseling, in addition to reviewing labs and medications, and managing multiple comorbidities. While it is not surprising that PCPs report time is a barrier to care, there remains a need to address time constraints in primary care settings. The Centers for Medicare and Medicaid Services (CMS) recommend screening for cognitive impairment during the Annual Wellness Visit (AWV) and scheduling a separate encounter to complete a comprehensive cognitive evaluation and develop a care plan (CMS, 2023). Another option may be assessing patient needs prior to appointments so that consultation time may be used more efficiently. This can be achieved through telephone consultations with nurses or through self-report online tools that may be accessed in the waiting room (Mansfield et al., 2019).

The literature shows time constraints have improved in organizations that emphasize quality over productivity, where providers and leaders share similar values (Prasad et al., 2020). Team-based care models have also been recommended by allowing up to 65% of PCPs services to be delegated, and they are associated with higher adherence to quality measures (Porter et al., 2022). This model encourages PCPs to only perform functions they are qualified for and delegates tasks to trained medical assistants or nurses such as history gathering, data and order entry, medication review, and the majority of visit documentation (Hopkins & Skinsky, 2022).

Furthermore, the majority of PCPs in this study reported they would evaluate more patients for dementia if they had access to a dementia clinical team. This is another *opportunity* for improvement as guided by the BCW. Lack of access to specialists, lack of support, and difficulty coordinating care and collaborating with other providers are frequently reported barriers to providing dementia care (Mansfield et al., 2019; Sideman et al., 2023). Although PCPs acknowledge their role in dementia care, they face organizational barriers that hinder their ability to provide this care. There is an overall need for increasing support for PCPs, facilitating the delivery of dementia care, and overcoming the lack of support/resources (Sideman et al., 2023). The literature highlights the value of a collaborative approach for delivering optimal dementia care (Galvin et al., 2014; Heintz et al., 2020; Moloney et al., 2018; Sourial et al., 2022). Collaborative dementia care models acknowledge that optimal management of complex medical and psychiatric issues related to dementia require communication and shared decision making among providers. These care models vary in approach, but all typically align the patient, care partner, and PCP as the decision makers and offer a support system for PCPs, such as a medical assistant, social worker, care coordinator, dementia specialist, or a nurse with specialized dementia training (Heintz et al., 2020). Collaborative care models have been shown to increase patient satisfaction with care quality, decrease severity of cognitive and functional symptoms, reduce utilization of resources, and decrease caregiver burden (Heintz et al., 2020). Although a collaborative care model may lead to a reduction in costs, it is important to note the challenges of transforming a healthcare delivery system that may require funding, changes to administration, and cooperation from stakeholders (Heintz et al., 2020).

Another solution for promoting a collaborative care approach for dementia is training non-physician care providers, like medical assistants, to increase detection of cognitive impairment (Maslow & Fortinsky, 2018). Non-physician staff may serve in performing vital tasks such as educating older adults about cognitive health, recognizing symptoms of impairment, and recommending community resources. They may also be trained in performing brief mental status exams, encouraging older adults to follow up with diagnostic evaluations and supporting patients to have a better understanding of a dementia diagnosis (Maslow & Fortinsky, 2018).

Finally, the third component of the BCW is *motivation*, which is defined as the conscious and unconscious cognitive processes that direct behavior (Michie et al., 2011). Nearly half of PCPs in this study reported feeling discomfort when delivering “bad news” of a dementia diagnosis. This is a common finding in the literature, which reports both patients and providers feel stigma relating to dementia, delaying patients’ reports of cognitive concerns and providers’ disclosure of diagnosis (Judge et al., 2019; Wollney et al., 2022). Common provider-level barriers to disclosing a diagnosis included diagnostic uncertainty, difficulty communicating prognosis, lack of training on how to disclose a dementia diagnosis, and fear of causing patients/care partners emotional distress (Wollney et al., 2022).

Patient-level barriers to disclosing cognitive symptoms included fear of losing independence, denial of symptoms, and belief that cognitive impairment is a normal part of aging (Judge et al., 2018; Wollney et al., 2022). This finding is an important area of *motivation* because a vital first step in early detection of dementia is initiating a conversation about cognition between patients, care partners, and providers. Providers may benefit from educational interventions to improve the frequency and quality of dementia disclosure. Recommendations include building rapport with patients/caregivers, using empathic communication, educating patients about dementia, using a family-centered approach, and following up (Wollney et al., 2022).

