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Exploring the Potential of Aging Network Services to Improve Depression Care

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EXPLORING THE POTENTIAL OF AGING NETWORK SERVICES TO IMPROVE DEPRESSION CARE

by

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Depression is a prevalent, debilitating yet treatable psychiatric disorder affecting older adults. Older adults underutilize specialty mental health care, persistently receive poor quality care in primary care settings, and have high rates of non-adherence to pharmacotherapy. Aging network services, such as adult day services, homecare services, senior centers, and supportive housing may be able to improve the quality of depression care. However, it is unknown how current models of empirically supported depression care are used within or could be adopted by aging network services. Thus, this study described the organizational factors, staff factors, and current agency practices regarding depression among aging network services to examine their potential to adopt new depression practices.

Using mixed methods, data were gathered on the organizational culture, climate, and structure, current depression practices, and staff attitudes through interviews with program managers (n =20) and surveys with staff (n = 142) for 17 agencies. The judgment sample consisted of agencies that have ongoing contact with community-based older adults and was stratified by agency type (i.e., adult day services, homecare services,

senior centers, supportive housing). Multilevel modeling and constant comparative analysis was completed.

Although agencies did significantly vary according to agency type by organizational context (i.e., funding; the proficiency, rigidity, and resistance of organizational culture; and the engagement, functionality, and stress of organizational climate), these factors were not related to empirically supported depression practices or staff attitudes about depression care. Most barriers to implementing new depression practices were universal. These findings applied to organizational factors (i.e., lack of resources, limited funding) and staff factors (i.e., limited knowledge and interest, concern for client acceptance of depression care). As facilitators, agencies frequently offered psychoeducation, collaborated with health providers, and provided holistic services to promote socialization, independence and health. The distinctions between agency types involved their current depression practices (i.e., supportive housing staff rarely screened for depression due to privacy mandates for housing facilities, competition among homecare agencies prompted delivery of in-home psychotherapy and case management). Findings inform multilevel implementation strategies for translating research into acceptable and sustainable practices for aging network services, and they highlight the broader needs for increased funding, training, and awareness to improve the quality of depression care across agencies.

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Chapter I: Introduction

The Surgeon General has recognized geriatric mental health services as a national priority (U.S. Department of Health and Human Services, 1999), and the White House Conference on Aging (WHCOA) has voted mental health as one of the top 10 concerns for policy development (WHCOA Policy Committee, 2006). Depression, which is considered a prevalent, deleterious, and treatable psychiatric disorder affecting older adults, is a particularly pressing problem. Empirically supported practices exist, yet simply knowing about these practices is insufficient because older adults underutilize specialty mental health care, persistently receive poor quality care in primary care settings, and have high rates of non-adherence to pharmacotherapy (Charney et al., 2003; Zivin & Kales, 2008).

Thus, the President's *New Freedom Commission on Mental Health* identified public agencies as a potential site for integration of mental health care to reach clients in their existing service systems (U.S. Department of Health and Human Services, 2004). In particular, research has emphasized the promise of collaborative care treatment models for depression in older adults. Collaborative care is defined as a system-level change to primary health care settings that involves using nurses or social workers as depression care managers to aide screening, adherence to treatment protocols, and use of psychiatric consultation (Katon, 2003).

For older adults, aging network services may be opportune places for mental health integration through collaborative care models. The aging network services are defined as an informal coalition of agencies providing in-home and community-based services to help promote health and independence of older adults. Aging network services

span across a continuum of care and range from information and referral services, senior centers, supportive housing, homecare services, adult day services, assisted living, and institutional care (Wacker & Roberto, 2008). Particularly, services that maintain ongoing relationships in older adults' homes or communities and have clinical staff may have existing resources to incorporate depression care, yet little is known about their current response to depression and their capacity to adopt new practices.

The Prevalence of Depression in Aging Network Services

As countries around the world face increasing proportion of older adult populations, the number of older adults with mental illness is also expected to quadruple by 2030 (Jeste et al., 1999). Specifically, late life depression is a significant public health issue that is associated with increased disability and poor quality of life (Beekman et al., 2002; Penninx et al., 1998). Depression increases risk of overall mortality (Adamson, Price, Breeze, Bulpitt, & Fletcher, 2005; Penninx et al., 2001; Unützer, Patrick, Marmon, Simon & Katon, 2002) and suicide (Heisel & Duberstein, 2005). Older adults with depression exhibit poorer outcomes on other medical conditions, such as diabetes and heart disease, due to the impact of depression on a person's adherence to medication regimens, diets and other recommended health behaviors (Evans et al., 2005; Katon, 1996). Subsequently, this leads to significantly higher total health care costs for depressed older adults when compared to non-depressed older adults according to Medicare claims data (Unützer et al., 2009).

Between 8% to 16% of community-dwelling older adults experience clinically significant depressive symptoms (Beekman, Copeland & Prince, 1999), and rates of

major depression range from 1% to 9% (Beekman et al., 2004; Blazer, Burchett, Service, & George,1991; Gallo & Lebowitz, 1999). Prevalence rates are above 20% for hospital (Koenig, Meador, Cohen & Blazer, 1988) and institutional long-term care settings (Parmelee, Katz, & Lawton, 1989). Research specific to aging network services indicates higher prevalence rates for depression due to the correlation between depression and comorbid medical conditions (Egede, 2007). Multiple medical, functional and psychosocial comorbidities are common among aging network service clients by nature of the service eligibility requirements (Proctor, Hasche, Morrow-Howell, Shumway, & Snell, 2008). Older clients receiving publicly funded homecare services have prevalence rates of 6% for major depression and 19% for minor depression (Morrow-Howell et al., 2008). Thirteen percent of home health care clients have major depression (Bruce et al., 2002), and 10% have clinically significant depressive symptoms (Ell, Unützer, Aranda, Sanchez, & Lee, 2005). For adult day services, researchers extracting data from service records reported that one in five older adult clients had some documented psychiatric diagnosis, including depression (Richardson, Dabelko, & Gregoire, 2008). For depression rates in other aging network services, such as senior centers or supportive housing, the literature is scarce.

However, when risk factors for depression are considered, it is suspected that client populations in aging network services will also be vulnerable to depression. Typical clients of aging network services tend to be female, widowed, above the age of 75, and report high rates of functional disabilities (Gelfand, 2006; Wacker & Roberto, 2008). This description is similar to the risk factors for depression. Older adults resemble the general population for risk factors, in that female gender, lack of social

support, disability, lifetime history of depression, and negative life events, such as death of a spouse, are significantly associated with the risk for depression (Cole, 2005; Schoevers et al., 2000). Chronic depression and non-response to treatment have been associated with increasing age, socio-economic disadvantages, impaired social support, increased medical comorbidity, pain and impaired physical functioning (Bair, Robinson, Katon, & Kroenke, 2003; Bogner et al., 2005; Charlson & Peterson, 2002; Hayes et al., 1997; Lyness et al., 1996; Mojtabai and Olfson 2004). Thus aging network services responding to medical, functional, and psychosocial needs may be seeing clients at great risk for depression.

The Poor Quality of Current Depression Care

Late-life depression is predominantly treated through general medical and social services as part of the de facto mental health care system (Reiger et al., 1993). In these settings, older adults are less likely to be screened for depression, even though empirically supported screening tools exist (Areán & Ayalon, 2005; Pignone et al., 2002). From one observational study of patient-physician interactions involving discussion of depression, physicians used formal depression assessment tools only three times out of 389 visits (Tai-Seale et al., 2005). Another study documented that older adults are less likely than younger age groups to be systematically screened for mental health needs in primary care (Edlund, Unützer, & Wells, 2004). Lastly, for older social service clients with depression, only one-quarter of their agency files contained documentation of their depression status (Proctor, Morrow-Howell, Choi, & Lawrence, 2008).

Empirical support is extensive for pharmacotherapy (Baldwin et al., 2003; Shanmugham, Karp, Drayer, Reynolds, & Alexopoulos, 2005; Segal, Pearson, & Thase, 2003) and psychotherapy (Mackin & Areán, 2005; Scogin, Welsh, Hanson, Sump, & Coates, 2005) to treat depression, yet older adults' continue to receive poor care. For pharmacotherapy, questions of overuse, inadequate dosage, and disparities in access persist. Antidepressants are the third most commonly prescribed medication in the United States (Center for Disease Control, 2004) and approximately two-thirds of depressed older adults receive pharmacotherapy according to Medicare claims data (Crystal, Sambamoorthi, Walkup, & Akincigil, 2003). These high utilization rates do not indicate quality care because claims data only describes prescriptions accessed. Estimated non-adherence to antidepressant medications is between 40% and 75% (Salzman, 1995), and approximately one out of five depressed adults did not fill an initial prescription because of cost (Piette, Heisler, Wagner, 2004). Fewer than half of older adults are treated with doses in accordance with expert guidelines in primary care settings (Katon, Von Korff, Lin, Bush, & Ormel, 1992; Katon et al., 2004; Simon, 2002). Older minority adults are two times as likely not to receive antidepressants compared to Caucasian older adults (Fyffe, Sirey, Heo, & Bruce, 2004; Strothers et al., 2005), and minority race is significantly associated with not receiving guideline-concordant pharmacotherapy (Crystal et al., 2003).

While potential overutilization and poor quality of pharmacotherapy is a significant problem, the underutilization of psychotherapy is also striking (Charney et al., 2003; Rosenbach & Ammering, 1997). From a telephone survey of a national community-based sample, only 5% of older adults with a psychiatric diagnosis reported

using counseling services (Klap, Tschantz-Unroe, & Unützer, 2003). More recent results based on Medicare claims data indicated that 14.4% of older adults with a diagnosis of depression received only psychotherapy and 25.5% received both psychotherapy and antidepressants (Crystal et al., 2003). This rate is similar to results reporting that 15.1% of depressed older adults received counseling services upon discharge from an acute psychiatric hospitalization (Li, Proctor, & Morrow-Howell, 2005). Furthermore, a study of Medicare claims data and linked survey data concluded that while 25% of Medicare beneficiaries with an episode of depression received psychotherapy, of these 33% of beneficiaries remained in consistent treatment for two-thirds of their episode of care (Wei, Sambamoorthi, Olfson, Walkup, & Crystal, 2005). With this inadequate use of pharmacotherapy and psychotherapy, researchers focused on improving the quality of depression treatment offered by the chief de facto mental health care provider—primary care physicians.

The Limited Reach of Quality Improvement Efforts

This gap between knowledge about effective treatments and the delivery of empirically supported practices has been characterized as a "chasm" in quality and a priority for future research from the National Institute of Mental Health (Institute of Medicine, 2006; U.S. Department of Health and Human Services, 2006). With private foundations and government institutes funding over $50 million to research and implement collaborative care, it is the dominant system-level intervention for improving the quality of depression treatment (Katon & Unützer, 2006). Collaborative care is defined as a system-level change to primary care that involves integrating mental health

professionals, improving record-keeping systems, and formalizing protocols for empirically supported care and patient self-management (Katon, 2003). Several national groups, such as the *President's New Freedom Commission* (U. S. Department of Health and Human Services, 2004), *National Institute of Clinical Excellence* (Whitty & Gilbody, 2005), and the *National Business Group on Health* (Center for Prevention and Health Servicess, 2005) recommend collaborative care due to its extensive evidence-base (Badamagarav et al., 2003; Bruce et al., 2004; Neumeyer-Gromen, Lampert, Stark, & Kallischnigg, 2004) and its doubling of the effectiveness of depression treatment for older adults (Unützer, Katon, et al., 2002) .

Unfortunately, primary care settings have faced several barriers to adopting collaborative care (Unützer, Powers, Katon, & Langston, 2005). Barriers include organizational culture, limited resources for sustaining staff, and poor infrastructure (Grympa, Haverkamp, Little, & Unützer, 2006; Rundall et al., 2002). Lin and colleagues (1997) report that physicians reverted to baseline "non-guideline-concordant" treatment after grant-funded organizational supports were eliminated. Similarly, in the eight health care organizations involved in a collaborative care study, only one site has sustained use of the integrated mental health professionals and treatment protocols beyond the grant period (Grypma, Haverkamp, Little, & Unützer, 2002). Strained resources are further exacerbated because most physicians operate in small, geographically distinct locations and are not intimately connected within a large organization (Barry & Frank, 2006; Belnap et al., 2006). Lastly, confining collaborative care to primary care also limits its reach to populations with routine access to primary care (Clairborne & Vandenburgh, 2001).

Expanding the Responsibility of Improving Depression Care

With this understanding that prevalence rates vary by setting, that older adults underutilize specialty mental health care, and that primary care frequently provides inadequate care, it is crucial that a variety of medical, psychiatric, and social service settings respond to depression—including aging network services. Furthermore, system-level interventions, such as collaborative care, face multiple barriers. Thus, the potential of other service systems to improve the quality of depression care needs to be explored. For over 30 years, the Aging Network has consisted of an informal coalition of agencies providing in-home and community-based services. In most states, aging network services administer Medicaid waiver funds through Area Agencies on Aging and State Units on Aging (Carbonell & Polivka, 2003); however, private for-profit and not-for-profit organizations also offer corresponding services. It is estimated that these services reach 13 million older adults age 60 and over, with a disproportionately higher number of minority and low-income older adults in comparison to the general older adult population (O'Shaughnessy, 2008). Wacker and Roberto (2008) divided aging network services into different types depending on the core service or product offered, such as:

1) *Community services* for older adults with low-levels of dependency and high autonomy. Examples include: information and referral, income assistance, volunteer and educational programs, and senior centers.
2) *Support services* to help older adults maintain their level of functioning. Examples include nutrition, transportation, supportive housing, and legal help.

3) *Long-term care services* for older adults with greater dependency needs. Examples include case management, homecare services, adult day services, assisted living, adult foster homes, and nursing homes.

In the current study, aging network service agencies were included if they offered ongoing services from social service and other staff to community-dwelling older adults. Thus, not all services types listed above were included. For example, since information and referral is mostly accessed at a single point in time, this service did not meet criteria for ongoing treatment. Since neither transportation nor legal services typically involve nurses, social workers, or other counseling staff, these services were also excluded from the study. Lastly, even though improving depression care in institutional-based services is a pressing need these services were excluded so the study may focus on the unexplored potential of community-based services. Institutional-based services, such as nursing homes, assisted livings, and hospitals, have organizational structures that more often follow a medical model; thus, these service types are not representative of aging network services that are considered primarily social services. Furthermore, community-based services are a growing service sector that meets the older adults' preference for remaining at home or in non-institutional settings (Gibson, Gregory, Houser, & Fox-Grage, 2004).

Empirical literature on community-based care is sparse and fraught with problems of inconsistencies in the operationalization of services, outcomes measures, and sample populations (Hyduk, 2002; Gelfand, 2006; Lee & Gutheil, 2003). This lack of precision in service definitions and boundaries adds unique implementation challenges for aging network services settings (Feldman & Kane, 2003). Furthermore, the role of community-based social services in addressing late-life depression is relatively unexplored. In most

service settings, mental health care is not a specified mission. Goals for aging network services often are comprehensive by promoting global functioning, improving quality of life, and minimizing need for nursing home placements—all which may benefit from the inclusion of mental health services (National Association of Statue Units on Aging, n.d.).

Several case examples of depression care exist in aging network services through co-location of state-sponsored mental health services, designation of a care manager for clients with depression, and outreach efforts (Frederick, et al., 2007; Gelfand 2006). Recent studies also describe the efficacy of using senior housing (Ciechanowski et al., 2004; Rabins et al., 2000), public case management and other gerontological social service agencies (Luptak, Kaas, Artz, & McCarthy, 2008; Quijano et al., 2007), and home health care agencies as settings for collaborative care treatment models (Banerjee, Shamash, MacDonald, & Mann, 1996; Ell et al., 2007). Thus, with this precedence and the overarching demand to provide quality depression care to older adults, an examination of how aging network services may help improve depression care was warranted.

Research Aims

Glisson's (2002) organizational social context theory provided guidance to this study that explored aging network services' current response to depression through a stratified sample of 17 agencies per four types of aging network services: adult day services, homecare services, senior centers, and supportive housing. With a mixed methods approach, data collection occurred through in-depth qualitative interviews with

program managers, who were acting as key informants (k = 20), and self-administered surveys with staff (n = 142). Study aims included:

Aim 1: Describe aging network services' current depression practices and key informants' perceptions (i.e., facilitators and barriers) related to these practices.

Aim 2: Examine how variations in current depression practices are related to organizational context and staff-level factors among aging network services.

Aim 3: Classify the potential, among types of aging network services, to adopt new depression practices.

Hypotheses

First, in *Aim 1*, it was hypothesized that the presence of current depression practices will vary among types of aging network services. Due to the limited amount of existing literature on depression care among the service types (i.e., adult day care, homecare services, senior centers, and supportive housing) and to the exploratory nature of this qualitative aim, no direction was supposed for this hypothesis. For this hypothesis, data were drawn from qualitative interviews with program managers to identify perceptions of the facilitators and barriers to depression care in aging network services. Interviews also explored the congruence of current practices to indicators of empirically supported depression care (Oxman et al., 2006).

Second, hypotheses in *Aim 2* are based on the organizational social context theory (Glisson, 2002) and focus on the relationship between positive cultures and climates with

the dependent variables of staff attitudes (attitudes toward evidence-based practices, staff morale) and agency depression practices (count of empirically supported depression practices used by the agency per Oxman et al., 2006). The hypotheses are:

H2.1: Proficient cultures are directly associated with staff's positive attitudes to new depression practices, with staff morale, and with the agency's use of current depression practices.

H2.2: Rigid cultures are inversely associated with staff's positive attitudes to new depression practices, with staff morale, and with the agency's use of current depression practices.

H2.3: Resistant cultures are inversely associated with staff's positive attitudes to new depression practices, with staff morale, and with the agency's use of current depression practices.

H2.4: Functional climates are directly associated with staff's positive attitudes to new depression practices, with staff morale, and with the agency's use of current depression practices.

H2.5: Engaging climates are directly associated with staff's positive attitudes to new depression practices, with staff morale, and with the agency's use of current depression practices.

H2.2: Stressful climates are inversely associated with staff's positive attitudes to new depression practices, with staff morale, and with the agency's use of current depression practices.

Researchers have tested these proposed relationships between organizational context in children's mental health services and affirmed the association between

organizational climate and culture with staff attitudes (Aarons & Sawitzky, 2006a), staff behaviors (Glisson & James, 2002), and access to mental health services (Glisson & Green, 2005). Two specific constructs are supported by the literature: constructive culture and positive climate. *Constructive culture* describes an organization that has norms promoting positive, proactive behavior and satisfaction though being highly proficient, yet minimally rigid and resistant. Second, a *positive climate* is the employees' perception that the work environment positively impacts their well-being and it is characterized by being highly functional and engaging but minimally stressful. For *Aim 2*, multilevel modeling was used with survey data to examine organizational (i.e., culture, climate, structure, financing, penetration of services into market, and staff retention/turnover) and staff (i.e., attitudes and knowledge) predictors of current depression practices and staff attitudes.

Due to the exploratory nature of *Aim 3*, no hypotheses were proposed. Based on findings from Aims 1 and 2, the aging network services types were categorized by their potential (i.e., high, medium, low) to adopt new depression practices. By using the quantitative findings along with qualitative data on the key informants' perceived facilitators and barriers, a list of factors that indicate potential level was developed and compared to current literature on implementation of empirically supported depression care models for older adults. The guiding research questions involved:

- What constructs informed the classification of agency potential to adopt new depression practices?
- What commonalities occurred across agencies in classifying their potential to adopt new depression practices?

- How did types of aging network services (i.e., adult day services, homecare services, senior centers, and supportive housing) differ in their potential to adopt new depression practices?

To place the findings in context of the methodological, theoretical, and empirical base, the dissertation is organized as follows. Chapter 2 provides a review of the theoretical and empirical background for the main study constructs and aims. Chapter 3 details the methodological approach for sampling, measurement, data collection, and data analysis. Chapter 4 contains the qualitative findings of *Aim 1* regarding perceptions of aging network services' current depression practices. Chapter 5 presents the descriptive, bivariate, and multi-level modeling results for *Aim 2* regarding the relationship between organizational context, staff factors, and the provision of depression practices among aging network service types. Chapter 6 is the first part of the discussion section, in that it presents how the qualitative and quantitative findings were integrated and interpreted to determine adoption potential among aging network service types as part of *Aim 3.* Finally, Chapter 7 concludes the discussion section by summarizing the main findings in the context of study limitations and strengths, and by discussing implications of these findings.

Chapter II: Theoretical and Empirical Basis

Organizational Social Context Theory

To explore the potential of aging network services to improve depression care, this study used Glisson's (2002) theory of organizational social context. The social context encompasses the interpersonal relationships, social norms, behavioral expectations, individual perceptions, attitudes, and other psychosocial factors that preside over organizational members' work behaviors and attitudes. Using a multilevel approach, Glisson (2002) specifies this theory by describing that work performance (i.e., work behaviors and attitudes) is a function of the climate, culture, technology, and structure of an organization. This theory provides the basis for assessments of organizational and community determinants in the adoption of empirically supported practices (Glisson, 2007; Glisson, Landsverk et al., 2008). It also has guided an intervention that modifies organizational barriers to increase mental health service availability, responsiveness, and continuity for adolescents (Glisson, & Schoenwald, 2005).

Health services literature has also recognized the role of organizational theory in improving the quality of care. Ferlie and Shortell (2001) identify that organizational culture and the properties of the providing team are key influences on quality improvement efforts in health care. In fact, Shortell and colleagues (2004) report that culture and perceived effectiveness were associated with the number and depth of changes made during a national evaluation of quality improvement efforts for chronic illnesses, including depression.

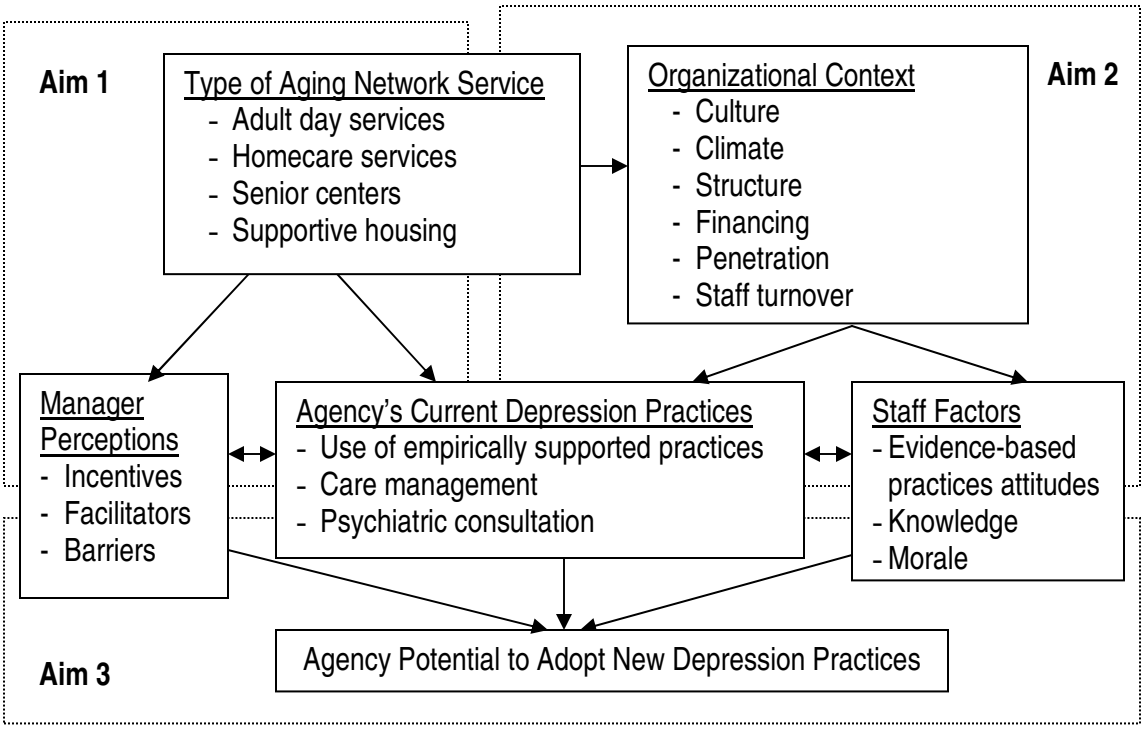
Conceptual Framework

Figure 2.1 depicts the model for applying organizational social context theory to aging network services' adoption of depression practices. According to this theory, aging network services vary on organizational context (technology, culture, climate, and structure), resulting in different staff attitudes and behaviors (i.e., depression practices) which ultimately will influence how staff behaviors are changed and client outcomes. The end outcome was the organization's potential to adopt new practices.

The theory used the term "technology" to describe the product or service resulting from the organization's raw materials, skills, knowledge, and equipment. As with other human services, the technology in aging network services is considered a "soft technology" since it is dependent on human skills and knowledge instead of a set product made from raw materials or equipment. Thus, aging network services can be divided into different types depending on the core technology offered by the staff through agency programs (i.e., adult day services, homecare services, senior centers, and supportive housing). The implementation of soft technologies, in particular, are influenced by existing organizational norms because there is no consistent agreement about how these technologies should be implemented, their outcomes are unpredictable, and evaluating the effectiveness of implementing such technologies is difficult (Glisson, 2000).

Although other political and economic factors may influence the adoption of new depression practices, only the staff- and agency-level variables were evaluated because aging network services operate predominantly under the same policies, such as the Older Americans Act, Medicare and Medicaid. Since the sample was from one geographical region, within in one state, the potential for variation is further diminished.

Figure 2.1: Model of organizational social context for aging network services' adoption of depression practices



Study Variables

As background information, a description of each aging network service type is provided.

Adult Day Services

Adult day services, also referred to as adult day care or adult day health care services, is defined as a community-based group program that offers individualized care plans for adults with both physical and cognitive functional impairments in a protective setting during part of a day but less than 24-hours. It is a structured and comprehensive program that provides a variety of health, social, and other related support services. Average duration of care is 2 years. Adult day services include personal care assistance

for activities of daily living, therapeutic activities, nutrition and therapeutic diets, social services, nursing, rehabilitation services, emergency care, family education, counseling, and transportation (Gelfand, 2006; Wacker & Roberto, 2008).

Even with the average daily census for adult day services programs at 20 clients, the *National Adult Day Services Association* (2007) estimates that enrolled client population is over 150,000 Americans. Seventy-eight percent of the programs are not-for-profit private or public organizations; while 22% are private for-profit. Three-quarters of the programs are affiliated with other aging network services (i.e., homecare, institutional long-term care, medical centers, or multi-purpose senior service organizations.) As of 2005, all states offer coverage for adult day services as a Medicaid benefit or through state waivers. VA funds, private pay, philanthropic support, and private long-term care insurance also add to the funding mix (O'Keeffe & Siebenaler, 2006).

Homecare Services

Homecare services are offered by both health and social service agencies, and it includes a range of services with the objective to maintain people in least restrictive environments for as long as possible. *Home health care* consists of medical, nursing, social or therapeutic services that were ordered by a physician, delivered at home under the supervision of a nurse, for an average duration of 2 to 3 months. *Homemaker services*, which are supportive rather than medically oriented, assist with instrumental activities of daily living through homemakers and chore workers whom complete tasks of laundry, light house cleaning, meal preparations, or maintenance. *Home health aides* provide personal care (i.e., grooming, bathing, transfers and ambulation, etc.). Homecare

may also incorporate case management, telephone reassurance programs or friendly visitor services. Together, these services are to be coordinated, individualized, and responsive to fluctuations in clients' functional and medical needs (Wacker & Roberto, 2008).

