

Assessing Need For Geriatric Psychiatric Services in Rural Settings

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### Assessing Need For Geriatric Psychiatric Services in Rural Settings

The number of older adults in the United States is projected to reach more than 70 million by 2030, representing a doubling of this population since 2004 (Federal Interagency Forum on Aging Related Statistics, 2004)<sup>1</sup>. As the population ages and the “baby boomers” continue to flood the 65 years and older demographic, addressing the mental health needs of this group will become increasingly important as the raw number of adults in this age group with mental illness is projected to surpass the number of all other adults with mental illness by 2030 (Bartels, et al., 2002). This is true throughout the country and it may very well hit rural areas harder than urban areas because of multiple factors that lead to reduced availability and utilization of services as noted in this paper.

Mental health needs for this group include severe and persistent mental illness, a term that typically includes bipolar disorder, schizophrenia and other psychotic disorders, major depression, and severe personality disorders. This group’s needs often include dementia care as well. Dementia is the most age-specific mental health malady as the vast majority of cases occur in older adults (Reichman & Cummings, 2007). Plassman et al. (2007) conducted the first nationally representative study of the prevalence of dementia in the United States and found that the rate was 13.9 percent of those 71 years of age and older, representing 3.4 million of the population at that time. Reducing the threshold age to 60 provided an adjusted total of 3.8 million with dementia. Further, 20 to 25 percent of those 60 years and older are projected to meet criteria for a psychiatric disorder other than

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<sup>1</sup> For the sake of this paper, “older adults” is defined as those 65 years of age and older; however, varying age cutoffs are occasionally used in the current literature and these variances are noted within this manuscript.

dementia, with substance use disorders excluded (Kessler & Wang, 2008; Speer & Schneider, 2003).

Although there are not available data with specific numbers, it is generally accepted that the United States has an especially prominent shortage of geriatric mental health specialists (Karlin, Duffy, & Gleaves, 2008). Public and professional stigma are acknowledged as contributing to a shortage of mental health providers who choose to specialize in the older adult population (Karlin, Duffy, & Gleaves, 2008). Low rates of reimbursement for services to this population provides a financial barrier that negatively affects provider participation (Gamm, Stone, & Pittman, 2003). A lack of formal preparatory training for treating geriatric patients means there is a limit on the availability of providers, be they interns, residents, or independently practicing clinicians to help address older adult mental health needs (Speer & Schneider, 2003).

Gamm, Stone, & Pittman (2003) conducted a complete count of mental health professionals (advanced practice psychiatric nurses, licensed professional counselors, psychiatrists, psychologists, and social workers) in the United States which illustrates the wide disparity in the number of these providers in rural areas as versus urban areas. Specifically, there are between 2.9 and 3.5 mental health professionals per 10,000 persons rurally, as opposed to 5.6 per 10,000 persons in urban settings (Thomas, Ellis, Konrad, Holzer, & Morrissey, 2009). The number of those able to prescribe medications, considered a key component of mental health care, is significantly lower – between 0.6 and 0.9 providers per 10,000 people in rural areas – and this number is likely to decline in the near future as older providers opt for retirement and the rates of replacement providers are not projected to cover the shortage (Thomas, Ellis, Konrad, Holzer, & Morrissey, 2009).

Combined with the existing shortage of providers who specialize in geriatric psychiatry, there is a definite lack of mental health providers who can provide proper, age-specific care to the rural older adult population.

Provision of specialty geriatric psychiatric care ideally involves a multidisciplinary approach, due not only to cost considerations but also to the unique contributions of each discipline that may be involved. This paper considers the use of a small three-member team which would include a licensed clinical social worker (LCSW), a neuropsychologist, and a psychiatric mental health nurse practitioner (PMHNP) – all of whom would be specialized in geriatric care both by training and experience. This model is based upon recommendations from a geriatric specialist PMHNP and a social worker/administrator at a county mental health system in rural Oregon (Linton Nelson, 2012; Heatherington, 2012). Further, this model is similar to the efforts seen in established specialty geriatric psychiatry clinics located in Baltimore (Johns Hopkins University, n.d.); Reno (Northern Nevada Medical Center, 2012); Hillsboro, OR (Tuality Healthcare, 2013); throughout Colorado (Care Colorado, 2013); among others.

Some rural clinics utilize a registered nurse for screening and intake purposes instead of a social worker, like the Calvert County Psychogeriatric Assessment and Treatment Program in Prince Frederick, Maryland (2013). In this case, the nurse is utilized to provide assessments, screenings, and referrals for older adults with mental health problems. However, in areas where specialty geriatric psychiatric care is further away geographically, having a nurse to provide screening and referrals may not be adequate in meeting needs due to travel constraints or other variables.

Thus, an assessment for the perceived need and utility of a geriatric psychiatric clinic is proposed in this paper to best meet these needs with the Willamette Valley Community Health coordinated care organization, covering Polk and Marion counties in Oregon, as a prototypical backdrop. This type of assessment is designed to be easily adapted and duplicated in other communities. First, a thorough review of information regarding potential strategies, justification for specialty services, and a discussion of the inadequacy of the current delivery system is given to set the stage for this type of needs assessment.

