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**Retrospective Evaluation of Depression Screening Process Among Older Adult Patients in
Primary Care for Quality Improvement**

by

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Paper submitted in partial fulfillment of the
requirements for the degree of

Doctor of Nursing Practice

School of Nursing, University of Louisville

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Abstract

Background: Depression is not a normal process of aging; it is a diagnosable and treatable medical condition. The US Preventive Services Task Force (USPSTF) recommends that older adults be screened for depression annually.

Aim: The purpose of this evidence-based practice (EBP) project was to evaluate the depression screening process for older adults (age 65+) in a primary health care setting and provide recommendations to the primary health care clinic for improving it.

Methods: This EBP project involved collecting retrospective data from August to October 2022, including aggregate data (demographics), from all older adults who were seen in a primary health care clinic over a 3-month period, and individual data (demographics, diagnoses, chief complaint, PHQ-9 score, and what happened as a result of the screening) via medical records review.

Analysis: Descriptive statistics were conducted to: 1) describe the sample; 2) determine the percentage of older adults screened for depression (via PHQ-9); and 3) describe the outcomes associated with the screening.

Findings: The clinic reported a total of 702 encounters with older adults. Two (2) patients were screened for depression during their visit with the primary care provider (PCP). Approximately 54% of the older adult patients had completed a depression screening in the last year.

Conclusions: Key steps to ensure depression screening that meets EBP recommendations include: 1) policy development for depression screening; 2) education on depression, screening, tools, and execution; 3) and policy promotion.

Keywords: older adults, geriatrics, aged, depression, depression screening, patient health questionnaire, primary health care, collaborate care

Background

Depression is not a normal process of aging. It is, however, a treatable medical condition.

Depression is fundamentally characterized by feelings of sadness or a loss of interest or pleasure in all or almost all activities (termed anhedonia) that persists every day or nearly every day for a 2-week time period (American Psychiatric Association [APA], 2013). Other symptoms often accompany the feelings of sadness or loss of interest. These include significant weight change (loss or gain), change in appetite (loss or gain), change in sleep (insomnia or excessive sleep), feeling of restlessness or being slowed down, fatigue, feelings of worthlessness or of excessive guilt, an inability to concentrate or make decisions, and/or thoughts of death or suicide (APA, 2013). Physical symptoms, such as aches and pains, headaches, cramps, or digestive problems without a known source or that do not subside with treatment can be symptoms of depression (National Institute of Mental Health [NIMH], n.d.).

Undeniably, the COVID pandemic has impacted mental health across all ages, including older adults. Among older adults (age 65 and over), one in four (24%) reported anxiety or depression in August 2020, a consistent percentage increase since the beginning of the pandemic in March 2020 (Koma et al., 2020). In contrast, in 2018, one in 10 (11%) of older adults reported depression or anxiety (Koma et al., 2020). Looking even further back, between the years 1998 and 2014, the percent of adults 51 years and over who reported depressive symptoms remained stable at 11-12% for men and 16-19% for women (Federal Interagency Forum on Aging-Related Statistics, 2016). The proportion of younger older adults (ages 51-54; 17%) and older adults (age 80 and over; 15-16%) was higher than for ages in the middle older adults (65-79; 10-13%) (Federal Interagency Forum on Aging-Related Statistics, 2016). In fact, men 85 and over reported depressive symptoms almost twice that of men in their 70s; 14% and 8%, respectively (Federal Interagency Forum on Aging-Related Statistics, 2016). The trend is U-shaped among women, with higher rates among women ages 51-54 and 80-84 (21% and 19% respectively) (Federal Interagency Forum on Aging-Related Statistics, 2016). This trend can be explained by

transitional periods in a woman's lifespan, which can include social isolation, loneliness, and a lack of connection (Gonzalez, 2020). Examples of these events include the change to an "empty nest" as children begin adult lives, becoming a caregiver to a parent or spouse, widowhood, financial loss, and arising medical concerns and decline in physical health (Gonzalez, 2020).

The US Preventive Services Task Force (USPSTF) endorses screening for depression in the general adult population (Siu et al., 2016). Though the USPSTF does not make any recommendations on timing or frequency of depression screening, "the Centers for Medicare and Medicaid Services (CMS) covers annual screening for depression for Medicare beneficiaries in primary care settings" (Jacques, Jensen, Schafer, Caplan, Schott, 2011, p. 1). Only about half of depression in older adult patients is recognized by their primary care physicians (Seematter-Bagnoud & Büla, 2018). This is partially due to the presentation of depression symptoms in older adults, which may include more somatic/physical symptoms (Mojtabai, 2014). Older people are especially at risk for exposure to risk factors for depression which include health problems, sensory impairment, cognitive impairment, adverse life events, bereavement due to loss of family and friends and/or loss of independence, and social isolation (Seematter-Bagnoud & Büla, 2018).

If left unrecognized and untreated, depression can lead to suicide. It is a consistent finding that persons with mental health concerns often seek out services with primary care first rather than from mental health professionals (Luoma et al., 2002). Rates of contact prior to suicide are much higher for primary care providers than for mental health providers (Luoma et al., 2002). An average of 58% of older adults age 55+ had contact with primary care providers within 1 month of suicide; 77% had contact with primary care providers in the year preceding suicide. (Luoma et al., 2002). These average percentages are significantly greater than those age 35 and younger (Luoma et al., 2002). Comparing women and men who complete suicide, 100% of women and 78% of men had contact with a primary care provider within 1 year of suicide (Luoma et al., 2002). Hence, interventions involving primary care professionals

have the potential to improve depressive symptoms and affect suicide rates for older adults (Luoma et al., 2002).

Literature Review

The MeSH terms string used to identify relevant research studies were: (((("Aged"[Mesh] OR "Aged, 80 and over"[Mesh]) AND ("Primary Health Care"[Mesh] OR "Physicians, Primary Care"[Mesh])) AND ("Depression"[Mesh] OR "Depressive Disorder"[Mesh])) AND "Patient Health Questionnaire"[Mesh]). Additionally, articles were filtered by including only the last five years and in English. A total of 20 articles were identified in PubMed. An abstract review was performed of the 20 articles. Articles were excluded if the setting was a specialty area other than primary health care and if the primary focus was on a comorbid condition other than depression, resulting in two (2) articles to review (Bonvoisin et al. (2020); Renn et al. (2021)). The reference lists were then reviewed of the two (2) included articles to discover four (4) other relevant works (Bruce et al., 2004; Haigh et al., 2018; Kroenke & Unutzer 2017; Morichi et al., 2015). The PsychInfo database was also searched using the Boolean/phrase ((older adults or elderly or geriatric or geriatrics or aging or senior or seniors or older people or aged 65 or 65+) AND (depression screening in primary care)), resulting in 19 articles. The four dissertation/thesis works were excluded, leaving 15 to review. Among these 15 articles, articles were excluded if the primary focus was on another diagnosis (e.g., physical or mental, rather than depression) or utilized a different screening tool other than the Patient Health Questionnaire (PHQ) or Geriatric Depression Scale (GDS). The remaining articles' abstracts were reviewed and five (5) were included for review (Akincigil & Matthews 2017; Cheung et al., 2017; Gorman et al., 2021; Okolie et al., 2017; Shah et al., 2017). Upon review of the reference lists, two (2) additional articles were identified for review (Siu & US Preventive Services Task Force, 2016; Yesavage et al., 1982). There were a total of 13 articles included in this literature review.

Screening for depression is recommended as part of a routine primary care appointment (Akincigil & Matthews, 2017). However, the overall depression screening rate in 2012-2013 was only 4.2% (Akincigil & Matthews, 2017). When depression screening took place, a diagnosis of depression was made in 47% of routine visits (Akincigil & Matthews, 2017). Primary care is a key clinical area for recognizing and beginning treatment for depression among older adults as primary care providers are often the first point of contact for health issues (Sanchez et al., 2014; Sanchez et al., 2012). According to Siu and the U.S. Preventive Services Task Force (USPSTF), screening should be implemented in a system that can provide effective treatment and follow-up (Siu & the USPSTF, 2016). This means the systems should be able to initiate medical treatment/therapy and/or make appropriate referrals (to community resources, specialists, and/or therapists). In 2010, 60% of visits to psychiatrists and primary care providers (PCPs) made by adult patients (ages 18 and older) resulted in a mental health diagnosis (Kroenke & Unutzer, 2017). Of the visits that resulted in a psychotropic medication prescription, 77% were by a primary care provider (PCP) (Kroenke & Unutzer, 2017). Approximately 73% of patients were treated for depression exclusively in primary care clinics, compared with 24% by psychiatrists, and 13% by other mental health professionals (Kroenke & Unutzer, 2017). Interestingly, only 3% of PCP encounters are coded for a primary diagnosis of depression, compared with 41% of psychiatry visits (Kroenke & Unutzer, 2017). Cherry et al. (2018) found that among all adult age groups, except those 65 and over, mental health-related office visit rates to psychiatrists were higher than the rate to PCPs. For adults aged 65 and over, there was no significant difference in the rates of psychiatrist versus PCP visits for mental health-related appointments (Cherry et al., 2018). Older adults are more likely to use Medicare and consequently are as likely to visit a PCP as they are a psychiatrist when it comes to mental health-related issues/concerns (Cherry et al., 2018). There was also no significant difference seen between the rates of mental health-related office visits to psychiatrists and to PCPs in medium to small metropolitan areas and rural areas (Cherry et al., 2018). This is indicative of a greater supply of and

access to PCPs compared with psychiatrists in rural regions (Cherry et al., 2018). According to Kroenke and Unutzer (2017), possible explanations for the lower rate of office visits to psychiatrists may be the shortage of mental health specialists and the hesitancy of older patients to accept a mental health referral, thus recognizing an important role for PCPs in identifying, diagnosing, and treating mental health disorders, such as depression, among the older adult population.

Kroenke and Unutzer (2017) identified six barriers PCPs face when integrating mental health care in the primary care setting: insufficient training and/or interest among PCPs in treating mental disorders, briefness of primary care visits, competing demands of providing preventive care and treating comorbid conditions, complicated and complex reimbursement systems for treating health conditions, concerns related to confidentiality and limited sharing of office visit documentation/notes, and disagreements among mental health specialists on which primary care providers should integrate behavioral health into their practice and the roles of these providers. The Centers for Medicare and Medicaid Services (CMS) recognize only psychiatrists as the mental health professional participating in an integrated setting/accountable care organization (ACO), excluding social workers, psychologists, and other health professionals who may have roles as care managers and behavioral health consultants (Kroenke & Unutzer, 2017). Of the 65 quality measures proposed for ACOs, only one pertains to mental health care (depression screening) (Kroenke & Unutzer, 2017). Also, there are no performance incentives or standard billing codes for the collaborate care components such as decision support, measure-based care, or registry maintenance (Kroenke & Unutzer, 2017). Key components to effective integration include population-based care (a systems-wide effort to identify all patients with a specific disease, providing appropriate treatment, and tracking outcomes), measurement-based care (for mental disorders, using patient-reported outcomes (PROs) as a measure to guide treatment/therapy), treatment to target (using regular monitoring of a disorder's severity to change or supplement treatment based on target thresholds), care management, psychiatric consultation, and brief

psychological therapies (Kroenke & Unutzer, 2017). Sanchez et al. (2014) found that a successful implementation of collaborative care required adequate training and preparation, acceptance and support from key staff personnel and providers, overcoming communication barriers, tools for systematic follow-up and measurement, and organizational stability (regarding the amount of organizational change that is occurring; including leadership/staff/provider turnover, changes with medical record keeping, and other program changes).

Collaborative care has been highlighted as a method to proactively treat and manage mental health disorders (particularly anxiety and depression) in primary care setting that involves integrating care managers, consultant psychiatrists, and PCPs (Sanchez et al., 2014). The CASPER and CASPER plus studies were multi-centered randomized controlled trials aimed at proving clinical effectiveness and cost-effectiveness of collaborative care in primary care for older adults who screened positive for subthreshold depression or major depressive disorder, respectively (Bosanquet et al., 2017; Lewis et al., 2017). In the CASPER trial, the intervention consisted of six sessions of low-intensity behavioral activation, a brief intervention to address the behavioral deficits of depression (e.g., avoidance of social interaction or the absence of rewarding activities), provided by a case manager over 7-8 weeks along with usual primary care (Lewis et al., 2017). The older adults in the study were screened using the PHQ-9 (Lewis et al., 2017). The CASPER study found that PHQ-9 scores at 4- and 12-month follow-ups were reduced with a collaborative care intervention compared to usual care (Lewis et al., 2017). Also, at 12 months, collaborative care prevented the onset of depression diagnosis by 12.1% (Lewis et al., 2017).

A collaborate care model (CoCM) outcomes study by Renn et al. (2021) compared outcomes of younger adults and older adults in rural primary care setting. The outcome was a change in the PHQ-9 score from first to last encounter (Renn et al., 2021). Key components of CoCM were implemented, including universal or targeted screening for depression, use of care managers and psychiatric consultants, first follow-up patient contact within four weeks of treatment initiation, and treatment-to-

target to improve and maintain outcomes (Renn et al., 2021). The clinical staff did not receive specialized training in geriatrics or the mental health of older adults; however, a psychiatric specialist was part of the treatment team (Renn et al., 2021). From initial to last PHQ-9 score, older adults had a clinically significant improvement (8.0 points) (Renn et al., 2021). With complex and chronic presentations of medical and mental health comorbidities, older adults often received more treatment, approximately one more follow-up visit and five (5) weeks longer treatment duration (Renn et al., 2021). However, this reflected the flexibility and patient-first benefit of a collaborate care model (Renn et al., 2021).

Importantly, depression is not a natural part of the aging process and mental health treatments are effective for older adults (Blazer, 1997; Renn et al., 2021). However, concomitant cognitive decline can make diagnosis of depression more difficult (Morichi et al., 2018). Older adults report functional impairment with subclinical depression, similar to MDD (Haigh et al., 2018). Depression later in life can often look different with an atypical presentation (characterized by more somatic symptoms) and frequently has a more chronic course (Blazer, 1997; Haigh et al., 2018; Morichi et al., 2015). Though older adults respond to psychological treatment; antidepressants may be less efficacious (Blazer, 1997; Haigh et al., 2018). Other reasons for undertreatment of depressions in older adults are multimorbidity, a concern about adverse events and drug interactions, lack of assurance in efficacy and safety of pharmacological and nonpharmacological treatments [because depressed older adults are not often included in clinical trials] (Morichi et al., 2015).

According to survey responses, 93.6% of older adults were willing to complete a depression screen at their doctor's office (Shah et al., 2017). In fact, over half of the older adults in the Shah et al. (2017) study reported being open to completing a depression screen at every visit. Ninety-two percent felt like depression screening was valuable to their health (Shah et al., 2017). It was found that a pamphlet (or some other form of education) providing education on the value of depression screening

prior to the screening process increased willingness to participate in screening ($F(1, 134) = 4.47$, $p = 0.04$) (Shah et al., 2017).

Screening Tools

Within the literature, several depression screening tools have been examined that would be of appropriate use for older adults seen in a primary care setting. Of particular note and chiefly useful in assessing for depression among older adults are the Patient Health Questionnaire (PHQ) and the Geriatric Depression Scale (GDS). Both the PHQ and the GDS have short- and long-forms, including the PHQ-2 and GDS₅ to the PHQ-9 and GDS₃₀, respectively.

The PHQ is a self-administered depression module from the PRIME-MD, which is a diagnostic instrument for common mental disorders (Kroenke et al., 2001). The PHQ-9 addresses each of the nine DSM-IV criteria for depression, scoring each criterion with a score of “0” (not at all) to “3” (nearly every day) and tallying the criterion scores for a total score (Kroenke et al., 2001) (see Appendix A). A cut-off [total] score of PHQ-9 ≥ 10 had a sensitivity and specificity of 88% for major depression (Kroenke et al., 2001). The PHQ-9 differentiates well between persons with and without major depression as evidenced by the area under the curve at 0.95 (Kroenke et al., 2001). Mild, moderate, moderately severe, and severe depression were characterized by PHQ-9 scores of 5, 10, 15, and 20, respectively (Kroenke et al., 2001). The study establishes the PHQ-9 to also be effective in measuring severity of depression, which can aid in monitoring outcomes of depression therapy (Kroenke et al., 2001). With a Cronbach’s α of 0.89 in primary care, the PHQ-9 demonstrated excellent internal reliability (Kroenke et al., 2001). Also, the correlation between the PHQ-9 completed by the patient in the clinic and that administered by the mental health professional via telephone within 48 hours was 0.84, nearly identical to each other (Kroenke et al., 2001). While the time it took for a provider to review the PHQ-9 was not directly measured, it can be extrapolated that it would take less than a minute based on the three (3) minutes it

takes to review the full 3-page PHQ (Kroenke et al., 2001). Negeri et al. (2020) found in a systematic review and meta-analysis of the accuracy for screening for major depression using the PHQ-9 with a cut-off of ≥ 10 that the sensitivity and specificity were both 85%.

The Patient Health Questionnaire-2 (PHQ-2) is a 2 item, self-administered questionnaire, inquiring about frequency of depressed mood and anhedonia over the last two weeks, which are the first two items of the PHQ-9 (Kroenke et al., 2003). The PHQ-2 is scored similarly to the PHQ-9, with a "0" (not at all) and "3" (nearly every day) for the two-items and then tallied (Kroenke et al., 2003). A PHQ-2 score of ≥ 3 had a sensitivity and specificity of 83% and 92%, respectively, for major depression (Kroenke et al., 2003). Arroll et al. (2010) found the sensitivity and specificity of the PHQ-2 (with a score of 2 or greater) and PHQ-9 (with a score of 10 or greater) for diagnosing major depression in a primary care population at 85% and 74% and 74% and 91%, respectively. For older people, Li et al. (2007) reported the PHQ-2's sensitivity and specificity at 100% and 77%. The PHQ-2 is a valid screening tool for major depression in older people; if there is a positive screening result, a more comprehensive diagnostic process should follow (Li et al., 2007). A systematic review and meta-analysis by Levis et al. (2020) found the PHQ-2 (with a cutoff ≥ 2) followed by the PHQ-9 (with cutoff ≥ 10) to have similar sensitivity but higher specificity compared to the PHQ-2 or PHQ-9 alone. When a medical assistant (MA) administered the depression screening (using the PHQ-2) versus physician, depression screening rates increased to 57% from 18% (Gorman et al., 2021). Differences in visit screening rates by sex, age, race, and insurance type also decreased with the MA administered screening protocol; except for patients ≥ 65 years and those with Medicaid insurance (Gorman et al., 2021). Older patients and those with Medicaid may be less likely to be screened for depression because of their medical complexity (less physically healthy, multiple medical diagnoses requiring intensive, longer-term follow-up) (Gorman et al., 2021). Screening for depression is often neglected in order to devote time to current and apparent health concerns or chronic disease management versus finding a new problem (Gorman et al., 2021).

Providers may rely on detecting common signs or symptoms of depression instead of screening for depression (Gorman et al., 2021). Because older adults may present differently with depression, they are screened less often, even though their rates of depression are higher and increase with age (Gorman et al., 2021).

Notably, the PHQ-9 has had global dissemination (Kroenke, 2021). It has been translated into over 100 languages and scientifically cited over 11,000 times (Kroenke, 2021). The widespread use is three-fold: its nine items come directly from the DSM criteria for depressive disorders, allowing for a measure of severity and potential diagnosis; the cut-off points corresponding to severity threshold are easy to remember (5 is mild, 10 is moderate, 15 is moderately severe, 20 is severe); and it is free to use and available in a public domain (Kroenke, 2021).

The GDS is another common tool found in the literature used to screen older adults for depression. The GDS was originally formatted for a yes/no response, designed with few somatic symptoms (such as disturbances in energy level, appetite, sleep, and sexual interest) (Yesavage et al., 1982) (see Appendix B). Identifying depression in older adults by distinguishing symptoms of depression and dementia, was its primary purpose (Yesavage et al., 1982). A cut-off score of 11 resulted in an 84% sensitivity and a 95% specificity; a cut-off score of 14 resulted in 80% sensitivity (Yesavage et al., 1982). Sheikh and Javaid (1986) found that the GDS represented a reliable and valid screening tool for measuring depression with the elderly. The GDS was also sensitive to depression among elderly persons diagnosed with mild to moderate dementia and physical illness (Sheikh & Javaid, 1986). In a meta-analysis studying the diagnostic validity of the GDS₃₀ and GDS₁₅ in primary care by Mitchell et al. (2010), the sensitivity and specificity of the GDS₃₀ was 77.4% and 65.4%, respectively; for the GDS₁₅, sensitivity and specificity were 81.3% and 78.4%, respectively. Used to screen for depression among older adults in the primary care setting, the GDS₁₅ outperformed the GDS₃₀ and was rated “good” for screening (IU 0.75) (Mitchell et al., 2010). Similar to the GDS₁₅ tool, the shorter 5-item GDS has a sensitivity and

specificity of 94% and 81% (Maurer et al., 2018). The GDS is available in public domain, with no cost to use.

Zhang et al. (2019) studied the reliability and validity of the GDS₁₅ and the PHQ-9 for assessing depression in older adults. The psychometric performance was similar for both instruments, with a consistency rating of 96.10% between the GDS₁₅ and PHQ-9 (Zhang et al., 2019). The ease of use (easier to implement and score) and brevity of the PHQ-9 makes it more suitable as a screening tool in primary care (Zhang et al., 2019). The USPSTF and the American Academy of Family Physicians (AAFP) also recommend screening for depression using the PHQ-9 (Siu & USPSTF, 2016; AAFP, 2022).

Suicide Risk

Depression is the principal risk factor for suicide and suicidal ideation in late life (Bruce et al., 2004). In 2002, 13% of the American population consisted of older adults; and yet the suicide rate among older adults was 18% (Arias et al., 2002). PROSPECT (Prevention of Suicide in Primary Care Elderly: Collaborative Trial) was a multisite, randomized trial that tested the effect of primary care-based interventions on reducing major risk factors for suicide in late life (Bruce et al., 2004). The interventions consisted of implementing treatment guidelines specific to older adults and adding a depression care manager (Bruce et al., 2004). Resultantly, among patients in the intervention group, suicidal ideation resolved more quickly and there was a more favorable response in depression symptom reduction, response to treatment, and depression remission (Bruce et al., 2004).

As age increases among adults over 65 years, so does the suicide rate (Cheung et al., 2017). When studying method of suicide, women were less likely to use violent methods across all older age groups (i.e., 65-74, 75-84, 85+ years); men were less likely to use violent methods with increasing age (Cheung et al., 2017). The older the person, the less likely they were to have had a past psychiatric admission or recent contact with psychiatric services in the month prior to suicide (Cheung et al., 2017).

Most of the older adults (61.7% of 65-74 years, 65.6% of 75-84 years, and 77.3% of 85+ years), however, did have contact with their PCP within one month of suicide (Cheung et al., 2017). Older adults may benefit from primary care-based approach in screening for depression and assessing suicide risk (Cheung et al., 2016).

A systematic review by Okolie et al. (2017) that focused on preventing suicidal behaviors in older adults concluded that interventions provided by PCPs would be effective. Primary care-based depression screening and management programs, treatment interventions (pharmacotherapy and psychotherapy), telephone counseling for vulnerable older adults, and community-based programs including education, gatekeeper training, depression screening, group activities, and referral for treatment were found to be effective interventions (Okolie et al., 2017).

Conceptual Framework

This EBP project was framed around the Donabedian Model. The Donabedian Model for quality care is a conceptual model used to evaluate quality in health care looking at structure, process, and outcomes (McDonald et al., 2007). The assumption is that structure affects process and process affects outcomes (McDonald et al., 2007). Another element to the Donabedian model is the balancing measures; these are unintended consequences of the change, either positive or negative (ACT Academy, n.d.). Structure measures are also known as input measures and are defined as the physical and organizational characteristics of the setting (ACT Academy, n.d. & McDonald et al., 2007). Process measures are the actions of health care delivery or how processes work to deliver an outcome (ACT Academy, n.d., & McDonald et al., 2007). Outcome measures are the end result of the proposed improvement; examples include effects of care and include recovery, functional restoration, survival, and patient satisfaction (ACT Academy, n.d. & McDonald et al., 2007).

The structure component for this project were the OAC and the resources at the OAC; the providers, nurses, assistants, clinic staff, operating hours, current policies on depression screening, and treatment protocols. Process measures included: 1) implementation of the depression screening process, training and educating providers, nurses, and staff on screening older adult clients for depression using the PHQ-9, scoring the PHQ-9, and interpreting the score(s) of the PHQ-9; 2) identification of treatment interventions, including medication(s), and referrals. For this project, the proposed outcomes included the percentage of older adults who were screened for depression, and the disposition of those screened positive for depression. For those older adults who were screened positive for depression, did they then receive timely, appropriate, and effective treatment or referral for treatment (i.e., received information on treatment for depression; provided with a referral to see a mental health care provider).

A review of literature supported the use of the Donabedian model (structure, process, and outcome) as a framework for evaluating structure, appraising process, and assessing outcomes in healthcare. The literature had a range of subjects using the Donabedian framework, including COVID-19 response and preparations (Binder, et al., 2021), quality of diabetic foot ulcer care (Patry, et al., 2021), obstetric triage improvement process (Naz, et al., 2022), and mental health screening outcomes. Chowdhury and Champion (2020) used the framework to assess adolescent depression screening outcomes in a pediatric primary care setting. In the retrospective chart review of electronic medical records at a pediatric primary care-based clinic, data from 1213 adolescents was collected (Chowdhury & Champion, 2020). Screening for depression occurred primarily at well child appointments (Chowdhury & Champion, 2020). Of the patients who scored >5 on the PHQ-9, 82.5% were not currently receiving treatment for depression (Chowdhury & Champion, 2020). Physicians and nurse practitioners made referrals equitably, with more referrals for adolescents with moderate-severe depression (Chowdhury & Champion, 2020). For adolescents with mild to moderate depression, nurse practitioners provided more

counseling than physicians (Chowdhury & Champion, 2020). The study concluded that there needs to be an enhanced continuum of care for adolescent mental health with primary-care based interventions being imperative to addressing adolescent mental health needs (Chowdhury & Champion, 2020). It is practical to incorporate depression screening and treatment protocols to enhance primary care-based mental health access (Chowdhury & Champion, 2020).

Methods

Setting

This EBP project was an evaluation project that took place at a primary care clinic in a large city in Kentucky. The primary health care clinic serves approximately 7,800 patients annually, 4,800 of them being older adults. Of particular interest to this evidence-based practice (EBP) project, this primary care clinic focuses on whole person, integrative, life-long wellness care, especially for older adults, age 65 and over. The clinic has an interdisciplinary treatment approach utilizing the services of physicians, nurses, physical therapists, dentists, pharmacists, social workers, chaplains, lawyers, and community health navigators to address health and wellbeing.

Population of Interest

The population of interest for this EBP project were older adults age 65 and over who received primary care services at the primary care clinic. All older adults 65 years and older with a primary care encounter at the clinic in a three (3)-month time period from August 2022 to October 2022 were included in the sample.

Purpose

The purpose of this EBP project was to evaluate data regarding depression screening at the primary care clinic and to make recommendations to the clinic on how to improve the process to optimize screening, recognition of high PHQ-2/9 scores, and provider response to high scores.

Evaluation Plans/Procedure

This EBP project consisted of: 1) aggregate data of individuals who met the inclusion criteria from the previous three months following IRB approval [August – October 2022], and 2) a retrospective medical record review that evaluated the implementation of depression screening in the clinic among older adult patients age 65 years and older over the previous three (3) months. The aggregate data were generated as a report by the data specialist at the clinic. The data included: age, race, ethnicity, gender, marital status, diagnoses, and type of insurance. PHQ completion percentage and PHQ scores were also collected. Data were categorized as total sample (all older adults 65+). From the aggregate data, the patients who were screened for depression with the PHQ-2/9 were identified by the data specialist. The data specialist provided the research team with a list, in paper form, of those patients' medical record numbers. The list, in paper form, was kept in a locked file cabinet in an office located at the clinic. A retrospective medical record review on the patients who were screened for depression was completed by the DNP student. To address confidentiality, the medical record numbers associated with each patient screened for depression were replaced with a four-digit number created for this EBP project. The medical record review only occurred for patients who were screened for depression using the PHQ2/9. Information obtained from the retrospective medical record review included: patient demographic information (age, gender, race, ethnicity, marital status, diagnoses), chief complaint, the score on the PHQ2/9, and the outcome associated with PHQ depression screening (i.e., based on clients' score: no action taken; information on managing depression, diagnosis of depression and/or anxiety, medication prescription provided to the client(s); and/or referral(s) made to a mental health care provider. The associated data, as described above, were transcribed to an Excel spreadsheet. After completion of the

retrospective chart review, the original paper list of medical record numbers was destroyed through shredding.