According to the *National Association of Homecare and Hospice*, 20,000 homecare providers serve 7.6 million clients (Benjamin & Naito-Chan, 2006). Funding sources for homecare include Medicare, Medicaid, private health insurance plans, Title XX of Social Service Block Grants, Title III of the Older Americans Act, Veterans Administration, and TriCARE (previously called CHAMPUS) for civilian health care of uniformed service members. The majority of homecare agencies are for-profit, but not-for-profit agencies often offer services on a sliding scale.

Senior Centers

Per the Older Americans Act, senior centers are designated focal points in a community where older adults may come together for a broad array of services and activities, including but not limited to nutrition, recreation, social, educational, information and referral, and fitness programs. Their primary service mission is their nutritional programs through congregate meals and home delivered meals, with the home-delivered meal programs consisting of the largest and fastest growing portion of the program (i.e., 59% of meals being served to frail older people living at home) (O'Shaughnessy, 2008). Approximately 10 million older adults are served each year by an estimated 15,000 senior centers (Beisgen, & Crouch Kraitchman, 2003). Senior centers are located in a variety of facilities such as old schools, community centers,

churches, or housing projects. Although some researchers speculate that older adults participating in senior centers "age in place" for several decades (Wacker & Roberto, 2008), from their early sixties to their mid-eighties, empirical evidence is not available to support this estimated duration of service use. Senior centers are predominantly not-for-profit organizations that receive a mixture of funding from public sources, in-kind contributions, and voluntary financial support. The Older Americans Act encourages senior centers to seek contributions from participants to defray costs, but it forbids senior centers to require fees (Rozario, 2006).

Supportive Housing

While the majority of older Americans live in conventional housing (82% in single-family homes, multiunit structures, or mobile homes), approximately 4 to 5% of older adults live in supportive housing that is considered non-institutional (Gonyea, 2006). Supportive housing is defined as environments that are designed to provide varying degrees of assistance and oversight. The older adults are expected to be self-sufficient and capable of most self-care activities, but in need of some other assistance. Examples include Elder Cottage Housing Opportunities (ECHO), senior congregate housing facilities (i.e., public and non-public senior apartments), continuing care retirement communities, board and care homes, and adult foster care (Wacker & Roberto, 2008). Most supportive housing facilities offer the older adult private rooms or apartments that are connected to shared areas and services for dining, socialization, recreation, and supportive services (i.e., laundry, meal preparations, and other housekeeping services) in a "secure barrier free environment." Although medical

personnel are not typically staffed, other on-site staff include building managers, social/activity organizers, and sometimes social workers or nurses. Minimal research is available to describe the duration of residence in supportive housing facilities. Funding sources include public housing dollars, private pay, not-for-profit organizations (i.e., Catholic Charities), and for-profit business.

Organizational Context

Per Glisson (2002), organizational context involves the technology (i.e., service type), as described above, plus the constructs of culture, climate, and structure. Although, structural factors may contain variables for financing, penetration, and staffing, these three constructs are considered separately due to literature supporting their importance in the adoption of empirically supported practices (Aarons, Zagursky, & Palinkas, 2007). These variables are defined below.

First, *culture* is the normative beliefs and shared behavioral expectations of an organization. It is a shared experience of coworkers and is taught to new members through observation, modeling, and implicit and explicit incentives. For example, constructive cultures promote positive, proactive behavior through norms of motivation, individualism, support, and interpersonal connections (Cooke & Szumal, 2000). Per Glisson's (2007) recent work, constructive cultures are characterized as being highly proficient but having low rigidity and resistance. Proficiency is defined as involving expectations for staff to prioritize client well-being, competency, and use of up-to-date knowledge. Resistant cultures involve expectations that staff show minimal interest in change and new practice methods and that change efforts are faced with criticism and

apathy. Rigid cultures are characterized by staff having minimal flexibility, discretion, and input into decision-making due to bureaucratic rules and regulations.

Second, psychological *climate* describes the individual perceptions of how the work environment impacts one's well-being. When individual-level responses represent a shared perception among staff (i.e., overall consistency of responses is greater than 0.70), they constitute the organization's climate or a global pattern in which the multiple dimensions of climate produce an overall effect (Hemmelgarn, Glisson, & James, 2006). These dimensions are aggregated to obtain a positive or negative valence for the organization's climate (Cooke & Szumal, 2000). Multiple dimensions measure climate, such as emotional exhaustion, depersonalization, role conflict, and role overload and have previously been characterized as being related to worker burnout (Maslach & Jackson, 1981). Based on this framework, Glisson (2007) proposes three key characteristics of organizational climate: engagement, functionality, and stress, with more positive climates having high levels of engagement and functionality, while having low levels of stress. Glisson (2007) described engaged cultures that facilitate staff accomplishment of worthwhile goals, staff involvement in work tasks, and staff concern for clients. Functionality is defined as cooperative work environments that offer clear understandings of staff roles, fit within the organization, and means to be successful. Lastly, stressful climates relate to emotional exhaustion, overload, and inability to get necessary tasks accomplished.

Third, indicators of *structure* include the distribution of power (i.e., centralized or decentralized), procedures for care, and formal designation of roles/division of labor. Although still important for understanding the organizational context, Glisson (2002)

describes that no optimal structure can be applied to human service organizations due to the diversity in technologies offered. A few structural factors may be important in understanding how depression practices are implemented into aging network services and were included as covariates, such as category (i.e., public, non-profit, etc.), size of agency, caseload sizes, and distribution of power.

Fourth, *financing* describes the funding sources for aging network services generally along with sources specific to mental health services. Per the literature, understanding the financial incentives and disincentives related to the provision of mental health services is a key factor related to the eventual adoption of empirically supported depression practices (Kilbourne et al., 2004; Pincus, Pechura, Elinson, & Pettit, 2001; Unützer, Schoenbaum, Druss, & Katon, 2006). Economic incentives are both intentional and unintentional inducements of how health care should be provided by the structure and regulations of its financing (Ettner, 1997; Wagner, Austin, & Von Korff 1996). Researchers have described disincentives to treat depression and to work with mental health specialists, yet incentives encourage the overutilization of antidepressant medications (Pincus et al., 2001). Since it is unknown how incentives operate in aging network service settings, this construct was explored through qualitative probing with key informants.

Fifth, to understand the potential impact of implementing depression services in a given aging network service, *penetration* means the size of client population (i.e., potential reach of the new service).

Lastly, *staff turnover* was explored. Problems with staff retention and high rates of turnover impede organizational functioning and increase costs—which is particularly

problematic for mental health and human services (Glisson, Schoenwald, et al., 2008; Howard & Gould, 2000). For aging network services, Newcomer, Fox, & Harrington (2001) relate the high rates of staff turnover and staff shortages with overarching concerns for the quality of care. Researchers report that both culture and climate impact staff turnover (Aarons, & Sawitzky, 2006b), and that turnover is an important factor influencing the adoption of innovative practices (Aarons, 2006; Glisson, Dukes, & Green, 2006). Ideally turnover would be observed longitudinally with both staff and organizational data; however, two surrogate means for measuring staff turnover were used in this study to fit with data collection procedures. First, the key informants were asked to discuss the occurrence and impact of staff turnover. Second, the staff were asked for their job tenure (years working in the present employment setting) which will be used to calculate the percent of staff with over twelve months tenure. This percentage accounts for the possibility that social service staff may have a subset of employees with long job tenure and a subset of positions that have high turnover.

Manager's Perceptions of Facilitators and Barriers to Depression Care

Perceived incentives, facilitators, and barriers to depression care were obtained from both the managers and staff. The importance of these constructs is based on the barriers to implementing collaborative care and other depression practices (Barry & Frank, 2006; Belnap et al., 2006; Grympa, et al., 2006; Rundall et al., 2002). Since a validated scale to measure these constructs does not exist, open-ended questions were used to obtain qualitative data in both the managers' interviews and staff surveys.

Agency's Current Depression Practices

Researchers report the effectiveness of treating depression in primary care settings with a collaborative care model (Unützer, Katon, et al., 2002; Bruce, et al., 2004). To promote treatment fidelity, they also provide preliminary frameworks for empirically supported practices when implementing collaborative care (Belnap et al., 2006; Meredith et al., 2006; Pincus et al. 2006; Rollman, Weinreb, Korsen, & Schulburg, 2006). Based on this primary care literature, Table 2.1 depicts how this investigator applied these indicators of empirically supported depression care to aging network services by using a 3-component model that involves 1) key practices, 2) case management, and 3) a supervising psychiatrist (Oxman et al., 2006). Key practices include nine items to measure structural resources and process of care factors that focus on screening, written protocols, documentation, care plans, frequency of contacts, communication with primary care and other means of addressing barriers to mental health care. The measure does not specify follow-up contact with the primary care physician, and instead left this discussion more general to any contact with primary care physicians.

Although specific measurement items for case management services or psychiatric supervision were not included in the original measure, they were included in the conceptualization of current depression practices for this study. It was expected that variation among aging network service agencies occurs for use of depression screening, provision of psychotherapeutic services, formalized connections with psychiatrists, and integration of services with primary care and other mental health providers.

Table 2.1: Indicators of current depression practices in aging network services

	Constructs for Primary Care*	Adapted Constructs for Aging Network Services
Key Practices	Baseline standardized depression screen	Assessment contains depression screen
	Suicide assessment	Has written protocols to assess and intervene for suicide
	Educational materials about depression	Offers educational materials about depression
	Treatment barrier	Addresses barriers to mental health treatment
	4-week treatment adjustment	Protocols allow for revisions to care plan at 4 weeks
	Adjust treatment until remission	Monitors and alters care plan to achieve remission
	Confirm primary care provider follow-up	Has contact with clients' primary care provider
	Care manager calls before primary care visit	Facilitates contact and appointments with primary care
	At least 1 primary care visit and 2 case management calls in three months	Documents service use and a minimum of two case management contacts with client in three months
Case Management	*Not included*	Offers non-mental health case management
Psychiatric Supervision	*Not included*	Psychiatric consultation occurs

*Based on Oxman et al., (2006) indicators of empirically supported depression care for primary care settings. Column on adapted constructs for aging network services was developed by the investigator of this study.

Staff Attitudes and Knowledge

Aarons (2005) identifies four domains of staff attitudes relevant to the adoption of empirically supported practices, which include 1) appeal of the new unspecified practice, 2) requirements to adopt the new practice, 3) openness to innovation, and 4) perceived divergence of the new practice from current behaviors. By assessing attitudes toward new, unspecified interventions, Aarons reports empirical findings of a relationship between organizational context and staff attitudes (Aarons & Sawitzky, 2006a). Furthermore, since staff attitudes specific to stigma and misconceptions about depression

in late life may create barriers (McCrae et al., 2005; Unützer, Katon, Sullivan, & Miranda, 1999), this construct was specified to attitudes toward new depression practices. To measure knowledge, the staff were asked about any training they have received regarding depression and their confidence in recognizing depression in their clients. As another staff-level indicator, morale may also be influenced by organizational context and impact implementation efforts (Glisson, Landsverk, et al., 2008). Morale indicates the individual staff's state of willingness and confidence to perform expected work behaviors.

Potential to Adopt Empirically Supported Depression Practices

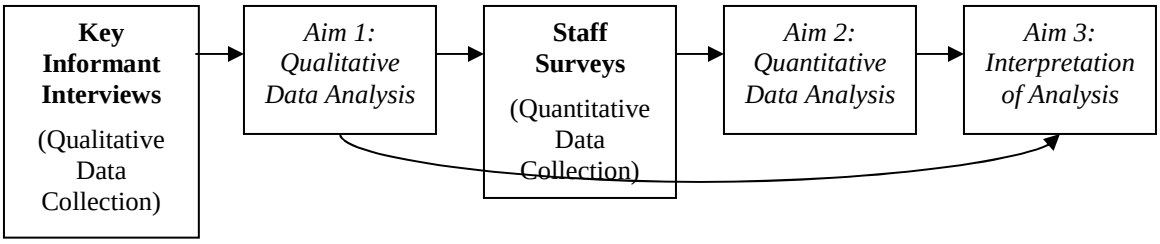
A growing body of literature describes how and why new practices are adopted. Stemming from Rogers' (2003) *Diffusion of Innovations* model, an innovation (i.e., new depression practice) is communicated over time to potential adopters (i.e., service providers). The spread of an innovation is a function of how the potential adopters perceive it as a relative advantage over current practices and as compatible with existing behaviors and attitudes. Further guided by Aarons, Zagursky, & Palinkas (2007) concept mapping of stakeholder perspectives on adopting empirically supported practices, Aim 3 intended to identify a set of factors from organizational context, staff attitudes and knowledge, current depression practices, and perceptions data to develop a list of facilitators and barriers. These findings were combined to classify an aging network service type's potential for adopting new depression practices as high, medium, or low.

Chapter III: Methods

Design

This study followed a sequential exploratory mixed methods approach (Tashakkori & Teddlie, 2003) by first using in-depth interviews with key informants (i.e., program managers) and then staff surveys. The approach involved an exploratory use of cross-sectional data and is similar to other mixed method designs recommended for organizational research (Lee, 1999). As depicted in Figure 3.1, the data collection and data analysis occurred sequentially. First qualitative in-depth interviews and the analysis of these interviews occurred. The qualitative results informed the sampling for the staff surveys. Once the quantitative data were analyzed, Aim 3 incorporated results from both the qualitative and quantitative findings to draw final conclusions. Although all data collection was drawn from individual responses, analysis involved multiple levels to account for the organizational unit, when applicable.

Figure 3.1: Sequential exploratory mixed methods design

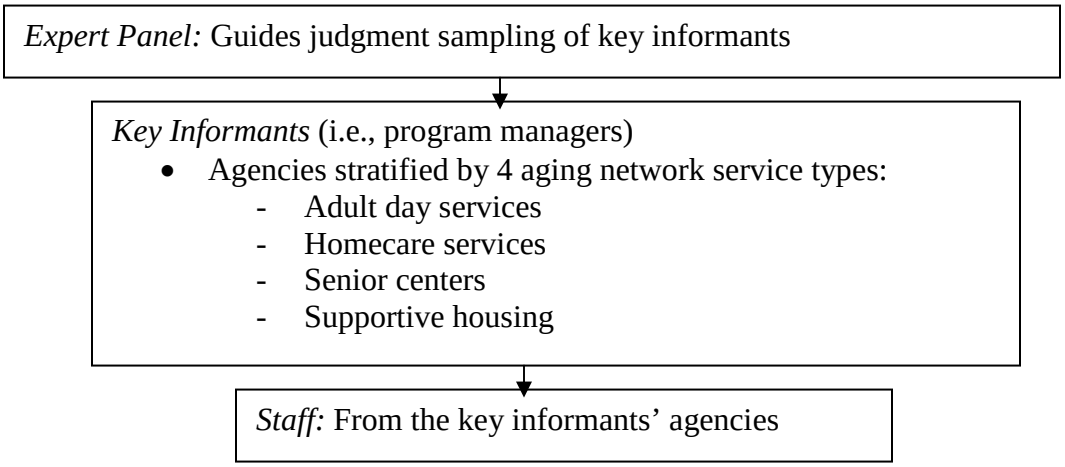


Sampling Strategy

The stratified judgment sample consisted of key informants and staff from 17 aging network service agencies. The sample was stratified by the four service types of

interest: adult day services, homecare services, senior centers, and supportive housing. Agencies were selected at the recommendation of an expert panel for key informants, and then staff clustered within those agencies, as depicted in Figure 3.2. Use of judgment sampling is a common qualitative sampling technique that involves selecting a small and flexible sample to fulfill the study aims (Marshall, 1996a). The goal was to acquire information from the key informants who can provide more information and deeper insights because of their personal skills or position in society. Ideal characteristics for a key informant included their role as an expert or leader in the community, knowledge, willingness, communicability, and impartiality (Marshall, 1996b).

Figure 3.2: Sampling plan



An expert panel met once to assist with sample selection according to the above characteristics. Generalizability of the key informants was not the goal. Dr. Nancy Morrow-Howell recommended the expert panel members which included the two Area Agency on Aging regional managers and a former State Unit on Aging Regional Manager for the study's geographical area. The expert panel also provided consultation

via e-mail and in-person meetings periodically throughout the data collection phase to provide insights into recruitment strategies and instrumentation.

The staff sample included all agency staff, full-time and part-time, who have contact with older adult clients within a given service type. Volunteers were not included due to potential variations in their role and responsibilities. However, it is important to note that in 2006 the aging network was estimated to be staffed by over 22,000 paid staff versus 20,000 volunteers (National Aging Program Information System, 2007). This sample did attempt to include all direct-line staff, regardless of their role (i.e., driver, food preparation staff) because they may play pivotal roles in responding to depression. For example, aides may become gatekeepers who identify and alert the social work staff to depressive symptoms. Aides may also act to support interventions, including behavior and social activation and treatment adherence. Furthermore, the "culture change" movement in long-term care calls for flattening hierarchies, empowering aides (who often have the most face-to-face time with older adults), and sharing job responsibilities across workers. A "universal" worker may be responsible for food preparation, monitoring health needs, coordinating activities, and offering personal care (Lustbader & Catlett Williams, 2006).

Inclusion Criteria of Study Sites

The inclusion criterion consisted of any agency in the four types of aging network services that offers ongoing care from staff potentially capable (i.e., nurses or social workers) of responding to depression in community-based settings for extended durations of time. These four service types were selected from reviewing definitions of services

along the continuum of aging network services (Wacker & Roberto, 2008). To maintain feasibility and consistency in scope, institutional settings such as nursing homes, hospitals, and assisted living were excluded. The sample was stratified to identify a minimum of four agencies per the four service types. Some agencies provide multiple services and were divided into organizational units based on primary service type. For example, one multi-service senior service agency included in the study offered all of the following services: institutional long-term care, assisted living, supportive housing, adult day services, case management, and homecare services. Thus, the sample only included the staff in the adult day service unit of the agency. Lastly, agencies that only receive funding from private-pay sources (which is uncommon in most types of aging network services—except for case management) were excluded from the sample because these agencies may be outliers serving the wealthiest subset of older adults with extreme amounts of available resources in comparison to the more common publicly funded aging network services.

In following these predetermined inclusion criteria, one change occurred from the proposed study plans: the elimination of the case management service type. This study originally proposed to include a fifth aging network service type, case management, which is defined as the coordination of cost-effective services that match the needs of frail older adults and others with functional impairments and their families (Wacker & Roberto, 2008). Also called case management, case coordination, and service management, this service involves a dual mission of planning individual services to promote independence while controlling costs. Case management includes the steps of

case finding, intake, comprehensive assessments, care plan development, service implementation, monitoring, and reassessment.

During recruitment, it was disclosed by key informants that case management services were often characterized as being an inclusive part of the homecare services, as being unique from literature-defined case management since the agencies did not maintain ongoing, routine contact with clients, or as being primarily paid for privately. Although case management services were discussed and explored throughout this study, the ability to select and stratify agencies per the provision of case management was not feasible. Many of the above agency types incorporated case management activities into their routine services. For example, when homecare service directors were recruited to participate in this study, they were not able to distinguish case management services from their overall provision of homecare services. Furthermore, public sector case management agencies (i.e., the State Unit on Aging and Area Agency on Aging) did not meet the inclusion criteria for this study because their typical contact consisted of annual assessments done over the phone or in-person, with limited ongoing contact with clients. Lastly, although small private for-profit agencies offering solely case management services existed in the study region, these agencies often contained a single or few staff. Their focus on offering private case management presented a unique environment for understanding their organizational context and client needs. Private-pay case managers served primarily more middle- to upper-income older adults who could afford to pay for such services out of pocket (Stone, Reinhard, Machemaer, & Rudin, 2002), thus their client population also varied from the other aging network service types included in this study.

Thus, after comparing recruitment efforts with local agencies and this literature base, the case management service type was eliminated from this study. Case management services, if included, would have had questionable face validity in meeting the eligibility criteria for agency type and minimal generalizability. Therefore, upon consultation with the dissertation chair, plans were revised to conduct four interviews with the four above service types, thus going deeper instead of wider in the exploration of aging network service types and including added questions on case management services offered within these settings.

Estimated Sample Size: Preliminary Work and Power Analysis

The sample consisted of two groups: the program managers as key informants and the staff for survey administration. Since key informants were used to describe organizational-level variables, saturation was not an objective in determining sample size (Marshall, 1996b). Plus, these managers and staff were clustered within the agencies, that were stratified by four agencies per service type (i.e., adult day care, homecare, senior centers, and supportive housing). With the rationale of seeking variety and depth within agency types and of having a feasible approach to data collection, four agencies per service type was used. Thus, the initial goal was to recruit 200 staff, clustered within 16 agencies. This number was based on the following preliminary work and power analysis.

During this study's proposal development, 12 agencies were contacted in the St. Louis area to obtain estimates for each agency's staffing size and composition (i.e., staff types). Agencies were selected from *The Older Adults Resource Guide* (Breakthrough

Coalition, 2005). From this work, 12 agencies were estimated to have a total of 347 staff, of which 248 were aides. Staff size ranged from five to 106. Thus, if an 80% response rate occurred, 15 agencies would result in surveys from 278 staff. A table detailing results of this preliminary work is included in Appendix A.

Using estimated effect sizes from the following literature, the power analysis was completed. Of note, in this literature, organizational culture was cited as having a small but significant effect on the probability of using mental health services with a coefficient of 0.001 which equals a less than 1% change in the event rate (Glisson & Green, 2006). This small but significant effect occurs with other variables such as staff attitudes, staff turnover, and service quality (Aarons & Sawitzky, 2006a, Aarons & Sawitzky, 2006b, Glisson & James, 2002). Similarly, child welfare offices that report more positive climates are significantly related to improvements in psychosocial functioning of the children served (Glisson & Hemmelgarn, 1998). Overall, climate and culture are described as difficult, but not impossible, variables to modify (Glisson, 2000), and literature supports that small changes do have practical significance (Glisson, Dukes, & Green, 2006). Therefore, this study was designed to detect how small variations in climate and culture are associated with depression care for older adults in aging network services.

The power analysis was conducted with the estimates of predictor variables based on Glisson and Green's (2005) results that specified a mean climate score of 85.2 (*SD* = 11.7) and mean unit culture score of 105.94 (*SD* = 11.32). First, a power analysis in SAS indicated that 200 staff members would provide over 80% power (power = 0.881) for

seven predictor variables to detect a .30 partial correlation when using multiple regression with $a = 0.05$.

Similar results occurred when Power and Precision Software was used (Berstein, Rothstein, Cohen, & Schoenfeld, 2001). For the distribution (Unit climate mean 85.2, *SD* = 11.7), baseline (event rate of 0.25 at the mean), effect size (log odds ratio of 0.03), sample size of 200, and alpha of 0.05, 2-tailed, the power was 0.82. This meant that 82% of studies would be expected to yield a significant effect, rejecting the null hypothesis that the odds ratio is 1.0. This effect size was larger than the previously discussed coefficient of 0.001 which equals a 1% change in the event rate (Glisson & Green, 2006); however, for feasibility of conducting this study within the bounded service system of the St. Louis area aging network services, it was considered as an acceptable and meaningful effect size worth detecting although it was minimal. Overall, with so few studies examining these variables, the calibration of variables and estimating effect sizes for future studies was regarded as an important contribution. Furthermore, these results were then contrasted with findings from the qualitative methods for triangulation regarding the validity, relevance, and importance of variables in the model in predicting aging network services' current depression practices.

Lastly, an intraclass correlation coefficient (ICC) design effect was estimated using the equation of: $1 + (g_{\text{group size}} - 1)$ x ICC to account for the influence of the data being clustered within agencies. The ICC is a measure of the homogeneity of elements within clusters, with ICC value ranging from +1 (complete homogeneity) to -1 (complete heterogeneity). Design effect is the ratio of the sample's actual variance in comparison to the variance of a simple random sample for the same number of elements. One

systematic analysis of health facility surveys found a median design effect of 1.4 (range 0.8 – 5.7) (Rowe, Lama, Onikpo, & Deming, 2002). For this study, the ICC was based on Glisson and James' (2002) report of ICC for: psychological climate = 0.17, constructive culture = 0.12, and structure = 0.16. With an estimated median group size of 13 and an estimated ICC at the maximum of 0.17, the ICC design effect is 3.04. This ICC design effect is similar to the conservative estimate for a design effect identified by Rowe and colleagues (2002) of 3.8, and indicated that accounting for the clustered data is necessary in estimating sample size and in other analytic procedures.

Recruitment Efforts and Results

Starting with the list of recommended aging network service agencies from the expert panel, recruitment procedures were as follows and used materials included in Appendix B. First, the agency managers received a letter by e-mail or mail. Second, follow-up contact occurred through in-person or telephonic meetings to discuss the project activities, solicit support, and schedule the key informant interview. At the manager's request, he or she could designate someone else as the key informant or invite other key personnel to participate in the interview. Third, per Institutional Review Board requirements, key informants provided a signed "Permission to Conduct Research at Agency Site Form" prior to the in-depth interview. Within 24-hours of the in-depth interview, key informants were called to confirm the scheduled meeting. Then, at the end of the key informant interview, the program managers were asked how to feasibly invite staff to complete the quantitative surveys. Finally, managers were provided a verbal description of the survey as a means to announce the upcoming survey administration to

staff. Due to concerns that recruitment of aides to participate in research activities would be challenging, communication emphasized the importance of surveying aides when scheduling the survey administration meetings. Data collection activities were scheduled at times most convenient for the staff (i.e., during staff meetings, on low census days, on paydays).

Recruitment results are detailed in Table 3.1. After contacting 21 agencies, recruitment resulted in 17 agencies participating in this study (81% consent rate), of which 20 program managers completed interviews. Three agencies had both a clinical and management director participate in the in-depth interviews, per the request of the key informants. The four agencies that did not consent were considered to refuse participation because contact with the managers was never achieved after one month of mailings, emails, and telephone calls.

Staff surveys were not obtained from three agencies due to manager or staff refusal. For one adult day care agency, the manager refused to have the staff offered surveys because she thought it was not applicable to her staff. Two other agencies (one adult day care, one homecare agency) allowed the surveys to be distributed to staff, but would not allow staff to complete surveys during the work hours. For these two agencies, surveys were provided along with mailing material and the remuneration, but no surveys were returned from either agency. It was estimated that out of 323 potential staff that met inclusion criteria for the 17 agencies, 45% attended the survey meetings. If staff did not attend the survey meetings, it was because managers set limitations on what type of staff could be invited to the survey meeting or because the staff were absence for miscellaneous reasons from work. The description of staff for agency type is provided in

the recruitment results table. For the 14 agencies that participated in survey administration meetings, once staff were provided surveys 97% of the staff (n=142) returned completed surveys.

Table 3.1: Recruitment results, (k, key informants = 17; n, staff = 142)

Sample Size	***Total Sample***	***Adult Day Services***	***Homecare Services***	***Senior Centers***	***Supportive Housing***
# of Key Informants Contacted	21	5	7	5	4
# of Key Informants Consented	17[a]	5	4	4	4
Key Informant Consent Rate =	**81%**				
# of Agencies Completing Surveys	14	3	3	4	4
# of Eligible Staff in Agency[a]	323	22	198	68	35
# of Staff Attended Survey Meeting	146	18	25	68	35
# of Staff Completed Survey	142	18	24	66	34
Staff type invited to complete survey		All staff	All clinical staff[b]	All center directors, case managers, & intake workers for two agencies; all case managers & intake workers, for two agencies (these agencies contract out the senior directors)	All social service, nursing, activity coordination & management staff
Staff Survey Consent Rate =	**97%**				

[a] Estimates for eligible staff are based on questions asked the key informant, except for homecare services, which is based on the preliminary work estimates for agency sample size.
[b] One homecare agency's director permitted a select few paraprofessionals (i.e., aides) to attend survey meeting. All other agency managers refused access to paraprofessionals.

Data Collection

This writer was responsible for coordinating all data collection efforts and conducting the in-depth interviews. Due to the size of data collection, two masters-level research assistants were hired to assist with facilitating survey meetings and data entry.