### **Literature Review**

#### **Role and Limitations of Primary Care Providers**

Primary care providers, or PCPs (exclusively physicians in the literature available through searches for this paper, though certainly also including the work of nurse practitioners and physician assistants in many rural areas), are often expected to meet the comprehensive needs of each of their patients. Frequently, despite best intentions, this falls short as there is simply not enough time per patient interaction to allow for thorough assessment of all spheres. This is particularly true with the care of mental health problems in older adults as PCPs tend to minimize the mental health needs of this population, even when problems are brought up by the patient (Bartels, et al., 2002). These mental health complaints are often written off instead to the “normal” processes of aging or are misattributed to another physical ailment (Butcher & McGonigal-Kenney, 2005; Gamm, Stone, & Pittman, 2003; Karlin, Duffy, & Gleaves, 2008; Karlin & Fuller, 2007; Staab, et al., 2001). Emergency room physicians are also noted to fail to identify depression in most of their elderly patients, despite a one in three chance that an older adult is presenting to the

ED with clinically significant signs of depression along with other complaints (Butcher & McGonigal-Kenney, 2005). Similarly, geriatricians have been found to underdiagnose depression in older adults and, when identified, tend to prescribe inappropriately, seldom reaching therapeutic doses of antidepressants and often discontinuing these same agents without allowing a trial of adequate length (Draper, 1999).

Professional as well as public stigma provide further barriers to effective intervention and referral (Karlin & Norris, 2006). Patients may be especially sensitive to negative feedback from a PCP as they consider “opening up” regarding a mental health complaint and may withhold this information due to a fear of ridicule or judgment (Gamm, Stone, & Pittman, 2003). Similarly, PCPs often are reluctant to discuss mental health problems as these conversations can be uncomfortable, which prevents PCP referral to needed specialty mental health care (Speer & Schneider, 2003).

If mental illness, being the “elephant in the room”, can be addressed between a PCP and patient the PCP is still unlikely to refer to specialty psychiatric care (Karlin & Fuller, 2007). By some accounts, PCPs refer to mental health services for only 10 to 30 percent of patients with an identified need. This is attributed to an impression that PCPs feel pressured by their patients to provide comprehensive care including mental health services as well as to PCP discomfort with psychiatrists (Bartels, et al., 2004; Draper, 2000; Geller, 1999). For instance, one PCP in Geller’s (1999) qualitative study regarding primary care relations with psychiatrists is quoted anonymously as stating that psychiatrists are “miserable colleagues”. Idiosyncratic standards (lack of standardization of the referral process, variance in payment and co-pays, and other funding issues) about how to refer to mental health services further complicate this process (Gamm, Stone, & Pittman, 2003).

Older adults may be unwilling to seek out mental health services even after PCP recommendation especially in rural communities where anonymity and privacy are more difficult to maintain (Rost, Fortney, Fischer, & Smith, 2002). Rural older adults are especially likely to trust only their PCP for mental health care (Fox, Blank, Rovynak, & Barnett, 2001; Gamm, Stone, & Pittman, 2003; Rost, Fortney, Fischer, & Smith, 2002) which leaves a considerable burden on PCPs to improve this component of their care. There is little wrong with this concept given the shortage of mental health providers overall in the United States (Karlin, Duffy, & Gleaves, 2008) and especially in rural areas (Gamm, Stone, & Pittman, 2003). These shortages leave few options for care for these individuals. However, with consistent problems of misdiagnosis or underdiagnosis (Harman, Edlund, Fortney, & Kallas, 2005), there is real concern about mental health care for older adults in all settings being provided by primary care (Evans, 2007; Staab, et al., 2001).

One robust survey of PCP depression assessment, for instance, showed that PCPs assessed for this in only 14 percent of clinic visits, and used a formal assessment tool in only 3 of 389 distinct patient care episodes (Tai-Seale, et al., 2005). Of concern is also the indication that PCPs tend to assess for depression even less often in those older adults with whom they have an established working relationship as well as that non-white patients are much less likely to be assessed for depression overall (Tai-Seale, et al., 2005). Further exacerbating this problem is that non-psychiatric physicians have a documented tendency to use anecdotal criteria in determining mental illness that are not based upon the typically accepted criteria in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) (Staab, et al., 2001).

To be clear, this evidence is not presented to diminish the quality of work or clinical effort provided in primary care; instead, the aim is to identify the limitations of expectations that primary care can adequately address psychiatric needs. When there is a well-documented link between improved psychiatric care and improved physical health (Draper, 2000; Evans, 2007; Karlin & Fuller, 2007; Mauskopf, Racketta, & Sherrill, 2010; Riggs, 2001), there is potentially great benefit in addressing these disparities with alternatives to the current primary-care driven provision of psychiatric care in rural areas.

### **Benefits to Specialty Care**

Older adults have been shown to be nearly three times less likely to receive outpatient mental health care when compared to younger adults, and this poor utilization of mental health services is not explained by a lower prevalence of mental illness in older adults (Karlin, Duffy, & Gleaves, 2008). Fewer than one of every ten older adults estimated to have severe mental illness is likely to have received outpatient mental health care within the past year (Karlin, Duffy, & Gleaves, 2008). The cause is multifactorial. Underdetection of mental illness by PCPs, as mentioned previously in this paper, is a well-known limiting factor (Karlin & Fuller, 2007).

Diagnosis is complicated even for a provider eager to addressing mental health needs. For example, it is hypothesized that many older adults with depressed symptoms probably have a subdromal illness that does not meet criteria for major depression (Butcher & McGonigal-Kenney, 2005; Unützer, et al., 1997). Another example of primary importance in diagnosis is that older adults are less likely to show irritability or hypersomnia, less likely to have feelings of worthlessness or guilt, less likely to have a negative future outlook, and less likely to endorse a history of suicide attempts (Husain, et

al., 2005). This atypical clinical presentation (compared to younger adults) further adds to diagnostic difficulty for those providers who are not trained to understand or identify subtle differences in this population. High rates of outright denial of depressed mood can stifle further discussion of the issue (Butcher & McGonigal-Kenney, 2005). For older adults with possible cognitive decline, inadvertent interference by family members who may minimize their loved ones' deficits or work harder to compensate for these deficits can prolong the time until diagnosis (Staab, et al., 2001).

