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Depression Care for the Elderly: Reducing Barriers to Evidence Based Practice

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Abstract

This paper provides an overview of five key bodies of evidence identifying: 1) *Characteristics of depression among older adults* - its prevalence, risk factors and illness course, and impact on functional status, mortality, use of health services, and health care costs; 2) *Effective Interventions*, including pharmacologic, psychotherapies, care management, and combined intervention models; 3) *Known Barriers to depression care* including patient, provider and service system barriers; 4) *Effective Organizational and Educational Strategies* to Reduce Barriers to depression care; and 5) *Key Factors in Translating Research into Practice*. There is strong empirical support for implementing strategies to improve depression care for older adults.

Keywords

Major depression; elderly; evidence-based practice; primary care; home health care; barriers to depression care; collaborative depression care

Introduction

Clinical depression is prevalent among older adults and negatively affects functional status, quality of life and mortality, while increasing health care costs and taking a toll on family caregivers. Unfortunately, despite the availability of effective treatments for depressed elders, the majority remain untreated or undertreated – attributable to well-documented patient, health provider, service system, and social-structural barriers to ensuring that optimal care and services are accessible to elders (Charney, Reynolds, Lewis, Lebowitz, Sunderland, Alexopoulos, et al., 2003; Unützer, 2002).

Defining evidence-based practice solely as “evidence-based treatment” fails to adequately address known barriers to depression care. A more useful and comprehensive definition “empirically supported practice” includes evidence on: patient care seeking and adherence behavior; provider knowledge, clinical decision making and care management skills; health care system design or redesign; and organizational incentives and resources that lead to the implementation of evidence based practice and program guidelines, and empirically derived quality monitoring indicators. This paper provides an overview of five key bodies of evidence identifying: 1) *Characteristics of depression among older adults* - its prevalence, risk factors and illness course, and impact on functional status, mortality, use of health services, and health care costs; 2) *Effective Interventions*, including pharmacologic, psychotherapies, care management, and combined intervention models; 3) *Known Barriers to depression care* including patient, provider and service system barriers; 4) *Effective Organizational and*

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Educational Strategies to Reduce Barriers to depression care; and 5) *Key Factors in Translating Research into Practice*.

Characteristics of Late-life Depression

In community-dwelling older adults, the prevalence of major depression is estimated to be 1%–4% (Mojtabai & Olfson, 2004; Steffens, Skoog, Norton, Hart, Tschanz, Plassman, et al., 2000) and of subsyndromal depression 15 to 30% (Beekman, Deeg, Braam, Smit & VanTilburg, 1997; Lavretsky & Kunar, 2002; Lebowitz, Pearson, Schneider, Reynolds, Alexopoulos, Bruce, et al., 1997; Montgomery, et al., 2000). The latter include elderly with depressive syndromes such as dysthymia, bereavement, adjustment disorder with depressed mood and minor depression along a spectrum of illness severity that results in significant functional morbidity (Flint, 2002; Lyness, 2004; Unützer, 2002). Prevalence of major or clinically significant depression among medically ill elderly ranges from 10 to 43% (Charney, et al., 2003). Depression is the most common late life mental disorder to present in community based primary care. About 1 in 10 primary care patients has major depression, with increasing depression prevalence in home health care (10–26%) (Bruce, et al., 1998; Banerjee & McDonald, 1996; Ell, et al., 2004; Ell & Enguidanos, 2004), and nursing homes (12–30%) (Hendrie, Callahan, Levitt, Hui, Musick, Austrom, et al., 1995; Jongenelis, Pot, Eises, Beekman, Kluiter & Ribbe, 2004; Unützer, Patrick, Simon, Grembowski, Walker, Rutter, et al., 1997). Rates of depression in older adults are higher among women (Blazer, Burchett, Service & George, 1991). Prevalence rates are similar between African-American and White elderly (Bazargan & Hamm-Baugh, 1995), and may be higher among less acculturated Hispanics (González, Haan & Hinton, 2001).

Among the elderly, physical illness and disability are major risk factors for depression (Jorm, 1998; Koenig, et al., 1998; Roberts et al, 1997) as are cognitive deficits, declining functional status, social network losses and low social support, and negative life events (Bruce, 2002; Devanand, Kim, Paykina & Sackeim, 2002; Krasij, Arensman, Spinhover, 2002; Mojtabai & Olfson, 2004; Pennix, Guralnik, Ferrucci, Simonsick, Deeg, D., & Wallace, 1998; Ranga, George, Peiper, Jiang, Arias, Look, et al, 1998; West et al, 1998). Comorbidity of depression with other medical diseases in the elderly is common (Ranga, Krishnan, Delong, Kraemer, Carney, Spiegel et al., 2002) and medical illness increases the risk of suicide in the elderly (Juurlink, Hermann, Szalai, Kopp & Redelmeier, 2004; Suominen, Henriksson, Isometsa, Conwell, Heila & Lonnqvist, 2003).