All data collection procedures were approved by Washington University's Institutional Review Board through an expedited review (#E07-25) and were conducted from September 2007 to October 2008.

Protection of Human Subjects

This study involved two groups of human participants: program managers and agency staff. The program managers participated in confidential in-person interviews, while the staff completed an anonymous written survey. Risks for program managers and staff involved the time burden and the potential breach to confidentiality. Potential benefits included that participants were helping to increase knowledge about the organizational context and depression practices of aging network services. Written informed consent was obtained from key informant, and survey participants were provided a study information sheet, as a waiver of written consent was obtained from the Institutional Review Board to maintain staff anonymity. All participants were informed of their right to refuse participation and that refusal or withdrawal from the study had no impact on their employment or performance evaluations. Agency assurances were documented in the "Permission to Conduct Research at Agency Site Form" that staff participation in this study would not affect job performance evaluations. The faculty supervisor and the expert panel have agreed to review any final dissemination products to confirm only de-identified data and quotes are used, thus protecting confidentiality of the both the participants and the agencies involved. Participants were offered remuneration, with program managers receiving $30 and agency staff receiving food, cash, or office supplies, worth $10.

In-depth Individual Interviews with Program Managers

This writer conducted the interviews with all program managers or their delegated key informants. The interviews focused on assessing organizational structure and agency characteristics, current depression practices, and manager experience (i.e., years of experience, education, degree). Questions solicited information on current depression practices and perceived facilitators and barriers. Key informants responded to close-ended items and to probes for further discussion in regards to these responses. The managers were sent the interview document in advance, for review and to have the opportunity to obtain any information that was not immediately available. Upon receiving consent, the interviews were audio taped and then transcribed for all participants. The interview guide is included in Appendix C. The average interview length was 43 minutes. For incentives, managers were provided food at the meeting and $30 for their time. Per Lee's (1999) recommendations for assessing the quality of in-depth interviews, interview summaries were written within 24 hours that described the amount of spontaneous disclosures, relevance and length of responses, and preliminary insights.

Self-Administered Staff Survey

All survey meetings with agency staff were scheduled following the key informant interview and frequently occurred in conjunction with other agency-wide meetings. Survey materials and postage paid envelopes were provided for unavailable staff. The surveys did not include any identifying information such as participant name, address, or other contact information, as these surveys were collected anonymously. The

surveys were coded with an identification number linked to the agency, but no other specific information to the individual participant. The survey included a mix of close-ended and open-ended questions to assess organizational culture, climate, staff attitudes regarding new depression practices, and staff demographics. The *Organizational Social Context Measurement System* and the modified *Evidence-Based Attitudes Scale* were included.

As mentioned previously the sample for the survey included a wide mix of staff positions, including some staff who may have had only a high school education and may be in roles of aides, drivers, or food preparation staff. Therefore, the survey included questions about staff members' education and job responsibilities. Verbal instructions informed staff that they could respond to items by noting, "not applicable" or "I do not understand the question" when appropriate. Due to the copyrighted nature of the standardized instruments, altering response options was not appropriate.

Prior to survey administration, eight in-depth interviews were completed to inform the development of open-ended survey items regarding barriers and facilitators. Then, a pilot test of this survey was conducted with 20 staff to assess for potential bias due to staff skill/responsibility level. Feedback was sought from the key informant of this agency and results reviewed with two expert panel members, resulting in revisions to verbal instructions only.

Following each survey administration session, a summary log was noted by this author to record any questions asked or other verbal feedback. Survey administration took approximately 30 minutes. The instrument is included in Appendix D. Participants

were offered food, office supplies or $10, depending on agency regulations. Per IRB requirements, this token of appreciation was approximately worth $10 per participant.

Standardized Measures

Organizational Social Context Measurement System

Developed by the University of Tennessee Children's Mental Health Services Research Center (Glisson & James, 2002) this standardized measure uses 105 Likert scale items to assess 16 first-order factors and seven second-order factors of organizational social context. The items are all rated on a response set of: *1: Not at All, 2: A Slight Extent, 3: A Moderate Extent, 4: A Great Extent, and 5: A Very Great Extent*. This revised version combines items from the Organizational Culture Survey and Organizational Climate Survey. The new scale allowed for the measurement of both constructs in one survey that has fewer items and requires less time. This survey was designed for mental health and social service organizations and the factors have been confirmed in national samples. Table 3.2 provides a list of these factors that are grouped by scale item and their domains of culture, climate, and work attitudes. Together, these dimensions can be compared to national norms. The first-order scales were based on the conceptual definitions for each second-order scale, as describe in the previous chapter. For clarity in describing findings and to be consistent with literature using this measure, only the second-order scales were used in analysis for this study. For confirmatory factor analysis information on this scale see Glisson, Landsverk and colleagues (2008).

As previously mentioned, organizational culture describes norms and values. Constructive culture is identified by three second order factors: rigidity ($\alpha = .81$);

proficiency (α = .94); and resistance (α = .81), with having low values for rigidity and resistance, but a high value for proficiency. Positive climates were characterized by factors of low stress (α = .94) and high engagement (α = .78) and functionality (α = .90). The psychological climate variable represents the individual's overall perception of how positively or negatively the environment impacts the individual.

Table 3.2: *Organizational Social Context* measurement model
University of Tennessee Children's Mental Health Services Research Center ©2006, 2000, 1998, 1988, 1978

Domain	First order scale (alpha)	Second order scale (alpha)
Culture	Centralization (.79) Formalization (.71)	Rigidity (.81)
	Responsiveness (.90) Competence (.89)	Proficiency (.94)
	Apathy (.79) Suppression (.72)	Resistance (.81)
Climate	Emotional exhaustion (.91) Role conflict (.85) Role overload (.83)	Stress (.94)
	Personalization (.72) Personal accomplishment (.75)	Engagement (.78)
	Growth & advancement (.85) Role clarity (.86) Cooperation (.80)	Functionality (.90)
Work Attitudes	Job satisfaction (.84) Organizational commitment (.92)	Morale (.93)

Source: Personal Communication with Anthony Hemmelgram (October 19, 2007)

Because individuals were asked to describe the behavioral expectations and normative beliefs of coworkers as a unit, this scale used a "referent-shift consensus model" in which individual worker responses were used to measure culture at an organizational-level (Glisson & James, 2002). Thus, for all culture and climate second-

order factors, a referent shift is applied when 70% of the survey respondents within agency units show agreement in their item responses. Lastly, the second-order scales are profiled using T-scores, with a mean of 50 and a standard deviation of 10, which were established from a national, normative sample of 100 mental health organizations. Here, the means and standard deviations of the organizational-level compositions were used to calculate *z* scores, T values [T = 50 +10*z*], and percentiles in relation to the national sample. These T-scores provide the values for the organizational variables for subsequent model testing.

The scoring procedures for this scale are proprietary; thus, aggregation into the second-order factors were conducted by programmers at the University of Tennessee Children's Mental Health Services Research Center. Appropriate purchasing agreements were completed. Experts from this center provided supervision in data collection and were sent the raw data to create the second order scale variables. Due to their purchasing agreement, the actual specification for which items contributed to each second-order factor was not provided to this investigator. Instead, the programmers returned a report that detailed results of checks for preliminary assumptions of this scale, T-Scores for each agency, and comparison data to national norms. The upcoming section about analytic assessment of measures provides specific details for the steps for confirming measurement assumptions for this study's data.

Modified Evidence-Based Practices Attitudes Scale (EBPAS) for Depression

This 15-item scale measured four general attitudes toward the adoption of evidence-based practices (Aarons, 2005). The items are all rated on a response set of: *1:*

Not at All, 2: A Slight Extent, 3: A Moderate Extent, 4: A Great Extent, and 5: A Very Great Extent. The four subscales included appeal, requirements, openness, and divergence—which equals a total continuous score with a chronbach's alpha of 0.77. The number of items and alpha scores for each subscale was reported by Aarons (2005) as follows: appeal: 4 items, chronbach's alpha of 0.80; requirements: 3 items, chronbach's alpha of 0.90; openness: 4 items, chronbach's alpha of 0.78; and divergence: 4 items, chronbach's alpha of 0.59. Of note, the divergence items are all reverse-scored items. For all these subscale scores and the total score, the items are totaled and divided by the number of items included in the subscale to get a mean rating on the scale of 1 to 5, with higher scores indicating more positive attitudes toward evidence-based practices. Aarons (2005) also reported supportive findings from preliminary validity tests, in that the total score scale was positively associated with interns status, for staff working in wraparound programs versus other outpatient or case management services, for less bureaucratic organizations, and for organizations with written mental health policies.

For this study, items 1 through 8 were modified to include reference to new services to treat depression in clients. The instructions for items 9 through 15 were also modified to specify a new therapy or intervention for depression. Four items were added to assess the participants' knowledge toward depression and their previous mental health training. Dr. Greg Aarons reviewed and approved the adapted measure during a meeting on March 19, 2007. The modification to this scale may have altered the psychometric properties to an unknown degree, so factor structure was analyzed prior to hypothesis testing.

Indicators of Current Depression Practices

Oxman and colleagues (2006) used this measure to quantify data from the implementation of a collaborative care treatment for depression in primary care. The original measure involved reviewing care manager treatment logs for nine fidelity items (listed in Table 1 on page 33). Items to indicate case management and psychiatric consultation were also assessed during the program manager interview. All items were asked in a close-ended items format to obtain quantitative data for these variables with a score of 1 if present or 0 if absent. The items were summed together to obtain a count of depression care indicators offered within an aging network service agency. No weighting system was applied, as the items were revised for aging network services and data were collected in a different manner.

The quantification of these results then was complemented by the data obtained from discussing the answers during the in-depth interview with key informants. The case management and psychiatric supervision items were considered separately for qualitative analysis, but were included with the total count of depression practices for quantitative analysis. No questions about current depression practices were included in the staff survey, which does limit findings to the knowledge of the key informants and may not fully represent all staff members' provision of depression care. This limitation was accepted though because few measures capture current depression practices in social service settings, so an exploratory approach with qualitative data were used.

Data Analysis

Data Entry and Management

Audio-recordings from the key informant interviews were converted into electronic text documents by a contract with a transcription agency. This writer compared audio-recordings of the interviews to the transcribed documents, thus allowing for any necessary edits to the document to ensure accuracy and removal of identifying information. Close-ended items on agency structure were entered into an ACCESS database. For the staff surveys, data entry was assisted by an OMARK electronic scanning device for entering bubble-format response items (Principia Products, 2005). The open-ended items from the staff surveys were also entered into a second ACCESS database. Table 3.3 lists the study variables by informant, source, and level of analysis.

Transcripts and open-ended survey responses from the ACCESS database were imported into NVivo software, which was developed specifically for qualitative data analysis (Qualitative Solution Research, 2002). Univariate analysis was completed to assess frequencies, central tendencies, and normality of distributions. Results were compiled into sample descriptions (i.e., agency characteristics, program manager demographics, and staff demographics). Prior to testing hypotheses for Aim 2, analyses were conducted to evaluate the use of standardized measures and to address missing data issues, as described in subsequent sections. The multilevel factor analysis was conducted with mPlus. All other analyses, including the mixed modeling for hypotheses testing, were conducted with SAS 9.1.

For the demographic items several items were collapsed and dummy coded for clarity and use in future analyses. This included the following staff demographics: race which was converted to 1=minority status, education which was converted to 1=has

college degree, degree type was converted into four separate dummy coded variable for social work degree, nursing degree, psychology degree, or other type of degree. Of the agency characteristics, the primary funding source variable was coded as 1=private pay and 0 = other primary payment source (i.e., Medicaid, Medicare, and Older Americans Act).

Table 3.3: Description of study variables

Variable	Informant	Source	Level of Analysis
Type of Aging Network Service	Manager	2 items (i.e., services offered by agency, primary service of unit)	Agency
Organizational Context			
- Culture: Rigidity	Staff	Org. Context Survey	Agency
- Culture: Proficiency	Staff	Org. Context Survey	Agency
- Culture: Resistance	Staff	Org. Context Survey	Agency
- Climate: Stress	Staff	Org. Context Survey	Agency
- Climate: Engagement	Staff	Org. Context Survey	Agency
- Climate: Functionality	Staff	Org. Context Survey	Agency
- Structure	Manager	2 items (power structure, caseload size)	Agency
- Financing	Manager	3 items (i.e., general funding, mental health funding, for-profit status of agency)	Agency
- Penetration	Manager	2 items (size of client population, duration in service)	Agency
- Staff Turnover	Manager	1 item (turnover)	Agency
Perceptions - Incentives/Facilitators - Barriers	Manager & Staff	Open-ended survey & interview items	Staff
Current Depression Practices			
- Use of empirically supported practices	Manager	Open-ended probing of prepared practice factors	Agency
- Case management	Manager	Single-item	Agency
- Psychiatric consultation	Manager	3 items on contact with mental health professionals	Agency
Staff Factors			
- Demographics	Staff	7 items (i.e., age, gender, race, years experience, education, degree, job responsibilities)	Staff
- Evidence-based practices attitudes	Staff	Modified Evidence-Based Attitudes Scale for depression	Staff
- Knowledge	Staff	4 items (recognition, confidence, agency training, individual training)	Staff
Potential to Adopt New Depression Practices	Created per findings	Quantitative and qualitative data	Agency

All information was kept confidential and was not disclosed to the participants' employers. Identifying information was filed separately from the survey and interview data. Study materials were kept in a locked filing cabinet within a locked office. All electronic data sources only included the identification number and data. In-depth interviews were audio-recorded when participants provided permission, and following transcription all identifying components were edited from the transcripts. The audio-recordings are scheduled to be destroyed within two years of the interview date or upon study conclusion—whichever comes first. The de-identified transcripts will be archived with the study materials. All findings are reported at aggregate levels and were reviewed carefully to maintain confidentiality of individual participants and agencies.

Missing Data

For the quantitative data from the survey (n=142), it was important to explore the rate and nature of missing data before computing results. Items for the *Organizational Social Context* measure had minimal missing data (less than 5% per item), with most items having no missing data. However, when looking at participants, there were five cases in which 11 or more *Organizational Social Context* items were missing (i.e., more than 10% of items per participant). Thus, according to this measure's standardized analytic procedures, these participants were omitted from creating second order factors. For the *Evidence-Based Practice Attitudes Scale (EBPAS)* items and items about the staff's depression knowledge (i.e., training and confidence in recognizing depression), missing data was problematic, with 27 to 40% of the values being missing per item. Most

staff demographic items had less than 5% missing items, except for age (missing = 19, 13%), ethnicity (missing = 19, 13%), and degree type (missing = 11, 8%).

Since statistical procedures have vastly improved how researchers can minimize the impact of missing data (Schafer & Graham, 2002), analyzing data with a high percentage of missing values can be appropriate when data are considered missing at random. However, exploratory bivariate analysis of predictors for the missing values and information from the survey administration notes indicated that the EBPAS items and depression knowledge items were not missing completely at random. Senior centers and supportive housing staff were significantly less likely to answer these items (for all EBPAS and depression knowledge, $p < 0.01$), as well as staff with lower educational levels (for 12 of the EBPAS items and all depression knowledge items, $p < 0.05$). No other variables were significantly associated with these missing values, nor were any variables related to the missing staff demographics.

Also, journal notes from the survey administration meetings identified that two agency directors overrode the survey instructions; the directors told staff not to complete the EBPAS because it did not apply to their agency which offered no formal manualized interventions or treatments. These issues question if these data meet the assumption in imputation procedures that missing data is at random; however, per the Schafer & Graham's article (2002) and consultation with Dr. Ed Spitznagel, imputation was considered appropriate for this study because data were assumed to be partially missing at random.

Procedures for imputing this study's data involved a Markov Chain Monte Carlo method to create five independent data sets with no missing data. Here, all variables

described in this study were used for the imputation process as well as a random component to fill in an estimate for the missing value (Schaefer & Graham, 2002; Saunders, Morrow-Howell, Spitznagel, Doré, Proctor, & Pescarino, 2006). The Proc MI procedure in SAS was used. Imputation was conducted in stages, with first imputing the demographic variables and then imputing the EBPAS items, and then finally the items about depression knowledge. Separate random seeds were used for every stage of the imputation process.

In reporting results, key informant and agency descriptions are reported on the non-imputed data because this information was drawn from the interviews and had no missing data. The sample characteristics for the staff survey participants were reported on both the non-imputed data for reasons of transparency and for the imputed data. The imputed means and standard errors were obtained through Proc MIANALYZE function in which the estimates are rolled up across the five imputed data sets. The frequencies were averaged across the five imputed data sets. For the second-order factors of the *Organizational Social Context* measure, imputed variables were not included, per the measure's analytic guidelines.

When reporting findings for the multilevel factor analysis of the *Evidence-Based Practice Scale* items, the entire imputed data set involving all five implicates was used. As a check, the multilevel factor analysis was run individually on each implicate, and results were similar to the analysis run on the entire imputed data set. Here, the constructed variables for the subscales were calculated after imputation.

Finally, in reporting model results, all five imputed data sets were utilized in the analysis and results were rolled up to produce less biased estimations of parameter

statistics as guided by Rubin's approach (1976). By using the Proc MIANALYZE procedure, these analytic models involve running identical analyses on each data set to average beta coefficients across the data sets. This procedure then calculates one estimate and one standard error for each beta while utilizing information from the five error estimates.

Assessment of Measures: The Organizational Social Context Measure

First, following Glisson and colleagues' (2008) methods and utilizing University of Tennessee Children's Mental Health Services Research Center's programming consultation services, the *Organizational Social Context* items were aggregated by agency to establish the second order scale variables at the organizational unit of analyses (i.e., for culture: proficiency, rigidity, and resistance; for climate: stress, engagement and functionality). The morale variable was constructed for the staff-level unit of analysis. First-order scales were not used in this study.

Before checking measurement assumptions, data were filtered according to pre-established standards for this measure. First, as previously mentioned, five participants' surveys were eliminated for having more than 10% missing items on this scale. Second, one participant's survey was eliminated because data indicated highly inconsistent response patterns, in that the absolute difference between the two most highly correlated items on the scale was summed and was above or below three standard deviations from the mean value established in the nationally-normed data set for the *Organizational Social Context* measure. Third, when the within group analysis, r_{wg}, fell below an acceptable level due to a single individual (i.e., an outlier who demonstrated extreme lack

of agreement with other staff within his or her organizational unit) that individual's responses were eliminated. This indicator of outliers occurred for three participants within this study, who then did not have second-order factors assigned to them individually. This measure also requires the elimination of any cases that have been detected as anomalies via visual scan of the data (i.e., a systematic pattern such as checking all "3's") or per reverse coded items demonstrating extreme inconsistencies from the nationally-normed data. No cases were eliminated for these reasons for this study. In total, five cases were eliminated from the *Organizational Social Context* measure analyses, leaving a sample of 137 participants.

Next, Cronbach's alpha was calculated for each second-order scale of the *Organizational Social Context* measure to assess for internal consistency of responses. This indicator of internal reliability demonstrates the extent to which a set of items measure a single latent variable during the single time point, and typically a reliability of 0.70 is considered an adequate level of reliability. Alpha levels for this study's sample on this measure are provided in Table 3.4 and indicate near adequate reliability for all second order factors, with only the engagement factor falling slightly below the typical 0.70 alpha cutoff (α=0.69).

Since staff answered scale items regarding their behavioral expectations and normative beliefs as part of an organizational unit, this scale used a "referent-shift consensus model" in which individual staff responses indicate organizational-level variables (Glisson & James, 2002). To confirm this assumption is met, within-group analysis, r_{wg}, was used and it involved indexing the intra-group agreement for the reported constructs among each agency unit. Consistency above 0.70 suggests the

responses represent an organizational level variable. Table 3.4 provides the agreement values for second-order scales for each agency. The intra-group agreement indices (r_{wg}) are above the suggested 0.70 level with only three units having a scale fall slightly below the level of acceptable agreement, thus aggregation to organizational levels of measurement is appropriate for this study's data.

Once the indicators for each second-level factor were summed to form a profile, a correlation matrix was analyzed, with results depicted in Table 3.5. The absolute value of the correlations varied from 0.00 to 0.78, with an absolute value average of 0.31, which indicate that the dimensions are not merely reporting common method error variance (Glisson, Landsverk, et al., 2008). This pattern of correlations conforms to theoretical expectations and previous research (Glisson, Landsverk, et al., 2008). For example, climate factors of functionality and engagement are inversely related to stress (respectively, -.35 and -.26). Culture factors of rigidity and resistance were highly correlated at 0.78, which is consistent with the theory but much higher than previous research (i.e., Glisson, Landsverk, et al., 2008 reported a significant correlation of 0.43). Similarly, as to be expected, resistant cultures are directly related to stress (0.75). However, a few relationships were not consistent with the prior literature in that resistant cultures were not related to proficient cultures nor to engaged climates. Although different from prior literature, engaged climates were directly related to functional climates and inversely related to stressful climates. This conforms to the theoretical expectations for these factors. Overall, this assessment of correlations provides support for how they may be used to describe typologies of organizational culture and climate.

Table 3.4: Chronbach'a alpha and within-group consistency of *Organizational Social Context* subscales using raw data (k=14 agencies, n = 137 staff)

Domain	OSC Scales	*Alpha* *(n=137)*	Adult Day Services			Homecare Services			Senior Centers				Supportive Housing			
			Agency 1 (n=4) r_{wg}	Agency 2 (n=8) r_{wg}	Agency 3 (n=6) r_{wg}	Agency 4 (n=11) r_{wg}	Agency 5 (n=5) r_{wg}	Agency 6 (n=8) r_{wg}	Agency 7 (n=22) r_{wg}	Agency 8 (n=8) r_{wg}	Agency 9 (n=23) r_{wg}	Agency 10 (n=10) r_{wg}	Agency 11 (n=6) r_{wg}	Agency 12 (n=12) r_{wg}	Agency 13 (n=11) r_{wg}	Agency 14 (n=3) r_{wg}
Culture	Proficient	0.89	0.98	0.97	0.95	0.97	0.96	0.99	0.96	0.96	0.96	0.97	0.95	0.96	0.98	0.97
	Rigid	0.80	0.93	0.90	0.91	0.86	0.89	0.93	0.91	**0.67**	0.85	0.95	0.95	0.94	0.90	0.92
	Resistant	0.75	0.93	0.92	**0.58**	0.87	0.81	0.87	0.85	0.84	0.88	0.94	0.88	0.95	0.93	0.90
Climate	Engaging	**0.69**	0.98	0.96	0.95	0.95	0.94	0.96	0.93	0.90	0.91	0.96	0.95	0.93	0.96	0.93
	Functional	0.91	0.96	0.96	0.91	0.95	0.88	0.97	0.95	0.87	0.93	0.97	0.92	0.93	0.96	**0.63**
	Stress	0.94	0.99	0.94	0.82	0.89	0.97	0.97	0.92	0.96	0.87	0.96	0.94	0.94	0.94	0.98
Work Attitudes	Morale	0.93	0.98	0.97	0.93	0.94	0.94	0.99	0.96	0.94	0.96	0.97	0.96	0.91	0.97	0.85

Note: Bolded, underlined numbers fell below standard cutoff for acceptable reliability & within-group consistency.

Table 3.5: Correlations among *Organizational Social Context* subscales using raw data (k=14 agencies, n = 137 staff)

	Proficient	Rigid	Resistant	Engaging	Functional	Stress	Morale
Proficiency	1.00	-0.13	**0.02**	0.65 ***	0.56 ***	-0.19 *	0.27 **
Rigidity		1.00	0.78 ***	-0.14	-0.24 **	0.60 ***	-0.22 **
Resistance			1.00	**-0.00**	-0.19 *	0.75 ***	-0.13
Engagement				1.00	**0.21** *	**-0.26** **	0.21 *
Functionality					1.00	-0.35 ***	0.36 ***
Stress						1.00	-0.20 *
Morale							1.00

* $p < .05$; ** $p < .01$; *** $p < .001$;
Note: Bolded, underlined numbers differed in direction from Glisson, Landsverk et al, (2008)

Lastly, the second-order scales are profiled using T-scores, with a mean of 50 and a standard deviation of 10, which were established from a national, normative sample of 100 mental health organizations. All measurement analyses and the calculated T-scores were reviewed by the University of Tennessee Children's Mental Health Services Research Center.

Assessment of Measures: The Evidence-Based Practice Attitudes Scale

For the *Evidence-Based Practice Attitudes Scale*, alpha coefficients along with exploratory factor analysis were conducted prior to scoring the subscales and total scale. First individual items were examined for variation and skewness (see Table 3.6). Then, to assess internal consistency reliability, the chronbach's alpha coefficients for this study's sample were obtained and are respectively: requirements: α=0.92, appeal: 0.84, openness: 0.78, divergence: 0.36, and total scale: 0.78; all indicating near adequate reliability except

Table 3.6: Descriptive statistics using raw data for *Evidence-Based Practice Attitudes Scale* (n =142 staff)

	Frequency for Response Options, % (n)							
Item	Not at all 0	A slight extent 1	A moderate extent 2	A great extent 3	A very great extent 4	*M±SD*	Skew	# Missing
1. I like to use new types of therapy /interventions to help my clients with depression.	4% (4)	12% (11)	38% (36)	32% (31)	14% (13)	2.4±1.0	-0.30	47
2. I am willing to try new types of therapy/interventions for depression even if I have to follow a treatment manual.	3% (3)	10% (9)	25% (24)	42% (40)	20% (19)	2.6±1.0	-0.62	47
3. I know better than academic researchers how to care for my clients who have depression.	60% (58)	28% (27)	9% (9)	2% (2)	1% (1)	0.6±0.8	1.64	45
4. I am willing to use new and different types of therapy/interventions for depression developed by researchers.	2% (2)	7% (7)	35% (33)	30% (28)	26% (25)	2.7±1.0	-0.33	47
5. Research based treatments/interventions for depression are not clinically useful.	56% (49)	24% (21)	15% (13)	6% (5)	0% (0)	0.7±0.9	1.07	54
6. Clinical experience is more important than using manualized therapy/treatment for depression.	13% (11)	16% (14)	41% (36)	20% (17)	10% (9)	2.0±1.1	-0.07	55
7. I would not use manualized therapy/interventions for depression.	45% (38)	20% (17)	26% (22)	6% (5)	3% (3)	1.0±1.1	0.79	57
8. I would try a new therapy/intervention for depression even if it were very different from what I am used to doing.	6% (5)	13% (12)	32% (29)	27% (24)	22% (20)	2.5±1.1	-0.31	52
If you received training in a therapy or intervention for depression that was new to you, how likely would you be to adopt it if:								
9. it was intuitively appealing?	1% (1)	9% (8)	23% (20)	38% (33)	28% (24)	2.8±0.9	-0.55	56
10. it "made sense" to you?	4% (4)	17% (15)	44% (40)	34% (31)	0% (0)	3.1±0.8	-0.65	52
11. it was required by your supervisor?	2% (2)	13% (11)	27% (23)	31% (27)	27% (23)	2.7±1.1	-0.41	56
12. it was required by your agency?	3% (3)	9% (8)	25% (22)	33% (29)	29% (25)	2.7±1.1	-0.61	55
13. it was required by your state?	3% (3)	9% (8)	20% (17)	33% (28)	35% (30)	2.9±1.1	-0.78	55
14. it was being used by colleagues who were happy with it?	1% (1)	9% (8)	17% (15)	40% (35)	33% (29)	2.9±1.0	-0.77	54
15. if you felt you had enough training to use it correctly?	2% (2)	5% (4)	10% (9)	40% (35)	43% (38)	3.2±0.9	-1.34	54

Table 3.7: *Evidence-Based Practice Attitudes Scale*: Subscale specification with item-total correlations, chronbach's alphas, eigenvalues, and exploratory factor analysis loadings (n=710, using all five imputed data sets)

Item Content, Survey Item #	Item-total correlation	α	EV	Within-agency analyses: Factor Loadings[a]			
				Scale 1	Scale 2	Scale 3	Scale 4
Requirements		0.92	2.04				
Supervisor required, 11	0.88				1.012		
Agency required, 12	0.89				0.971		
State required, 13	0.74				0.649		
Appeal		0.84	1.65				
Intuitively appealing, 9	0.60					-0.891	
Makes sense, 10	0.72					-0.433	0.480
Colleagues happy with intervention, 14	0.65						0.836
Get enough training to use, 15	0.74						0.940
Openness		0.78	4.55				
Like new therapy types, 1	0.56			0.830			
Will follow a treatment manual, 2	0.68			0.830			
Therapy developed by researchers, 4	0.71			0.684			
Therapy different than usual, 8	0.44			--	--	--	--
Divergence[ab?]		0.36	1.44				
Knows better than researchers, 3	0.04			--	--	--	--
Research-based treatments not useful, 5	0.30						0.329
Clinical experience more important, 6	0.13			--	--	--	--
Will not use manualized therapy, 7	0.32			--	--	--	--
EBPAS Total		0.78					

Note. Underlined figures represent loadings greater than .50.