Older adults are expected, by and large, to have an age-associated decline in nearly all types of mental functioning and this bias often leads to problems being overlooked in this population by non-psychiatric providers (Butcher & McGonigal-Kenney, 2005; Speer & Schneider, 2003). This is not limited to cognitive decline but also includes depression which is often misattributed to death of family and friends and grieving associated with this, as well as with overall decline in functioning (i.e. grief surrounding loss of driving privileges, movement to assisted living). Moreover, grief and bereavement may be falsely attributed when there is actually an underlying depressive symptomology and this may lead a provider away from instituting appropriate treatment for depression.

### **Suicide**

Suicide is particularly prominent among this demographic with older white adult males having the absolute highest risk for completed suicide among all Americans (Conwell, Van Orden, & Caine, 2011). Cognitive deficits later in life are positively correlated with an increased risk of suicide (Dombrovski, et al., 2008), making it a logical leap to state that better treatment of cognitive deficits would lower suicide risk in this population. Initiation of treatment of depression with selective serotonin reuptake inhibitors (SSRIs) is

shown in many studies to dramatically decrease the incidence of suicide among older adults (Conwell, Van Orden, & Caine, 2011). Other risk factors for suicide in this age group include life transitions, financial stressors, overall physical functional decline, and most importantly a lack of social connectedness (Holt-Lunstad, Smith, & Layton, 2010).

Preventive strategies to address these risk factors are usually psychosocial in nature and involve the use of outreach as well as enhancing accessibility to mental health care and social opportunities (Conwell, Van Orden, & Caine, 2011).

Beautrais (2002, p. 1) paints a bleak picture for the future by stating rather plainly that “the progressive aging of populations in the industrialized world suggests that absolute numbers of suicides and suicide attempts among the elderly will rise”. She describes her findings, utilizing a case-control study of suicide, stating that suicidal behavior in older adults is typically less complex than that for younger adults. Simply put, she states that suicide prevention strategies for this age group could be quite focused on “improved identification, treatment, and management of major depression and the better recognition of the life events, social, family, and related factors that may contribute to the development of depression” (Beautrais, 2002, p. 8). Although with younger adults a history of suicide attempt tends to be the best predictor of a future attempt, current diagnosis of a mood disorder was by far the best predictor (odds ratio of 36.3 for previous suicide attempt compared to an odds ratio of 184.6 for current diagnosis of a mood disorder) (Beautrais, 2002).

### **Cognitive Disorders and Dementia**

Patients seen only in primary care who have an underlying dementia process have been found to have a latency of approximately two years between identifiable symptoms of

cognitive decline and appropriate treatment or referral (Staab, et al., 2001). Timely treatment of dementia as well as other mental health disorders is correlated with improved physical health outcomes as well as an improvement in patient quality of life (Karlin, Duffy, & Gleaves, 2008). Leon, Cheng, and Neumann (1998) found that a nationwide delay of nursing home placement of only one month for those with dementia would represent a robust 2 percent decrease in total direct health care costs for this population. A simple and predictable pattern exists in dementia care: better patient functioning in daily life is associated with reduced costs; poorer functioning results in higher medical costs; and more dependence for daily activities results in higher indirect costs due to lay caregiver intervention (Zhu, et al., 2008).

Delayed onset of appropriate care is almost certain to cause a dramatic elevation in costs of care while having a deleterious effect on quality of life in these patients. This is evidenced by studies highlighting the benefit of using acetylcholinesterase inhibitors (galantamine, rivastigmine, or donepezil) early in cognitive decline as these seem to be effective at delaying nursing home placement while also improving, albeit temporarily, cognitive functioning and behavioral regulation in those in the moderate to severe stages of the disease (Bartels, et al., 2002; Dharmarajan & Gunturu, 2009; Feldman, et al., 2001; Holden & Kelly, 2002). A three-year study of the economic implications of the use of donepezil in patients with dementia conducted in France showed that providing donepezil to patients with Mini-Mental State Examination (MMSE) scores between 10 and 26 (indicative of mild to severe cognitive impairment) resulted in an annual cost-savings of €3500 (\$4348 in 2004 dollars, or \$5230 in 2013 dollars) per patient (Fagnani, et al., 2004). Timely and appropriate use of these medications is directly correlated with cost savings;

this also includes the novel NMDA antagonist memantine (Ernst, Hay, Fenn, Tinklenberg, & Yesavage, 1997; Oremus & Aguilar, 2011; Small, McDonnell, Brooks, & Papadopoulos, 2002; Zhu, et al., 2008).

Improvements in daily functioning, even those which may appear marginal to outside parties, must be given serious consideration when juxtaposed to the significant increases in spending associated with care for those with Alzheimer's disease and other dementias. Riggs (2001) conducted a thorough analysis at that time of the disparities in cost for Alzheimer's patients in the United States and found that the average Alzheimer's patient utilized 70 percent more Medicare dollars than a patient without the disease. This same study estimated the total annual cost of care for Alzheimer's disease to exceed \$100 billion. Increased costs for those with Alzheimer's disease and other dementias are attributed to multiple factors, including but not restricted to prolonged hospitalizations (Menzin, 1999); progression of the disease (Mauskopf, Racketta, & Sherrill, 2010) and worsening severity (Leon, Cheng, & Neumann, 1998); cost-shifting from informal caregiving to formal nursing care due to disease progression (Oremus & Aguilar, 2011); and the need for more physical health care due to poorer ability to participate in or provide self-care (Riggs, 2001).