In addition, nearly half of PCPs in this study reported feeling cognitive impairment can be adequately assessed through history and observation. This finding is important because it may impact PCPs *motivation* to use objective cognitive testing for detection of NCDs. Although there is not a widely adopted guideline for cognitive screenings, many authorities and professional organizations (Alzheimer’s Association, National Institute on Aging, and the Gerontological Society of America) report cognitive testing is an important part of NCD evaluations, especially since clinical judgment has shown to be insufficient in assessing cognitive decline (Albert et al., 2011; Cordell et al., 2013; Galvin & Sadowsky, 2012; Perry et al., 2018).

The current study led to a number of implications to consider when developing an evidence-based protocol within this healthcare organization. This study highlighted the importance of assessing providers’ perspectives within different organizations because each one is unique, as demonstrated by the similarities and differences found in the literature and this study’s findings. Although the literature reported that PCPs often have low confidence in managing dementia and identifying MCI, this sample of PCPs reported differing perspectives, including high confidence in these areas. PCPs reported insufficient time and lack of access to a dementia clinical team impacted their ability to evaluate patients’ cognition. In addition, they reported feeling patients could be adequately cared for without receiving a formal diagnosis of dementia, and reported discomfort in disclosing this diagnosis. These findings can help guide this organization’s efforts for developing a protocol to achieve early detection of dementia.

Role of the Advanced Practice Registered Nurse

As the number of individuals affected by dementia continues to rise, advanced practice registered nurses (APRNs) have a vital role in delivering care and meeting increased demands for a dementia capable workforce (Poghosyan et al., 2021). APRNs can be pivotal in delivering evidence-based care for diverse communities with complex health needs affected by dementia and their care partners (Reuben & Fulmer, 2021). APRNs have demonstrated they are well positioned to manage dementia (Poghosyan et al., 2021). The current study highlighted important areas for APRNs to focus on when developing evidence-based protocols and policies for dementia care. For example, APRNs may increase awareness of the importance of a formal dementia diagnosis and provide strategies for decreasing stigma relating to dementia. This study identified areas of improvement for APRNs to focus on in developing approaches to early detection of cognitive decline and optimal dementia care in primary care settings.

Limitations

A limitation of this study is the provider survey was only administered in one healthcare system. Therefore, it is unknown if these findings are representative of other PCPs. The study had a small sample size of 20 participants. This study was not designed to verify the actions of providers as reported in the survey, although future research can explore and substantiate providers’ current practices.

Conclusions

This DNP quality improvement project aimed to obtain PCPs' perspectives for implementing a cognitive screening protocol among older adults. An important finding in developing a future quality improvement program is to address the identified barriers for diagnosing dementia. Rates of NCDs are expected to continue rising among older adults, along with the demand for a dementia-capable workforce. PCPs can play a vital role in early detection of cognitive decline and diagnosis of dementia, but patient, provider, and organizational barriers in delivering dementia care must be addressed.

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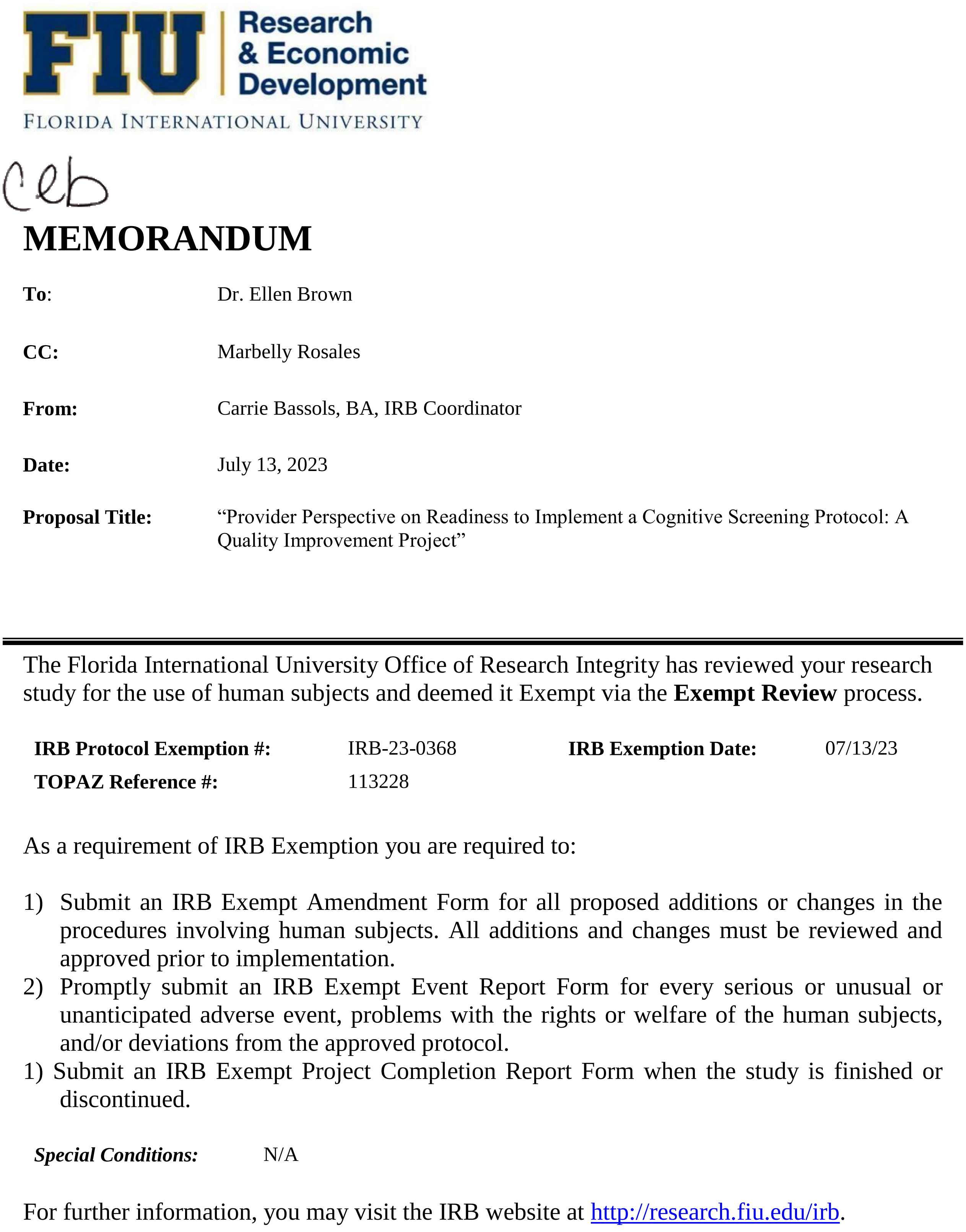
Appendix A: Institutional Review Board Letter of Approval



FIU Research & Economic Development
FLORIDA INTERNATIONAL UNIVERSITY

ceb

MEMORANDUM

To: Dr. Ellen Brown

CC: Marbelly Rosales

From: Carrie Bassols, BA, IRB Coordinator

Date: July 13, 2023

Proposal Title: “Provider Perspective on Readiness to Implement a Cognitive Screening Protocol: A Quality Improvement Project”

The Florida International University Office of Research Integrity has reviewed your research study for the use of human subjects and deemed it Exempt via the **Exempt Review** process.

IRB Protocol Exemption #: IRB-23-0368 **IRB Exemption Date:** 07/13/23
TOPAZ Reference #: 113228

As a requirement of IRB Exemption you are required to:

1) Submit an IRB Exempt Amendment Form for all proposed additions or changes in the procedures involving human subjects. All additions and changes must be reviewed and approved prior to implementation.
2) Promptly submit an IRB Exempt Event Report Form for every serious or unusual or unanticipated adverse event, problems with the rights or welfare of the human subjects, and/or deviations from the approved protocol.
1) Submit an IRB Exempt Project Completion Report Form when the study is finished or discontinued.

Special Conditions: N/A

For further information, you may visit the IRB website at http://research.fiu.edu/irb.

Appendix B: Informational Letter

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INFORMATIONAL LETTER

Provider Perspective on Readiness to Implement a Cognitive Screening Protocol

Hello, my name is Marbelly Rosales. You have been chosen to be in a research study regarding cognitive screenings among older adults age 65 years and older. The purpose of this study is to explore primary care providers' readiness for implementing a cognitive screening protocol. This study is being administered in 8 medical centers. If you decide to be in this study, you will be one of 22 providers eligible to participate. Participation in this survey will take 8-10 minutes, and you are allotted a 30 minute time frame to enjoy your lunch while reviewing this letter and completing the survey. If you agree to be in the study, I will ask you to do the following things:

1. Read this informational letter which delineates voluntary and anonymous participation in this study.

2. Complete a paper survey, seal the survey inside an envelope, and deposit the envelope inside a designated box.

There are no foreseeable risks or benefits to you for participating in this study. It is expected that this study will benefit society by assessing the perspectives of providers for implementing cognitive screenings among older adults, to enhance support for providers in early detection of dementia and improve quality of care.

There is no cost or payment to you, although a meal is being provided as a form of compensation for attending this meeting. Lunch is provided regardless of your participation in completing this survey. If you have questions while completing this survey, please stop me and ask.

You will remain anonymous, and your answers are confidential. Researchers will be unable to link an individual participant to their survey responses and will be unable to determine who participated.

If you have questions for one of the researchers conducting this study, you may contact Dr. Ellen Brown, FIU Faculty, at 917-204-5493, or Marbelly Rosales, DNP student, at 786-417-1729.

If you would like to talk with someone about your rights of being a subject in this research study or about ethical issues with this research study, you may contact the FIU Office of Research Integrity by phone at 305-348-2494 or by email at ori@fiu.edu.

Your participation in this research is voluntary, and you will not be penalized or lose benefits if you refuse to participate or decide to stop. You may keep a copy of this form for your records.

Appendix C: Provider Survey

This survey will take approximately 8-10 minutes to complete. Please respond to each item with one response, except items indicating "*select all that apply*." If there is an item you prefer not to answer, you may skip it or stop the survey at any time. Once you have finished the survey, please insert the survey into the envelope, seal it, and deposit the envelope in a designated box within the medical center.

Demographic Information

1. What is your title?

- MD
- APRN
- PA
- Prefer not to answer
- Other (please specify): ____

2. How many years have you been practicing as a Primary Care Provider? *(Fill in the blank)*

____

3. How many years have you been working with older adults aged 65 years and older? *(Fill in the blank)*

____

Domain #1: Behaviors/ Current Practices

4. During a typical month, how many patients do you see aged 65 years and older? *(Fill in the blank)*

____

5. During a typical month, how many patients do you newly diagnose with Mild Cognitive Impairment (MCI)? *(Fill in the blank)*

____

6. Which of the below reasons would prompt you to do a cognitive assessment? *(Select all that apply)*

- Patient expresses concern
- Family member expresses concern
- You notice cognitive changes in your patient
- Medicare Wellness visit or Health Risk Assessment
- You have knowledge there is a family history of dementia
- It is your style to assess cognition in patients aged 65 and older even if they do not have symptoms
- Other (please specify): ____

7. What does your typical dementia workup include? *(Select all that apply)*

- Lab tests
- Imaging (MRI)
- Cognitive testing using a cognitive assessment tool such as Mini-cog or Saint Louis University Mental Status Exam (SLUMS)
- Patient interview not using a cognitive assessment tool
- Informant or family member interview
- Neuropsychological testing
- Functional assessment
- Other (please specify): ____

8. Which of the following increase your likelihood of referring a patient to a dementia specialist? *(Select all that apply)*

- Possible atypical dementia syndrome
- Patient has mild symptoms
- Patient has severe symptoms
- Patient has complex social care needs
- Patient has comorbidities/other medical conditions that require more of my attention
- Patient or family request a referral
- Other (please specify): ____

9. Of your patients who you suspect may have undiagnosed cognitive impairment, what percentage do you refer for a dementia specialty workup (ex: neurology and/or neuropsychology)? (*Please select **one** answer)*

- none of my patients
- less than 25% of my patients
- 25-50% of my patients
- 50-75% of my patients
- greater than 75% of my patients

Domain #2: Attitudes/ Beliefs/ Motivations

*For the following questions please **circle** your rating on the scale ranging from 1 through 4.*

10. Do you feel comfortable evaluating and managing a patient with dementia?

1- Not Comfortable	2- Somewhat Comfortable	3- Comfortable	4- Very Comfortable

11. How useful do you find standardized cognitive screening tools, such as Mini-Cog or SLUMS, to evaluate a patient with cognitive symptoms?

1- Not Useful	2- Somewhat Useful	3- Useful	4- Very Useful

12. Does the availability of disease modifying drugs, such as Aduhelm that was approved by the FDA in 2021, make it more important for you to diagnose cognitive impairment, including dementia?

1- Not Important	2- Somewhat Important	3- Important	4- Very Important

13. I can provide appropriate care to a patient with cognitive impairment without providing a diagnosis of dementia.

1- Strongly Disagree	2- Disagree	3- Agree	4- Strongly Agree

14. I feel cognitive impairment is adequately assessed through history and observation during the clinical interview; cognitive screening tools typically do not change my original diagnosis.

1- Strongly Disagree	2- Disagree	3- Agree	4- Strongly Agree

15. Would you evaluate more patients for dementia if you felt confident that you had access to a dementia clinical team?

1- Strongly Disagree	2- Disagree	3- Agree	4- Strongly Agree

Domain #3: Confidence

16. How confident are you in your ability to correctly detect when a patient has Mild Cognitive Impairment (MCI) as opposed to normal aging?

1- Not Confident	2- Somewhat Confident	3- Confident	4- Very Confident

17. How confident are you in educating patients and caregivers about cognitive impairment, dementia management and care, and connecting them with community-based resources?

1- Not Confident	2- Somewhat Confident	3- Confident	4- Very Confident

18. How confident are you in managing the specific needs of patients with dementia who have other competing comorbidities, such as diabetes and hypertension?

1- Not Confident	2- Somewhat Confident	3- Confident	4- Very Confident

Domain #4: Barriers

19. I have insufficient time with most of my patients that have multiple chronic conditions taking a higher priority than the evaluation and diagnosis of dementia.

1- Strongly Disagree	2- Disagree	3- Agree	4- Strongly Agree

20. I feel discomfort delivering “bad news” of a dementia diagnosis since often patients and caregivers fear the stigma of this diagnosis.

1- Strongly Disagree	2- Disagree	3- Agree	4- Strongly Agree

Appendix D: Invitation for Providers

Dear Providers,

There will be a lunch hour meeting scheduled on (date and time) in the (location i.e., break room, wellness center). This meeting will be held by Dr. Pablo Alonso and Doctor of Nursing Practice students from Florida International University, Annu Joshi and Marbelly Rosales. The purpose of this meeting is to invite you to have lunch and obtain information regarding participation in completing survey items. These survey items are focused on obtaining primary care providers’ perspectives for implementing cognitive screenings among older adults and utilization of waiting rooms for dementia education. Participation is voluntary and anonymous, and lunch will be provided regardless of your participation. We look forward to seeing you and informing you about this quality improvement project.

Appendix E: Literature Matrix

First Author/ Year/ Location	Purpose/ Problem/ Objective/ Aims	Study Design	Setting/Sample	Data Collection Measures	Results	Strengths/ Limitations	Relationship to Project
Bernstein et al., 2019 Location: United States	To identify and compare perspectives of PCPs and neurologists regarding the evaluation and management of NCDs	Quantitative Cross-sectional online survey	Subjects recruited from a national database of providers in the United States Sample included 100 PCPs and 50 neurologists.	Survey measured providers' confidence, attitudes, and behaviors related to diagnosing and managing NCDs.	Key findings: PCPs reported low confidence in recognizing symptoms of NCDs, referred most patients with cognitive changes to specialists, and primarily relied on history and exam to assess cognition rather than using standardized diagnostic tools.	Strength: Study was guided by the Behavior Change Wheel framework Limitations: Generalizability of results is limited; sample bias.	Evaluated attitudes and behaviors of PCPs and neurologists regarding the evaluation and management of NCDs in primary care settings Provider survey modified to administer in DNP project
Giezendanner et al., 2019 Location: Switzerland	To identify primary care providers' attitudes toward early recognition of dementia and related enablers and barriers to early diagnosis	Quantitative Cross-sectional postal survey	Subjects recruited from the Swiss Association of General Practitioners and Pediatricians Sample included 882 PCPs.	Survey assessed PCPs attitudes about dementia, barriers/enablers to early diagnosis, usual post-diagnostic interventions, and usual management of a patient newly diagnosed with dementia.	Key Findings: PCPs negative attitudes related to dementia were associated with suboptimal management and greater use of a "watchful waiting" approach. PCPs felt dementia was not a clinically actionable diagnosis and felt pharmaceutical options do not have a positive impact on the course of disease.	Limitations: Low survey response rate of 21% may impact generalizability of results and selection bias	Evaluated PCPs' perceptions of early recognition of dementia, and related barriers/enablers Identified the relationship between providers' attitudes and management of patients with dementia

Judge et al., 2019 Location: Multi-country study (Europe, United States, Canada)	To evaluate and compare perceptions of physicians and specialists regarding barriers to diagnosing Alzheimer's disease (AD) and mild cognitive impairment (MCI)	Quantitative Cross-sectional online survey	Subjects were recruited from a preexisting list of practitioners who had agreed to participate in research. Sample included 1365 PCPs and specialists.	Survey asked participants to identify barriers that affect diagnosis from a prespecified list of diagnostic challenges identified via literature review and pilot study; barriers were categorized into patient-related barriers, physician related, setting related, and barriers related to the clinical profile of AD.	Key findings: Patient related barriers included belief that cognitive impairment is normal due to aging and stigma related to dementia. Physician related barriers included fear of making an inaccurate diagnosis, and difficulty differentiating MCI from normal age-related cognitive decline. Setting related barriers included long waiting lists and time constraints. Clinical profile barriers included lack of biomarker tests and erroneous belief that there is minimal benefit to early diagnosis due to limited treatments.	Strength: Large sample size from different countries Limitation: Pre-selected list of barriers may restrict identification of other barriers	Identified providers' perceptions of barriers to early diagnosis of AD and MCI Reaffirmed barriers to early diagnosis that were previously identified in the literature; concluded these barriers affect both PCPs and specialists from multiple countries
Lee et al., 2020 Location: Canada	To assess PCPs' perceptions of challenges related to dementia care and their learning needs.	Quantitative Pre and post online surveys	Subjects recruited from providers participating in a memory clinic training program held in various locations across Ontario. Sample included 1008 multi-disciplinary providers (physicians, nurses, social workers) and 292 family physicians.	Surveys completed before and after a 5-day dementia education program or a 3-hour continuing education workshop. Survey asked participants to rate the level of difficulty in completing certain dementia related activities.	Many providers reported feeling "somewhat prepared" for dementia care. Lower ratings of preparedness for dementia care were associated with higher ratings of challenges experienced in providing dementia care. Providers felt their formal education did not adequately prepare them to manage dementia.	Limitations: Selection bias impacting the generalizability of findings	Evaluated providers' perceptions of challenges in providing dementia care. Evaluated providers' level of preparedness in managing dementia and their interest in learning about dementia-related topics

Bandini et al., 2022 Location: United States	To evaluate patient, caregiver, and provider perspectives on routine cognitive screening among older adults in primary care using a self-assessment tool	Qualitative 3 virtual focus groups with patients ≥ 65 years old and 1 focus group dementia caregivers Semi-structured interviews with primary care providers (PCPs)	Subjects recruited from the University of Pittsburgh Medical Center and via a national internal medicine society. Sample included 18 patients ≥ 65 years old, 5 dementia caregivers, and 11 PCPs.	Focus groups assessed patients' comfort discussing memory issues and caregivers' past experiences with their family members affected by dementia; Interviews assessed PCPs usual cognitive screening practices.	Key findings: Patients reported low rates of formal cognitive screenings and variability in the screening process. Caregivers reported delays in their family members obtaining a dementia diagnosis. PCPs reported they do not routinely screen for CI outside of the Medicare Annual Wellness visit, absence of a standardized screening method, and time constraints in primary care.	Strength: PCPs were from different regions/ institutions and had varying years of experience Limitations: Patients and caregivers recruited from one institution; sample bias among providers.	Evaluated current cognitive impairment screening practices and related barriers among PCPs; and identified PCPs willingness to use a self-administered screening tool in their practice
Blaire et al., 2022 Location: United States	To assess providers' perceptions regarding identification of mild cognitive impairment (MCI), dementia awareness, and MCI training/ education.	Qualitative Semi-structured interviews (In person and virtual)	Subjects were recruited from multiple hospitals and private practices in Michigan. Sample included 22 physicians	Interviews assessed providers' practices diagnosing MCI, knowledge of MCI, and its effect on their recommendations for stroke and MI treatment.	2 major themes identified: Providers lack understanding in differentiating MCI and dementia. Variability in providers' assessment and identification of MCI	Strengths: Diverse group of subjects recruited from a variety of settings Limitations: Small sample size and did not assess perspectives of all specialists who usually care for patients with MCI	Evaluated physicians' understanding of MCI, their usual practices when identifying MCI, and their perspectives on MCI and dementia training
Wollney et al., 2022 Location: United States	To identify providers' perceptions of barriers to disclosing a dementia diagnosis	Qualitative Semi-structured interviews	Subjects recruited from three Florida study sites, Florida memory clinics, and via advertisements through the Florida Medical Association and Dementia Care and Cure Initiative task force. Sample included 15 providers from multiple specialties.	Semi-structured telephone interviews assessed providers' usual practices when disclosing a dementia diagnosis.	Key Findings: Patient caregiver barriers included misunderstanding or denial of a dementia diagnosis and lack of social support. Provider barriers included difficulty delivering "bad news" of a dementia diagnosis and lack of time. Triadic barriers (patient,	Strengths: Sample with varying experience and diverse backgrounds Limitations: Subjects only recruited in Florida, although theme findings were consistent with other studies.	Evaluated providers' perceptions for barriers to disclosing a dementia diagnosis; and identified recommended solutions Applicable toward study as non-disclosure of diagnosis acts as a barrier toward early interventions, treatment, and management options for patients and families affected by NCDs.

					caregiver, and provider) included difficulty managing patient needs and competing priorities; and requests of non-disclosure by caregivers.		
Harmand et al., 2018 Location: France	To describe usual practices of PCPs when assessing dementia and cognitive impairment (CI)	Mixed methods Telephone interviews/ postal questionnaire	Subjects recruited from three ancillary studies that recruited PCPs from Bordeaux, Dijon and Montpellier. Sample consisted of 102 PCPs.	Interviews assessed PCPs usual practices and confidence in assessing CI and managing dementia patients. Objective knowledge of dementia was assessed using the Alzheimer's Disease Knowledge Scale (ADKS)	Key Findings: PCPs reported high confidence in managing dementia. PCPs primarily relied on the clinical interview to assess CI. PCPs were satisfied with their knowledge of dementia, however, the mean ADKS score was 14.8 out of 30 points.	Strengths: Large sample from rural and urban areas; and used comprehensive questionnaire Limitation: High rate of missing values for ADKS questionnaire	Evaluated usual practices of PCPs when managing patients with dementia and related barriers to diagnosis. Evaluated providers' objective knowledge of dementia.
Rosenbloom et al., 2018 Location: United States	To evaluate the effect of a positive cognitive screening on the actions of primary and specialty care providers and its impact on healthcare utilization.	Quality improvement Data extracted from electronic health record (EHR)/ Outcomes included Mini-Cog positive screen rates, provider follow up actions, and healthcare utilization for patients	Subjects recruited from HealthPartners, a healthcare system in Minnesota and Wisconsin. Sample included 787 patients ≥ 65 years old with no past medical history of cognitive impairment.	Participants received a Mini-Cog screen, and scores were reported to providers. Providers' actions were captured via the EHR to evaluate the impact of a positive screen on providers' practices and interventions.	Only 32% of patients who screened positive on the Mini-Cog received a dementia relevant follow-up action by providers. Positive cognitive screening alone did not lead to significant changes in provider actions. Healthcare utilization among individuals who screened positive increased when compared to those who screened negative.	Limitations: Study did not evaluate reasons behind providers' actions and did not assess providers' referrals to community resources. Study did not assess the impact of patients' co-morbidities on healthcare utilization.	Evaluated the impact of positive cognitive impairment screenings on providers' actions. Highlighted the variability in providers' actions and the need for standardized guidelines to manage patients with NCDs.