[a] All loadings greater than 0.30 were reported. Loadings may be above 1.00 because a promax oblique rotation was used in the exploratory factor analysis. Per Fabriger et al., (1999), items should be retained on a factor if they loaded at least 0.30 on the primary factor and less than 0.30 on all other factors. If no loading is provided for an item, then that item did not have any loading above 0.30.

[b] All divergence items were reversed scored before being used in computing the EBPAS total score and the assessment of the measurement properties.

Table 3.8: Pooled within-sample correlation matrix of the *Evidence-Based Practice Attitudes Scale Items* (n=710, using all five imputed data sets)

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1.00	0.63	-0.13	0.52	-0.02	0.03	-0.06	0.17	0.09	0.15	0.01	0.04	-0.02	0.00	-0.01
2		1.00	0.01	0.58	0.10	-0.02	-0.05	0.36	0.18	0.25	0.22	0.26	0.17	0.19	0.16
3			1.00	-0.13	0.09	-0.02	0.03	-0.04	-0.17	-0.10	-0.11	-0.08	-0.02	0.10	-0.06
4				1.00	0.15	-0.02	-0.06	0.48	0.31	0.35	0.20	0.20	0.12	0.32	0.32
5					1.00	0.10	0.32	0.27	0.10	0.22	0.10	0.07	0.17	0.19	0.27
6						1.00	0.19	-0.23	-0.10	-0.11	-0.05	0.00	-0.14	-0.21	-0.01
7							1.00	0.04	-0.06	0.05	0.05	0.06	0.15	-0.03	0.04
8								1.00	0.42	0.44	0.24	0.23	0.29	0.33	0.33
9									1.00	0.70	0.16	0.17	0.24	0.40	0.50
10										1.00	0.30	0.35	0.42	0.53	0.60
11											1.00	0.93	0.73	0.29	0.24
12												1.00	0.74	0.34	0.28
13													1.00	0.48	0.51
14														1.00	0.74
15															1.00

the divergence factor. These scores were similar to Aarons' (2004) results, except for the divergence scale that he reported a chronbach's alpha of 0.59. Results are presented in table 3.7.

Multilevel factor analysis accounted for the mixed unit of analyses and was conducted to establish scale factors since it is used with a new population of aging network service staff (Reise, Ventura, Nuechterlein, & Kim, 2005). This involved creating a correlation matrix of these items from the entire imputed data set that were pooled to account for the within-agency variance, as detailed in Table 3.8. Then, an exploratory factor analysis was conducted in Mplus using this within-agency pooled correlation, requesting up to five factor extractions, and applying a promax oblique rotation. This method was selected in accordance with the Aaron's article (2004) and per the assumption that the factors were intercorrelated (Pedhazur & Schmelkin, 1991). A maximum likelihood estimator was used since the items were mostly normally distributed (see skewness statistics in Table 3.6).

As a result, the four-factor model, which was similar to Aaron's proposed factors, remained an informative model. Model fit statistics did indicate some potential problems since the Chi-Square test of model fit was significant (X^2=60.753, *df*=51 p<0.001), yet a non-significant result on this test is preferred (Fabrigar, Wegener, MacCallum, & Strahan, 1999). Furthermore, the Root Mean Square Error of Approximation (*RMSEA*) was above the 0.10 cutoff for marginal fit (*RMSEA*=0.124, *90% CI*: 0.115 to 0.133) and the Standardized Root Mean Square Residual (*SRMR*) was 0.056, which did indicate a good model fit according to Fabrigar and colleagues (1999). The problems with the proposed measurement model were further apparent when reviewing the factor loadings,

as noted in the Table 3.7. The requirements and openness subscales had items load in a similar pattern to original scale, yet the items for the appeal and divergence subscales did not strongly align with the third and fourth factors. For analysis, descriptive data were provided on the subscales which was created by computing a total and mean score for the subscale items, while accounting for the reverse scoring of the divergence items. Subscales were not used in the modeling due to the above described concerns for their validity and reliability. Instead, only the total mean EBPAS score for was used.

Assessment of Measures: The Indicators of Current Depression Practice

For the final standardized measure, *Indicators of Current Depression Practices*, the twelve dichotomous items (including use of case management and psychiatric consultation) were summed to provide a count of how many empirically supported practices for depression an agency had incorporated. This variable applies to the organizational unit of analysis, thus it varies according to the 17 agencies. With this small sample size for the organizational unit, and since this study did not assign weights per stakeholder preference for these items as done in the original article (Oxman et al., 2006), no constructed variable was developed other than the sum count of indicators. Since this variable has uncertain reliability and validity, qualitative findings were used to further describe these results.*Aim 1 Analytic Procedures*

Qualitative analysis procedures were implemented in consultation with anthropologist, Dr. Bradley Stoner. Following a content analysis approach (Bernard & Ryan, 2000) and utilizing NVivo software (Qualitative Solutions Research, 2002), the coding involved four phases: 1) preliminary review of transcripts and discussion with a

second coder (a research assistant with qualitative coding experience); 2) case development in which all data were categorized within a unit of analysis (i.e., the agency) and then described with the attribute of agency type (i.e., adult day services, homecare services, senior centers, and supportive housing); 3) topical coding where data were grouped according to questions; and 4) thematic coding where themes of general descriptions, barriers, and facilitators were identified within each question.

Topical coding followed the framework for empirically supported depression care, such as specific practices (i.e., screening, education, etc.), case management, and psychiatric consultation (Oxman et al., 2006). For thematic coding, an iterative process identified potential themes and was recorded in the project journal. The second coder read transcripts separately to identify themes. Through feedback discussions with the second coder, this author finalized themes for comparing how perceptions of depression practices varied by agency type. They also discussed any discrepant constructs and/or responses to refute and revise categories. These themes were compared to open-ended survey items from staff members' perspectives on the barriers and facilitators. The results are summarized by counting the frequency for each barrier or facilitator among the four aging network service types, through narrative descriptions, and use of representative quotes.

In summary, to minimize threats to validity (Lee, 1999), the coding process involved looking for alternative explanations and discrepant cases in the data, using an experienced and independent qualitative coder to also review transcripts and coding categories, iterative revising of the coding categories per feedback from the second coder, and framing this study's results in the context of other research. Triangulation also

occurred with data gained from the open-ended items on the staff surveys and member checks, in which findings were presented to interview and survey participants for their feedback through executive summaries and agency presentations.

Aim 2 Analytic Procedures

Since the data for the climate and culture variables met the assumptions to represent organizational units of analyses, mixed models were used to account for the clustered data of staff variables nested within agencies (Luke, 2004). First, a multi-level model was run using Proc GENMOD for the following dependent variable at the organizational level: agency's count of practice indicators for empirically supported depression care. The second order scales for organizational culture (rigidity, proficiency, resistance) and climate (stress, engagement, functionality), along with the agency's primary funding source and staff attitudes score, were the independent variables and considered to be random effects. Agency type was considered a fixed effect in these models.

Two other staff-level dependent variables were tested. First, the staff-level attitudes score for the *Evidence Based Practice Attitudes Scale* was examined. Second, the staff morale was assessed. For these models with continuous dependent variables, Proc MIXED was used while looking at the random effects of organizational level predictors (i.e., culture, climate, structure, financing, penetration, & turnover) and staff knowledge and demographics. Again, agency type was treated as a fixed effect. These equations were conceptualized as:

$$DV_{1,2,3} = b_0 + \underbrace{b_{1(\text{culture})} + b_{2(\text{climate})} + b_{3\ldots k(\text{agency type, funding})}}_{\text{Organizational Unit of Analysis}} + \underbrace{b_{5\ldots k(\text{staff demographics, attitudes, knowledge})}}_{\text{Staff Unit of Analysis}} + e$$

DV_1 = agency's count of practice indicators of empirically supported depression care
DV_2 = staff attitudes toward evidence-based practices
DV_3 = staff morale

Aim 2 Limitations

Given that this study had a fixed number of agencies and staff that were studied within its scope, the number of clusters may have been too small for significance testing with complex multivariate models that have sufficient power. Analyses were conducted to confirm direction of effect and effect size estimates. Of necessity, analyses should be viewed as providing preliminary data about factors that affect current depression practices in real-world aging network services.

Substantial constraints on power can also occur when more than mild intra-class correlations occur on the dependent variable. Thus, evaluation of the relationships between organizational level predictors and outcomes at the staff level would also have required measurement of a greater number of organizations. As this was the case, the agency type was considered to have a fixed effect, rather than random effect, thus increasing power. Estimates of intra-class correlations between organizational units were established and allowed for comparing effect sizes across agencies in order to determine both within and between unit variability. With limited literature in this area, the calibration of variables and estimating effect sizes for future studies is an important contribution. These results were then contrasted with findings from the qualitative

methods for triangulation regarding the validity, relevance, and importance of variables in the model in predicting aging network services current depression practices.

Aim 3 Analytic Procedures

Based on findings from Aims 1 and 2, a set of factors from organizational context, perceptions data, current depression practices, and staff attitudes and knowledge were identified that indicate evaluated facilitators and barriers. Integrating the outcomes for Aim 1 and 2 involved reviewing both the qualitative and the quantitative findings, using a predetermined means of grouping corresponding results and citing relevant literature to explain the results of the statistical tests, as described by Ivankova, Creswell, & Stick's mixed-methods case example (2006).

The findings were grouped by the aging network service type (i.e., adult day services, homecare services, senior centers, and supportive housing) so that interpretations were drawn by the service type instead of by specific agencies. Themes across and within aging network service type were drawn. When consistent findings occurred within aging network service types, a total number of facilitators and barriers for each service type were developed and compared to core components for empirically supported depression care.

Chapter IV: Key Informant's Perspectives of Depression Care in Aging Network Services

The following results of the key informant interviews with 20 managers of 17 different aging network services respond to the first aim: Describe aging network services' current depression practices and key informants' perceptions (i.e., facilitators and barriers) related to these practices. The results are organized by first describing the sample of key informants and the agencies; second, describing the count of depression care indicators provided within adult day services, homecare agencies, senior centers, and supportive housing which includes bivariate analyses to assess variation by service type; third, an exploration of themes learned from key informants' responses to each depression care indicator, and then a conclusion of qualitative themes regarding barriers and facilitators to the current depression practices and any future efforts to change these practices.

Sample Description

Description of Managers Serving as Key Informants

The 20 managers who participated in the in-depth interviews were primarily Caucasian females. A sample description is provided in Table 4.1. The managers had a range of educational and degree credentials, with 50% holding a masters degree or higher (*n*=10). One in four managers were a social worker (*n*=5), which was the most common degree held. Examples of other degrees held were education, nursing, psychology, law, and gerontology degrees. The managers had extensive human service experience (*M*=19.9 years, *SD*=11.9).

Table 4.1: Key informant characteristics
(k = 20 for 17 agencies, as three agencies had two participants each)

Variable *Mean±SD (Range); Frequency (n)*	***Total Sample (n=20)***	***Adult Day Services (n=7)***	***Homecare Services (n=4)***	***Senior Centers (n=5)***	***Supportive Housing (n=4)***
Mean Age	52.1±11.8 (30 to 68)	58.7±6.26	50.0±17.5	49.2±7.85	46.2±15.9
Gender					
Female	80% (16)	86% (6)	50% (2)	100% (5)	75% (3)
Male	20% (4)	14% (1)	50% (2)	0% (0)	25% (1)
Ethnicity					
Caucasian	90% (18)	86% (6)	100% (4)	80% (4)	100% (4)
African American	10% (2)	14% (1)	0% (0)	20% (1)	0% (0)
Education					
High school	15% (3)	0% (0)	25% (1)	40% (2)	0% (0)
Bachelor	35% (7)	43% (3)	25% (1)	40% (2)	25% (1)
Graduate	45% (9)	57% (4)	50% (2)	20% (1)	50% (2)
Doctorate	5% (1)	0% (0)	0% (0)	0% (0)	25% (1)
Degree					
Education	15% (3)	14% (1)	25% (1)	20% (1)	0% (0)
Nursing	15% (3)	29% (2)	0% (0)	0% (0)	25% (1)
Psychology	10% (2)	14% (1)	25% (1)	0% (0)	0% (0)
Law	5% (1)	0% (0)	0% (0)	0% (0)	25% (1)
Social Work	25% (5)	14% (1)	25% (1)	20% (1)	50% (2)
Other	30% (6)	29% (2)	25% (1)	60% (3)	0% (0)
Mean years of human service work	19.9±11.9 (2 to 35)	26.6±11.1	11.0±9.8	22.0±10.2	14.7±12.7
Mean years job tenure	10.9±10.2 (1 to 32)	13.9±10.3	6.0±2.9	15.4±14.7	5.0±3.6

Description of Participating Agencies

A detailed description of agency characteristics is provided in Table 4.2. Agencies were mostly multi-service agencies. The mean number of services provided was 9.6 (*SD* =4.2) and ranged from two to 17 services. Ten or more agencies offered the following types of services: information and referral, transportation, volunteer opportunities, case management, caregiver support services, and educational or leisure services. For this study, agencies were classified according to the primary service that the

manager and staff provided per the following types: adult day services (*n*=3), homecare (*n*=3), senior centers (*n*=4), and supportive housing (*n*=4).

For the structure of the organizations, the agencies were mostly private, non-profit entities (*n*=12) that had centralized management structures (*n*=12). Although most agencies reported a mix of funding sources, the managers' identified the primary funding sources were from private pay sources (*n*=9) and from the Older American's Act (*n*=7). Zero agencies reported Medicare as a primary funding source, and only one agency identified Medicaid as such. Most agencies had 50 or more employees (*n*=9). Seven agencies had less than 20 employees of which five were adult day services. In terms of the penetration or the reach of their services to older adults in the community, the agencies primarily served over 100 clients for long durations of time (i.e., 77% of clients served for over 1 year). However, adult day services primarily had 50 clients or fewer. Caseload sizes varied greatly (*M*=55.1, *SD*=70.1), with some reporting no employees carrying a caseload versus others responding that all their clients were on a staff member's caseload.

Bivariate analyses indicated minimal variation by agency type, with homecare services being uniquely associated with a for-profit status (Fisher exact, $p < 0.05$). Adult day services were uniquely associated with reporting that the Older Americans Act was a primary funder (Fisher exact, $p < 0.05$) and with serving smaller client populations (Fisher exact, $p < 0.05$).

Table 4.2: Agency characteristics (k=17)

Variable *Mean±SD (Range); Freq. (n)*	**Total Sample (k=17)**	**Adult Day Services (k=5)**	**Homecare Services (k=4)**	**Senior Centers (k=4)**	**Supportive Housing (k=4)**	
Mean # of Services	9.6±4.2 (2 to 17)	7.4±4.2	9.0±2.4	12.5±4.0	9.5±5.38	
Services Offered:						
Information & referral	94% (16)	80% (4)	100% (4)	100% (4)	100% (4)	
Senior centers	53% (9)	40% (2)	25% (1)	100% (4)	50% (2)	
Home delivered meals	41% (7)	20% (1)	0% (0)	100% (4)	50% (2)	*
Congregate meals	53% (9)	60% (3)	0% (0)	100% (4)	50% (2)	*
Transportation	76% (13)	60% (3)	100% (4)	75% (3)	75% (3)	
Education & leisure	59% (10)	40% (2)	50% (2)	75% (3)	75% (3)	
Volunteer opportunities	71% (12)	80% (4)	25% (1)	100% (4)	75% (3)	
Legal services	29% (5)	0% (0)	0% (0)	75% (3)	50% (2)	*
Employment services	23% (4)	0% (0)	25% (1)	50% (2)	25% (1)	
Housing	41% (7)	20% (1)	25% (1)	25% (1)	100% (4)	
Income assistance	29% (5)	40% (2)	25% (1)	50% (2)	0% (0)	
Caregiver services	59% (10)	80% (4)	25% (1)	100% (4)	25% (1)	
Homecare	47% (8)	20% (1)	100% (4)	50% (2)	25% (1)	
Crisis intervention	47% (8)	20% (1)	25% (1)	50% (2)	100% (4)	
Companionship services	41% (7)	20% (1)	100% (4)	25% (1)	25% (1)	
Case management	65% (11)	20% (1)	100% (4)	100% (4)	50% (2)	*
Mental health	12% (2)	0% (0)	25% (1)	0% (0)	25% (1)	
Adult day services	53% (9)	100% (5)	50% (2)	50% (2)	0% (0)	*
Home maintenance	23% (4)	0% (0)	25% (1)	50% (2)	25% (1)	
Assisted living	23% (4)	20% (1)	50% (2)	0% (0)	25% (1)	
Nursing home care	18% (3)	20% (1)	25% (1)	0% (0)	25% (1)	
Classification						*
Private, for-profit	23% (4)	20% (1)	75% (3)	0% (0)	0% (0)	
Private, non-profit	71% (12)	80% (4)	25% (1)	75% (3)	100% (4)	
Public	6% (1)	0% (0)	0% (0)	25% (1)	0% (0)	
Funding Sources						*
Medicaid	6% (1)	100% (1)	0% (0)	0% (0)	0% (0)	
Medicare	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	
Older American's Act	41% (7)	57% (4)	29% (2)	0% (0)	14% (1)	
Private pay	53% (9)	0% (0)	22% (2)	45% (4)	33% (3)	
Centralized Management	71% (12)	60% (3)	50% (2)	75% (3)	100% (4)	
Employee Size						
Under 20 employees	41% (7)	80% (4)	25% (1)	0% (0)	50% (2)	
21 – 50 employees	6% (1)	0% (0)	0% (0)	20% (1)	0% (0)	
51 – 100 employees	12% (2)	20% (1)	0% (0)	0% (0)	25% (1)	
Over 100 employees	41% (7)	0% (0)	75% (3)	75% (3)	25% (1)	
Client Population						*
Under 20 clients	6% (1)	20% (1)	0% (0)	0% (0)	0% (0)	
21 – 50 clients	12% (2)	40% (2)	0% (0)	0% (0)	0% (0)	
51 – 100 clients	6% (1)	20% (1)	0% (0)	0% (0)	0% (0)	
Over 100 clients	76% (13)	20% (1)	100% (4)	100% (4)	100% (4)	
Duration of care						
6 months or less	0 (0)	0% (0)	0% (0)	0% (0)	0% (0)	
7 months to 1 year	23% (4)	40% (2)	50% (2)	0% (0)	0% (0)	
1 year to 2 years	18% (3)	40% (2)	25% (1)	0% (0)	0% (0)	
Over 2 years	59% (10)	20% (1)	25% (1)	100% (4)	100% (4)	
Average Caseload Size	55.1±70.1 (0 to 260)	19.6±19.5	40.7±43.0	73.7±59.9	95.2±123.8	

Significance Test by Fisher exact * < 0.05 for categorical variable

Perceptions about Depression Care in Aging Network Services

When managers were asked to rate the extent depression is a problem faced by clients in their agency 70% reported that it was a slight or moderate problem, whereas 30% reported that it was a great problem or very great problem. Two themes were evident in how managers perceived depression in their clients: 1) depression's relationship to the need for services, and 2) the distinction between "situational" and "severe" depression. These themes were drawn from the managers' discussion of the extent depression was a problem faced by clients and from the manager's disclosure of client examples with depression, which occurred in 10 interviews.

A few examples of the first theme, depression's relationship to need for services, are provided. This theme was voiced by most managers across agency type and was often seen as a facilitator into recognizing and addressing the clients' depression. Several adult day care managers described how most clients sought adult day services because of dementia, and that depression commonly co-occurred with dementia. For one adult day care manager, this co-occurrence led to decreased concern for depression, in that "it seems like a lot of the medical doctors automatically put people [with dementia] on antidepressants. And so a lot of our clients are on antidepressants, so we're not seeing maybe the depression that you would see." In homecare and senior centers the issues of health conditions, depleted informal supports, and disabilities that hindered older adults' ability to "get out," were common reasons for needing the specified service type and for being related to depression. For example, one senior center manager responsible for both congregate and home-delivered meals reported that "where you're homebound and you can't leave your home with extra effort, I'm just guessing I'm not saying all homebound

people are depressed but I'm guessing a great number probably are." Lastly, one manager described the reasons older adults may use supportive housing as "They have health issues either physical or mental health issues that have interfered with their ability to work, earn a good living, save for retirement and to build a good social support network." Similarly, from another supportive housing manager, "I have probably 25 ladies who have lost their children way before their time and they have nobody because their husbands are dead…that's an ongoing open depressive wound."

The second theme derived from the qualitative data was that managers often made differential response between situational and severe depression. This theme creates a potential barrier to the recognition and assuming responsibility for responding to depression care. It was mentioned by about half of the managers and was apparent across all service types. For example, one supportive housing manager stated, "It's like situational depression because they can't walk as well and they can't take care of their apartment. So, it's not clinical depression like we'd see [them] sobbing." A homecare manager said, "Older adults, when they finally realize they are getting frail, they need extra help … those kinds of situations, that type of depression, we do and we can address. If we see someone with chronic or severe [depression], we would refer out."

Indicators of Empirically Supported Depression Care

Only one agency reported receiving any funding directly for mental health services. This homecare agency reported initiating a new program within the last year that allows their social workers to be reimbursed through Medicare for in-home diagnostic assessments and psychotherapy. The agencies' use of empirically supported

depression practices is depicted in Table 4.3. Five agencies used a depression screen routinely during assessments, and four agencies had written protocols for responding to client suicide risk. A majority of the agencies offered education about depression, worked with clients to address barriers to mental health treatment, had contact with primary care providers, and documented all service contacts. Use of care plans to monitor depression and revision of these care plans within four weeks was utilized in about half of the agencies (n=8 and n=6, respectively). This use of care plans was the only significant difference among agency types, with increased use by adult day services and homecare services (Fisher exact, $p<0.05$). The sum of these indicators of depression practices also varied significantly by agency type (F-value(138, 3)=44.03, $p < 0.0001$).

The rest of this section provides a description of these depression care practices, and then at the end of the section themes of barriers and facilitators to these practices will be named. Managers discussed at length the use of standardized depression screens to help detect depression in their clients, and variations occurred by agency type. Three adult day service agencies reported using a standardized depression screen during their initial assessment, most commonly the *Geriatric Depression Scale* (Arthur, Jagger, Lindesay, Graham, & Clarke, 1999). One homecare and one supportive housing facility also reported use of standardized depression scales at assessment. Four more managers reported having access to standardized depression scales to use "as needed."

The other eight agencies reported no use of a standardized screen. Here, most managers reported that they relied on "pertinent health history questions" in the assessments or reports from "doctors when they first come what their diagnosis is and what medications they've been taking." Thus, as one senior center manager described, "I

Table 4.3: Bivariate analysis of depression care indicators by agency type (k=17)

Depression Care Indicators Variables	Total Sample % Yes (k)	Adult Day Services *(k =5)*	Homecare Services *(k =4)*	Senior Centers *(k =4)*	Supportive Housing *(k =4)*	X^2
Assessment contains depression screen	29% (5)	3	1	0	1	
Has written protocols to assess and intervene for suicide	23% (4)	0	1	1	2	
Offers educational materials about depression	65% (11)	3	3	2	3	
Addresses barriers to mental health treatment	71% (12)	5	3	1	3	
Protocols allow for revision to care plan at 4 weeks	35% (6)	3	3	0	0	*
Monitors and alters care plan to address depression	47% (8)	5	2	0	1	*
Has contact with clients' primary care providers	82% (14)	5	3	2	4	
Facilitates contact and appointments with primary care	71% (12)	4	3	1	4	
Documents service use and a a minimum of two case management contacts with client in three months	82% (14)	4	4	2	4	
Case Management	65% (11)	1	4	4	2	*
Psychiatric consultation: Combined indicator of internal staff or formal consultation service	29% (5)	0	1	1	3	
Has mental health staff within the agency (i.e., psychiatric social workers or nurses)	18% (3)	0	1	1	1	
Has formal consultation service from mental health providers for agency (i.e., psychiatrist, social worker, or nurse)	12% (2)	0	0	0	2	
***Sum of Depression Care Indicators*, Mean± *SD* (Range)**	**4.8±3.0 (0 to 11)**	**5.9±1.7**	**8.4 ±2.9**	**2.8±2.2**	**5.6±1.4**	***
Other mental health resources						
Has informal relationships to facilitate referrals	47% (8)	1	3	1	3	
Has funding for mental health services	6% (1)	0	1	0	0	

Significance test by Fisher exact for dichotomous variable; * < 0.05
Significance test by ANOVA for continuous variables; ****F-Value* (138, 3) = 44.03, $p < 0.0001$

hate to say this but the only way we really know someone who's really depressed is they come and tell us." For facilitators of screening for depression, common perceptions included the "relationships" between clients and agency staff, the long duration of time

clients use services that allows for "recognizing differences," and the staff's "eyes and ears that are at work" observing client behaviors such as socializing, eating, attending activities, and maintaining one's home.

Unique barriers to screening were detected for two service types. First, all senior center managers discussed that although there is a national standardized assessment tool for use by senior centers (i.e., National Aging Program Information System (NAPIS), 2007) that includes the *Geriatric Depression Scale*, only one agency reported using the depression screen. Managers explained that their agencies did not use the depression screen because it was seen as "optional" and "unrealistic." Instead, most managers reported using only certain sections of the NAPIS, such as, "Mostly we ask about food issues because that's what we do." Senior center managers related the "unrealistic" perception to "not having the resources," 'it's a lot of work for systematic assessment," and "like I said; they [senior center staff] are high school diploma proficient and [depression screening] is not something that unfortunately they would know how to handle." The second service type to report a unique barrier to standardized depression screening was supportive housing agencies. Here, all supportive housing managers referenced the Fair Housing Act, in that "I can't ask for their personal health information without their permission . . . and if they say no, then I just back off and I don't do it again." To avoid the potential discrimination against older adults per physical or mental health conditions, all they can ask about is "are you able to live independently" or "able to maintain their lease."

In terms of suicide protocols, written protocols were uncommon and explained in that staff responded to suicide risk based on their "judgment," "our social work training,"

or contact with “supervisors,” the “family” of the client, calling “911,” or “hotlining” to Adult Protective Services. No facilitators for this practice were detected, and the barriers included “not having a medical director,” “we don’t have clinically trained people,” and the hotline procedure is “worthless” in that “they have a high tolerance for issues.”

Education about depression was offered through a variety of means, including a weekly “grief support group,” presentations by “health professionals,” making “sure literature is there,” “caregiver support groups,” a “Meaning of Life” group, a “Bagels and Learning” weekly group at a supportive housing facility, and an “advice column which usually says talk to your social worker” or other articles “devoted to depression” in the agencies’ newsletters. The common theme of facilitating this education on depression was the integration of depression content into other broader health topics, such as the “Meaning of Life” group, or as a segment in the “Bagels & Learning” group. Barriers included the occurrence of cognitive impairments among clients, the lack of organizational structure to coordinate educational activities (i.e., “this health promotion person is a person that not only does health promotion but they’re volunteer recruitment, and special projects), and that clients have to choose to participate in such activities.