### **Caregiver Burden**

An important consideration in research of varying cost outcomes is that unpaid caregiver time is often included in the calculations (see, for example, Fagnani, et al., 2004). Caregiver burden, measured in indirect care dollars as well as broader economic impact related to lost productivity, absenteeism, and replacement costs, was projected to cost American businesses \$36.5 billion in 2002, outranking the direct costs to American

businesses of providing for direct long-term care expenditures (\$24.6 billion) (Koppel, 2002). The cost of informal caregiving is largely ignored when considering overall costs, however, because it is considered “invisible”. This concept of invisibility is misleading as in 1997 an estimated 25.8 million lay caregivers provided between 22 and 26 billion hours of care per year, representing an overall national economic value of \$196 billion (Arno, Levine, & Memmott, 1999). This represented more than double the amount of direct spending on nursing home care (\$88 billion in 1997) and represented about 18% of total national health care spending (Arno, Levine, & Memmott, 1999). These figures – total hours, total number of caregivers, and total costs – are certain to rise as the population of older adults steadily increases. Summarily, they must be considered in the larger scheme of mental health treatment for older adults as these informal costs have a high propensity for becoming formal costs (Pimouguet, Lavaud, Dartigues, & Helmer, 2010).

### **Struggles Unique to or Worsened for Rural Older Adults**

There is recent evidence suggestive that, despite observed disparities in service utilization, older adults in rural environments are as likely as their urban counterparts to access mental health services (Karlín, Duffy, & Gleaves, 2008). This is encouraging as there are many barriers to mental health service utilization by older adults identified by various reports.

Older adults in rural settings are even more likely to seek mental health care from their PCPs (Gamm, Stone, & Pittman, 2003) which frequently may be deficient or substandard as described earlier. Referrals to specialists are a problem for most rural PCPs as they are frequently unaware of available resources for patients whom they suspect have mental illness (Rost, Fortney, Fischer, & Smith, 2002). The rural poor, including older

adults, underutilize mental health services when they are available in their communities (Fox, Blank, Rovynak, & Barnett, 2001). Further, some rural areas are disproportionately affected by the shortage of mental health providers, and twenty percent of non-metropolitan counties in the United States lack mental health services entirely (Gamm, Stone, & Pittman, 2003). Rural residents have an additional and unique, self-imposed barrier to mental health services tied to a lack of anonymity; in smaller communities, the chance of knowing anyone of a limited set of mental health providers on a personal basis is understandably higher and this may lead to a refusal to engage in services (Rost, Fortney, Fischer, & Smith, 2002).

Stigma is a recurrent issue cited in literature on rural mental health care. It is associated with an increase in help-seeking from friends and family as opposed to mental health professionals (Rost, Fortney, Fischer, & Smith, 2002). In one study, rural adults were almost twice as likely to ask for help for a mental health problem from a friend or family member as they were to ask a physician (Fox, Blank, Rovynak, & Barnett, 2001). This reliance on friends and family for support may be reflective of a distrust of the formal medical system in providing for mental health needs, of the minimization of symptoms, and/or a lack of knowledge about available services.

### **Clinic Design**

#### **Role and Utility of the Licensed Clinical Social Worker**

Clinical social workers work as an integral part of interdisciplinary psychogeriatric teams and may perform initial assessments to determine whether a patient is in need of psychiatric services from a licensed medical provider, or for a higher level of assessment such as that provided by a clinical neuropsychologist (Collighan, Macdonald, Herzberg,

Philpot, & Lindsay, 1993). Social workers can and do provide psychiatric assessment of the same diagnostic specificity as licensed medical personnel, which could provide for significant cost savings (Collighan, Macdonald, Herzberg, Philpot, & Lindsay, 1993; Draper, 2000; Ellis & Langhorne, 2004). Coordination of care by a non-medical staff member, such as a social worker, is correlated with improved patient outcomes in multidisciplinary teams (Bartels, 2002) and having initial contact with a non-medical professional could improve the rate of referral from primary care as rural PCPs are less reluctant to do this as compared to direct referral to a psychiatrist (Geller, 1999). Utilization of a social worker as a gatekeeper to more expensive and medically-focused services provided by a PMHNP or neuropsychologist is an effective means of controlling unnecessary costs while not hindering the initial delivery of a necessary and appropriate level of care.

### **Role and Utility of the Geriatric Neuropsychologist**

Neuropsychology is becoming increasingly important as in-depth testing provided by these specialists provides patients with valuable, sensitive assessment for cognitive disorders that may be missed in diagnostic interviews with other providers, even if screening tools are used (Palmer, 2004; Staab, et al., 2001). Clinical expertise as provided by a neuropsychologist is essential in the early detection of mild cognitive impairment or the early stages of dementia (Chumbler, Cody, Booth, & Beck, 2001) and, as stated before, early intervention with appropriate medications is shown to improve longer-term outcomes for patients with these cognitive problems (Bartels, et al., 2002; Dharmarajan & Gunturu, 2009; Mauskopf, Racketta, & Sherrill, 2010; Oremus & Aguilar, 2011). The application of neuropsychology is not limited to cognitive disorders; it is also helpful to differentiate between cognitive decline due to dementia versus cognitive decline due to a

comorbid psychiatric condition such as schizophrenia or severe mood disorders (Palmer, 2004). This distinction can have clear treatment benefits in assisting a prescribing provider in selecting an appropriate plan of care. Correct identification of specific neuropsychological deficits may be beneficial in recognizing non-pharmacologic, rehabilitative interventions which delay functional decline in schizophrenia in older adults (Harvey, 2001; Twamley, Jeste, & Bellack, 2003).