Higher rates of disability, impaired quality of life and mortality are found among depressed elders (Alexopoulos, Vrontou, Kakuma, Meyers, Young, Klausner & Clarkin, 1996; Cronin-Stubbs, deLeon, Beckett, Field, Glynn & Evans, 2000; Black, Markides & Ray, 2003; Doraiswamy, Khan, Donahue & Richard, 2002; deJonge, Ormel, Slaets, Gertrudis, Kempen, Ranchor, et al., 2004; Lavretsky, Bastani, Gould, Huang, Llorente Maxwell, et al., 2002; Stein & Barrett-Connor, 2002; Pulska, Pahkala, Laippala & Kivela, 1998; Unützer, Patrick, Marmon, Simon & Katon, 2002). The likely multiple pathways that underly the effect of depression on mortality are only beginning to be understood (Alexopoulos & Chester, 1992; Covinsky, Fortinsky, Palmer, Kresevic & Landefeld, 1997; Ariyo, Haan, Tangen, Rutledge, Cushman, Dobs, et al., 2002; Katz, 1996; Mehta, Yaffe, Langa, Sands, Whooley, & Covinsky, 2003; Schulz, Drayer & Rollman, 2002).

For many elderly patients, major depression has a chronic course - persistent, intermittent, and/or recurrent (Beekman, et al., 2002; Cole, 1999; Lyness, Caine, King, Conwell, Duberstein, Cox, 2002; Raue, et al., 2003; Mueller, et al., 2004; Unutzer et al, 1997; 1999). Recent studies of treatment response and illness course among elderly patients find that clinical factors such as history, duration, and severity of depression, comorbid physical illness and disability, and

antidepressant treatment as well as psychosocial factors, such as basic and instrumental social support predict depression treatment response, illness course, functional decline and even mortality (Bosworth, McQuoid, George & Steffens, 2002; Hays, Steffens, Flint, Bosworth & George, 2001; Geerlings, Beekman, Deeg, Twisk & Vantilburg, 2002). In the medically ill, improvement or lack of improvement in depression and disability following hospitalization are frequently closed related (Koenig & George, 1998). Depression recovery may be slower in the elderly (Thomas, Mulsant, Solano, Black, Bensai, Flynn, et al., 2002).

Late onset, unipolar depression is particularly characteristic of elderly suicides (Conwell et al, 1996, Dennis & Lindesay, 1995; Henriksson, Marttunen, Isometsä, Heikkinen, Aro, Kuoppasalmi, et al, 1995). For the most part, older suicide victims have had late onset undetected or untreated depressions, although typically they have had contact with their primary care provider prior to their death (Suominen, et al., 2004). And depression may influence end-of-life decision-making as in the case of depressed elderly found to initially decline cardiopulmonary resuscitation, but accept it after recovery from depression (Eggar, Spencer, Anderson & Hiller, 2002).

Not surprising, given its prevalence in medically ill elderly, depression is also associated with increased health service use (Beekman, Deeg, Braam, Smit, & VanTilburg, 1997; Koenig & Kutchibhatla, 1999) and medical costs (Katon, Lin, Russo & Unützer, 2003). Gender differences in depression, service utilization and treatment cost among Medicare elderly raise important questions. In a 5% random sample of 35,673 Medicare beneficiaries, females had a significantly higher incidence of major and other depression and higher outpatient and mental health care costs; whereas total health care costs were higher for men (Burns, Cain, Husaini, 2001). And depression in medically ill elders can result in increased burden on family caregivers (Langa, Valenstein, Fendrick, Kabeto, & Vijan Langa, 2004; Sewitch, McCusker, Dendukuri & Yaffe, 2004).

In summary, the evidence on characteristics of late-life depression supports the need to address depression in the elderly. Routine patient education, screening, and evaluation in older adults with known risk factors are particularly recommended. For example, efforts to improve treatment of depression in primary care have led to lowered suicide rates (Rutz, von Knorring & Wålinder, 1989; Rihmer, Rutz, & Pihlgren, 1995), resulting in recommendations that late-life suicide prevention focus on adequate recognition and treatment of depression (Conwell & Duberstein, 1995; Lish, Zimmerman, Farber, Lush, Kuzma, M.A., & Plescia, 1996; Rihmer, 1996).

Effective Pharmacological and Psychotherapeutic Treatment in the Elderly

Pharmacologic Treatment

Treatment studies document the safety and efficacy of anti-depressant treatment among older adults (Bump, Mulsant, Pollock, Mazumdar, Begley, Dew & Reynolds, 2001; das Gupta, 1998; Salzman, Wong & Wright, 2002), with SSRI's being generally less toxic than older medications (Charney, et al., 2003; Sheikh, Cassidy, Doraiswamy, Salomon, Hornig, Holland, Mandel, Clary & Burt, et al., 2004). Between 60–80% of patients will respond to medications if prescribed according to recommended guidelines, although full therapeutic benefit may take 8–12 weeks and only about half of patients respond to the first medication prescribed (Sable, Dunn & Zisook, 2002). Response time may be longer among suicidal, more severely depressed and patients with comorbid anxiety (Szanto, Mulsant, Houck, Dew & Reynolds, 2003; Whyte, Dew, Gildengers, Lenze, Bharucha, Mulsant, et al., 2004). Therapy should be continued for at least 6 months, while patients at risk for relapse frequently require therapy for up to 2 years or indefinitely (Sable, et al., 2002). There is some evidence that antidepressants are effective for frail elders, for patients with dysthymia and more severely impaired elders with minor

depression (Strein, et al., 2000; Williams, Barrett, Oxman, Frank, Katon, Sullivan, et al., 2000). However, questions remain about the effectiveness of antidepressants for the older adults because few trials have been conducted in the elderly, only a relatively small number of studies address elderly with comorbid conditions, and there is evidence of a significant placebo response rate and a significant number of elders who do not respond or have residual depressive symptoms (Taylor & Doraiswany, 2004).