Most agencies reported not keeping systematic care plans and that documentation included keeping “a file on each resident that I have some contact” or “meals served.” In terms of contact with primary care physicians to support depression treatment, a common theme across agencies was that contact was minimal and often was communicated through family members, such as recommending them to talk to the doctor about the older adult’s possible depression symptoms. As another example, one homecare manager described this communication as asking family members “We’re going to be in

there…we're going to be spending five hours a day with her. What do you want us to do? What is the doctor saying would be good for mom besides just taking her Prozac or whatever?" Lastly, although most managers reported addressing mental health barriers, no manager described how this was done in addition to the list of already specified depression practices.

Facilitators to these empirically supported depression practices were evident in agencies that had computer systems to manage care plan information, including outcomes of mental health referrals, and agencies that had collaborative relationships with health care providers that shared space, referral sources, or transportation services, thus increasing the communication between health care providers and the aging network service staff. One barrier to these practices included the inconsistent and limited information that was documented and included in care plans (i.e., files are "not for all residents" in supportive housing, or "We just ask for a doctor's name, doctor's phone number. So it's not even asking for all clinicians [i.e., other physicians, service providers, etc.]" that a client sees). Another limitation is the reliance on conveying messages through families, in that one adult day service manager stated, "The only thing we can do is ask questions and encourage them to see their doctor" or when a concern is noted another adult day services manager specified, "We will put a call in for the doctor with the caregiver's permission."

In summary, for this list of indicators for empirically supported depression practices the following themes were identified. For barriers across agency type two primary themes were evident: 1) the "only if clients tell us/choose it" response to depression and 2) staff were not qualified to respond to depression. These barriers were

mentioned by most managers. For barriers that were unique to agency types, first senior center managers voiced consistent concern for the "unrealistic" ability for their agency to screen, train, and document care plans. Second, for supportive housing a unique theme regarding barriers was the impact of privacy laws. This was mentioned by all supportive housing managers. For facilitators, only universal themes across agencies were identified. This included three themes: 1) the long-term relationship staff had with clients, 2) the integration of depression practices into other services, and 3) collaboration with other service agencies.

Use of Case Management

All homecare agencies and senior centers reported offering broad case management services, whereas few adult day services and supportive housing agencies did (Fisher exact, $p<0.05$). No agencies specified offering case management specific to depression, thus the rest of this section reviews the broader provision of case management. The topic of case management and how it is provided generated a great deal of discussion with a primary theme that these services are limited and "as needed" across all service types and voiced by most managers. In fact, several managers debated whether or not the term "case management" could be used within their agency, even when the agency had an "official" case management service. For example, one senior center manager stated, "We have a case manager here but we contract all of that out to other organizations and so she monitors the [contracted] caseworkers." Or another senior center manager articulated that "When we talked about case managing, we aren't really case managing at the senior centers. We will refer people and we will recognize, especially on homebound, if something's wrong…. We would refer on and try to get help

elsewhere." One homecare manager who reported offering case management, stated that the agency does not have any social workers or nurses on staff because "We don't do any skilled nursing services." Instead, his case manager is "very experienced in the industry and knows enough." Similarly, when asked about case management, one supportive housing manager stated "so this question is really hard for me to answer because I don't technically, I'm not a case manager and what I do in the way of case management is more the information and referral and then some crisis intervention."

The following examples demonstrated the limited nature of case management services within these settings. One supportive housing manager reported that the nurse and social worker on staff provide case management "if it hits you in the face, then of course you work with it and try and be of help, but it's usually more or else to calm things down and to keep from escalating and then referring them to somebody who could be of help." As one adult day service described the social worker within their program who does not maintain a caseload as dealing "with things as they pop up." No facilitators to case management were detected. The barriers were commonly stated in terms of limited time and resources especially for senior centers and supportive housing such as "There's no way possible with the number of clients that we have that one person that is handling food service, managing staff, and doing activities at the local level," or "I can't obviously do assessment and case management with 500 residents."

Use of Psychiatric Consultation

Supportive housing facilities had higher, but non-significant, rates of having established linkages to psychiatric consultation. Half of all agencies reported having

informal relationships to facilitate referrals. Three agencies reported having mental health professionals on staff (i.e., psychiatric social workers or nurses) and two supportive housing facilities had psychiatrists offering co-located services within medical clinics in their housing complex. Many of these agreements were not formal written contracts, but instead:

> I more or less agreed that we're not going to allow any other home health agencies to come in and do the marketing efforts in the building and in exchange they're [a home health agency with specialty mental health care staff] going to be a regular presence in our buildings to do these in-services, be available for referrals or if I ever want to call them and ask them to go talk to somebody.

Similarly, several adult day service agencies reported a specific university-affiliated psychiatrist who had provided on-site consultation previously, but that work ended once "the funding was cut."

This co-location was seen to increase the convenience of accessing mental health care and to facilitate the quality of the care provided. An adult day services manager reported, "When the geriatric psychiatrist sees the person in the office, they're not seeing them in their own setting. So, the fact that they can see them and observe them in the program added a whole new dimension to it." Other facilitators identified for use of psychiatric consultation involved: 1) the specific university-affiliated psychiatrist who was named in multiple interviews as initiating psychiatric consultation services and 2) several managers highlighted their own or other staff members' previous mental health experience as prompting the development of informal relationships with mental health providers.

Barriers to use of psychiatric consultation included issues of the agencies not being able to afford the cost, few older adults using the service, the competition among other services providers, and maintaining the clients' confidentiality and self-determination. These can be consolidated into two themes that affect all agency types: 1) concerns for sustainability, as voiced by most managers and 2) privacy issues, as highlighted by some managers. For sustainability, the examples from adult day services highlighted the need for specialized funding for the co-located geriatric psychiatry services. In adult day services and supportive housing, managers also often cited the need for having enough clients use the service (i.e., consumer demand). For example, one adult day services manager stated, "I don't think we had enough people that fit into this category to make it worthwhile" for the geriatric psychiatrist. Also in relation to sustainability, two other supportive housing managers referenced concern that not enough residents would attend psychiatric appointments to "get anything going." Initiating and sustaining the consultation services was another problem. Here, a homecare manager referenced "politics" and "competition" when making decisions about establishing relationships with specialty mental health providers due to concerns for upsetting existing referral sources and having trouble collaborating with new agencies because they have informal commitments with competing agencies.

The theme about privacy focused on strongly held concerns for confidentiality and client self-determination. For example, when working with outside mental health providers, one supportive housing manager stated, "Again it's independent living, so we try to be clear on boundaries" and another homecare manager stated "You have to be careful to guard the patients' privacy."

Perceptions about How to Improve Depression Care

Desired Changes to Improve Depression Care in Aging Network Services

The most commonly cited resource for improving how aging network services responded to depression was training. Several managers expressed interest in training for current aging network staff and one homecare manager cited mental health professionals needing training on aging issues. She stated, "They (mental health providers) not only got to be sensitive to mental health in the aging process, they got to understand the physiological because our body reacts to drugs differently as we age too." The second desired change was to have a co-located mental health professional. For example, the adult day service managers wanted the geropsychiatrist to reinstate visits to their agencies. Similarly, a supportive housing manager wished she could hire a mental health staff (i.e., nurse or social worker) so clients could use "talk" therapy. These findings provide further support for the universal themes of 1) staff not being qualified to respond to depression is a barrier and 2) collaborations with other service agencies helps facilitate depression care.

Agency Patterns of Instituting Change

All key informants were asked about their general pattern of instituting change, with the question "What would be the process for your agency to introduce a new service or protocol?" Through information on several case examples of small (i.e., developing a training manual, offering a new support group) and large changes (i.e., creating a new program, hiring a new type of staff, or revising an existing protocol), the following themes were derived. First, most managers began answering this question with issues of cost and all managers referenced cost issues. Thus, the first theme relates to 'What does it

cost?' Managers used phrases such as "cost factor," "sustainable," "depends if we have funding," need for "start-up money," and "everything for us is money driven." Other managers described concerns for cost-offsets, as one senior manager stated, "Do you serve ten people really well or do you serve a hundred people so they've got food to eat?" The concern for costs was systematic across agency types.

A second theme that was consistent across agency types in terms of instituting change involved the division between what is needed for different types of changes, depending on cost. This theme is named, 'Small change is local and quick if wanted, large change is a lengthy process.' The small changes that have low costs (i.e., staff training, adding a new type of therapy group) were dependent on someone taking responsibility to implement the idea. Program managers can make these decisions without seeking outside approval, as one supportive housing manager stated, "If it's not going to cost anything we can pretty much do whatever we want." However, more expensive, larger scale changes involved a lengthier process of seeking approval of senior managers, presidents of companies, and boards.

The impact of the cultural diversity on decisions to institute change was also evident across service types, but it was only mentioned by a few managers. For example the distribution of resources between predominantly Caucasian versus predominantly African American neighborhoods impacted decisions in urban agencies. For example one senior center manager described that the director "has gotta walk on egg shells" when discussing resources and another senior center manager stated "in the last ten years we've closed seven senior centers I believe, most of them unfortunately in North St. Louis," which influences future decisions. Furthermore, a supportive housing manager described

that when considering new services for clients she considers the "different coping abilities" and "how they interpret what it means to get help" among the different ethnic groups her agency serves. Lastly, one supportive housing manager and one homecare manager identified a self-awareness that their hierarchal role and being Caucasian may influence how new changes are perceived by the predominantly African American staff members.

A few key distinctions were apparent in themes about instituting change within certain agency types. First, adult day services and homecare agencies were alike in that their managers described two themes for change: 1) a more "market-driven" change processes and 2) franchise promotes standardization and routine efforts to improve care. For example, the homecare manager that recently added Medicare-reimbursed mental health services to his agency described "needing to maintain a volume of clients" thus he is targeting retirement communities first. He stated, "It would decrease on travel time for the social workers, make scheduling easier, and maintain a consistent pool of clients. It doesn't make sense to go to individual homes, so that is why we go to retirement communities." Similarly, a homecare manager from a franchise organization stated, "We're very clear that the home office is very committed towards providing a high level of care . . . there is a strong passion for being a leader in the industry." Furthermore, an adult day service manager from a franchise organization stated, "We are essentially a small business with slim margins."

Alternatively, several senior center managers described distinct issues in the change process related to the theme of "extensive history." Here, the agency leaders were commonly described as having "been in those positions forever." Another senior center

manager stated, “Its pretty much status quo. So it’s just the same from the previous year and the previous year before that and the previous year before that.” Within this “extensive history” is a trend to be director-driven, with two managers describing that change cannot occur without the director’s approval. For example, one senior center manager stated “if it’s a dumb idea to the director it is off the table.”

Lastly, supportive housing facilities reported few issues with instituting change above and beyond cost issues, thus the name of their theme for change is “flexible”. They often reported a “flexible” process with some agencies having existing structures to support change such as resident councils or social service departments. These structures routinely met and would seek recommendations for changes from residents, staff, social workers, family, and the agency’s board members. They would develop committees with mixed representation from the above stakeholders and operate on short and long-term goals. Overall, as long as some stakeholders were interested they could proceed forward with planning for the change.

Perceptions of Barriers to Improving Depression Care

To add to the themes about barriers to specific depression practices, each key informant was asked, “If your agency were to adopt a new intervention/therapy or protocol to respond to depression in your clients, what may be some barriers to it being successful?” Several of the above themes were repeated such as 1) what does it cost, 2) staff not qualified, and 3) only if clients tells us/chooses it (i.e., issues with “stigma,” “some of them do not want intervention,” “I don’t think they’ve ever given themselves permission to be depressed.”).

In fact, even some managers echoed themes about unwillingness to respond to depression, such as “maybe we’re too quick to sometimes say depression” and another manager stated, “I have real trouble with people who are depressed and I don’t blame them for being depressed, but I guess I’m the kind of person that thinks ‘do something about it.’ Which I know isn’t true, but that’s the way I am.” Finally, one manager summed it up as “mental health in general is not a priority, period, so why would we care about old folk?”

This unwillingness to get help extends beyond depression care, as one supportive housing manager described:

> There even are people, believe it or not, who would stay on the floor for many days if they could because they’re afraid if you come and find them, then they’ll have to leave. So there is this pervasive fear with people over 85 years of age that if the nurse comes and sees them, she’s going to send me to the hospital. The hospital will know how frail I am and they won’t let me go back.

A single new theme was identified, poor depression care from doctors. Several managers from all agency types voiced this concern. For example, one manager reported that at her recommendation a son took his father (the client) to the doctor for a medical check-up and to assess for depression. The doctor intervened by saying “The adult day care says you’re depressed, are you depressed?” and in the son’s opinion that was shared with the adult day care staff, he said “it didn’t go over well”. Several other managers cited concerns with doctors’ management of depression as “moving through it quickly,” and “here’s a pill.” One supportive housing manager stated, “I think depression in the elderly is over diagnosed and therefore then they’re overmedicated.”

Perceptions of Facilitators to Improving Depression Care

Similarly, key informants were asked, "If your agency were to adopt a new intervention/ therapy or protocol to respond to depression in your clients, what are some strengths of your agency that would help it be successful?" Here, two themes were repeatedly mentioned: the long-term relationship with the clients and if the agency had employees with previous mental health experience. The relationship facilitated the detection of depression and the provision of education. The previous mental health experience helped with incorporating depression content into staff training, assessment procedures, and networking with mental health professionals to facilitate referrals and consultation services.

In regards to facilitators of depression, four overarching themes were consistent across agencies. First, throughout most interviews, the "caring" and "interested" staff was highlighted as crucial. Second, several managers highlighted a strength of their agency in particular was its "good reputation." This was also phrased as having a "strong backbone" and "dedication to senior adults." This reputation was seen as facilitating both linkages to other resources and to continuous efforts to improve and expand services. Third, most managers discussed the important role that they already serve in responding to depression through "listening" to their older adult residents and to providing "shot-in the arm therapy, where sometimes they'll [clients] just come in for ten minutes and just need to talk and that'll be enough."

The fourth and final theme was repeated throughout almost all interviews, in that the managers perceived their services as a holistic approach to clients' quality of life. This theme is based on the managers' comments of "treating the whole person" and

offering “holistic” services such as “socialization,” “companionship,” “mental stimulation,” “good nutrition,” “a cheery sunlit environment that is very much like home,” and “just some TLC [tender, loving, care].” For example, one adult day manager described her staff as being “here to take care of the physical, psychological, emotional, and spiritual needs.” As another example, a supportive housing manager describe how the staff “brainstorm to figure out new things to hook people” such as “we have 95 to 100 year old people playing Wii to help their memory and their coordination . . . And yeah they’re frail. Yeah they use a cane. Yeah, they sometimes forget where they laid their hat, but they’ve got a good life.” In sum, one senior center manager stated, “I don’t think anyone ever thinks we’re helping them with their mental health…[yet] people will say ‘it just saved my life to come here to this senior center and get involved.’” For depressed older adults specifically, this manager stated her agency’s services “pull them up because they need people that are still busy and active and get them reinvolved and reinterested.”

Conclusion

The qualitative data from the key informant interviews provided an in-depth description of current depression practices within aging network services and an extensive list of barriers and facilitators to the adoption of new practices. Clear organizational barriers were indicated, such as staff qualifications and concerns for cost, but so too were some potential organizational facilitators, such as the agencies' strong reputations and holistic approach to older adult’s quality of life These findings were compared against the open-ended items on staff surveys for purposes of triangulation. Overall, staff comments provided many similarities in concerns for cost, time, stigma,

and client willingness for depression services. For example, one staff member described a barrier as "clients being unwilling to pursue treatment, feeling depression is normal part of aging or their caregiving experience" and another staff wrote "denial from the families." Likewise, staff commented on their own "caring about the person and wanting them to be well emotionally as well as physically" or the agency's "drive to better the lives of our residents. We all care very much about the safety and quality of our resident's lives." To complement these findings, quantitative results from the staff surveys will be reviewed in the next chapter.

Chapter V: Organizational Social Context of Depression Care in Aging Network Services

Surveys with 142 staff from 14 agencies resulted in data on organizational and staff predictors of current depression practices in aging network services. The results respond to the second aim: Examine how variations in current depression practices are related to organizational context and staff-level factors among aging network services.

Sample Description

Description of Staff Survey Participants

A sample description is detailed in Table 5.1 for the raw data and in Table 5.2 for the imputed data. Subsequent results reference the imputed data. Staff were primarily Caucasian females with 39% having a college degree. Approximately one in five staff (18%) have a graduate degree. The most common degree held was social work (16%), followed by education (4%) and nursing (4%). For mean years of human service work, staff at adult day services and homecare services had significantly more experience than senior centers and supportive housing facilities, with a small portion of staff being at the current place of employment for less than 12 months (18% for entire sample). The staff's amount of client contact varied significantly by agency type. Adult day service staff reported the highest amount of daily contact with clients while supportive housing facilities most commonly reported a slight amount of client contact in a given day. Several job responsibilities varied by agency type, as is noted in the table.

Table 5.1: Sample characteristics of staff survey participants from raw data (*n*=142)

Variable Mean± *SD*; Frequency (*n*)	**Total Sample**	**Adult Day Services** (*n*=18)	**Homecare Services** (*n*=24)	**Senior Centers** (*n*=66)	**Supportive Housing** (*n*=34)	
Mean number of staff per agency	10.1±6.0 (4 to 24)	6.0±2.0	8.0±3.0	16.5±7.5	8.5±3.5	
Mean age	49.9±13.3	50.4±12.7	52.3±14.3	51.0±12.2	46.0±14.5	
Gender						
Female	94% (132)	100% (18)	92% (22)	95% (62)	91% (30)	
Male	6% (8)	0 (0)	8% (2)	5% (3)	9% (3)	
Ethnicity						
Caucasian	89% (110)	93% (13)	90% (18)	91% (26)	84% (26)	
African American	10% (12)	7% (1)	10% (2)	7% (4)	16% (5)	
Latino	1% (1)	0 (0)	0 (0)	2% (1)	0 (0)	
Education level						
Less than high school	1% (1)	0 (0)	0 (0)	2% (1)	0 (0)	
High school	20% (27)	17% (3)	12.5% (3)	29% (18)	10% (3)	
Some college	32% (44)	28% (5)	29% (7)	40% (25)	22% (7)	
Associate	7% (10)	5% (1)	12.5% (3)	5% (3)	10% (3)	
Bachelor	21% (29)	39% (7)	21% (5)	17% (10)	22% (7)	
Graduate	19% (25)	11% (2)	25% (6)	9% (6)	36% (11)	
Degree						
Education	5% (6)	7% (1)	0% (0)	2% (1)	13% (4)	**
Nursing	4% (5)	12% (2)	5% (1)	3% (2)	0 (0)	
Psychology	2% (3)	12% (2)	0 (0)	2% (1)	0 (0)	
Law	1% (1)	0 (0)	0 (0)	0 (0)	3% (1)	
Social work	17% (22)	7% (1)	23% (5)	8% (5)	36% (11)	
Other	17% (22)	12% (2)	27% (6)	14% (9)	16% (5)	
Not applicable (less than associate degree)	54% (72)	50% (8)	45% (10)	71% (44)	32% (10)	
Mean years of human service work	14.4±11.4	20.9±12.6	17.8±14.7	13.1±9.5	11.2±9.9	**F =4.09, df=3, 138 p<0.01
Mean years in agency	6.2±6.8	6.4±5.9	3.0±2.5	7.9±8.1	5.3±5.5	*F =3.48, df=3, 138 p<0.05
Turnover, % less than 12 months at agency	18% (26)	11% (2)	12% (3)	18% (12)	26% (9)	

Variable Mean± *SD*; Frequency (n)	**Total Sample**	**Adult Day Services** (n=18)	**Homecare Services** (n=24)	**Senior Centers** (n=66)	**Supportive Housing** (n=34)	
Amount daily client contact						
Not at all	3% (4)	0 (0)	0 (0)	1% (1)	10% (3)	***
To a slight extent	24% (32)	17% (3)	37.5% (9)	16% (10)	32% (10)	
To a moderate extent	25% (33)	11% (2)	12.5% (3)	31% (19)	29% (9)	
To a great extent	30% (40)	17% (3)	21% (5)	41% (25)	23% (7)	
To a very great extent	18% (25)	55% (10)	29% (7)	10% (7)	6% (2)	
Job responsibilities (%Yes)						
Intake coordinator	38% (54)	33% (6)	46% (11)	53% (35)	6% (2)	***
Social services	46% (65)	22% (4)	42% (10)	58% (38)	38% (13)	*
Nursing care	9% (13)	33% (6)	17% (4)	3% (2)	3% (1)	***
Activities coordinator	32% (46)	33% (6)	5% (1)	51% (34)	15% (5)	***
Personal care aide	17% (24)	78% (14)	37% (9)	2% (1)	0 (0)	***
Administer medication	6% (9)	28% (5)	17% (4)	0 (0)	0 (0)	***
Food preparation	43% (61)	67% (12)	25% (6)	61% (40)	9% (3)	***
Homemaker or choreworker	8% (11)	22% (4)	21% (5)	3% (2)	0 (0)	**
Transportation coordinator	15% (21)	17% (3)	4% (1)	8% (11)	18% (6)	
Transportation driver	6% (9)	0 (0)	12% (3)	9% (6)	0 (0)	
Education or training	24% (34)	11% (2)	29% (7)	32% (21)	12% (4)	
Outreach activities	32% (45)	11% (2)	8% (2)	54% (36)	15% (5)	***
Management	50% (71)	28% (5)	14% (10)	59% (42)	20% (14)	*

Significance Test by X^2 * < 0.05; ** < 0.01; *** <0.001 for dichotomous variable. Significance test by ANOVA for continuous variables. All tests should be considered with caution, as the clustering of data by agency is not accounted for and can result in biased estimates.

Table 5.2: Sample characteristics of staff from imputed data (n=710 for 5 implicates)

Variable Mean, *SE*; Frequency	**Total Sample**	**Adult Day Services**	**Homecare Services**	**Senior Centers**	**Supportive Housing**
Mean age	49.58, SE=1.20	50.12, SE=2.92	52.28, SE=3.08	50.70, SE=1.65	45.93, SE=2.52
Gender					
Female	94%	100%	92%	95%	91%
Male	6%	0%	8%	5%	9%
Ethnicity					
Caucasian	88%	89%	87%	90%	84%
Minority	12%	11%	13%	10%	16%
Education level					
Some high school	1%	0%	0%	2%	0%
High school degree	20%	17%	12%	27%	9%
Some college	31%	28%	29%	38%	21%
Associate degree	8%	6%	13%	6%	11%
Bachelor degree	22%	38%	21%	17%	25%
Graduate degree	18%	11%	25%	10%	34%
Major of highest degrees					
Education	4%	6%	0%	1%	12%
Nursing	4%	11%	4%	1%	0%
Psychology	2%	11%	0%	2%	0%
Social Work	15%	6%	21%	8%	32%
Mean years of human service work	14.41, SE=0.91	20.89, SE=8.87	17.79, SE=8.99	13.05, SE=1.37	11.21, SE=2.94
Mean years in agency	6.25, SE=0.32	6.39, SE=1.92	3.00, SE=0.26	7.86, SE=1.00	5.32, SE=0.90
Turnover, % less than 12 months at agency	18%	11%	12%	18%	26%
Amount daily client contact					
Not at all	3%	0%	0%	2%	10%
To a slight extent	24%	17%	38%	17%	31%
To a moderate extent	25%	11%	12%	31%	30%
To a great extent	30%	17%	21%	40%	23%
To a very great extent	18%	55%	29%	10%	6%

Note: Job responsibility variables were not imputed, as they did not contain missing data. Mean, Standard Errors estimated from rolled up procedure. Frequencies averaged across five imputed sets.

Staff knowledge of depression was measured by four separate Likert-scale items, ranging from 0 to 4 with higher scores indicating higher levels of knowledge, as represented in Table 5.3 for raw data and Table 5.4 for the imputed data. Nearly half of the staff reported feeling great or very great confidence in recognizing depression in their clients (39%) and reported receiving moderate or more training individually or through their agency (56%). No differences in staff knowledge were significantly related to agency type. According to the *Evidence-Based Practice Attitudes Scale*, staff attitudes did not vary significantly by agency type. Aging network services staff fall between a moderate and great level of positive attitudes toward adopting a new intervention for depression care per the scale's mean total (M=2.85, SE=0.05).

Table 5.3: Raw data for staff attitudes and knowledge[a] about depression (n=142)

Variable Mean± *SD*	**Total Sample**	**Adult Day Services** (n=18)	**Homecare Services** (n=24)	**Senior Centers** (n=66)	**Supportive Housing** (n=34)	
Extent depression is a problem	2.8±0.9	2.8±0.9	2.9±1.0	2.8±0.9	2.6±0.8	
Confidence in recognizing depression	2.4±1.1	2.5±1.1	2.6±0.9	2.3±0.9	2.1±1.3	
Received training from agency	1.1±1.0	0.8±0.8	1.5±1.2	1.1±1.2	0.9±1.2	
Received individual training	1.6±1.4	1.8±1.3	1.9±1.4	1.52±1.5	1.5±1.4	
EBPAS Total	43.1±7.6	40.7±8.3	41.9±9.4	45.1±5.9	41.8±8.1	
Mean Total	2.8±0.6	2.8±0.5	2.7±0.6	2.9±0.6	2.8±0.5	
Mean Requirement	2.7±1.0	2.6±1.0	2.2±1.3	3.1±0.9	2.6±0.8	* F=3.06, df=3, 84 p<0.05
Mean Appeal	3.0±0.8	2.8±0.7	2.9±1.0	3.1±0.8	3.1±0.7	
Mean Openness	2.5±0.9	2.6±0.7	2.3±0.9	2.7±1.0	2.4±0.9	
Mean Divergence	3.0±0.7	3.0±0.8	3.1±0.6	2.8±0.7	3.0±0.7	

[a] Rating on scale of 0=Not at all, 1=A slight extent, 2=A moderate extent, 3=A great extent, 4=A very great extent.

Note: Significance test by ANOVA for continuous variables. All tests should be considered with caution, as the clustering of data by agency is not accounted for and can result in biased estimates.

Table 5.4: Imputed data for staff attitudes and knowledge[a] about depression (n=710 for five implicates)

	Total Sample		Adult Day Services		Homecare Services		Senior Centers		Supportive Housing	
Variable	Mean	*SE*	Mean	*SE*	Mean	*SE*	Mean	*SE*	Mean	*SE*
Extent depression is a problem	2.71	0.11	2.83	0.05	2.92	0.22	2.69	0.16	2.55	0.17
Confidence in recognizing depression	2.24	0.11	2.50	0.07	2.55	0.18	2.19	0.16	2.02	0.25
Received training from agency	1.06	0.09	0.88	0.20	1.45	0.24	1.04	0.13	0.93	0.22
Received individual training	1.51	0.14	1.83	0.10	1.94	0.29	1.33	0.19	1.40	0.29
EBPAS Total	40.65	0.75	39.94	1.83	39.34	1.83	41.77	0.99	39.78	1.38
Mean Total	2.71	0.05	2.66	0.12	2.62	0.12	2.78	0.07	2.65	0.09
Mean Requirement	2.64	0.09	2.49	0.27	2.28	0.25	2.85	0.13	2.59	0.13
Mean Appeal	2.85	0.10	2.74	0.18	2.80	0.21	2.92	0.11	2.80	0.20
Mean Openness	2.47	0.07	2.51	0.18	2.29	0.18	2.60	0.10	2.31	0.15
Mean Divergence	2.85	0.06	2.86	0.17	3.03	0.12	2.79	0.09	2.89	0.11

[a] Rating on scale of 0=Not at all, 1=A slight extent, 2=A moderate extent, 3=A great extent, 4=A very great extent.