### **Role and Utility of the Psychiatric Mental Health Nurse Practitioner**

Nurse practitioners are shown to have equivalent if not better outcomes on all measures when compared to physicians in primary care, even when patient complexity and other confounding variables are controlled through randomization (Horrocks, Anderson, & Salisbury, 2002; Mundinger, et al., 2000). A robust review of available literature comparing nurse practitioner and physician outcomes found sufficient evidence to conclude patients are equally satisfied with nurse practitioners; have equivalent perceptions of their own health when cared for by a nurse practitioner; maintain equivalent functional status, control of blood glucose levels and blood pressure, frequency of emergency department visits and hospitalization, and mortality (Newhouse, et al., 2011).

Unfortunately, there is a paucity of research directly comparing psychiatrists and PMHNPs. One small-sample qualitative study about patient satisfaction with PMHNPs confirms consumer satisfaction with the care they were provided (Wortans, Happell, & Johnstone, 2006). Non-comparative research conducted in Australia by Wand, White, Patching, Dixon, and Green (2012) showed positive benefit and high to very high patient satisfaction with specialized mental health nurse practitioner services provided in an outpatient, emergency-department based service. The state of New Jersey's Division of

Mental Health Services had an initiative to utilize PMHNPs beginning in the 1990s and recent evaluation of the effectiveness of this program confirmed that PMHNPs addressed mental health issues in a manner which had systemic, positive influence on the state's mental health system. Lower no-show rates, shorter wait times for access to services, improvements in medication adherence, and other benefits related to proactive health initiatives were noted by these researchers (Caldwell, Sciafani, Piren, & Torre, 2012).

Distribution of available psychiatric providers is necessary to consider when addressing rural practice. PMHNPs are more likely to live in rural areas than are psychiatrists and are considered essential in a comprehensive strategy to solve the rural mental health provider shortage (Hanrahan & Hartley, 2008). Differences in scope of practice and the varying requirements for association or collaboration with a physician must be considered when planning a needs assessment in certain states as these factors would limit the ability of PMHNPs to fill these shortages without physician assistance and involvement.

In short, nurse practitioners are a readily-available resource that should be considered and utilized to better address patient needs, both in primary care and psychiatry. PMHNPs are well-prepared to be the prescribing providers in specialty geriatric psychiatric clinics in rural areas.

### **Summary of Literature Review and Clinic Design**

The current system of delivery of mental health care to older adults is unreliable, often provided by those who do not specialize with geriatric patients or in psychiatry at all, and these deficits are shown in literature to lead to worse patient outcomes, increased costs, and increased burden on caregivers. Thus, specialty clinics which are designed to

cater to the specific psychiatric needs of older adults could provide significant benefit not only to patients and caregivers but also to the bottom line by reducing costs. Assessing the needs of individual communities to identify whether or not there is sufficient need to sustain and justify such services is essential before implementing this idea.

### **Using a Prototype to Design a Needs Assessment**

In Oregon, there is currently an initiative sponsored by the federal government to test the use of coordinated care organizations (CCOs) in provision of care to geographically-defined populations both for physical and mental health care. Polk and Marion counties in Oregon have combined to form one CCO for mental health care, named Willamette Valley Community Health, LLC (with the exception of a small portion of west Polk County which has joined an alternate CCO). This agency is to provide comprehensive mental health services for all eligible Oregon Health Plan (Medicaid) recipients within the designated area.

This area was used as a prototype for the design of this specific needs assessment as these counties are rural and there are no specialized services to geriatric psychiatric patients available currently for residents of these counties who have Oregon Health Plan (OHP) coverage. The intent, however, is for this design to be easily replicable and applicable to a multitude of rural areas within Oregon and the United States, particularly if the CCO model is implemented nationwide after Oregon's experiment is completed.

### **Needs Assessment Design**

There are multiple ways to assess need, depending on the resources of time, money, and expertise. Royse and colleagues (2009) devised a three-tier evaluation of needs assessment designs which ranks designs according to financial burden, timeframe, and

expertise. Probability surveys and personal interviews are the most intensive but also considered the most rigorous methods, expected to require a year or more and needing the most financial resources. Small targeted surveys may be used if the time frame is between three and six months and if there is sufficient financial support. Finally, short-term assessments which need to be completed in less than three months may utilize a focus group, community forum, and/or secondary data collection design without incurring substantial cost or requiring use of experts unless in a primary investigator role (Royse, Staton-Tindall, Badger, & Webster, 2009). Thus, one may choose a design based upon known limitations such as a firm deadline or budgetary constraints. Combination of multiple strategies, however, can provide rich data, and the proposed method in this paper does combine three of these designs.

The focus of this needs assessment is not on perspectives of individual patients but on the professionals who provide direct patient care in a variety of ways. Use of small targeted surveys can be effective at providing a basis of need for this type of specialty service when these surveys are directed to those who provide direct care to the population whose needs are to be assessed. This strategy has been developed using institutional ethnography as the primary methodological foundation of gathering information from mental health case managers (Polit & Beck, 2008). These clinicians have been selected as a group and designated to be “key informants” because they are most frequently in contact with the client base whose needs are being assessed. By using a homogeneous sampling of this specific group, it is possible to conduct a more focused inquiry, soliciting the input of fewer informants but with the advantage of gaining more targeted and pertinent information.

