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Meeting the mental health needs of the homebound: A psychiatric consult service within a home-based primary care program

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Abstract

The growing population of homebound adults is increasingly receiving home-based primary care (HBPC) services. These patients are predominantly frail elderly who are homebound due to multiple medical comorbidities, yet they often also have psychiatric diagnoses requiring mental health care. Unfortunately, in-home psychiatric services are rarely available to homebound patients. In order to address unmet psychiatric need among the homebound patients enrolled in our large academic HBPC program, we piloted a psychiatric in-home consultation service. During our 16 month pilot, ten percent of all enrolled HBPC patients were referred for and received psychiatric consultation. Depression and anxiety were among the most common reasons for referral. In order to better meet patients' medical and psychiatric needs, HBPC programs need to consider strategies to incorporate psychiatric services into their routine care plans.

Introduction

Homebound patients often have multiple medical problems, psychiatric problems, poor physical functioning, and poor social support systems (Kellogg & Brickner, 2000; Qiu et al., 2010). Many home based primary care (HBPC) programs use a multidisciplinary care team to provide comprehensive care to these complex patients. There is growing awareness that this care must provide not only medical services but also services that address mental health and complex psychosocial needs (Karlin & Karel, 2013; Reckrey et al., 2014).

This attention to mental health is essential because research suggests that homebound elderly adults are at an increased risk for depression, anxiety, and cognitive impairment as compared to the general population (Bruce & McNamara, 1992; Ganguli, Fox, Gilby, &

Belle, 1996; Jayasinghe, Rocha, Sheeran, Wyka, & Bruce, 2013; Li & Conwell, 2007; Martens et al., 2007; Qiu, et al., 2010) One study of the homebound elderly found that 40.5% had a psychiatric disorder (Li & Conwell, 2007) while a study of people receiving home-delivered meals found that 12.2% of reported clinically significant depression and 13.4% reported suicidal thoughts (Sirey et al., 2008).

Despite its prevalence, research suggests that depression is under-diagnosed and inappropriately treated among the homebound (Brown, 2003; Bruce et al., 2002; Golden et al., 1999; Pickett, Raue, & Bruce, 2012). For example, only one-third to one-half of home-delivered meal recipients with significant depressive symptoms take an antidepressant medication (Choi, Bruce, Sirrianni, Marinucci, & Kunik, 2012; Sirey, et al., 2008). This may be because home based care is not commonly practiced by U.S. psychiatrists; the number of psychiatric home visits billed to Medicare fell from 3% of all home visits in 1998 to only 1% of all home visits in 2003, accounting for only 0.57 visits per 1000 Medicare enrollees (Landers et al., 2005).

While Mobile Crisis teams often provide emergency care to individuals at home (Kohn, Goldsmith, Sedgwick, & Markowitz, 2004), new models of care are needed to more routinely bring mental health services to the chronically homebound. Fortunately, some progress has been made in bringing mental health services to the homebound (Reifler & Bruce, 2013). For example, mental health services are now a part of all Veteran's Administration HBPC programs and this involvement has had a positive impact on enrollees (Karlin & Karel, 2013). We believe that home based primary care provides an ideal platform for delivering integrated, long term mental health care to the homebound. Given the diversity of structure and resources of HBPC programs (Hayashi & Leff, 2012), it is important to develop various models that HBPC programs can use to meet the mental health needs of their patients.

This article describes the development of a psychiatric consultative service within Mount Sinai Visiting Doctors Program (MSVD), a large academic home based primary care program in New York City (Ornstein, Hernandez, DeCherrie, & Soriano, 2011). We describe 1) our assessment of the psychiatric needs of this population, 2) the psychiatric consultation service intervention that was developed in response to those needs, and 3) the results of the intervention and its impact on patient care in our practice. Given the prevalence and inadequate treatment of psychiatric illness in the homebound, we believe that this consultative model provides an important example for others working to bring psychiatric care to the homebound.

Background

Setting

Mount Sinai Visiting Doctors Program (MSVD) is the largest academic HBPC in the United States and serves more than 1000 homebound individuals in Manhattan annually (Ornstein, et al., 2011). MSVD physicians and nurse practitioners provide routine and urgent primary medical care, in-home palliative and end-of-life care, and 24-hour physician access to our homebound patients. Patients are visited in their homes approximately every 2 months.

Dedicated MSVD social workers provide case management and supportive services to patients and caregivers (Reckrey, et al., 2014). The principal requirement for program eligibility is the patient's inability to routinely visit a doctor's office because of functional or cognitive impairment. MSVD accepts private insurances, Medicare, and Medicaid (Ornstein, et al., 2011).

Leading reasons for referral to MVSD are dementia, stroke, frailty, psychiatric illness, heart failure, emphysema, and palliative care. Prevalent diseases at admission include dementia (59%); urinary incontinence (55%), diabetes (25%), stroke (21%), and coronary artery disease (18%) (Smith, Ornstein, Soriano, Muller, & Boal, 2006). The patients in the program reflect the ethnic diversity of the neighborhoods MSVD serves: 23% are African American, 31% are Latino, and 39% are White. Seventy-six percent of patients are female. MSVD patients range in age from 20 to 104 but the majority of patients are elderly (mean age=81). Patients are cared for by the program for 2–3 years on average 2–3 (Smith, et al., 2006).

Needs Assessment

Using our EMR system, we conducted a needs assessment to better understand our patients' psychiatric illness burden and the current mental health treatments. We received data for the 802 patients active in the program during calendar year 2006. Patients carried a range of psychiatric diagnoses including anxiety, schizophrenia, and personality disorders (Table 1). Of note, 26% of homebound patients at MSVD had a documented diagnosis of depression.

The high burden of psychiatric illness in our homebound population was further evidenced by the widespread use of psychiatric medications (See Table 2). Fourteen percent of patients were being treated by their PCP with medication for dementia, of which 45% were concurrently taking an antipsychotic or anticonvulsant medication. Antidepressants were commonly prescribed and 42% of the patients were taking at least one antidepressant; SSRI use was most common (26%). In addition, 4% of patients were taking more than one antidepressant simultaneously. Patients also commonly took antidepressants in combination with antipsychotics (12.7%) or anxiolytics (7.4%). In general, there was a high use of antipsychotic medications (22%); this most likely reflected the use of antipsychotics in the setting of dementia.

Closer review of psychiatric medication use revealed several important things. First, while there is a high prevalence of dementia in our practice (59%), a minority of those patients were receiving pharmacologic treatment for their dementia. Half of those were also receiving antipsychotics, suggesting a significant number of patients with dementia and secondary behavioral disturbance requiring additional management. Antidepressant use was very high, likely reflecting primary care provider comfort in prescribing antidepressant medications. Yet many patients had very complex medication regimens, likely reflecting the complexity of their psychiatric illness. Taken together, these findings suggest a sizeable minority of MSVD patients with complex psychiatric illness who would likely benefit from formal evaluation by a psychiatrist.

Intervention

In order to meet these psychiatric needs in our homebound population, we used existing clinic-based models of psychiatric services embedded in primary care as a guide (Bower & Sibbald, 2000; Unutzer et al., 2002) and collaborated with Mount Sinai Department of Psychiatry (MSDOP) to pilot a psychiatric in-home consultation service within MSVD. This pilot program occurred over a 16 month period beginning in 2006. This project was exempted by the Mount Sinai School of Medicine IRB.

In our consultative service, one attending psychiatrist made home visits one half-day session per week accompanied by a geriatric psychiatry fellow. Referrals were made to the psychiatrist by the patient's MSVD primary care provider (PCP) using an electronic medical record (EMR). Patients were seen within 2–3 weeks depending on provider availability and referral urgency. The MSVD staff scheduled and confirmed all appointments.

The psychiatrist used a customized initial and follow-up consultation home visit form that captured detailed psychiatric symptoms and included an evaluation of depression, mania, suicidality, homicidality, paranoia, auditory and visual hallucinations, delusions, substance abuse, dementia, agitation, and anxiety disorders including generalized anxiety disorder, panic, obsessive-compulsive disorder, and posttraumatic stress disorder. The form also reviewed medical problems, current and previous medications, social history, substance abuse history, family history, and a functional assessment.

Following the psychiatrist's assessment, detailed recommendations were created for the PCP and all notes and treatment plans were shared with the PCP via the EMR. The recommendations were implemented by the PCP and MSVD team, who could ensure that the treatment plan took into consideration each patient's medical comorbidities, functional status, and psychosocial needs. After the initial visit, the psychiatrist and the PCP decided together if subsequent follow-up psychiatric care were indicated. If subsequent care was needed, the geriatric psychiatry fellows followed the patients and went on home visits accompanied by the attending or a medical student.

Methods

Referrals to the psychiatric consult service were tracked. The date of referral, reason for referral, and number of psychiatric visits were recorded throughout the intervention. We also report three representative case studies so that readers can better understand the wide range of services provided to this diverse patient group.

Results

Over the course of the pilot, the psychiatrist made 123 home visits for 79 patients. Approximately 10% of all MSVD patients were seen by the psychiatrist during the study period. While the program was set up as a consultation service, almost half of patients were seen between 2–5 times by the geriatric psychiatry fellow and/or attending psychiatrist.

The most common reasons for referral were depression (40%) and anxiety/OCD (25%). On average, the psychiatrist visited 7.6 patients per month (2–3 appointments per half-day

session). Due to the large number of referrals, the wait time between referral and psychiatrist visits was as long as two months. However, in practice PCPs routinely communicated with psychiatrists directly to expedite referrals that they deemed to be urgent and these patients were seen more quickly.

While psychiatrists often gave recommendations about medications, psychiatric recommendations regularly included non-medical strategies such as psychotherapy, physical therapy, occupational therapy, physical exercise, substance abuse treatment, and nutrition counseling. Because these services were not always available within MSVD, the psychiatrists worked with MSVD PCPs and social workers to connect patient to other disciplines including nursing and psychology. Often the psychiatric team highlighted the need for socialization and recreation and educated PCPs and social workers about community senior centers that could coordinate transportation for participants. The psychiatrist partnered with the medical and social work team to encourage home interventions that made the environment more pleasant and safe for the patient and caregiver, addressing cleanliness and ergonomic improvements.

The presentation of psychiatric disease in the homebound varies greatly and management was tailored to accommodate the patient's homebound status and goals of care. Several cases are described below:

Depression and Self-Neglect

A woman in her 50's had debilitating lymphedema, a recent pulmonary embolus, and major depression with anxiety. She was very socially isolated and had no close friends or family members. She exhibited self-neglect on her first home visit and stated she was embarrassed to leave her home because she didn't have shoes that fit. Her PCP prescribed her an SSRI to treat her depression and anxiety and titrated up the dose, but the patient had no improvement in symptoms. Her PCP consulted the psychiatrist. The psychiatrist did a one-time evaluation and recommended a combination of two antidepressants and cognitive behavioral therapy (CBT) to help address anxiety surrounding leaving her home. The PCP referred to the behavioral health division of a local nursing agency who was able to provide a short course of Medicare-funded CBT at home. The PCP also closely monitored the patient's INR levels given possible interactions between her warfarin and her antidepressants. After a few months, the patient had improved mood and self-image, which helped the patient's sense of agency. She was able to order shoes off the Internet. She then felt comfortable enough to leave her apartment in her wheelchair to attend the specialist appointments she had been missing and get her hair cut at a local salon.

Undiagnosed Psychotic Disorder

A nimble 100-year old man no longer left his 5th story walk up apartment. Because of his advanced age his daughter had taken over his finances and medication management, but he thought she was trying to poison him. He refused to take his medications and threatened to hit his daughter. The PCP screened the patient for dementia, but there was no evidence of memory loss and no other clear trigger for his behaviors. She then consulted the psychiatrist to assess for psychosis. The psychiatrist took a detailed history from both the patient and his

daughter and determined that the patient suffered from a primary psychotic disorder. The psychiatrist also noted his daughter's significant caregiver burden. She recommended antipsychotics, but the patient continued to refuse medications from his daughter. Because of this paranoia, his PCP arranged for the pharmacy to directly deliver prepackaged medication to the patient, which improved adherence somewhat. The MSVD social worker did a home visit to meet with the patient and his daughter. She then set up weekly phone sessions to provide ongoing support to his daughter. Because the patient's paranoia had only improved a bit, the PCP spoke with the psychiatrist who recommended increasing the dose of the antipsychotic. The patient's paranoia slowly improved and his daughter felt more supported in her role as caregiver. With time, the patient eventually allowed his daughter to assist him with medications and help him down the stairs and out of the apartment once a week.

Behavioral Symptoms in Dementia

An 84-year old man had Alzheimer's dementia, hand tremors, and visual hallucinations of people on rooftops. He slept poorly at night and had a fall at home in the middle of the night when he tried to get up without his wife's assistance. His PCP prescribed an atypical antipsychotics and though the patient became less agitated in the daytime, his sleep and hallucinations didn't improve. Psychiatry was consulted and the psychiatrist recommended melatonin for sleep. The patient's sleep improved but his hallucinations continued to worsen. The psychiatrist returned for a follow-up evaluation. She performed home neuropsychological testing, which was consistent with Lewy Body Dementia rather than Alzheimer's dementia. The psychiatrist recommended discontinuing the patient's antipsychotic and starting a cholinesterase inhibitor. This resulted in only mild improvement in hallucinations and the patient's tremor worsened. Psychiatry recommended increased supervision at home and caregiver supports for the patient's wife. The patient's PCP educated the patient's wife about Lewy Body Dementia and the psychiatrist returned for another followup visit to answer her remaining questions. The MSVD social worker met with the patient's wife to discuss the family's finances and referred her to an attorney specializing in Elder Law to discuss establishing a pooled-income trust. The patient's wife hired a home care worker from a local agency to assist her in caring for her husband in the mornings.

Discussion

Given the high prevalence of mental illness in the homebound, it is no surprise that physicians providing home based primary care at MSVD routinely treated many psychiatric illnesses. While most PCPs who provide home visits are adept at treating "simple" depression, anxiety, and behavioral symptoms related to dementia, psychiatric co-morbidity may exceed the scope of the primary care provider's expertise. In order to meet this need, we developed a pilot in-home psychiatric consultation service that brought needed psychiatric expertise to the routine care of our program's homebound patients. While many programs that deliver home-based mental health services are part of free-standing community agencies (Reifler & Bruce, 2014), our pilot utilized our existing relationships with other departments at our academic medical center to bring psychiatric services to

patients already enrolled in our HBPC program. We found this pilot was feasible and had widespread acceptance and use by PCPs.

We believe that the most important factor contributing to the success of this pilot was that the psychiatrists worked closely with PCPs to develop realistic and effective treatment plans. Such collaboration is particularly important when prescribing and changing psychiatric medications; homebound patients often have complex multiple medical illness, polypharmacy, and complex care regimens that all impact medication choices (Golden, et al., 1999; Qiu, et al., 2010). This close collaboration sets our intervention apart from community psychiatric services such as Mobile Crisis or Assertive Community Treatment (ACT), where treatment of chronic or emergent mental illness in community-dwelling patients may not partner with the primary medical team (Phillips et al., 2001). In clinic-based settings, this sort of collaboration is increasingly identified as a way to create lasting impact from psychiatric interventions and bring behavioral health services to primary care (Sederer, 2014; Zeidler Schreiter et al., 2013). Our pilot describes an important way to bring this sort of collaborative psychiatric care to the homebound.

There are unique challenges to practicing psychiatry in the home even when care occurs in collaboration with a well-established program like MSVD. As in office care there is often resistance to psychiatric treatment from the patient and/or caregivers, belying the stigma of mental illness. Psychiatrists are often called to assess patients who are agitated and/or violent, and meeting them in their homes may present a heightened threat as the provider cannot control the setting, objects in the home, or easy access to exit doors. The physical apartment itself may be unsafe if impaired patients are unable to maintain safety standards, and the apartments may be cluttered and impassable secondary to patients' hoarding or inability to clean. In order to minimize these possible threats, psychiatrist and fellows were educated about safety prior to visits. In addition, providers only visited patients in their home when accompanied by at least one other person. Such safety concerns need to be addressed with model of care that provides in-home psychiatric care.