Note: Means and standard errors are provided from the rolled up estimates of the five imputed data sets.

Organizational Social Context: Variations by Service Type

Results of the *Organizational Social Context* are listed as T-Scores in Table 5.5 per agency and in comparison to national data. Although, not tested for statistically significant differences, a review of the means and standard deviations for the agencies in comparison to the national data indicates the agencies are near national averages for proficiency, and have slightly more rigid and resistant cultures. Staff in aging network service agencies described the organizational climate as slightly more engaging, slightly

more functional, and slightly less stressful than national averages. Morale was slightly higher than national averages.

The organizational culture differed significantly by agency type as documented in Table 5.6. Among this sample, adult day services had less proficient cultures, and more rigid and resistant cultures when compared to the other service types. Homecare services had more proficient cultures, near average rigidity, and more resistant cultures than the other service types. Senior centers had near average proficiency but highly rigid and resistant cultures. Supportive housing was near the lowest on all culture aspects of proficiency, rigidity, and resistance when compared to the other service types. In terms of organizational climate, significant but smaller differences were indicated by agency type. Adult day services were significantly higher for engagement, yet all service types were above national averages ($F(3,138)=3.50$, $p<0.0174$). Adult day services also had significantly lower functional climates; whereas, the other service types had T-scores above 60 ($F(3,138)=42.87$, $p<0.001$). All agencies reported less stressful climates, with supportive housing being the least stressful ($F(3,138)=4.48$, $p<0.049$). T-scores for morale approached a significant difference by agency type ($F(3,138)=2.35$, $p<0.0755$). Here, adult day service staff reported the lowest morale (T-Score: 53.59, *SD* 9.04), while all other agency types were nearly one standard deviation above national averages.

Table 5.5: *Organizational Social Context* (OSC) T-Scores by agency unit per the raw data (N = 137)

T-score
(Percentile of which the T-score falls above in Comparison to National Sample[a])

		Adult Day Services			Homecare Services			Senior Centers				Supportive Housing			
Domain	OSC Scales	Agency 1 (*n*=4)	Agency 2 (*n* =8)	Agency 3 (*n* =6)	Agency 4 (*n*=11)	Agency 5 (*n* =5)	Agency 6 (*n*=8)	Agency 7 (*n*=22)	Agency 8 (*n* =8)	Agency 9 (*n*=23)	Agency 10 (*n*=10)	Agency 11 (*n*=6)	Agency 12 (*n*=12)	Agency 13 (*n*=11)	Agency 14 (*n*=3)
Culture	Proficient	61.08 (86%)	34.70 (5%)	51.09 (51%)	63.04 (90%)	39.91 (13%)	63.49 (89%)	52.23 (56%)	62.25 (88%)	51.90 (54%)	51.73 (52%)	38.52 (11%)	44.39 (26%)	56.08 (71%)	56.28 (71%)
	Rigid	50.81 (50%)	63.82 (90%)	62.96 (88%)	56.98 (74%)	57.51 (75%)	43.72 (24%)	68.19 (96%)	51.96 (54%)	62.13 (87%)	50.91 (49%)	50.55 (49%)	40.19 (15%)	49.06 (45%)	43.74 (23%)
	Resistant	57.18 (75%)	60.45 (85%)	57.14 (74%)	55.16 (68%)	65.46 (92%)	55.52 (67%)	69.78 (97%)	48.88 (43%)	57.16 (74%)	59.11 (80%)	49.06 (45%)	39.19 (13%)	60.42 (83%)	43.74 (23%)
Climate	Engaging	69.02 (96%)	53.16 (60%)	69.35 (96%)	58.98 (79%)	47.89 (38%)	66.32 (93%)	54.02 (63%)	58.22 (77%)	60.46 (82%)	61.64 (85%)	48.86 (40%)	50.80 (50%)	63.65 (89%)	68.68 (95%)
	Functional	65.11 (93%)	38.73 (11%)	39.18 (12%)	70.03 (97%)	45.86 (31%)	75.63 (99%)	63.46 (89%)	58.79 (77%)	70.65 (97%)	60.91 (83%)	59.73 (81%)	65.69 (92%)	59.72 (81%)	71.93 (97%)
	Stress	33.79 (4%)	55.31 (67%)	40.52 (14%)	47.68 (37%)	63.55 (89%)	32.70 (3%)	55.76 (67%)	41.57 (17%)	46.03 (32%)	48.37 (40%)	32.43 (3%)	37.60 (9%)	56.06 (70%)	39.39 (12%)
Attitude	Morale	63.70	49.28	52.59	59.14	51.59	66.15	57.21	58.17	60.32	60.30	56.42	60.49	60.93	62.47

[a] The national sample of mental health agencies included 1112 individuals employed in a national sample of 100 mental health agencies. A score of 50 is the mean of the national sample, with a standard deviation of 10.

Table 5.6: *Organizational Social Context* mean T-Scores by agency type using raw data (*n*=137 for 14 agencies)

Factor Mean T-Score± *SD*	**Total Sample**	**Adult Day Services** (n=18)	**Homecare Services** (n=24)	**Senior Centers** (n=66)	**Supportive Housing** (n=34)	
Agency Culture						
Proficiency	52.2±8.0	46.0±11.1	58.4±9.7	53.5±3.7	48.4±7.3	***F=14.79 df=3, 138 p<0.0001
Rigidity	55.8±8.8	60.6±5.4	52.7±6.5	60.9±6.8	45.6±4.5	***F=52.96 df=3, 138 p<0.0001
Resistance	56.8±8.4	58.6±1.7	57.4±4.2	60.4±7.4	48.6±9.0	***F=22.02 df=3, 138 p<0.0001
Agency Climate						
Engagement	58.5±6.0	62.1±8.2	59.1±6.7	58.1±3.1	56.7±7.7	*F=3.50 df=3, 138 p=0.0174
Functionality	62.3±9.8	44.7±11.2	66.9±11.3	65.0±4.6	63.3±4.2	*F=42.87 df=3, 138 p<0.0001
Stress	46.5±8.5	45.6±9.3	46.0±11.4	48.9±5.2	42.7±9.6	**F=4.48 df= 3, 138 p=0.0049
Staff-level Morale	58.7±9.1	53.6±9.0	59.9±10.5	59.0±7.9	60.0±9.8	F=2.35 df=3, 138 p=0.0755

Note: A score of 50 is the mean of the national sample, with a standard deviation of 10. Significance test by ANOVA for continuous variables. All tests should be considered with caution, as the clustering of data by agency is not accounted for and can result in biased estimates.

Multilevel Model Results

All multilevel models were conducted in the following stages. First, for all models, agency type was set as a fixed variable nested within the unique identifier for each agency unit. Any categorical covariate was entered as a dummy-coded variable. Then, during the first modeling stage, only the agency-level "random effects" were included. These models for each dependent variable resulted in estimates of the agency variance (i.e., variance in the dependent variable attributable to agencies) and residual variance in the model without staff-level or agency-level covariates. In the second stage

of modeling, staff-level characteristics were included as controls along with other independent variables. For each model, a separate table provides the random effects results, the agency-level covariate estimates, and the staff-level covariate estimates (See Tables 5.7 to 5.9).

Model 1: Count of Indicators of Empirically Supported Depression Practices

Due to models failing to converge using Proc MIXED, most likely due to the small sample size and the dependent variable for this model being at the agency-level unit of analysis, Proc GENMOD was used instead. This analytic approach allows for variables at two levels (i.e., agency-staff and staff-level), however the standard errors are not adjusted for the clustered data. Therefore these results should be reviewed with caution. The results of the random effects only model indicated that a significant proportion of the variance in an agency's use of empirically supported depression practices was associated with the agency itself, as detailed in Table 5.7. Once covariates were included, the significant contribution of agency-level variables remained.

For agency-level covariates, agency type, proficiency, rigidity, resistance, engagement, functionality, stress, and primary funding sources were each significantly related to the use of empirically supported practices when accounting for other agency and staff characteristics. As detailed in Table 5.7, most parameter estimates were small, except for the contribution of the agency type and the primary funding source. Adult day services, homecare and supportive housing all were significantly and directly related to increased use of empirically supported depression practices when compared to senior centers. For organizational culture, more proficient cultures and more rigid cultures were

directly related to increased use of empirically supported depression practices. However, more resistant cultures were inversely related to increased use of empirically supported practices. For climate, more engaging, more functional, and more stressful climates were less likely to use empirically supported depression practices. Lastly, agencies with primary funding from private pay sources were significantly less likely to offer empirically supported depression practices. No staff-level covariates were significant.

Table 5.7: Proc GENMOD, Model #1: Count of depression care indicators

		Data with Nesting by Service Type (Per Proc GenMod, with Class Statement, covariates rolled up in Excel)				
Model	Variable	Coefficient	SE	-2 Res Log Likelihood	df	p-value
Random effects only						
	Constant	8.846	1.377	-352.257	1	<0.0001
	Agency unit variance	-0.071				
	Service type cluster variance	-0.777				
	Residual variance	2.891				
	X^2	56.85			1	<0.0001
Agency-level and staff-level covariates						
	Constant	7.359	0.705	-42.138	10	<0.0001
Agency						
	Adult day services type	0.552	0.222		10	0.019
	Homecare service type	3.099	0.106		10	<0.0001
	Senior centers service type	0.000	0.000		.	.
	Supportive housing service type	3.292	0.115		10	<0.0001
	Proficiency	0.369	0.008		10	<0.0001
	Rigidity	0.067	0.033		10	<0.0001
	Resistance	-0.125	0.007		10	<0.0001
	Engagement	-0.168	0.010		10	<0.0001
	Functionality	-0.096	0.006		10	<0.0001
	Stress	-0.022	0.007		10	0.001
	Primarily private funding source	-3.778	0.157		10	<0.0001
Staff						
	Age	-0.003	0.053		121	0.449
	Female	-0.151	0.143		121	0.115
	Has a college degree	0.051	0.082		121	0.451
	Years of experience	-0.000	0.003		121	0.146
	Minority	0.143	0.103		121	0.762
	Major degree					
	Social work	-0.065	0.103		121	0.558
	Nursing	0.079	0.165		121	0.600
	Psychology	0.066	0.208		121	0.783
	EBPAS total score[a]	0.004	0.005		121	0.796
	Confidence in recognizing depression	-0.027	0.039		121	0.937

[a]*Evidence Based Practice Attitudes Scale* total score

Model 2: Staff's Evidence-Based Practice Attitudes Scale Total Score

Results for this model are presented in Table 5.8. The random effects model indicates that the accounting for the agency cluster of data does not have a significant effect on the variance in staff's attitudes toward evidence-based depression practices, per the total score of the *Evidence-Based Practice Attitudes Scale*. To explore the impact of clustered data, the model was run with the class statement accounting for agencies nested within agency types. In Table 5.8, results are presented for both nested and none-nested data for transparency purposes. Results were similar between these models. None of the agency-level covariates were significantly related to the staff's attitudes toward evidence-based depression practices when accounting for other agency and staff characteristics. For staff-level covariates, three covariates were significantly related to the staff's attitudes toward evidence-based depression practices. First, increasing years of experience was significantly related to less positive attitudes towards evidence-based practices. Second, having a nursing degree significantly increased the likelihood that a staff would have positive attitudes towards evidence-based practices. Third, staff who reported increased confidence in recognizing depression in their clients had more positive attitudes towards evidence-based practices.

Model 3: Staff Morale

As presented in Table 5.9, the random effects model was non-significant. This means that the agency cluster did not contribute significantly to explaining the variance in staff morale. When staff-level covariates were added, the model remained non-significant—both in the nested and none-nested data models—as were the covariates.

Table 5.8: Proc Mixed, Model #2: *Evidence-Based Practice Attitudes Scale* Total Score

Model Variable	Data with Nesting by Service Type					Data without Nesting by Service Type				
	Coefficient	SE	-2 Res Log Likelihood	df	p-value	Coefficient	SE	-2 Res Log Likelihood	df	p-value
Random effects only										
Constant	39.635	2.729	893.1	1	<0.0001					
Agency unit within service type variance	8.318									
Residual variance	49.492									
X^2	20.12			1	0.0924					
Agency-level and staff-level covariates										
Constant	31.236	13.018	904.6	10	0.007	33.211	13.791	904.3	10	0.018
Agency										
Agency Unit	0.123	0.334			0.708					
Adult day services type	-2.073	6.505		10	0.863	-5.206	4.978		10	0.301
Homecare service type	-1.331	4.304		10	0.811	-2.231	2.135		10	0.298
Senior centers service type	1.078	3.780		10	0.623	-2.212	2.380		10	0.355
Supportive housing service type	0.000	.		.	.	0.00	.		.	.
Proficiency	0.151	0.396		10	0.691	0.020	0.159		10	0.899
Rigidity	0.139	0.187		10	0.645	0.106	0.175		10	0.549
Resistance	-0.186	0.168		10	0.164	-0.191	0.166		10	0.256
Engagement	0.154	0.553		10	0.787	0.339	0.203		10	0.097
Functionality	-0.180	0.129		10	0.200	-0.190	0.126		10	0.135
Stress	-0.068	0.151		10	0.777	-0.066	0.151		10	0.663
Primarily private funding source	2.373	3.582		10	0.621	2.527	3.604		10	0.487
Staff										
Age	0.036	0.071		121	0.103	0.037	0.071		121	0.610
Female	0.650	2.811		121	0.535	0.666	2.810		121	0.813
Has a college degree	0.086	1.573		121	0.890	0.155	1.56		121	0.921
Years of experience	-0.112	0.090		121	0.003	-0.116	0.090		121	0.222
Minority	-0.600	2.321		121	0.424	-0.690	2.272		121	0.764
Major degree										
Social work	1.382	2.002		121	0.410	1.350	1.991		121	0.499
Nursing	8.192	3.308		121	0.012	8.037	3.280		121	0.016
Psychology	-1.040	4.555		121	0.891	-0.975	4.552		121	0.831
Confidence in recognizing depression	2.376	0.744		121	<0.001	2.378	0.742		121	0.004

Table 5.9: Proc Mixed, Model #3: Staff Morale

Model Variable	Data with Nesting by Service Type					Data without Nesting by Service Type				
	Coefficient	SE	-2 Res Log Likelihood	df	p-value	Coefficient	SE	-2 Res Log Likelihood	df	p-value
Random effects only										
Constant	58.974	1.696	1011.7	1	<0.0001					
Agency unit within service type variance	6.369									
Residual variance	77.123									
X^2	3.89			1	0.2741					
Agency-level and staff-level covariates										
Constant	35.319	17.612	975.4	10	0.069	34.527	18.555	975.9	10	0.065
Agency										
Agency unit	0.239	0.423		10	0.544					
Adult day services type	4.133	7.353		10	0.530	2.627	5.999		10	0.662
Homecare service type	-3.841	5.634		10	0.493	-1.003	2.849		10	0.725
Senior centers service type	-2.487	4.965		10	0.585	0.278	3.067		10	0.928
Supportive housing service type	0.000	.		10	.	0.000	.		.	.
Proficiency	0.360	0.499		10	0.491	0.105	0.213		10	0.621
Rigidity	-0.240	0.231		10	0.312	-0.304	0.200		10	0.132
Resistance	0.196	0.206		10	0.301	0.188	0.205		10	0.362
Engagement	-0.359	0.690		10	0.608	0.000	0.269		10	0.999
Functionality	0.217	0.250		10	0.055	0.271	0.167		10	0.107
Stress	-0.029	0.199		10	0.779	-0.057	0.186		10	0.759
Primarily private funding source	-0.071	4.228		10	0.940	0.219	4.186		10	0.958
Staff										
Age	0.131	0.083		121	0.167	0.133	0.083		122	0.118
Female	03.467	3.394		121	0.288	-3.390	3.380		122	0.318
Has a college degree	-2.532	2.127		121	0.341	-2.402	2.105		122	0.256
Years of experience	-0.080	0.089		121	0.507	-0.084	0.885		122	0.343
Minority	0.009	2.848		121	0.750	-0.432	2.769		122	0.876
Major degree										
Social work	2.943	2.709		121	0.362	2.880	2.699		122	0.288
Nursing	0.586	4.479		121	0.871	0.264	4.426		122	0.952
Psychology	2.194	5.594		121	0.756	2.325	5.572		122	0.677
EBPAS total score[a]	0.160	0.132		121	0.143	0.162	0.131		122	0.220
Confidence in recognizing depression	-0.423	0.907		121	0.502	-0.429	0.905		122	0.637

Conclusion

Thus, when considering the quantitative results, organizational context remained an important distinguishing factor between service types when describing their climate and culture and their current use of empirically supported depression practices. However, the quantitative results indicate that organizational context is not influential in staff attitudes toward evidence-based practices, staff confidence or training in responding to depression, nor their general staff morale. In fact, few staff-level covariates contributed significantly to understanding the variance among agencies that offers empirically supported depression practices, staff evidence-based practice attitudes and staff morale. For attitudes toward evidence-based practice attitudes, a few interesting findings were predictive of positive attitudes. For example nurses had more positive attitudes, increased confidence in recognizing depression was related to more positive attitudes, and less years of experience was related to more positive attitudes. Overall, these findings are not promising in terms of identifying modifiable factors that are related to staff-level outcomes, such as attitudes and morale.

Chapter VI: The Potential of Aging Network Services to Improve Depression Care

With considering the previously described findings from the mixed method data collection, the final aim was to classify the potential, among types of aging network services, to adopt new depression practices. This aim was exploratory and involved integrating the findings with each other as well as with existing literature on the topic of aging network services' potential to improve depression care. The work was guided by three main questions: (1) What constructs informed the classification of agency potential to adopt new depression practices? (2) What commonalities occurred across agencies in classifying their potential to adopt new depression practices?, and (3) How did types of aging network services (i.e., adult day services, homecare services, senior centers, and supportive housing) differ in their potential to adopt new depression practices?

For question 1, methods involved summarizing and comparing conclusions regarding the qualitative themes and quantitative variables that were included in this study's conceptual model. The primary comparison was to recent literature on the classification of agency potential to adopt new depression practices. For the second question, a comprehensive list of the qualitative themes and quantitative findings was created for barriers and facilitators that were universal across agency type. This list was then compared to relevant research. Lastly, for the third question, each agency type was classified according to the key variables of the conceptual model that varied by service type (i.e. organizational context, agency use of current depression practices, perceptions of barriers and facilitators that were unique to that service type). The constructs of staff

attitudes and knowledge were omitted from this classification, as these variables did not vary by service type.

Constructs Informing Agency Potential to Adopt New Depression Practices

Recently, the National Council of Aging initiated efforts to examine organizational potential for adoption of depression practices in aging network services by implementing a depression-specific, Innovation Readiness Assessment (IRA) (Beilenson, 2005; Goldstein, 2009). By expanding upon generic assessments of organizational context and readiness for change (Glisson, 2007; Lehman, Greener, & Simpson, 2002), the IRA accounts for how organizational potential for adoption is modified by the type of practice being considered. For example, an organization's potential may differ if they want a program targeting fall prevention versus a program to intervene with clients' depression.

The IRA is a web-based assessment taken by potential agency adopters to evaluate their agency's capacity and willingness to incorporate a given practice. The assessment is modular to examine specific organizational factors related to Everett Roger's diffusion of innovation theory (2003) and to assess congruence of current organizational structure and processes to core components of a specified innovative practice (i.e., use of a depression screen, suicide protocols present). By tailoring the IRA specifically to a new depression care model, real-time results indicate the potential adopting agency's ratings for willingness and capacity for a given practice in comparison to other aging network service agencies considering that same practice.

Although, no research has documented the use of the IRA for depression care practices specifically, the results of use of the IRA for other new practices in aging network services (Beilenson, 2005) highlight the importance of considering both general organizational context issues and the organization's capacity to utilize specific practice components. Furthermore, recent implementation materials from empirically supported depression care models have detailed "requirements" that an agency have in place prior to implementing new depression practices (National Council on Aging, 2008). These requirements, again, are both general (i.e., having a "program champion," a data coordinator) and specific (a supervising psychiatrist, use of a standardized depression screen). Thus, consideration of this recent literature has provided affirmation to the conceptual model proposed in this study, in which both organizational context and current depression practices were evaluated to determine adoption potential.

Furthermore, as the results of Aim 1 indicated, key informants' perceived barriers and facilitators to depression care that were broad organizational issues (i.e., lack of resources, time, unsystematic documentation systems) along with specific factors related to depression itself (i.e., stigma, staff not qualified to ask about depression, depression care needs to account for diversity among clients). Therefore, the data obtained in this study does demonstrate some consistent factors that influence aging network service agencies' potential to adopt depression practices, as based on the original conceptual model and with allowance for increased depth in discussion of other perceived barriers and facilitators.

Commonalities in Agency Potential to Adopt New Depression Practices

When looking at differences across types of aging network services, most findings highlighted commonalities instead of distinctions. Across the board, agencies reported struggling with limited resources, concerns for cost, staff "not being qualified" for responding to depression per key informant interviews and staff reporting low knowledge and negative attitudes toward depression practices in their survey responses. Similarly, a consistent theme highlighted the relevancy of aging network service agencies' mission to best serve each individual client by responding to the client's whole set of needs across medical, functional, social, psychological, and spiritual domains, which is consistent with national agendas for these agencies (National Association of State Units on Aging, n.d.). Table 6.1 provides a summary of these commonalities.

These findings are similar to other literature describing barriers to depression care for older adults (Ell, 2006; Unützer, Powers, Katon, & Langston, 2005) and the challenges facing implementation of evidence-based practices (Greenhalgh, Robert, MacFarlane, Bate, & Kyriakidou, 2004; Proctor et al., 2007). The results also highlight crucial areas where in-depth comparisons between literature and actual practice are necessary. For example, eleven agencies in this study reported offering case management services. If taken at face value, these agencies would meet the empirically supported depression model, Healthy IDEAS' (Quianjo et al., 2006) requirement for potential adopters to offer case management. However, this study's data indicate that few agencies may meet Healthy IDEAS' definitions for case management that involves a "structured system for documentation of assessment, care plan, monitoring" over a three to six month period (Care for Elders, n.d., p. 1). Likewise, previous research highlights that social

Table 6.1: Common facilitators and barriers to the adoption of new depression practices across agency type across types of aging network service

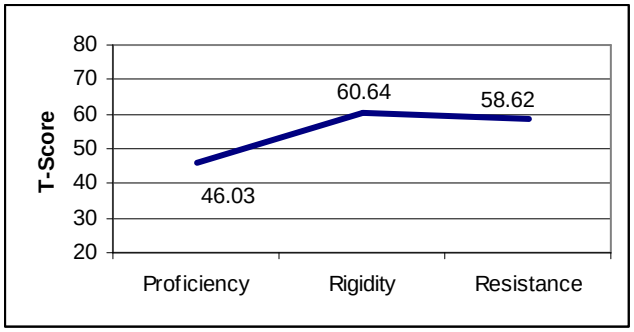
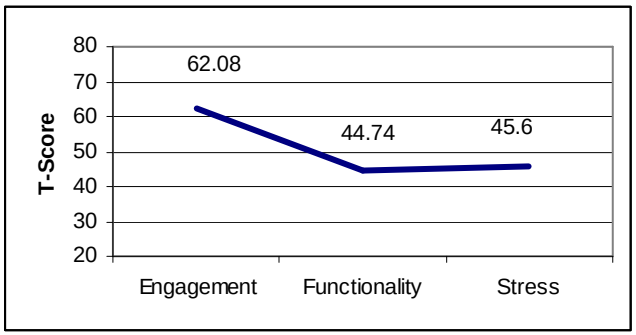
	Qualitative Themes and Quantitative Results
Facilitators	Depression's relationship to the need for aging network services
	Staff's long-term relationships with clients, care and interest in clients, and their "listening" role
	Manager's previous experiences of integrating depression practices into other services
	Collaborative relationships and networking with other providers
	Proactive prompting by external specialty mental health providers to co-locate care
	Having staff with previous mental health experience
	Small change is local and quick, if wanted
	Holistic approach to client's quality of life
	Agency mission focused on older adults and "good reputation"
	Near or above national averages for positive organizational culture, organizational climate and staff morale for all agencies (k=17) (proficiency: M=52.2, SD=8.0; rigidity: M=55.8, SD=8.8; resistance: M=56.8, SD=8.4; engagement: M=58.5, SD=6.0; functionality: M=62.3, SD=9.8; stress: M=46.5, SD=8.5; morale: M=58.7, SD=9.1)
Barriers	Differential response between situation and severe depression
	Only if clients tell us/choose depression care (due to depression's lower priority in comparison to other issues and stigma)
	Staff not qualified to respond to depression
	Case management is limited and as needed
	Concerns for sustainability (cost, will enough older adults use it, etc.)
	Concerns for privacy
	What is the cost?
	Large change is a lengthy process
	Poor depression care from doctors
	Few mental health providers have gerontological training
	Staff have minimal training in depression per survey items for agency-based depression training and individual-based training
	Staff report moderate confidence in recognizing clients' depression among all agencies (k=17) (M: 2.24, SE=0.11)
	Staff report moderately accepting attitudes toward evidence-based depression practices per the Evidence-Based Practice Attitudes Scale among all agencies (k=17) (M: 2.71, SE=0.05)

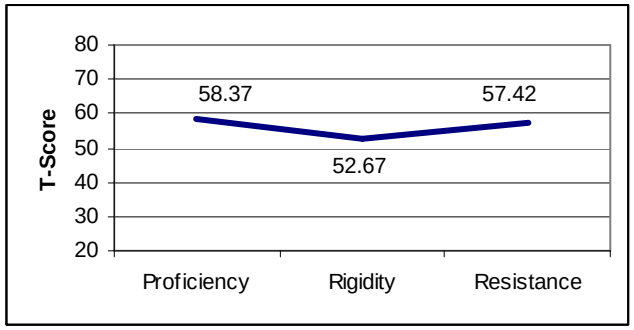
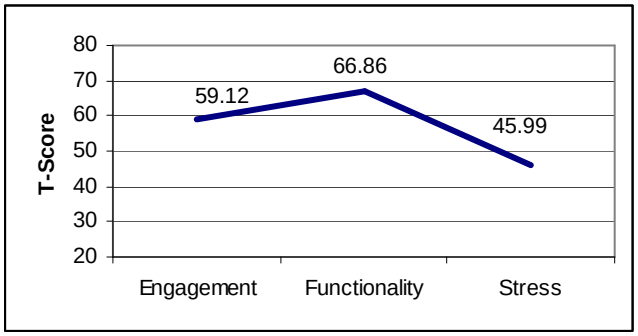
service records have low sensitivity to accurately reporting an older client's depression status (Proctor, Morrow-Howell, et al., 2008) and that community-based case managers perceived their limited capacity to respond to depression due to competing demands, insufficient training, and limited time (Munson, Proctor, Morrow-Howell, Fedoravicius, & Ware, 2007). Thus, any future examination of an agency's potential to adopt new depression practices can be informed by the list, but should involve further operationalization of the terms to guarantee accuracy.