For instance, the key informant design may be highly effective while requiring relatively few resources and time within an organization like this regional mental health cooperative. In discussions with leaders in Polk County, it became clear while developing this design that mental health case managers would likely be the source of the best and most applicable information regarding needs within this geographical area. Other areas may have similar professionals known under different titles with varying levels of education or experience and these differences should be considered in the initial stages of needs assessment planning.

Because of the hierarchical design inherent in the provision of mental health services (with medical providers at the “top”, only seeing a minority of the population served), it is more logical to survey case managers who carry caseloads that are much more diverse and can provide more information about future need. For example, a case manager may be able to identify a rising need for specialty geriatric psychiatric services before these clients are formally engaged with medical services to treat these conditions. Medical providers in the same agency are much less likely to know about these future needs as their caseloads are filled with those who have already been referred to psychiatric services. Use of case managers to identify future need, based upon their experiences with and observations of the increasing complexity of needs in previous clients, is likely to be reliable and more comprehensive.

The design proposed here includes not only key informant surveys but allows for the addition of anonymous, individual interviews based upon a standard and peer-reviewed set of questions. The qualitative data from these interviews is coded after its transcription from recordings and unique identifiers are removed to ensure participant

anonymity while providing a wealth of data to be analyzed (Royse, Staton-Tindall, Badger, & Webster, 2009). Identifying common themes within results of this additional step may provide further justification for trends noted in the survey responses but also may help researchers to better understand contextual considerations.

General demographic data about the region to be studied, including locally-derived information about its older adult population as well as US Census data is essential in assessing need of a rural area such as that represented by Willamette Valley Community Health. Projections of future need must be informed by population trends including but not limited to migratory activity (rural to urban, or vice-versa) and fluctuation in rates of mortality, and these data will provide that context.

In summary, this needs assessment design includes the combination of preexisting demographic data available from public sources with key informant data gleaned from standardized surveys. Added to this is information from qualitative interviews with answers coded and linked to themes relevant to the overall project aim. This aim is to establish whether or not a brick-and-mortar specialty geriatric psychiatric clinic of the aforementioned design would be advantageous, useful, utilized, and provide meaningful improvement to and for the older adult population of the particular area it would be designed to serve.

### **Survey and Interview Structure**

The proposed survey is relatively brief with questions focused upon a needs assessment formulated with the direction of Royse, Staton-Tindall, Badger, and Webster (2009). The complete listing of the survey questions can be found in Appendix C. Questions are closed-ended with Likert-type scaling for answers ranging from one to five. There is

also minimal demographic data collected from respondents, including the number of years in a case management role, number of years working with the specific region, and level of education. Survey questions have been vetted through peer review before dissemination by review with other mental health professionals who specialize in geriatric care (social workers and case managers at an unrelated, separate clinic). Lastly, respondents are asked if they are willing to have a 20 to 30 minute telephone or face-to-face interview as per the structure noted below in Appendix D.

### **Sampling Plan, Participants, Recruitment, and Implementation**

All case managers receive an internet link to the survey instrument (seen in Appendix C) in an email from the research team. A cover letter is included in the email that ensures the participants that their responses will be anonymous and that there will be no repercussions for any refusal to participate. It also describes the purpose of the survey and an estimation of the total time required to complete it (see Appendix A). Consent for survey participation will be included within the online survey tool itself within the first webpage encountered by each participant (see Appendix B). Each potential participant can review the details of this survey, again review the assurances of anonymity and voluntary participation, and will then be asked to indicate they give consent.

Additionally, each participant will also be asked in the initial survey distribution email if he or she is amenable to a follow-up interview which would be conducted either by telephone or in person to gain more qualitative data. These interviews are structured with the same questions for each participant and the questions have been peer reviewed in the same manner as the survey. Lists of questions are included in Appendix E. The goal for the interviews is to speak with twenty percent of case managers or a minimum number of five

to ensure a point of data saturation from these informants. Interview responses will be coded after transcription and grouped together according to common themes and presented in tables and graphs. All data will be stripped of identifying information and quotations used in the manuscript will only use anonymous names such as “Respondent 1”.

### **Outcome Evaluation**

Demographic data about the counties, some of which is noted in this proposal and other data that will be obtained from each county’s health department, will be presented using descriptive statistics. As there is national data estimating the number of underserved and unserved older adults with mental illness, projections will be made regarding the number of these older adults needing services in the bi-county area. These data will provide justification for a geriatric psychiatric clinic using the three-provider model proposed earlier.

Survey answers will be combined to provide aggregate scores on the Likert-type scaled items and these results will also be presented descriptively. Answers will be arranged in a table, presenting the results for quick review, and also presented in sections correlated with the topics or themes raised in the interviews. Qualitative data, including simple analysis of interview responses (i.e. “Five of the seven interviewees made statements confirming they feel transportation to the clinic will be a significant issue”) will be folded into the manuscript, again sorted by theme or topic, along with verbatim quotes when deemed especially compelling. These data, obtained from the specific counties in which the proposed intervention will take place, will provide the most substantial support for or against establishing a specialty clinic.

It is hypothesized that this data, when accumulated and analyzed, will provide the foundation for progressing to clinic planning or recommendation of an alternative to meeting the mental health needs of the specific rural older adult population targeted in each iteration of this needs assessment's implementation. This project focused on the need for specialized mental health care for the rural elderly. Based on the number of rural elderly and the paucity of specialized geriatric psychiatric providers, particularly in rural areas, need was established. This was based on the complexity of diagnosis in this population; a tendency to minimize mental health problems in this population, both by providers and patients themselves; improper attribution of deficits to a "normal" aging process; the high risk of suicide and adverse health events secondary to untreated or undertreated mental illness in this population; and the potential benefits which include an improved quality of life for patients, cost savings for both clients and providers, and better adherence to established standards of care for this specific population.