To reduce inappropriate medication prescribing (Goulding, 2004), pharmacologic guidelines are available to assist primary care physicians in medication management (Dunner, 2003; Serby & You, 2003), however, patients with comorbid illness and accompanying complications and drug-drug interactions may require adapting general guidelines (Sable, et al., 2002). For example, for older adults with pain symptoms, combining antidepressant and pain pharmacotherapy may be indicated (Rao & Cohen, 2004; Unützer, Ferrell, Lin & Marmon, 2004). Poor patient adherence, as well as social factors can negatively affect treatment response (Sable, et al., 2002). To address adherence and social problems that negatively affect treatment response, patient education and sometimes brief counseling is required (Sable, et al., 2002).

Structured Psychosocial Therapies

There is growing consensus that structured psychotherapy, alone or combined with antidepressant treatment, is effective for older adults with depression. (Areán, et al., 2001; Areán & Cook, 2002; Areán, et al.; 1993; Gum & Areán, 2004; Leibowitz, et al, 1997; Unützer et al, 1999). Under some circumstances it is the treatment of choice (i.e., when preferred by individual patients, when pharmacologic treatments are contraindicated, and for elders coping with low social support or environmental stressors), or for maintenance after discontinuation of antidepressant medication (Reynolds, et al., 1999). Clinical benefits from psychotherapy should be evident within 6–8 weeks and are frequently maintained among the elderly for up to a year. Medications should be considered for patients who fail to improve by that time and for those who do not have a full remission after 12 weeks of psychotherapy. Structured psychosocial therapies are as effective as antidepressants for moderate depression and may be more effective in reducing recurrence.

Manualized cognitive behavioral therapies have been shown to be effective in depressed older adults, including elders with comorbid physical illness and disability, cognitive impairment, or comorbid anxiety (Areán & Cook, 2002; Kunik, Braun, Stanley, Wristers, Molinari, Stoebner, et al., 2001; Lenze, 2003; Thompson, Coon, Gallagher-Thompson, Sommer & Koin, 2001). Cognitive-Behavioral Therapy (CBT) challenges pessimistic or self-critical thoughts, emphasizing rewarding activities and decreasing behavior that reinforces depression. Alternative modes of delivery of CBT have been explored, including group CBT and telephone or computer self-help formats (Proudfoot, Goldberg, Mann, Everitt, Marks & Gray, 2003). Problem-Solving Treatment (PST) teaches patients to address current life problems by identifying smaller elements of larger problems and specific steps toward solving these. PST, adapted for primary care (PST-PC) in the multisite IMPACT study (Haverkamp, Areán, Hegel & Unützer, 2003; Kindy, 2003) was found to significantly reduce depressive symptoms among older primary care patients with major depression or dysthymia, including among African-American and Hispanic patients (Unützer, et al., 2002) and among elders with major depression and executive dysfunction (Alexopoulos, Raire & Areán, 2003). PST has also been adapted for older adult home care patients in an ongoing study (Ell & Enguidanos, 2004) and for low-income Latinos with cancer (Dwight-Johnson, Ell & Lee, in press). CBT has been adapted for elderly Chinese Americans (Dai, Zhang, Yamamoto, Ao, Belin, Cheung, et al., 1999).

Interpersonal Therapy (IPT) combines elements of psychodynamic-oriented and cognitive therapies to address interpersonal difficulties, role transitions, and unresolved grief. The majority of studies with older adults have combined IPT with medication or pill-placebo (Areán

& Cook, 2002). Combining IPT with antidepressant medication is effective in reducing symptoms in older adults, may prevent relapse and is effective as a maintenance treatment for more severely depressed older adults (Miller, Cornes, Frank, Ehrenpreis, Silberman, Schlernitzaues, et al., 2001; Miller, Frank, Cornes, Houck & Reynolds, 2003; Reynolds, Dew, Frank, Begley, Miller, Cornes, et al, 1998; Reynolds, Frank, Perel, Imber, Cornes, Miller, et al., 1999; Taylor, Reynolds, Cornes, Miller, Stack, Begley, et al., 1999; Scocco & Frank, 2002).

Barriers to Depression Care for the Elderly

Undetected and Inadequately Treated

Although recent evidence indicates that antidepressant use is increasing among Medicare patients (Crystal, Sambamoorthi, Walkup & Akincigil, 2003; Sambamoorthi, Olfson, Walkup & Crystal, 2003), the majority of depressed elderly do not receive antidepressant treatment (Charney, et al., 2003; Luber, Meyers & Williams-Russo, Hollenberg, DiDomenico, Charlson, Alexopoulos, 2001; Unützer, et al., 2000). Few depressed older medical patients receive antidepressants in the hospital and even fewer are treated after discharge (Engberg, Sereika, Weber, Engberg, McDowell & Reynolds, 2001; Koenig, et al, 1997) or in home health care (Bruce, McAvay, Raue, Brown, Meyers, Keohane, et al., 2002). Older suicide victims have had late onset depressions that are not detected or treated, although typically they have had contact with their primary care provider prior to their death (Pfaff & Almeida, 2004). Elderly persons are also less likely to receive an adequate course of psychotherapy compared to younger adults (Harman, Edlund & Fortney, 2004). Older men, patients who prefer counseling or psychotherapy, and racial/ethnic minority elders are less likely to receive any depression care (Brown, et al., 1995; Green-Hennessy & Hennessy, 1999; Areán & Unützer, 2003; Sclar, Robinson, Skaer, et al., 1999; Unützer, Katon, Callahan, Williams, Hunkeler, Harpole, et al., 2003; Virnig, Huang, Lurie, Musgrave, McBean & Dowd, 2004). Poor elderly with Medicaid are also disadvantaged (Crystal, et al., 2003; Melfi, Crogan & Hanna, 1999 Melfi, Crogan & Hanna, 2000). Efforts to increase access to care and to improve the quality of depression care for older adults will need to address important patient, provider, and health system barriers to care (See Figure 1.).