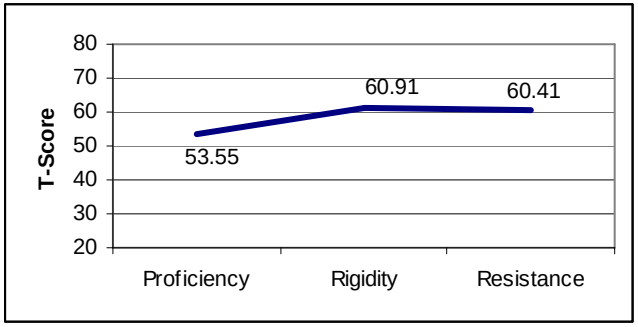
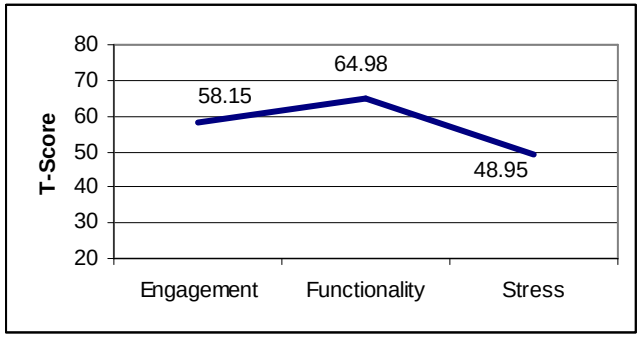
Differences between Service Types in Potential to Adopt New Depression Practices

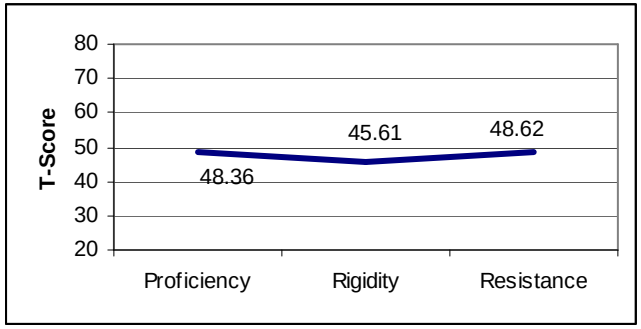
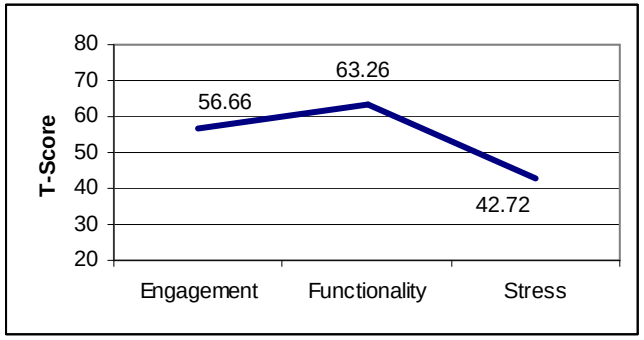
To explore the distinctions by service types, the findings from the mixed methods were summarized in Table 6.2 by using the study's conceptual framework of organizational context, current depression practices, perceived facilitators and perceived barriers. For organizational context, each aging network service type was described per their average characteristics, such as their mean organizational culture and climate profiles using the T-Scores from the Organizational Social Context Measurement system. Again, with this scale results are standardized to national averages in which a score of 50 is equivalent to the national average for mental health agencies with a standard deviation of 10. A point was assigned for culture if the mean T-scores for within agency type followed the constructive culture typology of having a higher proficient culture than national norms, but lower rigidity and resistance in comparison to national norms. Similarly, a point was assigned for climate if the mean T-scores for within agency type followed the positive climate typology of being more functional and engaging than national norms, but having lower stress in comparison to national norms.

Table 6.2: Variations in the potential to adopt new depression practices by agency type

Organizational social context (5 indicators)	**Depression practices** (3 indicators)	**Specific facilitators**	**Specific barriers**	**Potential to adopt new practices**
Adult Day Services (k=5) **+ 2**	**+ 1**	**+ 3**	**- 0**	**= 6**
Culture: 0/1  **Climate: 1/1**  **Limited penetration: 0/1** (20% served 100+ clients) **Limited funding: 0/1** (0% had mental health funding) **Limited turnover: 1/1** (11% staff less than 12 mos.)	**Medium depression practices: 1/1** (*M*=6.20, *SD*±1.79) **Limited case management: 0/1** (20% had case management) **No psychiatric consultation: 0/1** (0% had psychiatric consultation)	Market-driven change processes that seek to develop new services to fill a demand. Relationships to larger franchise organizations, multiservice agencies with a "strong backbone" / "good reputation" that promote standardization through routine efforts to improve care. Has recent positive institutional memory of co-located geriatric psychiatry services.	None detected.	**High relative potential to adopt new practices in comparison to other agency types.**

Organizational social context (5 indicators)	**Depression practices** (3 indicators)	**Specific facilitators**	**Specific barriers**	**Potential to adopt new practices**
Homecare Services (k=4) **+ 3**	**+ 2**	**+ 2**	**- 0**	**= 7**
Culture: 0/1  **Climate: 1/1**  **Extensive penetration: 1/1** (100% served 100+ clients) **Limited funding: 0/1** (20% had mental health funding) **Limited turnover: 1/1** (12% staff less than 12 mos.)	**Medium depression practices: 1/1** (*M*=5.75, *SD*±3.30) **Has case management:1/1** (100% had case management) **Limited psychiatric consultation: 0/1** (25% had psychiatric consultation)	"Market-driven" change processes that seek to develop new services to fill a demand. Relationships to larger franchise organizations that promote standardization through routine efforts to improve care.	None detected.	**High relative potential to adopt new practices in comparison to other agency types.**

Organizational social context (5 indicators)	**Depression practices** (3 indicators)	**Specific facilitators**	**Specific barriers**	**Potential to adopt new practices**
Senior Centers (k=4) **+ 3**	**+ 1**	**+ 1**	**- 2**	**= 3**
Culture: 0/1  **Climate: 1/1**  **Extensive penetration: 1/1** (100% served 100+ clients) **Limited funding 0/1** (0% had mental health funding) **Limited turnover: 1/1** (18% staff less than 12 mos.)	**Low depression practices: 0/1** (*M*=2.00, *SD*±2.21) **Has case management: 1/1** (100% had case management) **Limited psychiatric consultation: 0/1** (25% had psychiatric consultation)	Connected to national system of agencies and national tools available, such as the NAPIS which includes a depression screen.	"Unrealistic" to screen for depression with agencies limited resources. "Extensive history" to navigate when instituting change.	**Low relative potential to adopt new practices in comparison to other agency types.**

Organizational social context (5 indicators)	**Depression practices** (3 indicators)	**Specific facilitators**	**Specific barriers**	**Potential to adopt new practices**
Supportive Housing (k=4) **+ 3**	**+ 3**	**+ 1**	**- 1**	**= 6**
Culture: 0/1  **Climate: 1/1**  **Extensive penetration: 1/1** (100% served 100+ clients) **Limited funding: 0/1** (0% had mental health funding) **Limited turnover: 1/1** (26% staff less than 12 mos.)	**Medium depression practices: 1/1** (*M*=5.75, *SD*±3.30) **Has case management: 1/1** (50% had case management) **Extensive psychiatric consultation: 1/1** (75% had psychiatric consultation)	"Flexible" process of adopting changes.	"Privacy" laws deter systematic depression screening.	**High relative potential to adopt new practices in comparison to other agency types.**

Summary indicators for organizational context factors of penetration, funding, and turnover are drawn from the agency characteristics. Here, penetration, funding, turnover, use of depression practices, use of case management, and use of psychiatric consultation were dichotomized if a majority of agencies within the service type (i.e., 3 or more agencies) or not met the following criteria. Penetration was defined as extensive (majority of agencies within that type served over 100 clients) versus limited (majority of agencies within that type served less than 100 clients). Funding was defined as yes or no, depending on if a majority of agencies within the service type received reimbursement for mental health services. All agencies were assigned a point for having limited turnover since the percent of staff less than 12 months at each agency type was less than 30%.

The mean count of depression care practices for a given agency type (excluding counts for case management or psychiatric consultation, as these were considered separately) was classified as medium (i.e., adult day services: M=6.2, SD±1.8; homecare services M=5.7, SD±3.3; supportive housing: M=4.7, SD±1.7) or low (senior centers: M=2.0, SD±2.2). Depression practices of case management and psychiatric consultation were classified according to whether any agencies within the specified agency type offer the service and to what extent (i.e., none: 0 agencies, limited: less than half the agencies, or has practice: for all agencies).

Barriers and facilitators that were universal across agencies were not included in the table; whereas, the barriers and facilitators unique to an agency type were included. This list was much shorter—reflecting the limited number of barriers and facilitators that were unique to specific service types—than the list of universal themes presented in

Table 6.1. Overall, most barriers and facilitators were detected across agency type. Using this chart, comparisons can be drawn across agency types on the relative potential of one service type versus another. A discussion of the findings presented is provided and highlights overarching conclusions about each agency type's potential for adopting new depression practices in relation to current literature.

For example, adult day services were unique in organizational context problems identified by their limited penetration into serving older adults (i.e., smaller client sizes) and for having more rigid and resistant cultures that were near one standard deviation above national averages. Although this agency type had a medium level of depression practices and a historic positive memory of co-located psychiatric consultation services, most adult day service agencies reported none or little current use of case management or psychiatric consultation. These limits are somewhat offset by three potential facilitators in how key informants described the adult day service agencies' motivation and ability to adopt change because of its market-driven focus and attachment to larger franchise organizations or agencies with "strong backbones" or "good reputations." These findings are similar to social service directors' views that implementing evidence-based practices can enhance their market niche (Proctor, et al., 2007). Although limited literature exists regarding depression care in adult day services, concern over the underutilization of adult day services in general is well documented and may be the more pressing concern than improving specific aspects of care in adult day settings (Gaugler, Kane, Kane, & Newcomer, 2005).

Overall, homecare agencies within this study had an organizational context supportive of adopting new depression practices, had a medium number of depression

practices in place including case management, and had a few key facilitators to the potential of adopting new practices. The facilitators of these agencies focus on the market and attachment to larger franchise organizations; therefore, they indicate homecare agencies' potential to move quickly in developing new programs or services that may be profitable or provide a competitive edge. The example of the homecare agency that has recently instituted Medicare-reimbursed diagnostic services and psychotherapy is a clear demonstration of that from this study. This example is consistent with the homecare industry's dramatic growth during the 1990's as a response to Medicare and Medicaid funding initiatives (Shi & Sigh, 2004) and the business advantages attached to enhancing an agency's market niche (Proctor et al., 2007).

Senior centers had the relative lowest potential to adopt new depression practices. This conclusion is drawn from these agencies having more rigid and resistant cultures that were near one standard deviation above national averages, having few current depression practices, and from the key informant's perceptions of how change was unlikely due to the "extensive history" of the agencies that would have to overcome the attitudes of employees and managers that have worked in the agencies for a long time. Such findings reflect previous research where staff resistance was attributed to "the ruts" that make adoption of new practice methods challenging (Proctor, et al., 2007, p. 483). Another barrier was the elevated concern for "unrealistic" use of resources when the priority focus is on providing meals. This finding is echoed in O'Shaughnessy (2008) depiction of how these agencies rely heavily on volunteers, have limited financial resources, and are facing increasing demands for their primary services of congregate meals and home-delivered meals. Yet, some precedence for integrating depression care

into these settings is documented for senior centers that are part of broader community coalitions and offer extensive case management services (Quianjo et al., 2006).

Lastly, supportive housing facilities have similar potential to adult day services and homecare agencies according to this framework. Within this study, the supportive housing facilities reported strong indicators for potential adoption according to their organizational context, their higher use of depression care practices including on-site psychiatric services, and their "flexible" nature of adopting change. The primary theme cited by all agencies was that fair housing laws and privacy issues create barriers to systematic screening of depression and record keeping. With one of the leading empirically supported treatments in the literature occurring in supportive housing facilities (Ciechanowski et al., 2004), this barrier may not be formidable enough to prevent agencies from adopting new depression practices. In fact, this service setting seems to have a unique window of opportunity for adopting new depression practices in that implementation efforts can build off existing depression practices (i.e., on-site psychiatric services, existing social service/activity departments that often offer therapy groups).

Conclusion

By integrating the qualitative and quantitative findings, a similar story is told about the role of organizations in providing not only current depression care to older adult clients, but also the potential to improve upon this care. The findings were not contradictory of each other, but instead offered two approaches for supporting the conceptual framework of this study as a means for evaluating agency potential to adopt

new depression practices. For example, both the qualitative and quantitative data demonstrated that most barriers and staff-level factors applied universally across the aging network service types (i.e., adult day services, homecare, senior centers, and supportive housing). In fact, this chapter highlights that there are more universal barriers and facilitators to the provision of depression care in these service settings—which emphasizes the need for broader approaches to improving care through policy changes, financing, and training.

The findings do highlight that agencies can be distinguished by service type in a few factors that may be crucial to the adoption of new depression practices. Organizational contexts due vary by agency type, thus each type of agency may require different approaches to implementation. Similarly, the current provision of depression practices varies by agency type. Thus, agency types vary on having more or less divergence from the indicators of empirically supported depression practices, such as screening, use of case management, and use of psychiatric consultation. Each agency type may require a different model of depression care that would be feasible to their settings. For example, supportive housing may focus on adopting better protocols and procedures for use of on-site psychiatrists; whereas, senior centers and homecare agencies may focus on adopting specific depression practices that utilize their existing case managers. Therefore, specific implementation efforts that target aging network services' adoption of new depression practices should consider agency type, organizational context, and a detailed assessment of the agency's current depression practices.

Chapter VII: Discussion

Summary of Findings

By using a mixed methods approach, this study applied a theory that to date has been tested in children's mental health services to the aging network services. The qualitative findings, in particular, illuminated constructs of importance for future studies. These findings identified organizational domains (i.e., culture, climate, financing, staff turnover) that may be predictive of aging network services' potential to adopt new depression practice. It also clarified what potential domains may need modification in order for aging network services to change current practices.

First, in *Aim 1*, it was hypothesized that the presence of current depression practices will vary among types of aging network services. The findings from the in-depth interviews supported this hypothesis when one considers indicators of empirically supported practices, the use of case management, and the use of psychiatric consultation. Thus, despite these service types being part of the larger "Aging Network" and serving similar populations, agencies' response to depression varied by service type.

Senior centers had the lowest use of empirically supported practices; whereas, all other service types used about half of the indicators. This could be attributed to the unique nature of senior centers that are primarily focused on providing nutritious meals to older adults and that have limited resources or qualified staff to address depression. Similarly, other service types may have different organizational contexts that may be determinant in how they respond to depression, such as the qualifications of the staff and the impact of policies and regulations. For example, homecare and adult day services more often received funding from Medicare and Medicaid, which may increase the use of

care plans, standardized assessments, and documentation. Alternatively, the lack of regulation and public funding on services to older adults residing in supportive housing facilities may lead to this service type being more flexible and creative in their responses to depression.

Of note, the managers' perceptions of barriers and facilitators to these practices varied minimally by service type. This could be attributed to their perceptions of the overarching limitations in funding and training that constrain the capacity of their agencies to respond to depression. Similarly, universally across these service types, the managers perceived several benefits to responding to depression within their settings, especially in terms of their holistic approach and of adding a competitive edge for their agency in the market.

The second aim involved several hypotheses regarding how culture and climate were related to the agency's use of current depression practices, staff attitudes to new depression practices, and to staff morale. In congruence with the findings of Aim 1 and previous research (Glisson & Green, 2005; Glisson & James, 2002), culture and climate variables were significantly related to the provision of current depression practices, per the count of empirically supported depression practices.

To review, more proficient cultures and more rigid cultures were directly related to increased use of empirically supported depression practices. However, more resistant cultures were inversely related to increased use of empirically supported practices. This follows expectations for the proficiency variable and resistant variable. However, the findings about rigid cultures are unique. This may be interpreted in that settings with more bureaucracy or more similarities to medical models of care (i.e., adult day services,

homecare services) actually raise expectations for the provision of depression care. Other health care settings and funding streams may actually promote the use of empirically supported depression practices, such as screening or use of care plans.

For climate, less engaging, less functional, and more stressful climates were directly related to increased use of empirically supported depression practices. Thus, having procedures to respond to clients' depression may create a less positive work climate. Unlike child welfare and mental health settings, as previously indicated in the literature, responding to mental health needs in aging network services may not be directly related to a positive organizational climate. The lower degree of education and clinical skills shared by staff within aging network services versus these other settings may contribute to this unique relationship between climate and mental health care. In other words, staff within aging network services may not be confident or well-trained to respond to the clients' depression, nor may they see it as part of their role and responsibility. Thus, agencies that use more empirically supported depression practices could create incongruence between the work behavior expectations of these depression practices and the staff's perceptions of their ability to engage and functionally respond to clients' depression. This highlights the potential need for increased training or supervisory support when staff are expected to respond to depression in their clients.

For staff's positive attitudes to new depression practices, none of the hypotheses were supported. None of the culture or climate variables were significantly related to this dependent variable. This finding is contradictory to previous research (Aarons & Sawitzky, 2006a), which may be explained because of sampling differences and the problems discussed with the psychometric properties of this scale as applied to the data in

this study. In terms of staff morale, none of the hypotheses about culture and climate were supported. Again, this is contradictory to recent research (Glisson, Landsverk, et al., 2008). This finding could be explained in that across the agency types and among all the staff, there was minimal variation in staff morale. Overall, aging network service staff generally reported higher morale than even national samples. This finding is important to consider in that staff morale does not appear to be a problem to the process of instituting change, such as adopting new depression practices.

Finally, due to the exploratory nature of *Aim 3*, no hypotheses were proposed. In summary, three key findings were documented in this research. First the exploration of both the general organizational context and specific current depression practices is informative in determining an agency's potential to adopt new depression practices. Second, most barriers and facilitators to the adoption of new depression practices are universal across agency type. This finding applies to both organizational factors (i.e., lack of resources, concern for client's willingness to accept depression practices due to stigma and competing demands) and staff factors (i.e., limited knowledge and moderate interest in evidence-based practices). Third, where distinctions do exist by agency type they are usually at the organizational level and relate to how depression practices relate to the agency's primary mission or service agenda (i.e., independent housing that respects older adults' privacy, or competition among homecare providers to offer unique services).

This summative framework provides two key decision points for implementation activities of new depression practices within aging network services. First, the relative ratings can indicate whether or not one should proceed with implementation in a given

service type versus other service types. Second, the details of the rating may highlight variations needed in the selection of which empirically supported depression intervention to implement and what implementation strategies may be needed.

The extensive list of barriers to the adoption of depression practices is consistent with previous research. For example, Ell (2006) described patient, provider and service system barriers. Patient barriers included concerns that older adults would deny depressive symptoms, would be deterred from getting help because of stigma, and would questions the helpfulness of medication. Provider barriers included physician's bias that depression is "normal" in older adults. Lastly, system barriers focused on the lack of coordination and collaboration among primary care, long-term care, and specialty mental health care. The findings from this current study expand upon these barriers for specific types of services and also illuminate some potential facilitators to using aging network services as a means of improving depression care. In particular, the overarching perceptions of managers and staff that depression was an included target of their agency's holistic service approach indicates a potential motivation to improve the agency's depression response.

The barriers noted in these service settings are also consistent with results from a survey of nursing home administrators' opinions on mental health services (Meeks, Jones, Tikhtman, & Latourette, 2000). In that service setting, mental health services were also perceived as under-available and/or underused. The most common mental health service provided "in-house" was a counselor (most likely a bachelor-level social service director) who was supported by a consulting psychiatrist. Administrators stated that staff training and managing behavioral problems needed to be improved. Increased training

may be seen as a low-cost intervention requiring minimal changes to the daily practice, thus being seen as the most desirable change in mental health practice for older adults. Unfortunately, extensive research on changing provider behaviors indicators that training alone rarely improves the quality of care (Davis, Thompson, Oxman, & Haynes, 1995; Kroenke, Taylor-Vaisey, Dietrich, & Oxman, 2000)

Such pessimistic findings regarding barriers and limited motivation to adopt new practices can be countered by more recent efforts to use strategic implementation efforts to overcome such barriers. Proctor and colleagues (2009) recognize that specific, multilevel implementation strategies are needed to mediate the process by which an innovative practice achieves a series of implementation, service, and client outcomes. Implementation outcomes include the uptake for when an agency adopts the practice, the penetration of how many staff within an agency use the practice, and issues of fidelity, sustainability, feasibility, acceptability, and costs. Service outcomes include the Institute of Medicine (2001) standards of care (i.e., efficiency, safety, effectiveness, equity, patient-centeredness, and timeliness). As the ultimate goal, the aim is to improve client outcomes of satisfaction, function, and symptomology. Other researchers have proposed that successful implementation results from three core elements: the level and nature of the evidence, the context of the environment, and the method/process that the implementation is facilitated (Kitson, Harvey, & McCormack, 1998). They even suggest that poor context may be overcome with appropriate facilitation, thus requiring time and resources dedicated to this facilitation process. Lastly, as found in this study, previous research documents that implementation strategies must account for critical differences between specific empirically supported practices as they relate to macro context issues

(i.e., financing, regulations) (Isett, et al., 2007). Thus, not all implementation approaches can be universal across practice models or practice settings.

When considering aging network services, Feldman and Kane (2003) described that implementation of effective interventions is further complicated by the difficulty of providing on-site support and supervision since the work is dispersed and disrupted by the constrained staffing patterns and qualifications. Primary care researchers have reported similar difficulties with changing provider behavior when physicians are isolated into small individual practices or groups (Belnap et al., 2006). From Feldman and Kane's (2003) review of the literature, successful implementation within aging network services requires: 1) simplicity and clarity of tools, 2) provision of real-time information, 3) reduction in frequency of certain practices vs. introduce new ones, 4) advocacy, leadership, and incentives. Their insights are relevant to this study's findings, such as senior center failure to adopt the nationally recommended assessment tool for senior centers (i.e., NAPIS) that includes a depression screen because of its length and "unrealistic" nature. Across service types this concern was echoed when discussing the limited resources to introduce new depression practices.

Limitations

Although the study is strengthened by the use of multiple measurement methods that account for both organizational and staff level variations, the findings are cautioned by several limitations. First, having a sample confined to one urban location and only three to four agencies per service type may limit generalizability. However, St. Louis does reflect similar aging network services in other urban settings. For example, all

states have both Area Agency on Aging Services and a State Unit on Aging (although some states combine these services). It is also common for not-for-profit agencies to provide age-related services. For-profit agencies are a growing sector of services for older adults (Wacker & Roberto, 2008).

A second concern for generalizability was introduced by the agency managers constraining which staff could participate in the survey (i.e., homecare agencies consistently omitted inviting in-home aides from participating). This selection bias should caution how the organizational context variables of culture and climate are applied to these agencies, and instead, these variables should be thought of only applying to the types of staff who participated in the surveys for each agency. Thus, direct measurement of organizational climate and culture, such as interviews and staff surveys, may be a feasible and efficient means of collecting data. However, the ability to determine if climate and culture are objective properties of the agency versus a perceived subjective reaction by the individual participants within this study may remain in question. Here, more in-depth qualitative methods can be illuminating on the culture and climate of these agencies, as hinted by this author's observations during data collection activities (i.e., communication styles among staff at survey meetings, physical environments of agencies).

Third, the validity threat of social desirability to measuring current depression practices and attitudes is a second limitation. Attempts to minimize this threat included constructing questions and instructions that acknowledge protocols to maintain confidentiality/anonymity, that clearly state there are no "right" or "wrong" answers, and that expressed an understanding of how resource constraints and competing demands

may lower the priority for aging network services to care for depression. Notes from the interview summaries indicated the potential for social desirability to influence some answers, as at times managers appeared to present the "best" of their agency because the interviewer was tied to an academic research institution. Several managers expressed interest in continued partnerships and affiliations with the university as a means of potentially securing grant funding or to enhance their agency's reputation.

Quantitative analytic approaches were limited by the small sample size and inclusion of clustered data. Risks for inaccurate estimations for regression coefficients, variances, and their standard errors (Maas & Hox, 2005) are well documented for small samples utilizing multilevel models. Thus findings should be viewed as cautionary, while at the same time considering the diminished power for significance testing. However, the use of a standardized scale for organizational culture and climate that provided comparisons to national norms did help overcome the limits of a small sample size. Findings could be compared to not only agencies within this sample, but also to a nationally representative sample of over 1,000 agencies that provide mental health care.

This *Organizational Social Context* measure is not without limitations, in that the typologies for culture and climate are relatively new and still subject to critique about their conceptual definitions. For example, previous organizational literature distinguishes bureaucratic issues, regulations and red tape from cultural norms within an organization (Cooke & Szumal, 2000). Furthermore, the use of the measure within this study applied it to a sample with less education and academic degrees than previously studied, which could impact the validity and reliability of the scale. With the proprietary restrictions on

analysis of scale factors, the ability of this author to explore the scale's psychometric properties was limited.

A final limitation is that the study did not assess older adults' preferences, attitudes, or specific needs for new depression services in these aging network services. Incorporating multiple stakeholders, such as clients and their families, is an important step for future implementation efforts.

Implications to Social Work Research

Results enlighten future research on the dissemination of empirically supported depression practices, thus improving the accessibility and quality of depression care for older adults. These findings are responsive to the National Institute of Mental Health's *Road Ahead* (U.S. Department of Health and Human Services, 2006) recommendations for research to provide useful information on ways to structure and evaluate service systems and to promote the adoption of empirically supported practices. These findings offer tools to support decision-making during implementation efforts by identifying opportune settings and by assisting in the selection of sustainable practices for these settings. Ultimately, this study described potential sites in aging network services for implementation and effectiveness studies, as described in Chapter 6. Here, future research questions would involve comparing the use of different implementation strategies, given the organizational context of current agency settings, to examine the effectiveness of these strategies along with how they may moderate specific organizational barriers.

This study also provide a framework for comparing existing research on empirically supported practices to detailed descriptions of real-world agency settings. These findings can help critique if the products of research are reaching those most in need and if researchers are providing the right information at the right time to the right people to facilitate implementation. Such work would help strengthen the public health impact of National Institute of Mental Health supported research, as described in their recent strategic plan (U. S. Department Health and Human Services, 2008, p. 20). By better understanding the organizational context of aging network services it can highlight what types of interventions would be most feasible and of interest. Specific research efforts can involve partnerships with the National Council of Aging to evaluate their Innovative Readiness Assessment tool for empirically supported depression practices and to obtain findings on a more generalizable sample. This work would entail research questions regarding how predictive a standardized assessment on agency "readiness" may be for implementation outcomes of uptake, penetration and sustainability. Similarly, an evaluation of such a standardized assessment would need to explore the feasibility and acceptability of completing the assessment along with communicating the results to both agency representatives and those implementing new depression practices.

Third, this research calls for increased consideration of the cost of empirically supported depression practices, as provided in a variety of service settings with a variety of funding streams. Comprehensive measurement of incremental cost-effectiveness ratios can determine the value-added effect of not only empirically supported depression care in itself, but what is the value-added of combining this depression care with other social services. It may be that combining depression care within service settings that

offer a comprehensive array of services to promote nutrition, independence, socialization, and activities for older adults may show added benefit. Without knowing the costs of care in comparison to the added benefits/cost-offsets of such care, the strategies of advocating for policy and provider changes in economic incentives will stagnate. Furthermore, the attempts of creating a "consumer push" may be thwarted by stigma and by incorrect evaluations of need. Few social workers researchers have pursued work in mental health economics, yet social work researchers can advance the use of a societal perspective if they develop skills in cost-effective analysis and in measuring costs comprehensively. Research questions would include: how do costs of specific empirically supported depression practices compare as they are provided in varying primary care and aging network service settings (i.e., adult day services, homecare, senior centers, and supportive housing); do combining different services moderate the cost of depression care (i.e., primary care and depression care, vs. services targeting socialization and activity and depression care); and what are the costs of untreated depression on these various service settings.

Implications for Social Work Policy

With Medicare being the primary insurer for most older Americans over the age of 65, most policy recommendations target revisions to Medicare. Specific to the reimbursement of depression care, Medicare Part B's coverage for outpatient mental health care provided by physicians, psychiatrists, psychologists, clinical social workers, and other mental health specialists creates incentives for inpatient services, medication management, and minimal coverage for case management and collaborative consultations

across disciplines. For example, 80% of the allowed charges are covered when providers serve an older adult with physical health care needs, yet only 50% of reimbursable services are covered for outpatient mental health care, and differential copay rates exist for psychotherapy and pharmacotherapy (Ettner, 1997). Recent mental health parity legislation is intended to apply to Medicare in future regulations, but the specific interpretations for Medicare have not been disclosed. Furthermore, consultation services, same-day mental health and physical appointments, and most case management services remain uncovered services (Unützer et al., 2006).