Further, the specific design of a clinic that would better address these needs is outlined using a three-provider model that has been backed with substantial evidence that these three roles – social worker, clinical neuropsychologist, and psychiatric mental health nurse practitioner – can provide complementary and comprehensive mental health services specific to this population. Finally, a survey documenting need based on key informant input (mental health case managers in this particular design) was presented, along with methods of interpreting and disseminating this data once gathered.

Institutional review board approval was obtained late in the process which left an inadequate amount of time to attempt to implement this survey as originally planned for this project. Additionally, political pressures and questions about funding were identified

as barriers to this project's implementation across both Polk and Marion counties, thus further confounding the process. Ultimately this led to Marion County electing not to participate in this survey. Future attempts to implement this needs assessment will require close collaboration with the key stakeholders for each community's mental health department to ensure that the intent is not to reroute funding, change service delivery unless necessary, or to influence the political processes that may be at work in sculpting delivery of care. These misunderstandings were the primary reasons for Marion County's refusal of this project's implementation which coincided with the planning portion of Marion County's involvement in the regional CCO.

With the need for specialty mental health care established for this population and a method of determining community support through a survey and interview constructed, this project can now be implemented to assess need for these specialized services in rural communities that are open to establishing best practices in provision of mental health care to their geriatric residents. Exploration of need for these services, with this proposed model, should be considered in rural areas that are open to a new model of service delivery for this population. Students pursuing a Doctor of Nursing Practice degree may find this outline and literature review helpful in providing the basis for real-world implementation of this needs assessment.

Appendix A  
Sample Email Invitation to Participate in the Survey

Dear [case manager],

Please find a link below in this email which will take you to a voluntary survey which asks for your help and input regarding the psychiatric needs of older adults in your care. Information gained from this research survey will help to understand the potential need for a specialty geriatric psychiatric clinic which would serve clients in your area and your participation is appreciated.

Your participation is completely voluntary and your responses will be anonymized. Anonymized means that your responses to the survey questions are made anonymous by the survey team and no links are maintained with your name on it. No one in this organization or the survey team will know whether or not you have participated. Your responses will be kept confidential. You will also be asked at the end if you would volunteer for a brief follow-up interview. Though the survey team will need to obtain contact information from you to schedule an interview, your participation in the interview will be kept strictly confidential and neither your name nor any other personally identifying information will be collected. If you choose to participate in the interview, you will receive more information about this from the survey team.

[Internet link to study]

Thank you for your consideration.

Sincerely,

[Name, title, and affiliation of primary investigator]

Appendix B  
Sample Survey Introduction and Consent

Principal Investigator:  
[Name, title, and affiliation]  
[Contact information]

Thank you for visiting this link. You have been asked to volunteer a portion of your time to complete this internet survey because you provide case management services to Oregon Health Plan clients in the newly formed Willamette Valley Community Health coordinated care organization covering Polk and Marion counties in Oregon. This survey is designed to assess the need for a specialty geriatric psychiatric sub-clinic which would serve older adults (age 65 and older) covered by the Oregon Health Plan in this region. As a case manager, we believe you are an excellent source of information and a “key informant” in regard to completing this needs assessment.

Your participation in the survey is voluntary and your responses will be anonymized. No other members from your organizations (supervisors, colleagues, etc.) will be notified of your decision to or to not participate. All responses will be kept confidential and any reports generated will be based on the total pool of results and not just your input, further assuring your confidentiality and anonymity. By choosing to complete this survey, you are signifying that you consent to participation.

At the end of the survey you will be asked if you are willing to be interviewed either via telephone or face-to-face, briefly, with one of the study’s investigators. If you are willing to do this, which would help provide further in-depth knowledge regarding these needs, you may submit your contact information and will receive more information about the interview process from the investigator.

Estimated time of completion for this online survey is 10 to 15 minutes.

[If applicable, include Institutional Review Board approval information here]

Appendix C  
Sample Survey Questions

1. What is your level of education?
  - a. High school
  - b. Associate degree/Technical college
  - c. Bachelor degree
  - d. Master degree
  - e. Doctoral degree
2. If you attended college, what was your major/specialty?
  - a. Open text field
3. How long have you worked as a mental health case manager across your career, in all settings?
  - a. Drop down boxes with months and years to indicate length of time
4. How long have you worked as a mental health case manager specifically in Polk and/or Marion county?
  - a. Drop down boxes with months and years to indicate length of time
5. Do you provide any mental health case management services to older adults?
  - a. Yes
  - b. No
  - c. A “No” answer leads the participant to a disqualification page and thanks him or her for participating
6. What is the estimate of the total number of older adult clients on your personal caseload?
  - a. Open text field
7. Approximately what proportion of the older adults you work with knowingly or likely suffer from a severe and persistent mental illness, not including dementia or cognitive disorders?
  - a. 100-91%
  - b. 90-81%
  - c. 80-71%
  - d. 70-61%
  - e. 60-51%
  - f. 50-41%
  - g. 40-31%
  - h. 30-21%
  - i. 20-11%
  - j. 10-0%
8. Approximately what proportion of those older adults you identified in the previous question do you believe would benefit from specialty geriatric psychiatric services?
  - a. 100-91%
  - b. 90-81%
  - c. 80-71%
  - d. 70-61%
  - e. 60-51%
  - f. 50-41%

- g. 40-31%
  - h. 30-21%
  - i. 20-11%
  - j. 10-0%
9. Approximately what proportion of the older adults you work with knowingly or likely suffer from dementia or some form of cognitive impairment?
- a. 100-91%
  - b. 90-81%
  - c. 80-71%
  - d. 70-61%
  - e. 60-51%
  - f. 50-41%
  - g. 40-31%
  - h. 30-21%
  - i. 20-11%
  - j. 10-0%
10. Approximately what proportion of those older adults you identified in the previous question do you believe would benefit from specialty geriatric psychiatric services?
- a. 100-91%
  - b. 90-81%
  - c. 80-71%
  - d. 70-61%
  - e. 60-51%
  - f. 50-41%
  - g. 40-31%
  - h. 30-21%
  - i. 20-11%
  - j. 10-0%
11. Of all the older adults you believe would benefit from specialty psychiatric services, how significant do you feel this type of care would be in improving quality of life among these clients?
- a. Insignificant
  - b. Minimally significant
  - c. Significant
  - d. Very significant
  - e. Highly significant
12. Of all the older adults you believe would benefit from specialty psychiatric services, how significant do you feel this type of care would be in decreasing overall caregiver burden for those helping these clients?
- a. Insignificant
  - b. Minimally significant
  - c. Significant
  - d. Very significant
  - e. Highly significant

13. Of all the older adults you believe would benefit from specialty psychiatric services, how effective do you feel this type of care would be in decreasing psychiatric hospitalization for these clients?
  - a. Ineffective
  - b. Minimally effective
  - c. Effective
  - d. Very effective
  - e. Extremely effective
14. Of all the older adults you believe would benefit from specialty psychiatric services, how significant do you think specialty geriatric psychiatric services for these clients would be in reducing overall service utilization through better management of medications, more accurate assessment, and/or caregiver education?
  - a. Insignificant
  - b. Minimally significant
  - c. Significant
  - d. Very significant
  - e. Highly significant
15. If these services were available and some older adults who might benefit from them did not use them, how significant would the difference be in quality of care and overall outcomes be for these clients as opposed to those who do receive them?
  - a. Insignificant
  - b. Minimally significant
  - c. Significant
  - d. Very significant
  - e. Highly significant
16. How significant a barrier would transportation to and from a brick-and-mortar clinic site in West Salem be for your older adult clients, in limiting or preventing their access to these services?
  - a. Insignificant
  - b. Minimally significant
  - c. Significant
  - d. Very significant
  - e. Highly significant
17. What is your estimate of the likelihood that clients would make and keep appointments with this type of specialty clinic if it were available?
  - a. 100-81%
  - b. 80-61%
  - c. 60-41%
  - d. 40-21%
  - e. 20-0%
18. If this program were available, how likely would you be to recommend and/or refer your older adult clients to it for services?
  - a. Would not refer
  - b. Unlikely
  - c. Possibly
  - d. Likely

e. Extremely likely

Appendix D  
Sample Closing and Interview Request

Thank you for your participation in this survey. Your answers will be very helpful in completing this study.

We would also like to ask if you are willing to participate in a brief interview, either via telephone or face-to-face, which would allow us to get some more in-depth information about your views on these specific issues. As with this survey, your participation would remain anonymous, voluntary, and confidential.

If you are willing to do this, please enter contact information below and you will be contacted by one of the investigators with more information.

[Open text field for name and email address]

Appendix E  
Sample Interview Introduction and Questions

Hello, and thank you for taking time out of your busy schedule to participate in this interview. I will be asking you several questions about your perceptions of the need for a specialty geriatric psychiatric sub-clinic meant to serve clients in Polk and Marion counties, as described and referenced in the online survey you have completed.

Information from this interview will be summarized in my notes and then merged with information I will be obtaining from the other people I am questioning on this topic. Though I am asking to record our interview, the recordings will only be kept until I have the opportunity to use them to refine my notes and then the recordings will be destroyed. Your contributions here will be completely anonymous. Is it okay with you to proceed?

[Await approval and verbal consent; begin recording interview]

1. Is there a specific geographical area that you serve as a mental health case manager? If so, can you define that area?
2. How would you describe your level of contact with the clients in your caseload, including comparisons with other types of providers?
3. How much of your time is spent providing services to older adults?
  - a. Follow-up: Is this proportionate to their representation in your caseload?
4. What is your impression of specific psychiatric needs of older adults in your caseload?
  - a. Prompts for responses to this open-ended question include perceived level of care [residence-based, AFH, ICF, SNF, secure memory care unit or other secure facility]; frequency of CM visits and follow-up; frequency of PCP visits; frequency of visits with a prescribing mental health provider; and frequency of emergency service utilization for psychiatric exacerbations
5. How well do you feel the psychiatric needs of older adults specifically are served by the current mental health system in your county?
6. What kind of services do you feel would be helpful to add within your county's mental health department to better assist, evaluate, and treat severe and persistent mental illness and/or dementia or cognitive impairment in older adults?
7. What is your impression of the utility of psychiatric services specifically tailored to treatment of severe and persistent mental illness and/or dementia or cognitive impairment in older adults?
8. In your experience, what is the scope of caregiver burden you see in those who care for a loved one at home with SPMI or dementia?
9. How beneficial do you think specialty geriatric psychiatric services would be in reducing caregiver burden?

This concludes our interview. I sincerely thank you for spending the time to answer these questions and appreciate your contributions to this needs assessment. As with the internet survey, if you have any questions or concerns which arise later, please feel free to contact the investigator(s) with them. [Provide contact information]

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