Patient Barriers

Patient barriers to depression care influence detection and treatment processes. For example, older patients are less likely to voluntarily report depressive symptoms, may view depression as a moral weakness or character flaw, not an illness, and may be more likely to ascribe symptoms of depression to a physical illness (Heithoff, 1995; Knauper & Wittchen, 1994; Lyness, Cox, Curry, Conwell, King & Caine, 1995). Perceived stigma of depression has been associated with treatment discontinuation among older patients and treatment non-adherence **(**Sirey**,** Bruce, Alexopoulos, Perlick, Friedman & Meyers., 2001; Sirey, Bruce, Alexopoulos, Perlick, Raue, Friedman, et al., 2001). Nonadherence to treatment among the elderly is common (Maidment, Livingston & Katona, 2002; Salzman, 1995; Wetherell & Unützer, 2003), perhaps due in part to elders doubts that medication is helpful (Prabhakaran & Butler, 2002). Depressed older adults are less likely to use specialty mental health care, preferring to use the general health care system (Bartels, Coakley, Zubritsky, Ware, Miles, Areán, et al., 2004) and may be reluctant to attend group psychotherapy, but more willing to attend psychoeducational therapy formats (Areán, Alvidrez, Barrera, Robinson & Hicks, 2002).

Culturally based preferences for depression care can become a barrier to care if the preferred mode of care is not available (Cooper-Patrick, et al, 1997). Personal culturally based explanations for depression symptoms may influence symptom expression and patient-provider communication (Gallo et al, 1998; Lin et al, 1995; Marwaha & Livingston, 2002;

Melfi et al, 1999; Mills, Alea & Cheong, 2004). Patient perceptions of bias and cultural competence in health care, family perceptions, and practical barriers such as cost and transportation to therapy may impede receipt of care (Johnson, Saha, Arbelaez, Beach & Cooper, 2004).

Provider Barriers

The majority of older adults receive antidepressants from primary care physicians (Harman, Crystal, Walkup & Olfson, 2003). Physician attitudes and experiences may affect depression treatment more than knowledge (Areán, Alvidrez, Feldman, Tong & Shermer, 2003;Poutanen, 1996; Williams, Rost, Dietrich, Ciotti, Zyzanski & Cornell, 1999). Physicians may miss depression because they assume it is a "natural" consequence of aging and associated physical illness, or fail to initiate treatment due to doubts about the efficacy of treatment (Alvidrez & Areán, 2002). Primary care physicians may be more likely to detect depression in older women compared to men, because they are more likely to report affective symptoms and crying spells (Allen-Burge et al, 1994; Brown, et. al., 1995).

Not surprising, physical problems compete with depression for physician attention, thus potentially decreasing the odds that the elderly will receive guideline level pharmacological or psychotherapy treatment (Bartels, Dums, Oxman, Schneider, Areán**,** Alexopoulos, & Jeste, 2002; Moser, 2002). For example, elderly hospitalized patients who remained depressed and physically disabled following hospitalization do not see mental health specialists any more frequently than elderly without depression or physical impairment (Koenig & Kuchibhatla, 1999). Physicians may fail to distinguish severity levels of depression or depression from social problems. As a result, they may inadequately manage depression, emphasize possible organic pathology, fail to elicit mood or cognitive symptoms, underestimate symptoms in the most severely depressed, including patients at risk of suicide (Fischer, Wei, Solberg, Rush & Heinrich, 2003; Volkers, Nuyen, Verhaak & Schellevis, 2004), and may be less willing to treat suicidal ideation (Uncapher & Areán, 2000). Physicians also report that guidelines are insufficiently flexible for the variety of patients seen in primary care (Smith, Walker & Gilhooly, 2004).

Recent studies find that home health care nurses may also fail to identify late-life depression (Bruce et al., 2002; Bruno & Ahrens, 2003; Raue, Brown & Bruce, 2002; Brown, McAvay, Raue, Moses & Bruce, 2003; Brown, Bruce, McAvay, Raue & Lachs et al., 2004). Sole reliance on home care nurse clinical judgment is reported to be inadequate when compared to the use of structured screening tools (Ell, et al., 2004; Preville, Cote, Boyer, & Hebert, 2004). Nurses may lack specific training in depression and may be uncomfortable with assessing depression (Larson, Chernoff & Sweet-Holp, 2004; McDonald, Passik, Dugan, Rosenfeld & Theobald et al., 1999; Williams & Payne, 2003). Lack of educational support and ease of access to mental health specialists are found to be principal barriers that accounted for nurses' reluctance to uncover mental health problems (Nolan, Murray & Dallender, 1999).

Health System Barriers

Organizational system barriers may limit implementation of depression guidelines or quality of care improvements. These include lack of coordination and collaboration between providers in primary care, long-term care and specialty mental health providers and shortages of nursing and social service professionals who have training and expertise in geriatric mental health (Bartels, et al., 2002). Economic barriers can interact with organizational barriers. Inadequate or discriminatory financing of mental health services for older adults may defer care (Bartels, et al., 2002). Capitated payment systems that effectively create incentives to provide fewer services or lack of mechanisms to pay for depression care provided by nurses or social workers are examples (Frank, Huskamp & Pincus, 2003). Inadequate drug coverage and the high cost

of drugs may deter elders using antidepressants or taking less than recommended doses to reduce costs (Ganguli, 2003; Goldman, Joyce, Escarce, Pace, Solomon, et al., 2004).

Effective Strategies to Improve the Delivery of Depression Care for the Elderly

Depression care quality improvement strategies have been shown to be effective in reducing barriers to depression care (Badamgarav, Weingarten, Henning, Knight, Hasselblad, Gano, et al., 2003; Gilbody, et al., 2003; Mulsant, Whyte, Lenze, Lotrich, Karp, Pollock, et al., 2003) - including among racial/ethnic minorities (Wells, Sherbourne, Schoenbaum, Ettner, Duan, Miranda, et al., 2004). Organizational and educational strategies have been most frequently studied. Modest or mixed results stem from provider education and usually are most effective when combined with more complex interventions that bring additional resources into the health care system (Cherry, Vickrey, Schwankovsky, Heck, Plauchm & Yep, 2004; Gilbody, Whitty, Grimshaw & Thomas, 2003). Aimed at reducing patient barriers to care, patient and sometimes family education seeking their active engagement in depression care management is particularly promising. Organizational strategies (Reuben, 2002) generally include multifaceted quality improvement disease management interventions that change the way depression care is delivered, such as the implementation of routine depression screening, systematic application of evidence-based practice guidelines, clinical decision-making protocols and algorithms, follow-up through remission and maintenance, enhanced roles of nurses or social workers as depression care managers as well as integration between primary care and mental health specialists or service systems.

Effective Screening and Diagnostic Tools and Practice Guidelines

Tools to facilitate routine screening or physician assessment are designed to reduce failure to detect depression. In recent years, the 9-item Patient Health Questionnaire (PHQ-9) (Kroenke, Spitzer & Williams, 2001) has emerged as one of the most reliable depression screening tools in primary care with a demonstrated ability to identify clinically important depression, to make accurate diagnoses of major depression (Kroenke & Spitzer, 2002), to track severity of depression over time (Löwe et al., 2004) and to monitor patient response to therapy (Löwe, Unützer, Callahan, Perkins & Kroenke, in press). The instrument is valid and reliable (Spitzer, Kroenke & Williams, 1999), has specific diagnostic criteria and clinically significant cutoff scores (Kroenke et al., 2001), and has been used with older adults in the IMPACT primary care study where it was found to be sensitive to change in symptom severity when compared with a longer standardized depression severity measure (Löwe, et al., in press), and can be administered in-person or via telephone (Simon, Ludman, Tutty, Operskalski & von Korff, 2004). Other symptom screening tools are available, as are guidelines for brief, but reliable clinical examination by primary care physicians (Williams, Noel, Cordes, Ramirez & Pignone, 2002). Routine screening of patients with known risk factors is particularly likely to improve care (Schulberg, Bruce, Lee, Williams & Dietrich, 2004).

To improve optimal treatment, there are well-established clinical practice guidelines, consensus statements, and decision-making algorithms for managing depression in older adults (Kurlowicz, 2003; Lebowitz, et al., 1997; Sable, et al., 2002; Sommer, Fenn, Pompei, DeBattista, Lembke, Wang & Flores, 2003; Unützer, et al., 2002). Clinical guidelines are available on professional and organizational websites and address depression care by primary care physicians, nurses, and community based clinics (www.depression-primarycare.org/clinicians/; www.guidelines.gov/summary/summary.aspx?doc_id=3512&nbr=2738&string=depression), including important adaptations for home health care practices (Peterson, 2004).

Effective Health System-Focused Models of Care

Health system-focused depression care models bring new resources into the general health sector or into community agencies, apply clinical guideline care management, activate patient participation in their depression care, and provide patient follow-up and feedback among providers of care. Depression care models that use collaboration between primary care physicians and mental health professionals, where expertise in psychopharmacology in treating depression is provided by a psychiatrist and psychosocial interventions are provided by depression specialist nurses or social workers, are particularly promising approaches to improving depression care for the elderly. Randomized trials have shown collaborative care models to be effective in increasing the motivation of patients to cooperate with treatment, improving the primary care physician's treatment of depression, and enhancing follow-up care. While further research is needed, there is evidence that collaborative care may be cost-effective (Pyne, Rost, Zhang, Williams, Smith, Fortney, 2003; Simon, Katon, VonKorff, et al., 2001; Schoenbaum, et al., 2001), including for ethnic minority patients (Pirraglia, Rosen, Hermann, Olchanski & Neumann, 2004; Schoenbaum, Miranda, Sherbourne, Duan & Wells, 2004).

In the randomized study Improving Mood-Promoting Access to Collaborative Treatment (IMPACT), collaborative care using a depression care manager to support antidepressant medication treatment was effective in improving depressive symptoms and functional outcomes in adults 60 and older with major depression or dysthymia (Unützer, et al., 2002). A nurse or in some cases a social worker was the designated depression clinical specialist. The depression specialist's time was primarily devoted to clinical care, including providing PST-PC, much of which was delivered by telephone (Harpole, Stechuchak, Saur, Steffens, Unützer & Oddone, 2003, Haverkamp, et al., 2003).

The Prevention of Suicide in Primary Care Elderly: Collaborative Trial (PROSPECT) randomly tested collaborative care for older adults with either major depression or clinically significant minor depression. Intervention group patients received antidepressant medication or for those declining medication, the offer of brief IPT based on a clinical algorithm, and depression care management by care managers (Bruce, et al., 2004). The intervention substantially reduced suicidal ideation and depression symptom severity.

The Program to Encourage Active, Rewarding Lives for Seniors (PEARLS), a community-integrated model for treating minor depression and dysthymia, tested in a randomized trial, was found to reduce depression symptoms and improve health status in medically ill, low-income, mostly homebound older adults (Ciechanowski, et al., 2004). Patients were recruited through community senior service agencies by social workers who routinely screened elders during scheduled visits or telephone calls and through letters mailed by collaborating agencies to their clients or residents in affiliated public housing.

Two studies have demonstrated improved depression care for home health care patients. Flaherty and colleagues (1998) found that a multifaceted collaborative management home care intervention for depression resulted in lower hospitalization rates (23.5%) compared to a historical control group (40.6%). A randomized controlled trial with blind follow-up six months after recruitment found that care by a psychogeriatric team home care versus usual primary care improved depressive outcomes for 58% versus 25% of people 65 and over (Banerjee, et al, 1996).

The Primary Care Research in Substance Abuse and Mental Health for the Elderly (PRISM-E) randomized study compared integrated behavioral health care with enhanced referral care in primary care settings across the United States (Gallo, Zubritsky, Maxwell, et al., 2004). Integrated care had mental health and substance abuse specialists within the primary care practices; the enhanced referral model included transportation, case management, and other

services to engage elderly patients in treatment. Primary care clinicians strongly preferred integrated care.

Collaborative interventions also improve patient adherence and prevent relapse (Lin, Von Korff, Ludman, Rutter, Bush, Simon, et al., 2003). Because depression frequently occurs with other chronic disease, adversely affecting the course of coronary heart disease, cancer, diabetes and arthritis, researchers have begun to examine whether enhancing care for depression improves depression and outcomes of these illnesses (Koike, Unützer & Wells, 2002). The collaborative care model used in the IMPACT study improved affective and functional status, but only minimally affected diabetes outcomes (Williams, Katon, Lin, Noel, Worchel, Cornell, et al., 2004). Among older adults with arthritis, benefits included reduced depression, decreased pain and improved functional status and quality of life (Lin, Katon, VonKorff, Tang, Williams, Kroenke, et al., 2003).

Effective Patient and Provider Educational Strategies

Patient education and activation through peer led educational group formats has been found to be effective in the ongoing management of chronic illness (Lorig & Holman, 2003; Shoor & Lorig, 2002), holding promise for similar programs in depression. Much effort has been expended trying to improve the depression care skills of primary care physicians, but with modest effect (Azocar, Cuffel, Goldman & McCarter, 2003; Callahan, 2001). Grand rounds and simply disseminating guidelines are less effective than academic detailing through brief one-on-one educational sessions (Soumerai, 1998).

Compared to other health professions, there is evidence that nurses are more likely to be willing to participate in geriatric education workshops and have high interest in mental health and dementia training (Larson, Chernoff & Sweet-Holp, 2004; Mayall, Oathamshaw, Lovell & Pusey, 2004). Thus, educational strategies aimed at increasing nurses' comfort and skill in depression assessment and care management are likely to be successful (Fazi & Wright, 2003; Ell, et al., 2004; Groh & Hoes, 2003; Rosen, Mulsant, Kollar, Kastango, Mazumdar, & Fox, 2002; van Eyk, Diederikas, Kempen, Honig, van de Meer & Brenninkmeijer, 2004).

Translating Research into Practice: Recommendations

Unfortunately, the availability of a strong evidence base does not ensure wide adoption of these practices in existing service systems. Despite mounting evidence that older patients tolerate and respond to treatment with antidepressants or structured psychotherapy, outcomes under real world conditions remain poor (Mulsant, Whyte, Lenze, Lotrich, Kar, Pollock & Reynolds, 2003). Improvement in late-life depression care and outcomes for a larger number of depressed elders depends on success in disseminating and implementing quality of care improvements in diverse settings. Fortunately, researchers have also begun to identify key factors in the dissemination and implementation of evidence based quality of care improvements (Bartels, et al., 2002; Meresman, Hunkeler, Hargreaves, Kirsch, Robinson, Green, et al., 2003; Oishi, Shoai, Katon, Callahan, Unützer, et al., 2003; Pearson, Katz, Soucie, Hunkeler, Meresman, Rooney, et al., 2003).

At the level of the *health system*, there must be "buy-in" for adopting a chronic care intervention from *engaged leaders and administrators* who identify the project as important and translate it into clear goals identifiable in policies, procedures, a business plan, and financial plans (ICIC, 2002c). Roles of senior management and strong clinical leaders are particularly important, including the degree to which these key people believe that the evidence responds to significant organizational or clinical needs (Bradley, Webster, Baker, Schlesinger, Inouye, Barth, et al., 2004). Additional important facilitating factors are credible supportive evidence and a health care system infrastructure dedicated to translating the research into practice. Barriers are likely

to emerge in relation to the extent to which changes in organizational culture are required, and the amount of coordination needed across departments or disciplines.

The Chronic Care Model (see figure 2) provides a useful framework to guide providers who elect to provide leadership aimed at improving depression care for older adults within their system of care (www.improvingchroniccare.org/change/model/components.html). Developed by Wagner and others based on input from national experts, and extensive pilot work (ICIC, 2002a;Wagner et al., 1996a; Wagner et al., 1996b), this model recommends actions in six specific areas, including 1) the health system, 2) the community, 3) patient self-management support, 4) delivery system design, 5) provider clinical decision support, and 6) clinical information systems (see Figure 2). Intervening at the level of these components is aimed at facilitating productive interactions between patients who take an active part in their care and providers backed by resources and expertise. In turn, these interactions are designed to promote improved health status, higher satisfaction for patients and providers, and lower costs.

Personnel must be provided with required resources and support to ensure change, and patients should find services convenient and affordable. Health system level changes may be essential in addressing the attitudes, social norms, and perceived barriers to treatment among providers and lower-level managers. Particularly important, the studies reviewed above emphasize the importance of integrating mental health specialists and strategies within primary care (Oxman, Dietrich & Schulberg, 2003; Sherbourne, Wells, Duan, Miranda, Unützer, Jaycox, et al., 2001).

Delivery system redesign includes using planned interactions to support evidence based care (Sheeran, Brown, Nassisi & Bruce, 2004). Providers need centralized, up-to-date information and active follow-up and outreach must be incorporated into the system, with a designated staff member available for such care. Provider targeted strategies include physician education, application of practice guidelines, physician counseling skill enhancement, application of screening and diagnostic tools, and computer assisted programs to provide management feedback to physicians. Strategies, such as easy to use implementation tool kits and well-described procedures for changing practices are available (Dietrich, et al., 2004; www.depression-primarycare.org; www.Annfammed.org/cgi/content/full/2/4/301/DC1). Routine formal screening for depression in primary care is recommended by the U.S. Preventive Services Task Force. (Pignone, Gaynes, Rushton, Burchell, Orleans, Mulrow, et al., 2002) and tools are available as described above.

Decision support includes delivering care consistent with the scientific evidence and using proven methods to educate providers. At the level of *decision support*, treatment decisions must be based on explicit, proven guidelines that are discussed with patients (ICIC, 2002f). Providers must have ongoing training to stay up to date, and must remain in the loop when patients are referred for specialty care, through better feedback or joint consultation. These educational interventions can impact provider attitudes, social norms, and perceived barriers to care.

Similarly, *clinical information systems* provide regular audit and feedback and timely reminders for providers and patients to prompt appropriate care (Smith, et al., 2004). These may be in the form of disease registries that outline recommended care for certain conditions, and check whether individuals' treatments conform to recommended guidelines (ICIC, 2002g). Outcomes are measured and reminders given for active follow-up. For providers with many competing demands, automated reminders and administrative review may ensure timely depression follow-up care.

At the level of the *community*, available resources can be identified for supporting or expanding a health system's care for chronically ill persons (ICIC, 2002b). Partnerships (such as

implemented in PEARLS (Ciechanowski, et al., 2004) can be formed with community agencies that provide needed educational, social, legal, or outreach services for the depressed persons, thus expanding service without duplicating efforts. There is evidence that community-based multidisciplinary geriatric mental health treatment teams are effective (Bartels, Dums, oxman, Schneider, Areán, Alexopoulos, et al., 2002; Kohn, Goldsmith & Sedgwick, 2002). In low-income communities, forming linkages among medical, mental health, social service, and community organizations is challenging because existing relationships are often fragmented, and organizations may have scarce resources, however, collaboration and shared responsibility with community agencies may reduce administrator concern about limited resources for new programs (Torrisi & McDaniel, 2003).

At the level of *self-management support*, patients and family members or caregivers should be given education and information that empowers them to take a central role in their care, so that they may work collaboratively with providers in their ongoing treatment. For depression care, patients need to be taught about available treatment options, symptom monitoring, and engaging effectively with health care providers, family, and friends. Low-income minority patients may require additional education and training in self-empowerment techniques to be active participants in their care, given their often low levels of formal education and often disenfranchised status (Dwight-Johnson, et al., in press). Self-management programs may have to address language or cultural barriers to care and allow families to play a more central role in treatment. Helping patients to communicate more effectively with providers may also help providers overcome linguistic and cultural barriers to providing good care (Johnson, et al., 2004).

Conclusion

The research base underpinning depression care for older adults is comprehensive and encouraging. There is strong evidence of effective methods to identify and evaluate depression in older adults and strong evidence that treatment is effective in reducing depressive symptoms and improving quality of life. There is recent encouraging evidence from Medicare data that older adults (and their caregivers) may be more willing to seek and accept antidepressant treatment. Health care providers are increasingly more likely to detect and treat depression in elderly patients. Unfortunately, critical barriers remain that preclude many older adults from receiving adequate care. Foremost among these are health care system, financing and cost factors. Compelling evidence of elder need, the availability of effective treatments, and the recent evidence of effective strategies to address even some of the more intransigent health system barriers to care demand even greater commitment to and advocacy for evidence-based depression practice in a society whose population of elderly is growing (Bartels, 2003; Lyness, 2004).

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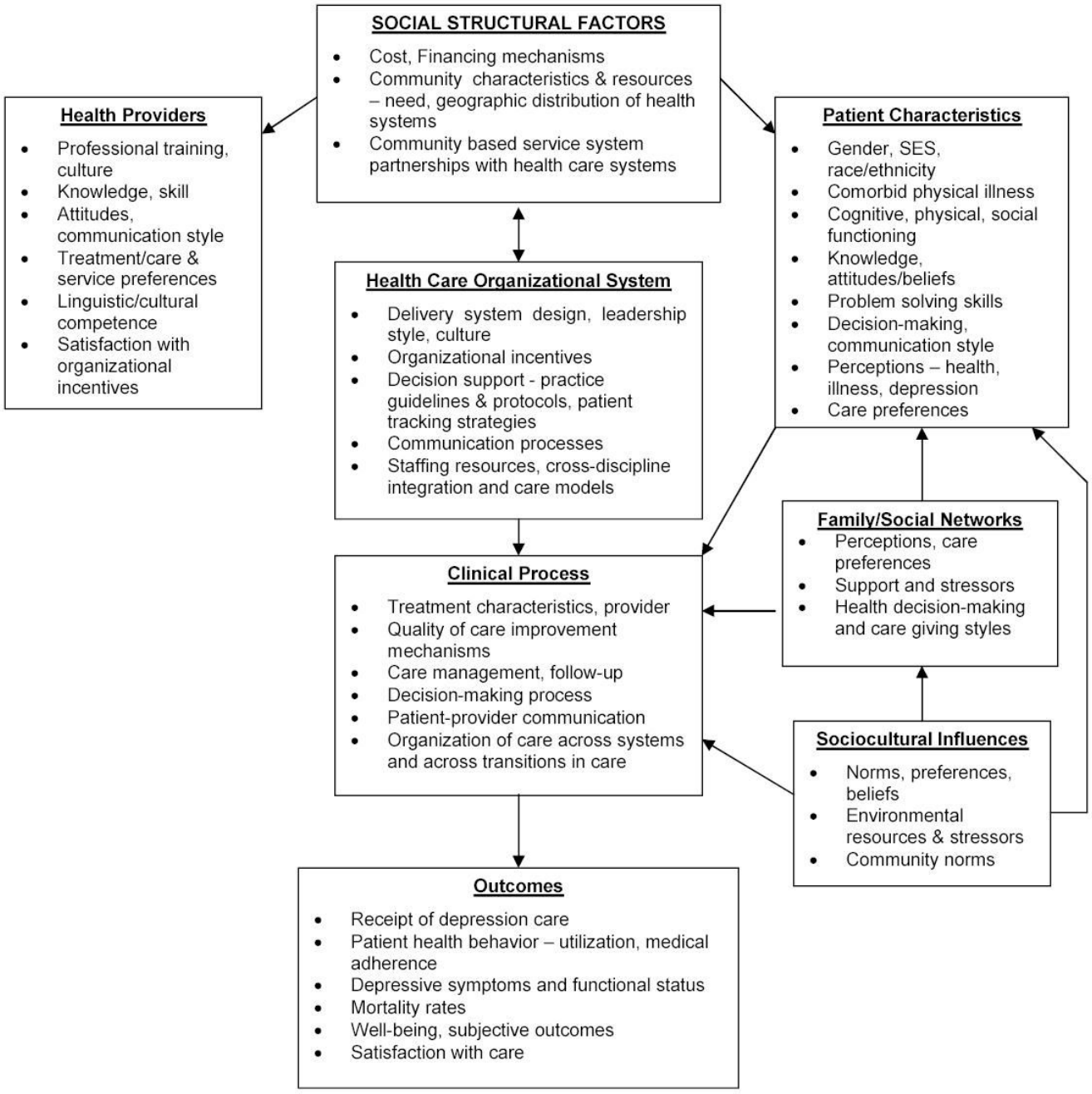
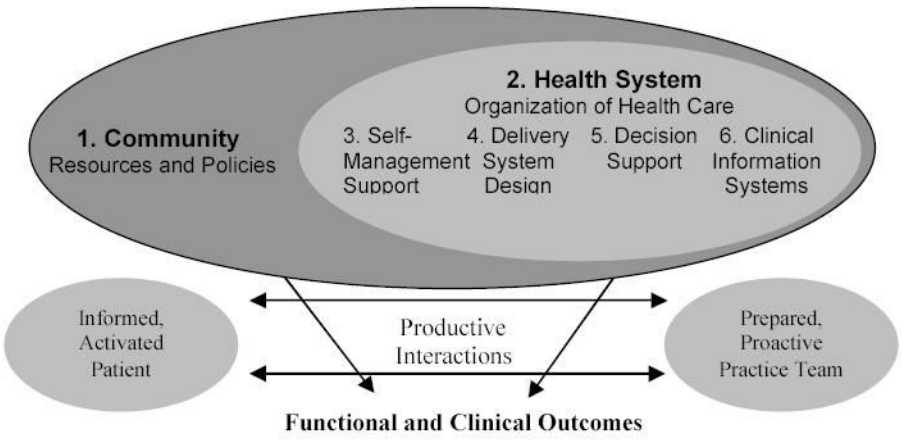


Figure 1.
Evidence-based Barriers to Depression Care for Older Adults



www.improvingchroniccare.org/change/model/components.html

Figure 2.
The Chronic Care Model