Experts in the field have articulated several clear policy recommendations for addressing the gaps in mental health coverage for older adults that would promote the use of these practice across medical and social service settings, such as 1) expand the Medicare covered benefits to include components of psychiatric consultation and case management, 2) enforce mental health parity requirements, 3) increase the general funding for mental health service delivery and health promotion efforts regarding depression to older adults, and 4) increase Medicare and Medicaid reimbursement rates so they do not fall below market-level, thus acting as a disincentive to care (Kaskie & Estes, 2001; Unützer et al., 2006). The findings from this research on the pervasive concern for cost of adopting new depression practices re-emphasize the need for these policy changes. They also propose that social workers advocate not only for these changes but also their standing as independent clinical mental health practitioners who can bill for diagnostic evaluations, psychotherapy, case management, patient education, and consultation services, when they have the expertise.

Implications to Social Work Practice

In terms of social work practice implications, two key points are noteworthy. First, a perpetual concern is evident in this data about the role, relevance, and availability of case management services for older adults. These findings indicate a potential pervasive change in the service system of which case management has long been a hallmark of care (Naleppa, 2006; Hyduk, 2002). This decline and potential de-professionalization of geriatric case managers is occurring simultaneously as researchers describe case managers as a key component of empirically supported depression care (Ciechanowski et al., 2004; NCOA, 2008; Quijiano et al., 2006; Unützer et al., 2002). Such polarity between research recommendations and practice applications is a threat to the adoption of empirically supported practices and to the quality of mental health services for older adults.

As an alternative, licensed clinical social workers could become depression case managers by using their existing professional status and privilege of independently billing for mental health services to develop private practices in depression case management. In fact, one homecare agency within this study has pursued this option. Here, these licensed clinical social workers can develop networks of social service agencies, small primary care physician clinics, and other sites interested in receiving on-site depression care services. The bulk of the depression care manager services may be provided through contractual relationships with the providers and billed under their independent clinical status to funding sources such as Medicare, Medicaid, and the Older Americans Act. Co-location of the depression care manager is desired and supported by research findings. However, diversity in community characteristics, organizational

structures, and policy contexts remain barriers. Social workers can coordinate depression care efforts across these multiple settings. One cautionary statement about this implication is that social workers will need to be observant of potential disparities in the quality and availability of such privately offered depression case management. A primary concern includes the desire to provide services to secure funding streams, such as more middle-income or high-income populations who can provide private payment—thus creating a disparity in services by income. For lower income client populations, Medicare and Medicaid are technically billable sources of payment; however, complicated reimbursement procedures and delays in payment may make these sources unappealing.

The second implication to social work practice involves the need for social workers to increase their connection, collaboration, and critique of existing research. With national efforts to "scale up" the use of empirically supported depression practices becoming common place, social work practitioners from these aging network service agencies need to be active stakeholders in shaping the research agenda and the development of implementation strategies. Some of this work may come from academic efforts to expand social worker's use of evidence-based practice as a process.

Gira, Kessler, and Poertner (2004) suggest that a combination of outreach visits and social marketing is needed for increasing social workers' use of research evidence in practice. This requires a preliminary assessment of barriers to change and readiness to change, thus allowing for a specific implementation of the research evidence tailored to the specific practice setting. Alternatively, this study's findings on the commonalities of barriers across service settings indicate that the barriers are well understood by the

practitioners. Instead of generating active lines of research to continually list barriers, the social work practitioners could be key stakeholders in developing research, new services, and dissemination efforts that proactively accounts for these insights into potential barriers. These are just a few recommendations of how social workers can be integral in the future practice of translating empirically supported depression practices between researchers and “real world” agencies.

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Appendix A: Preliminary estimation of sample size

Service type ▪ Example of care	**Provider types**	**# Managers**	# Social Worker/ Coordinator	# Aides	# Other	**# Total Staff** [a]
Senior Centers: ▪ Outreach ▪ Activities ▪ Meals (delivered and congregate) ▪ Health promotion	Social workers, coordinators (transportation, meals, activities), drivers and aides	1 1 1	2 1 1	0 0 1	12 12 3	14 13 5
Homecare Services: ▪ Medical care ▪ Physical /Occupational therapy (PT; OT) ▪ Homemaker services ▪ Home health aids	Nurses, social workers, certified nursing assistants (CNAs), home health aides/ paid caregivers, other	1 1 1	2 3 2	65 23 95	3 5 0	70 31 97
Adult Day Services: ▪ Personal care ▪ Activities ▪ Nutrition ▪ Supervision	Social workers, nurses, drivers, CNAs, activity coordinators & aides	1 1 1	1 1 1	2 1 1	8 8 9	11 10 11
Supportive Housing: ▪ Subsidized ▪ Optional meals, activities, personal care, etc.	Site managers, Social workers, kitchen aides, maintenance	1 1 1	1 2 1	60 0 0	4 11 6	65 13 7
Total = [a] *Total Staff excludes managers. It only includes social worker/coordinators, aides, and others.*		**15**	18	248	81	**347**

Appendix B: Recruitment Materials: Letter Template & Script

Dear _____,

I would like to interview you for the study, ***Exploring the Potential of Aging Network Services to Improve Depression Care.*** The overall purpose of this research is to describe the organizational context, current depression practices, and barriers to depression care in aging network services. The goal is to interview 15 program managers in the St. Louis area and conduct surveys with staff in aging network service agencies. This research is conducted under the supervision of Dr. Nancy Morrow-Howell as part of my doctoral education in social work at Washington University.

You were selected for this interview at the recommendation of my supervisor and my advisory panel which includes Michael Nickel, David Sykora, and Mary Schaefer. To be eligible for this interview you must be currently employed as a manager, supervisor, or director of an aging network service, such as a senior center, supportive housing, homecare service agency, adult day service center, or case management unit. Your participation is completely voluntary and any information you share would be kept confidential.

Potential benefits involve increasing knowledge about the organizational context and depression practices of aging network services. I will provide a written executive summary to participants and agencies, and offer to present findings. All findings will be reported in aggregate form and will not identify any individual participant or agency.

Your participation will involve:

- Participation in one interview which will last 30 to 60 minutes. The interview will be scheduled at a time and location that is convenient for you. You will receive a $30 for your time.
- After the interview, you can decide if and how I may recruit providers from your agency to participate in a self-administered survey that would take approximately 30 minutes.

Please let me know if you have any questions. I would be happy to speak with you more about the project. My contact information is listed below.

Sincerely, Leslie

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Script of Follow-up Phone Contact

Hello, may I speak with _____ (*Program Manager's name*)? Do you have time to speak with me for about 5 minutes?

I am following up on a letter I sent for my study, ***Exploring the Potential of Aging Network Services to Improve Depression Care.*** This research is conducted under the supervision of Dr. Nancy Morrow-Howell as part of my doctoral education in social work at Washington University.

The overall purpose is to describe the organizational context, current depression practices, and barriers to depression care in aging network services. I would like to invite you to participate in this study. Your participation will involve:

- One interview which will last 30 to 60 minutes. This confidential interview will be scheduled at a time and location that is convenient for you. You will receive $30 for your time.
- After the interview, you can decide if and how I may recruit staff from your agency to participate in a self-administered survey that would take approximately 30 minutes. Any identifiable information shared in this survey will remain confidential and you will not be granted access to it. I will be able to provide results from this survey in aggregate form during any presentations.

Your participation is completely voluntary and any information you share would be kept confidential.

Risks of participation include the potential time burden or boredom with the interview. Potential benefits involve increasing knowledge about the organizational context and depression practices of aging network services. I will provide a written executive summary to participants and agencies, and offer to present findings. All findings will be reported in aggregate form and will not identify any individual participant or agency.

Do you have any questions about this study?
--*Allow time to answer questions*--

Can we schedule a time when I could meet with you to conduct the interview?
--*Schedule interview*--

Great, I will send you an example of the interview questions and study consent form, if you would like to review them prior to our meeting.
--*Offer to send via email or mail, and gather contact information*--

I look forward to speaking with you more about this study on _____ *(repeat scheduled meeting time for interview).* If you have any questions before then, please call me at 314-935-8173.

Appendix C: Interview Guide

Exploring the Potential of Aging Network Services to Improve Depression Care Study

Program Manager Interview Guide

ID NUMBER: _____ START TIME: _____

DATE: _____ END TIME: _____

A. Agency Type and Structure

INSTRUCTIONS: Please try to answer all items. If an item does not completely apply to your situation, try to select the closest or best answer from the alternatives given. All findings from this study will be reported in aggregate form or in de-identified quotes to preserve the confidentiality of anything you say in this interview and of your agency's participation in this study.

1. Please check **all** types of services that your agency provides to older adults in the St. Louis area.

- ☐ Information & referral
- ☐ Senior centers/meals
- ☐ Home-delivered meals
- ☐ Congregate meals
- ☐ Transportation
- ☐ Education & leisure
- ☐ Volunteer opportunities
- ☐ Legal services
- ☐ Employment services
- ☐ Subsidized senior housing (i.e., supportive housing)
- ☐ Income assistance programs
- ☐ Caregiver support programs
- ☐ Home health/homemaker
- ☐ Crisis intervention/emergency assistance
- ☐ Companionship services
- ☐ Case management
- ☐ Mental health counseling
- ☐ Adult day services
- ☐ Home improvement services
- ☐ Assisted living
- ☐ Institutional long-term care services
- ☐ Other, please specify: _____

2. What is the primary service that your program within the agency provides? (Please check only one.)

- ☐ Case management
- ☐ Adult day services
- ☐ Homecare services
- ☐ Senior centers
- ☐ Supportive housing

3. How would you classify this agency?

- ☐ Public
- ☐ Private, non-profit
- ☐ Private, for-profit

4. What source provides the majority of payment for services offered by your agency?

☐ Medicaid ☐ Older American's Act ☐ Private pay
☐ Medicare ☐ Other, please specify: _____

5. How many employees does your agency have?

☐ Under 20 employees ☐ 51 – 100 employees
☐ 21 – 50 employees ☐ Over 100 employees

6. How large is your usual client population?

☐ Under 20 clients ☐ 51 – 100 clients
☐ 21 – 50 clients ☐ Over 100 clients

7. How long do clients usually remain in your services?

☐ Under 30 days ☐ Between 6 months and 1 year
☐ Between 1 month and 3 months ☐ Between 1 year and 2 years
☐ Between 3 months and 6 months ☐ Over 2 years

8. What is the typical size of a caseload carried by your social worker or case worker?

Please specify average number: _____

9. Would you classify the distribution of power/decision-making in your agency as mostly being:

☐ Centralized to the director or department ☐ De-centralized across different programs

10. Does your organization experience problems with staff turnover or retaining employees?

☐ Yes ☐ No

B. Mental Health Practices

1. Does your agency receive any financing that is designated specifically for treating depression?

☐ No ☐ Yes, Please specify source of funding:
☐ Medicare ☐ Medicaid ☐ Older American's Act
☐ Other, please specify: _____
_____

INSTRUCTIONS: Please discuss with me how your agency currently responds to depression. The questions below are examples of what your agency may do, but I would like to discuss these in detail along with anything else your agency does.

2. Does your agency use a screening instrument to assess for depression in clients?

   ☐ No ☐ Yes, Please specify instruments used:_____-

   If Yes, also specify when the screening occurs? (Check all that apply)

   ☐ Initial service assessment
   ☐ At service reauthorization, please specify timeframe: _____
   ☐ When clinically indicated
   ☐ Other, please specify: _____

3. Does your agency have written protocols to assess and intervene for clients at risk of suicide?

   ☐ No ☐ Yes

4. Does your agency provide education about depression to clients (i.e., discussions, reading materials, videos, etc.)?

   ☐ No ☐ Yes

5. Does your agency have mental health professionals on staff (i.e., psychiatrist, psychologists, mental health social worker or nurse)?

   ☐ No ☐ Yes, please specify type of professional: _____

6. Does your agency receive formal consultation services from mental health professionals?

   ☐ No ☐ Yes, please specify type of professional: _____

7. Does your agency have formalized relationships with mental health professionals to facilitate referrals when needed?

   ☐ No ☐ Yes

8. Please check **all** types of services that your agency provides to older adults in the St. Louis community.

- ☐ Documents all service contacts
- ☐ Has protocols to revise care plans after four weeks of service
- ☐ Monitors and alters care plan if depression remains a problem
- ☐ Has a minimum of two case management contacts with a client in three months
- ☐ Has contact with clients' primary care provider
- ☐ Facilitates appointments with primary care
- ☐ Addresses barriers to mental health treatment

9. To what extent is depression a problem faced by clients in your agency?

- ☐ Not at all
- ☐ To a slight extent
- ☐ To a moderate extent
- ☐ To a great extent
- ☐ To a very great extent

INSTRUCTIONS: The interviewer will also ask questions about the following issues:

10. What other things does your agency do to respond to depression in your clients?

---

11. What barriers does your agency face when responding to depression in your clients?

---

12. Has your agency done anything to overcome these barriers? ☐ Yes ☐ No
    - If Yes, please describe:

---

13. What would be the process for your agency to introduce a new service or protocol?

---

14. If your agency were to adopt a new intervention/therapy or protocol to respond to depression in your clients, what may be some barriers to it being successful?

---

15. Similarly, if your agency were to adopt a new intervention/therapy or protocol to respond to depression in your clients, what are some strengths of your agency that would help it be successful?

---

16. Would you like to add any other comments on this topic?

_____

C. Demographic Questions

INSTRUCTIONS: We are asking the following questions to determine if individuals with different backgrounds and different experiences see their organization in a similar manner. Again, your responses are completely confidential.

1. What is your age? Years: _____

2. What is your gender?
   - ☐ Male
   - ☐ Female
   - ☐ Transgender

3. How would you define your race or ethnicity? _____

4. How many years of experience, including your present job, have you had in full-time human services work? Years: _____

5. What is the highest level of education you have completed?
   - ☐ Some high school
   - ☐ Obtained a G.E.D.
   - ☐ High school graduate
   - ☐ Some college
   - ☐ Associate's degree
   - ☐ Bachelor's degree
   - ☐ Some graduate work
   - ☐ Masters degree
   - ☐ Doctorate degree (i.e., Ph.D., M.D., E.D.D., J.D.)

6. How many years have you worked in your present agency? Years: ___

7. What field of study is your highest-level degree in?
   - ☐ Education
   - ☐ Medicine
   - ☐ Nursing
   - ☐ Psychology
   - ☐ Social Work
   - ☐ Law
   - ☐ Other: (please specify) _____

Thank you! Your help is very much appreciated.

Appendix D: Staff Survey

Exploring the Potential of Aging Network Services to Improve Depression Care

Staff Survey

A. Organizational Social Context Measurement System

INSTRUCTIONS: Please try to answer all items. If an item does not completely apply to your situation, try to select the closest or best answer from the alternatives given.

Please fill in the circle

Like this: ● Not like this: ✓ ✗ /

		Not At All	A Slight Extent	A Moderate Extent	A Great Extent	A Very Great Extent
1.	How often do your coworkers show signs of stress	1	2	3	4	5
2.	I have to ask a supervisor or coordinator before I do almost anything	1	2	3	4	5
3.	I really care about the fate of this organization	1	2	3	4	5
4.	I can easily create a relaxed atmosphere with the clients I serve	1	2	3	4	5
5.	Members of my organizational unit are expected to have up-to-date knowledge	1	2	3	4	5
6.	How often does your job interfere with your family life	1	2	3	4	5
7.	I understand how my performance will be evaluated	1	2	3	4	5
8.	How satisfied are you with the chance to do something that makes use of your abilities	1	2	3	4	5
9.	Members of my organizational unit are expected to avoid being different	1	2	3	4	5
10.	I feel like I'm at the end of my rope	1	2	3	4	5
11.	I am willing to put in a great deal of effort in order to help this organization be successful	1	2	3	4	5
12.	I feel exhilarated after working closely with the clients I serve	1	2	3	4	5

		Not At All	A Slight Extent	A Moderate Extent	A Great Extent	A Very Great Extent
13.	Members of my organizational unit are expected to be critical	1	2	3	4	5
14.	The same procedures are to be followed in most situations	1	2	3	4	5
15.	A person can make his or her own decisions without checking with anyone else	1	2	3	4	5
16.	I feel I treat some of the clients I serve as impersonal objects	1	2	3	4	5
17.	Members of my organizational unit are expected to improve the well-being of each client	1	2	3	4	5
18.	I have accomplished many worthwhile things in this job	1	2	3	4	5
19.	How satisfied are you with the chances for advancement	1	2	3	4	5
20.	Once I start an assignment, I am not given enough time to complete it	1	2	3	4	5
21.	Members of my organizational unit are expected to evaluate how much we benefit clients	1	2	3	4	5
22.	To what extent are the objectives and goals of your position clearly defined	1	2	3	4	5
23.	This agency provides numerous opportunities to advance if you work for it	1	2	3	4	5
24.	We usually work under the same circumstances day to day	1	2	3	4	5
25.	Members of my organizational unit are expected to stay uninvolved	1	2	3	4	5
26.	I deal very effectively with the problems of the clients I serve	1	2	3	4	5
27.	My job responsibilities are clearly defined	1	2	3	4	5
28.	I am proud to tell others that I am part of this organization	1	2	3	4	5

		Not At All	A Slight Extent	A Moderate Extent	A Great Extent	A Very Great Extent
29.	Members of my organizational unit are expected to criticize my mistakes	1	2	3	4	5
30.	How satisfied are you with the freedom to use your own judgment	1	2	3	4	5
31.	This agency emphasizes growth and development	1	2	3	4	5
32.	When I face a difficult task, the people in my agency help me out	1	2	3	4	5
33.	Members of my organizational unit are expected to place the well-being of clients first	1	2	3	4	5
34.	I find that my values and the organization's values are very similar	1	2	3	4	5
35.	People here always get their orders from higher up	1	2	3	4	5
36.	No matter how much I do, there is always more to be done	1	2	3	4	5
37.	Members of my organizational unit are expected to find ways to serve clients more effectively	1	2	3	4	5
38.	I know what the people in my agency expect of me	1	2	3	4	5
39.	I feel fatigued when I get up in the morning and have to face another day on the job	1	2	3	4	5
40.	To what extend do your coworkers trust each other	1	2	3	4	5
41.	Members of my organizational unit are expected to avoid problems	1	2	3	4	5
42.	How satisfied are you with the feeling of accomplishment you get from your job	1	2	3	4	5
43.	There is only one way to do the job – the boss's way	1	2	3	4	5
44.	This agency rewards experience, dedication and hard work	1	2	3	4	5

		Not At All	A Slight Extent	A Moderate Extent	A Great Extent	A Very Great Extent
45.	Members of my organizational unit are expected to be stern and unyielding	1	2	3	4	5
46.	We are to follow strict operating procedures at all times	1	2	3	4	5
47.	I feel used up at the end of the workday	1	2	3	4	5
48.	I feel I'm positively influencing other people's lives through my work	1	2	3	4	5
49.	Members of my organizational unit are expected to act in the best interest of each client	1	2	3	4	5
50.	People here do the same job in the same way everyday	1	2	3	4	5
51.	Members of my organizational unit are expected to become more effective in serving clients	1	2	3	4	5
52.	I talk up this organization to my friends as a great organization to work for	1	2	3	4	5
53.	In my work, I am calm in dealing with the emotional problems of others	1	2	3	4	5
54.	Members of my organizational unit are expected to be competitive with coworkers	1	2	3	4	5
55.	How satisfied are you with the prestige your job has within the community	1	2	3	4	5
56.	Whenever we have a problem, we are suppose to go to the same person for an answer	1	2	3	4	5
57.	There can be little action until a supervisor or coordinator approves the decision	1	2	3	4	5
58.	Members of my organizational unit are expected to go along with group decisions	1	2	3	4	5
59.	I feel burned out from my work	1	2	3	4	5
60.	I have become more callous towards people since I took this job	1	2	3	4	5

		Not At All	A Slight Extent	A Moderate Extent	A Great Extent	A Very Great Extent
61.	Any decision I make has to have a supervisor's or coordinator's approval	1	2	3	4	5
62.	Members of my organizational unit are expected to strive for excellence	1	2	3	4	5
63.	Rules and regulations often get in the way of getting things done	1	2	3	4	5
64.	How satisfied are you with being able to do things the right way	1	2	3	4	5
65.	Interests of the clients are often replaced by bureaucratic concerns (e.g. paperwork)	1	2	3	4	5
66.	Members of my organizational unit are expected to interact positively with others	1	2	3	4	5
67.	There is a feeling of cooperation among my coworkers	1	2	3	4	5
68.	To what extent is it possible to get accurate information on policies and administrative procedures	1	2	3	4	5
69.	How satisfied are you with the chance to try your own approaches to working with clients	1	2	3	4	5
70.	Members of my organizational unit are expected to learn new tasks	1	2	3	4	5
71.	How well are you kept informed about things that you need to know	1	2	3	4	5
72.	How often is there friction among your coworkers	1	2	3	4	5
73.	To what extent are you constantly under heavy pressure on the job	1	2	3	4	5
74.	Members of my organizational unit are expected to follow rather than lead	1	2	3	4	5
75.	How satisfied are you with the chance to do things for clients	1	2	3	4	5
76.	This organization really inspires the very best in me in the way of job performance	1	2	3	4	5

		Not At All	A Slight Extent	A Moderate Extent	A Great Extent	A Very Great Extent
77.	I have to do things on my job that are against my better judgment	1	2	3	4	5
78.	Members of my organizational unit are expected to be dominant and assertive	1	2	3	4	5
79.	There are not enough people in my agency to get the work done	1	2	3	4	5
80.	There are more opportunities to advance in this agency than in other jobs in general	1	2	3	4	5
81.	How often do you end up doing things that should be done differently	1	2	3	4	5
82.	Members of my organizational unit are expected to be available to each client we serve	1	2	3	4	5
83.	The amount of work I have to do keeps me from doing a good job	1	2	3	4	5
84.	I am extremely glad that I chose to work for this organization	1	2	3	4	5
85.	How things are done around here is left pretty much up to the person doing the work	1	2	3	4	5
86.	Members of my organizational unit are expected to pay attention to details	1	2	3	4	5
87.	I feel emotionally drained from my work	1	2	3	4	5
88.	It's hard to feel close to the clients I serve	1	2	3	4	5
89.	How satisfied are you with the recognition you get for doing a good job	1	2	3	4	5
90.	Members of my organizational unit are expected to not make waves	1	2	3	4	5
91.	The same steps must be followed in processing every piece of work	1	2	3	4	5
92.	How often do you have to bend a rule in order to carry out an assignment	1	2	3	4	5

		Not At All	A Slight Extent	A Moderate Extent	A Great Extent	A Very Great Extent
93.	I worry that this job is hardening me emotionally	1	2	3	4	5
94.	Members of my organizational unit are expected to be number one	1	2	3	4	5
95.	I feel I'm working too hard on my job	1	2	3	4	5
96.	How often do you feel unable to satisfy the conflicting demands of your supervisors	1	2	3	4	5
97.	For me this is the best of all possible organizations to work for	1	2	3	4	5
98.	Members of my organizational unit are expected to plan for success	1	2	3	4	5
99.	I feel that I am my own boss in most matters	1	2	3	4	5
100	Members of my organizational unit are expected to be thoughtful and considerate	1	2	3	4	5
101	Opportunities for advancement in my position are much higher compared to those in other positions	1	2	3	4	5
102	Members of my organizational unit are expected to defeat the competition	1	2	3	4	5
103	At times, I find myself not really caring about what happens to some of the clients	1	2	3	4	5
104	Inconsistencies exist among the rules and regulations that I am required to follow	1	2	3	4	5
105	Members of my organizational unit are expected to be responsive to the needs of each client	1	2	3	4	5

B. Evidence-based Practice Attitude Scale

INSTRUCTIONS: The following questions ask about your feelings about using new types of therapy, interventions, or treatments for depression. Manualized therapy refers to any intervention that has specific guidelines and/or components that are outlined in a manual and/or that are to be followed in a structured/predetermined way.

Fill in the circle indicating the extent to which you agree with each item.

		Not At All	A Slight Extent	A Moderate Extent	A Great Extent	A Very Great Extent
1.	I like to use new types of therapy/interventions to help my clients with depression.	1	2	3	4	5
2.	I am willing to try new types of therapy/interventions for depression even if I have to follow a treatment manual.	1	2	3	4	5
3.	I know better than academic researchers how to care for my clients who have depression.	1	2	3	4	5
4.	I am willing to use new and different types of therapy/interventions for depression developed by researchers.	1	2	3	4	5
5.	Research based treatments/interventions for depression are not clinically useful.	1	2	3	4	5
6.	Clinical experience is more important than using manualized therapy/treatment for depression.	1	2	3	4	5
7.	I would not use manualized therapy/interventions for depression.	1	2	3	4	5
8.	I would try a new therapy/intervention for depression even if it were very different from what I am used to doing.	1	2	3	4	5

INSTRUCTIONS: For questions 9 – 15: If you received training in a therapy or intervention for depression that was new to you, how likely would you be to adopt it if:

9.	it was intuitively appealing?	1	2	3	4	5
10.	it "made sense" to you?	1	2	3	4	5
11.	it was required by your supervisor?	1	2	3	4	5
12.	it was required by your agency?	1	2	3	4	5

		Not At All	A Slight Extent	A Moderate Extent	A Great Extent	A Very Great Extent
13.	it was required by your state?	1	2	3	4	5
14.	it was being used by colleagues who were happy with it?	1	2	3	4	5
15.	you felt you had enough training to use it correctly?	1	2	3	4	5
	INSTRUCTIONS: For question 16 – 19: Consider your attitudes and experiences in responding to depression in your clients.					
16.	To what extent is depression a problem faced by clients in your agency?	1	2	3	4	5
17.	Do you feel confident to recognize depression in clients?	1	2	3	4	5
18.	Has your agency provided training regarding depression in clients?	1	2	3	4	5
19.	Have you obtained training on your own regarding depression in clients?	1	2	3	4	5

C. Demographic Questions

1. What is your age? ___ ___

2. What is your gender?

1	Female
2	Male
3	Transgender

3. How would you define your race or ethnicity? _____

4. How many years of experience, including your present job, have you had in full-time human services work?

___ ___ years

5. What level of education have you completed?

1	Some high school
2	High school graduate
3	Some college
4	Associates degree
5	Bachelor's degree
6	Some graduate work
7	Masters degree
8	Doctorate degree (Ph.D., M.D., E.D.D., J.D.)

6. Your highest level degree is in:

1	Education
2	Medicine
3	Nursing
4	Psychology
5	Law
6	Social Work
7	Other, please specify

_____

7. How many years have you worked in your present agency?
_____

8. Please check **all** responses that describe your job responsibilities at this agency?

- ☐ Intake coordinator
- ☐ Social services
- ☐ Nursing care
- ☐ Activities coordinator
- ☐ Personal care aide
- ☐ Administer medications
- ☐ Food preparation or serving
- ☐ Homemaker or chore worker services
- ☐ Transportation coordinator
- ☐ Transportation driver
- ☐ Education or training coordinator
- ☐ Outreach activities
- ☐ Management
- ☐ Other, please specify

RESPONDENT: GO TO NEXT PAGE

9. ORGANIZATIONAL CODE
OFFICE USE ONLY

D. Final Comments

1. What barriers do you currently face when responding to depression in your clients?

2. Has your agency done anything to overcome these barriers? Yes No
   If Yes, please describe:

3. If your agency were to adopt a new intervention/therapy or protocol to respond to depression in your clients, what may be some barriers to it being successful?

4. Similarly, if your agency were to adopt a new intervention/therapy or protocol to respond to depression in your clients, what are some strengths of your agency that would help it be successful?

5. Please add any additional comments regarding this survey: