A GUIDE TO EVIDENCE-BASED PRACTICES

for OLDER ADULTS WITH MENTAL ILLNESS

SAGINAW COUNTY
COMMUNITY MENTAL
HEALTH AUTHORITY

This report was produced with the support of the Saginaw County Community Mental Health Authority

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FORWARD

This guide is the last of a series on evidence-based practices pertinent to the primary populations served by the public mental health system. It was compiled to inform policy and practice and aims to foster the allocation of scarce resources for services and supports to those that have been scientifically demonstrated to be effective.

The material in this document is derived from peer-reviewed journal articles, monographs, manuals, texts, reports, practice guidelines, and expert consensus guidelines. It offers an overview of various interventions with a base of evidence to support their use as well as current practices and areas that are of interest at national, state and local levels.

The electronic version of this guide has hyperlinks (denoted by blue underlined text) embedded within the document so that the reader can find additional information quickly, particularly in previous reports in this series, web sites, and within this document. A variety of resources are provided for readers who wish to pursue more information on topics of interest. Hyperlinks to web sites for programs, interventions, and measurement tools are included where available.

It should be noted that this report is a snapshot in time and depicts the current literature base. Research in the area of mental health and aging is ongoing; this report may need to be updated or revised as more information from ongoing and future research becomes available, particularly in the area of pharmacology. In addition, this report, like those that preceded it, is intended for SCCMHA's use and does not adhere to traditional standards of publication in order to improve its readability.

Finally, on a personal note, it is almost hard to believe that so many years have passed since initial discussions took place at SCCMHA regarding plans to research and implement evidence-based practices in late 2004 and the first publication of the first EBP guide in 2005. During the intervening years much progress has been made in implementing and monitoring fidelity to an array of EBPs in an effort to ensure the provision of the highest quality services and supports. The writer gratefully acknowledges the support and sponsorship of the organization in the production of this guide.

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INTRODUCTION AND OVERVIEW

The nature of old age has changed dramatically during in the last century. In the early 1900s, the average life expectancy was about forty nine years. Today, it is nearly eighty years. Improvements in diet, physical fitness, public health, and health care have resulted in more adults aged sixty five and older in better physical and mental health and reductions in the prevalence of chronic disability. Adults aged sixty and older are the fastest growing segment of the population.

> No single characteristic is descriptive of older persons; each individual has their own view of the meaning of being old.

Studies have shown that, contrary to popular stereotypes of old age as a time of increasing cognitive and functional decline, the majority of older adults are psychologically robust, resilient, and capable of change even in the face of physical, economic, and emotional losses. And, older age can bring increasing acceptance and ability to cope with lifelong psychiatric disorders.

During the past couple of decades there has been significant growth in research that has led to increased knowledge about the causes and treatments of psychiatric problems of older adults that also dispels pejorative stereotypes that view older strongly influenced by heredity and incapable of broadening their pursuits and acquiring new skills.

Despite the increasing population of older persons in our society, ageism is alive and well. Ageism can impact both professionals and consumers who unwittingly succumb to common stereotypes of older age. Expectations regarding health and functioning diminish with age, some of which are realistic, while many are not. Aging leads to a gradual process of decline in sensory abilities (e.g., vision and hearing), pulmonary and immune function, and certain changes in mental functioning. However, very few of the latter are congruent with commonly held negative stereotypes about aging and treatable symptoms may be dismissed as an inevitable part of the aging process resulting in lack of intervention and needless discomfort.

Research reveals evidence of the capacity for constructive change in later life even in the face of adversity and chronic mental and physical health problems. Despite stereotypes to the contrary, older persons display flexibility in behavior and attitudes and the ability to grow intellectually and emotionally.

Retirement, often viewed as the most significant life event prior to death, is often associated with negative myths and stereotypes. However, studies show that most people fare well in retirement and have opportunities to explore new interests, activities, and relationships. Individuals who are at risk for coping inadequately are typically people who do not want to retire, but are compelled to do so due to health problems, or those who experience a significant decline in their standard of living.

Contrary to popular stereotypes, studies on aging reveal that, in general, the majority of older individuals, in the absence of depression, serious loss, or terminal illness, do not have a fear or dread of death and the presence of a dread of death is a signal of underlying distress (e.g., depression).

Fifty to eighty percent of older persons complain of memory problems. However, studies have shown that subjective memory complaints do not correspond with actual performance and are an artifact of depression rather than a decline in actual memory performance. Studies have found that working and long-term memory declines with aging, with decrements more apparent in recall than recognition, and there is slowing, or some loss, of other cognitive functions including information processing, selective attention, and problem-solving ability. These

cognitive changes result in a slower pace of learning and increased need for repetition of new information. Vocabulary increases slightly until the mid-seventies, after which it declines. Fluid intelligence (i.e., the ability to solve novel problems) declines over time, but can be enhanced through training in cognitive skills and problem-solving strategies.

High cognitive performance has been found to be dependent on education, vigorous activity, peak pulmonary flow rate, and self-efficacy (i.e., the ability to organize and execute actions required to deal with situations likely to happen in the future). Education (years of schooling) has been found to be the strongest predictor of high cognitive functioning during older age.

Psychiatric disorders are estimated to impact almost twenty percent (or one in five) of older adults. These include severe cognitive impairment (e.g., Alzheimer's disease), alcohol and drug misuse and abuse, mood disorders (e.g., depression, and bipolar disorder) anxiety disorders (e.g., generalized anxiety and panic disorders), and late-life schizophrenia. Psychiatric disorders are more prevalent among older adults who have physical disabilities, experience limitations in activities of daily living, and nursing home residents.

Individuals with symptoms of depression often experience higher rates of physical illness, health care utilization, disability, and a higher need for long-term care services. In addition, depression in later life is associated with poor health habits and diminished adherence to treatment for co-existing medical disorders. A combination of significant alcohol or substance use and depressive symptoms has been found to be associated with a high risk for suicidal ideation and poor physical well-being. The rate of suicide, which is frequently a consequence of depression, is highest among older adults, particularly men aged sixty five and older.

Despite the prevalence of late-life psychiatric disorders and significant increases in knowledge regarding the effectiveness of several psychotherapeutic and pharmacologic interventions over the past couple decades, mental illnesses remain under recognized and undertreated in older adults. It is estimated that approximately half of older adults with a recognized mental disorder do not receive mental health services and those who do are more likely than their younger counterparts to receive inappropriate or inadequate treatments.

Mental illnesses have a significant impact on older individuals' health and functioning and are associated with increased health care use and approximately fifty percent higher costs. For example, late-life mental illness is associated with impairments in independence, functioning, and cognition, as well as poor medical and health outcomes, high medical comorbidity, increased disability and mortality, and compromised quality of life as well as increased use of health care, placement in nursing homes, increased burden on medical care providers, and higher annual health care costs.

Many older adults prefer to receive mental health care from their primary care providers. However, most primary care practitioners lack training in geriatrics or mental health. Primary care clinicians often fail to detect and treat mental disorders and suicidality in older patients. Surveys of such practitioners indicate that the majority (seventy five percent) harbor a belief that depression is understandable in older individuals.

Older adults are at increased risk for alcohol use-related problems and accidental or intentional misuse of prescription medications[1]. Older adults are more susceptible to the effects of alcohol on the brain and physiological changes in the body associated with aging lead to prolonged alcohol in the body.

[1] Information regarding substance use disorders in older adults can be obtained from SCCMHA's *A Guide to Evidence-Based Practices for Individuals with Substance Use Disorders*.

Older adults with psychiatric disorders often have comorbid medical conditions that complicate their treatment and long-term stability. Psychiatric disorders, particularly depression, in older people often co-occur with heart disease, stroke, cancer, and arthritis. And, depression is associated with a shortened life expectancy.

The prevalence of Alzheimer's disease is approximately two percent among persons aged sixty to sixty four, but increases exponentially every five years thereafter, reaching forty percent among persons older than eighty. The prevalence of the other common dementias, including vascular dementia, the combination of Alzheimer's disease and vascular dementia, and dementia with Lewy bodies, ranges from fifteen to twenty percent.

This document is divided into sections, the first of which offers a brief overview of key concepts regarding evidence-based practices. It is followed by a section on cultural issues in the assessment and treatment of mental illness in older adults and stigma along with a discussion of culturally competent service delivery. The third section focuses on prevention and includes prevention of maltreatment, health promotion, future care planning, bereavement, and suicide prevention.

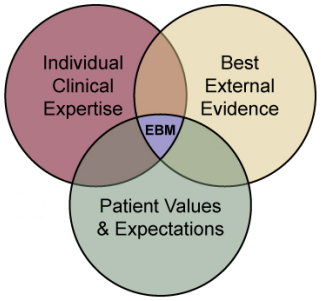
Section four contains information on working with families and other caregivers as well as effective services and supports that have been found to be of benefit to both formal and informal caregivers. The next session, which covers consumer empowerment, presents material on self-directed care, self-help and peer supports. The sixth section offers information regarding systems collaboration and includes discussion of comorbidities and working with the health care and long-term care sectors. It is followed by a review of effective models of service delivery. Psychosocial inventions[2] not previously discussed are reviewed in the next section followed by a section on somatic interventions including medications, light therapy, and ECT.

The final section consists of examples of validated instruments for screening, assessment, and monitoring that can be used for a variety of conditions. It is followed by a summary and conclusions and a number of appendices including a selected bibliography containing references used to compile this guide, resources for obtaining additional information on various topics, a glossary of terms, a quick reference guide, and home safety measures to accommodate dementia.

[2] Other practices that can be of benefit to older adults include Assertive Community Treatment (ACT), Dialectical Behavior Therapy (DBT), Family Psychoeducation (FPE), Illness Management and Recovery (IMR) are discussed in *A Guide to Evidence-Based Practices for Adults with Mental Illness*.

AN OVERVIEW OF EVIDENCE-BASED CONCEPTS

There is significant evidence to support the efficacy of a variety of interventions for geriatric mental health disorders. However, the implementation of such interventions in usual care settings has been limited. This has been ascribed to organizational barriers, bias and ageism among providers, inadequate financing of mental health services for older persons, and a lack of collaboration and coordination between providers. The different priorities, capacities, and levels of expertise between primary care, long-term care, and specialty mental health providers in the areas of aging and mental health care further complicate implementation of evidence-based interventions. These barriers are exacerbated by shortages of professionals who have training and expertise in geriatric mental health care.



The term evidence-based practice (EBP) or evidence-based medicine (EBM) has been defined in various ways. For purposes of this guide, it is defined as: (1) the integration of the best research evidence with (2) clinical expertise and (3) consumer values. The term best practices is often used interchangeably with the term evidence-based practices, but actually refers to the best practice or approach at the time, given the situation, the consumer's needs and desires, the evidence regarding what works for the particular situation/need/desire, and available resources. This term is also used to describe guidelines or practices derived from clinical wisdom, professional organizations, or other consensus approaches that may not include systematic incorporation of available research evidence.

Various means of grading the strength of evidence have been developed. The highest level of evidence is derived from controlled clinical trials with random assignment (known as RCTs) of subjects from similar groups to the experimental care or routine care. Outcomes from such trials that are then replicated in studies outside a controlled environment provide the highest level of evidence that a practice is both efficacious (i.e., produces positive results in controlled experimental research trials) and effective (i.e., tested in randomized experimental trials under conditions that reflect usual or routine care). One system, known as Sackett's rules of evidence, is based on five levels of evidence:

Level I: Large randomized trials, producing results with high probability of certainty. These include studies with positive effects that show statistical significance and studies demonstrating no effect that are large enough to avoid missing a clinically significant effect.

Level II: Small randomized trials, producing uncertain results. These are studies which have a positive trend that is not statistically significant to demonstrate efficacy or studies showing a negative effect that are not sufficiently large to rule out the possibility of a clinically significant effect.

Level III: Non-randomized prospective studies of concurrent treatment and control groups, i.e., cohort comparisons between contemporaneous subjects who did and did not receive the intervention.

Level IV: Non-randomized historical cohort comparisons between subjects who did receive the intervention and earlier subjects who did not.

Level V: Case series without controls. The clinical course of a group of consumers is described, but no control of confounding variables is undertaken. This is a

descriptive study which can generate hypotheses for future research but does not demonstrate efficacy.

Another has been put forth by the Scottish Intercollegiate Guidelines Network which uses the following levels of evidence:

1^{++} High quality meta-analyses, systematic reviews of RCTs, or RCTs with a very low risk of bias
1^{+} Well-conducted meta-analyses, systematic reviews, or RCTs with a low risk of bias
1^{-} Meta-analyses, systematic reviews, or RCTs with a high risk of bias
2^{++} High quality systematic reviews of case control or cohort studies
High quality case control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal
2^{+} Well conducted case control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal
Case control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal
3 Non-analytic studies, e.g., case reports, case studies
4 Expert opinion

Irrespective of which grading system is chosen, it is important to evaluate evidence that is presented and have an understanding of its strengths and merits. In general, it is recommended that EBPs meet the following criteria:

- At least two RCTs with at least thirty subjects with independent replication of the findings
- Publication in peer-reviewed journals
- High quality meta-analyses and systematic reviews of RCTs
- Demonstrated sustained effectiveness in everyday practice settings
- A theoretical underpinning that explains why the practice works
- A manual to guide implementation of the practice
- A fidelity measurement tool to ensure adherence to the key elements of an EBP and which are critical to achieving positive results

It should be noted that evidence-based practices are not available for all needs and problems and, even when evidence-based practices are available, they do not always produce beneficial outcomes for all consumers. In such situations, promising practices and emerging practices can be consulted. Promising practices are those for which there is considerable evidence or expert consensus and show promise in improving outcomes but which have yet to be proven by the highest or strongest scientific evidence. Emerging practices are new innovations in practice but do not yet have scientific evidence or broad expert consensus support.

The Substance Abuse and Mental Health Services Administration (SAMHSA) classifies and describes effective programs in the National Registry of Effective Programs and Practices (NREPP) which can be found at http://www.nrepp.samhsa.gov.

THE ETHNOCULTURAL CONTEXT

Culture has been defined as the shared values, traditions, norms, customs, arts, history, folklore, and institutions of a group of people. Culture shapes the manner in which individuals view their world and function within that world as well as personal and group values and attitudes, including perceptions regarding what is and is not effective, what is helpful and what is not, and what makes sense and what does not.

Race and ethnicity are commonly thought to be dominant elements of culture, but an accurate definition of culture is much broader. Ethnic and racial groups in the United States are typically categorized broadly as African American, Hispanic, American Indian and Native Alaskan, or Asian American and Pacific Islander. But, these broad categories can mask substantial differences within groups; the larger group may only share physical traits, language, or religious backgrounds. In other words, they fail to capture the extensive array of cultural differences that can affect the definition of illness and selection of treatment. For example, Holocaust survivors of different national origins (e.g., Vietnamese, Laotians, Haitians, Somalis, Afghans, Bosnians, Ethiopians, and Russians) have been found to have specific health care needs despite the prevalence of PTSD among some recent immigrant groups. Hispanics/Latinos residing in the United States represent over seventeen Spanish-speaking countries, and, while some have been in the United States for generations, others are newly arrived immigrants.

Understanding culture helps avoid stereotypes and biases that can undermine effective service delivery. It also helps promote a focus on the positive characteristics of a particular group as well as an appreciation of cultural differences.

Ethnic and cultural factors influence manifestations of psychiatric disorders, reporting of psychiatric symptoms, diagnoses, and treatments (e.g., ethnic differences in pharmacokinetics and pharmacodynamics that contribute to differential responses to psychotropic medications). Additional cultural factors that can impact service provision include educational level, income level, geographic residence, identification with community groups (e.g., religious, professional, community service, and political), individual experiences, place of birth, length of residency in the country, and age.

The melting pot viewpoint asserts that diverse groups melt or assimilate into the mainstream culture by adopting its values, beliefs, behaviors, and attitudes, while the salad bowl viewpoint asserts that diverse groups do not melt into the majority culture and their differences are unique and valued like each ingredient in a salad. Diverse groups experience degrees of assimilation, but cultural differences (including group affiliations) remain significant.

Language differences, symptom presentations, and help-seeking behaviors unique to specific cultures may impede effective identification and treatment of mental illnesses.

The beliefs, customs, and traditions of people from other cultures are often at odds with Western medicine's emphasis on science, scientific reasoning, and biological causes of illnesses (e.g., bacteria, viruses or environmental causes) which other cultures may attribute to natural, supernatural or religious/spiritual causes (e.g., the yin and yang are out of balance; the person has broken a taboo; or the person has been thinking or doing evil). Westernized mental health treatment modalities that tend to be dependent upon verbal inquiry, interaction, and response may not fit the cultural beliefs and practices of a number of minority groups.

For example, some Asian cultures believe that suffering is inevitable. Traditional Chinese culture values shielding patients from detailed discussions regarding the severity of an illness, which directly conflicts with contemporary Western medical practices. Older Asian adults may

not disclose their non-Western health beliefs, including the use of herbal medications or alternative health procedures, unless directly asked. Hispanics/Latinos, irrespective of country of origin or duration in the United States, are characterized by a significant level of interdependence among family members that can preclude effective health care planning with only one family member; discussions regarding treatment and health care decision-making often take place within the context of a very extended family (e.g., godparents, close family friends, former spouses). In addition, Cultural rituals and practices that incorporate the spirit (el espiritu) as part of the health equation (e.g., the balance of the body, mind and spirit). They may also view pain and suffering as a test of faith (which can impede effective pain management and discussion regarding advance directives).

The Cultural Sensitivity Continuum:
Fear (others are viewed with trepidation and contact is avoided)
Denial (the existence of the other group is denied)
Superiority (the other group exists but is considered inferior)
Minimization (the group is acknowledged, but the importance of cultural differences is minimized - e.g., "we're all human after all")
Relativism (differences are appreciated, noted and valued)
Empathy (a more full understanding of how others perceive the world and how they are treated is achieved)
Integration (assessment of situations involving members of other cultures can be accomplished and appropriate actions undertaken)

A common cultural misconception is the underestimation of the needs for formal support for ethnic elders based on the assumption that minorities take care of their elders within the family. And, while data shows that older persons with dementia and other psychiatric disorders are cared for principally by their families, gender, ethnic and cultural variations in response to the demands of caregiving have been identified. For example, male caregivers generally report less distress than their female counterparts. Middle-aged daughters report the highest levels of distress. Hispanic/Latino women caregivers have been found to have the highest levels of depression while African American women have been found to have the lowest levels of depression and other symptoms of distress. Although few subgroups of Asian Americans have been studied, most Asian American women do not complain about caregiving or report psychological distress; their distress tends to be expressed in physical complaints (e.g., stomach problems and fatigue). Some studies have found that African-American caregivers use fewer formal in-home services than their Caucasian counterparts. Members of some minority groups may find it difficult to publicly admit that a family member has Alzheimer's disease and hence may be reluctant to seek help with caregiving issues.

Older persons are the fastest-growing immigrant group and seventy percent of recent older immigrants speak little or no English and most do not drive. There is evidence that this group disproportionately experiences depression and psychological problems due to language barriers, lack of social connections, and values that sometimes conflict with the dominant American culture, including those of their children who have assimilated into the dominant culture. While many are aging parents of naturalized American citizens who have reunited with their families, they have been found to be socially isolated because, unlike their children, they lack opportunities to become bicultural through school and employment. Older immigrants are considered to be a vulnerable population that is reliant on their children. According to census data, about sixteen percent of older immigrants live below the poverty line, compared with twelve percent of older native-born Americans and another twenty four percent are near-poor.

Older individuals from minority groups have been found to experience poorer health, more functional impairments, have more limited educations and lower incomes, receive inadequate health and mental health care, and are more likely to seek care from primary health care providers, where their mental health and substance abuse problems are often undetected and

not treated. They also experience a number of barriers to accessing adequate care including language and communication difficulties, feelings of isolation, transportation problems, encounters with service providers who lack knowledge of their culture, and socioeconomic challenges including higher rates of poverty.

Providers can underestimate the needs for formal support for older people from minority cultures based on the assumption that minorities take care of their older members within the family. However, while research finds that a significant proportion of older minority members reside with their families, it also indicates that the many responsibilities of minority families can make caregiving for elders overwhelming without additional support.

Race and gender have been found in some studies to be predictors of dementia with findings indicating higher frequencies of dementia among persons of color. Alzheimer's disease and vascular dementia have been found to be more prevalent among African Americans and Hispanics/Latinos as well as women.

African Americans have been found to underutilize mental health services. Identified barriers include lack of insurance and transportation, family responsibilities, concerns regarding involuntary hospitalization, and stigmatization. Studies of African Americans' patterns of help seeking and service use for depression have revealed lower use of mental health specialists and more reliance on informal support (e.g., friends or ministers) for emotional difficulties. In addition, like older persons in general, African Americans are more likely to consult primary care physicians than psychiatrists for mental health treatment.

LGBT CULTURES

There is a dearth of research on the mental health needs of older gay, lesbian, bisexual, and transgender individuals. Some studies indicate that these individuals may be at increased risk for psychiatric disorders and mental health problems due to exposure to societal stressors (e.g., prejudice, stigmatization, and anti-gay violence). Social support, an important component of mental health for all older people, may be especially critical to this population of older people, yet they are more likely to be socially isolated; they tend to be childless, may be estranged from their families, and often live with enduring social stigma that resulted from their orientation in previous generations.

Many LGBT individuals have been found to be reluctant to disclose their sexual orientation to their health care providers, particularly those who reached adulthood at a time when society was even less accepting of homosexuality. Surveys have found that discrimination based on sexual orientation is common in health care and social service settings, and often results in avoidance of seeking health care by LGBT individuals.

Older LGBT residents of nursing homes and assisted living facilities as well as their partners and friends, have been found to experience mistreatment, disrespect, and rejection. Moving LGBT residents to placate others is a common practice. Many report the need to remain closeted in fear, reminiscent of the time when homosexuality was considered to be a crime and a mental illness. LGBT Aging Projects are being implemented across the country to train long-term care providers. However, at the same time, opportunities for separate care to enhance comfort via interaction with the familiar are also being developed and LGBT geriatric case managers are becoming more available to provide guidance regarding services and supports.

STIGMA

Although the current older population is healthier, more educated, and more involved in community activities than previous generations, negative stereotypes of older adults persist (e.g., they typically have a physical disability, suffer from senility, and are disconnected from

social activities). Stereotypes regarding aging and unrealistically diminished expectations for health can result in dismissing or minimizing problems and symptoms of treatable illnesses as an inevitable part of aging by older patients and health care providers resulting in needless discomfort and disability. Some individuals may not even seek treatment for serious conditions.

Older adults with psychiatric disorders confront the dual stigmas of being elderly in a youth-oriented culture and of having illnesses that are inadequately understood and accepted. This dual stigma is compounded for persons from racial and ethnic minorities and those who reside in rural communities. Older individuals are often fearful of acknowledging a mental illness. And those with serious mental illnesses have been found to receive lower quality of care, have higher mortality rates, and are three times more likely to be placed in nursing homes than other older adults.

Lack of a political voice and a societal bias society favoring youth and health can result lack of attendance to the needs of aging people with serious mental illnesses such as schizophrenia whose challenges are compounded by early neuropsychological deficits and an accumulation of lifetime deprivations such as a limited education, unemployment, institutionalization, and further declines in cognitive function in later life.

Evidence indicates that a significant proportion of the public believes that individuals with mental illness have a much higher potential for violence than is supported by studies. In addition, there is a widespread belief that individuals with mental illnesses are unable to function effectively in society. Such myths promote the devaluation of persons with mental illnesses and are often perpetuated by media portrayals showing such persons as dangerous or incapable of recovery. These biases and fears can impede meaningful community integration. Older adults may internalize these attitudes and fail to seek treatment for mental health problems. Fears of being labeled “insane” or losing one’s independence can result in avoidance of treatment or learning about mental health issues, particularly for older adults who matured into adulthood when treatments for mental illnesses were less effective and regarded with fear.

Programs that promote dignity and respect can help mitigate stigma and effectively engage older adults with mental illnesses in treatment. These include multiple-family group therapy, pathways to housing, and peer counseling, support, and mentoring programs.

CULTURAL COMPETENCE

Cultural and linguistic competence in health care delivery is an emerging approach to eliminating racial and ethnic disparities in health status. Cultural competency entails the use of methods that build on strengths, understanding, and respect for minority cultures, and utilizing the strengths, perspectives, and strategies which older adults and their families identify for themselves as being most effective. It also includes matching intervention materials and messages to the characteristics of the population being served. Culturally competent audiovisual materials include people, places, language, music, food, and clothing familiar to and preferred by the target audience as well as the identification of channels (e.g., media) and settings (e.g., churches, senior centers) most appropriate for the delivery of messages and programs.

Culturally appropriate service delivery requires identifying socio-demographic and racial/ethnic population differences and the ways ethnic, cultural, social, environmental and historical factors can influence specific behaviors. Culturally acceptable service provision requires addressing cultural barriers including consideration of ethnic factors (e.g., language, religion, family, and acculturation) and the provision of outreach, translation, interpretation, transportation, cultural training for staff, and the use of bilingual/bicultural paraprofessionals. Research suggests that cultural matching of providers and consumers is ideal, yet limited availability of bicultural/bilingual staff often precludes this.

Culturally Competent Organizations:

- *Value diversity*
- *Have the capacity for cultural self-assessment*
- *Are aware of the inherent dynamics when cultures interact*
- *Take into consideration how and where services are provided*
- *Institutionalize cultural knowledge*
- *Adapt service delivery based on an understanding of cultural diversity*
- *Deliver programs and services in a way that reflects the culture and traditions of the people being served*
- *Include consumers and community members in the planning, delivery, and evaluation of services*
- *Have policies and procedures for staff recruitment, hiring, and retention designed to create a diverse and culturally competent workforce*
- *Offer outreach, translation, and interpretation services*

Guidelines for communicating in a culturally competent manner have been developed and include the following:

- Publications should be in the language of the target population to ensure the materials are meaningful and do not include potentially offensive passages.
- Literal translations of existing material should be avoided because they lose meaning when syntax and vocabulary are not within cultural contexts.
- Pictures that include the targeted group should be used to promote relevancy.
- Outreach materials (e.g., presentation, brochures, flyers, and posters) should be distributed in places frequented by the target audiences (e.g., hair salons, barber shops, day spas, laundromats, dry cleaners, video stores, grocery stores, libraries, and restaurants, churches, sororities and clubs).

CULTURE BROKERS

Culture brokering has developed as a response to addressing the diverse belief systems related to health, healing, and wellness; cultural variations in the perception of illnesses, diseases and their causes; cultural influences on help-seeking behaviors and attitudes toward health care providers; and the use of indigenous and traditional health practices. Culture brokers can help bridge gaps in the knowledge and skills needed by health care practitioners to effectively address cultural differences and assist in the development of educational materials for consumers and provide guidance on workforce diversity initiatives.

People tend to have an ethnocentric view in which they see their own culture as the best. Some individuals may be threatened by or defensive about cultural differences.

Cultural brokers are knowledgeable about health values, beliefs, and practices within their cultural group or community, navigating the health care system, and can serve as communicators and liaisons between consumers and providers. They can help mitigate the historical and inherent distrust that many minority groups have toward health care providers and organizations as well as help reduce biases, prejudices, and other institutional barriers. Studies

have shown that consumers who have positive experiences with cultural brokers have a better understanding of their diagnoses and treatments and are more likely to continue to access services and adhere appropriately to treatment regimens. Providers are able to elicit more in-depth information for accurate assessment, diagnosis, and treatment as well as communicate diagnoses and risks associated with different treatment options.

INTERPRETER SERVICES

Health care providers may ask family members or friends of older adults who do not speak English to function as interpreters. However, this enhances the risks for misinterpretation and transmission of inaccurate information, particularly when translators are young children. As a result, state laws prohibiting the use of family members as interpreters have been enacted. In addition, a number of organizations have developed guidelines regarding the implementation of language services in health care organizations which include the following:

- A qualified interpreter should be used in the absence of staff fully fluent in the target language.
- Family members or friends should not be used to interpret unless the person is aware of the option of having a qualified interpreter and prefers to use a family member or friend.
- Young children or youth should never be used to interpret.
- Untrained health care workers or employees of the provider should not be used to interpret.
- Qualified interpreters who have passed qualification standards and complete continuing interpreter education programs should be used for interpreter services.
- The use of telephone language lines should be limited to instances of absolute necessity.

PREVENTION

Although mental health prevention efforts are most often considered with regard to younger persons (i.e., children and adolescents), preventive measures have been found to be effective for older persons. For example, routine screening of older at-risk individuals followed by appropriate interventions can be effective in reducing the risk of developing, exacerbating, or experiencing the consequences of a psychiatric disorder (e.g., depression, suicidality, dementia, and substance abuse). In addition, treatment-related prevention (i.e., prevention of excess disability) has also proven beneficial to older persons. Such strategies focus on limiting disability, preventing relapse or recurrence of symptoms, or postponing or eliminating the need for institutionalization.

However, screening older adults for mental illnesses is complicated by comorbid medical conditions and a tendency to express somatic complaints rather than psychiatric symptoms. Screening older adults in institutions may focus on disabilities rather than strengths and can thus result in inappropriate treatment. In addition, failure to ascertain other potential sources of support (i.e., community and family) can lead to premature long-term care facility placement by overlooking informal caregivers who could help them in the community for a greater length of time.

Effective Prevention Program Elements:

- *Outreach*
- *Peer support*
- *Age-appropriate materials*
- *Family and caregiver involvement*
- *Health screening (including checks for nutrition and medication side effects)*
- *Health habit improvement strategies*

Preventive interventions focus on decreasing risk factors (e.g., social isolation, poverty, relationship loss and bereavement, chronic illness, caregiver burden, and loss of meaningful social roles) that place older adults at risk for developing mental disorders or suffering a relapse of a current condition and increasing protective factors (e.g., include social support; support groups; health and social services; and opportunities for new, productive social roles) that improve resistance to negative outcomes.

Treatment-related prevention for older persons with psychiatric disorders entails preventing relapse or recurrence as well as preventing side effects and adverse reactions from medications, particularly polypharmacy for multiple conditions.

Prevention of excess disability for older persons with mental illnesses focuses on reducing functional impairments associated with severe and persistent mental disorders by targeting medical, psychosocial, and environmental factors that contribute to excess disability. For example, studies show that treatment of depression, anxiety, and other psychiatric disorders has the potential to reduce the functional limitations associated with concomitant psychiatric and somatic disorders and maximize functional capacity.

Prevention of premature institutionalization by delaying such care until it is absolutely necessary is generally preferred by caregivers and care recipients and has significant impact on cost savings. For example, interventions to reduce behavioral problems associated with dementia, caregiver education and training, and day care have been shown to postpone or prevent nursing home placement.

Primary preventive efforts for persons with dementia are designed to reduce the incidence and prevalence of behavioral disturbances using cognitive-behavioral interventions and cholinesterase therapy during the early phase of Alzheimer's disease and Lewy body disease, as well as providing education to family members and encouraging them to participate in special

training (e.g., Progressively Lowered Stress Threshold, PLST), humanizing the environment in nursing homes and other similar approaches in long-term care, and education for health care providers. The goal of secondary prevention is to reduce the need for hospitalization, institutionalization, and occurrence of life-threatening complications associated with severe behavioral disturbances. Interventions include rapid use of safer, effective pharmacologic treatment for psychiatric symptoms (e.g., psychosis), limiting the use of drugs associated with a high risk of adverse events (e.g., antipsychotics and benzodiazepines) for emergency situations, aggressive use of non-pharmacologic interventions, and early recognition and treatment of secondary causes of behavioral disturbances.

A new model for health promotion postulates that healthy aging is contingent upon preventing disease and disability, sustaining high levels of cognitive and physical functioning, and engagement in meaningful interpersonal and other activities (i.e., maintaining interpersonal relationships and engaging productive activities defined by paid or unpaid activities that generate goods or services of economic value). These three major elements are considered to act in concert; no single one is deemed sufficient by itself for successful aging. This new model thus broadens health promotion in aging to more than just disease prevention.

Exercise has been demonstrated to help older adults maintain health and independence. Its proven benefits include strengthening muscles, improving heart and lung function, prevention of osteoporosis, and enhancing mood and overall well-being by maintaining healthy bones and joints, helping control weight, improving mood and sense of well-being, reducing the risk of falls, and strengthening muscles including the heart. Epidemiologic studies show that higher levels of physical activity or exercise in older people are associated with reductions in risk of cognitive decline and dementia. In fact, studies show that even moderate exercise, such as brisk walking, is associated with reduced risk, particularly executive function (i.e., cognitive abilities involved in planning, organizing, and decision making). In addition, studies have shown that regular moderate exercise helps alleviate caregiver stress with reductions in elevated stress-related blood pressure, psychological distress, and depression as well as improvements in sleep quality.

It is recommended that mentally stimulating activities that entail involved significant information processing (e.g., listening to the radio, reading newspapers, playing puzzle games, and going to museums) be used to reduce risk for dementia. Individuals who engage in more mentally stimulating activities and spend more time at them during their early and middle adulthood have been shown to accrue benefits experience less cognitive decline. In addition, studies show that older adults who maintain an active social network and participate in many social activities tend to have less cognitive decline and a reduced risk of dementia.

PREVENTION OF MALTREATMENT

Older adults with dementia have been found to be at higher risk for emotional, physical, sexual, and financial abuse and neglect. The behavioral symptoms of Alzheimer's disease appear to increase risk for abuse by caregivers. Signs of abuse or neglect include malnutrition, non-adherence to medication regimens, bruises, decubiti, poor personal hygiene, and other evidence of trauma and signal the need for interventions such as supportive counseling, individual or family psychotherapy for caregivers, respite or in-home care services for care recipients, or alternative living situations.

Studies show that older women are abused at a higher rate than their male counterparts and individuals who are eighty years and older are abused and neglected at two to three times their proportion of the elderly population. The majority (almost ninety percent) of abuse and neglect occurs from a known perpetrator; two-thirds are adult children or spouses. It is estimated that rates of physical and emotional/psychological abuse and financial/material exploitation by

caregivers (family or nonfamily members) to range up to five percent. Abuse has been found to be most likely when the person has dementia or late-life depression, both of which impart relatively high psychological and physical burdens on caregivers.

A number of risk factors have been associated with maltreatment including:

- Advanced age
- Cognitive, function, or physical impairment
- Diminished or poor health status
- Depression
- Inadequate personal resources
- Physical impairment
- Mental illness, substance use disorder
- Social isolation or lack of a social network
- Dependency on others
- A past history of abusive relationships
- Poverty
- Absence of available significant others or peers
- Caregiver stress/frustration
- Caregivers with a mental illness/ substance use disorder
- Caregivers with inadequate financial resources
- Caregivers with health problems
- Feelings of powerlessness
- Impaired psychosocial health
- Financial or other family problems
- Residing in inadequate housing or unsafe conditions

A range of interventions for protection against abuse of older people have been developed including caregiver participation in support groups and training programs for behavioral management (especially for Alzheimer's disease) and social services programs (e.g., adult protective services, advocacy services, and out-of-home placements). However, controlled studies of these services are limited.

HEALTH PROMOTION AND WELLNESS PROGRAMS

Older adults have been found to benefit from information regarding strategies to maintain their mental and physical health. Health promotion programs focus on educating older adults about ways to increase control over and improve their health in a variety of areas (e.g., nutrition, physical activity, mental health, alcohol and substance use reduction, tobacco use, etc.). Wellness programs, a type of health promotion program, encompass mental, physical, and spiritual features and, like health promotion programs, provide structured opportunities to increase knowledge and skills in specific areas (e.g., stress management or environmental sensitivity) and provide a supportive environment in order to foster awareness of health and quality of life issues. These programs are typically short-term and educational rather than therapeutic.

Health promotion and wellness programs can help promote mental health by assisting older individuals to normalize the aging process and optimize their potential by encouraging self-expression, acquiring effective coping skills, improving social skills, fostering peer support, and addressing key transitions and losses. The goal of these preventive interventions is to help older adults find pleasure and meaning in their lives, use appropriate supports, and maintain or assume as much control over their lives as possible. Wellness and health promotion programs can also provide linkages to appropriate resources.

One strategy used by health promotion and wellness programs to promote mental health is developing a **social portfolio**, which is a program of activities and interpersonal relationships that balances individual with group activities, and high mobility/energy activities requiring significant physical exertion with those of low mobility/energy. Social portfolios are designed to help older individuals develop new strengths and satisfactions. The provision of education by wellness and health promotion programs to older persons about the types of activities that can be pursued can help them identify potential components of their social portfolios.

ENHANCEWELLNESS

EnhanceWellness is an outpatient intervention for adults aged fifty five and older who have chronic health conditions (e.g., heart disease, high blood pressure, and arthritis) that is individually tailored and designed to help participants improve self-management of those conditions and minimize attendance problems such as unnecessary use of prescription psychoactive medications, physical inactivity, depression, and social isolation.

The program is delivered at senior centers and other community locations and is designed to complement medical interventions provided by each participant's primary medical treatment team. Participants are referred by their primary care physician or a community-based provider. They meet with an EnhanceWellness provider who is usually a registered nurse (RN) or social worker trained in motivational interviewing and transtheoretical behavior change. Participants receive coaching in the development of a tailored health action plan that identifies risk factors the participant has selected to work on as well as goals for making changes in those risk factors. Participants are encouraged to enroll in any or all of the three core offerings:

- EnhanceFitness, an evidence-based exercise class provided at various community locations or exercise regimen at home or with another group.
- The Chronic Illness Self-Management Course, which consists of a series of two and one half-hour classes offered once a week for six weeks that combine peer support with health promotion information and disease self-management concepts, and includes a self-management workbook titled *Living a Healthy Life With Chronic Conditions*.
- Peer support provided by a trained volunteer (health mentor).

The EnhanceWellness provider monitors each participant's progress toward health goals through follow-up visits and telephone calls and informs the primary care physician of progress made. Participants typically remain in the program for six months and graduate when they attain the goals outlined in their health action plan.

Outcome studies show that participation leads to reductions in the use of prescription of psychoactive medications, time spent in bed-rest due to disability, and hospitalizations as well as improvements in ADL functioning, and increased activity levels. Information on this program can be found at http://www.projectenhance.org/ as well as the SAMHSA NREPP Web site.

FUTURE-CARE PLANNING

Family caregivers assume many important roles in the lives of consumers who reside elsewhere including finding services for their relative and monitoring the quality of those services, providing social and emotional support, and serving as a last resort when the system fails. Research indicates that even when housing and supervision are provided by the mental health system, parents continue to provide companionship and financial aid through supplemental resources such as food, clothing, and other necessities. Parents are also frequently the primary source of security and psychological support for consumers, roles that must be transferred elsewhere when parents become unable to fill these roles due to frailty or after their death. Studies indicate that individuals with serious mental illnesses experience disruptions to housing and potentially traumatic transitions when caregivers die.

Older adults experience a number of losses (e.g., meaningful work, death of relatives and friends, and declining health) which can cause increased difficulties in coping with the additional stresses of caregiving. Parents of children with disabilities also experience the challenges of lifelong care and, unlike other older parents, never completed childrearing. While studies indicate that family members struggle with issues regarding what will happen to their relative when they are gone, parents may nonetheless delay planning and become too frail to address

the issue resulting in poor quality of life for both consumers and their aging caregivers because of a lack of alternative arrangements.

Planning for the future is important for aging parents caring for adult children with mental illnesses. National data indicates that about forty two percent of individuals with serious mental illnesses live at home while about fourteen percent live in supervised housing. Eighty five percent or more of family caregivers are parents, many of whom are elderly. Thus, significant numbers of families are confronting the issue regarding where their relatives with mental illnesses will live when their parents can no longer provide care. And, the mental health system may become overwhelmed with demand for services and support as members of the baby boom generation loses parental caregivers. Lack of proactive planning to ensure continuity of care may result in trauma for consumers when their parents become too frail to care for them or die.

Identified barriers to planning include difficulty relinquishing long-standing caregiving routines, interdependency, unappealing or unavailable residential options, lack of information and assistance with planning, fears that children will not be able to effectively adjust to change, parents' inability to accept their own mortality, frequent or episodic changes in behavioral symptoms and general level of functioning making it difficult to anticipate future caregiving needs. Additionally, the service delivery system also goes through frequent changes, making it difficult for families to know what services can be relied upon in the future. They may be concerned about the adequacy of community programs and the resistance of their relative to transitioning to the care of others.

Reluctance to engage in advance care planning may also be the result of an interdependent relationship between parents and children in which the needs of both are met through companionship, sharing household chores, and supplementing each other's finances. Parents may have difficulty envisioning a plan which serves the needs of their child as well as in the parental home. Parents who have developed and honed strategies over the course of years for coping effectively with unique situations may fear that no one else will be able to match their level of support and hence the well-being of their child will be compromised.

While some parents can depend on their other children to help an adult sibling with a disability, many cannot as most siblings have work and other responsibilities, including families of their own, and are thus unable to devote time and energy to caregiving. Moreover, research indicates that siblings of individuals with mental illnesses can experience a significant psychological burden that negatively impacts the caregiving role.

It is recommended that consumers with aging parents be identified, the entire family and other involved members of the natural support system be involved in planning and preparing for the future, and consumers be provided with assistance in facing parental loss and coping with anxiety regarding their future. In addition, it is recommended that care transitions occur as gradually as possible and be initiated when parents are still able to provide support in the process. Helping ensure the range of services provided by the parents is maintained (e.g., money management, cleaning and laundry, shopping and cooking, transportation, medication management, etc.) prior to the onset of parental disability can help alleviate fears and anxiety. Ideal plans include:

- A living trust, durable power of attorney for health care and finances, and other estate planning including special-needs trusts for those with more modest means in order to leave their family members with disabilities with resources for clothing, haircuts, or an occasional movie, without imperiling their federal entitlements, particularly Medicaid benefits
- Determination of who will take responsibility for the person (e.g., guardian, conservator)

- Contact information for nonfamily caregivers that includes emergency phone numbers, current problem behaviors and possible solutions, ways to calm the person, assistance needed with toileting, feeding, or grooming, and favorite activities or food
- Preselected long term care options (nursing homes, board and care facilities)
- Advance directives[3]

Programs have been developed to help families develop future care plans, establish resources, and identify the individual(s) or program(s) responsible for implementing plans. These programs are designed to help families plan for the future of an adult child with a disability by proactively ensuring resources for maintaining or improving their quality of life. In addition, some private agencies provide lifetime assistance to individuals with disabilities whose parents or other family members are deceased or no longer able to provide care. These agencies monitor care, respond to crises, and help in other ways.

The **Planned Lifetime Assistance Network (PLAN)** provides planning for lifetime assistance to individuals with disabilities whose parents or other family members are deceased or no longer able to provide care. Parents pay for services through their personal resources or trust arrangements. PLAN programs were developed to meet the needs of families who are actively planning the future of an adult child with a disability. Most PLAN programs also provide services to give parents respite from part of the daily burden of care. Programs for individuals with mental illnesses are made available through the National PLAN Alliance (NPA) (http://www.nationalplanalliance.org/). An evaluation of some PLAN programs found that participation leads to reductions of family stress, anxiety, and a more satisfying lifestyle for participants with disabilities.

BEREAVEMENT

Although older adults may experience losses with aging (e.g., social status and self-esteem, physical capacities, and the deaths of friends and family members), most have the capacity to develop new adaptive strategies. However, severe grief in response to the death of a close friend or family member has been found to be associated with a variety of physical and mental disorders including with persistent depressive symptoms. Grief after the death of a loved one is an important risk factor for depression. Spousal bereavement[4] has been found to be linked to declines in physical and mental health and increased mortality.

Studies indicate that ten to twenty percent of widows and widowers develop clinically significant depression during the first year of bereavement, and, without treatment, such depressions tend to become persistent and lead to further disability and impairments in general health, including alterations in endocrine and immune function as well as increase the risk for suicide. Bereavement-associated depression often coexists with another type of emotional distress, which has been termed traumatic grief, a blend of symptoms of both pathological grief and

[3] There are two types of Advance Directives: the Durable Power of Attorney for Health Care (DPAHC), also called a Health Care Proxy, and the Living Will (LW). A Durable Power of Attorney allows individuals to appoint a health care proxy, agent, or surrogate, to make health care decisions for them in the event of loss of the ability to make decisions or communicate their wishes. Living wills provide specific instructions to health care providers regarding health care treatments individuals would or would not want to prolong life and are often used to declare a wish to refuse, limit, or withhold life-sustaining treatment. Instructional or medical directives identify specific interventions that are acceptable to a patient in specific clinical situations. More information on this topic is available from *A Guide to Evidence-Based Practices for Individuals with Developmental Disabilities*.

[4] Although bereavement of less than two months' duration is not considered a mental disorder, it still warrants clinical attention because it is a highly stressful event and may cause or exacerbate psychiatric and medical disorders.

posttraumatic stress disorder, which are disabling, associated with functional and health impairments and persistent suicidal thoughts.

Risk factors for prolonged grief include a strong dependence on the close friend or family member prior to their death, suddenness of the death, lack of social support, and other co-occurring stressors (e.g., the concomitant loss of health or financial security, forced relocation, sacrificing a job to care for the dying person, or legal and practical problems related to the death). The loss of a close friend or relative can lead to adverse events culminating in serious physical illness or even homelessness.

Individuals with preexisting psychiatric disorders have been found to be especially vulnerable to depression and depression-related physical illnesses. Studies suggest the situational factors that are predictive of more prolonged, severe grief in the general population further complicate and burden the lives of people with serious mental illnesses beyond psychiatric symptoms. Stressors include emotional dependence, social isolation, or residing with the close friend or family member at the time of the death event. Persons with serious mental illnesses have been found to benefit from knowing that grief is a normal reaction to the loss of a loved one and cumulative life stressors, and not necessarily evidence of their illness or fragility.

It is recommended that practical planning for bereavement be offered to individuals with serious mental illnesses who are middle-aged and have aging parents. Such planning includes counseling, help with funeral arrangements, as well as proactive planning noted above. It is further recommended that such preparation for parental death and bereavement counseling efforts entail an approach to bereavement as a normal, rather than pathological, response to interpersonal loss.

A number of preventive interventions, including participation in self-help groups and group psychotherapy, have been demonstrated to prevent depression among widows and widowers. Self-help groups have been shown to ameliorate depression, improve social adjustment, and reduce the use of psychotropic drugs among widows. Self-help programs for bereavement include **They Help Each Other Spiritually (THEOS)**, and **Widow to Widow: A Mutual Health Program for the Widowed**. Evaluations of such programs indicate that participants display improvements on health measures (e.g., depression, anxiety, somatic symptoms, and self-esteem) and recovery of their activities and develop new relationships more rapidly.

SUICIDE PREVENTION

Individuals aged sixty five and older have the highest rates of suicide of any age group and their deaths from suicide exceed that of the national average, especially for Caucasian men aged eighty five and over whose rate is six times that of the general population. In addition, the majority of older individuals who complete suicide experienced clinical depression and visited a health care provider, usually in primary care, shortly before committing suicide, sometimes within the last few days or hours prior to the event.

More older adults who attempt suicide die as a result; one out of four older adults who attempt suicide dies in comparison to one out of one hundred to two hundred younger adults. Firearms account for the majority of suicides among community-dwelling older adults while in nursing homes methods commonly used include jumping

- **Older adults (age 65+) represent 13% of the U.S. population, yet account for nearly 20% of suicides, the highest of any age group.**
- **Older adults are less likely to report suicidal ideation compared to younger adults.**
- **Suicide attempts among older adults are more likely to be deliberate and lethal.**
- **The most frequent methods of suicide among older adults include the use of firearms (men: 77%; women: 34%) and poison (men: 12%; women: 29%).**
- **Men account for 82% of suicides among older adults and have a higher suicide rate than women (38 vs. 5.7 per 100,000 persons).**
- **More than half (58%) of older adults (age 55+) contact their primary care provider within 1 month prior to completing suicide.**

from high places, hanging, taking overdoses of medication, and cutting (presumably due to lack of access to firearms).

Suicide in older adults is strongly associated with late-onset depression[5]. Sixty to seventy five percent of individuals aged seventy five and older who successfully complete suicide had diagnosable depression. Several risk factors for late-onset depression have been identified including persistent insomnia, grief following the death of a loved one, physical illness, educational attainment of less than high school, impaired functional statues, and alcohol abuse.

RISK FACTORS FOR SUICIDE	
Mental illness ▪ Major depression ▪ Other mood disorders ▪ Psychotic disorders ▪ Co-occurring substance use disorders	**Substance misuse and abuse** ▪ Alcohol ▪ Prescription (e.g., benzodiazepines) and over-the-counter (OTC) medication
Physical illness, disability, and pain ▪ Poor physical health ▪ Functional impairments ▪ Pain ▪ Side effects of some medications ▪ Insomnia	**Personal and family history of suicide** ▪ A previous suicide attempt ▪ A family member who has died by suicide
Current life circumstances ▪ Social isolation ▪ Major life transitions, such as moving to a new setting ▪ Family conflict and loss ▪ Financial problems ▪ Lack of a sense of safety ▪ Losing autonomy, respect, supportive relationships, and participation in civic and social life ▪ Lowered expectations of others	**Personal characteristics** ▪ Inability to adjust to change ▪ Low health self-assessment ▪ Low self-esteem ▪ Hopelessness ▪ Impulsive or aggressive behavior ▪ Cultural or religious beliefs favorable to suicide, especially among older people
Access to means of suicide	

Despite the prevalence of depression and the risk it confers for suicide, depression is not well recognized or treated in primary care settings where the majority of older adults seek and receive health care. Studies show that undiagnosed and untreated depression in primary care settings play a significant role in suicide; suicide prevention strategies specifically designed for primary care settings include screening and treatment of depression.

Depression awareness and suicide prevention[6] are also important for nursing homes. Studies indicated that suicidal ideation and depression is more common among nursing home residents, particularly those recently admitted, fifty percent of whom are at increased risk for depression.

[5] Late-onset depression refers to a first onset after age sixty, and late-onset depression carries a high risk of recurrence.

[6] Nursing homes are required to conduct the Minimum Data Set (MDS) with all new residents which summarizes information on residents' cognitive, physical, and psychosocial functioning as well as communication, mood, behavior, symptoms, diagnosed conditions, and treatments. The MDS must be updated every three months. However, the MDS has been found to miss depression and does not assess for suicidal ideation and behavior. Moreover, there is considerable variation in the degree to which nursing homes and other types of senior living communities conduct other mental health screening for new residents on an ongoing basis.

The most common means of suicide in nursing homes include jumping from buildings, hanging, self-cutting, taking an overdose of medication, and refusing to eat, drink, take medication, or follow treatment plans.

There is a paucity of information regarding the efficacy of interventions aimed at preventing suicidality in older adults despite the high rate of suicide among this population. The literature indicates that the only evidence-based preventive intervention for late-life suicide is the identification and effective treatment of depression. And, screening for mental health issues can help with recognition and diagnosis of depression as well as substance abuse. Evidence indicates that universal, selective, and indicated programs can reduce the rate of suicide among older women but that such programs are not as effective for among older men.

PROTECTIVE FACTORS THAT CAN HELP PREVENT SUICIDE
Health care and mental health care ▪ Treatment for depression and other mental health issues ▪ Substance abuse treatment ▪ Treatment for physical illnesses and disabilities ▪ Promotion of health and wellness
Personal characteristics ▪ Resilience and perseverance ▪ Openness to experience ▪ Sense of meaning and purpose/Hope ▪ Self-esteem ▪ Skills in coping, problem-solving, conflict resolution, and nonviolent handling of disputes ▪ Cultural and religious beliefs that discourage suicide and support self-preservation ▪ Positive health practices and help-seeking behavior
Living situation ▪ Positive and pleasant physical environment ▪ Accessible environment that provides accommodations for physical limitations ▪ Restricted access to lethal means of suicide
Relationships ▪ Strong connections with family, friends, and the larger community ▪ Engagement in which purposeful recreational, social, spiritual, intellectual, and creative activities ▪ Strong social connections with family and caregivers

FAMILIES AND CAREGIVERS

Aging and the experience of declines in health lead to increasing needs for assistance which is most often provided by informal caregivers, most typically spouses and adult children. In fact, less than ten percent receive all of their care from paid staff and the economic value of unpaid services provided by informal caregivers exceeds that of paid providers. The average informal caregiver provides twenty to twenty five hours of assistance per week. However, caregivers who support individuals with dementia and end-of-life phases usually provide more intensive and frequent help. Family support, often supplemented by a safety net of neighbors, religious, civic, and public organizations, enables many older people to live independently despite functional limitations.

Contrary to the often-held view that our increasingly mobile society relegates the care of older adults to impersonal or institutional care, the majority reside in the community within family settings where relatives provide uncompensated care to them.

Informal caregivers assume a number of responsibilities including coordinating, arranging, and participating in medical appointments and treatment decision-making, monitoring the person's health status, handling billing questions, advocating for needed services and attention, and helping coordinate transitions across settings of care (e.g., from hospital to home). These informal providers also help with activities of daily living and personal care as well as wound care, injections, and medication administration. Many families also provide support to older relatives in assisted living facilities, nursing homes[7], and other senior housing settings.

Health-Related Roles and Functions Provided by Informal Caregivers

Roles	Functions	Tasks
Companion	Emotional support	Leisure activities, discussion and help with problems,
Coach	Encouraging self-care activities	Prompts for engagement in health care, lifestyle (diet, exercise), treatment adherence
Homemaker	Managing household activities	Meal preparation, grocery shopping
Scheduler	Arranging medical care	Scheduling tests, procedures, services
Driver	Facilitating transportation	Providing transportation to medical appointments and emergency hospital visits
Patient Extender	Facilitating provider understanding	Attending appointments, clarifying and expanding on patient history, symptoms, concerns, introducing topics to providers
Technical Interpreter	Facilitating patient comprehension	Clarifying providers' explanations, technical terms, record and recall discussions with providers
Decision Maker	Making medical decisions	Selecting among treatment alternatives, deciding among care settings
Coordinator	Coordinating care across providers and setting	Ensuring flow of information among providers
Financial Manager	Handling financial issues	Resolving issues relating to insurance claims, secondary coverage, co-pays, and benefit claims
Health Provider	Delivering medical care	Administering medications, operating equipment
Attendant	Providing task assistance	Providing hands-on personal care assistance
Monitor	Assessing health status	Ensuring changes in health status are noted and properly addressed

Adapted from IOM (2008)

[7] Studies indicate that older adults with disabilities who are at risk of nursing home placement typically require at least fifty hours per week of personal assistance with functional activities.

It has been observed that the availability of informal caregivers is decreasing due to the entry of more women into the workforce (increasing the number of other obligations they face), decreasing birth rates (resulting in fewer children available to provide care), and the geographic dispersion of families (stemming from job migration and increased divorce and remarriage rates). In addition, the demographic composition of informal caregivers is also changing. For example, spousal caregivers are increasingly older as are their children and thus may not be able to provide the same intensity of hands-on assistance.

Caregiver support allows many older persons to remain in their communities, reducing the risk of nursing home entry, and is associated with shorter lengths of hospital stays. Absence of adequate caregiving has been found to be associated with problematic hospital discharges and readmissions. Living alone has been found to be associated with increased risk of nursing home entry, while increased familial and caregiver support is associated with a lower likelihood. Individuals with limited social supports are more likely to have unmet needs in personal care, household tasks, miss medical appointments, fail to fill prescriptions, fail to adhere to medical instructions and prescriptions. The level of impact of family support varies in accordance with family closeness and cohesion; individuals with close and cohesive families have been found to be three time more likely to adhere to medical instructions. The majority of older adults who receive care from family and friends report high levels of satisfaction and characterize them as more responsive than paid helpers.

Informal caregivers, particularly those caring for a relative with Alzheimer's disease (AD), have been found to be at increased risk of elevated stress hormones, physical illnesses, depression, anxiety, higher mortality rates, and experience interrupted sleep, physical strain, social and other activity restrictions, and interpersonal relationship changes. Studies indicate that some family members who function as caregivers quit their jobs or take time off work, are forced to take out loans or mortgages, or make other significant life changes such as moving to a less expensive home, delaying medical care, or altering educational plans for another family member due illness/disability related costs in order to be able to provide assistance to a relative. On the other hand, research also has shown that caregiving can have significant positive effects including a sense of purpose, fulfillment of filial commitments, opportunities to give support back to parents who cared for them, and forging closer relationships.

More than a third of adults who have severe persistent mental illnesses live with their families, primarily aging parents. Parenting a child with a serious mental illness (e.g., schizophrenia or bipolar disorder) presents significant lifelong challenges. Parents may provide decades of extended caregiving, particularly during periods of debilitating psychiatric symptoms that interfere with social and occupational functioning and independent living. As these parents grow older they confront the dual stressors of coping with the challenges posed by the provision of ongoing support and assistance with activities of daily living (objective burden) to their adult child while dealing with their own aging-related changes in health. In addition, these older parents typically become increasingly concerned about the future care of their child. Some research suggests that older parents of adults with serious mental illnesses experience high levels of burden, elevated general medical and psychiatric symptoms while other studies have found that caregiving brings gratification to aging parents resulting from opportunities for positive parenting experiences and increased recognition of family strengths as well as the companionship and hands-on help their offspring provide.

Informal caregivers typically receive very little, if any, preparation for their caregiving responsibilities despite the fact that managing a chronic illness entails daily decision-making, knowledge, and skills. Studies have shown that informal caregivers perceive themselves as insufficiently prepared to perform a number tasks including assisting with complex home-based technologies (e.g., mechanical ventilation), medically-oriented treatments (e.g., administering

medications and injections), and basic tasks such as lifting, turning, feeding, and helping individuals with Alzheimer's disease. Surveys of families caring for a relative with dementia indicate unmet needs for problem behavior training, family counseling, and information regarding planning for the future, social, and recreational programs. However, despite the need for access to information and training, few training initiatives have been developed for informal as well as formal (i.e., home care staff) caregivers. And, those that have been developed have highly variable program content. Some caregiver training programs provide education and skills training while others are comprised of comprehensive multifaceted interventions.

Interventions aimed at older caregivers of children with mental illnesses focus on enhancing caregiving experiences as well as reducing caregiver stress. Engaging families in care has been demonstrated to improve outcomes in dementia and schizophrenia care and also has been found to postpone institutionalization. Psychosocial interventions can improve outcomes for both caregivers and care recipients. Research has shown that participation in support groups by older parents of adults with serious mental illness is associated with personal gains (e.g., learning new skills, developing a greater inner strength, and developing new friendships) and reductions in subjective burden. The education and mutual support provided encourages parents to become advocates for their loved ones, fight the stigma of mental illness, and assume various leadership roles. Facilitating reciprocity between consumers with serious mental illnesses and their family members can help consumers in meaningful life activities while reducing feelings of subjective burden and enhancing a sense of personal growth among family members and caregivers.

Educational programs offer information on the medical, psychosocial, and legal aspects of dementia, planning for future loss of the person's cognitive and functional abilities, and the promotion of specific skills (e.g., behavior modification, communication, stimulation, and basic daily living skills such as lifting and bathing). In addition to education, **comprehensive programs** typically offer psychological support to caregivers, including opportunities for ventilation, mutual support, counseling, and stress management, as well as strategies to develop family, community, and professional support systems. However, the benefits of multifaceted interventions appear to diminish for persons with advanced dementia. In addition, studies show that education alone appears to be of limited value because it has little impact on caregiver well-being or behavioral symptoms. Research also indicates that training programs need to be sufficiently flexible to identify and respond to the needs of individual caregivers, target specific caregiver or consumer symptoms, be introduced at an early stage of the illness, and include continuing support. Finally, it should be noted that the content of caregiver support programs for persons with dementia is quite variable.

Programs with the most positive results are comprehensive and multidimensional. Research suggests that training programs need to identify and respond to the needs of individual caregivers, target specific caregiver and symptoms of the person with Alzheimer's disease (AD), be introduced at an early stage of the illness, and include continuing support to address information and problem-solving needs that evolve with the progression of the disease. For example, after a diagnosis has been made, caregivers need information regarding the nature of the illness and the availability of services, as well as emotional support. Later on, information advice regarding the practical and emotional aspects of caregiving, including coping with loss and the need to develop or maintaining interests outside of the caring role are needed.

> Research indicates that interventions for caregivers lead to reductions in caregiver depression, strain, and burden. The most effective interventions are comprehensive, intensive, individually tailored to caregivers' needs, actively engage both caregivers and recipients, and provide a combination of education, skills, and coping techniques.

A team approach to managing the behavioral, social, economic legal, living environment issues related to AD has been found to be effective. Teams may include nurses and physician assistants, neurologists, geriatric psychiatrists, social workers, clinical psychologists, and attorneys with expertise in elder law. Neurologists provide assistance in the differential diagnosis of individuals with atypical dementia presentation and in managing later stage neurologic features of AD (e.g., seizures). Geriatric psychiatrists assist in the differential diagnosis and psychopharmacologic management of behavioral problems (e.g., agitation, psychosis, and depression). Social workers assist in maintaining the integrity of the family unit and identifying and mobilizing community care resources, and may provide psychotherapy for consumers and caregivers. Clinical psychologists assist in the diagnosis of early-stage or questionable dementia and provide expertise in behavioral approaches to such problems as depression. Elder law attorneys assist in addressing issues such as guardianship and health-care financial planning. Additional team members include pharmacists, nutritionists, physical therapists, and occupational therapists. It is recommended that individuals and families with early-onset familial AD be referred to a geneticist or a genetic counselor. Referrals to local and national groups (e.g., the Alzheimer's Association) that are dedicated to the education and support of patients with AD are also recommended.

PROGRESSIVELY LOWERED STRESS THRESHOLD MODEL (PLST)

The Progressively Lowered Stress Threshold model focuses on reducing environmental stress in order to reduce behavioral disturbances associated with dementia. It is the basis of caregiver psychoeducation that is designed to help formal (i.e., paid) and informal caregivers understand behaviors and plan for the care of individuals with dementia. The model addresses three dimensions of a dementing illness:

1. Losses and symptoms clusters associated with cognitive decline which are clustered into four groups (a) intellectual losses, (b) affective or personality losses, (c) conative or planning losses, and (d) a progressively lowered stress threshold.
2. Behavioral states
3. Stage of the disease process

The model postulates that, along with the progression of a dementing illness, there is a progressive decline in the stress threshold which is exhibited in dysfunctional behavioral states (e.g., agitation). It identifies six factors that contribute to stress: (1) physical stressors (e.g. pain, discomfort, infection, (2) misleading stimuli or inappropriate stimuli, (3) change of environment, caregiver, or routine; (4) internal or external demand that exceed functional capacity; (5) fatigue; and (6) affective response to perceptions of loss.

Persons with dementia typically experience relatively few stressors during the early morning hours, but, as stressors accumulate, anxious behaviors (e.g., loss of eye contact and increased psychomotor activity/restlessness) are exhibited. Stressors continue to accumulate until the stress threshold is exceeded, usually by mid-afternoon, resulting in severe agitation characterized by cognitive and social inaccessibility. The person cycles between states of anxiety and severe agitation if the stress threshold is repeatedly exceeded.

The PLST model teaches caregivers to recognize subtle behavioral changes that are indicative of heightened anxiety so that timely and effective intervention is provided and adverse outcomes are decreased based on the following principles:

- Maximizing safety by supporting losses in a functional manner
- Providing unconditional positive regard to consumers
- Using levels of anxiety and avoidance to gauge activity and stimulation level
- Teaching caregivers to observe and listen to consumers

- Modifying environments to support losses and enhance safety
- Providing ongoing support and assistance to informal and formal caregivers

These principles of the PLST model have served as the basis of care for individuals with dementia for almost three decades and research supports its use in nursing homes, Alzheimer's special care units, adult day care, and hospital settings. Outcomes include reductions in caregiver depression, sense of uncertainty and unpredictability associated with managing the secondary symptoms of dementia, more positive appraisal of the stressors and burden associated with the caregiving experience, as well as higher levels of satisfaction with the caregiving role, and reductions in negative reactions to behavioral symptoms. Caregivers also report that consumers display fewer secondary behavioral symptoms.

However, less positive results have been found in the application of the model to care planning for individuals with Pick's disease, Korsakoff's psychosis, diffuse Lewy body syndrome, frontal lobe dementias, dementia pugilistica, certain toxic or drug-induced dementias, dementia in persons who have long histories of psychosis, and AIDS encephalopathy. In addition, it is not as effective for individuals who displayed violence as a normal coping mechanism prior to the onset of dementia. Finally, the model has been found to be most effective for caregivers during the early through middle stages of disease; it is not intended for caregiving during the end or terminal stages of dementia.

CAREGIVER SKILL BUILDING (CSB)

Behavior problems have been found to be the most significant factor associated with caregiver burden and the institutionalization of adults with dementia. A number of caregiver skill building programs have developed to improve skills in dealing with distressing behavioral symptoms. These are based on the caregiver intervention literature which suggests that psychoeducational support and skill-building interventions are effective in reducing caregiver burden and increasing caregiving abilities. Such skills include objectively assessing potential causes of behavioral symptoms (e.g. environmental, communication, task-related, and the disease), appraising the abilities of care recipients' physical, environmental, social, cognitive, and behavioral strengths and abilities as well as inabilities, and needs; and teaching caregivers a repertoire of interventions to employ in response behavioral symptoms.

Intervention strategies that have been found to be effective include:

- **Self-regulation:** assisting caregivers in setting personal goals, structuring specific outcome expectations, using feedback to change behavioral approaches, and instituting self-rewards or other reinforcement strategies.
- **Behavioral rehearsal:** encouraging caregivers to self-monitor behaviors displayed by care recipients and their responses or disincentives for intervening with behavioral symptoms.
- **Reciprocal determinism:** encouraging caregivers to increase their awareness of environmental influences on the behavioral symptoms exhibited by care recipients and the importance of social support for themselves.
- **Self-reflection:** encouraging caregivers to understand their personal thoughts, beliefs, and responses to behavioral symptoms exhibited by care recipients.
- **Learning strategies:** offering vicarious learning strategies so caregivers can learn from others' experiences and sharing their own experiences with other family caregivers.
- **Behavior management skills training:** reducing the frequency of behavioral problems and attendant caregiver distress.
- **Problem-solving skills training:** increasing pleasurable events (e.g., leisure activities), enhancing social support, and focusing on self-care activities (e.g., diet and exercise).

- **Cognitive restructuring:** fostering more benign appraisals of behavior problems that are difficult to control or that worsen over time and helping caregivers find personal meaning and a sense of achievement from caregiving.

Cognitive appraisal and coping strategies are two primary components of caregiver programs. Cognitive appraisal is designed to improve caregivers' ability to shift from a global stressor to a specific stressor by breaking down a global situation into specific elements to help with problem clarification and increase awareness that something can be done. Cognitive appraisal is also used to improve caregivers' ability to distinguish between the changeable and unchangeable aspects of a stressor and their awareness of the importance of the match between the changeability of a stressor and the choice of coping strategies.

Coping strategies include problem-solving, reframing, and seeking social support. Problem-solving (problem-focused coping) is used to alter the changeable aspects of a stressor and most beneficial when the situation concerns dysfunctional behaviors that are amenable to change. Caregivers are taught to use steps to clarify a changeable target problem and find an appropriate solution to that problem. Problem-solving strategies integrate elements of behavioral techniques in precisely defining the stressful situation in order to modify its frequency and intensity.

Another coping strategy consists of reframing the meaning of a stressor (emotion-focused coping) to find an alternative way of thinking about a situation so that it is easier to manage the painful emotion generated by the unchangeable aspects of a stressor. Caregivers learn to (1) recognize their misunderstanding or misinterpretation of the dysfunctional behaviors and reframe the meaning of such behaviors as a consequence of dementia, (2) identify some common forms of dysfunctional thoughts and replace them with more rational thoughts, (3) think about the gratifying aspects of the caregiving role, and (4) focus on the present reality. Caregivers are also encouraged to stimulate helpful thoughts (e.g., finding time for pleasurable activities and learning to step back from a stressful situation).

Studies have shown that teaching caregivers how to read the emotional and physical cues of a person with AD and to understand the sequence of events that often leads to inappropriate behaviors are helpful. Caregivers have been found to benefit from programs that help them respond to the needs of the person with AD in a variety of ways including maintaining flexibility in the face of multiple demands, becoming educated about the disease, learning practical strategies, using available resources, involving other family members and friends, and balancing the needs of the person with AD with their own needs.

A third coping strategy is seeking social support which is a protective factor. Caregivers are helped to examine their reluctance to seek support and identify the types of support needed and persons in their informal network and community resources likely to provide that support. Caregivers are then assisted in examining how to mobilize the support (i.e., how to present a specific request to the selected individual or resource) and how to maintain the assistance on an ongoing basis.

RESOURCES FOR ENHANCING ALZHEIMER'S CAREGIVER HEALTH II (REACH II)

REACH is a multi-component, psychosocial, behavioral training intervention for adult caregivers of persons with Alzheimer's disease and related dementias (ADRD). It is designed to reduce caregiver burden and depression, improve their ability to provide self-care, provide them with social support, and help them learn how to manage difficult behaviors. Participants are provided with educational information, skills to manage behaviors, social support, cognitive strategies for reframing negative emotional responses, and strategies for enhancing healthy behaviors and managing stress. The intervention includes information sharing, didactic instruction, role-

playing, problem-solving skills training, skills training, stress management techniques, and telephone support groups.

The program is delivered over six months by certified interventionists with a minimum of a bachelor's degree. Twelve individual sessions and five structured group sessions are provided at home or via telephone with visual display screens linked to a computer-integrated telephone system to support conference calling. Participants use resource notebooks that contain educational materials. REACH can be used in outpatient, home, and residential settings and has been found to be effective for Hispanic/Latino, African-American, and Caucasian participants. It has been implemented with in-home caregivers in multiple states and outcomes of participation include improvements in quality of life and caregiver burden, and reductions in the prevalence of clinical depression of caregivers. Caregivers report participation improves their confidence in caregiving abilities, the recipient's life, and helps them keep the recipient of care at home. The cost of this program is approximately $1,212.00 per caregiver/care recipient pair including $1,064.00 for in-home intervention components and $148.00 for telephone support group per caregiver. Materials and assessment instruments are also available in Spanish. Information, including manuals and forms for the program, are available for download from http://www.edc.pitt.edu/reach2/.

SAVVY CAREGIVER PROGRAM (SCP)

The Savvy Caregiver Program is a twelve-hour training program that is designed to help formal and informal caregivers acquire knowledge, skills, and approaches needed to effectively care for individuals with Alzheimer's disease and related dementias. It is delivered in two-hour sessions over the course of six weeks and can be used in a variety of settings with or without professional involvement. The six sessions consist of: (1) an introduction to dementing disorder; (2) caregiver self-care; (3) the anchors of enjoyable involvement; (4) levels of thinking and performance; (5) strengthening the family as a resource for caregiving; and (6) review and integration of the previous sections. Respite care is provided for the person with dementia while caregivers attend the classes.

Information on program materials, including a trainer's manual, caregiver manual, a training video (DVD), and a CD-ROM, can be found at http://www.memorylossdvd.com/downloads/. The manual can be downloaded from http://www.memorylossdvd.com/downloads/SavvyCaregiverManual.pdf.

Michigan's Area Agencies on Aging offer **Creating Confident Caregivers (CCC)**, which is based on SCP, at no charge. Information can be found at http://www.michigan.gov/miseniors/0,4635,7-234--229679--,00.html.

AD SUPPORT GROUPS

Early-stage support groups provide help through discussions among individuals experiencing the same issues and offer opportunities for respite, expression of concerns, sharing experiences, obtaining helpful tips, and receiving emotional support. Such groups can provide information for both persons with dementia and their families regarding coping strategies, meaningful activities, and mental stimulation. A number of early-stage group models have been developed. Some adhere to a structured model, with one to two-hour sessions over the course of six to eight weeks led by a facilitator with discussion topics determined in advance. Guest speakers are invited to provide information and help on specific topics (e.g., legal and financial planning). In some programs, individuals with AD and caregivers meet in separate groups while in others people with AD and their caregivers are together for part of the session and apart for the remainder. Less structured early-stage support groups meet for an extended period of time

and members discuss topics of their own choosing. Members with AD continue to participate as long as they are able to meaningfully take part in discussions and activities.

Studies of early-stage support groups indicate that the majority of participants report positive outcomes including gaining a greater sense of control over their lives and feelings that they are not alone, fostering a spirit of camaraderie, building coping skills, and forging relationships and garnering emotional support that continue to be of benefit to the person with AD and their caregiver after the sessions end.

It should be noted that some people with early-stage AD and their families may not benefit from support groups due to family conflict, denial, cognitive impairments, or discomfort with the intimacy of a group experience. Moreover, while traditional support groups have been found to be very helpful for many caregivers, some drawbacks have been noted including the need to find transportation and for care for the person with AD as well as meeting times that may not coincide with those convenient for caregivers.

Internet-based support systems address some of the drawbacks of traditional support groups by placing control of the support process in the hands of users who can communicate with others and seek assistance whenever they need it in their own homes. Users can express themselves publicly or remain anonymous in chat rooms. Internet-based support systems reach many people simultaneously since many users can log on to get information posted on the system. In addition to providing lists of useful publications and materials, these systems often post information on traditional support groups, daycare centers, and other services. Many also can provide a Q&A module in which users can get answers to their specific caregiving questions from physicians, nurses, social workers, psychologists, and other professionals, browse an archive of previously asked questions and answers organized by topic, and interact with each other through a bulletin board component.

RESPITE SERVICES

Respite care gives family caregivers a break from the day-to-day responsibilities of caring for an older adult with a serious mental illness and is of benefit to both caregivers and care recipients. Respite is one of the most common services requested by informal caregivers. There are three primary models of respite care:

1. **In-home respite** is the most frequently requested and utilized form of respite service, and can be provided by a volunteer, homemaker, home health aide, or nurse. It can include assistance with housework, physical needs, or the provision of companionship. Most in-home respite programs provide services for a period of three to four hours, although some offer more extended overnight or weekend services;
2. **Out-of-home respite** can be provided in a group or institutional setting (e.g., foster home, adult day care center, respite facility, nursing home, or hospital), most commonly adult day care centers.
3. **Comprehensive respite programs** allow families/caregivers to select from a variety of in-home or out-of-home respite options that offer differing levels of care in accordance with the service that best fits their needs at the time (e.g., short nursing home stays, adult day care, or in-home respite).

Studies show that caregivers who use respite services maintain their relatives with dementia in the community an average of twenty two days longer, have lower levels of caregiving-related stress, and better psychological well-being.

ADULT DAY SERVICES (ADS)

ADS programs are designed for adults living at home who require supervision and hands-on assistance due to impairments from chronic illnesses or disabilities. They provide respite a range of services including assessment and social, and recreation services and offer respite to caregivers. There are several approaches to delivering services in adult day centers, but no research evidence shows that any one model of service delivery is more effective than another.

- **Core services** include assessment and care planning, assistance with activities of daily living (ADLs), health-related services, social services, therapeutic activities, nutrition, transportation, and emergency care.
- **Enhanced services** include core services as well as moderate restorative, supportive or rehabilitative nursing care; assessment and referral for psychosocial services; the provision of treatments recommended in the participant's plan of care; and physical, occupational, and speech therapy to maintain optimal levels of functioning.
- **Intensive services** are those provided by nurses to manage unstable medical conditions, restorative/rehabilitative therapies, intensive psychosocial services, or specialized supportive services.

Studies show that adult day care centers are cost-effective for individuals with dementia and delay institutionalization. Participants show improvements in some measures of functioning and mood. In addition, research has demonstrated that adult day care can reduce caregivers' stress and depression and enhance their well-being. Families have reported improvements in mood, reductions in agitation, and improvements in sleep patterns on days that their relatives attend ADS. Older adult participants with dementia have generally been found to be highly satisfied with ADS, particularly with respect to transportation to and from centers, the amount of attention received from staff, and program hours. However, ADS participation has not been found to have a beneficial impact on performance of activities of daily living (ADL) or behavior problems.

The **Adult Day Services Plus** program integrates care management into adult day center services to address the specific concerns and needs of family caregivers of adults enrolled in ADS in order to help to help family caregivers develop problem-solving and coping skills, improve support (e.g., financial assistance, material goods, or services, time, and in-kind assistance), and enhance feelings of competence in managing challenging behaviors exhibited by the recipient of care through targeted, brief, structured caregiver contacts for twelve months.

Augmenting ADS with care management targeting family caregivers and their concerns has been found to result in a reduction of depressive symptoms, increased confidence in managing problematic behaviors, and enhanced feelings of well-being. In addition, participants utilize more days of ADS. It is a relatively inexpensive program to implement because the additional services are integrated into regular services provided and the extra contacts occur when care recipients are brought to the center or via telephone and mail. The additional days of attendance may help defray any additional costs associated with the provision of care management.

CONSUMER EMPOWERMENT

SELF-DIRECTED CARE (SDC)

There has been increasing recognition of the significant role of consumers in determining their treatment plans, navigating systems to obtain services, and adhering to treatment regimens. Older adults, whose care can involve multiple providers and service delivery settings, often function as coordinators of their own care, communicating relevant information to providers and identifying conflicts between treatment plans. Studies show that older adults who are engaged in their own care experience improvements in clinical outcomes and health and reductions in unnecessary treatments and reliance on formal and informal caregivers. In addition, consumers report higher levels of satisfaction with the care they receive.

Self-directed care enables individuals with disabilities to become active participants in the marketplace by encouraging them to choose and pay for their care which offers a means of integrating them into the larger society. Funds and purchasing power are shifted from providers to consumers thus placing providers in the position of needing to sell themselves and their services to consumers.

Money Follows the Person (MFP) is one example of a self-directed care model. MFP is a system of flexible financing for long-term services that enables available funds to move individuals to the most appropriate and preferred settings as their needs and preferences change. Individuals, who are receiving supports, rather than providers or program managers, drive resource allocation decisions as they move through the long-term care system. Studies have shown that participation in these care programs lead to more positive experiences for paid staff and Medicaid recipients as well as their greater levels of satisfaction with their overall care and their lives. In addition, participants report less financial and physical strain.

There is a movement under Medicaid toward patient-directed care in which decision-making responsibility shifts from health professionals to consumers. For example, state **Cash and Counseling programs** give Medicaid recipients a monthly allowance to hire providers of their choice and also provide counseling and financial assistance to help them in planning and managing these responsibilities. Many of these state programs permit Medicaid recipients to hire immediate family members to perform caregiving services for pay as well as use funds to hire direct-care workers.

Traditional health care consumer and professional relationships are characterized by providers' assuming responsibility for all decisions. In recent years, however, emphasis has been placed on the establishment of collaborative care with consumers assuming considerably more responsibility for decision-making in partnership with health care professionals wherein consumers and providers mutually establish goals and develop treatment plans in a shared manner. Consumers then assume responsibility for adhering to treatment guidelines, self-monitoring, and using cognitive, behavioral, and emotional strategies to treat or ameliorate their conditions in a process of self-management.

> The most fundamental change engendered in self-directed care is the shift in power within the treatment system from one that is dominated by the needs, concerns, and interests of payers and providers to one that focuses explicitly on the needs of individuals with disabilities. Rather than the concept of control of one person over another which relies on compliance, self-directed care requires shared control based on a partnership between providers and consumers.

Self-directed care is closely related, but not identical, to a recovery orientation and self-determination. Self-directed care can help individuals with mental illnesses and substance use disorders achieve recovery

because it fosters consumer empowerment and makes the service delivery system more consumer-oriented. Self-determination is designed to help individuals build meaningful lives with effective opportunities to develop and reach valued life goals. Thus, self-directed care represents one method for achieving the goals of self-determination, and ultimately of a recovery-oriented system, through changes in financing and the elimination of third parties in the health care system.

The following operational elements of a consumer-directed service system have been identified:

- **Person-centered planning:** A comprehensive strategy for putting necessary services and supports in place to help people achieve their goals that results in individualized service plans that are driven by the needs and desires of the individuals served.
- **Individual budgeting:** Individual budgets approved for a specific amount in advance of the actual use of services with amounts in each budget based on each consumer's specific needs and other resources available to each consumer. Individualized budgets enable individuals who need assistance to have some control over how the funds used for their care are to be spent.
- **Consumer and provider education:** Education to enable consumers to make informed decisions and purchasing choices by helping them to better understand the nature of their conditions and the range of appropriate options available to them. Providers need training and education regarding adapting to a more market-based, self-directed services system and to learn to deal with less secure funding levels and changes. Providers need to be able to effectively document outcomes, provide a positive experience for consumers, and market their services.
- **Supports brokerage:** To help individuals design and manage their self-directed care plans and includes both education and operational assistance.
- **Advocacy and coaching:** Peers and staff provide advocacy and coaching, a new role for peers and a paradigm shift for case managers.
- **Expanded provider network:** Increased use of nontraditional service providers.
- **Financial management services:** Tracking and monitoring budgets, performing payroll services, and handling billing and documentation. Individual budgeting and self-direction require financial management tools for the administration of self-directed funds including determination and approval of the funding amount for individual accounts; administration of spending activity within these accounts, including authorization by consumers, receipt of invoices, monitoring expenses, and management of cash balances and budget revisions; and fiscal intermediary services.
- **Oversight/quality improvement:** While consumers who receive poor quality services have the freedom not to purchase those services, consumer protection, oversight, and quality improvement efforts are needed to monitor marketing efforts by providers and offer information to consumers so that they can make informed choices about providers.
- **Funding sources:** Braided and blended funding replace traditional methods of funding discrete programs from each funding source to create person-centered rather than program-centered services.

SELF-MANAGEMENT INTERVENTIONS

Self-management interventions are designed to help consumers understand how their behaviors affect their illnesses and lives, increase their self-efficacy and knowledge, and utilize information to influence their decision-making. Most interventions focus on lifestyle issues (e.g., exercise, nutrition, and coping skills). This education supplements traditional patient education and emphasizes the acquisition of skills rather than just knowledge. Studies show that teaching self-management skills is more effective than the provision of information alone. However, many

self-management programs are limited to a single disease or lack information on basic principles of self-management or the long-term benefits of actively managing a chronic disease. Moreover, while there is evidence that effective education by case managers can result in training frail elders in self-management skills, this type of education and training is not currently reimbursable under most insurance plans, Medicare, or Medicaid.

CHRONIC DISEASE SELF-MANAGEMENT PROGRAM (CDSMP)

The Chronic Disease Self-Management Program is designed to foster self-efficacy and enhance effective self-management behaviors. Group sessions are conducted once weekly for two and one half-hours for six weeks and facilitated by non-health care professionals who have a chronic disease. The program can be offered in senior centers, churches, libraries, hospitals or other community settings

The CDSMP consists of chronic disease workshops facilitated by trained individuals who have a chronic disease. Subjects covered include techniques for dealing with problems (e.g., frustration, fatigue, pain, and isolation); communicating effectively with family, friends, and health professionals regarding chronic conditions; exercise for maintaining health and improving strength, flexibility, and endurance; appropriate use of medications for chronic diseases; proper nutrition; how to evaluate new treatments.

Outcome studies show that participation leads to significant improvements in exercise, cognitive symptom management, and communication with physicians, as well as self-reported general health, health distress, fatigue, disability, and social/role activities limitations. In addition, participants experience reductions in hospital days, hospital admissions, and outpatient visits. Information can be obtained from http://patienteducation.stanford.edu/programs/cdsmp.html.

SELF HELP AND SUPPORT GROUPS

Support groups, an adjunct to formal treatment, are designed to provide mutual support, information, and a broader social network. Support groups are typically led by mental health professionals while self-help groups are run by consumers or family members. However, in many instances mental health professionals and community organizations provide assistance to self-help groups in the form of logistical support, start-up support, consultation, referrals, and education. For example, professionals may provide consultation to Alzheimer's Association groups that are facilitated by lay leaders.

The limited research on support and self-help groups for older consumers indicates that participation leads to increased knowledge, promotes the use of effective coping skills, and reduces social isolation and helps establish social networks, particularly for older persons with psychiatric disorders who tend to experience more social isolation and less comfort with formal mental health services. In addition, participation has been found to help reduce the stigma associated with mental illness, foster early detection of symptoms, and enhance adherence to interventions.

Support Groups

Open-ended groups *have no set number of sessions, and participants may participate as long as needed.*

Closed-ended groups *are time limited, usually lasting 6-12 weeks.*

Self-help groups *provide mutual support and include people who have a common problem and are committed to help one another.*

Professionally-led groups *are facilitated by trained health professionals.*

Specific or general content groups *include bereavement groups, widow/widowers or suicide survivors, and others that address a common issue.*

PEER SUPPORT AND CONSUMER-PROVIDED SERVICES

Peer support and consumer-run services offer opportunities for older adult consumers to be involved in the planning and implementation of the services they receive in a meaningful way because such services are characterized by choice and self-determination which enable older consumers to function as participants in their treatment and recovery. The Wellness Recovery Action Plan (WRAP)[8] program and inclusion of consumers on treatment teams are examples of this.

Peers can provide education to older adult consumers on normal aging and mental health issues. Peer-run support groups have been found to be an effective preventative measure as well as providing psychosocial support during times of transition, crisis, or bereavement. Such services can also supplement traditional professional mental health treatment, are cost-effective, and help improve access to care.

Peer support programs link caregivers with trained volunteers who also have dementia have been found to be especially beneficial for caregivers with limited social support networks or experiencing very stressful situations.

Peer counseling programs are self-help programs that utilize the skills and life experiences of older volunteers who are trained to provide telephone reassurance, social activities, shopping excursions, and home visits to help other older persons in the community. While most often conducted on a one-to-one basis, group formats are also used. Most programs are home-based, but peer counselors also work in senior citizen centers, nursing homes, day treatment programs, and within other support groups (e.g., Alzheimer's disease support groups).

Older adult peer support specialists can offer firsthand experience about the symptoms of mental illnesses and substance abuse disorders, and the fact that treatment is effective. Those with schizophrenia, for example, can be viewed as survivors who can impart wisdom accumulated from coping with the challenges presented by a chronic illness. Studies of case management services delivered by peer supports specialists on Assertive Community Treatment (ACT) and case management teams for individuals with severe mental illness have shown positive benefits to consumers with serious persistent mental illnesses including reductions in hospitalizations, emergency room visits, and homelessness.

Some older adults find support groups and peer counseling more acceptable than other forms of treatment. Support groups allow participants to be both recipients and providers of assistance and foster the development of supportive relationships and can offer pragmatic help and problem-solving opportunities to participants who can normalize their problems with others who share the same issues.

Older persons have been shown to benefit from the mutual support provided by peer counseling and support groups in a number of ways. Both are effective preventive interventions and offer psychosocial support to individuals coping with life transitions, short-term crises, chronic stressors, and other difficulties. They can also help with access and utilization of mental health services, especially for older adults with cognitive impairments who lack the capacity to request assistance. Specific programs have been developed for helping bridge the gap to mental health treatment and provide connections with community-based supportive services.

[8] More information on WRAP and similar programs can be found in *A Guide to Evidence-Based Practices for Adults with Mental Illness* located at http://sccmha.org/quality.html.

SENIOR COMPANION PROGRAM

The Senior Companion Program is a peer counseling program that is federally funded through the National Senior Service Corps (Senior Corps). The program targets older adults with low incomes who have mental health issues and/or physical limitations and are primarily homebound, in frail health, and live alone. It trains individuals fifty five years of age and older to provide assistance with tasks of daily living to adults aged sixty and older in their homes as well as nursing facilities, hospices and other long-term care settings. Senior Companions provide assistance to older adults who are homebound by doing simple household chores, providing transportation to medical appointments, providing respite for caregivers, and offering social support and friendship. Each companion provides services for an average of twenty hours per week and service two to four clients on a weekly basis.

Studies indicate that participation leads to reductions in symptoms of depression and improvements in activity level and daily functioning. Caregivers report improvements in coping with caregiver responsibilities, fewer unmet needs with transportation,

Senior Companions must complete forty hours of orientation, twenty of which occur prior to delivering services and an optional four hours of monthly in-service that covers normal aging, Alzheimer's disease, diabetes, and other mental health issues. Senior Companions receive a small federal stipend for their participation, reimbursement for transportation, an annual physical examination, meals, and accident and liability insurance. Information can be obtained from on Senior Companions is available from http://www.seniorcorps.org/.

SYSTEMS COLLABORATION

Older adults use significantly more health care services than their younger counterparts and their health care needs are often complex because they often suffer from a range of chronic conditions which require ongoing care and active management from multiple providers simultaneously. In addition, older adults are more vulnerable to injury (e.g., from falls) and acute illnesses (e.g., pneumonia). Individuals over the age of sixty are hospitalized twice as often as younger adults, account for almost fifty percent of all short-stay hospital days, make more outpatient visits to physicians, and use twice as many prescription medications. As a result, they use health services at far higher rate and receive health care in many different settings.

Older persons with severe and persistent mental illnesses[9] frequently experience significant functional difficulties, medical comorbidities, and neurocognitive impairments and require a comprehensive, integrated, multidisciplinary array of long-term services and supports that includes specialized geropsychiatric services; integrated medical care; dementia care; home and community-based long-term care; residential and family support services; case management; and psychosocial rehabilitation services.

Older adults with serious mental illnesses and their families/caregivers depend on a range of services beyond those provided by the health and mental health care systems including recreation, housing/assisted living, home care, respite, adult day care, education, support and self-help groups, and others. Such services are even more significant for older people who live alone, are uncomfortable with formal mental health services, or receive inadequate mental health treatment in primary care.

However, services for older adults are provided in a fragmented and uncoordinated manner by multiple systems. The lack of coordination among service systems require older adults and their caregivers or advocates to negotiate among providers and systems, particularly during transitions between types of care when older adults can be at increased risk due to lack of services, duplicative or conflicting treatments, and stress.

Current mental health services for older adults are fragmented, underutilized, and do not adequately address long-term mental health needs. Mental health services for older adults are delivered by a variety of providers, including: the general medical sector where the focus is on acute care; community mental health organizations that typically underserve this population; home health agencies that provide limited short-term mental health care; and geriatric long-term care programs that focus primarily on older adults with chronic physical disabilities or cognitive impairments.

Community mental health has been found to under serve older adults and often lacks age-appropriate services and staff trained to address their co-occurring medical needs. And, while primary care and long-term care are the most common providers of mental health services for older adults, there is evidence of limited coordination between the two resulting in exacerbation of problems resulting from comorbid conditions and polypharmacy placing older consumers at increased risk for medication interactions, misdiagnosis, misattribution of medical versus

[9] Serious persistent mental illnesses in older adults include lifelong and late-onset schizophrenia, delusional disorder, bipolar disorder, and recurrent major depression as well as Alzheimer's disease and other dementias (and related behavioral symptoms, including psychosis), and severe treatment-refractory depression. Older adults with early onset schizophrenia, delusional disorder, bipolar disorder, recurrent major depression, and other serious persistent mental illnesses tend to have smaller social support systems and fewer financial resources than those with late-onset illnesses, but both share a number of clinical features and the need for long-term mental health care services and supports.

psychiatric causes of symptoms, and ambiguity regarding responsibility to ensure the provision of appropriate community-based services.

CO-OCCURRING DISORDERS

Co-occurring psychiatric and somatic disorders are common in older adults. The symptoms of somatic disorders may mimic or mask psychopathology and older adults with psychiatric disorders may have a different clinical presentation than that of other adults making detection of illnesses more challenging. In addition, some disorders that have predominantly somatic symptoms can cause cognitive, emotional, and behavioral symptoms. Psychiatric disorders may result from effects of disorders of the central nervous system (e.g., dementia due to a medical condition such as hypothyroidism) or from an effect of treatment (e.g., delirium due to a prescribed medication.

For example, diagnosing depression in older patients with medical illnesses can be more challenging than in their healthy counterparts because symptoms of depression are often confounded with those of medical illnesses and older persons are less likely to report symptoms of dysphoria and worthlessness, which are considered hallmarks of the disorder, and more likely to express depression with somatic symptoms (e.g., anorexia, weight loss, sleep impairment, and fatigue). Moreover, the majority of older patients with symptoms of depression do not meet the full criteria for major depression; subsyndromal depression has been found to be far more common than major depression in older adults and can be as disabling as major depression. While this type of depression can be effectively treated, the response generally takes longer.

Many older patients, particularly men (who have the highest rates of later life suicide) deny psychological symptoms of depression or refuse to accept the diagnosis due to stigma. Societal stereotypes regarding aging also can impede the identification of depression as many people believe that depression in response to the loss of a loved one, increased physical limitation, or changing societal roles are an inevitable part of aging.

The signs and symptoms of major depression are frequently attributed to normal aging, atherosclerosis, Alzheimer's disease, or other age-associated afflictions, and psychosocial antecedents (e.g., losses, decrements in physical health, and sensory impairments). In addition, many older individuals experience symptoms of depression and anxiety that do not meet the full criteria for depressive or anxiety disorders. Nonetheless, such subsyndromal conditions can have deleterious effects.

It is estimated that approximately twenty five percent of individuals with clinically significant late-life depression have chronic illnesses including ischemic heart disease, stroke, cancer, chronic lung disease, arthritis, Alzheimer's disease (AD), and Parkinson's disease. Depression has been found to affect about one of every six older patients treated in general medical practice and an even higher percentage of those in hospitals and nursing homes. Elderly persons have the highest suicide rate of any age group, and a range of physical maladies have been found to be associated with or exacerbated by depression. For example, studies show that depression increases the risk of mortality due to myocardial infarction by a factor of five. Major depression in nursing home residents has been found to increase the likelihood of mortality by fifty nine percent irrespective of their physical health.

A number of medical conditions have been found to commonly co-occur with AD including seizures, respiratory and urinary infections, Parkinson's disease, sensory impairments, infections, malnutrition, hip fractures and other injuries, and pressure sores. Data indicate that persons with AD visit the ER twice as often as individuals with similar conditions who do not have AD, have longer lengths of stay when hospitalized, and more frequently experience medication-induced psychosis and delirium. Transfers to emergency rooms or hospitals

exposes people with AD to risks for increased confusion, agitation, anorexia, incontinence, and falls.

Some illnesses have been found to be more prevalent among persons with schizophrenia including cardiovascular disorders, especially coronary artery disease and myocardial infarction as well as diabetes. Older individuals with schizophrenia have also been found to have more severe physical illnesses and mortality rates estimated to be two to four times those in the general population. It is estimated that nearly half of comorbid medical conditions in people with schizophrenia are missed. In addition, psychiatric disorders may make it more difficult for patients to care for their own physical health needs.

Older individuals with schizophrenia constitute the majority of older adults with serious and persistent mental illnesses and have been postulated to be most at risk with respect to clinical, social, and service needs. However, there is a paucity of research on effective interventions for late-life schizophrenia[10]. Moreover, it is often challenging to conduct research on this population due to cognitive impairments, sensory deficits, medical comorbidities, polypharmacy, biological and psychosocial heterogeneity, and lack of caregivers. It has been pointed out that the disorder's potential impact on decision-making and other cognitive skills, particularly in a cohort at risk for cognitive decline, complicates ethical issues regarding informed consent.

Older adults with mental illnesses, like their younger counterparts, can suffer adverse effects from substance misuse and abuse. Co-occurring psychiatric and substance use disorders in older persons frequently entails alcohol misuse and depression or anxiety disorders. Older adults with severe mental illnesses are especially vulnerable to the effects of alcohol or drugs of abuse; even small amounts of psychoactive substances may have adverse consequences for individuals with schizophrenia and other brain disorders. Individuals with co-occurring psychiatric and substance use disorders are at increased risk for a number of adverse outcomes, including institutionalization, homelessness, and death.

Research indicates that social support is the best predictor of level of functioning; higher subjective well-being is associated with subjective factors (e.g., perceived social support and self-rated health) rather than with objective factors such as physical impairment or income. Aging for individuals with schizophrenia, like aging in general, is no longer viewed as a process of increasing decrement, but rather one of adaptation, compensation, and elasticity. Psychosocial approaches, especially group activities, have been shown to be of benefit to older adults with schizophrenia[11].

HEALTH CARE

As previously noted, coexisting medical conditions complicate assessment and treatment of older adults with serious mental illnesses. The majority of older adults are treated in primary

[10] Older consumers with late-life schizophrenia are those who first manifested schizophrenia during early adulthood as well as to those whose symptoms first appeared in later life. Eighty five percent of people with schizophrenia develop the disorder prior to age forty five. The disorder appears to be rather malleable over the life course with a general trend toward a reduction in positive symptoms; neurobiological changes associated with later life (e.g., reduction in dopamine activity) may foster a decrease in psychotic symptoms. Studies of global measures of social functioning have produced inconclusive results. Some studies find an appreciable improvement over the life span while others find marked social impairment. Nevertheless, specific components of social functioning indicate there is often a trend toward improvement; coping strategies may evolve with aging resulting in more increased active participation by individuals in their own recovery.

[11] Interventions such as Family Psychoeducation which are applicable to older consumers are described in *A Guide to Evidence-Based Practices for Adults with Mental Illness* which can be downloaded from http://sccmha.org/quality.html.

care settings where medical illnesses may eclipse mental illnesses and result in inadequate recognition and treatment of psychiatric disorders. For example, it is estimated that one in six older patients seen in primary care is affected by depression, but few receive appropriate diagnosis and treatment.

Studies have shown that geriatric major depression is twice as common among persons receiving home care as those receiving primary care and the majority do not receive treatment. In addition, most of those receiving antidepressant pharmacotherapies receive inadequate treatment resulting from prescribed doses below recommended guidelines or nonadherence.

Chronic conditions increase risk of major depression which is associated with substantial disability, non-adherence to treatment of co-existing medical illnesses, and increased utilization of health care resources.

Older persons who are hospitalized with medical illnesses frequently experience emotional difficulties in coping with health problems and loss of independent functioning. Studies indicate that depressive disorder is present in one-third to one-half of adults over the age of sixty who are hospitalized and that the depressive symptoms have often been present for many months prior to admission and persist for many months after discharge. Over seventy percent are either untreated or inadequately treated.

Late-life depression has been found to be treatable with antidepressant medication and psychotherapy. Unfortunately, very few older adults have access to depression interventions, particularly psychotherapy. Underutilization of psychotherapy is largely due to the majority of older adults seeking help for depressive symptoms in primary care settings where it is not typically available. Primary care settings are not designed for visits longer than thirty minutes and typically do not employ staff with mental health expertise.

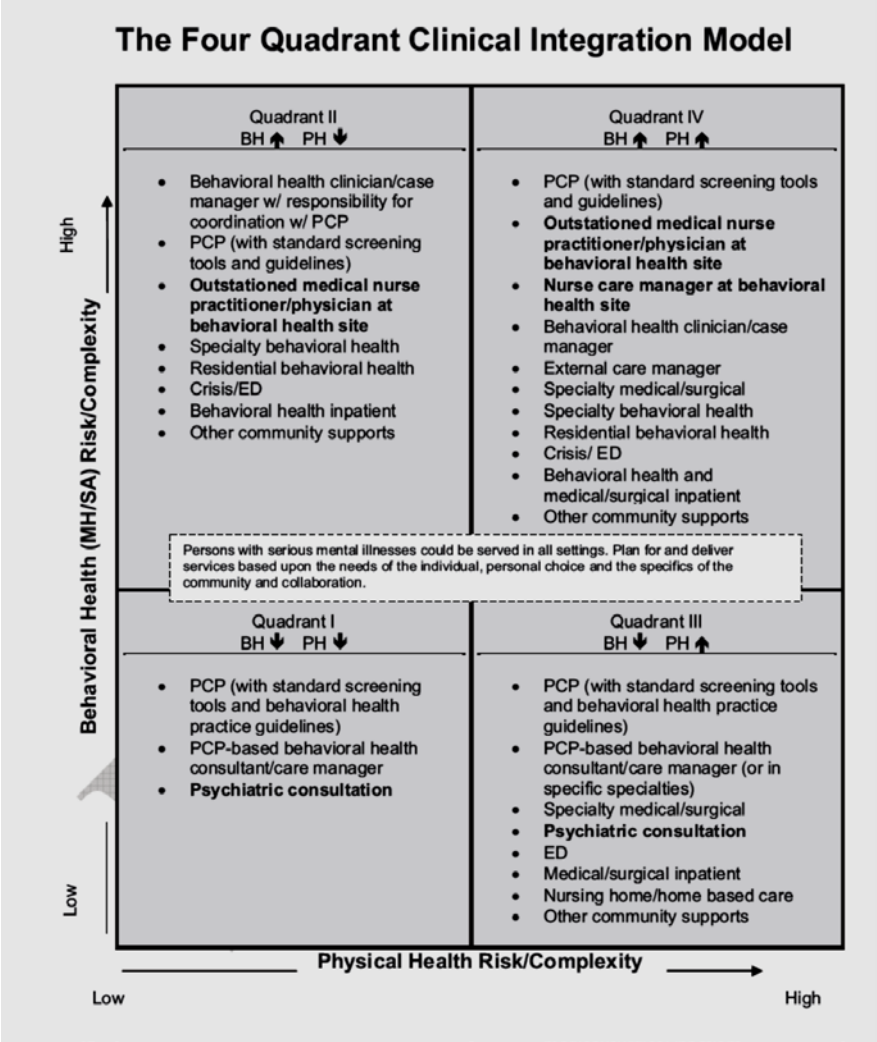
Major depression has been shown to lead to the potential for increased mortality from other illnesses (e.g., heart disease) by fifty nine percent, irrespective of physical health, among nursing home residents. Older patients in primary care with depression visit the doctor and emergency room more often, use more medication, incur higher outpatient charges, and have longer hospital stays. However, these and other risk factors for suicide may not be recognized as evidenced by data showing that older adults who have completed suicide have revealed that these individuals had seen their physician within a short interval of completing suicide, yet few received mental health treatment.

Primary care is generally ill-equipped to treat chronic psychiatric disorders (e.g., depression or dementia) due to limited capacity to identify patients with such disorders as well as provide proactive follow-up needed to retain patients in treatment. Attention to mental health issues compete with attention to comorbid medical disorders and time constraints. Moreover, primary care practitioners often lack adequate training in mental health and geriatric assessment and care, and frequently misattribute psychiatric symptoms to aging or a physical disorder.

Older adults with serious mental illnesses are therefore at risk for receiving lower quality of health care, inappropriate prescriptions, and reduced access to necessary services and supports. The majority of older adults with serious mental illnesses have medical comorbidities and such comorbidities are associated with worse medical outcomes and increased mortality. For example, a number of medication management errors have been identified in treating geriatric depression including under dosing, failing to consider possible drug interactions, discontinuing pharmacotherapy prematurely, and ineffective polypharmacy. Other issues with medication management include using benzodiazepines or anxiolytics as the primary or sole drug; using tertiary tricyclic antidepressants; failing to monitor outcomes, side effects, and adherence; and failing to provide education to patients and their family members.

HEALTHCARE INTEGRATION

Separate service delivery systems for mental health and general health care have been cited as a major barrier to the effective provision of mental health care for older persons. Close collaboration between primary medical and mental health care is recommended in order to provide optimal services for older persons with severe and persistent mental illnesses.



National Council for Community Behavioral Healthcare

One approach to improving access to mental health consultation and treatment services entails establishing a system of referral to specialty mental health providers that offer services tailored to older persons, providing transportation, and minimizing the time from the referral to the visit with the specialty mental health provider. An alternative approach consists of improving access through the integration of mental health and primary care services. Models of integrated care include co-location of medical and mental health providers, multidisciplinary medical-psychiatric treatment teams, the provision of primary care in mental health clinics, the provision of specialized mental health services in primary care clinics, and cross-training medical and mental health providers.

According to the Administration on Aging, there are three models for integrating primary care and mental health:

1. **Attached mental health professional:** In this model, the primary care office has an affiliation with a mental health professional who conducts screenings, therapy sessions, and provides medication adherence monitoring.
2. **Consultation-liaison:** In this model, there is a high degree of collaboration between mental health professionals and primary care staff using a team approach that treats milder mental disorders and enhances the primary care provider's ability to identify and manage mental illnesses. Individuals with more serious mental illnesses are referred to the mental health specialist for more intensive face-to-face meetings and the medical team is consistently included in treatment planning and implementation.

3. **Community mental health teams:** In this model a multidisciplinary team provides services in the community and provides a single point of referral for multidisciplinary care and assessments, education, and consultation with primary care and other community agencies.

The various degrees of integration are depicted in the model below.

MH/Primary Care Integration Options

Function	Minimal Collaboration	Basic Collaboration from a Distance	Basic Collaboration On-Site	Close Collaboration/ Partly Integrated	Fully Integrated/Merged
THE CONSUMER and STAFF PERSPECTIVE/EXPERIENCE					
Access	Two front doors; consumers go to separate sites and organizations for services	Two front doors; cross system conversations on individual cases with signed releases of information	Separate reception, but accessible at same site; easier collaboration at time of service	Same reception; some joint service provided with two providers with some overlap	One reception area where appointments are scheduled; usually one health record, one visit to address all needs; integrated provider model
Services	Separate and distinct services and treatment plans; two physicians prescribing	Separate and distinct services with occasional sharing of treatment plans for Q4 consumers	Two physicians prescribing with consultation; two treatment plans but routine sharing on individual plans, probably in all quadrants;	Q1 and Q3 one physician prescribing, with consultation; Q2 & 4 two physicians prescribing some treatment plan integration, but not consistently with all consumers	One treatment plan with all consumers, one site for all services; ongoing consultation and involvement in services; one physician prescribing for Q1, 2, 3, and some 4; two physicians for some Q4: one set of lab work
Funding	Separate systems and funding sources, no sharing of resources	Separate funding systems; both may contribute to one project	Separate funding, but sharing of some on-site expenses	Separate funding with shared on-site expenses, shared staffing costs and infrastructure	Integrated funding, with resources shared across needs; maximization of billing and support staff; potential new flexibility
Governance	Separate systems with little of no collaboration; consumer is left to navigate the chasm	Two governing Boards; line staff work together on individual cases	Two governing Boards with Executive Director collaboration on services for groups of consumers, probably Q4	Two governing Boards that meet together periodically to discuss mutual issues	One Board with equal representation from each partner
EBP	Individual EBP's implemented in each system;	Two providers, some sharing of information but responsibility for care cited in one clinic or the other	Some sharing of EBP's around high utilizers (Q4) ; some sharing of knowledge across disciplines	Sharing of EBP's across systems; joint monitoring of health conditions for more quadrants	EBP's like PHQ9; IDDT, diabetes management; cardiac care provider across populations in all quadrants
Data	Separate systems, often paper based, little if any sharing of data	Separate data sets, some discussion with each other of what data shares	Separate data sets; some collaboration on individual cases	Separate data sets, some collaboration around some individual cases; maybe some aggregate data sharing on population groups	Fully integrated, (electronic) health record with information available to all practitioners on need to know basis; data collection from one source

K. Reynolds (Washtenaw Community Health Organization)

from http://www.ewashtenaw.org/government/departments/wcho/ch_continuum.pdf

Features of model programs for older adults include:

- Intensive case management
- General medical care
- Twenty four-hour crisis intervention[12]
- Home-based mental health care
- Residential and family support services
- Caregiver training
- Multidisciplinary teams
- Active case-finding and outreach
- Psychosocial rehabilitation

Studies of integrated mental health and primary care have found improved access and participation in services as well as reductions in stigma among providers and consumers. However, despite the effectiveness of models that provide depression treatment in primary care settings, financial and organizational barriers have made such interventions difficult to sustain.

[12] Crisis services have been identified as the most important component of comprehensive community-based care for older adults based on the fact that people older than seventy five have the highest suicide rate. Geriatric Crisis Response Teams specialize in interventions for older adults who might be at high risk for suicide and provide in-home assessment, crisis intervention counseling, psychiatric evaluation, follow-up, and case management.

For example, capitated payment creates an incentive for primary care physicians to deliver fewer services rather than more and additional payments for depression-care managers in primary care settings are seldom provided. Behavioral health carve-outs which allow primary care providers to refer patients for specialized care without penalty and preclude billing for mental health procedures also create disincentives. Finally, higher co-payments for mental health services discourage utilization.

COLLABORATIVE CARE

Collaborative care is a team approach, developed to help manage chronic conditions such as diabetes, and applied to treating depression in older adults in primary care. It is designed to improve recognition of depression as well as its treatment. Elements of the approach include: (1) using a validated screening instrument to diagnose depression; (2) the provision of psychotherapy and/or antidepressants in accordance with evidence-based guidelines and tailored to each individual's needs; and (3) collaboration with primary care physicians and other team members who address a variety of factors contributing to the individual's mood (e.g., stressors, such as linkage to transportation, meal services, and housing). Treatment is periodically reassessed using a validated severity instrument to determine response to treatment and the potential need to adjust the interventions provided.

Team-based collaborative care:

- Evidence-based approaches to depression care and a standard tool for measuring severity, response to the treatment plan, and remission
- A systematic method of tracking and reminding patients at appropriate intervals of visits with their primary care physician and monitoring of treatment adherence and effectiveness
- A depression care manager who makes frequent contacts with the patients to provide further education, self-management support, and monitors response to help facilitate treatment changes and relapse prevention
- Communication between the primary care team and psychiatry for frequent and regular consultations

A depression care manager (i.e., social worker, nurse, or other practitioner) conducts assessments, provides education about depression and treatment options, tracks progress and outcomes, facilitates psychotherapy, monitors antidepressants prescribed by a primary care provider, and coordinates treatment and services with the rest of the primary care team. The care manager works in consultation with a psychiatrist who supervises care (but does not usually see the patients) and provides home-based interventions.

The team utilizes evidence-based depression treatment (i.e., medications and psychotherapy), and the patient is an active team participant through education about depression, problem-solving and behavioral activation, and relapse prevention strategies. The depression care manager follows a stepped-care approach, regularly evaluating outcomes of treatment, and facilitating changes in treatment in accordance with a stepped-care protocol and in consultation with the primary care physician and consulting psychiatrist.

Collaborative care for depression in primary care settings has been found to lead to increased rates of treatment and utilization of mental health services. It is also less expensive than usual care. It has been noted that collaborative care models have the potential to de-stigmatize mental health treatment and can be expanded to include techniques such as telephone links or computer-assisted disease management systems to assess and treat older adults who are homebound or reside in sparsely populated rural areas.

IMPROVING MOOD – PROMOTING ACCESS TO COLLABORATIVE TREATMENT (IMPACT)

IMPACT is an example of a primary care, clinic-based depression care management model that incorporates evidence-based treatment for depression. It is designed for individuals aged sixty and older who have major depression or dysthymic disorder and is a one-year, stepped collaborative care approach in which a depression care manager (DCM) works with the patients primary care provider to develop a course of treatment. The DCM works with the primary care provider to establish a treatment plan and is supervised by a team psychiatrist and a primary care physician. The DCM monitors and follows up with patients in person or by telephone approximately every two weeks during acute phase and approximately monthly during the continuation phase. New patients and those needing treatment plan adjustments are discussed with a supervising team psychiatrist during weekly team meetings.

The DCM completes an initial assessment, provides education regarding treatments, and discusses the patient's preference for depression treatment (i.e., antidepressant medications and psychotherapy) during the first visit. Patients receive educational materials about late-life depression and visit the DCM at the primary care clinic. Patients are encouraged to engage in behavioral activation (e.g., physical activity or scheduling pleasant events). DCMs refer patients for any needed additional health or social services. The IMPACT treatment algorithm suggests an initial choice of an antidepressant medication or a course of Problem Solving Treatment in Primary Care (PST-PC) delivered by the DCM in the primary care setting. A relapse-prevention plan is developed, and the care manager continues to follow up with the patient subsequent to recovery. Lack of adequate response to an antidepressant medication typically results in recommendations that include increasing the dosage, augmentation with a trial of PST-PC, switching to a different medication, or PST-PC alone.

IMPACT has been found to be effective in reducing the severity of depression and functional impairment for males, females and Caucasians, African Americans, Hispanics/Latinos. Participants also have been found to have higher rates of depression treatment and reductions in depressive symptoms, higher levels of satisfaction with their care, and report less functional impairment and greater quality of life. These benefits have been found to endure subsequent to participation with maintenance of improvements in antidepressant treatment, depressive symptoms, and remission of depression, physical functioning, quality of life, self-efficacy, and satisfaction with care. Finally, results indicate that evidence-based care for major depression can be successfully delivered by specially trained nurses, psychologists, and social workers in primary care settings.

Program materials are available free of charge in electronic form from the IMPACT Implementation Center (http://impact-uw.org) and in hard copy from the IMPACT Implementation Center (http://impact-uw.org/about/implement.html). In addition, free online training is available. IMPACT materials have also been translated into Dutch and adapted for use in the Netherlands and Australia. The average cost for in-person training for DCMs is $200.00 per trainee. Case-based training in the PST-PC technique costs approximately $1,000.00-$1,500.00 per trainee. The estimated annual cost for each consumer participant is $500.00 per year.

While it has not been widely adopted, IMPACT has served as a foundation for the development of other collaborative depression-care management models for older patients in primary-care settings, including the Prevention of Suicide in Primary Care Elderly: Collaborative Trial (PROSPECT), sponsored by the National Institute of Mental Health.

PREVENTION OF SUICIDE IN PRIMARY CARE ELDERLY: COLLABORATIVE TRIAL (PROSPECT)

PROSPECT is a collaborative care model delivered in primary care settings that focuses on reducing suicidal ideation among older adults aged sixty and over with depression. It combines depression treatment guidelines with depression care management and is designed to increase protective factors (through effective clinical care for mental, physical, and substance use disorders as well as easy access to a variety of clinical interventions and support for help-seeking) and reduce risk factors, including barriers to accessing health care and the presence of untreated mental illness.

The treatment guidelines of PROSPECT consist of a clinical algorithm for treating geriatric depression in a primary care setting modified to address circumstances associated with the treatment of depression in older adults (e.g., adverse events, medical comorbidity, functional disability, cognitive functioning, and social stigma). The program incorporates a depression care manager and supervising psychiatrist who work with the primary care physician.

Studies of PROSPECT indicate that participation leads to significant reductions in suicidal ideation, particularly for individuals diagnosed with major depression, compared to those with minor depression. In addition, PROSPECT has been shown to result in significantly better responses and remission rates for major depression, faster resolution of suicidal ideation, and reductions in mortality. PROSPECT has been identified as an effective selective and indicated prevention program by SAMHSA and is listed on the National Registry of Evidence-based Programs and Practices (NREPP).

PROBLEM SOLVING THERAPY FOR PRIMARY CARE (PST-PC)

PST-PC is a psychotherapeutic intervention created specifically to address the time and resource issues of primary care medicine. It is a brief intervention that is adapted for non-mental health providers and can be delivered in community settings as well as primary care. It is typically conducted over the course of six to ten sessions. The first session lasts about one hour because it includes an introduction to the technique as well as the first session. Subsequent sessions are thirty minutes in duration. Monthly group meetings for patients who respond to treatment can also be provided.

PST-PC focuses on the identifying addressing problems of daily life that cause and maintain depressive symptoms in order to reduce the number and severity of depressive symptoms experienced. A specific, structured problem-solving procedure based on clearly defining problems and setting concrete and realistic goals is taught in order to help consumers gain a sense of control over their lives and become empowered to make lasting life changes. PST teaches individuals how to solve here-and-now problems that contribute to their depression and helps increase self-efficacy.

Studies indicate that PST-PC is as effective as antidepressant medication in treating major depression in younger primary care patients and has been found to be effective in treating depression in older adults. Its use results in significantly greater access to psychotherapy and better outcomes than psychotherapy available in the community. Improvement from PST-PC has been found to persist for two years post intervention with or without monthly booster sessions. In addition, the number of sessions in PST-PC has no effect on treatment outcomes. In addition, PST-PC has been found to be cost-effective and it can be effectively delivered in health care settings by existing health care providers within those settings with training and guidance. In addition, the effects of treatment appear to occur sooner in the course of treatment in primary care than they do in community-based settings. Information and program materials

can be found at http://impact-uw.org/tools/pst_manual.htm. The manual can be downloaded from http://www.public-health.uiowa.edu/icmha/outreach/documents/ProblemSolvingTreatmentforPrimaryCare.PDF.

GERIATRIC RESOURCES FOR ASSESSMENT AND CARE OF ELDERS (GRACE)

The GRACE model of primary care for older adults with low incomes is designed to improve the quality of care provided in order to optimize health and functional status, reduce excess healthcare use, prevent long-term nursing home placement, as well as help patients overcome risks and challenges (e.g., chronic illness, limited access to care, low health literacy, and socioeconomic stressors). The program targets twelve areas: advance care planning, health maintenance, medication management, difficulty walking/falls, chronic pain, urinary incontinence, depression, malnutrition/weight loss, visual impairment, hearing loss, dementia, and caregiver burden.

GRACE provides home-based, integrated geriatric care by a team consisting of a nurse practitioner and a social worker that is supported by a larger interdisciplinary team which is led by a geriatrician and includes a pharmacist, physical therapist, mental health social worker, and community-based services liaison. Input is obtained from each patient's primary care physician and used to establish a plan of care for the patient that incorporates protocols that have been developed for the treatment of the twelve targeted geriatric conditions.

The GRACE nurse practitioner and a social worker form a support team that meets with patients in their homes upon enrollment to conduct an initial comprehensive geriatric assessment and then with the larger interdisciplinary team to develop an individualized care plan including activation of GRACE protocols for evaluating and managing common geriatric conditions. Next, the GRACE support team meets with the patient's primary care provider (PCP) to discuss and modify the plan. The support team then implements the plan providing ongoing care management and coordination of care across multiple geriatric syndromes, providers, and sites of care with the support of an electronic medical record and longitudinal tracking system. The support team provides follow up contacts by telephone or face-to-face on a minimum of a monthly basis. In addition, home visits are provided subsequent to any emergency-department or hospital visit. The GRACE interdisciplinary team meets weekly to discuss each patient's progress with the smaller team. The model also incorporates an electronic medical record and web-based tracking system to facilitate timely access to information.

Outcome evaluations of the GRACE model indicate that participation results in improvements in quality of care (e.g., provision of evidence-based interventions), general health, mental health, social functioning, and reductions in emergency room visits as well as high levels of patient and physician satisfaction. The Agency for Healthcare Research and Quality (AHRQ) recognizes the program as an innovative approach to patient care delivery and has selected the program to appear in its Health Care Innovations Exchange.

LONG-TERM CARE

In the past long-term care was synonymous with nursing home care or other forms of institutional care. However, during the past few decades there has been significant growth in the diversity of settings in which older persons reside and receive care. Care is no longer the strict province of the home or nursing home and extends from naturally occurring retirement communities and continuing care retirement communities, to other types of alternative living arrangements such as congregate or senior housing, senior hotels, foster care, group homes, day centers (where people reside during the day), and others.

Although the majority of older adults with serious and persistent mental illnesses reside in the community, data indicates that they are overrepresented in long-term-care populations and account for a disproportionate amount of mental health care costs. Most long-term care programs primarily serve older adults with chronic physical disabilities or cognitive impairments but do not address impairments in mood and behavior. Those without family support generally live in nursing homes, assisted living facilities, and board and care homes that offer some combination of housing, supportive services, and, in some cases, medical care.

MENTAL HEALTH SERVICE SETTINGS FOR OLDER ADULTS	
COMMUNITIES	**INSTITUTIONS**
• Homes	• Nursing homes
• Group homes	• General hospitals with psychiatric units
• Retirement communities	• General hospitals without psychiatric units
• Primary care and general medical sector	• State mental hospitals
• Outpatient therapy	• Veterans Affairs hospitals
• Assisted living facilities*	• Community mental health centers
	• Board and care homes*

*These are residential facilities that serve as a bridge between community and institutional settings and have elements of each.

Some settings, such as nursing homes and hospitals, inadvertently foster dependency rather than independence due to their focus on incapacities rather than abilities, while others shift the balance to independence with the risk of inadequately addressing nursing and health needs.

HOUSING

In recent years the emphasis has been on aging in place, either at home or in the community, rather than in alternate settings. The **landscape for aging** is an emerging model that emphasizes tailoring environments to the needs of individuals by focusing on health and residential (e.g., homes, retirement communities, nursing homes) needs to achieve a high quality life through interdisciplinary collaboration between systems of care and consumers. For example, **naturally occurring retirement communities (NORCs)** have on-site supportive services programs that provide opportunities for activities, socialization, and voluntary assistance to neighbors, and have on-site primary care services offered by nurses and on-site social work services.

Supported housing features flexible, individualized services and supports, combined with affordable housing in community settings. Supportive services can include case management, socialization, recreation activities, vocational and independent living skills training such as; personal hygiene, household tasks, transportation utilization, money management, and the development of natural supports needed to access services in the community all of which are provided in the consumer's home. The model has been found to be highly effective in helping many people live within the community and receives consistently high rates of consumer satisfaction. Like their younger counterparts, older adults with serious mental illnesses can be effectively served within supported housing settings thus allowing them to continue to live independently.

Public housing offers **options for aging in place**. Advantages and disadvantages of grouping people in need of assisted living services in one location rather than scattered sites have been identified. One advantage is cost savings from economies of scale and reductions in staff time. A disadvantage is that some tenants will have to move to a new unit in order to receive services. Others include feeling stigmatized by being readily identifiable as having higher needs and view a move to a specific section of the building as a step closer to death.

Services can be provided at three levels: basic, moderately intensive, and most intensive.

BASIC SERVICES	MODERATELY INTENSIVE SERVICES	INTENSIVE SERVICES
• Food • Health promotion and disease prevention • Recreation • Transportation • Information and referral to desired services • Medication assistance • Cognitive assistance	• Care management for individual seniors and coordination of services from all of the partners • Assistance with basic activities of daily living • Assistance with instrumental activities of daily living • Medication assistance • Cognitive assistance • Adult day care	• Physician services • Home health services • Rehabilitation services (outpatient and inpatient) • Assisted living environments and services (including 24-hour staff) • Nursing home environments (intermediate and skilled) and services (including 24-hour staff) • Medication administration • Cognitive assistance

Care management[13] in public housing is an interdisciplinary approach that acknowledges the consumer as the focal point and includes advocacy, tenant outreach, socialization, service planning and brokering, resource coordination, problem solving, community building, evaluation, record keeping, and referrals. While it does not include direct personal care, it does include oversight of a personal care program or provider agency. Such services allow tenants to live more independently by providing access to specifically tailored services in their homes. It may be most effective when staff provide linkages among the various community services as part of a holistic approach to care and empowerment.

PSYCHOGERIATRIC ASSESSMENT AND TREATMENT IN CITY HOUSING (PATCH)

PATCH is a multidisciplinary, mobile outreach, home-based program provided by a psychiatrist, nurse, and a case manager. The model, developed in Baltimore, includes the identification of at-risk residents by public housing staff (e.g., building managers, janitors, and tenant services) who receive training to identify signs and symptoms of mental illness and report potential problems to housing managers or a building counselor who then make referrals to the PATCH treatment team. Each team carries a maximum case load of thirty residents.

An evaluation conducted by a PATCH nurse that includes a mental and physical health history and family and social history. A therapeutic relationship is developed between the PATCH team and the resident to build rapport and trust, and a treatment plan is developed through coordination with a team psychiatrist, nurse, and case manager. Tailored interventions that match the needs of the resident are provided including psychotherapy, medication, and other necessary services (e.g., transportation to medical appointments, financial assistance, and other community supports).

PATCH has been shown to be effective in identifying depression and other psychiatric disorders in older residents of public housing. Outcomes indicate a reduction in symptoms and the potential to increase the length of time older adults can live independently in their own apartments.

A manual for practitioners that includes a set of seven training modules used to train public housing authority staff to identify and refer older adults to PATCH has been published along with a packet of published articles that describe the program and staff roles.

[13] Care managers in public housing are often nonprofessionals; professionally educated care managers are typically on-site social workers or visiting nurses.

ASSISTED LIVING

Assisted living provides services to individuals with physical disabilities, medical needs, and cognitive impairments. Assisted living programs that provide twenty-four-hour staff and nursing oversight are especially beneficial to elderly tenants who are frail or have cognitive impairments that necessitate protective oversight and who may routinely need certain services at various times in small increments (e.g., as-needed medications; cueing and reminders; assistance with transfers and walking; occasional assistance in incontinence management; behavioral interventions such as training or using other means to interrupt actions that can harm a consumer or others; or skin and wound care, which cannot easily be given by care providers who make scheduled visits).

Assisted living services typically include:

- Twenty-four staffing
- Provision and oversight of personal and supportive services (assistance with activities of daily living and instrumental activities)
- Health-related services (e.g., medication management)
- Social services
- Recreational activities
- Meals
- Housekeeping and laundry
- Transportation

NURSING HOMES

Approximately five percent of adults over the age of sixty five reside in nursing homes. The lifetime risk of admission to a nursing home is twenty five to fifty percent. It is estimated that seventy five percent or more of nursing residents have a diagnosable mental illness, the most common of which are dementia and depression. Despite the prevalence of psychiatric disorders among residents, nursing homes have been found to be ill equipped to meet their needs. Less than a fifth of nursing home residents receive treatment from a mental health clinician.

Psychotropic medications are commonly prescribed in nursing homes. Regulations regarding these prescriptions have arisen from concerns that psychiatric medications are prescribed inappropriately to people who are frail and in the absence of evidence upon which to base prescribing decisions.

A 1986 report by the Institute of Medicine cited inappropriate use of antipsychotic drugs and physical restraints as well as inadequate treatment of depression in a report to Congress on improving the quality of care in nursing homes. In response, Congress passed the Nursing Home Reform Act (also known as the Omnibus Budget Reconciliation Act of 1987) which mandated the right of nursing home residents to an environment that promotes quality of life (i.e., physical, mental, and psychological well-being) as well as freedom from chemical and physical restraints for behavior management.

The Omnibus Budget Reconciliation Act (OBRA) of 1987 also created a Preadmission Screening and Resident Review program (PASRR)[14] to address concerns that many people

[14] PASRR involves two parts: preadmission level I and level II screens and level II resident reviews. Originally, PASRR required annual resident reviews on an annual basis, but under the Balanced Budget Amendment of 1996 this requirement was eliminated and replaced with a requirement to conduct screening when there is a significant change in an individual's physical or mental condition.

with serious mental illnesses and mental retardation were residing in nursing facilities with inadequate resources to care for them appropriately. The screening was designed to exclude people with mental disorders who required more appropriate acute treatment in hospitals or long-term treatment in community-based settings from nursing homes and to improve the quality of psychosocial assessments and care for nursing home residents with mental disorders. OBRA-87 not only mandated preadmission screening to ensure that only residents in need of nursing care be admitted to nursing homes, but that yearly reviews of problems and services be conducted for each resident, and that facilities provide active mental health treatment to residents with a primary mental illness. It was anticipated that this requirement would lead to reductions in the use of nursing homes for persons with mental illnesses (although dementia-related conditions continued to qualify for nursing home admission).

Although nursing homes are required to have the capacity to deliver mental health care, the Surgeon General's report on mental health noted that Medicaid policies discourage nursing homes from providing specialized mental health services, and Medicaid reimbursements are insufficient for providing a strong incentive for participation by highly trained mental health providers.

NURSING HOME MENTAL HEALTH SERVICES

A number of interventions can be used to address the mental health needs of the residents of nursing homes. These include individual, group, program, family-based and staff interventions, each of which focuses on helping residents and/or families adapt to the nursing home environment, changing the behavior of residents, improving quality of life, or enhancing staff performance and morale as well as the morale of the residents.

Individual interventions	Interpersonal skill training, psychotherapy, reality orientation, self-care training, social interaction for the treatment of a specific resident
Group interventions	Interpersonal skill training, education and discussion, group therapy, socialization therapy
Program interventions	Focus on a facility's environment or its quality of life (e.g., the therapeutic use of animals, social hours, reality orientation classes, activities programs, environmental stimulation, intergenerational programs)
Family-based interventions	In-service training with family members and staff, short-term counseling groups for children of elderly parents, conjoint therapy with elderly couples, preadmission groups, post-admission counseling, group therapy, education and support programs, and information and counseling for caregivers of patients with Alzheimer's disease. Family-based interventions usually focus on providing accurate information about the aging process and the specific difficulties troubling the resident, enabling family members to better understand their own reactions to an older relative's impairments and increasing the ability of caregivers to provide optimal care while continuing to pursue their own personal development
Staff interventions	Weekly staff meetings; training or workshops for staff; environmental alternatives to increase social interactions among patients, staff, and family members; a core group of administrators that focuses on staff relations and attitudes

The majority of psychiatric services in nursing homes are provided by a psychiatric consultant who works alone, comes only when called to see a specific patient, provides written treatment recommendations, and does not provide subsequent care unless specifically requested. This psychiatrist-centered model of service provision, which mirrors that of traditional hospital-based consultation-liaison services, has been shown to be the least effective model due to poor treatment implementation, lack of adherence to written recommendations, and a failure to provide additional services including ongoing training, administrative consultation, program development, and discipline-specific support.

Nurse-centered models of mental health service delivery are distinguished by the presence of a geropsychiatric nurse specialist who coordinates the service of other extrinsic mental health clinicians while providing training to develop the skills and abilities of the facility's nursing staff. Such nurse-centered models focus on routine administrative consultation to nursing home personnel and training of direct care staff to provide mental health interventions within the nursing home. These models use a train-the-trainer approach in which a geropsychiatric nurse specialist provides ongoing training and consultation to a nursing home staff nurse who gains the expertise and takes responsibility for training other staff.

Multidisciplinary team models typically include mental health clinicians (e.g., a psychiatrist, psychiatric nurse, a social worker, psychologist, and other types of service providers) with different roles and responsibilities. This is considered the most effective model and the literature recommends the routine presence of qualified mental health clinicians in nursing homes to allow for the provision of ongoing consultation and follow-up during episodes of acute illness and intensity of services in accordance with medical necessity. In addition, routine follow-up visits by mental health clinicians for management of maintenance treatment and administrative and programmatic consultation are recommended.

Studies indicate that targeted educational interventions (particularly assessment and management of behavioral problems) can be effective in changing clinicians' treatment practices, reduce staff turnover, and enhance the knowledge and performance of nursing home staff. Moreover, these studies emphasize the importance of focusing training on staff members who have the most direct contact with residents (e.g., certified nursing assistants). Two educational interventions have been shown to be effective in changing physicians' prescribing practices in nursing homes to reduce the use of antipsychotics and other psychotropic medications: one-on-one physician education and feedback on prescribing behavior, and nursing staff and physician education regarding the use of behavioral techniques combined with a protocol for gradual withdrawal from antipsychotic medications.

In sum, the most effective nursing home mental health services are interdisciplinary and multidimensional and address neuropsychiatric, medical, psychosocial, environmental, and staff issues. The most effective interventions blend consultation with training and educational interventions that focus on frontline nursing staff who provide basic care to residents as well as on nursing home physicians who are responsible for prescribing psychotropic medications as well as behavioral interventions. The provision of effective mental health services in nursing homes is associated with lower rates of hospitalization, use of emergency services, as well as mortality rates among nursing home residents with schizophrenia, other psychotic disorders, and anxiety disorders. However, studies also show that nursing home staff members often do not adopt the written treatment recommendations of external consultants. But, the research base is rather limited and most of the studies have significant methodological limitations including lack of a comparison group and outcomes rated by clinicians.

DEMENTIA CARE

Despite its prevalence, AD is under recognized and undertreated in nursing homes. Moreover, dementia has been found to be the most common cause of psychiatric and behavioral problems among nursing home residents. Inappropriate behaviors associated with dementia include aggressive behaviors (e.g., hitting, kicking, cursing), physically nonaggressive behaviors (e.g., pacing, handling things inappropriately, general restlessness, and repetitious mannerisms), and verbal and vocal agitated behaviors (e.g., complaining and constantly requesting attention). Personal care skills training, structured activity programs to improve affect and behavior, specific facility design features, and an interdisciplinary care model are recommended to address dementia in nursing homes.

It is postulated that most agitated behaviors are manifestations of unmet needs; dementia leads to an inability to fulfill such needs because of perceptual and communication impairments as well as an inability to appropriately influence the environment. Intervention thus focuses on ascertaining and addressing the person's unmet needs, the most common of which are social and physical stimulation resulting from sensory deficits and the monotony of the nursing home environment. Other common needs include relief of discomfort and pain. Interventions recommended to ameliorate discomfort include pain management, correction of hearing, vision, and positioning problems, and assistance with difficulties related to activities of daily living, treatments to improve sleep, and the removal of physical restraints.

Environmental interventions aim to reduce barriers, increase comfort and mobility in order to maximize the functioning of residents with dementia. For example, glider or rocking chairs are recommended for residents who like to rock but could fall forward out of a wheelchair or a stationary chair. Recliners that may be a comfortable alternative to chairs, and additional cushions can be used to promote correct and comfortable positioning. Wheelchairs can be adapted with wedge or pressure-relieving cushions. AD-specific design features include high levels of visual access, highly visible and signed toilet doors, indoor/outdoor wander-safe areas, higher levels of lighting, age-appropriate fixtures and fittings, and individualized personal space. In addition, small scale group living units that separate residents without cognitive impairments from those with dementia are recommended as well as dining in small groups of four to eight.

The literature recommends providing engaging activities that includes both stimulation (i.e., passive engagement), activities (i.e., active engagement), and allowing for the pursuit of the self-stimulation involved in inappropriate behaviors by accommodating those behaviors. The provision of stimulation includes the use of music tailored to the person's preferences, and other sensory stimulation, such as aromatherapy or touch therapy. More active engagement is typically provided through structured activities. Activity programs can match activities to previous roles (e.g., folding towels and kneading dough) or include exercise. Multisensory stimulation uses a variety of equipment (e.g., lighting effects, relaxing music, recorded sounds, massage cushions, tactile surfaces and fragrances to create a multisensory environment) or combinations of massage, aromatherapy with essential oils (e.g., lavender and lemon balm), and music. However, studies do not show consistently beneficial outcomes and some individuals have been found to experience adverse effects from aromatherapy.

The provision of appropriate materials (e.g., books and pamphlets for handling and activity aprons with buttons, zippers, and other articles sewn on) is recommended for individuals who manifest behaviors such as handling things inappropriately so that they can occupy themselves with such items rather than with their own clothing or harmful materials. Simulated presence therapy in which audiotapes of family conversations or telephone messages and/or video recordings of family events and functions are played have also been found to be effective as has the presence of familiar objects, maintenance of consistent routines, and ongoing contact with family members. In addition, recordings and pictures of birds, flowing water, and small animals in baths, as well as offering food during bathing, have been shown to lead to reductions in inappropriate behaviors.

Restorative-rehabilitative therapies are often underused for nursing home residents with dementia based on the assumption that they are unable to learn because of their memory impairments. Residents with cognitive problems have been found to benefit from approaches that incorporate assistive devices to enhance motor skills outside therapy sessions until competency is demonstrated (i.e., procedural or implicit memory) rather than those that rely solely on memory of a specific therapy session (i.e., explicit memory). Repetition and consistent use of a device or technique on a twenty-four basis (as opposed to episodic use during therapy sessions) encourages carryover (i.e., promotes procedural memory). In addition, spaced

retrieval (i.e., the correct recall of information over systematically increasing intervals of time) has been found to be of benefit to persons with dementia. Spaced retrieval employs cognitive shaping techniques that use procedural memory.

It has been demonstrated that it is important to match treatment to each individual's needs and preferences taking into account cognitive ability, level of mobility, and sensory deficits. For example, individualized music has been found to be more effective in reducing inappropriate behaviors than non-individualized music. In addition, maximal benefits are derived from different interventions (e.g., a video of family members rather than one-to-one interaction). However, the current literature base generally includes methodologically weak studies with small sample sizes.

Studies conducted on **Alzheimer's special care units (SCUs)** have found reductions in agitation and the use of restraints. In addition, the provision of specialized staff training within SCUs has been shown to lead to reductions of behavioral disturbances as well as the use of psychotropic drugs and physical restraints. The use of a palliative care philosophy in SCUs has been shown to lead to lower levels of observed discomfort, fewer transfers to acute medical settings, and lower medical costs. In addition the availability of patient-safe exterior space has been found to result in reductions in violent behaviors and injuries although remodeling interior or exterior spaces to resemble nature and home scenes does not appear to reduce problematic behaviors. On the other hand small, group living in homelike settings with individualized psychosocial and integrity-promoting therapy has been found to lead to reduction in agitation and restlessness in individuals with AD.

Physical restraints that restrict the ability to move freely (e.g., vest, chest, ankle, mitt, belt, wrist restraints, chairs with fixed tray tables, wheelchair bars, and bed belts, etc.) are often used to reduce the risk for falls, wandering, and agitation despite the lack of scientific support. In fact, data indicate restraints may actually exacerbate behavioral problems. Like physical restraints, side rails are used to prevent falls and injuries for residents with cognitive impairments by reminding them to remain in bed or seek assistance when getting out of bed. However, residents with memory problems may view rails as barriers to overcome which can increase the risk for injurious falls because the rails can increase the height of a fall by two feet. Also, rails can lead to entrapment injuries when attempts to climb over them are made. Studies have demonstrated that restraint and side rails can be removed without adverse consequences, particularly if residents' underlying problems are adequately addressed.

Bed-related falls are associated with overuse of hypnotics, inadequate treatment of pain, and lack of appropriate environmental intervention. Residents at highest risk are those with moderate to severe cognitive impairment who demonstrate poor judgment and are unable to ambulate independently. Such individuals are also the most likely to attempt to get out of bed despite raised side rails. The correct bed height is essential for safe transfers into and out of bed, yet the lowest height of many nursing home beds is higher (more than one hundred twenty percent of lower leg length). A very low bed (seven to thirteen inches above the floor) is recommended for residents who are unable to stand safely but who may accidentally roll out of or otherwise attempt to get out of bed in an unsafe manner in order to reduce the likelihood of serious fall-related injuries. Alternative reminders of the bed's boundaries include concave mattresses, full body pillows, and rolled blankets under the mattress edge.

ADVANCED ILLNESS CARE TEAMS (AICTS)

It is estimated that the majority of nursing home residents with dementia suffer from pain on a regular basis. Inadequate pain management, which is associated with depression, agitation, and decreased activity level and socialization, for residents with dementia has been cited in the literature as a continuing problem.

Advanced illness care teams are designed to increase comfort, care, and well-being, decrease pain, agitation, and depression of nursing home residents with advanced dementia by addressing medical, psychological, and behavioral issues as well as the need for meaningful activities. Such interdisciplinary teams have been shown to improve the care of residents with dementia with significant decreases in problem behaviors, the use of antipsychotics, and mechanical restraints, as well as improvements in symptoms of depression and psychosis. A manual for the implementation of AICTs can be downloaded free of charge from http://www.health.state.ny.us/diseases/conditions/dementia/edge/nysdgp/docs/nysdg_advanced_illness_care_team_implementation_manual.pdf.

EDEN ALTERNATIVE

Historically, the quality of life of nursing home residents of nursing homes has received insufficient attention exemplified by having little choice in their schedules or daily activities. However, the past decades have witnessed increasing attempts to alter the culture of traditional nursing home care in an effort to improve workers' job satisfaction and residents' quality of life through transformed environments, greater choice, and more empowerment of direct-care staff. These efforts have resulted in new patient-centered (rather than medical) models of nursing-home care. The genesis of this movement was the 1987 Nursing Home Reform Act which affirmed the right of residents of long-term care to be free from abuse or neglect. Nursing homes have tried a variety of strategies to become more resident-centered and a number of models have been developed.

The Eden Alternative model entails the creation of a home-like environment that makes pets, plants, and children part of daily life within a nursing home and replaces programmed activities with natural activities of daily life. Eden Alternative homes have permanent nursing care teams, each of which is responsible for a small number of residents, as well as the operation of their work units. For example, certified nurse assistants (CNAs) prepare their own schedules and daily assignments. Eden teams include all employees who come into contact with residents including housekeepers and activity, laundry, maintenance, and rehabilitation staff. Staff members make decisions based on residents' needs. Teams elect their own leaders; usually the administrator, Eden Coordinator, or nursing staff function as consultants to permanent care teams.

Research shows that Eden Alternative residences experience reductions in overall number of drug prescriptions and PRN (anxiolytic and antidepressant) medications, infection rates, staff absenteeism and turnover, pressure sores, and mortality rates. Savings on drug prescriptions are allocated to maintaining the Eden environment. Information on the model can be found at http://www.edenalt.org/.

GREEN HOUSE (GH)

The Green House model is designed to make residents feel at home by emphasizing normal rather than therapeutic living.

Employees in traditional nursing homes typically have narrowly defined jobs (e.g., giving baths cooking, laundry, etc.) to enhance efficiency rather than attending to individual residents' preferences and needs. A Green House is staffed with two certified nursing assistants who perform all of these jobs, but for fewer residents. One registered nurse typically supports two or three houses. This allows staff to spend more time with residents and not be encumbered by a rigid schedule of waking, bathing, and meals; residents' days are organized on the basis of their preferences while fostering greater independence of residents as staff members have time to allow them to perform activities of daily living on their own.

The GH model is based on the principles of the Eden Alternative, a movement to foster culture change within nursing homes by creating a home-like culture through the incorporation of plants, pets, and visits by children as well as decentralizing the organizational structure of nursing homes to empower certified nursing assistants (CNAs) to develop their own schedules and daily assignments and provide companionship to the residents. GHs extend the Eden Alternative by creating a more residential social setting.

A Green House is designed to look like a private home or apartment and constructed with seven to ten bedrooms. Each resident has their own room and common living space which consists of a shared living room, dining room, and kitchen facilities centered around one large table where residents, staff, caregivers, family, and friends have dinner each evening together.

The model involves three key elements:

10 Principles of Eden Alternative:

1. *The three plagues of loneliness, helplessness, and boredom account for the bulk of suffering among our Elders.*
2. *An Elder-centered community commits to creating a human habitat where life revolves around close and continuing contact with plants, animals, and children. It is these relationships that provide the young and old alike with a pathway to a life worth living.*
3. *Loving companionship is the antidote to loneliness. Elders deserve easy access to human and animal companionship.*
4. *An Elder-centered community creates opportunity to give as well as receive care. This is the antidote to helplessness.*
5. *An Elder-centered community imbues daily life with variety and spontaneity by creating an environment in which unexpected and unpredictable interactions and happenings can take place. This is the antidote to boredom.*
6. *Meaningless activity corrodes the human spirit. The opportunity to do things that we find meaningful is essential to human health.*
7. *Medical treatment should be the servant of genuine human caring, never its master.*
8. *An Elder-centered community honors its Elders by de-emphasizing top-down bureaucratic authority, seeking instead to place the maximum possible decision-making authority into the hands of the Elders or into the hands of those closest to them.*
9. *Creating an Elder-centered community is a never-ending process. Human growth must never be separated from human life.*
10. *Wise leadership is the lifeblood of any struggle against the three plagues. For it, there can be no substitute.*

1. The environment is composed of a small, technologically sophisticated house that functions as a home for eight to ten residents each of whom has a private room and bathroom. The residents' individual rooms are clustered around a central area with a shared kitchen, dining room, and living room. The appearance and function thus is like a real home and, as such, lack nurses' stations, medication carts, or public address systems.
2. The direct care staff members have expansive roles that include personal care, cooking, housekeeping, and assuring that residents spend time in accordance with their preferences. These direct-care workers receive one hundred and twenty hours of training above those required of a CNA as well as federal and state requirements. In addition, sages, who are older adults, serve as coaches or mentors to them. Guides, who are supervisors, serve as liaisons between these staff and other staff.
3. Professional healthcare providers (e.g., nurses, physicians, social workers, and pharmacists) form visiting clinical support teams provide specialized assessments for residents. Licensed nurses are available and responsible for clinical care in the GH and available to direct-care staff whenever needed, on a twenty four basis for emergencies.

Evaluations of the GH model indicate that residents report a better quality of life, higher levels of satisfaction with their place of residence, and better emotional health. Residents have also been found to have a lower prevalence of being on bed rest, limited activity status, and feeling of depression. Studies show that residents of Green Houses experience fewer bed sores than those in conventional nursing homes and receive twenty four minutes more direct and personalized care and one and a half hours more of nursing staff time each day than residents of traditional nursing homes. Residents indicate feeling they have more profound relationships with staff, and family members report higher satisfaction with the physical environment, privacy, their own autonomy, health care and meals.

In addition, the GH model leads to improved recruitment and retention of direct-care staff and lower costs due to decreased turnover rates, operational efficiencies, and diminished need for middle-management positions. Green House certified nursing assistants are paid on average about five percent more but have a lower vacancy rates than conventional nursing homes. They accept Medicare and Medicaid, making them an option for older persons with low incomes. While daily costs are similar for the Green House model and larger nursing homes, the homes are typically built in clusters of two or more and require comparatively large initial capital investments so long-term costs would be increased if the model replaced every nursing home.

Providers in GHs need to adapt to new roles. For example, direct-care staff members are central to the care of residents and responsible for monitoring their status based on the direction of physicians rather than typical nursing homes in which physicians have traditionally had little communication with direct-care staff.

EVERCARE

The Evercare program, originally developed by United Health Care Corporation, assigns nursing-home residents to a risk-bearing health maintenance organization (HMO) that coordinates Medicare acute-care services and nursing-home services under Medicaid. The program is designed to overcome fragmentation and improve health outcomes including reductions in emergency treatments and hospitalizations by providing coordinated, individualized health care and well-being services to individuals with chronic illnesses or disabilities who live independently or in long-term care facilities.

Nurse practitioners provide more intensive primary care services than is typical for nursing-homes residents and coordinate enrollees' care with nursing-home staff. These nurse practitioners have relatively small caseloads and visit each of nursing home every second or

third day and spend about one-third of their days on direct patient care. They coordinate care by communicating information to nursing-home staff, families, and physicians, and work with nursing-home staff to monitor treatment and identify changes in residents' status. The Evercare program also provides education to nursing-home staff through formal in-service training and informal on-the-job training.

Evaluations of Evercare indicate the program results in increased access to medical and nonmedical services, better health outcomes, and lower costs to Medicare and Medicaid with significant reductions in hospitalizations (forty five percent) and emergency room visits (fifty percent) for nursing home residents. The Medicare Modernization Act (MMA) of 2003 made the Evercare program a permanent option. Information on Evercare can be found at http://www.evercarehealthplans.com/.

SERVICE DELIVERY MODELS

Older adults have historically underused mental health services. This has been attributed to both personal and system barriers. Outreach models of care that provide detection of mental health problems in settings where older adults reside, spend most of their time, and seek services (e.g., senior centers, senior residential care settings, and home-based settings) have been developed in an effort to overcome these barriers and increase their access to and use of mental health services. The primary elements of outreach services include case finding, assessment, referral, treatment, and consultation. Outreach programs may offer early intervention, facilitate access to preventive health care services, and provide evaluation services, referrals to community treatment or supportive services, and offer services designed to improve community tenure.

Longitudinal studies indicate that **multidisciplinary outreach teams** are associated with reductions in psychiatric symptoms. Services provided include in-home assessment, followed by interventions through referrals and linkages to outpatient treatment or to home-based psychiatric care. These multidisciplinary geriatric mental health outreach interventions have been found to lead to improvements in global functioning, reductions in psychiatric symptoms, and behavioral disturbances as well as maintenance of independence. In addition, they are perceived as helpful to caregivers and referral sources.

The rather limited body of literature regarding the effectiveness of various models of service delivery indicates the strongest empirical evidence for community-based, multidisciplinary, geriatric mental health treatment teams that emphasize integrated case management, the use of common assessment tools, and technology for information sharing. Such models seek administrative efficiencies and often pool funding to provide more coordinated care.

Programs have been developed to deliver comprehensive services that are designed to address the complex medical and health-related needs resulting from chronic illnesses and functional limitations experienced by frail older adults that place them at risk for medical complications (e.g., falls and adverse drug reactions) and can result in potentially avoidable hospital stays and long-term nursing home placements. Such programs coordinate community-based services and supports, integrate acute and long-term care and attend to both medical and social service needs. Examples include social HMOs (SHMOs), the Program of All-Inclusive Care for the Elderly (PACE), and others which offer home and community-based alternatives to nursing home care. These approaches redeploy funds from costly nursing home and hospital-based care to support community alternatives by blending financial resources under capitation to support the least restrictive and costly long-term-care services.

First introduced in the mid-1980s, **SHMOs** were intended to integrate acute care and long-term care within a managed care framework in order to provide acute and chronic care benefits under a single organization at financial risk, based on a prepaid capitation payment pooled from several sources including Medicare, Medicaid, member premiums, and copayments. The program included a multidisciplinary team approach, service provision in a freestanding adult day health center, chronic care without caps on long-term-care expenditures, routine annual health screening, and preventive care. The Balanced Budget Act of 1997 integrated and transitioned the SHMO into the **Medicare+Choice program (M+C)** which offers beneficiaries a number of alternative health delivery systems including Medicare HMOs, provider-sponsored organizations [PSOs), private fee-for-service (PFFS) plans and preferred provider organizations (PPOs), and medical savings accounts (MSAs) coupled with high-deductible insurance plans.

PROGRAM OF ALL-INCLUSIVE CARE FOR THE ELDERLY (PACE)

PACE is a community-based managed-care program that offers an array or coordinated services and supports to adults aged fifty five and older who meet the clinical criteria for nursing home care but opt to remain in the community. It is designed to prevent nursing home admissions. The program was modeled after an initiative in San Francisco (called On Lok) that was designed to help the Asian American community care for older adults in their homes. PACE incorporates a comprehensive and seamless service delivery system with integrated Medicare and Medicaid funding. Services include all Medicare and Medicaid covered services as well as adult day care, nutritional counseling, recreational therapy, transportation, and personal-care services, such as meals at home. PACE also funds nursing-home care if appropriate.

Services are provided directly or arranged for (including acute care and, when necessary, nursing facility services) through contracts, by an interdisciplinary team comprised of both direct-care and professional staff which include a primary care physician, a registered nurse, a social worker, a physical therapist, a pharmacist, an occupational therapist, a recreational therapist, a dietician, a PACE center manager, a home-care coordinator, personal-care attendants, and drivers. Each member of the team performs an initial assessment of each participant, followed by the creation of a single plan of care developed by the team that incorporates the various assessments. The team holds weekly care-planning meetings during which care plans are reassessed.

Services are provided primarily at an adult day health center known as a PACE center that is supplemented with home-based and referral services in accordance with each participant's needs. Participants can receive all Medicare and Medicaid covered services and other care that is determined to be necessary by the team. The PACE center includes a health clinic and at least one common room for social and recreational activities. Participants attend the day center about three days per week which allows team members to identify subtle changes in health status or mood and to address them quickly. Team members regularly reassess the medical, functional and psychosocial conditions of each participant and document any changes in their medical record.

Evaluations of PACE programs indicate that participation is associated with higher patient satisfaction, improved health status and physical functioning, increased number of days in the community (with reductions in hospital and nursing home use), improved quality of life, and lower mortality rates. These benefits are greater for the most frail older adults who have been found to experience lower rates of service utilization in hospitals and nursing homes and higher rates of ambulatory care services. In addition, the PACE program has been found to have a positive effect on the successful recruitment and retention of direct-care workers. Aides are given opportunities for career advancement, and financial support is provided to direct-care workers seeking additional training. However, some potential participants refuse to enroll due to the need to change physicians to those at a PACE center or those within a PACE network.

PACE programs receive Medicare and Medicaid funds to support the costs of services. A state must elect PACE as a voluntary state option under its Medicaid plan in order for a health care organization to be approved as a PACE program. In addition, the prospective PACE organization and the state must work together on the submission of a PACE provider application; the state has to submit the application on behalf of the provider to the Centers for Medicare and Medicaid Services (CMS) with assurance of its support of the application and its contents. PACE programs receive a capitated amount for each PACE participant regardless of the services the participant utilizes. Information on PACE sites in Michigan can be obtained from http://www.michigan.gov/mdch/0,1607,7-132-2945_42542_42543_42549-87437--,00.html.

Membership in the National PACE Association (http://www.npaonline.org) includes access to all the program materials. The fee for the first year of membership, called Exploring PACE, is $3,000.00, and the fee for subsequent years is $8,500.00. Other startup costs vary for each facility.

GATEKEEPER

The gatekeeper outreach/case finding model, which has been implemented across the country including Michigan, typically targets community-dwelling, at-risk individuals over the age of sixty who have serious and persistent mental illnesses, display emotional or behavioral problems, are in poor physical health, live alone, lack a support system, experience abuse or neglect, have substance use problems, or are reluctant or unable to ask for assistance. It targets older adults who do not typically come to the attention of the mental health and aging service delivery systems. The model entails the use of nontraditional community referral sources rather than traditional referral sources (i.e., medical providers, family members, informal caregivers, or other concerned persons) who make referrals to a designated agency for a comprehensive assessment and evaluation with subsequent linkage to needed mental health, aging, and medical or other social services.

The model recruits individuals who come into contact with older adults through their typical daily routines. They include employees of corporations, businesses, and community organizations who come into contact with older persons through their everyday work (e.g., postal carriers, meter readers, public utility workers, police and sheriff department personnel, bank tellers, cable television installers, pharmacists, resident apartment managers, property appraisers, code enforcement workers, emergency medical response teams, ambulance company personnel, humane societies, and others) to identify and refer individuals for assessment to identify unmet needs and comprehensively evaluate their physical health, mental health, and psychosocial needs. Treatment recommendations are developed in concert with a multidisciplinary team based on identified needs.

Gatekeepers are trained to observe older individuals' personal appearance, mental and emotional states, personality changes, physical changes and losses, social problems, substance abuse, conditions of the home, caregiver stress, abuse or neglect, financial hardship and risk factors of suicide, any of which may indicate that the person requires assistance. Training sessions are conducted at workplaces for an average of one hour with retraining scheduled annually. Training schedules are flexible to accommodate the varied work schedules and time demands of the work force. The number of participants per training varies according to the type of business or organization and size of the community.

Studies of this outreach model indicate that case-finding, when linked in a coordinated fashion by a single service system or multisystem collaboration with referrals to mental health treatment providers, can improve access to treatment for older adults who are isolated and reside in urban, rural, or suburban communities. Data indicate that older adults referred by gatekeepers are more likely to live alone, be widowed or divorced, have physical health problems, and experience social isolation and economic challenges, thus indicating that this approach reaches individuals who are less likely to gain access to services through conventional referral approaches. In addition, the Gatekeeper program has been found to lead to increased collaboration among service providers and is inexpensive to implement.

The Gatekeeper model has been adapted successfully in urban, rural, and suburban communities and coordinated by single service systems (e.g., mental health agencies, area agencies on aging, adult protective services, social service agencies, and hospitals) or in collaboration with multiple systems (e.g., mental health and area agency on aging). The program is estimated to take about a year for planning, adoption and implementation by a

community, and is most effective when community stakeholders collaborate on the development and implementation of the model as it impacts all systems of care. Implementation materials, including the Gatekeeper Training Manual, Gatekeeper Referral and Instruction Card, published manuscripts, sample job descriptions, fidelity tools, and other resources are available at no cost from the Washington Institute for Mental Illness Research and Training at http://www.jeffersoncentermentalhealth.org/SeniorReach/implementation/research-validation-and-fidelity/published-article-additional-resources/.

GERIATRIC CASE MANAGEMENT

Case management definitions and functions vary across programs as a function of program-specific goals, the population served, or required provider qualifications; no single definition of case management or standardized qualification system for service providers has been developed. Case management is typically targeted to older persons, individuals with physical disabilities, persons with developmental disabilities, children, individuals with HIV/AIDS, individuals with substance use disorders, people experiencing ongoing unemployment, and other vulnerable or at-risk populations. Individuals who are at highest risk of institutionalization, those with the greatest needs for social support, and individuals with chronic problems have been found to be most likely to benefit from case management.

Case managers generally function as brokers, arrangers, and coordinators who identify and coordinate services; gatekeepers, who contain costs and monitor resource allocation; and evaluators, who assure that goals are attained. A case management client system focuses on roles that assist clients to maximize their ability to use available resources to improve their quality of life. And, within the client system, case managers generally function as educators, counselors, and monitors. Case managers also function as mediators between the service system and the client and advocate on the behalf of the client.

Public-sector case management activities share two key features: providing a connection between individuals and the system of publicly-funded services and supports, and assuring that these services meet reasonable standards of quality and lead to improved outcomes for consumers. Such activities typically include:

- **Targeting and outreach:** Identifying consumers for whom case management will be most effective
- **Screening and intake:** Determining a consumer's eligibility for services and need for case management
- **Comprehensive assessment:** Conducting an in-depth evaluation of a consumer's current situation, including strengths and limitations, and their need for services and support
- **Care planning:** Developing a care plan that includes the most appropriate services and supports needed to address all the needs identified during the assessment process
- **Service arrangement:** Providing information, referrals, or actively arranging for a consumer's access to services and supports
- **Monitoring:** Evaluating the quality of services and supports and determining whether the goals established within the care plan are being met
- **Reassessment:** Reevaluating the goals and care plan developed during the comprehensive assessment

Integrated case management is a team-based approach that assesses consumers'/families' needs, establishes a comprehensive plan for addressing identified needs, and employs an integrated service model to deliver a range of social services in a coordinated and seamless manner in order to provide consumer-oriented services, increase opportunities for early

intervention and prevention, improve consumer outcomes, and establish provider accountability through performance measures.

The current emphasis on consumer empowerment and self-determination has expanded the dimensions of case managers' roles and responsibilities resulting in support brokering or personal agentry in which person-centered care strategies are used to shift the decision-making balance in favor of consumers and their families. Such person-centered case management services are based on each consumer's preferences, needs, and responsibilities with a focusing on enhancing each consumer's capacity to manage their own needs.

Case management services have been demonstrated to enhance access to services and reduce service duplication and system inefficiencies. The provision of case management services is correlated with reductions in caregiver burden and increases psychosocial well-being as well as improvements in consumers' and families' experience of care, maintenance or improvement of functional and health status, independence and community participation, and prevention of secondary complications. Studies show that individuals who are at the highest levels of risk, (i.e., those with the most significant needs for social support and who experience ongoing problems or disabilities) are most likely to benefit from case management.

ELDER-WRAP

One model of providing case management services to older adults is based on the wraparound model used in children's services in which needed services and supports are wrapped around the consumer, rather than fitting them into a range of different programs and services. Some older adult wraparound programs focus on integrating primary and secondary medical and social services, prevention, rehabilitation, medication, assistive devices, and long-term care, while others employ a gatekeeper model to identify and assist at-risk older adults in accessing services and supports. Older adult wraparound programs have been found to effective in coordinating service delivery among various systems and agencies and reducing the duration and number of hospital admissions.

One such program is **Elder Wrap-Around**, an emerging, promising practice that emphasizes building collaborative relationships between agencies to ensure that no older adult's needs are overlooked. Collaboration is accomplished through an Elder-Wrap team, which includes representatives from mental health, health, aging, housing, social services, and other public agencies. Elder-Wrap teams review cases with a focus on wellness and maintaining independent living within the community for as long as possible. Teams also provide education to consumers, families, caregivers, as well as training for professionals on screening, assessment, and treatment techniques and work to help older adults overcome stigma. These teams serve as each consumer's primary contact, rather than traditional mental health professionals. Access to mental health services is provided by health and other service agencies.

HEALTHY IDEAS (IDENTIFYING DEPRESSION, EMPOWERING ACTIVITIES FOR SENIORS)

Healthy IDEAS is a home-based program that is designed to detect and reduce the severity of depression in older adults with chronic health problems and functional limitations. Health IDEAS differs from IMPACT and PROSPECT in that it does not use a separate case manager, but rather incorporates the four elements into standard case management responsibilities by training case managers to deliver the program.

The program integrates four evidence-based components into the ongoing service delivery of case management services provided to older individuals in their homes: (1) screening and

assessment of the severity of depressive symptoms using a standardized tool; (2) educating clients and families about depression, effective treatment, and self-care strategies; (3) referring and linking clients to treatment and follow-up with primary care and mental health providers; and (4) empowering clients through behavioral activation, a brief, structured approach to help clients reduce depressive symptoms through increased involvement in meaningful activities, which are pleasurable or reduce stress. Client progress is assessed and a plan to maintain gains or pursue other assistance is constructed. The scope and duration of the intervention are determined in accordance with the presence and severity of depressive symptoms. The core program components/steps are delivered over three to six months during a minimum of three in-person visits in the client's home and five or more telephone contacts.

Studies of the program indicate that participants experience reductions in depression severity and pain as well as increases in knowledge regarding how to obtain help for depression and how to reduce symptoms of depression by increasing engagement in activities. Trained staff of differing backgrounds and educational levels can deliver the Healthy IDEAS program including bachelor's and master's prepared social workers with differing levels of experience, nurses, or case managers. The costs for implementing Healthy IDEAS include a one-time fee of $4,000.00 plus travel expenses from Houston for the full technical-assistance package, telephone, e-mail, on-site consultation, and all the materials, including an agency program manual, intervention manual for staff, tools and resources for staff and clients, and a training curriculum including a training DVD and guide. Healthy IDEAS trainers conduct an initial two-day, on-site training for staff, case-management supervisors, and local coaches/trainers for up to twenty five attendees as part of the consultation visit. There is an additional fee of $500.00 and added travel expense if more than one national trainer is required and costs for follow-up training for care managers by a local trainer/coach (i.e., psychologist or mental health professional) or in-house clinical supervisors to provide booster training to prevent drift in staff skills, monitor fidelity, and address staff questions. Healthy IDEAS program materials are available from http://www.careforelders.org/healthyideas.

SINGLE POINT OF ENTRY SYSTEMS (SEPS)

The dispersion of case management systems through various departments and agencies makes effective coordination challenging and can lead to consumer and family confusion and difficulties obtaining needed services and supports. Single entry point systems allow consumers to access services through one agency or organization that provides screening, assessment and case management and offer consumers one point of contact to learn about services that are available, their eligibility for specific services, and receive support in the selection of preferred services. Single entry point systems most frequently target older adults, people with disabilities, individuals with developmental disabilities, and persons with mental illnesses and are designed to promote and access and choice. Such integrated systems offer consumers support and continuity across service settings and eliminate duplication and fragmentation of services. The literature recommends using common assessment tools for screening and eligibility and a shared information management system that can produce reliable data for policy development, planning, and resource allocation.

It should be noted that a single entry point is not a single, physical, geographic location; multiple agencies can be designated as the single entry point, or a single local or regional agency with multiple locations can perform this function. When multiple agencies function as a single entry point they coordinate with each other to integrate access to services through a single, standardized entry process.

Single entry systems vary considerably in scope and implementation. For example, a state can choose to integrate services horizontally (i.e., consolidating or coordinating access to diverse

services across authorizing agencies and providers) or vertically (i.e., linking all services from all sources from the time a consumer requests services up to the provision and monitoring of those services.) A single entry point can facilitate access for one or more target populations to one or more, but not necessarily all, programs and funding streams. Some states have implemented parallel single entry points for different populations while others have done so for a combination or multiple target populations. Most single entry points serve two or more populations, control multiple funding sources, and require case managers to have a minimum of a bachelor's degree.

Specific case management and gatekeeping functions provided by SEPs include: outreach, screening, eligibility determination, intake, and assessment. Case management services also include service coordination and planning; identification of available and appropriate services; coordination of services across programs and agencies, advocacy, and ongoing monitoring. Single entry point systems that enhance case management for a specific population and/or across populations enable consumers to access long-term and supportive services through one agency or organization and help with streamlining services, avoiding some organizational duplication, and reducing overall operating costs.

Functions performed by SEPs include:

- **Information and referral** (assistance provided by phone, written materials, and via a website along with the provision of follow-up assistance to help consumers access services)
- **Screening/triage** (brief assessment conducted by phone to help the SEP to understand the type of information and assistance needed)
- **Nursing facility preadmission assessment screening (PAS)** (information about a person's health, environment, social/cognitive/psychological state, and functional status to determine whether a person may be eligible for admission to a nursing facility or for Medicaid home and community-based services)
- **Assessment** (to ascertain capacity and service needs that lead to a care or individual service plan)
- **Financial eligibility determination** (to ascertain whether a person meets the income and resource requirements, if any, for the program providing services)
- **Functional eligibility determination** (to ascertain whether a person meets the functional requirements, if any, for the program providing services based on measures of the capacity to perform Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs) without assistance)
- **Care plan development** (individualized service plans based on information from assessment process and listing the services that may be selected by the consumer)
- **Authorization** (of services that may be provided by outside agencies or arranged by the consumer)
- **Monitoring service delivery** (from providers of services to ensure the care plan is being implemented)
- **Reassessment** (to re-determine the person's functional eligibility for the program and whether any changes have occurred that require modification of the care plan)
- **Protective services** (to protect vulnerable adults by investigating allegations of abuse, neglect, abandonment, and financial exploitation)

Benefits of single points of entry include economies of scale and streamlining single entry point/provider agency relationships through serving multiple populations and combining financial and functional eligibility determinations as well as improving coordination, and expediting access to community-based services and supports. The agency responsible for the single point

of entry is typically responsible for services such as intake and eligibility determination and ensuring that services are appropriate to meet the needs of consumers.

"NO WRONG DOOR" PROGRAMS

"No Wrong Door" programs, which provide a single port of entry into services, are an emerging practice that is designed to integrate the delivery of services for multiple target populations, irrespective of disability, needs, or where a person enters the system. These programs aim to improve access to information and services, reduce institutionalization, and integrate services to improve system-wide efficiency by eliminating duplicative services and excessive paperwork. While single entry point systems have been shown to more effectively deliver case management services to targeted populations, the "No Wrong Door" model has emerged to integrate the delivery of social services across target populations through the coordination of case management for individuals and families in need of more than one service.

Case management is provided in these models in order to coordinate services for individuals and families in need of multiple services. Case managers identify the range of services needed and preferred to support the person within the community through standardized assessments. So, while individuals may have differing disabilities or health care needs, they are guaranteed a consistent and uniform response wherever they seek case management services. There are no "wrong doors" through which to enter.

The "No Wrong Door" approach creates an accessible, integrated and comprehensive continuum of services for populations with multiple needs, by increasing the ability of case managers to plan and coordinate their services. "No Wrong Door" systems foster interagency coordination and joint planning as well as communication, data and information exchange; cooperation and mutual assistance.

"No Wrong Door" programs share the following features:

- A multidisciplinary team, comprised of program staff members, clients or advocates and their natural supporters develop an integrated client-centered service plan based on the client's strengths, risks, service desires and needs
- Cross-training of multidisciplinary team members is provided to ensure a general understanding of each other's services and processes
- A lead case manager who coordinates joint planning and the delivery of services for each client
- Monitoring and evaluation of each plan, services provided, and outcomes achieved to allow teams to make changes as appropriate
- Flexible use of funding among offices, and, if applicable, departments and community programs, to ensure that clients receive all services they are eligible for
- Co-location of multidisciplinary teams in order to make it easier for clients to obtain services and allow multidisciplinary teams to collaborate efficiently.

In this model, a service coordinator functions as a team lead for coordinated delivery of services, performs and coordinates tasks such as comprehensive assessments, eligibility determinations, and arranging services. The service coordinator might change in accordance with different client needs at different points in time during the implementation of the plan of care.

It is recommended that the model be implemented with the following:

- A shared consent form in order to allow disclosure of client information across departments

- A multidisciplinary team comprised of the client's case managers from different programs
- Cross-program knowledge through on-site, periodic training including: (1) general orientation and training regarding other members' roles, programs' legal requirements, how to monitor customer outcomes, use of new technology; and (2) team-specific training regarding working as a team, developing a customer-centered care plan, delivering coordinated and integrated services, and monitoring outcomes.
- Information technology to improve communications and support document storage (e.g., web-based centralized data management systems, electronic records, on-line case management tools)
- A common screening tool for multiple needs/clients
- Flexible funding across program areas

Studies have found that implementation of the "No Wrong Door" model leads to improved coordination among staff, more complete service integration using a client-centered, strength-based approach, and improved client outcomes including reductions in institutional care, increased opportunities for self-determination and choice.

TECHNOLOGY

Technology systems can be used to help older adults live independently and age in place as well as reach providers and caregivers in a timely, convenient manner. Other benefits include access to information, professional consultation, peer support and advice for consumers and families. A variety of devices have been developed to provided home-based medical monitoring, medication management, assistance with mobility and activities of daily living assistance which not only enhance safety, but reduce the need for support from direct-care workers and family caregivers.

Information technologies used in health care for communication among providers and for record-keeping can also be used to effectively to deliver health promotion, risk assessment, and clinical services in the community as well as promote collaboration between health care professionals and family caregivers and among caregivers themselves to provide information, communication, and decision support. Access to electronic health records offers informal caregivers improved access to patient information and provides a convenient method for communicating with the person's health care team online, a decision support tool for common problems, and assist older adults in managing their conditions at home by providing them with access to the data in their health records and advice on steps they can take improve their health conditions, as well as a means to self-enter specific types of medical information.

Increasing numbers of people have installed motion sensors and remote home monitoring systems to keep aging relatives safe. For example, sensors attached to the wall are able to register when a person gets out of bed and whether they stop at their medication dispenser, and alerts family members or others to any deviations from their routines that might indicate an accident or illness. These sensors that keep track of a person's movements also typically include a button to summon assistance. Wireless sensors and devices that regulate temperature, lights, appliances, and window blinds are also in use in some homes. Medical monitors include remote sensors that tracked changes in health or living patterns that require early medical intervention, blood pressure cuffs that automatically send readings to a monitoring center which notifies the person's physician of any change., a memory bracelet that vibrates at a specified time to remind the wearer of a doctor's appointment or to take medication, sensor-infused carpets, and wearable sensors, which measure changes in gait to help avoid falls. Medication-related technologies include smart patches, which assist in regulating drug release,

and smart caps, which are placed on medication vials and allow for remote monitoring of medication adherence.

Smart homes allow older adults to operate household fixtures and appliances (e.g., lights, televisions, dishwashers, window blinds, and other electrical devices) more easily. Many such homes include motion detectors that sense movement and respond by lighting pathways; other features include remote control shelves and cupboards that can automatically adjust in height when needed for use. Smart kitchen components, such as smart microwaves and smart stoves, can help older adults with independent meal preparation.

Telecare is a type of assistive technology that uses electronic sensors connected to an alarm system to help caregivers manage risk and include systems such as fall detectors, thermometers (for hypothermia risk), flooding and unlit gas sensors (for people with mild dementia). These alerts can be customized to the particular person's risks. When the alert is triggered, a message is sent to a contact center or caregiver who can respond appropriately. In addition technology similar to Telecare can also be used to act within a person's home rather than just to respond to a detected crisis, such as unlit gas sensors for people with dementia which can be used to trigger a device that turns off the gas and tells someone what has occurred.

These **telemonitoring** and **telesurveillance** devices allow health care providers to monitor older adults in their homes and link those with medical needs and cognitive impairments to care without home visits by staff. While privacy concerns regarding the use of such devices have been raised, such technologies provide older adults with direct and immediate medical contact when needed and have been shown to increase their safety as well as reduce hospital stays, need for home-care services, and caregiver stress. It should be noted that the cost of some of these devices (e.g., robotics and smart home components) can be a major impediment to their purchase and use, especially given that insurance does not always provide adequate coverage for them. In addition, older adults often do not have adequate information on the basic use of specific devices or the suitability of these devices to their specific needs and information regarding product quality and performance.

In response to the increasing number of searches for people with dementia due to wandering, most states have programs that fit such individuals with GPS devices that can be tracked by police officers with radio devices. Some of these GPS devices are made to look like wristwatches and there are shoes with GPS monitors embedded in the heels. In addition, there is widespread use of radio frequency tracking. A nonprofit organization, Project Lifesaver, equips people with Alzheimer's disease with wristbands. The group contracts with local government agencies to set up the service. The Alzheimer's Association has established The **Safe Return** program and the MedicAlert® + Alzheimer's Association Safe Return® that offers twenty-four response (http://www.alz.org/care/dementia-medic-alert-safe-return.asp) for individuals with dementia who wander or have a medical emergency.

Remote-monitoring technologies have been found to efficiently provide health care in the home from remote settings. ADL (activities of daily living) technologies have been shown to increase the independent functioning of older adults and reduce the demands placed on direct-care workers and informal caregivers. These technologies can also help lower rates of injury among direct-care workers and caregivers by reducing physical strain from assisting with tasks such as lateral transfers, repositioning in bed, and bed-to-chair or bed-to-wheelchair transfers. Studies have shown that the use of assistive devices can reduce the hours of personal assistance that older adults require in their daily activities. It is recommended that care recipients be involved in the AT design process to ensure that the design is accessible and usable. For example, a voice

message could be used to remind a person with dementia to turn off the gas customized by a particular voice and specific message.

Telemedicine can be used to enhance access to geriatric psychiatric for assessment, treatment, and consultation and help overcome the limited availability of geriatric psychiatrists, particularly in rural areas and long-term-care facilities. Use of geriatric telepsychiatry has been increasing and studies indicate that it is practical, acceptable to consumers and caregivers, and less costly than on-site visits to long-term care and other facilities. Preliminary evidence suggests that some disorders, such as depression, can be effectively treated via such technology. There is also evidence that both consumers and staff are satisfied with this mode of service delivery. Telepsychiatry is often preferred to in-person appointments because travel time, time off from work, and child care issues are obviated for caregivers. However, some characteristics shared by older adults (e.g., sensory impairments and discomfort with telepsychiatry equipment) have been raised.

ATTENTIVECARE

AttentiveCare (caregivertech.com/) is an Internet-based system for distance caregivers that is designed to meet the needs of recipients of care by allowing them to function more independently and stay connected to their families. AttentiveCare consists of a caregiver client that resides on the caregiver's system and communicates with a care receiver client on the care receiver's system. Care recipients do not need to have any computer skills in order to effectively use the system which is designed to run in either Unattended Mode for care receivers with no computer skills or Interactive Mode for care receivers who have basic computer skills.

AttentiveCare incorporates videoconferencing, multimedia reminders to help care recipients function independently, and slide shows to keep them connected to their families. The system also has journal and data logging capability that allows family caregivers to maintain and share information regarding the care recipient's health and well-being.

Videoconferencing: Caregivers can videoconference with care receivers. During videoconferencing care givers can adjust videoconferencing settings (e.g., sound volume and microphone sensitivity) for the care recipient. The system also provides an Observation Mode feature which establishes a one-way videoconference, allowing caregivers to observe the care recipient's living environment without engaging or disrupting their activities.

Reminders: Caregivers can create reminders (i.e., text messages and audio alerts which can be either a voice recording or a default sound) to keep the care receiver informed and help them function independently. Reminders can be set to display on the care receiver's screen any day of the week or date of the month, at any time of day, for any duration, and to appear recurrently on a schedule selected by the caregiver (e.g., every Tuesday and Thursday at 10:00 AM). Two different types of reminders are available: standard reminders that appear on the care receiver's screen, and to-do reminders that require the care receiver to interactively respond to the system.

Slideshows: Caregivers can upload digital pictures to the care receiver's system through the system's Slideshows feature. Slideshows consist of a category of similar pictures that are displayed on the care receiver's screen in random sequence. Caregivers can create any number of slideshows and activate them either individually or in any combination of two or more. Slides being displayed on the care receiver's system are simultaneously displayed on every caregiver system currently logged in to the care receiver client.

Data Logging: Several data logging features enable caregivers to create and maintain a composite of information related to the care receiver's health and well-being which is stored in a master database that can only be added to or modified by caregivers to whom the care

network's Primary Caregiver has granted authorization. However, anyone in the care network may view the information. The system incorporates three data logging features:

1. **Journal:** The journal offers caregivers the opportunity to create text entries discussing observations, activities, and events related to the care receiver. It includes a search feature which allows caregivers to browse entries by date or by text matches.
2. **Medications:** Caregivers can maintain a list of medications crucial to the care receiver's treatment regimen. Each record contains details reading the name of each medication, dosage and prescription method, along with contact information for the pharmacist who issued the drug, directions for use, side effects, and more.
3. **Contacts:** A categorized directory for storing contact information for peripheral members of the care network (e.g., neighbors or home maintenance companies) is included.

PSYCHOSOCIAL INTERVENTIONS

Research indicates that psychosocial interventions can lead to reductions in psychiatric symptoms, physical complaints, pain, and disability, improve adherence to medical treatment regimens, relieve depression associated with bereavement and caregiver burden as well as help older consumers cope with late-life stressors that can lead to the development of psychiatric disorders and their progression.

It should be noted that while psychotherapeutic interventions can be of benefit during the early stages of Alzheimer's disease, modifications to the therapeutic process are recommended including slowing the pace of therapy, reducing the demands on the individual, simplification of consumer-therapist communications, and expanding the repertoire of techniques used to achieve goals. In addition, the therapeutic interaction shifts over the course of the illness from the consumer to the caregiver while the focus remains on the consumer.

COGNITIVE AND BEHAVIOR THERAPIES

A number of **cognitive rehabilitation** techniques are used to help reduce functional limitations resulting from mild dementia during the early stages of Alzheimer's disease including mnemonics, computerized recall devices, and copious note-taking. Brief cognitive training sessions are targeted to a specific cognitive ability (i.e., memory, reasoning, and speed of processing). Graded assistance (ranging from verbal prompts to physical demonstration, guidance, to partial and full physical assistance) skills practice and positive reinforcement have been shown to have a positive impact on functional independence in persons with dementia. Graded assistance, supplemented by practice and positive reinforcement, has been found to improve performance of daily activities in persons with dementia. Other cognitive techniques shown to be effective include: task breakdown; extensive use of external cueing; guided repetition; guided sequencing; progression from simple to complex and from abstract to concrete; the use of real-world, everyday materials; focusing on productive, personally meaningful activities; immediate feedback; high levels of initial success; maximizing the use of existing capabilities; and adaptive or supportive environments and assistive devices.

Studies have shown that cognitive techniques can lead to reductions in difficulties with meal preparation, money management, and housework for individuals who receive reasoning training. Longitudinal studies have shown that treatment gains are maintained for years subsequent to intervention. In addition, booster sessions have been found to enhance the effectiveness of interventions for reasoning and processing-speed.

Cognitive therapy focuses on helping consumers cope with depression by reducing cognitive distortions and fostering more adaptive perceptions. **Behavior therapy** targets family caregivers directly and consumers indirectly by helping caregivers identify, plan, and increase pleasant activities for the consumer (e.g., taking a walk) to improve their mood. It is a structured, time-limited therapy that addresses how behaviors affect mood. It targets family caregivers directly and consumers indirectly by helping caregivers identify, plan, and increase pleasant activities for the consumer (e.g., taking a walk) that are designed to improve their mood. Behavioral therapy has been evaluated in outpatient and inpatient medical rehabilitation settings and is viewed as more promising for adults with moderate to severe symptoms of dementia. Cognitive therapy is viewed as more promising during the early stages of dementia while behavior therapy is viewed as more promising for moderate or severe dementia.

Cognitive Behavior Therapy (CBT) focuses on altering thoughts, improving skills, and modifying emotional states that contribute to the onset or perpetuation of psychiatric disorders.

It is the form of psychotherapy that is used most often with older persons and has been found effective for geriatric depression, anxiety disorders, insomnia, and problematic behaviors and mood symptoms associated with dementia.

CBT is a structured, collaborative, brief, client-centered approach that focuses on negative thoughts and their reinforcing behaviors, the identification of dysfunctional cycles and challenges to negative and ineffective ideation, reducing negative and avoidant behaviors, and introducing positive behavior patterns. Negative thoughts are challenged by techniques that assess the evidence behind the thought, thinking errors, the effect of negative thoughts on overall well-being, and consideration of alternative viewpoints. Graded exposure is used to rate and monitor the intensity of thoughts and reinforcing avoidant behaviors. When applied to late-life depression CBT focuses on changing thought patterns and behaviors that cause or maintain depression. CBT for older adults with depression usually consists of twelve to twenty sessions with homework assignments completed between sessions. CBT for geriatric depression has been shown to be highly effective in both institutional and community settings and when delivered in individual and group formats. It is recommended that potential consumers be assessed for cognitive functioning prior to initiation of treatment because CBT requires the ability to learn and remember new material.

COGNITIVE BEHAVIORAL THERAPY FOR LATE-LIFE DEPRESSION

Cognitive Behavioral Therapy for Late-Life Depression is an active, directive, time-limited, manualized, and structured problem-solving treatment for older adults in outpatient settings. The intervention consists of up to twenty sessions of a fifty to sixty-minute duration, It incorporates strategies that have been adapted for older individuals to facilitate learning including repeated presentation of information using different modalities, slower rates of presentation, increased opportunities for practice, more structure, and modeling of behaviors. Participants are taught to identify, monitor, and ultimately challenge negative thoughts regarding themselves or their situations, and develop more adaptive and flexible thoughts. Participants are also taught to monitor and increase pleasant events in their daily lives via behavioral treatment procedures.

CBT for Late Life Depression incorporates a number of strategies including cognitive restructuring, thought countering techniques, relaxation training, assertiveness training, social skills training, problem-solving skills training, systematic desensitization, and others. It is conducted in three phases. The initial phase (one to three sessions) consists of assessment, diagnosis, psychoeducation regarding CBT, formulation of the problem area and treatment plan, establishing a therapeutic relationship, and analysis of habitual thoughts and behaviors. The intermediate phase is comprised of defining thinking patterns and maladaptive behaviors that will be focused on, tracking thoughts and behaviors, therapeutic inquiry and homework assignments, and specific strategies to foster change (i.e., enhancing communication, insight, and relief). The termination phase (two to four sessions) consists of planning for termination of treatment, solidification of treatment gains, and relapse prevention.

Studies have shown that participation in this intervention leads to reductions in symptoms of depression and severity of other psychiatric symptoms as well as and increases in life satisfaction, coping strategies, and involvement in pleasurable activities for adults aged fifty five and older of either gender and multiple races (African American, Hispanic/Latino, and Caucasian). Manuals at no cost and can be downloaded from Stanford University's Older Adult and Family Center Web site at http://oafc.stanford.edu. Hard copies can be obtained from the Center for the cost of copying and postage. A software program used in the intervention can also be downloaded free of charge from the program's Web site.

COGNITIVE BEHAVIORAL SOCIAL SKILLS TRAINING (CBSST)

CBSST is an outpatient treatment for adults who are middle-aged and older with schizophrenia that is designed to minimize disability. It teaches cognitive and behavioral coping techniques, social functioning skills, problem-solving, and compensatory aids for neurocognitive impairments. CBSST consists of once weekly two-hour group psychotherapy sessions conducted over the course of twenty four to thirty six weeks.

The social skills training component is comprised of modules for symptom management, communication role-plays, and problem-solving social skills. The cognitive behavioral training component of CBSST was specifically developed for consumers with schizophrenia. It incorporates compensatory aids that are designed to address cognitive impairments associated with aging and schizophrenia and incorporate modifications for this population, such as identifying and challenging ageist beliefs (e.g., "I'm too old to learn"), age-relevant role-playing situations (e.g., talking to a doctor about eyeglasses), and age-specific problem-solving (e.g., finding transportation, coping with hearing and vision problems).

Psychosocial functioning is assessed using the Independent Living Skills Survey (ILSS) and the University of California, San Diego (UCSD) Performance-Based Skills Assessment (UPSA). The ILSS is a self-report measure of basic functional living skills performed during the past month that is administered in an interview format. It assesses appearance and clothing, personal hygiene, health maintenance, transportation, and leisure and community, all of which are sensitive to functional impairment in older consumers with schizophrenia. The UPSA is a performance-based measure of the extent to which consumers are capable of performing specific functional living skills. It uses standardized role-playing situations to assess domains of functioning (e.g., household chores, communication, finance, transportation, and planning recreational activities).

Studies of CBSST show that participation leads to improvements in psychosocial functioning, reductions in the severity of symptoms, improvements in cognitive insight, and the acquisition of communication, problem-solving, and thought-challenging skills. The cost for implementing each CBSST session in community settings is about $37.00 per consumer (or a total of $1,338.00 per consumer for the thirty six group sessions). More information can be found at http://cbsst.org/ and the SAMHSA NREPP web site at http://nrepp.samhsa.gov/ViewIntervention.aspx?id=256.

FUNCTIONAL ADAPTATION SKILLS TRAINING (FAST)

FAST is a manualized intervention for adults with schizophrenia and schizoaffective disorder aged forty and older who reside in community-based supported residential facilities that focuses on teaching social and independent skills functioning in areas of everyday living to improve independence and quality of life. The program targets six areas of everyday functioning:

1. Medication management
2. Social skills
3. Communication skills
4. Organization and planning
5. Transportation
6. Financial management

The program is delivered in a group format once a week for twenty four weeks during two-hour sessions led by a master's or doctoral level therapist or a nursing paraprofessional in the residential facility. During sessions participants role-play a variety of complex situations, including management of finances, social and communication skills, transportation, and household chores. Outcome studies indicate that participation lead to improvements in everyday

living and social and communication skills. Information on FAST can be obtained from the SAMHSA NREPP web site at http://nrepp.samhsa.gov/ViewIntervention.aspx?id=92.

INTERPERSONAL THERAPY (IPT)

IPT is a structured, time-limited, solution-focused, manualized intervention that is designed to improve depressive symptoms associated with interpersonal relationship problems. It focuses on grief, role disputes, role transitions, and interpersonal deficits that can be used to treat late-life depression during the acute phase and for relapse prevention. IPT focuses on disturbances in current relationships in four domains: role transitions, interpersonal role disputes, unresolved grief, and interpersonal deficits. A range of therapeutic interventions are used to improve communication, express affect, and support renegotiated role relationships to reduce symptoms and improve functioning.

IPT, which is a longer term treatment than CBT, consists of an acute phase of treatment (sixteen weekly sessions), maintenance phase (six monthly sessions), and relapse prevention (six bi-monthly sessions) that is typically conducted over the course of twelve to sixteen sessions. The initial phase (one to three sessions) consists of assessment, diagnosis, and psychoeducation regarding IPT, developing a therapeutic relationship, and instilling hope. The intermediate phase consists of defining the problem areas to be focused on, tracking the issues of focus, therapeutic inquiry, and specific strategies to foster change by enhancing communication, insight and relief from depression. The termination phase (two to four sessions) is comprised of planning for termination of treatment, solidifying treatment gains, and relapse prevention.

During the acute phase of treatment consumers are educated about depression as a medical illness and encouraged to assume a “sick role” and take care of themselves while recovering from depression. The therapist determines which area of conflict seems most relevant to the consumer during the initial sessions such as unresolved grief (i.e., sadness regarding the loss of significant others) and role transitions (i.e., distress regarding the ending or beginning of a new psychosocial role such as retirement, disability, or grandparenthood) that become manifest in conflicts with family members and/or providers.

During the acute and maintenance phases of treatment, the therapist discusses situations regarding the area of conflict deemed to contribute most to the depression and helps the consumer draw parallels between the specific events that are distressing them, examine their thoughts and feelings regarding these situations, and assigns homework designed to help resolve the conflict area. During the relapse-prevention phase, the therapist checks on the consumer’s progress with regard to the conflict area, and periodically reassesses them for depression to ensure any imminent recurrence receives prompt intervention.

Studies have found that IPT alone, or in combination with pharmacotherapy (e.g., nortriptyline and paroxetine), is effective in the acute, continuation, and maintenance treatment of geriatric major depression. It has also been found to be effective in the treatment of depression following bereavement. IPT for older adults is most effective as a maintenance treatment when combined with antidepressant medication. It’s effectiveness as a maintenance treatment for late-life depression is of particular importance in light of studies showing that older persons experience a relapse rate that is twice as high (fifteen versus seven percent) during continuation treatment as that of their younger counterparts.

REMINISCENCE THERAPY (RT)

Reminiscence therapy entails discussion of a person’s past activities, events, and experiences in individual or group session in order to help them resolve conflicts and accept both the

successes and failures in their lives. It is typically used in long-term care facilities, senior housing, and senior community centers and delivered by trained practitioners of different disciplines (e.g., nursing, social work, and psychology) over the course of four to twelve weekly sessions of sixty to ninety-minutes in duration. RT can also be used in outpatient settings and can be integrated into other approaches, including cognitive behavioral therapy. Weekly topics are used to guide participants in recalling memories from different stages of their lives and to stimulate discussion of major life events in order to promote feelings of mastery over past and present life events by counteracting learned helplessness.

In some studies, RT has been found to be effective in treating mild levels of depression and can lead to reductions in hopelessness and functional disability, and improve life satisfaction. More information can be found at http://reminiscenceandlifereview.org.

COGNITIVE BIBLIOTHERAPY (CB)

Cognitive bibliotherapy is a self-directed, non-manualized intervention that focuses on altering thought patterns that cause or maintain depression. It is delivered through self-guided written materials with guidance from a mental health practitioner. CB entails reading books and completing written exercises that are designed to teach information about depression and ways to reduce its symptoms. The reading materials and written exercises are completed as homework assignments at the participant's own pace. Published studies of CB include the use of David Burns' *Feeling Good: The New Mood Therapy* which also has a workbook and has been translated into Spanish.

Participants are first taught to monitor depressive symptoms and then are introduced to the concept of cognitive distortions and techniques to help them question depressive thoughts and improve their mood. *Feeling Good* is divided into seven parts: (1) theory and research; (2) practical applications (i.e., building self-esteem, defeating guilt); (3) realistic depressions (i.e., depression is not sadness); (4) prevention and personal growth; (5) defeating hopelessness and suicide; (6) coping with the stresses and strains of daily living; and (7) the chemistry of mood (i.e., the mind-body connection, antidepressant medications).

CB has been found to be effective in the treatment of mild to moderate levels of depression and can be completed within four weeks with weekly contacts from a mental health professional who has expertise in CBT and depression.

PROBLEM SOLVING TREATMENT (PST)

PST is a time-limited, manualized intervention that is designed to help older adults develop skills for dealing with stress and feelings of depression. It can be delivered by a variety of health, mental health, and social service practitioners in mental health, long-term care, residential, and primary care settings in twelve or less sessions.

PST focuses on teaching older adults to develop an effective and adaptive approach for solving problems and coping with problems that lead to distress using the following steps:

1. Clarifying and defining the problem
2. Setting a realistic goal
3. Generating multiple solutions
4. Evaluating and comparing solutions
5. Selecting a feasible solution
6. Implementing the solution
7. Evaluating the outcomes

Participation in PST has been found to lead to reductions in symptoms of depression, disability, as well as improvements in quality of life and problem-solving skills.

RELAXATION TRAINING

Relaxation[15] training techniques include a number of practices such as progressive relaxation, guided imagery, biofeedback, self-hypnosis, and deep breathing exercises, all of which aim: to consciously produce the body's natural relaxation response which is characterized by slower breathing, lower blood pressure, and a feeling of calm and well-being. Relaxation techniques often combine breathing and focused attention on pleasing thoughts and images. Most methods require only brief instruction from a book or experienced practitioner before they can be performed without assistance. These techniques have been found to be most effective when practiced regularly and combined with good nutrition, regular exercise, and a strong social support system.

RELAXATION TRAINING TECHNIQUES	
AUTOGENIC TRAINING	The participant focuses on the physical sensation of their own breathing or heartbeat and pictures their body as warm, heavy, and/or relaxed.
BIOFEEDBACK	Biofeedback-assisted relaxation uses electronic devices to teach consumers how to consciously produce the relaxation response. Biofeedback can be used to relieve conditions that are caused or worsened by stress.
DEEP BREATHING/BREATHING EXERCISES	The person consciously slows their breathing and focuses on taking regular and deep breaths.
GUIDED IMAGERY	The participant focuses on pleasant images to replace negative or stressful feelings and relax. Guided imagery may be directed by the consumer or a practitioner through storytelling or descriptions designed to suggest mental images (also called visualization).
PROGRESSIVE RELAXATION	Also called Jacobson's progressive relaxation or progressive muscle relaxation, this method entails focusing on tightening and relaxing each muscle group. Progressive relaxation is often combined with guided imagery and breathing exercises.
SELF-HYPNOSIS	The relaxation response is produced with a phrase or nonverbal cue (i.e., a suggestion). Self-hypnosis can be used to relieve pain as well as to treat anxiety and irritable bowel syndrome.
IMAGINAL RELAXATION	Participants are taught to imagine tensing various muscle groups, rather than actually tensing them, which appears to be as effective as standard tension-release progressive muscle relaxation and may be of particular benefit to older adults with musculoskeletal conditions or injuries that make tensing painful. (Longitudinal studies indicate that effects can endure for as long as a year after treatment.)

Relaxation techniques can be used to release tension and counteract the ill effects of stress, induce sleep, reduce pain, and calm emotions. Relaxation training programs typically include some combination of progressive muscle relaxation, deep breathing, meditation, and education about tension and stress conducted in individual or group formats. The ability to produce the relaxation response using relaxation techniques may counteract the effects of long-term stress which can contribute to or worsen a range of health problems (e.g., depression, digestive disorders, headaches, high blood pressure, and insomnia).

[15] Relaxation is considered more than a state of mind; it physically changes the way the body functions. When the body is relaxed breathing slows, blood pressure and oxygen consumption decrease. Some individuals report an increased sense of well-being known as the relaxation response.

Research indicates that relaxation techniques can be an effective component of treatment for anxiety disorders (e.g., phobias and panic disorder) and to relieve situational anxiety associated with stressful situations (e.g., undergoing a medical procedure). In addition, there is some evidence that biofeedback and other relaxation techniques can help relieve tension or migraine headaches, and in some instances such mind and body techniques have been found to be more effective than medications for reducing the frequency, intensity, and severity of headaches. Finally, some studies have demonstrated that relaxation techniques can help reduce abdominal and surgical pain. Relaxation techniques have also been applied to the treatment of depression and, while more effective than no treatment, are not as effective as cognitive-behavioral therapy.

Studies of the effectiveness of relaxation techniques in the promotion of overall health and well-being have shown mixed results. For instance, the evidence for relaxation in the treatment of high blood pressure indicates that while progressive muscle relaxation lowers blood pressure a small amount, there is no evidence that this effect is sufficient for the reduction of the risk of heart disease, stroke, or other related health problems. A number of studies suggest that relaxation techniques, including guided imagery, can temporarily help improve lung function and quality of life and relieve anxiety in individuals with asthma. Relaxation techniques may also help relieve nausea induced by chemotherapy. There is some preliminary research showing that relaxation or guided imagery techniques can sometimes improve pain and reduce fatigue from fibromyalgia.

Relaxation techniques are generally considered safe for individuals who are healthy. However, there have been rare reports that certain relaxation techniques may cause or worsen symptoms in individuals with epilepsy or certain psychiatric conditions, or those with a history of abuse or trauma. Relaxation techniques are frequently used as a component of a treatment plan and not as the sole treatment for potentially serious health conditions.

PROLONGED EXPOSURE THERAPY (PE)

Severe and prolonged trauma or a history of posttraumatic stress disorder (PTSD) can increase the risk for cognitive decline and the onset of dementia. Older adults who have experienced extreme, prolonged stress (e.g., former prisoners of war and survivors of Nazi concentration camps) can manifest concomitant neuropsychological disorders decades subsequent to the traumatic experience. Older adults with co-occurring PTSD and cognitive impairment can encounter a range of trauma-related stimuli (i.e., triggers) that may elicit PTSD symptoms and general distress which, in combination with cognitive impairment, can lower the threshold for response and disinhibition of problem behaviors. Triggers may include television news coverage of past or current traumatic events, the sounds of other people in distress, and loud noises. Individuals may misinterpret neutral sensory stimuli as trauma-related. They may be less capable of using avoidance strategies and more susceptible to reminders of a trauma. For example, waking older trauma survivors who have comorbid PTSD and cognitive impairment for mandatory routine checks in hospitals and nursing homes or to administer medication may cause a startle reaction resulting in physically aggressive and verbally agitated behaviors, such as hitting, kicking, biting, and shouting. PTSD symptoms and distress among trauma survivors can also be triggered by a range of interpersonal behaviors (e.g., care providers' use of authority or control). The presence of unfamiliar men or physical contact by male health professionals may evoke unresolved trauma-related distress in women who have experienced captivity or violent assault.

> Detection and diagnosis of PTSD among older adults with cognitive impairments can be challenging and may be mistaken for other conditions encountered among older adults (e.g., depression, psychosis, dementia, and other anxiety disorders).

It is recommended that trauma histories be obtained and screening for PTSD symptoms conducted based on responses to the following questions: "In your life, have you ever had any experiences that were so frightening, horrible, or upsetting that, in the past month, you (a) had nightmares about it or thought about it when you did not want to? (b) tried hard not to think about it or went out of your way to avoid situations that reminded you of it? (c) were constantly on guard, watchful, or easily startled? and (d) felt numb or detached from others, activities, or your surroundings?" Affirmative responses to two or more of these questions indicate the need for further assessment. If an individual is unable to provide reliable answers about traumatic exposure or psychiatric distress, corroborating information should be obtained from collateral sources.

Prolonged Exposure therapy is a cognitive-behavioral, manualized treatment for adults aged eighteen to seventy years of age who have experienced a single trauma or multiple/continuous traumas and have PTSD. The program consists of nine to twelve ninety-minute once or twice weekly sessions of individual therapy that are designed to help with processing traumatic events in order to reduce trauma-induced psychological disturbances. Treatment can be shortened or lengthened in accordance with the needs of the consumer and their rate of progress, but typically ranges from seven to fifteen sessions. It is comprised of three components:

1. **Psychoeducation** regarding common reactions to trauma and the cause of chronic post-trauma difficulties
2. **Imaginal exposure:** repeated recounting of the traumatic memory (i.e., emotional reliving)
3. **In vivo exposure:** gradually approaching trauma reminders (e.g., situations, objects) that, despite being safe, are feared and avoided

PE has been shown to decrease symptoms of PTSD including intrusive thoughts, intense emotional distress, nightmares and flashbacks, avoidance, emotional numbing and loss of interest, sleep disturbances, difficulties with concentration, irritability and anger, hypervigilance, and excessive startle response. Outcomes include improved daily functioning with substantial reductions in depression, general anxiety, and anger. Treatment gains are maintained for at least one year after treatment ends.

PE has been found to be effective for female victims of rape, aggravated assault, and childhood sexual abuse, and for men and women whose PTSD symptoms are related to combat, traffic accidents, industrial accidents, and violent crimes. It can be delivered in a variety of settings including outpatient offices, rape counseling centers, and inpatient units. Therapist training has been shown to be essential to the successful implementation of PE.

It should be noted, however, that direct trauma processing can produce strong physiological effects (e.g., changes in heart rate and respiration) that can exacerbate health problems. Caution is therefore recommended in the use of exposure treatment for PTSD in older adults with compromised physical health. Moreover, the provision of detailed accounts of traumatic life experiences through such methods as reminiscence or review therapies may be contraindicated for Holocaust survivors.

PROGRAM TO ENCOURAGE ACTIVE AND REWARDING LIVES FOR SENIORS (PEARLS)

PEARLS is a home-based program that is designed to teach depression management skills to older adults who have physical impairments, are socially isolated, and have minor depression or dysthymia. It incorporates problem-solving therapy, tools and strategies to increase social and physical activities, and strategies to focus on pleasant events to reduce depression. The program consists of eight in-home counseling sessions followed by monthly phone calls

delivered by program staff which includes a PEARLS manager, counselor, and clinical supervisor. The counseling covers three behavioral approaches to managing depression:

1. Teaching consumers to recognize symptoms of depression and understand the strong link between unsolved problems and depression, followed by a structured set of steps that can be used to solve their problems. These steps range from clearly defining the problem to implementing chosen solution(s).
2. Helping consumers meet recommended levels of social and physical activity by guiding them to community settings that offer an array of opportunities (e.g., senior centers, community centers, and faith communities). Involvement in social and physical activities has been shown to improve the mood of people with minor depression.
3. Helping consumers identify and participate in personally pleasurable activities. (Individuals who are depressed generally stop engaging in enjoyable activities while participation in pleasurable activities has been found to be effective in managing depression.)

Studies of PEARLS indicate that participation leads to significant reductions in depressive symptoms and elimination of depression improvements in functional and emotional well-being, and reductions in their utilization of health care services. More information on PEARLS can be found on SAMHSA's National Registry of Evidence-based Programs and Practices (NREPP) at http://www.nrepp.samhsa.gov/ViewIntervention.aspx?id=29. Implementation materials are available for download from http://www.pearlsprogram.org/Our-Program/PEARLS-for-Older-Adults.aspx.

TREATMENT OF BEHAVIORAL DISTURBANCES IN DEMENTIA

Behavioral and psychological signs and symptoms of dementia (BPSD) are common, serious problems that affect the quality of life of both individuals with dementia and their caregivers. BPSD include agitation, verbal and physical aggression, delusions, hallucinations, depression, apathy, sleep disturbances, and sexually inappropriate behaviors. These can result in individuals placing themselves and others in danger, confer distress and burden for caregivers resulting in caregiver burnout and diminished empathy, as well as interfere with social and family functioning. Behavioral disturbances are a primary reason for professional intervention and often result in acute hospitalization and long-term institutional placement. Data indicates that these difficulties occur in ninety percent of persons with dementia at some point during the course of AD.

It is recommended that underlying medical (e.g., cardiovascular disease, chronic obstructive pulmonary disease, infection, anemia, and metabolic disorders) and environmental causes (e.g., temperature extremes, excessive noise, and physical restraints) be evaluated and addressed prior to ascribing the behaviors to AD. In addition, the literature recommends managing neuropsychiatric symptoms with behavioral (i.e. non-pharmacological) interventions as a first-line treatment. A five-step approach to this has been identified: (1) identify the target symptoms, (2) determine when symptoms are likely to occur, (3) determine precipitants of symptoms, (4) plan interventions to reduce the precipitants, and (5) consider alternative approaches if the first approach fails.

Individuals with dementia have been shown to be acutely sensitive to their environment including excessive noise, change of routine, large rooms with many people, and lack of activity. Inadequate staffing in long-term care facilities that results in unmet basic needs e.g., hunger, thirst, and toileting) and changes of caregivers (due to staff turnover) can lead to behavioral disturbances. Environmental adjustments (e.g., changes in lighting, noise levels, and temperature), supportive redirection (and avoidance of confrontation, anger, critical interactions), calm verbalizations, and the promotion of appropriate social interactions and

activities (e.g., walking and light exercise) when combined with caregiver education and support can ameliorate problem behaviors (especially agitation) and their impact.

Research indicates that the creation of positive emotional experiences for people with Alzheimer's disease can help reduce distress and behavioral problems. Techniques include using food, scheduling, art, music and exercise to generate positive emotions; engagement in activities that retrieve fragments of skills; and helping caregivers to be more accepting and capable. Pet therapy has been reported to lead to improved socialization and music of the person's preference has been found to lead to reductions in agitation, aggression, and mood disturbances during eating and bathing.

A number of **emotion-oriented therapies** have been developed and are widely used to treat persons with dementia. And, although none has been proven to be effective, and may even be contraindicated for some consumers, they are worth mentioning because of their widespread use and popularity. **Supportive psychotherapy** is a dyadic intervention with a focus on maintaining or increasing self-esteem, adaptive skills, or psychological functioning. Techniques include examination of real or transferential relationships and patterns of emotional response and behavior. The therapist plays an active and directive role in helping the consumer improve their social functioning and coping skills by improving behavior and subjective feelings rather than achieving insight or self-understanding.

Validation therapy is an approach used to communicate with older consumers who are disorientated that involves acknowledging and supporting their feelings in whatever time and place is real to them irrespective of whether this corresponds to here-and-now reality. **Simulated presence therapy (SPT)**, based on attachment theories, entails playing a recording with voices of the consumer's closest relatives. Studies show that familiar voices may help improve mood and reduce anxiety, aggressive behaviors, and agitation although the evidence is weak. **Life review therapy**, a form of reminiscence therapy, entails reciprocal acts of telling and listening in which the listener helps the consumer person reframe and integrate life periods and events. Exercises such as photo scrapbook review, memoir writing, and pilgrimages to childhood sites are often used to enhance the experience. However, unfocused reminiscing may engender adverse effects on individuals who have trauma histories (e.g., Holocaust survivors) or those with early dementia.

SOMATIC THERAPY

PHARMACOTHERAPY

Individuals over the age of sixty five use more prescription and over-the-counter medications than any other age group and account for more than one half of adverse drug reactions that result in hospitalization. Residents of nursing homes take more psychoactive medications and are frailer than their community-dwelling counterparts. Moreover, the incidence of chronic disease in nursing home residents leads to increased use of other medications. Functional disability is also common among this population. The use of psychoactive medications, particularly antipsychotics, antidepressants, and sedative-hypnotics, have been found to consistently cause serious adverse drug events including neuropsychiatric symptoms (e.g., over sedation, confusion, hallucinations, and delirium) in this population.

Medications used by older consumers:
- Antipsychotics
- Antidepressants
- Mood stabilizers
- Benzodiazepines and other anxiolytics
- Anti-dementia drugs

Older adults are at risk for drug-drug interactions and interactions between medications and alcohol. Substance abuse problems in older adults can result from the misuse (e.g., underuse, overuse, erratic use, or use for contraindicated purposes) of prescription medications which may stem in part from difficulties with following and reading prescriptions.

Age-related changes in the absorption, distribution, metabolism, and excretion of psychotropic drugs may result in altered blood levels of psychotropic medications, prolonged pharmacological effects, and increased risk for side effects, especially for individuals who take multiple medications. It is therefore recommended that initial doses of psychoactive medications be low and rates of increase be slow due to pharmacokinetic and pharmacodynamic changes in order to maximize efficacy and minimize side effects. However, medications generally need to be titrated to regular adult doses to be fully effective.

Pharmacokinetic changes associated with aging include changes in: (1) absorption (i.e., a decrease in gastric acidity, delay in gastric emptying, decreased splanchnic blood flow, and decreased intestinal motility which result in slow absorption of drugs and a delay in onset of action); (2) metabolism (i.e., a decrease in hepatic mass and blood flow, and certain methods of metabolism relative to others) which lead to increased half-lives, prolonged action and accumulation of certain drugs (e.g., diazepam and chlordiazepoxide, making orazepam and oxazepam potentially safer choices[16]); (3) excretion (i.e., various anatomical changes in the renal system resulting in reduction of renal functions that causes accumulation of drugs such as lithium and rivastigmine even with normal dosages and resulting in drug toxicity); (4) distribution (i.e., increase in the percentage of body fat which results in an increase in the elimination half-life of many psychotropic medications, as well as a reduction in total body water resulting in decreased volume of distribution of drugs like lithium and an increase in its concentration).

Pharmacodynamic changes associated with aging include: (1) increased sensitivity of the Gaba-aminergic system resulting in a heightened response to drugs such as benzodiazepines; (2) a

[16] P-450 CTP2D6 activity is unaffected by age, but its inhibition by psychiatric and other drugs can alter the effect of other psychotropic drugs. Drugs like fluoxetine, paroxetine, venlafaxine, mirtazapine and valproate inhibit P450 CYP2D6, which affects metabolism of drugs like desipramine, nortriptyline (TCAs), paroxetine, venlafaxine, carbamazepine, risperidone, clozapine, olanzapine and typical antipsychotics. This may lead to complications in treating psychiatric disorders which might involve co-administration of these medications.

decrease in dopamine turnover which increases the risk for drug-induced parkinsonism; (3) diminished central cholinergic function which contributes to an increased sensitivity to the anticholinergic effects of many neuroleptics and antidepressants and may result in increased response to anticholinergic agents; and (4) decreased serotonin reuptake and 5-HT2A receptor concentration.

Anticholinergics (i.e., drugs that block the action of acetylcholine), used individually or in combination, can adversely affect brain function, particularly in older individuals, and regular use of multiple anticholinergics has been linked to cognitive impairment and memory loss. In addition, anticholinergics can cause behavioral disturbances and life-threatening delirium, and delirium can lead to dementia. Such drugs include amitriptyline, doxepin, imipramine, digoxin, trihexyphenidyl, benztropine, diphenhydramine, furosemide, and many other commonly used over-the-counter and prescription medications. Anticholinergic side effects can include memory deficits, confusion and disorientation, agitation, and hallucinations. In addition, anticholinergic toxicity can depress brain function leading to coma and circulatory collapse. Dry mouth, the most common side effect of anticholinergic medications, can lead to problems such as painful mouth sores, agitation, depression, and reductions in talking and eating.

Elderly persons with dementia-related psychosis treated with atypical antipsychotic drugs have been found to be at increased risk of death from cardiovascular (e.g., heart failure, sudden death) or infectious (e.g., pneumonia) causes. The effect of anticholinergic drugs is cumulative; lack of prescriber awareness of all of the medications being taken and failure to review the anticholinergic properties of prescribed medications have been found to be a particular problem for older adults because of their increased vulnerability to the effects of these drugs and tendency take multiple medicines. The Anticholinergic Cognitive Burden (ACB) is a tool that identifies the severity of anticholinergic effects on cognition of both prescription and over-the-counter medications.

People with dementia have been shown to be especially vulnerable to overmedication, reactions from combinations of drugs, and side effects of medications. For example, sedatives and hypnotics are often prescribed to facilitate sleep or calm behavior but can also affect bladder functioning and cause incontinence. In addition, a number of medications can affect memory.

Drugs that Affect Memory		
Type of Drug	**Generic Name**	**Brand Name**
Analgesics	meperdine	Codeine, Demerol, Fiorinal
Antianxiety drugs	alprazolam	Xanax
	diazepam	Valium
	lorazepam	Ativan
	oxazepam	Serax
	temazepam	Restoril
	triazolam	Halcion
Antibiotics	cephalexin	Keflex
	ciprofloxacin	Cipro
	metronidazone	Flagyl
Antidepressants	amitriptyline	Elavil
	imipramine	Tofranil
Antihistamines	diphenhydramine	Benadryl
	pseudophedrine	Sudafed
Antinausea drugs	hydroxyzine	Atarax
	meclizine	Antivert
	metoclopramide	Reglan
	prochlorperazine	Compazine
Antihypertensives	atenolol	Tenormin

	hydrochlorothiazide	Dyazide
	lotensin	Benazepril
	metoprolol	Toprol
Antipsychotics	chlorpromazine	Thorazine
	haloperidol	Haldol
	thioridazine	Mellaril
Antiulcer drugs	ranitidine	Zantac
	cimetidine	Tagamet
Hormones	levothyroxine sodium	Synthroid
Pain drugs	hydrocodone	Vicodin
	meperidine	Demerol
Parkinson's drug	amantadine	Symmetrel
Seizure medications	carbamazepine	Tegretol
	gabapentin	Neurontin
	valproic acid	Depakote
Sleep aid	zolpidem	Ambien
Steroid	prednisone	Prednisone

Older adults are more likely than other adults to take multiple compounds including both prescription and nonprescription drugs. Such polypharmacy in older adults can result in drug-drug interactions which can increase side effects and reduce the efficacy of one or more compounds. The use of more than six drugs is associated with a high incidence of drug-drug reactions and the manifestation of behavioral disturbances in persons with dementia. Polypharmacy is also associated with what has been termed a prescribing cascade in which the first drug causes an adverse effect that is interpreted as a new medical condition leading to the prescription of a second to treat the "new" condition. The second drug, in turn, causes its own adverse effect triggering the use of a third drug, and so forth.

Drug interactions can occur with psychoactive medications in combination with medications commonly used to treat medical illnesses. For instance, extreme sedation can result from benzodiazepines taken concurrently with another sedating drug, such as phenytoin. Displacement of a drug from plasma protein binding sites by another highly protein bound drug, (e.g., aspirin in combination with valproic acid) can result in a higher free fraction of the displaced drug and potential drug toxicity.

There is a significant potential for drug-drug interactions when combining antipsychotics with other agents. Caution is recommended due to potential interaction related to drug metabolism, particularly the concomitant use of those that are potent inhibitors of the cytochrome P450 enzymes[17] (e.g., fluoxetine, fluvoxamine, and paroxetine, nefazodone, tricyclic antidepressants, and monoamine oxidase inhibitors). Additional monitoring when clozapine with fluoxetine are used in combination is recommended because fluoxetine inhibits the enzymes that are required for metabolizing clozapine. Additional monitoring is also recommended when combining antipsychotics with mood stabilizers (e.g., lithium, carbamazepine, lamotrigine, or valproate). Carbamazepine can reduce plasma levels of aripiprazole by as much as seventy percent, but this effect of enzyme induction is much less marked with other antipsychotics (e.g., olanzapine). Additional monitoring is also recommended when combining antipsychotics with the narcotics codeine and tramadol.

Older consumers are also at increased risk for side effects from having higher blood levels of neuroleptics prescribed for the treatment for psychotic symptoms, agitation, and behavioral

[17] The hepatic isoenzyme system is responsible for the oxidative metabolism of many medications; drugs that inhibit or induce various pathways of the cytochrome P-450 enzymes may be implicated in numerous drug interactions. A comprehensive, referenced, and continually updated list of CYP-450 interactions is maintained by David Flockhart, M.D., Ph.D., at Indiana University (http://medicine.iupui.edu/flockhart/).

symptoms. Neuroleptic side effects include sedation, anticholinergic toxicity (which can result in urinary retention, constipation, dry mouth, glaucoma, and confusion), extrapyramidal symptoms (e.g., parkinsonism, akathisia, and dystonia), and tardive dyskinesia[18] (TD). Because even low doses of conventional neuroleptics result in a high risk of tardive dyskinesia in older adults, it is recommended that dosages be tapered for those whose chronic symptoms are stable.

Problems with adherence to medication regimens are of concern in older adults, particularly those with moderate or severe cognitive deficits. Nonadherence to psychoactive medication regimens in older adults occurs with overuse and abuse, forgetting, and alteration of schedules and doses, one of the common of which is deliberate underuse of a prescribed drug due to side effects and cost considerations. Risk factors that contribute to medication nonadherence include not conveying adequate information regarding the necessity for the medication, unclear prescribing directions, inadequate provider-consumer relationship, a large number of times medications must be taken each day, and a large number of drugs taken at the same time. In addition, impaired vision can increase the likelihood of misreading instructions or mistaking one medication for another. Cognitive impairments may also interfere with recollection and make it difficult to remember whether or not a medication has been taken.

Finally, it should be noted that many older adults use complementary and alternative medicine products such as herbal supplements but often fail to disclose them to health care providers despite the fact that some can interact with conventional medicines.

ANTIDEPRESSANTS

Pharmacotherapy of depression in older people is similar to that of other adults, but the selection of medications is more complex due to side effects and interactions with other medications for co-occurring medical disorders. And, while recovery from depression is similar to that of younger persons when treated appropriately, treatment typically has to be continued for longer periods than for younger adults because treatment response takes longer. The treatment response for younger adults takes an average of six to eight weeks while the median time to remission is about twelve weeks for older adults. Moreover, about forty percent experience recurrent depression. A high level of treatment intensity has been shown to be effective in preventing relapse and recurrence of depression. However, studies indicate that the intensity of treatment prescribed by psychiatrists typically begins to decline within sixteen weeks of the initiation of pharmacotherapy and about ten weeks prior to recovery. Research demonstrates that it is necessary to continue treatment long after a consumer is symptom free. Individuals aged of seventy and older who continue with an antidepressant that promoted recovery from a first episode are significantly (sixty percent) less likely to experience a new episode. Long-term maintenance treatment (for at least two years) subsequent to being symptom-free has been shown to be effective in preventing recurrence. On the other hand, premature discontinuation has been found to be associated with a seventy seven percent increase in the risk of relapse/recurrence of symptoms.

Antidepressants used for older adults:

- **SSRIs** (fluoxetine, sertraline, paroxetine, fluvoxamine, citalopram, escitalopram)
- **TCAs** (nortriptyline, desiprime)
- **MOAIs** (phenelzine, tranycypromine)
- **Non-SSRIs** (bupropion, venlafaxine, mirtazapine, duloxetine, trazadone, nefazodone)

There is general agreement in the literature regarding the effectiveness of antidepressants for geriatric depression, but the comparative efficacy and tolerability of different classes of antidepressants is controversial. Selective serotonin reuptake inhibitors (e.g., citalopram, sertraline, paroxetine) are generally recommended as first-line agents. Meta-analyses have not

[18] In older adults, tardive dyskinesia typically involves abnormal movements of the tongue, lips, and face.

shown significant differences between Selective serotonin reuptake inhibitors (SSRIs) and tricyclic antidepressants (TCAs) in terms of efficacy or cessation of treatment due to adverse effects, but TCAs can cause more serious side effects.

SSRIs can cause sleep disturbances, sexual dysfunction, gastrointestinal distress, anxiety, restlessness, headaches, and weight loss as well as increase the risk of osteoporotic fractures among persons aged fifty and older. Daily SSRI use has been found to be associated with lower bone mineral density at the total hip and lumbar spine. This association is dose dependent. In addition, all SSRIs competitively inhibit several cytochrome P450 (CYP) isoenzymes and have significant interaction with other drugs including other antidepressants, antipsychotics, ACE inhibitors, opioids, and beta-blockers (increased levels) and benzodiazepines, hypnotics (zolpidem), calcium channel blockers, and antihistamines (decrease levels).

Tertiary tricyclics (e.g., amitriptyline, imipramine, doxepin, and trimipramine) are not considered safe for older adults due to their sedating, anticholinergic (e.g., dry mouth, urinary retention, and constipation), and cardiac side effects, as well as their tendency to cause orthostatic hypotension. Their demethylated counterparts, the secondary tricyclics (e.g., desipramine, nortriptyline, and protriptyline) have a lower propensity to cause these side effects and are considered safer for older consumers. However, all TCAs have type 1 anti-arrhythmic effects and are relatively contraindicated for consumers with ischemic heart disease or a preexisting cardiac conduction disturbance. Secondary amine tricyclics cause less orthostatic hypotension and sedation than tertiary amine tricyclics; regular monitoring is recommended for consumers with heart problems and for potential for drug interactions.

Anticholinergic effects (can lead to severe problems in older adults. For example, constipation can lead to impaction, and dry mouth can prevent the wearing of dentures. In addition, the anticholinergic effects of the TCAs can cause tachycardia or arrhythmias and further compromise preexisting cardiac disease. Central anticholinergic effects may result in acute confusional states or memory problems in older adults with depression. Orthostatic hypotension, which can lead to falls and hip fractures, is also a concern with TCAs. Nevertheless, TCAs are still frequently used in older adults.

Other newer non-SSRI antidepressants (e.g., venlafaxine, bupropion, trazodone, and nefazodone) are often suggested for treating late-life depression because their side effects are better tolerated by older adults. The dopaminergic properties of **bupropion** may be beneficial for individuals with Parkinson's disease, is very safe in overdose, and does not cause weight gain. However, it may increase blood levels of certain antipsychotic medications,β-blockers, and type 1C antiarrhythmic agents by inhibiting the CYP2C6 isoenzyme. **Venlafaxine** is known to cause side-effects such as sexual dysfunctions, weight gain, and gastrointestinal disturbances, It can also increase the supine blood pressure. Lower dosages are recommended for consumer with liver or kidney disease. **Mirtazapine** has sedating properties, is associated with increased appetite and weight gain, which may be of benefit for consumers with depression and reduced food intake.

Despite evidence of the efficacy of monoamine oxidase inhibitors (MAOIs), their use is often restricted to older individuals who are refractory to other antidepressant drugs due to potentially life-threatening pharmacodynamic interactions with sympathomimetic drugs (i.e., those that mimic the effects of stimulation of organs and structures by the sympathetic nervous system) or tyramine-containing foods and beverages. The sympathomimetic amines (e.g., phenylpropanolamine and pseudoephedrine) may be present in over-the-counter decongestant products that older persons have been found to be prone to use. Also, there is a risk of orthostatic hypotension, which occurs even at therapeutic doses. Bupropion has been shown to be as effective as TCAs in older persons and has a relative low incidence of cardiovascular

complications and conduction, and appears to generally well tolerated, its use requires added caution because of an increased risk of seizures and thus should be avoided in individuals with a seizure disorder or focal central nervous system disease.

Augmentation therapies are often recommended for treatment-resistant depression or partial response to treatment. Augmentation methods include:

- Bupropion and buspirone/SSRI combination
- Mirtazapine/SSRI combination
- Triiodothyronine (T_3) augmentation of TCA
- Stimulant drugs augmentation of TCA-SSRI (to stimulate the response)
- TCA-SSRI combination (with caution and monitoring for an elevated TCA level)
- Lithium augmentation with TCAs.
- Lithium augmentation with SSRI (with caution as there are case reports of serotonin syndrome)
- Atypical antipsychotic/antidepressant combination

Herbals and dietary supplements are also used to treat geriatric depression. Those with the best evidence of efficacy are S-adenosylmethionine (Sam-E), and hypericum perforatum (St. John's wort), both of which are indicated only for mild to moderate depression and should not be taken in combination with psychotropic medications. Many drugs interact with St. John's wort, including other antidepressants, warfarin, oral contraceptives, and antiretroviral, anti-cancer and anti-rejection drugs. However, herbal products and nutritional supplements are not evaluated or regulated by the FDA for safety, efficacy, or bioavailability.

MOOD STABILIZERS

Lithium, generally considered the first-line treatment for bipolar disorder, can cause side effects resulting from lower renal function of older adults including diarrhea, tremor, polyuria, and polydipsia. At higher serum levels, it can lead to delirium, sedation, and cognitive dulling. Long-term lithium use can lead to hypothyroidism and goiter. In addition, older consumers who were able to tolerate lithium when they were younger may be unable to after the age of about seventy. Caution is recommended for older adults who use NSAIDs, thiazide diuretics, and ACE inhibitors which increase the levels of lithium and cause drug toxicity. Sustained release preparation, which decreases the peak levels, or shifting the medication to night time so that the primary side-effects occur during sleep, may help to improve the tolerability of lithium. Lithium is not recommended for management of behavioral disturbances in consumers with dementia due to a high incidence of cognitive and other adverse effects. It is recommended that a thorough examination be conducted prior to starting lithium to detect the presence of a thyroid disorder, tremor, renal dysfunction, and cardiac problems, as well as the provision of ongoing monitoring throughout the course of treatment.

Valproate is considered an acceptable alternative to lithium for older consumers with mania, particularly those who develop deterioration of cognitive performance during lithium treatment and is considered the drug of choice for rapid cycling bipolar disorder. However, older consumers may have a higher risk of developing thrombocytopenia with valproate. **Carbamazepine** has been found to be effective in managing rapid cycling and irritable mania, both of which are more commonly experienced by older consumers. Side-effects include sedation, dizziness, ataxia, nausea and vomiting, mild anticholinergic effects, skin rash, and worsening of congestive heart failure, hypertension, and hypotension. **Lamotrigine** is used to augment lithium or divalproex.

ANXIOLYTICS

Anxiety is one of the most common disorders that affect older adults. It estimated that thirty eight to forty six percent of older adults with depression have comorbid anxiety disorders, and that fifteen to thirty percent of older adults with anxiety disorders have comorbid depression. Anxiety is often accompanied by medical illness, depression, or cognitive difficulties. However, while studies have found that subsyndromal anxiety is associated with more depressive symptoms and physical disorders. Despite the prevalence of anxiety among older adults there is a paucity of research on the effectiveness of available treatments. Older persons with subsyndromal anxiety are not likely to be treated because they do not attain the diagnostic threshold for anxiety disorder.

Anxiety disorders and symptoms in older adults are associated with a number of negative consequences including physical complications e.g., increased physical disability and impairment in activities of daily living) and a reduced sense of well-being and life satisfaction. Anxiety is also associated with increased mortality and greater risk of coronary artery disease in men. In addition, individuals with anxiety problems often over utilize medical services.

Benzodiazepines have been shown to be effective in reducing acute and subacute anxiety in older adults with no documented differences in the effectiveness among them. However, the half-life of certain compounds and their metabolites may be significantly extended in older individuals, particularly those with a long half-life. However, short-acting benzodiazepines (e.g., lorazepam or oxazepam) tend to accumulate in older individuals if taken over extended periods and may predispose older individuals to withdrawal symptoms. The efficacy of benzodiazepines in treatment of anxiety (in younger as well as older consumers) diminishes beyond four to six weeks after which time other agents (e.g., antidepressants) need to be added to the treatment regimen. Despite these concerns, benzodiazepines are frequently prescribed for older adults at inappropriately high doses and for excessive periods of time.

Studies have revealed a high prevalence of long-term benzodiazepine use among residents of nursing homes. However, a number of issues related to such use have been identified including lack of adequate clinical assessment, excessive prescribing, and increased sensitivity to potential side effects resulting from altered pharmacokinetics and pharmacodynamics (e.g., prolonged and increased sedation, loss of coordination, unsteadiness, memory loss, disinhibition, hypoalbuminemia, chronic renal failure, anterograde amnesia, diminished short-term recall, and increased forgetfulness). Discontinuation, on the other hand, has been found to improve cognitive performance in nursing home residents with dementia.

Side effects of benzodiazepines include drowsiness, fatigue, psychomotor impairment, memory or other cognitive impairment, confusion, paradoxical reactions, depression, respiratory problems, abuse or dependence problems, and withdrawal reactions. Benzodiazepine toxicity in older persons includes sedation, cerebellar impairment (manifested by ataxia, dysarthria, lack of coordination, or unsteadiness), cognitive impairment, and psychomotor impairment. Psychomotor impairment from benzodiazepines can have severe consequences, leading to impaired driving skills and motor vehicle accidents. Chronic sedation with benzodiazepines can cause symptoms associated with Alzheimer's disease and related disorders (e.g., increased confusion and behavioral disturbances, including agitation, belligerence, and social disinhibition).

It is recommended that benzodiazepines be limited to emergency settings, especially when behavioral disturbances are associated with severe anxiety in persons with Alzheimer's disease and related disorders. For example, benzodiazepines may be used for a short duration in persons with AD who have moderate to severe anxiety or are apprehensive about specific events (e.g., medical procedures or admission to an institution). However, long-term usage is

associated with a gradual decline in efficiency and sedation, decreased cognitive functioning, loss of coordination and unsteadiness, and paradoxical disinhibition of behavior.

The literature indicates that benzodiazepines should be prescribed with caution, at low doses, and for short periods for older adults. Short-half-life benzodiazepines (e.g., oxazepam, alprazolam, and triazolam) are usually recommended because they do not accumulate in the blood, are rapidly cleared from circulation, and offer greater dosage flexibility. However, short half-life benzodiazepines can produce a discontinuation syndrome and have a higher potential for abuse. Studies of extended-release alprazolam have shown it has less potential for abuse. As with younger consumers, gradual tapering can reduce the potential for withdrawal symptoms.

Buspirone, an anxiolytic agent that is chemically and pharmacologically distinct from benzodiazepines, has been shown to be effective for anxiety in older consumers. It is less sedating and does not interact with alcohol, have a tendency to lead to dependence, or produce withdrawal symptoms (i.e., has little potential for abuse). However, buspirone may require up to four weeks to take effect; initial augmentation with another antianxiety medication may be needed for some individuals with acute anxiety. It is contraindicated for consumers taking MAOIs and has a reduced effectiveness for consumers who have been treated with benzodiazepines. Adverse reactions to buspirone in older consumers include gastrointestinal symptoms, dizziness, headache, sleep disturbance, nausea/vomiting, uneasiness, fatigue, and diarrhea.

ANTIPSYCHOTICS

Antipsychotics, long the mainstay for the treatment of psychosis in older persons as in other population groups, have come under scrutiny because of their adverse effects, particularly in older persons with dementia. Antipsychotic medications are approved primarily for the treatment of symptoms associated with schizophrenia; they are not approved for the treatment of dementia-related psychosis. In fact, no drug has been approved for the treatment of dementia-related psychosis or other symptoms (e.g., forgetfulness, poor memory, and an inability to recognize familiar objects, sounds, or people). The U.S. Food and Drug Administration (FDA) has issued a warning regarding increased mortality among individuals with dementia receiving atypical antipsychotic medications[19] for psychosis and agitation in dementia. Nonetheless, the absence of a better pharmacological alternative these agents are prescribed off-label to treat consumers with dementia despite the attendant risks for iatrogenic morbidity and mortality.

Studies indicate that about seventy five percent of individuals with Alzheimer's disease experience psychotic symptoms (e.g., hallucinations) and behavioral symptoms (e.g., aggression and agitation). Elderly individuals with dementia-related psychosis treated with conventional or atypical antipsychotic drugs have been found to be at increased risk of death. Consumers with Lewy body disease have been found to be highly sensitive to even small doses of antipsychotics (e.g., haloperidol) and may experience rigidity and immobility after one or two doses. In addition, dementia and parkinsonism have been shown to increase the risk for neuroleptic malignant syndrome (NMS) a potentially life-threatening life condition characterized by muscle rigidity, fever, autonomic instability, fluctuating levels of consciousness and elevations in CPK and leucocytes.

In addition, akathisia due to neuroleptics can be mistaken for increased agitation in consumers with dementia, which may be erroneously responded to by increasing, rather than reducing, the

[19] There is increasing evidence that FGAs increase the risk of death from cardiovascular or respiratory diseases in older consumers relative to SGAs and may thus not be safer. However, the FDA's warning did not extend to FGAs.

dose. It is recommended that anticholinergic agents (e.g., benztropine or trihexyphenidyl) to ameliorate extrapyramidal symptoms be avoided to reduce risk of anticholinergic toxicity, although low dosages may be prescribed cautiously. While low-dose propranolol may improve akathisia, and amantadine may help reduce rigidity, these medications can also cause adverse effects.

Antipsychotic drugs are categorized into two classes, the older conventional (or first generation, FGA) antipsychotics, and the newer atypical (or second generation, SGA) antipsychotics. Both classes are dopamine receptor antagonists that work by blocking the action of dopamine. SGAs have a lower incidence of neurological side effects.

Conventional Antipsychotic Drugs	Atypical Antipsychotic Drugs
Compazine (prochlorperazine)	Abilify (aripiprazole)
Haldol (haloperidol)	Clozaril, FazaClo (clozapine)
Loxitane (loxapine)	Geodon (ziprasidone)
Mellaril (thioridazine)	Invega (paliperidone)
Moban (molindone)	Risperdal (risperidone)
Navane (thiothixene)	Seroquel (quetiapine)
Orap (pimozide)	Zyprexa (olanzapine)
Prolixin (fluphenazine)	Symbyax (olanzapine and fluoxetine)
Stelazine (trifluoperazine)	Geodon (ziprasidone)
Thorazine (chlorpromazine)	Saphris, Sycrest (asenapine)
Trilafon (perphenazine)	

Older persons are more susceptible to adverse effects of conventional including extrapyramidal symptoms (EPS), tardive dyskinesia TD)[20], falls and fractures, orthostasis, anticholinergic effects. EPS, found in as many as eighty percent of older consumers taking antipsychotic medications, can lead to difficulty in swallowing and falls. Central anticholinergic side effects (e.g., poor attention, impaired memory and behavioral problems) can lead to confusion regarding diagnosis and produce further deterioration in consumers with pre-existing cognitive decline. Other anticholinergic side-effects (e.g., urinary retention and constipation) are also a concern for older consumers.

Pharmacological treatment of schizophrenia in later life presents some unique challenges because, while conventional neuroleptic agents (e.g., haloperidol) have been demonstrated to be effective in managing positive symptoms (e.g., hallucinations and delusions), these drugs have a high risk of potentially disabling and persistent side effects (e.g., tardive dyskinesia). Other side-effects from antipsychotics for older adults include sedation, hypersalivation, gastrointestinal effects (i.e., nausea, constipation, and diarrhea), liver effects (i.e., cholestatic jaundice and raised transaminase enzyme activities), endocrine effects (i.e., weight gain and diabetes mellitus), and epilepsy. In addition, orthostatic hypotension is of particular concern in older adults because of age-related limitations in vascular regulation and postural reflexes which can increase the risk of falls; hip fractures resulting from falls are a major cause of morbidity in older persons. The quinidine-like cardiac effects of conventional antipsychotics, especially thioridazine, are associated with the potential for cardiac arrhythmias.

Studies including primarily younger persons with schizophrenia suggest that the newer atypical antipsychotics (e.g., clozapine, risperidone, olanzapine, and quetiapine) may be effective in

[20] Older adults can develop tardive movements after a shorter period of neuroleptic exposure than their younger counterparts, and TD remits less frequently following discontinuation of neuroleptics. TD has been found to be associated with increased symptoms (e.g., positive and negative signs of schizophrenia) and Orofacial TD has been associated with a lower MMSE score (cognitive impairment). It is recommended that consumers receiving long-term antipsychotic therapy undergo regular screening (at least once every six months) for TD and cognitive decline.

treating individuals previously unresponsive to traditional neuroleptics. These medications are also associated with a lower risk of EPS and TD. In addition, the atypical antipsychotics may be more effective in treating negative symptoms and lead to improvement in some of neurocognitive deficits associated with schizophrenia. However, there is a paucity of research on the effectiveness and safety of these medications in older consumers with multiple medical conditions.

Low and mid-potency conventional antipsychotics, clozapine, and olanzapine are contraindicated for older consumers with diabetes mellitus, dyslipidemias, and/or obesity. In addition, it is recommended that ziprasidone, low and mid-potency conventional antipsychotics, and clozapine be avoided for individuals who have a prolonged QTc interval or congestive heart failure. Quetiapine is recommended for individuals with Parkinson's disease (due to its low affinity with the dopamine D_2 receptor) as well as low-dose olanzapine or clozapine. There is some concern regarding the use of high doses of risperidone in consumers with Parkinson's disease due to the potential for exacerbating extrapyramidal symptoms.

Although clozapine has a favorable neurological side-effect profile, its use in older consumers is limited by severe side-effects including sedation, confusion, lethargy, postural hypotension, and agranulocytosis (resulting in the need for regular monitoring of blood counts). Risperidone has been found to be effective in reducing aggressive behavior, paranoia, and delusions in elderly consumers but can induce EPS symptoms even at low doses.

Olanzapine has been reported to be more efficacious than risperidone in maintaining control over negative symptoms in older consumers with schizophrenia and related psychotic disorders. The most frequent adverse effects of olanzapine are hypotension, constipation, somnolence, dizziness and weight gain (which may be of advantage consumers who have lost a significant amount weight during). Quetiapine has been reported to be effective in treating positive symptoms with a low propensity to cause EPS but has commonly occurring side effects including sedation, headache, and orthostatic hypotension. Aripiprazole has been found to be less likely than the other atypical antipsychotics to cause extrapyramidal symptoms, sedation, weight gain, and cardiovascular side-effects.

Drugs used to treat Parkinson's disease (e.g., levodopa, amantadine, monoamine oxidase inhibitors) are known to cause psychosis. In addition, individuals with this disorder are increased risk of developing EPS in response to both typical as well as atypical antipsychotic medications. It is recommended that prior to starting antipsychotic medications anti-parkinsonian medications be titrated down to a minimum possible level at a strength that is just enough to control the movement disorder, and if this proves ineffective, antipsychotic medication should be started. Studies have shown efficacy of low doses of clozapine in treating psychosis with Parkinson's disease; but due to its adverse drug profile, it is not commonly used. In addition, risperidone and olanzapine, even in low doses, have been found to be associated with increases in tremor and rigidity. Quetiapine has been proposed as an alternative, but there is limited information on its use in this population.

ANTI-DEMENTIA DRUGS

The U.S. Food and Drug Administration (FDA) approved five medications to treat the symptoms of AD. Of these, four are cholinesterase inhibitors that are prescribed to treat mild to moderate AD symptoms. The first, tacrine[21] (Cognex), has been replaced by three newer drugs, donepezil

[21] Tacrine has been associated with hepatotoxicity and thus requires baseline and multiple follow-up liver enzyme determinations and should not be used by persons with liver disease. In addition, the need for multiple daily dosing makes it unsuitable as a ChEI of first choice. Thus drug is extensively metabolized

(Aricept), rivastigmine (Exelon), and galantamine (Reminyl). Cholinesterase[22] inhibitors (ChEIs), regarded as the standard treatment of AD, act by stopping or slowing the action of acetylcholinesterase (an enzyme that breaks down acetylcholine) and thereby increasing its concentration and duration of action in synapses by inhibiting its degradation in order to help maintain higher levels of it in the brain. These drugs improve some individuals' abilities to carry out activities of daily living, may improve certain thinking, memory, or speaking skills, and can help with certain behavioral symptoms. However, these medications will not stop or reverse AD and appear to be effective for only months to a few years.

There is some emerging evidence that ChEIs may be effective in delaying nursing home placement and improving cognitive and daily functioning as well behavioral symptoms associated with severe AD, vascular dementia (VaD), Lewy body disease (LBD). It has been suggested that other dementias associated with cholinergic deficit such as Parkinson's disease with dementia, and Down's syndrome with progressive cognitive decline may benefit from a trial with a ChEI, but there is insufficient evidence to support this. ChEIs are not effective for dementias without a cholinergic deficit (e.g., frontotemporal dementia or Huntington's dementia) and non-progressive dementias (e.g., those secondary to traumatic brain injury or anoxic encephalopathy).

by the liver via the cytochrome P450 1A2 isoenzyme system and thus has the potential to interact with other medications metabolized by this isoenzyme (e.g., theophylline, fluvoxamine, and cimetidine).

[22] Humans have two types of cholinesterase: acetyl and butyryl. Levels of butyrylcholinesterase been shown to increase as AD progresses, while levels of acetylcholinesterase decrease. Both enzymes are found in neuritic plaques and their inhibition with ChEIs may modify the deposition of beta-amyloid, a key component of the pathophysiology of AD. Tacrine and rivastigmine have the ability to inhibit butyrylcholinesterase. Galantamine has the property of allosteric modulation of the presynaptic nicotinic receptors which results in additional increase in cholinergic neurotransmission. Its benefit of which over other ChEIs has not been proven.

Medications for Alzheimer's Disease

NAME	TYPE AND USE	MECHANISM OF ACTION	SIDE EFFECTS & PRECAUTIONS
memantine[23] (Namenda®)	N-methyl-D-aspartate (NMDA)–type glutamate[24] antagonist prescribed to treat symptoms of moderate to severe AD	Blocks the toxic effects associated with excess glutamate and regulates glutamate activation	Dizziness, headache, constipation, confusion
galantamine (Razadyne®)	Cholinesterase inhibitor prescribed to treat symptoms of mild to moderate AD	Prevents the breakdown of acetylcholine and stimulates nicotinic receptors to release more acetylcholine in the brain. Metabolism is hepatic via glucuronidation and the cytochrome P450 isoenzymes 2D6 and 3A4; interactions with other drugs that are metabolized through this pathway are possible.	Nausea, vomiting, diarrhea, anorexia, weight loss, abdominal pain, dizziness and tremors (which occur more frequently early in the course of treatment and during dose titration). Caution is recommended for persons with liver disease. Laboratory monitoring is not required.
rivastigmine (Exelon®)	Cholinesterase inhibitor prescribed to treat symptoms of mild to moderate AD	Prevents the breakdown of acetylcholine and butyrylcholine. Metabolism occurs primarily via enzymatic cleavage (hydrolysis) by cholinesterases at the site of action and does not require the cytochrome P450 enzyme system. Laboratory monitoring is not required. Rivastigmine is considered safe for hepatic function.	Nausea, vomiting, diarrhea, weight loss, loss of appetite, muscle weakness. Needs to be titrated every 4 weeks (rather than every 2 which recommended when the drug was first made available). Tolerability to gastrointestinal side effects is improved by slower titration and the drug with a full meal. Rivastigmine has been found to have a very low risk of drug interactions
donepezil (Aricept®)	Cholinesterase inhibitor prescribed to treat symptoms of mild to moderate, and moderate to severe AD	Prevents the breakdown of acetylcholine.	Nausea, vomiting, diarrhea. Caution should be exercised in using donepezil in individuals with severe hepatic or renal disease.

In general, while these agents have similar degrees of efficacy, certain consumers may benefit more from one particular agent. For example, donepezil may be preferable for consumers with AD living alone without close daily supervision over their medications because of its once-a-day dosing. Rivastigmine may be preferable for consumers with AD and hepatic disease or who take numerous other medications metabolized by cytochrome P450 2D6 and 3A4 enzymes because

[23] The first non-cholinesterase inhibitor shown to be effective in reversing or slowing cognitive and functional decline in AD, this drug appears to work by regulating excess glutamate (a chemical involved in memory function). This drug, unlike the cholinesterase inhibitors, is effective for moderate to severe Alzheimer's disease and appears to exert additive effects when combined with cholinesterase inhibitors. Like the cholinesterase inhibitors, memantine does not stop or reverse the progression of AD, but studies have shown that it may delay loss of daily functions in persons with moderate to severe AD.

[24] Glutamate is a neurotransmitter involved in memory function.

of its lack of cytochrome P450 metabolism. Consumers with AD who experience impaired sleep or excessive dreaming with donepezil may benefit more from rivastigmine or galantamine.

It should be noted that there is a marked heterogeneity in response to ChEIs and no reliable predictors of response have been identified. This has led to the recommendation for reassessment of response every two to four months. There is some evidence that switching to another ChEI may be beneficial in instances of lack of response. Combining ChEIs is not recommended. Studies suggest that consumers with AD who begin ChEI treatment later do not do as well as those who began treatment early. In addition, early intervention with ChEI therapy may also delay the emergence of neuropsychiatric symptoms in consumers with mild to moderate AD.

ChEIs can have a number of adverse gastrointestinal effects (nausea, vomiting, diarrhea, anorexia, and weight loss) which are typically experienced during dose escalation. Other less common adverse effects include abdominal pain, dizziness, syncope, and headache. Adverse effects are typically mild to moderate in severity and resolve spontaneously or following a reduction in dosage. Adverse effects occur more frequently when the dose of a ChEI is increased too rapidly (in one to two weeks) while their frequency is very low during the maintenance phase of treatment.

Consumers with symptomatic bradyarrhythmia, active peptic ulcer disease, and acute exacerbation of chronic obstructive pulmonary disease and asthma may experience worsening of these due to the mild peripheral cholinergic effects of ChEIs, but they can usually be used safely once these conditions are stabilized. Donepezil has been reported to cause urinary incontinence, but all ChEIs have the potential to precipitate or exacerbate this problem. It is recommended that the use of anticholinergic agents (e.g., tolteradine[25] and oxybutynin[26]) be minimized because they can counteract the effects of ChEIs. There is a potential for prolonging the effects of succinylcholine (a muscle relaxant) used during anesthesia but it does not appear to be clinically significant, discontinuation of ChEI therapy is not recommended a few days prior to surgery because of the risk of cognitive deterioration.

DELIRIUM

Delirium is a common and serious condition for older persons. Older Individuals who are hospitalized and have delirium have been found to have a worse prognosis, prolonged lengths of stay, poorer functional outcomes, and higher rates of institutionalization. They are at increased risk for cognitive decline and the development of dementia (even in the absence of premorbid cognitive or functional impairment) and have a higher mortality rate.

Management of delirium includes identifying its underlying cause(s); initiating immediate interventions for urgent general medical conditions; intervening to address underlying etiology; and ongoing assessment and monitoring. Environmental and supportive interventions are designed to reduce or eliminate environmental factors that exacerbate delirium including the provision of an optimal level of environmental stimulation, reduction of sensory impairments, as well as making environments more familiar, and the provision of environmental cues that facilitate orientation. Cognitive-emotional interventions include reorientation, reassurance, and the provision of information concerning delirium to reduce fear or feelings of discouragement.

[25] Tolterodine (Detrol, Detrusitol) is an antimuscarinic drug that is used to treat urinary incontinence.
[26] Oxybutynin (Ditropan, Lyrinel XL) is an anticholinergic medication used to relieve urinary and bladder difficulties, including frequent urination and inability to control urination (urge incontinence), by decreasing muscle spasms of the bladder

Short-term use of antipsychotics has been recommended as a symptomatic treatment for delirium, concurrent with specific treatment of the underlying condition (e.g., drug toxicity, dehydration or other metabolic abnormalities, or infection). Haloperidol is used most frequently because it has few anticholinergic side effects or active metabolites and a relatively small likelihood of causing sedation and hypotension. Risperidone, olanzapine, and quetiapine are also used to treat delirium. Patients with delirium who can only tolerate lower doses of antipsychotics may benefit from the combination of a benzodiazepine and an antipsychotic. EKG monitoring is recommended due to the potential antipsychotics have to produce cardiac arrhythmias.

Monotherapy with a benzodiazepine is generally used for delirium caused by withdrawal from alcohol or sedative-hypnotic and multivitamin replacement is recommended for delirium when there is a possibility of B vitamin deficiencies (e.g., those with an alcohol use disorder or malnourishment). Cholinergics (e.g., physostigmine) have been found to help with delirium caused by anticholinergic medications. Paralysis, sedation, and mechanical ventilation may be required for agitation with delirium and hypercatabolism[27]. Palliative treatment with opiates can be of benefit in the presence of pain that exacerbates the delirium.

SLEEP DISTURBANCES

Older adults commonly have complaints of sleep disturbances and these are linked to poor health, depression, angina, limitations in activities of daily living, and chronic use of benzodiazepines. Persistent or residual sleep disturbances in older persons with prior depressive episodes have been found to be predictive of a less effective response to maintenance pharmacotherapy. Sleep disturbances are also common in dementia; the normal changes in sleep that occur with aging (reduced REM and slow-wave sleep, with increased nighttime wakefulness and daytime napping) are exaggerated in dementia. The most disruptive sleep disturbances include day/night sleep pattern reversal and awakening of the person by a caregiver.

Benzodiazepines can cause side effects even at low therapeutic dosages in older persons with dementia. Non-benzodiazepine hypnotics, on the other hand have a low potential for abuse or exacerbation of sleep apnea. Two hypnotics, zolpidem, a short-acting hypnotic that is commonly used by older adults, and zaleplon, an even shorter-acting hypnotic, have demonstrated efficacy in the treatment of older adults with insomnia and may provide advantages over benzodiazepines in those with dementia. Eszopiclone has been proven to be an efficacious hypnotic. Its most common side effect is a bitter taste. It is recommended that hypnotics be used only on a short-term basis (for a few days to three weeks) after careful assessment of risks and benefits, and always in conjunction with measures to improve sleep hygiene.

Benzodiazepines or other agents that suppress respiratory drive are contraindicated when sleep apnea is present. Agents recommended include short-term use of zolpideme, trazodone and sedating antidepressants (e.g., mirtazapine). Benzodiazepines (e.g., lorazepam, temazepam) should be limited to short-term use for a few days in certain situations (e.g., a short hospital stay). However, any drug used as a sleep aid can increase the risk of falls.

Sundowning (i.e., the increased prevalence of psychiatric and behavioral symptoms in the early evening) has been linked to alterations in sleep patterns (e.g., partial arousal from rapid eye movement sleep, sleep apnea, and phase shifting) as well as to sensory deprivation, loneliness, and diminished social and physical time cues (e.g., zeitgebers). It is recommended that

[27] Hypercatabolism is the excessive metabolic breakdown of a specific substance or of body tissue in general, leading to weight loss and wasting conditions

sundowning be addressed with non-pharmacological interventions; no drug has been found to be effective for this problem.

Older persons with sleep difficulties may use over-the-counter sleeping pills. But, in most instances, these preparations are more hazardous than some prescribed medications. Sedating antihistamines (e.g., diphenhydramine) are common ingredients in over-the-counter sleeping medications (e.g., Tylenol PM). Most also have potent anticholinergic effects, and tolerance develops after several weeks. It is therefore recommended that their use be discouraged and that consumers be cautioned regarding the use over-the-counter sleep aids containing anticholinergic agents because of risk of delirium and hallucinations.

Non-pharmacologic interventions are recommended as a first-line approach. These include appropriate sleep hygiene which is comprised of regular sleep and waking times, limited daytime sleeping, and avoidance of fluid intake in the evening, as well as calming bedtime rituals, and adequate daytime physical and mental activities. It is also recommended that older adults be assessed for restless leg syndrome, REM sleep behavior disorder, nocturnal myoclonus, and sleep apnea because they are relatively common in this population. Other approaches include bright light therapy, use of melatonin, increased exercise, and decreased nighttime interruptions.

PAIN MANAGEMENT

The prevalence of persistent pain increases with age, particularly joint pain and neuralgias. A majority of elderly persons have significant pain problems. Persistent pain interferes with activities of daily living and reduces quality of life. Pain has been found to be prevalent and a significant trigger for behavioral disturbances in persons with dementia but cognitive impairment and communication issues result in underreporting of pain. Anxiety has been found to be a predictor of levels of pain; individuals with high levels of anxiety have been found to have more complaints of pain and rate their pain at greater intensity. In addition, there is a high prevalence and severe symptoms of depression among older people who experience chronic pain.

A range of non-pharmacologic pain management strategies have been found to be of benefit for some individuals. These include heat, cold, biofeedback, relaxation training, transcutaneous electrical nerve stimulation (TENS), acupuncture, and trigger-point therapy, as well as patient education about the nature of pain, self-assessment, and treatment strategies, along with low-level activity programs (e.g., walking a short distance), carefully guided flexion and extension exercises for low-back pain.

> Despite its prevalence, the detection and management of chronic pain are often inadequate.
> It is recommended that screening and pain management be provided to persons with dementia.

Pharmacological intervention with analgesics require specific considerations when applied to older adults due to higher and more prolonged plasma drug concentrations, toxicity, and unfavorable drug interactions. (Drug effects can also be different for older individuals even when their plasma drug concentrations are similar to those of younger persons.) It is recommended that analgesics with a short half-life be used and started at a low dose (in general, half of the usual adult dose) and slowly titrated upward. It is also recommended that only one drug be prescribed at a time to avoid unnecessary additive effects.

Nociceptive pain (which originates from the mechanical, chemical, or thermal stimulation of peripheral sensory receptors) often responds to non-opioid analgesia (e.g., nonsteroidal anti-inflammatory drugs, or NSAIDs). However, NSAIDs (e.g., naproxen, ibuprofen, and nabutone) are associated with adverse effects including dyspepsia, gastrointestinal ulceration, and interference with platelet aggregation, reversible azotemia, and central nervous system toxicity.

Moreover, determination of efficacy often takes weeks. Acetaminophen, the treatment of choice for mild to moderate musculoskeletal pain, can cause serious hepatic toxicity at dosages that exceed 4,000/mg per day.

Neurogenic pain (which originates from damage to the central or peripheral nervous system) has a poorer prognosis and is more difficult to treat. Examples of neurogenic pain include neuropathies, neuralgias, and central pain syndromes following stroke. Tricyclic antidepressants (e.g., imipramine, amitryptiline, nortryptiline, and doxepin) have found to be effective in treating chronic pain with a neurogenic component. However, all TCAs have anticholinergic, antihistaminic, and alpha-adrenergic side effects; monitoring during initial dosing and titration is needed. Anticonvulsants (e.g., carbamazepine and gabapentin) have also been found to be helpful in treating neurogenic pain. Capsaicin can be used topically to treat diabetic neuropathy and postherpetic neuralgia pain.

Tramadol, a centrally acting analgesic, does not produce respiratory depression and has little potential for abuse. Its major side effects, nausea, dizziness, and agitation, occur early and are often diminished by slow titration. However, it can enhance the risk of seizures when administered with other medications that lower the seizure threshold (e.g., neuroleptics, monoamine oxidase inhibitors, and other psychotropic agents). Tramadol has been found to be effective for several pain conditions, including osteoarthritis.

Opioid analgesics are often the first-line of treatment for pain associated with malignancy and are also used for other types of pain, especially when other agents have not been effective. Opioid agonists (e.g., morphine, codeine, oxycodone, and hydrocodone) commonly cause sedation, nausea, constipation and respiratory depression. While physical dependence with repeated usage is expected from opiods, abuse is relatively uncommon when appropriately prescribed.

LIGHT THERAPY

Bright light therapy has been shown to be effective for treating major depression with a seasonal specifier. There is also evidence of its efficacy for other types of depressive symptom patterns including non-seasonal depression and milder variations of seasonal depressive patterns. Evidence suggests that bright light therapy may accelerate and enhance the effects of antidepressant medication. However, the standard treatment protocol for seasonal affective disorder treatment (a light exposure dosage of 5,000 to 10,000 lux for thirty to sixty minutes) is not always used for other types of depression. In addition, equipment that eliminates ultraviolet frequencies and produces bright light of known spectrum and intensity has been found to be essential.

ELECTROCONVULSIVE THERAPY (ECT)

ECT is regarded as an effective intervention for some forms of treatment-resistant depression across the life cycle as well as treating depression in persons with dementia and has also been reported to improve agitation in consumers with dementia[28]. ECT is recommended only for those with severe treatment refractory behavioral disturbances. Finally, ECT has been shown to be effective in resolving expressed suicidal intent as well as depression that has psychotic

[28] Individuals whose cognitive symptoms are fully resolved with treatment of depression are not considered to have dementia, but rather dementia syndrome of depression. However, about half of these people develop a dementia within five years that is characterized by psychotic symptoms consisting of non-elaborate persecutory delusions (e.g., accusations of someone stealing the patient's possessions) and simple visual or, less commonly, auditory hallucinations.

features, predominant melancholic symptoms, and for depression associated with Parkinson's disease.

ECT entails the electrical induction of seizures in the brain, administered for a course of six to twelve treatment sessions on an inpatient or outpatient basis. Maintenance treatment, typically with antidepressant or mood-stabilizing medication, or less frequent maintenance ECT, is needed in most cases is required to prevent relapse after completion of a course of ECT.

ECT is generally reserved for the treatment of severe depression, particularly with active suicidal risk or psychosis, the presence of catatonia, inability to tolerate antidepressants, or lack of responsiveness to antidepressants. However, ECT may be considered earlier in the treatment of older adults because they respond more slowly to antidepressant medications and symptoms such as immobility and reduced intake of food and fluids can pose a more imminent risk to health.

It should be noted that ECT is often associated with a brief period of confusion following administration and a temporary period of memory disruption. Other cautions for older adults include a recent history of myocardial infarction, irregular cardiac rhythm, or other heart conditions due to the risks of general anesthesia and the brief rise in heart rate, blood pressure, and load on the heart that accompany ECT administration. The safety of ECT can be enhanced by administration under controlled conditions with a cardiologist or other specialist in attendance.

MEASUREMENT

The literature recommends the use of validated instruments for screening and assessment as well as to ascertain progress/treatment gains or the lack thereof (i.e., reassessment). A number of examples of instruments for older adults are described in the paragraphs that follow.

ANXIETY

Geriatric Anxiety Inventory (GAI): A 20-item self-report measure that is scored yes and no. It is designed to assess anxiety symptoms in general and is available in a variety of languages, including multiple dialects of English, French, Spanish, and German. The GAI is available free of charge from the GAI website.

Zung Self-Rating Anxiety Scale (SAS): A method of measuring levels of anxiety in patients who have anxiety-related symptoms. The scale focuses on the most common general anxiety disorders; coping with stress typically causes anxiety. It is self-administered, with each response using a 4-point scale, from none of the time to most of the time. There are 20 questions with 15 increasing anxiety level questions and 5 decreasing anxiety questions. There are two formats, self-evaluations and clinical evaluations. It can be downloaded from http://www.psychresidentonline.com/zung%20anxiety.pdf.

Beck Anxiety Inventory (BAI): A 21-question, multiple-choice, self-report inventory that is used to measure the severity of anxiety. The questions address how the person has been feeling in the last week, expressed as common symptoms of anxiety (e.g., numbness and tingling, sweating not due to heat, and fear of the worst happening). It is designed for an age range of 17 to 80 years. Each question has the same set of 4 possible answer choices, which are arranged in columns and answered by marking the appropriate one with a cross. These are: Not At All (0 points); Mildly: It did not bother me much. (1 point); Moderately: It was very unpleasant, but I could stand it. (2 points); Severely: I could barely stand it. (3 points). The BAI has a maximum score of 63. Scores of 0-7 = minimal level of anxiety; 8-15 = mild anxiety; 16-25 = moderate anxiety, and 26-63 = severe anxiety. Information on the BAI is available from http://www.pearsonassessments.com/HAIWEB/Cultures/en-us/Productdetail.htm?Pid=015-8018-400.

CAREGIVER BURDEN AND DISTRESS

Center for Epidemiological Studies Depression Scale (CES-D): A 20-item measure that asks caregivers to rate how often over the past week they experienced symptoms associated with depression, such as restless sleep, poor appetite, and feeling lonely. Response options range from 0 to 3 for each item (0 = Rarely or None of the Time, 1 = Some or Little of the Time, 2 = Moderately or Much of the time, 3 = Most or Almost All the Time). Scores range from 0 to 60, with high scores indicating greater depressive symptoms. It can be downloaded from http://www.depression-help-resource.com/cesd-depression-test.pdf.

Revised Memory and Behavior Problem Checklist: Measures the frequency of behavioral and memory problems, and the reactions that these problems generate in informal caregivers. The 24 items describe behaviors and participants score their frequency during the preceding week (on a scale from 0 = never to 4 = every day), and the extent to which this problem disturbed or upset them (on a scale from 0 = not at all to 4 = extremely). It can be downloaded from http://www.alz.org/national/documents/c_assess-revisedmemoryandbehcheck.pdf.

Zarit Burden Interview: A 22-item scale measuring the subjective load experienced by a caregiver by asking them how frequently (from 0 = never to 4 = almost always) they feel various

emotions in their relationship with the care-receiver for a total score out of 88. Scores between 8 and 17 represent moderate burden, scores between 18 and 32 represent high burden, and scores over 32 represent severe burden. It can be downloaded from http://www.uconn-aging.uchc.edu/patientcare/memory/pdfs/zarit_burden_interview.pdf.

General Health Questionnaire (GHQ): A self-administered screening test used for detecting psychiatric disorders in community settings and non-psychiatric clinical settings. A number of versions are available; the commonly used 12-item version takes 5 minutes. It has been used as a measure of psychological distress and psychiatric morbidity in caregivers of patients with dementia and seems to be sensitive to change in that situation. Information on the GHQ can be obtained from https://shop.psych.acer.edu.au/acer-shop/group/SD.

COGNITIVE IMPAIRMENT

Mini-Mental State Examination (MMSE): The most frequently used mental status questionnaire in clinical practice, but requires the consumer to be verbally responsive. It includes 11 questions that focus on orientation, registration, attention and calculation, recall, and language. A score of 24 to 30 indicates the person is cognitively intact, 18 to 23 correlates with mild cognitive impairment, and 0 to 17 indicates severe impairment. Serial MMSEs have been found to be responsive to acute changes in cognition in older hospitalized adults and helpful in the diagnosis and monitoring of recovery from delirium. Specific items of the MMSE are helpful in screening for delirium such as the question about the current year and date, the backward spelling task, and copying a design. The MMSE accurately screens individuals for cognitive impairment and can be administered in primary care settings in about 10 minutes. It should be noted that the MMSE is valid for dementia screening in persons with at least eight years of education in an industrialized country and, although the Spanish MMSE has been validated, other translated versions have not. Information on the MSSE is available from http://www4.parinc.com/.

Mini-Cog: A screening tool for cognitive impairment and recommended for all elderly patients admitted to a hospital. The tool requires minimal training to administer, uses minimal equipment (paper and pencil or pen), and takes approximately 3 to 5 minutes to administer. The patient is asked to listen carefully, remember, and repeat 3 unrelated words the tester provides. Then the patient is asked to draw the face of a clock on a blank sheet of paper or on a sheet that has the clock circle already drawn. The patient is asked to write the numbers on the clock and to draw the hands of the clock to indicate a specific time. The patient is again asked to repeat the 3 words. Each correctly recalled word is equal to one point; an abnormal clock is 0 points and a normal clock is two points. Possible scores range from 0 to 5, with 0 to 2 suggesting high, and 3 to 5 indicating low, likelihood of cognitive impairment. The Mini-Cog has been examined in a variety of settings with different populations. It predicts delirium in older adults; patients with abnormal results are 5 times more likely to develop delirium compared to those with normal scores.

The Clock Drawing Test for Dementia: The patient is asked to draw a clock face marking the hours and then draw the hands to indicate a particular time (e.g. 10 minutes to 2). The clock drawing test takes only 2 minutes to administer and reflects frontal and temporoparietal functioning.

Cohen-Mansfield Agitation Inventory (CMAI): A 29-item instrument that is used to measure agitated behaviors in older individuals. The 29 items encompass 3 categories of behavior: aggressive, physical non-aggressive, and verbally agitated behavior. It is available at http://www.dementia-assessment.com.au/symptoms/CMAI_Scale.pdf.

Global Deterioration Scale (GDS): A scale that is used to measure the progression of Alzheimer's disease and divides the disease into 7 stages. It is also used in diagnosing other dementias although the stages and symptoms vary from one dementia to another:

STAGE	TYPICAL SYMPTOMS
Stage 1: No cognitive decline (normal function)	• No memory problems
Stage 2: Very mild cognitive decline (may be normal age related changes or earliest signs of Alzheimer's disease)	• Memory lapses • Forgetting familiar names and locations of objects • These lapses are not typically obvious to others
Stage 3: Mild cognitive decline (early stage Alzheimer's disease can be diagnosed in some, but not all, individuals with these symptoms)	• Mild forgetfulness • Difficulty learning new things • Difficulty concentrating or limited attention span • Problems with orientation, such as getting lost • Communication difficulties such as finding the right word • Loss or misplacing of valuable objects • Difficulty handling problems at work • Issues are noticeable to family, friends or co-workers
Stage 4: Moderate cognitive decline (mild or early stage Alzheimer's disease)	• Some memory loss of one's personal history • Difficulty with complex tasks (e.g.,. managing finances, shopping, travel) • Decreased knowledge of current events and recent events • Impaired ability to perform challenging mental arithmetic (for example, counting backward from 75 by 7)
Stage 5: Moderately severe cognitive decline (moderate or mid-stage Alzheimer's disease)	• Major gaps in memory (e.g., phone numbers or names of close family members) • Help is needed with day-to-day tasks
Stage 6: Severe cognitive decline (moderately severe or mid-stage Alzheimer's disease)	• Continued memory loss (e.g., occasionally forgetting the name of a spouse or primary caregiver • Loss of awareness of recent events and experiences in their lives • Assistance is needed with activities of daily living (e.g., getting dressed, bathing) • Difficulties counting • Personality and emotional changes such as confusion, anxiety, suspiciousness, anger, sadness/depression, hostility, apprehension, delusions and agitation • Obsessions such as repetition of simple activities • Disruption of normal sleep/waking cycle • Increasing episodes of incontinence
Stage 7: Very severe cognitive decline (severe or late-stage Alzheimer's disease) - Severe cognitive impairments	• Vocabulary becomes limited and verbal abilities eventually disappear • Loss of ability to walk independently and sit without support • Help is needed with eating and using the toilet; usually incontinent

DEPRESSION

Geriatric Depression Scale (GDS): A 30-item self-report assessment used to identify depression. Questions are answered "yes" or "no" which enables the scale to be used with individuals who are ill or have moderate cognitive impairment. One point is assigned to each answer and the cumulative score is rated on a scoring grid. The grid sets a range of 0-9 as

normal, 10-19 as mildly depressed, and 20-30 as severely depressed. The **GDS-15** is a 15-item form of the GDS and there is also **a** 4-item version, both of which are recommended for use in primary care settings. Translations of the GDS into about 30 other languages are available from http://www.stanford.edu/~yesavage/GDS.html.

Patient Health Questionnaire (PHQ): A validated, self-administered 9-item instrument that screens for depression, alcohol abuse, anxiety disorders, eating disorders and somatoform disorders in primary care settings. It can be administered telephonically and read to the patient. The factor structure of the nine items is comparable when tested with African Americans, Chinese Americans, Latino and non-Hispanic white patient groups. Other language versions that are validated for use in primary care are Spanish and Chinese. A Thai-language version has also been validated; however, the sensitivity is low (53%). This version could therefore be a useful and reasonable tool to help confirm a suspected depression but less so to screen general populations. Elderly patients with mild cognitive impairment can reliably fill out the PHQ. However, a scale completed by a caregiver (e.g., the Cornell Scale for Depression in Dementia) is more appropriate for individuals with more severe cognitive impairments who cannot reliably answer the PHQ questions. The full PHQ can be downloaded from http://www.pdhealth.mil/guidelines/downloads/appendix2.pdf. The 9-item version can be downloaded from http://www.phqscreeners.com/pdfs/02_PHQ-9/English.pdf and the 2-item version is available from http://www.commonwealthfund.org/usr_doc/PHQ2.pdf.

Cornell Scale for Depression in Dementia (CSDD): A 19-item scale screening tool developed to assess signs and symptoms of depression in people with dementia. In addition to direct observation and interview of the individual, this scale gathers information from a caregiver. It is most commonly used instrument for assessing depressive symptoms in persons with dementia and assesses signs and symptoms of depression in five areas: mood-related signs, behavioral disturbance, physical signs, cyclic functions and ideational disturbance. The scale is available free of charge from http://www.qualitynet.org/dcs/ContentServer?cid=1116947564848&pagename=Medqic/MQTools/ToolTemplate&c=MQTools.

Beck Depression Inventory (BDI-II): A 21-item self-report using a 4-point scale which ranges from 0 (symptom not present) to 3 (symptom very intense). It takes approximately 5 to 10 minutes to complete. There is a shortened version consisting of 7 items intended for use by primary care providers. The BDI is recommended for older adults, but is written at a higher reading level, and has a relatively complex scoring system, all of which make it less effective for people with limited English language skills, little formal schooling, or mild cognitive dysfunction. It also has a number of questions that refer to somatic symptoms, such as sleep problems and fatigue, which may cause inflated scores with residents of long-term care settings who may have these symptoms due to causes other than depression. In addition, there is a fee to obtain the tool and scoring system. It is available from http://pearsonassess.com/haiweb/cultures/en-us/productdetail.htm?pid=015-8018-370.

Hamilton Rating Scale for Depression: Considered the gold standard of observer-rated depression rating scales, this is a semi-structured interview, requires training to complete, and takes 20-30 minutes to administer. It is used to assess the severity of depression rather than as a diagnostic tool in all age groups. A cut-off score of 10/11 is generally regarded as appropriate for the diagnosis of depression. The scale can be downloaded from http://healthnet.umassmed.edu/mhealth/HAMD.pdf.

Center for Epidemiological Studies – Depression Scale (CES-D): Consists of 20 questions rated on a 4-point scale and measure the frequency of symptoms over the past week and is sensitive to changes in depression severity over time. It is available in the public domain, takes

approximately 5 minutes to complete, and has been translated into several languages, including Chinese (Cantonese and Mandarin), French, Greek, Japanese, and Spanish. The CES-D can be downloaded from http://www.ncdhhs.gov/mhddsas/providers/DWI/dualdiagnosis/CES-D_Scale.pdf.

FUNCTIONAL STATUS

Katz Index of Independence in Activities of Daily Living (Katz ADL): Ranks adequacy of performance of 6 functions: bathing, dressing, toileting, transferring, continence, and feeding. Consumers are scored yes/no for independence in each of the 6 functions. A score of 6 indicates full function, a score of 4 indicates moderate impairment, and 2 or less indicates severe functional impairment. It can be downloaded from http://www.npcrc.org/usr_doc/adhoc/functionalstatus/Katz%20Index%20of%20Independence%20in%20Activities%20of%20Daily%20Living.pdf

Lawton Instrumental Activities of Daily Living (IADL) Scale: Assesses the ability to perform tasks such as using a telephone, doing laundry, and handling finances. It measures 8 domains and can be administered in 10 to 15 minutes. The scale may provide an early warning of functional decline or signal the need for further assessment. The scale can be downloaded from http://www.abramsoncenter.org/PRI/documents/IADL.pdf.

SUICIDE

Beck Hopelessness Scale (BHS): A 20-item self-report inventory designed to measure 3 major aspects of hopelessness: feelings about the future, loss of motivation, and expectations that is designed for adults aged 17-80. Information on the BHS can be obtained from http://www.pearsonassessments.com/HAIWEB/Cultures/en-us/Productdetail.htm?Pid=015-8133-609&Mode=summary.

Columbia-Suicide Severity Rating Scale (C-SSRS): A standardized measure for assessing suicidal behavior and ideation, The scale addresses the full range of suicidal behavior and thinking, but includes only the most essential, evidence-based items required for thorough assessment. The scale is now widely used for assessing suicidal thinking and behavior across research and practice in both psychiatric and non-psychiatric settings. It can be downloaded from http://www.cssrs.columbia.edu/docs/C-SSRS_1_14_09_Since_Last_Visit.pdf.

Suicide Assessment Five-step Evaluation and Triage (SAFE-T): A pocket card for mental health clinicians and health care professionals that provides protocols for conducting a comprehensive suicide assessment, estimating suicide risk, identifying protective factors, and developing treatment plans and interventions responsive to the risk level of patients. The pocket card includes triage and documentation guidelines for clinicians. It is available at no charge from http://store.samhsa.gov/product/SMA09-4432.

Paykel Suicide Questions: A quick assessment to determine if suicidal thoughts are present. It contains 5 interviewer-administered questions with increasing levels of intent. Although not tested specifically with older adults, this instrument has been used with this population. The Paykel Suicide Questions are:

1. Has there been a time in the last year when you felt life was not worth living?
2. Has there been a time in the last year that you wished you were dead, for instance, that you would go to sleep and not wake up?
3. Has there been a time in the last year that you thought of taking your own life, even if you would not really do it?

4. Has there been a time in the last year when you reached the point where you seriously considered taking your own life, or perhaps made plans for how you would go about doing it?
5. In the last year have you made an attempt on your life?

The questions are rated either 1 or 0 based on a response of “yes” or “no” respectively. A total score of 2 or less indicates moderate to high risk or a “yes” response to item 5 plus any other item or any endorsement of item 4.

Scale for Suicide Ideation (SSI): One of the most widely used measures to assess suicide risk. Items measure suicide ideation (thoughts of wanting to kill oneself) and an item that assesses the frequency of previous suicide attempts and the degree of intent to kill oneself during the last suicide attempt. The SSI is one of the few suicide assessment instruments to have documented the predictive validity for completed suicide. It consists of 21 items which can be used to evaluate suicidal intentions as well as to monitor response to interventions over time. The total score for the 19 items is calculated and ranges from a minimum of 0 to a maximum of 38. Higher scores indicate greater suicidal ideation. A 19-item version can be found at http://www.psy-world.com/ssi_print.htm.

SUMMARY AND CONCLUSIONS

It is estimated that twenty percent of older adults experience psychiatric disorders, yet half receive treatment from any type health care provider; few receive specialty mental health services. Barriers to treatment stem from stereotypes, ageism, and stigma. Recognition and treatment of geriatric psychiatric disorders are considered critical because they can worsen the outcome of medical illnesses and cause disability.

Cultural issues impinge on the identification and treatment of older adults. These include differing expression of symptoms, interpretations of mental illnesses in various cultures, and help-seeking behaviors as well as ethnic differences in pharmacokinetics and pharmacodynamics. Culture brokers and adherence to the tenets of culturally competent service delivery can help bridge cultural differences.

Older adults tend to experience co-occurring psychiatric and medical conditions. They and their families/caregivers need an array of services, supports, and information. No single service system is equipped to meet their multiple and complex needs; effective service delivery requires coordination and collaboration among providers of aging, mental health, medical, substance use disorders, and social services.

A number of preventive interventions and programs have been found to be of benefit to older adults and their families/caregivers. These include self-help and support groups, peer services, and wellness programs. Bereavement support groups have been found to be beneficial for widows and widowers. Advance directives and planning for future care can help alleviate concerns of older parents caring for offspring with disabilities.

Caregiver distress has been found to be a significant risk factor in institutionalization. Psychosocial interventions for caregivers, including training, education, support, and respite care, can improve caregivers' well-being and quality of life, delay nursing home placement, and have the potential to prevent maltreatment. Interventions for caregivers that are individualized and intensive have been found to be most effective. In addition, Internet-based monitoring systems and technologies can be used to provide home-based services that enhance the ability of older adults to remain in their own homes, reduce caregiver strain, and provide ready access to information, support, and health care services.

Older adults with serious mental illnesses have been found to benefit from psychopharmacological and psychosocial interventions delivered by community-based, multidisciplinary mental health treatment teams with case management services. Targeted outreach in natural community settings results in increased engagement in treatment and beneficial outcomes including reductions in symptoms as well as the incidence and duration of hospitalizations.

Depression, one of the most common psychiatric disorders among older adults, has been shown to have a profound impact on health, quality of life, and independent living, and is associated with functional impairment, high health care costs, and increased mortality rates from suicide.

The majority of older persons with psychiatric symptoms and disorders are treated in primary care settings where they often go unrecognized and untreated. Data indicates that more than seventy percent of suicide victims saw a physician within the month prior to their death.

Models of integrated care that create the capacity for screening, assessment, and treatment have been found to be effective in engaging patients in treatment and enhancing adherence to treatment regimens as well as improvements in outcomes for patients. Collaborative care

models for the treatment of depression in primary care settings incorporate approaches used in managing other chronic illnesses (e.g., diabetes) and entail collaboration among patients, primary care providers, and specialists as well as individualized treatment plans, proactive follow-up, monitoring, and protocols for stepped care.

Long-term care is no longer the sole province of nursing homes. Alternatives include supported housing, assisted living, and options for aging in place.

A number of models have been developed to humanize nursing homes and reduce behavioral disturbances associated with dementia. These include decentralizing care into self-contained, more homelike units; reducing or eliminating physical and chemical restraints; therapeutic activities using music, art, pets, plants, and intergenerational exchanges; architectural and design modifications to enhance safety and autonomy for residents; and interpersonal interventions focused on reducing learned helplessness and the restoration of a sense of control. Some traditional facilities have established natural habitats filled with plants, animals, and people of all ages in a warm, active, homelike environment using an approach known as the Eden Alternative.

The provision of mental health consultation services in nursing homes has been found to be associated with improved outcomes for residents. In addition, the provision of training for staff in assessing and managing behavioral problems has been found to lead to reductions in rates of staff turnover and improvements in care.

Polypharmacy, medical comorbidities (especially dementia), greater risk for adverse effects (e.g., tardive dyskinesia), adherence to prescribed regiments, and age-related changes in pharmacokinetics and pharmacodynamics have been identified as issues of concern in the pharmacology of older adults. For example, Benzodiazepines are routinely used to ameliorate sleep problems despite the fact that benzodiazepines can have adverse effects including a risk of falls, fractures, and worsening cognition.

It is estimated that seventy five percent of persons with Alzheimer's disease experience psychotic (e.g., hallucinations) and behavioral symptoms (e.g., aggression and agitation) which are often treated with antipsychotics despite their limitations and risks (including death) on an off-label basis due to a lack of better alternatives and lack of FDA approval. Studies indicate that antidepressants, anxiety medications, sedatives, and mood stabilizers are also commonly used to manage psychotic symptoms in persons with Alzheimer's disease despite significant limited effectiveness and risks.

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APPENDIX B: SELECTED RESOURCES

Advance Directives:

Aging With Dignity: www.agingwithdignity.com
Partnership for Caring: www.partnershipforcaring.org
Michigan Department of Community Health, Psychiatric Advance Directives: http://michigan.gov/mdch/0,1607,7-132-2941_4868_41752---,00.html

Alzheimer's Disease:

Alzheimer's Association: www.alz.org
Alzheimer's Foundation of America: www.alzfdn.org
National Institute of Neurological Disorders and Stroke (NINDS): http://www.ninds.nih.gov/disorders/alzheimersdisease/alzheimersdisease.htm
Michigan Alzheimer's Disease Research Center (MADRC): http://www.med.umich.edu/alzheimers/
Mental Health & Aging Project at Lansing Community College: http://www.lcc.edu/mhap/
Michigan Dementia Coalition: http://www.dementiacoalition.org/
Alzheimer's Disease Cooperative Study: http://adcs.ucsd.edu/
Alzheimer's Disease Education and Referral (ADEAR) Center: www.alzheimers.org
Children of Aging Parents: www.caps4caregivers.org
Eldercare Locator: www.eldercare.gov
Family Caregiver Alliance: www.caregiver.org
National Institute on Aging Information Center: www.nia.nih.gov
National Library of Medicine: www.nlm.nih.gov
Partnership for Caring: www.partnershipforcaring.org
Well Spouse Foundation: www.wellspouse.org
Ageless Design: www.agelessdesign.com
American Red Cross: www.redcross.org
Eldercare Locator: www.eldercare.gov
ElderCare Online: www.ec-online.net
Dana Alliance for Brain Initiatives: www.dana.org/danaalliances
Alzheimer Research Forum: www.alzforum.org
ClinicalTrials.gov: www.ClinicalTrials.gov
Alzheimer's Disease Cooperative Study: www.adcs.org
Alzheimer Research Forum: www.alzforum.org
National Chronic Care Consortium (NCCC): http://www.nccconline.org/

Cultural Competence:

National Center for Cultural Competence: http://www11.georgetown.edu/research/gucchd/nccc/
Diversity Rx: http://www.diversityrx.org/
Center for Effective Collaboration and Practice (CECP): http://www.air.org/cecp/cultural/default.htm
Assuring Cultural Competence in Health Care: The Office of Minority Health: Recommendations for National Standards and an Outcomes-Focused Research Agenda: CLAS: http://www.omhrc.gov/clas/

National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health Care: http://www.med.umich.edu/multicultural/ccp/CLAS.htm
The American Geriatrics Society (AGS): http://www.stanford.edu/group/ethnoger/
The National Institute on Aging (NIA): http://www.nia.nih.gov/news/wgma/
Culture Clues©: http://depts.washington.edu/pfes/CultureClues.htm
EthnoMed; http://ethnomed.org/
Office of Minority Health (OMH), U.S. Department of Health & Human Services: http://www.minorityhealth.hhs.gov/
Centre for Multi-Cultural Human Services (CMHS): http://www.cmhsweb.org/
CDC Office of Minority Health: http://www.cdc.gov/omh/AMH/AMH.htm
The Provider's Guide to Quality and Culture: http://erc.msh.org/mainpage.cfm?file=1.0.htm&module=provider&language=English&ggroup=&
LGBT Aging Issues Network (LAIN): http://www.asaging.org/lain

Dementia Resources - Michigan:

Michigan Dementia Coalition: http://www.dementiacoalition.org/
University of Michigan Alzheimer's Disease Center: http://www.med.umich.edu/alzheimers/
Alzheimer's Association Greater Michigan Chapter: http://www.alz.org/gmc/
Alzheimer's Association, Michigan Great Lakes Chapter: http://www.alz.org/mglc/
Huntington's Disease Society of America Michigan Chapter: http://www.hdsa.org/mich/index.html
Michigan Parkinson Foundation: http://www.parkinsonsmi.org/

Depression:

American Psychological Association's Depression and Suicide in Older Adults Resource Guide: http://www.apa.org/pi/aging/depression.html
CDC's Prevention Research Centers Healthy Aging Research Network Conference: Effective Programs to Treat Depression in Older Adults: http://www.prc-hanconferences.com/2008-conference
CDC Prevention Research Centers Healthy Aging Research Network Depression Webinars – hosted by the National Council on Aging: http://www.ncoa.org/content.cfm?sectionid=379
Geriatric Mental Health Foundation: http://www.gmhfonline.org/gmhf/consumer/depression.html
National Council on Aging Center for Healthy Aging Mental Health Resources: http://www.healthyagingprograms.org/content.asp?sectionid=71
National Institute of Mental Health Depression site: http://www.nimh.nih.gov/healthtopics/depression/index.shtml
SAMHSA Older Adults and Mental Health site: http://mentalhealth.samhsa.gov/cmhs/CommunitySupport/olderadults/default.asp
SAMHSA National Registry of Evidence-Based Programs and Practices http://www.nrepp.samhsa.gov/
The Community Guide Mental Health Recommendations http://www.thecommunityguide.org/mentalhealth/index.html

Evidence-Based Practice Registries:

APA: www.apa.org/pi/aging/psychotherapy.html
SAMHSA: www.samhsa.gov/Olderadults
Stanford University: www.3gec.stanford.edu

Human Services Research Institute: www.tecathsri.org
National Registry of Evidence-based Programs and Practices (SAMHSA): www.nrepp.samhsa.gov
The Cochrane Collaboration: http://www.cochrane.org/

Families and Caregivers:

Family Caregiver Alliance: www.caregiver.org
National Alliance for Caregiving: www.caregiving.org
National Family Caregivers Association: www.nfcacares.org
Eldercare Locator: www.eldercare.gov
ElderCare Online: www.ec-online.net
U.S. Administration on Aging (AoA): www.aoa.gov
Alzheimer's Disease Education and Referral (ADEAR) Center: www.nia.nih.gov/Alzheimer
Ageless Design: www.agelessdesign.com
American Red Cross: www.redcross.org
Alzheimer's Association: www.alz.org
AARP: www.aarp.org
Children of Aging Parents: www.caps4caregivers.org
National Hospice and Palliative Care Organization: *www.nhpco.org*
Well Spouse Association: www.wellspouse.org
National Family Caregivers Association: http://www.thefamilycaregiver.org/index.cfm

Federal Agency Web Sites:

U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment: www.samhsa.gov
    SAMHSA's Older Americans Substance Abuse and Mental Health Technical Assistance Center: http://www.samhsa.gov/OlderAdultsTAC/index.aspx
U.S. Department of Health and Human Services, Food and Drug Administration: www.fda.gov
HHS Administration on Aging: http://www.aoa.gov/AoARoot/Index.aspx
U.S. Department of Health and Human Services, Administration on Aging (AoA): Eldercare Locator and www.aoa.gov
U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Aging: NIH SeniorHealth.gov and www.nia.nih.gov
U.S. Department of Health and Human Services. Administration on Aging: http://www.aoa.gov/
    AoA's National Eldercare Locator: www.eldercare.gov
    AoA's Caregiver web site: www.aoa.gov/carenetwork
    AoA's Alzheimer's site: www.aoa.gov/alz
    State Units on Aging: www.aoa.gov/aoa/pages/state.html
    Aging & Disability Resource Center (ADRC): http://www.adrc-tae.org/tiki-index.php?page=HomePage
USA.Gov for Seniors: www.usa.gov/Topics/Seniors.shtml
National Institute on Aging: http://www.nia.nih.gov/
Medicare.gov Nursing Home Comparisons: **http://www.medicare.gov/NHCompare/Include/DataSection/Questions/SearchCriteriaNEW.asp?version=default&browser=IE%7C9%7CWindows+7&language=English&defaultstatus=0&pagelist=Home&CookiesEnabledStatus=True**

Frontotemporal Dementia:

National Institute of Neurological Disorders and Stroke (NINDS): http://www.ninds.nih.gov/disorders/picks/picks.htm
Association for Frontotemporal Dementias (AFTD): http://www.ftd-picks.org/
Alzheimer's Disease Education and Referral Center (ADEAR): www.alzheimers.org
Alzheimer's Association: www.alz.org
Michigan Alzheimer's Disease Research Center (MADRC): http://www.med.umich.edu/alzheimers/

Dementia with Lewy Bodies:

National Institute of Neurological Disorders and Stroke (NINDS): http://www.ninds.nih.gov/disorders/dementiawithlewybodies/dementiawithlewybodies.htm
Lewy Body Dementia Association, Inc.: http://www.lbda.org/
Alzheimer's Disease Education and Referral Center (ADEAR): www.alzheimers.org
Alzheimer's Association: www.alz.org
Michigan Alzheimer's Disease Research Center (MADRC): http://www.med.umich.edu/alzheimers/

Elder Abuse:

National Center on Elder Abuse: www.elderabusecenter.org

End-of-Life Care:

Education for Physicians on End-of-life Care (EPEC): www.epec.net
National Hospice and Palliative Care Organization: www.nhpco.org

Exercise and Nutrition:

National Institute on Aging (NIA): www.niapublications.org
Centers for Disease Control and Prevention (CDC):
- **Healthy Aging:** www.cdc.gov/aging/index.htm
- **Physical Activity:** www.cdc.gov/nccdphp/dnpa/index.htm

Healthy Aging Campaign: www.healthyaging.net
National Policy and Resource Center on Nutrition and Aging: www.fiu.edu
USDA Food and Nutrition Information Center (FNIC): www.nal.usda.gov/fnic

Financial Assistance for Medical Care:

Medicare Rights Center: www.medicarerights.org
National Council on Aging: www.benefitscheckup.org
Pharmaceutical Research and Manufacturers of America (PhRMA): www.helpingpatients.org

Help Lines:

American Health Assistance Foundation: 800-437-2423
9:00 a.m.-5:00 p.m.
Spanish-speaking operators available
www.ahaf.org
Eldercare Locator:

800-677-1116
9:00 a.m.-8 p.m.
www.eldercare.gov
Elder Info Line National Hotline:
866-847-4418
Available 24 hours
www.seniorcitizensbureau.com/page5.htm
Elder Law of Michigan:
800-347-5292
http://elderlawofmi.org/legal_hotline/index.html

Housing:

ElderWeb: http://www.elderweb.com/
Grants Makers in Aging:
http://www.giaging.org/iMIS15_Prod/Internet/Home/Internet/Default.aspx?hkey=89bc5588-891a-4083-8770-6f59ae94b6a2
U.S. Department of Housing and Urban Development: www.hud.gov
Joint Center for Housing Studies (Harvard): http://www.jchs.harvard.edu/
Program of All Inclusive Care for the Elderly (PACE):
http://www.medicare.gov/Nursing/Alternatives/Pace.asp
MIA Consulting Group, Inc.: http://www.miaconsulting.com/
American Association of Service Coordinators (AASC): http://www.servicecoordinator.org/

Incontinence:

National Institute of Diabetes and Digestive and Kidney Disorders (NIDDK):
www.niddk.nih.gov
American Foundation for Urologic Diseases: www.afud.org
The Simon Foundation for Continence: www.simonfoundation.org/html

Legal:

American Bar Association Commission on Legal Problems of the Elderly:
http://new.abanet.org/aging/Pages/default.aspx
Elder Law of Michigan: http://elderlawofmi.org/legal_hotline/index.html

Limited English Proficiency:

Federal Interagency Working Group on Limited English Proficiency: www.lep.gov
U.S. Office of Minority Health: www.omhrc.gov
National Institutes of Health (NIH): www.salud.nih.gov
The National Council on Interpreting in Health Care: www.ncihc.org/index.htm
The Providers Guide to Quality and Culture: www.erc.msh.org

Long-Term Care:

Nursing Home Compare: www.medicare.gov/nhcompare/home.asp
Eldercare Locator: www.eldercare.gov
National Adult Day Services Association: www.nadsa.org

Medications:

Medline Plus Drug Information: www.nlm.nih.gov/medlineplus/druginformation.html
The Physician's Desk Reference: http://www.pdr.net
The American Hospital Formulary Service (AHFS): http://ashp.org/ahfs

Mental Health:

American Association for Geriatric Psychiatry: www.aagponline.org
National Clearinghouse for Alcohol and Drug Information (NCADI): www.health.org
National Institute of Mental Health (NIMH): www.nimh.nih.gov
Older Adult Consumer Mental Health Alliance (OACMHA): http://www.oacmha.com/

Nursing Homes:

Medicare.gov:
http://www.medicare.gov/NHCompare/Include/DataSection/Questions/SearchCriteriaNEW.asp?version=default&browser=IE%7C9%7CWindows+7&language=English&defaultstatus=0&pagelist=Home&CookiesEnabledStatus=True
Citizens for Better Care (CBC):
http://www.cbcmi.org/index.php?module=pagemaster&PAGE_user_op=view_page&PAGE_id=1&MMN_position=1:1

Organizations:

American Association for Geriatric Psychiatry: http://www.aagponline.org/
American Society on Aging: http://www.asaging.org/
Positive Aging Resource center (PARC): http://www.asaging.org/parc/
American Medical Directors Association (AMDA): http://www.amda.com/index.cfm
National Council On The Aging: www.ncoa.org
American Association of Retired Persons (AARP): www.aarp.org
Geriatric Mental Health Foundation: http://www.gmhfonline.org/gmhf/resources/index.html
National Coalition on Mental Health and Aging: http://ncmha.org/
National Association of Area Agencies on Aging: http://www.n4a.org/
National Association of State Mental Health Program Directors (NASMHPD) Older Persons Division: http://www.nasmhpd.org/older_persons.cfm
National Association of State Units on Aging (NASUAD): http://www.nasuad.org/

Self-Directed Care:

Aging Services: Consumer Direction: http://www.consumerdirection.org
National Association of State Units on Aging (NASUA): http://www.nasua.org
Galen Institute: Center for Consumer-Driven Health Care: http://www.galen.org/ccdhc.asp?1

Sexuality:

Sexuality Information and Education Council of the United States:
www.siecus.org/pubs/biblio/bibs0012.html
LGBT Aging Project: http://www.lgbtagingproject.org/

Spirituality:

The Association of Professional Chaplains: www.professionalchaplains.org
George Washington University Institute on Spirituality and Health: www.gwish.org

Suicide Prevention:

American Association of Suicidology (AAS): http://www.suicidology.org
Suicide Prevention Action Network USA (SPAN USA): http://www.spanusa.org/
American Foundation for Suicide Prevention (AFSP): http://www.afsp.org/
Administration on Aging (AoA): http://www.aoa.gov
National Center on Elder Abuse (NCEA):
http://www.ncea.aoa.gov/NCEAroot/Main_Site/Index.aspx
National Council on Aging (NCOA): http://www.ncoa.org/index.cfm
American Association of Homes and Services for the Aging (AAHSA):
http://www.aahsa.org/
The Canadian Association for Suicide Prevention: http://www.suicideprevention.ca/
Substance Abuse and Mental Health Services Administration (SAMHSA), Older Americans Substance Abuse and Mental Health Technical Assistance Center:
http://www.samhsa.gov/OlderAdultsTAC/
Suicide Prevention Resource Center (SPRC): http://www.sprc.org/
National Suicide Prevention Lifeline: http://www.suicidepreventionlifeline.org/default.aspx
National Strategy for Suicide Prevention (NSSP):
http://mentalhealth.samhsa.gov/suicideprevention/strategy.asp
The National Association of Injury Control Research Centers
National Institute of Mental Health Suicide Research Consortium
Suicide Prevention Research Center
Suicide Research and Prevention Unit, Norway
Australian Institute for Suicide Research and Prevention
University of Oxford Centre for Suicide Research

Transportation and Safe Driving:

National Association of Area Agencies on Aging: www.n4a.org
National Transit Hotline: 1-800-527-8279
AARP: www.aarp.org/drive
American Medical Association (AMA): www.ama-assn.org/ama/pub/category/8802.html
Getting Around Safe & Sound: www.aamva.org/drivers/drv_AgingDrivers.asp
Granddriver: www.granddriver.info

APPENDIX C: GLOSSARY

Acetylcholine: A neurotransmitter with a significant role in many neurological functions, including learning and memory.

Activities of Daily Living (ADLs): The ability to perform basic activities of daily living reflects and affects an individual's health. Basic ADLs include eating, bathing, and dressing. More complex **instrumental activities of daily living (IADLs)** include cooking, shopping, and managing finances.

Assisted Living Facility: A facility for individuals who need assistance with activities of daily living but wish to live as independently as possible for as long as possible. Assisted living bridges the gap between independent living and nursing homes and is an intermediate level of long-term care.. Residents of assisted living facilities are unable to live by themselves but do not require constant care. Assisted living facilities offer help with ADLs and many provide access to medical care that is less intensive and available as that offered by nursing homes. Most assisted living facilities create a service plan for each resident upon admission that details the personalized services required by the resident and guaranteed by the facility. These plans are updated regularly to assure residents receive appropriate care as their condition changes. Other common terms for these facilities include adult congregate living care, adult foster care, adult homes, adult living facilities, board and care, community-based retirement facilities, domiciliary care, enhanced care, personal care, residential care, retirement residences, sheltered housing, and supported care.

Alzheimer's Disease (AD): A slowly progressive brain disease characterized by impairments in memory and eventually by disturbances in reasoning, planning, language, and perception. AD is most common cause of dementia. There are two types of AD: (1) Late onset AD, the most common type. It occurs in individuals aged sixty and older and may run in some families. (2) **Early onset AD**, in which symptoms appear before age sixty and much less common than late onset but tends to progress more rapidly and can run in families.

Cognitive Functions: All aspects of conscious thought and mental activity, including learning, perceiving, making decisions, and remembering.

Cognitive Reserve: The brain's ability to operate effectively even when some function is disrupted, or the amount of damage that the brain can sustain before changes in cognition are evident.

Creutzfeldt-Jakob Disease (CJD): A very uncommon dementia in which an abnormal protein accumulates in the brain and leads to rapid destruction of nerve cells. Symptoms include tremor, impaired mobility and balance problems, and behavioral and mood disturbances are common. Death within one to two years of the onset of clinical symptoms is common.

Delirium: An acute change mental status (cognitive functioning and attention) or sudden confusion that develops over the course of hours or days. It is the most frequent complication of hospitalization in older persons and is estimated to occur in fourteen to fifty six percent older adults who are hospitalized.

Dementia: The loss of cognitive functioning (thinking, remembering, and reasoning) to the extent that it interferes with a person's daily life and activities. Whiles not a disease itself, dementia is a group of symptoms that often accompanies a disease or condition. Some dementias are treatable or curable; others are less responsive to treatment. There are over eighty disorders that cause progressive irreversible dementia. Alzheimer's is the most common. It is the most common cause of dementia among people age sixty five and older.

Neurodegenerative diseases that cause dementia include Alzheimer's disease, vascular dementia, Parkinson's disease with dementia, and frontotemporal lobar degeneration, including: frontotemporal dementia, frontotemporal dementia with parkinsonism linked to chromosome 17 (FTDP-17), Pick's disease, supranuclear palsy, and corticobasal degeneration. Other causes of dementia include side effects of medications, depression, Vitamin B deficiency, alcohol, certain tumors or infections of the brain, blood clots pressing on the brain, and metabolic imbalances (e.g., normal pressure hydrocephalus), thyroid, kidney, or liver disorders. Causes of irreversible dementia include multi-infarct dementia (a series of minor strokes resulting in widespread death of brain tissue), Pick's disease, Alzheimer's disease, Binswanger's disease, Parkinson's disease, Huntington's disease, Creutzfeldt-Jakob disease, amyotrophic lateral sclerosis (ALS, or Lou Gehrig's disease), multiple sclerosis, and alcohol abuse. Treatable causes of dementia include side effects of medication, depression, vitamin B12 deficiency, some brain tumors or infections of the brain, blood clots pressing on the brain, metabolic imbalances, thyroid, kidney, or liver disorders.

Dementia Pugilistica (DP): A neurodegenerative disease or dementia that may affect amateur or professional boxers as well as athletes in other sports who suffer concussions. It is a variant of chronic traumatic encephalopathy (CTE) and is also called chronic boxer's encephalopathy, traumatic boxer's encephalopathy, boxer's dementia, chronic traumatic brain injury associated with boxing (CTBI-B), and punch-drunk syndrome ('punchy'). Signs and symptoms of DP develop progressively over a long latent period sometimes amounting to decades, with the average time of onset being about twelve to sixteen years following the start of a career in boxing. The condition is thought to affect around fifteen to twenty percent of professional boxers.

Dementia with Lewy Bodies (DLB): DLB is characterized by the presence of Lewy bodies, clumps of alpha-synuclein and ubiquitin protein in neurons and accounts for twenty percent of all dementia in the United States. Symptoms include: (1) fluctuating cognition with significant variations in attention and alertness; (2) recurrent visual hallucinations, and (3) motor features of Parkinson's disease. While no drugs have approved by the FDA to treat dementia with Lewy bodies, cholinesterase inhibitors are used to treat cognitive and medications used in Parkinson's disease may be used for severe movement symptoms. Antipsychotic drugs are not recommended due to extreme sensitivity to these drugs individuals with DLB have.

Frontotemporal Dementia (FTD): A rare disorder that is often associated with shrinking of the frontal and temporal anterior lobes of the brain. It is the third most common cause of late life dementia after AD and vascular dementia. Changes in behavior (e.g., disinhibition, lack of judgment, loss of social awareness, and loss of insight) are much more common than memory problems. Disturbances of mood, speech and continence frequently occur.

Huntington's Disease HD): A genetic, autosomal dominant, neurodegenerative disorder caused by a single defective gene on chromosome 4 and characterized clinically by disorders of movement, progressive dementia, and psychiatric and/or behavioral disturbance. Anyone with a parent with Huntington's has a 50% chance of inheriting the gene, and everyone who inherits it will eventually develop the disorder. In about 1 to 3% of cases, no history of the disease can be found in other family members. The age of symptom onset and rate of disease progression varies. Symptoms include involuntary movements (e.g., twitches and muscle spasms, problems with balance and coordination, personality changes (e.g., irritability, depression and mood swings), and problems with memory, concentration or making decisions. In 2008, the FDA approved tetrabenazine (Xenazine™) to treat the involuntary movements (chorea) associated with Huntington's.

Mild Cognitive Impairment (MCI): An intermediate stage between the expected cognitive decline of normal aging and the more pronounced decline of dementia that involves problems with memory, language, thinking and judgment that are greater than typical age-related changes. Mild cognitive impairment increases the risk of later developing dementia, including Alzheimer's disease, especially when the primary problem is with memory. However, some individuals with MCI never get worse, and a few eventually improve.

Mixed Dementia: The co-occurrence of Alzheimer's disease and another dementia, most commonly vascular dementia, the symptoms of which may follow a pattern similar to either Alzheimer's or vascular dementia, or a combination of the two. Most of the drugs approved to treat Alzheimer's disease have also shown a similar benefit in treating vascular dementia and may also be of some help in mixed dementia. Galantamine (Razadyne) and rivastigmine (Exelon) have been tested and shown to offer modest benefit specifically in mixed dementia. However, no drugs are currently approved by the FDA to treat mixed dementia.

Mild Cognitive Impairment (MCI): A cognitive disorder characterized by problems with memory, language, or another mental function severe enough to be noticeable to others and to show up on tests, but not serious enough to interfere with daily life. Research has shown that individuals with MCI have an increased risk of developing Alzheimer's disease over the next few years, especially when their main problem is memory. However, all individuals diagnosed with MCI develop Alzheimer's disease. There is currently no treatment for MCI approved by the FDA. Results of a large, federally funded trial showed that 10 milligrams of donepezil (Aricept) daily can reduce the risk of progressing from amnestic MCI to Alzheimer's disease for about a year, but the benefit disappears within three years.

Normal Pressure Hydrocephalus (NPH): A rare disorder in which fluid surrounding the brain and spinal cord is unable to drain normally. The fluid builds up enlarging the ventricles, which, as they expand, can compress and damage nearby tissue. The spinal fluid pressure often, although not always, falls within the normal range on a spinal tap. Symptoms include difficulty walking, loss of bladder control, and cognitive decline typically manifested in overall slowing in processing and reacting to information. NPH can occasionally be treated by surgically inserting a shunt to drain fluid from the brain to the abdomen. When shunting is successful, it tends to help more with walking and bladder control than with cognitive functioning.

Nursing Home: A state-licensed health care facility staffed with nurses 24/7 and a physician on call and that has approved procedures for maintaining medical records and administering medications.

Older Adults: Late adulthood is divided into three phases: the young-old, aged 65-74 years; the middle-old, aged 75-84; and the old-old, 85 years and older.

Parkinson's Disease: A degenerative disorder of the central nervous system that results from the death of dopamine-generating cells in the substantia nigra. Parkinson's disease begins by affecting movement, resulting in tremors and shakiness, stiffness, difficulty with walking and muscle control, lack of facial expression and impaired speech. Parkinson's is another disease in which Lewy bodies are found in the brain. Many individuals with Parkinson's develop dementia in later stages of the disease. There are currently no drugs approved by the FDA specifically to treat the dementia associated with Parkinson's disease but there is some evidence that cholinesterase inhibitors may help some individuals.

Parkinsonism: A group of nervous disorders similar to Parkinson's disease, marked by muscular rigidity, tremor, and impaired motor control and often having a specific cause (e.g., antipsychotic drugs); also called Parkinson's syndrome.

Personal Care: A level of care that addresses deficits in basic and instrumental activities of daily living to maintain and support an existing level of health, rather than to cure or rehabilitate.

Pharmacodynamics: A drug's effect on its target organ.

Pharmacokinetics: The process by which a drug is absorbed, distributed, metabolized, and eliminated by the body.

Pick's Disease: A rare neurodegenerative disease that causes progressive neuronal destruction. It is characterized by a build-up of tau proteins in neurons that accumulate in spherical aggregations known as Pick bodies in the frontal and temporal lobes causing them to slowly atrophy. Symptoms include behavioral and personality changes, aphasia, and dementia. The average age of onset is fifty four and death generally occurs within two to ten years.

Skilled Care: A level of care that is prescribed by a physician and requires the training, skills, and twenty-four-hour-a-day supervision of a registered nurse.

Vascular Dementia: A type of dementia is characterized by memory loss and confusion caused by small strokes on the cortex or surface of the brain or changes in the blood supply to the brain. It is considered to be the second most common type of dementia and develops as a result of impaired blood flow to parts of the brain (e.g., from a stroke or transient ischemic attack). A form of this disorder, known as **Multi-Infarct Dementia (MID)**, is caused by a series of very small infarcts that block small blood vessels. Symptoms of vascular dementia can vary in accordance with the specific brain areas affected and can include memory problems, confusion (which worsen at night), difficulties with concentration, planning, communication, and following instructions.

Wernicke-Korsakoff Syndrome: A two-stage brain disorder caused by a deficiency of thiamine (vitamin B-1) which helps brain cells produce energy from sugar. When levels of vitamin B-1 are too low, cells are unable to generate enough energy to function properly. Wernicke encephalopathy is the first, acute phase and Korsakoff psychosis is the long-lasting, chronic stage. The most common cause of the syndrome is excessive alcohol use, but it can also be associated with AIDS, metastatic cancers, very high levels of thyroid hormone, and some other conditions. Symptoms include confusion, permanent gaps in memory and problems with learning new information; a tendency to confabulate (i.e., make up information not remembered); unsteadiness, and muscle weakness and lack of coordination. Recent research suggests a genetic variation, called APOE-e4, may be associated with a higher risk of Wernicke-Korsakoff in individuals who drink heavily. APOE-e4 is also linked to a higher risk of developing Alzheimer's disease. If the condition is caught early and alcohol intake ceases, treatment with high-dose thiamine may reverse some, but typically not all, of the damage. In later stages, the damage is more severe and does not respond to treatment.

APPENDIX D: QUICK REFERENCE GUIDE

TARGET	EFFECTIVE INTERVENTIONS	PROMISING INTERVENTIONS	INEFFECTIVE OR UNPROVEN INTERVENTIONS	COMMENTS
CULTURAL COMPETENCE	• Culture Brokers • Interpreter Services			
PREVENTION	• Screening • Outreach • Exercise • Caregiver support/groups • Respite/Adult Day Services • Health promotion programs • Bereavement groups • Future care planning • Advance directives • Suicide prevention • REACH • EnhanceWellness • Chronic Disease Self-Management			
CONSUMER EMPOWERMENT	• Peer supports • Senior Companion Program • Self-Directed Care • Self-Help Groups • Chronic Disease Self-Management • EnhanceWellness			
DEPRESSION	• Antidepressant pharmacotherapy • ECT • Light Therapy • Cognitive-Behavioral Therapy (CBT) • CBT for Late-Life Depression • Interpersonal Therapy (IPT) • Problem-Solving Therapy (PST) • Reminiscence Therapy • Combination treatment with pharmacology and psychosocial	• DBS (deep brain stimulation) • rTMS (repetitive transcranial magnetic) stimulation) • Sam-E • St. John's wort • Borage (starflower) • Carnitine • Saffron • HEALTHY Ideas	• Acupuncture • Lavender Omega-3 fatty acids	• CBT has the strongest evidence base. • Acupuncture is considered an alternative therapy for the treatment of depression but it has shown mixed results in studies. • DBS entails implanting an electrode to stimulate the subgenual cingulated gyrus with high-frequency impulses to reduce the symptoms of major depression. It is used in treatment

TARGET	EFFECTIVE INTERVENTIONS	PROMISING INTERVENTIONS	INEFFECTIVE OR UNPROVEN INTERVENTIONS	COMMENTS
	intervention • Reminiscence Therapy (RT) • Cognitive Bibliotherapy (CB) • Multidisciplinary geriatric mental health outreach services • Collaborative and integrated mental and physical health care (GRACE, DCM) • IMPACT • PEARLS • PATCH			refractory major clinical depression. • rTMS is a non-invasive technique that stimulates the brain in vivo using high intensity, pulsed electron-magnetic fields that has been used to treat major depressive disorder with a handheld stimulating coil applied directly to the head that delivers a magnetic pulse to the cortex. The FDA approved rTMS in October 2008 but is currently considered a very promising but not yet evidence-based practice.
DEMENTIA	• Cholinesterase Inhibitor pharmacotherapy • Environmental modifications • Psychoeducational training and support for caregivers • Cognitive and behavioral interventions		• Vitamin E • Antioxidants • Anti-inflammatories • Estrogen replacement • Ginkgo biloba extracts • Ergot mesylate • Validation Therapy • Reminiscence Therapy • Reality Orientation Therapy • Cholinergic precursors • Muscarinic agonists • Anti-inflammatory agents • Prednisone • Estrogen • Antioxidants • Statins • Ginkgo biloba	Cognitive retraining programs and reality orientation may help on a short-term basis, but have no sustained benefit Ginkgo causes bleeding when combined with warfarin or aspirin, raises blood pressure when combined with a thiazide diuretic and possibly causes coma when combined with trazodone.
SCHIZOPHRENIA	• Antipsychotic pharmacotherapy • Combined cognitive-behavioral therapy and skills training • Psychoeducational programs for family members • Cognitive Behavioral Social Skills Training			

TARGET	EFFECTIVE INTERVENTIONS	PROMISING INTERVENTIONS	INEFFECTIVE OR UNPROVEN INTERVENTIONS	COMMENTS
	(CBSST) • Functional Adaption Skills Training (FAST)			
ANXIETY DISORDERS	• Anxiolytic pharmacotherapy • Relaxation Training • CBT • Prolonged Exposure Therapy (PE)			
DELIRIUM	• Environmental support • Benzodiazepines for alcohol/sedative-hypnotic withdrawal • Short-term antipsychotic treatment • Cholingerics			
PAIN	• Analgesics • Relaxation Training • TENS • Education • Acupuncture • Biofeedback			
CAREGIVER STRESS	• Savvy Caregiver Program • Support groups • Intensive long-term education and support services • Respite care • Exercise		ISO (information and support oriented) therapies	
SLEEP DISTURBANCE	• Sleep Hygiene			
LONG-TERM CARE	• EDEN Alternative • Green House • Supported Housing • Assisted Living • Aging in place • Evercare			
SERVICE DELIVERY	• Wraparound • PACE • Case Management • Gatekeeper • Single Point of Entry Systems • “No Wrong Door” • Telecare			

APPENDIX F: HOME SAFETY MEASURES

Target	Action
THROUGHOUT THE HOME	▪ Displaying emergency numbers and home address near all telephones. ▪ Using an answering machine when phone calls cannot be answered and set to turn on after the fewest number of rings possible (to avoid telephone exploitation and missed messages). Telephone ringers set on low (to avoid distraction and confusion). Portable and cell phones and equipment stored in a safe place to avoid loss. ▪ Installing smoke alarms and carbon monoxide detectors near all sleeping areas on all levels of a home and with frequent checking of their functioning and batteries. ▪ Not using flammable and volatile compounds near gas appliances or stored in areas where a gas pilot light is used. ▪ Installing secure locks on all outside doors and windows; deadbolt locks that require a key for exit or entrance are recommended ▪ Hiding a spare house key outside (to prevent being locked out by the person). ▪ Avoiding the use of extension cords by placing lamps and appliances close to electrical outlets and tacking those used to the baseboards. ▪ Covering unused outlets with childproof plugs. ▪ Placing red tape around floor vents, radiators, and other heating devices as a deterrent to standing on or touching a hot grid. ▪ Ensuring adequate lighting in all rooms and light switches at the top and the bottom of stairs. (Older persons require approximately three times as much light as younger people to see properly.) ▪ Ensuring stairways have at least one handrail that extends beyond the first and last steps and carpeting or safety grip strips. ▪ Securing all medications (prescription and over-the-counter) in a locked area with each bottle of prescription medicine clearly labeled with the patient's name, name of the drug, drug strength, dosage frequency, and expiration date and secured with a child-resistant cap. ▪ Storing alcohol in a locked cabinet or out of reach (because it can increase confusion). ▪ Monitoring of smoking and removing matches, lighters, ashtrays, cigarettes, and other means of smoking from view to reduce potential fire hazards, and smoking cues. ▪ Avoiding clutter and keeping all walk areas free of furniture. ▪ Padding or removing furniture or objects with sharp corners. ▪ Keeping plastic bags out of reach (to avoid potential choking or suffocation). ▪ Removing all guns/ weapons from the home or safety proofing them by installing safety locks or by removing ammunition and firing pins. ▪ Locking all power tools and machinery in the garage, workroom, or basement. ▪ Removing all poisonous plants from the home. ▪ Storing computer equipment safely with password protection of files and access to the Internet, supervision of computer use, and software that screens for objectionable or offensive material on the Internet. ▪ Keeping fish tanks out of reach (to ensure glass, water, electrical pumps, and potentially poisonous aquatic life are inaccessible). ▪ Creating color contrast between floors and walls (to help the person see depth) and using solid colored floor covering (to reduce visual confusion). ▪ Using dishes and placemats in contrasting colors (for easier identification). ▪ Marking the edges of steps with brightly colored strips of tape (to outline changes in elevation). ▪ Placing brightly colored signs or simple pictures on doors to important rooms

Target	Action
	(e.g., the bathroom) for easier identification. ▪ Ensuring that small pets that can blend in with the floor or lie in walkways do not pose a tripping hazard.
OUTSIDE APPROACHES TO THE HOUSE	▪ Sturdy and textured steps can help prevent falls in wet or icy weather. ▪ Marked edges of steps with bright or reflective tape; a ramp with handrails offers an alternative to steps. ▪ Elimination of uneven surfaces or walkways, hoses, or other objects that may cause a person to trip. ▪ Restriction of access to a swimming pool by fencing it off with a locked gate, covering it, and providing close supervision when in use. ▪ Removal of fuel sources and fire starters from grills when not in use and supervision of use when the person with dementia is present. ▪ Placement of a small bench or table by the entry door to hold parcels while unlocking the door. ▪ Adequate outside lighting with sensors that turn on lights automatically as the house is approached. ▪ Bushes and foliage pruned well away from walkways and doorways. ▪ A **NO SOLICITING** sign at the front gate or door.
ENTRYWAY	▪ Removing scatter and throw rugs. ▪ Using textured strips or nonskid wax on hardwood floors to prevent slipping.
KITCHEN	▪ Installing childproof door latches on storage cabinets and drawers designated for breakable or dangerous items. ▪ Locking all household cleaning products, matches, knives, scissors, blades, small appliances, and other items of value. ▪ Removing scatter rugs and foam pads from the floor. ▪ Avoiding storage and use of flammable liquids in the kitchen. ▪ Installing a night-light. ▪ Removing or securing the family “junk drawer.” ▪ Removing artificial fruits and vegetables or food-shaped kitchen magnets, which might appear to be edible. ▪ Installing a drain trap in the kitchen sink to catch anything that may otherwise become lost or clog the plumbing. ▪ Removing knobs from the stove or installation of an automatic shut-off switch. ▪ Securing the garbage disposal.
BEDROOM	▪ Using a nightlight. ▪ Removing scatter rugs. ▪ Removing portable space heaters and keeping portable fans out of reach. ▪ Anticipating and meeting needs that might result in getting out of bed (e.g., hunger, thirst, going to the bathroom, restlessness, and pain ▪ Using an intercom device for alerts to noises indicating falls or a need for help. ▪ Keeping controls of electric mattress pads, electric blankets, electric sheets, and heating pads to prevent burns and fires. ▪ Placing mats on the floor by the bed to prevent injuries from falls; use of hospital beds with rails and wheels in accordance with the Food and Drug Administration’s safety information (www.fda.gov/cdrh/beds). ▪ Using transfer or mobility aids.

Target	Action
BATHROOM	▪ Avoiding leaving the person alone in the bathroom. ▪ Removing of door locks. ▪ Installing nonskid adhesive strips, decals, or mats in the tub and shower, and next to the tub, toilet, and sink. ▪ Installing washable wall-to-wall bathroom carpeting (to prevent slipping on wet tile floors or a rug). ▪ Using an extended toilet seat with handrails, or installation of grab bars. ▪ Installing grab bars in the tub/shower of contrasting color to the wall (which is easier to see). ▪ Using a foam rubber tub faucet cover (to prevent injuries from falls). ▪ Using plastic shower stools and a handheld showerhead. ▪ Single faucets that mix hot and cold water in sinks, tubs, and showers (to avoid burns). ▪ Adjusting the water heater to 120º (to avoid scaling water). ▪ Inserting drain traps in sinks (to catch small items) ▪ Storing medications in a locked cabinet. ▪ Removing cleaning products. ▪ Using a night light. ▪ Removing small electrical appliances and covering electrical outlets; usage of electric razors outside the bathroom (to avoid water contact).
LIVING ROOM	▪ Clearing all walking areas of electrical cords. ▪ Removing scatter rugs or throw rugs and repairing/replacing torn carpet. ▪ Placing decals at eye level on sliding glass doors, picture windows, or furniture with large glass panels. ▪ Avoiding leaving the person alone with a fire in the fireplace. ▪ Keeping remote controls for the television, DVD player, and stereo system out of sight.
LAUNDRY ROOM	▪ Keeping the entry door locked. ▪ Keeping all laundry products in a lock cabinet. ▪ Removing large knobs from the washer and dryer. ▪ Closing and latching doors and lids to the washer and dryer (to prevent objects from being placed in them).
GARAGE/ SHED/ BASEMENT	▪ Locking all access doors. ▪ Locking and securing all motor vehicles. ▪ Covering infrequently used vehicles, including bicycles. ▪ Storing all potentially dangerous items (e.g., tools, tackle, machines, and sporting equipment) in a locked area. ▪ Locking or keeping toxic materials (e.g., paint, fertilizers, gasoline, or cleaning supplies) out of view.
PROBLEMATIC BEHAVIORS AND SENSORY IMPAIRMENTS	
WANDERING	▪ Removing clutter and clearing pathways from room to room to allow the person to move about more freely. ▪ Ensuring floors provide good traction for walking or pacing; use nonskid floor wax leaving floors unpolished, securing all rug edges, eliminating throw rugs, installing nonskid strips and wearing nonskid shoes or sneakers are recommended. ▪ Placing locks on exit doors high or low on the door out of direct sight; double locks that require a key are recommended with a key hidden near the door for emergency exit purposes. ▪ Installing electronic guards to prevent wondering. ▪ Using loosely fitting doorknob covers (so the cover turns instead of the actual knob) when a caregiver is present due to their potential hazard in the event of the need for an emergency exit. ▪ Installing safety devices to limit the distance that windows can be opened.

Target	Action
	▪ Securing the yard with fencing and a locked gate with door alarms (e.g., loose bells above the door or devices that ring when the doorknob is touched or the door is opened). ▪ Diverting the person's attention away from the door with the placement of small scenic posters on the door; placing removable gates, curtains, or brightly colored streamers across the door; or wallpapering the door to match any adjoining walls. ▪ Placing **STOP, DO NOT ENTER**, or **CLOSED** signs in strategic areas on doors. ▪ Eliminating clues that symbolize departure (e.g., shoes, keys, suitcases, coats, or hats). ▪ Placing labels in garments to aid in identification and a medical identification bracelet inscribed with "memory loss" and an emergency phone number on the person's dominant hand or soldered closed to limit the possibility of removal can be used for identification. Enrollment in the Alzheimer's Association's Safe Return program http://alzheimers.about.com/od/givingsupport/a/safe_return.htm is recommended. ▪ Keeping an article of the person's worn, unwashed clothing in a plastic bag to aid in location by dogs. ▪ Notifying neighbors of the person's potential to wander or become lost and instructions for contacts if the individual is seen alone and on the move. ▪ Distributing recent pictures of the person and pertinent information to local police, neighbors, and relatives. ▪ Avoiding leaving a person with a history of wandering unattended.
RUMMAGING/ HIDING THINGS	▪ Storing all dangerous or toxic products, or placement out of reach. ▪ Removing old or spoiled food from the refrigerator and cupboards. ▪ Simplifying the environment through removal of clutter and valuable items (e.g., important papers, checkbooks, charge cards, and jewelry) that could be misplaced, lost, or hidden. ▪ Placing the mailbox outside a locked gate. ▪ Creating a special place for the person to rummage freely or sort (for example, a chest of drawers, a bag of selected objects, or a basket of clothing to fold or unfold). ▪ Providing a safe box, treasure chest, or cupboard to store special objects. ▪ Closing access to unused rooms. ▪ Conducting periodic searches of the house to discover hiding places. ▪ Maintaining covers on all trashcans or removing them from sight and checking them prior to emptying to ascertain whether something has been hidden there or accidently discarded.
HALLUCINATIONS/ ILLUSIONS/ DELUSIONS	▪ Painting walls a light color to reflect more light using solid colors (which are less confusing); patterns and bold prints (e.g., floral wallpaper or drapes) may cause confusing illusions. ▪ Avoiding dimly lit areas which may produce confusing shadows or difficulty interpreting everyday objects. ▪ Using soft light or frosted bulbs, partially closed blinds/curtains, and adequate globes or shades on light fixtures to reduce glare. ▪ Removing or covering of mirrors if they induce confusion or fright. ▪ Ascertaining whether there is a specific aspect of the environment that is being misinterpreted through queries of the person. ▪ Maintaining consistency of the home environment (e.g., not moving furniture). ▪ Avoiding violent or disturbing TV programs as they may be perceived as real. ▪ Withdrawing and avoiding confrontation during displays aggressive behavior.

Target	Action
SENSORY IMPAIRMENTS	People with dementia may experience loss of taste sensation or may no longer be able to interpret feelings of heat, cold, or discomfort. ▪ Setting water heaters to 120º avoids scalding tap water. ▪ Color coding water faucet handles, with red for hot and blue for cold. ▪ Placing a sign on the oven, coffee maker, toaster, crock-pot, iron, and other potentially hot appliances that says **DO NOT TOUCH or STOP! VERY HOT** and unplugging appliances when not in use. ▪ Using a thermometer to determine whether the water in the bathtub is too hot or too cold. ▪ Maintaining a spare set of dentures and check for correct fit if the person keeps removing them. ▪ Keeping all condiments (e.g., salt, sugar, or spices) away from easy access if excessive amounts are used. ▪ Removing or locking up toothpaste, perfume, lotions, shampoos, rubbing alcohol, or soap (which may look and smell like edible items). ▪ Installing a childproof latch on the refrigerator. ▪ Posting the toll-free poison control number (800-222-1222) by the telephone and a keeping a bottle of ipecac on hand for use if instructed by poison control or 911. ▪ Keeping pet litter boxes inaccessible. ▪ Learning the Heimlich maneuver and other techniques should be learned to use in case of choking. ▪ Avoiding excessive noise in the home (e.g., having the stereo and the TV on at the same time). ▪ Reducing excessive exterior noise going by closing windows or doors. ▪ Checking hearing aid batteries and functioning frequently. ▪ Avoiding large gatherings if the person shows signs of agitation or distress in crowds; more intimate gatherings with only a few people and visits by small groups are alternatives.
DRIVING	**Warning Signs of Unsafe Driving** ▪ Moving violations ▪ Motor vehicle accidents or near misses ▪ Passenger panic ▪ Missing signs and signals ▪ Becoming lost while driving in a familiar location ▪ Misjudging distances ▪ Failing to observe traffic signals ▪ Driving at inappropriate speeds ▪ Becoming angry, frustrated, or confused while driving ▪ Making slow or poor decisions Formal, serial performance evaluations are recommended for individuals with mild dementia while those with AD should be recommended to discontinue driving. ▪ Parking the car at a friend's home. ▪ Hiding car keys. ▪ Exchanging car keys with a set of unusable keys (as some people with are in the habit of carrying keys). ▪ Installing a kill switch or alarm system that disengages the fuel line to prevent a car from starting.