Depression screening is a quality measure under the merit-based incentive payment system (MIPS); it is quality ID # 134. Under MIPS, depression screening is required once per patient seen in the measurement period, a 12-month time period from January 1 to December 31. Screening for depression is also a part of the Health Risk Assessment (HRA) and Annual Wellness Visit (AWV), a covered Medicare program focusing on prevention planning. The HRA and AWV are comprehensive health assessments conducted annually to update family and social histories, update medication and diagnoses lists, and identify potential health risks. A physical exam is not a requirement of the HRA or AWV. At this primary care clinic, social workers or student interns often work with patients to complete the HRA and/or AWV. However, not all patients complete a HRA or AWV. At the very beginning of the QI EBP project, the data/information collected during the HRA and/or AWV was inputted into Qualtrics, an online survey tool. In order for a HCP to have access to the AWV information, the data must be input into Epic, a cloud-based electronic medical records system used at the clinic, as it does not automatically transfer from Qualtrics. Without this last step, HCPs may have no access to or knowledge that a HRA and/or AWV was completed. During a primary care visit to the clinic, medical assistants complete the PHQ-2/PHQ-9 with the patient at intake/rooming. Initially, patients are asked the 2-questions of the PHQ-2. If the PHQ-2 is positive (score of 3 or greater) the PHQ-9 is indicated. Because the PHQ-2/PHQ-9 is built-in to the electronic health record (EHR) in Epic, it is readily available and easy to complete. It is the role of the HCP to ensure this screening is being completed annually. Within the last 6 months, Qualtrix is no longer used and data from the HRA and/or AWV is input directly into Epic.

Aggregate data and data from a medical record review were collected for this EBP (See Appendix C, D, and E) project. Aggregate data (age, gender, race, ethnicity, marital status, insurance, percentage of patients screened for depression) were obtained via report generated by the data

specialist. If a patient was screened for depression using the PHQ-2/9, additional data (chief complaint, primary diagnosis, PHQ2/9 score, and disposition resulting from depression screening) were collected via retrospective medical record review. The data collected addressed two (2) key areas of interest: a) Was the PHQ completed, and what was the PHQ score? And b) What was the resultant outcome based on of the PHQ score (see Appendix C)?

Analysis

The data were uploaded into Excel. Descriptive statistics (percentages and standard deviations) were used to describe the sample. Additionally, descriptive statistics (frequencies, percentages, raw scores) were used to: 1) describe the percentage of older adults who were screened for depression using the PHQ2/9 over the previous three month period; 2) raw scores were obtained from the completed PHQ questionnaires and percentages were recorded for those who required: a) no action taken; b) required information on managing depression, diagnosis of depression and/or anxiety, and 3) required either medication prescription provided to the client(s) and/or referral(s) made to a mental health care provider.

Once data analyses were completed, an overall evaluation of the depression screening process for older adults at the OAC was conducted. Evidence-based practice guidelines and USPSTF describe and detail expectations of depression screenings. The score of the PHQ-2/PHQ-9 suggests appropriate next-step treatment options. The DNP project lead compared what is currently being done to what is best practice. Recommendations for improving the depression screening process and/or what happens after a screening was completed were included in a report to the agency.

Ethical Considerations/Permissions

This project was a quality improvement project and not a research study. Regular communication with the project chair and the committee member were significant to ensure best

practices were being followed. Preliminary permission was granted through the data specialist on behalf of the Director of Research (both at the Trager Institute) for the creation of such a list of patients and for their medical records to be reviewed with the understanding and affirmation that no protected health information (PHI) will be collected. The definition of PHI and the 18 identifiers were closely followed and no identifying information was collected (HIPAA Journal, 2022). The original list of clients' medical record numbers was maintained at the clinic in a locked file cabinet in a locked office at the clinic. It was destroyed/shredded at the conclusion of the project.

This quality improvement project was reviewed and received approval from the medical director and geriatrician of the clinic (See Appendix F). Next, the project was reviewed and approved by the clinic's overseeing Interdisciplinary Research Oversight Council (IROC) (see Appendix G). Then, an Institutional Review Board (IRB) application was submitted and approved.

Proposed Budget

The DNP student was the primary in developing, facilitating, and conducting this quality improvement project. In all, the student spent approximately 350 hours on this EBP project. Two UofL School of Nursing faculty members assisted the student in regards to evidence-based practices, ethical compliance, data collection methods, statistical analyses, and review of results and any future publications. Additionally, a data specialist at the UofL OAC was needed to collect aggregate data and medical records numbers, as needed. Supplies needed for this EBP were a computer, internet capabilities, access to email, and Microsoft Excel. For additional monetary details (see Appendix H).

Results

During the three (3) month period, the primary care clinic encounters were a total of 800 patients. Of those 800 patients, 702 were 65+ years of age. Table 1 depicts the patients seen from August to October, 2022 and those meeting the inclusion criteria for this EBP project.

Table 1*Number of Primary Care Patients Seen Aug-Oct 2022*

Primary Care Patients Seen Aug-Oct 2022	N	%
TOTAL, 18+ years old	800	100%
Patients 65+ years old	702	87.8%

The demographical information of the patients (N=702) is detailed in Table 2. Approximately, 73.8% (n=518) of patients were female and 26.2% (n=184) were male. Ethnicity of the sample was primarily white (75.2%; n=528) with 20.5% (n=144) were Black or African American. The majority of the sample identified (95%; n=667) as non Hispanic or Latino. In terms of marital status, a third of the sample was married (35.8%; n=251), followed by 26.4% were widowed (n= 185), 18.5% (n=130) were single, and approximately 15% (n=104) were divorced. There were over 1000 different diagnoses included in the aggregate data. Number of diagnoses per patient per encounter ranged from one (1) to more than ten (10+). The six (6) most frequently documented diagnoses for the encounters were hypertension (n=195; 27.8%) , depression (n=69; 9.8%; included all ICD-10 codes for depression and specifiers), fatigue (n=64, 9.1%), routine medical examination (n=64, 9.1%), hypothyroidism, (n=47; 6.7%), and hyperlipidemia (n=46, 6.6%).

Table 2*Demographic Data for Patients 65+ Seen in Primary Care Clinic from Aug-Oct 2022*

Demographics For Patients 65+	Number	Percentage
GENDER		
Female	518	73.8%
Male	184	26.2%
RACE		
White	528	75.2%
Black or African American	144	20.5%
American Indian or Alaska Native	0	0.0%

Asian	7	1.0%
Native Hawaiian or Other Pacific Islander	0	0.0%
Other	23	3.3%
ETHNICITY		
Hispanic or Latino	7	1.0%
Not Hispanic or Latino	667	95.0%
Unknown	28	4.0%
MARITAL STATUS		
Married	251	35.8%
Divorced	104	14.8%
Single	130	18.5%
Widowed	185	26.4%
Other	32	4.6%
MOST FREQUENT DIAGNOSES		
Hypertension	195	27.8%
Depression*	69	9.8%
Fatigue	64	9.1%
Routine General Medical Examination	64	9.1%
Hypothyroidism, not otherwise specified	47	6.7%
Hyperlipidemia, not otherwise specified	46	6.6%

*=includes all ICD-10 codes and specifiers

Aggregate data on the completion of the PHQ-2/9 were examined. Approximately, 53.6% (n=376) of patients 65 years and older completed PHQ-9 screening for depression within the last year.

When examining the aggregate data of the last three months (August – October 2022), of the 118 patients 65 and older who were seen by their primary care provider, only two patients (0.3%) were screened for depression using the PHQ-2/9 during their primary care visit.

Table 3

Patients 65+ Who Completed the PHQ-2/9

Timeline of PHQ-9 Completion	Number	Percentage
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Patients 65+ who completed the PHQ-9 during their PCP visit in the last 3 months (Aug-Oct 2022)	2	0.3%
Patients 65+ seen by PCP within the last 3 months who completed a PHQ-9 within the last 3 months, but the PHQ-9 was NOT completed at their PCP visit	118	16.8%
Patients seen within the last 3 months who have completed the PHQ-9 within the last year	376	53.6%

For the two patients 65+ who completed the PHQ-9 during their PCP visit during August through October, 2022, a retrospective medical record review was completed. Information was gathered on their demographics (age, sex, race, ethnicity, marital status, type of insurance), primary diagnoses, chief complaint, PHQ-9 score, and disposition (what happened as a result of the PHQ-9 score) (see Table 4). The two (2) patients were both white females, non Hispanic or Latino, and divorced. Their ages were 69 and 83, respectively. One patient had Medicare with a supplemental plan and the other had an HMO. Both patients scored greater than five (5) on the PHQ-9 indicating the need for mental health intervention(s). A review of their primary care visit documentation revealed both patients (100%) received mental health interventions in accordance with the recommendations/guidelines for interpreting the PHQ-9 scores (see Table 4).

Table 4

Data from Retrospective Chart Review of Patients who Completed PHQ-9 During PCP Visit from August to October, 2022

Project Id Number (PIN)	1001	1002
Age	69	83
Sex	F	F
Race	White	White
Ethnicity	Not Hispanic, Latino/a, or Spanish origin	Not Hispanic, Latino/a, or Spanish origin

Marital Status	Divorced	Divorced
Insurance	Medicare AARP supplemental	AETNA HMO
Primary Diagnoses	<ul style="list-style-type: none"> • Osteoporosis • Hearing loss • Hypothyroidism • Dyslipidemia • Vitamin B12 deficiency • Chest pain • <i>Mixed anxiety and depressive disorder</i> • Constipation 	<ul style="list-style-type: none"> • Hypertension • Cognitive disorder • Other persistent atrial fibrillation • Feeling lonely • Debility • Rotator cuff arthropathy of left shoulder • + Cigarette Smoker • <i>Depressive disorder</i>
Chief Complaint	Follow-up with psychotherapy service	Depression
PHQ-9 Score	17	10
Disposition associated with PHQ-9 score	<ul style="list-style-type: none"> • Referred to psychotherapy services • Currently under the care of psychiatry service • Currently on antidepressant medication 	<ul style="list-style-type: none"> • Started on antidepressant medications • Referred to psychotherapy services

Discussion

Depression is not a normal part of aging, but a manageable, treatable medical condition (Blazer, 1997; Renn et al., 2021). Older people experience risk factors for depression, including health problems, sensory impairment, cognitive impairment, adverse life events, bereavement due to loss of family and friends and/or loss of independence, and social isolation (Gorman et al., 2021; Gonzalez, 2020; Seematter-Bagnoud & Büla, 2018). Koma et al. (2020) found that one in four older adults experiences anxiety or depression. Yet, depression in older adults is often underdiagnosed and undertreated.

There are many factors that attribute to the underdiagnosis and undertreatment of depression among older adults. One is the differences in presentation of depressive symptoms among older adults, with older adults experiencing more somatic/physical symptoms (Blazer, 1997; Haigh et al., 2018; Mojtabai, 2014; Morichi et al., 2015). Only about half of depression in older adult patients is recognized by their primary care physicians (Seematter-Bagnoud & Büla, 2018). Another factor is the potential of older adult's complicating comorbidities and pharmaceutical treatment plans muddying the management of depression (Morichi et al., 2015).

A first step in proper diagnosis and treatment of depression among older adult patients is depression screening using a valid and reliable tool. According to Akincigil and Matthews (2017), the depression screening rate was only 4.2% in 2012-2013. This finding is in contrast to the depression screening rate identified among the older adults receiving care at the primary care clinic. Approximately, 53% (n=376) of older adults included in this EBP project had been screened for depression by the PHQ-9 screening tool in the past year. Of the 376 who were screened this past year, 31% (n=118) were screened in the past three (3) months; however, only two (2) patients (0.3%) had depression screenings conducted during their primary care visit during this timeframe. This finding is lower than the national average of 4.2% (Akincigil & Matthews).

The most frequent diagnoses for patients were hypertension followed by fatigue, routine medical exam, and hypothyroidism. It was only when all of the ICD-10 codes and specifiers for depression were analyzed together, that depression was identified as key diagnosis among this sample of patients. Unless patients identify that they are depressed or have a history of depression, the PCP may not assess for depression at the patients' primary care visit.

Being treated for fatigue and/or coming in for a routine medical examination are opportunities for PCPs to conduct depression screening on older adult patients. It is important to note that older

adults often present with more atypical symptoms of depression, like fatigue. A study conducted by Shah et al. (2017) found that almost every older adult (92%) surveyed felt like depression screening was valuable to their health. In terms of completing depression screening, the same study found that nearly all (93.6%) of older adults were willing to complete a depression screen at their doctor's office and over half reported being open to completing a depression screen at every visit (Shah et al., 2017).

Depression screening is a MIPS measure. The measure applies to patients 12+ years of age. The Centers for Medicare and Medicaid Services (CMS) details that depression screening will qualify if 1) a patient is screened for depression on the date of the encounter or up to 14 days prior to the date of the encounter, using an age-appropriate standardized tool, and 2) if positive, a follow-up plan is documented on the date of the eligible encounter.

For those patients whose screening happened outside of their PCP visit, the details of who performed the screening, where the screening was done, and what were the results of the screening, were not available to be evaluated by this EBP project. It is possible that these patients were: a) screened at the time they completed a health risk assessment (HRA) with a social worker or student intern; b) completed at the time of their annual wellness visit (AWV) with a social worker or student intern; or c) the patients themselves may have completed the screening via MyChart, a communication tool similar to email that connects them with their electronic medical record. Consequentially, it would be important to ascertain as to whether the patients' (n=118) PCPs were aware of this screening and whether the results of the depression screening were addressed in their primary care appointment.

A review of the two (2) patients' who completed depression screening during their primary care appointment, medical record clinical visit notes revealed the two scores to be 10 and 17, respectively. Recommendations based on the scoring of the PHQ-9 specify a score of 0-4 indicates none-minimal depression and there is no proposed treatment actions; 5-9 indicates mild depression and the proposed

treatment is watchful waiting and repeating the PHQ-9 at follow-up; 10-14 is moderate depression and the treatment plan should consider counseling, follow-up, and/or pharmacotherapy; 15-19 is moderately severe and there should be active treatment with pharmacotherapy and/or psychotherapy; and 20-27 is severe depression and the treatment plan should include the immediate initiation of pharmacotherapy and referral to a mental health specialist for psychotherapy and/or collaborative management (Kroenke et al., 2001). For both patients, they received mental health interventions in accordance with evidence-based practice guidelines for a positive depression screening result (see Table 4) (Kroenke et al., 2001).

Limitations

Although this EBP project examined an important healthcare issue, limitations must be acknowledged. Most notably, the sample size ($n = 2$) was extremely small, resulting in an inability to draw any conclusions about depression screening among older adults at this primary care clinical site. With a larger sample size, it would be clearer to what extent older adults are being screened for depression during their primary care visit and what interventions are being implemented based on their scores on the PHQ-9.

It should be noted that 53% of the older adult patients included in this EBP project were screened within the past year for depression; however, the screening did not take place during their visit with their PCP, which was the focus of this EBP project; and subsequently it was unclear if the PCP was provided with the depression screening results and implemented interventions based on evidence-based practice guidelines for a positive depression screening result.

Conclusions

Next steps: Currently at this primary care clinic, there is not a defined policy for depression screening. Older adults are eligible for Medicare programming that promotes health and wellness, such as the

health risk assessment (HRA) and annual wellness visit (AWV); both programs at the primary care clinic include depression screening as part of their annual assessment. However, patients are required to make an appointment separate from their primary care visits with their PCP to complete the HRA and/or the AWV. In order for a depression screening to count towards a merit-based incentive payment system (MIPS) measure completion, the PHQ-9 must be completed within 14 days of an encounter.

Continuity of care and streamlining can also be an issue, with one professional, typically a licensed social worker completing the HRA and/or AWV, whereby the PCP (i.e., physician, nurse practitioner) may not be aware that the HRA and/or AWV was completed and uploaded to Qualtrics and/or EPIC as part of the patients' electronic medical record.

Recommendations:

1. Develop a policy for depression screening in older adults
 - a. Assess current operations as they relate to depression screening
 - b. Develop a procedure/workflow for conducting depression screening
2. Educate clinic staff and health care providers (e.g., physicians, nurse practitioners, registered nurses, social workers, residents, medical assistants)
 - a. Education topics: depression education (signs and symptoms of depression in older adults), screening and scoring the PHQ-2/9; referral practices
 - b. Educate staff on the initial screening process including:
 - i. who administers PHQ-2 (self-administered, medical assistant, nurse, provider), how it is completed (in-person, phone, MyChart), timing of screening and frequency of screening; and where the PHQ score is recorded in patients' electronic health records [EHR]].

- ii. when to use the PHQ-9 [i.e., patient screened + on PHQ-2 for depression; or screened negative but has a history of depression or antidepressant medication documented in EHR]
 - c. Educate provider staff on EBP recommendations/interventions/referrals associated with PHQ-9 score[i.e., no intervention required; provide information about depression; initiate medication, recommend referral to psychiatric-mental health services]
3. Conduct inter-office interprofessional interdisciplinary meetings to promote policy and adherence and periodic audits of patients' EHR to evaluate: a) the completion of depression screening via the PHQ-2/9 and 2) documentation of mental health interventions based of patients' PHQ-2/9 results.

Implications for Practice

Depression screening is recommended for all adults, including older adults, at least annually. The PHQ-9 is a valid and reliable tool that can be used to screen for depression. It has clear cutoff values for severity and the score corresponds with treatment recommendations. The PHQ-9 can also be used to monitor response to treatment. Implementation of depression screening can take place in the primary care clinic, occurring at a patient's annual physical appointment. Of importance, providers/professionals should be aware of where to find the data/information from the screening. The development of a clear and concise policy on depression screening can help ensure patients are being screened for depression and provided with mental health interventions in accordance with evidence-based practice guidelines for a positive depression screening result .

Dissemination

Upon completion of this EBP project, the findings will be presented to the medical staff at the Trager Institute. The findings will be reported in a professional poster and presented at a nursing conference.

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Appendix A

Patient Health Questionnaire (PHQ)-9

Name _____ Date _____

Over the <i>last 2 weeks</i> , how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite—being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

(For office coding: Total Score ____ = ____ + ____ + ____)

(Kroenke et al., 2001)

Appendix B**GDS₁₅****MOOD SCALE (short form)**

Choose the best answer for how you have felt over the past week:

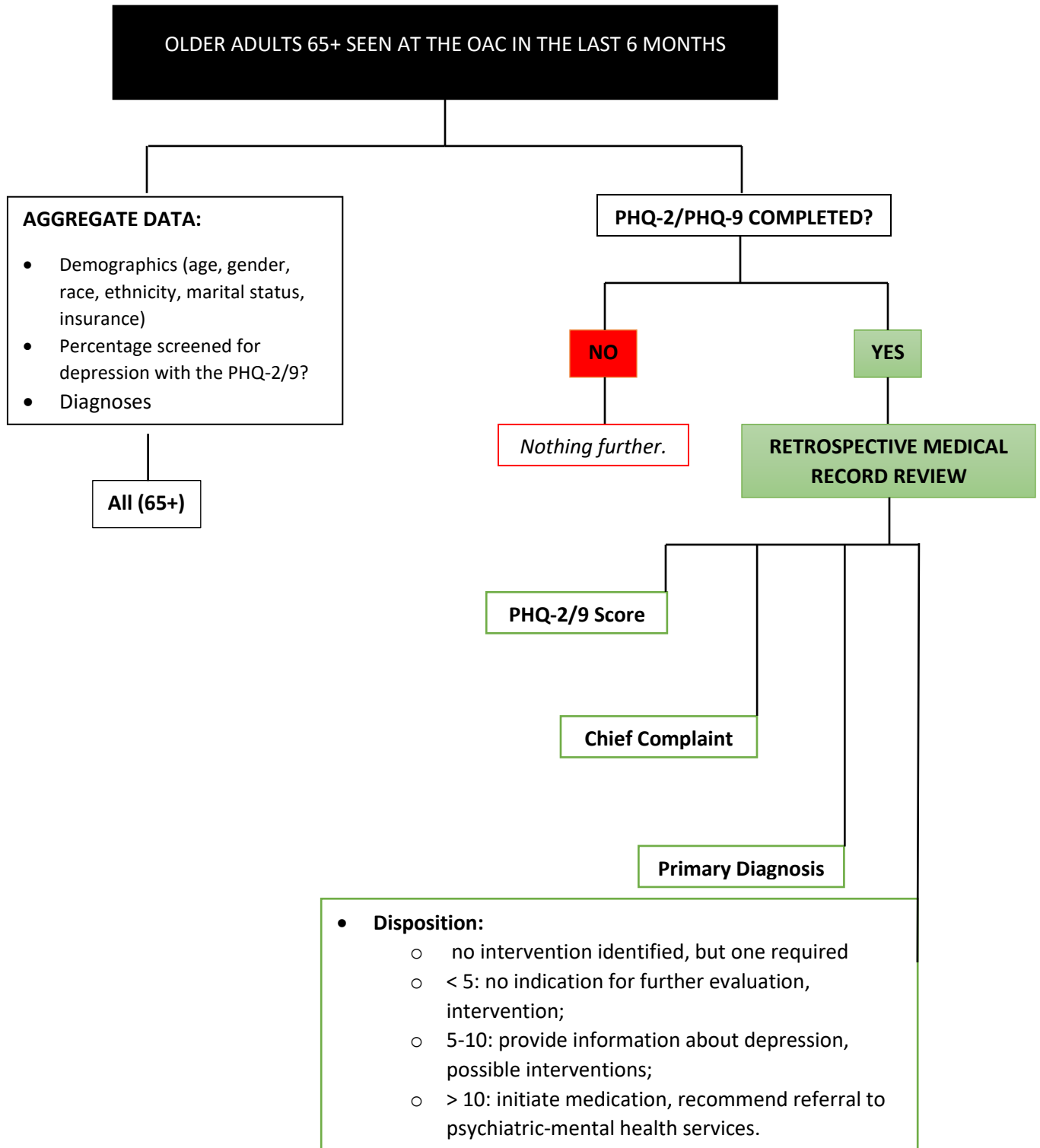
1. Are you basically satisfied with your life? YES / **NO**
2. Have you dropped many of your activities and interests? **YES** / NO
3. Do you feel that your life is empty? **YES** / NO
4. Do you often get bored? **YES** / NO
5. Are you in good spirits most of the time? YES / **NO**
6. Are you afraid that something bad is going to happen to you? **YES** / NO
7. Do you feel happy most of the time? YES / **NO**
8. Do you often feel helpless? **YES** / NO
9. Do you prefer to stay at home, rather than going out and doing new things? **YES** / NO
10. Do you feel you have more problems with memory than most? **YES** / NO
11. Do you think it is wonderful to be alive now? YES / **NO**
12. Do you feel pretty worthless the way you are now? **YES** / NO
13. Do you feel full of energy? YES / **NO**
14. Do you feel that your situation is hopeless? **YES** / NO
15. Do you think that most people are better off than you are? **YES** / NO

Answers in **bold** indicate depression. Although differing sensitivities and specificities have been obtained across studies, for clinical purposes a score > 5 points is suggestive of depression and should warrant a follow-up interview. Scores > 10 are almost always depression.

From <https://web.stanford.edu/~yesavage/GDS.english.short.score.html>

Appendix C

Data Collection Figure



Appendix D

Aggregate Demographic Data

Older adults (65 years and older) seen at a primary care clinic, the Optimal Aging Clinic

	TOTAL 65+
NUMBER OF, PERCENTAGE OF PATIENTS	
GENDER <ul style="list-style-type: none"> • Female • Male • Other 	
RACE <ul style="list-style-type: none"> • White • Black or African American • American Indian or Alaska Native • Asian • Native Hawaiian or Other Pacific Islander • Other 	
ETHNICITY <ul style="list-style-type: none"> • Hispanic or Latino • Not Hispanic or Latino 	
MARITAL STATUS <ul style="list-style-type: none"> • Married • Divorced • Single • Widowed 	
INSURANCE <ul style="list-style-type: none"> • Commercial/Private • Medicare • Medicaid • Combination 	

Appendix E

Depression Screening Data Form

Older adults (65 years and older) seen at a primary care clinic, the Optimal Aging Clinic who were screened for depression using the PHQ-2/PHQ-9

	Project ID #
<p>PHQ-2/PHQ-9 COMPLETION:</p> <p>PHQ-2 < 3 or PHQ-9 < 5 score</p>	
<p>PHQ-2 ≥ 3 or PHQ-9 ≥ 5 score</p>	
<p>PHQ-9 5-10 score</p>	
<p>DEMOGRAPHICS</p> <p>Age Race Ethnicity marital status type of insurance</p>	
<p>PRIMARY DIAGNOSIS</p>	
<p>CHIEF COMPLAINT</p>	
<p>DISPOSITION</p> <p>0. no intervention identified, but one required 1.no intervention required; 2. information about depression/anxiety provided; 3. referral made to mental health services &/or diagnosed with depression; provided with prescription for antidepressant</p>	

Appendix F

UofL Health Leader Approval Form



Interdisciplinary Research Oversight Committee (IROC)

Leadership Approval for QI, EBP & Research Projects

Project Title: Evaluating Depression Screening Among Older Adults in Primary Care


Investigator(s): Ashley Larson

Project Dates: Retrospective; 6 months back from IRB approval

Unit: UofL Trager Institute Republic Bank Optimal Aging Clinic

I approve this project to be conducted on the unit I supervise.

Name of Unit Leader (print): Christian Furman, MD, MSPH, AGSF

Signature of Unit Leader: 

Date: 10/7/2022

Comments:

Four horizontal lines for writing comments.

Contact kathryn.robinson@uoflhealth.org with questions.

Appendix G**UofL Health IROC Approval Letter**

October 17, 2022

Re: Evaluating Depression Screening Among Older Adults in Primary Care

Dear Ashley Larson,

On October 17, 2022, the Interdisciplinary Research Oversight Council (IROC) completed a scientific review of your proposed study. The committee members determined that there were no threats to internal and external validity of the study, and that the study had the potential to advance scientific knowledge in the field. In addition, the study does not appear to have an adverse operational or financial impact on any nursing unit. As a means of follow-up, the IROC would appreciate an update on your progress the last month of each quarter at their monthly business meeting.

The next step in the project approval process is submission to the Human Subjects Protection Program (HSPP) at the University of Louisville (UofL) for review by their Institutional Review Board (IRB). Applications are made using the iRIS system, which requires a sponsored account through UofL. The request form is located on the UofL HSPP website at <https://louisville.edu/research/humansubjects>. You can contact the IRB at hsppofc@louisville.edu or (502) 852-5188.

You may access the iRIS system online at the following web address: <https://iris.louisville.edu:444> or contact the UofL Health Research Office (ULHRO) for assistance at umcresearch@ulh.org. If you complete the submission process in iRIS, please select UofL Health as a Department, include UofL Health Research office as a contact, and select UofL Hospital as a study site. All study specific correspondence should be sent to the ULHRO via their service account.

Once the iRIS submission is complete, your proposal will be received and reviewed by the IRB and the ULHRO. Note that both offices will issue an approval letter upon review completion.

Please note that data collection at UofL Health cannot begin until all approvals have been received.

Thank you for advancing the nursing research enterprise at UofL Health.

Sincerely,

Adam Booth, PhD, RN

Adam Booth, PhD, RN
Member, Interdisciplinary Research Oversight Council
Evidence Based Practice Coordinator
University of Louisville Hospital
(502) 439-1861
adam.booth@uofhealth.org

cc: research@uoflhealth.org, Kathy Wohlschlegel

Appendix H**Budget Breakdown**

ITEM	COST	QUANTITY	TOTAL
Computer	\$500.00	1	\$500.00
Internet Access	\$50.00/month	2 months	\$100.00
SPSS V.28	\$45.00	1 (until Dec 31, 2022)	\$45.00
Data Specialist	\$35/hour	4 hours	\$140.00
DNP Student (Graduate Assistant)	\$13.53/hour	350 hours	\$4,735.50
		TOTAL	\$5,520.50