An important limitation of any psychiatric consultation program is that while such programs can help diagnose illness and make recommendations for treatment, the consulting psychiatric works alone and may not have the staff or resources for intensive follow up of patients. In particular, recommendations for regular therapy and counseling may be difficult to implement because community-based programs that provide these long-term services in the home are inconsistent. This could in turn lead to an overreliance on pharmacological treatments for psychiatric illness in settings where non-pharmacologic treatment options are scarce. Frail elders such as the homebound are particularly susceptible to adverse effects relate to psychotropic medications such as cognitive impairment and falls (Brooks & Hoblyn, 2007; Leipzig, Cumming, & Tinetti, 1999). Ideally, programs that include psychiatric consultation would be expanded to include continuous psychiatric treatment and counseling. Alternatively, programs could partner with existing community-based programs that provide such services. Many model home-based mental health programs already use well developed teams to provide not only psychiatric evaluation but also ongoing counseling and care (Reifler & Bruce, 2014).

While we didn't systematically categorize psychiatrist recommendations, non-pharmacologic recommendations were a frequent component of psychiatric plans in our pilot. Though the psychiatrist in our pilot was able to provide some of this ongoing care, much of the burden of securing follow-up and ongoing care fell to the PCP and the MSVD social workers. Use of psychotropic medications was significant even before the pilot began and we do not know if psychiatric consultation resulted in new medication prescriptions or changes to existing medications. Future study of psychiatric consultations in the homebound should access psychiatrist recommendations in detail. However, our anecdotal experience with psychiatric consultation in this pilot was that for PCPs who had been managing complex psychiatric illness on their own, both pharmacologic and non-pharmacologic recommendations from the psychiatrist were beneficial and consultation alone was often enough to help improve the lives of patients struggling with psychiatric illness.

The most significant barrier to more widespread implementation of in-home psychiatric consultation services is funding. Like other home-based medical services, current fee-for-service reimbursement is often inadequate to cover significant operational and personnel costs of home visits including travel to and from patients' homes (Desai, Smith, & Boal, 2008). While future health care reforms that focus on reducing unnecessary utilization may provide alternative funding sources to treat the most complex patients (DeCherrie, Soriano, & Hayashi, 2012), in a fee-for-service system in-home psychiatric consultation is only financially viable if a high volume of visits per day is possible. While home visits may generate inpatient psychiatric admissions, the goals of HBPC program are usually to keep patients out of the hospital and inpatient admissions should be considered a minor source of sustainability. Beyond the costs of the psychiatrist visit itself, costs related to the interdisciplinary team that is often needed to carry out non-pharmacologic recommendations needs to be considered.

In the case of our pilot, we did not have to rely solely on clinical reimbursements because our institution supports our interdisciplinary program as a site for trainee education. The incorporation of geriatric psychiatry fellows provided an excellent training opportunity for geriatric psychiatry fellows who are otherwise unexposed to home visits (Roane, 2002). This was also valuable to the consultation service itself because fellows were more able to follow patients longitudinally and work with PCPs and social workers to develop realistic treatment plans. While our pilot consultation program included an attending psychiatrist making visits, it would also be feasible for trainees such as geriatric psychiatry fellows or psychiatry residents to make visits on their own and precept with the attending afterwards. This may further limit the costs of a psychiatric consultation program while simultaneously enhancing the community-based education of the geriatric psychiatry fellows.

Research suggests that homebound patients are a uniquely underserved group who carry a disproportionate burden of both medical and psychiatric disease (Qiu, et al., 2010). Our study found that addressing the complex medical and psychiatric needs of the homebound community is feasible with partnerships among PCPs, psychiatrists, and the HBPC multidisciplinary team. Such an approach can improve identification of psychiatric conditions and facilitate their optimal management. We believe that these interventions can

improve patient symptoms and quality of life while reducing burden on homebound patients and their caregivers.

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Table 1

Psychiatric diagnoses among homebound patients receiving HBPC (n=802)

Diagnosis	Count	Percentage
Depression	209	26%
Anxiety Disorder	83	10%
Schizophrenia	22	2.7%
Other Psychosis	20	2.5%
Substance Abuse	13	1.6%
Bipolar Disorder	10	1%
Personality Disorder	8	1%

Table 2

Psychotropic medication use among homebound patients receiving HBPC (n=802)

	Drug or Drug Combination	Count	%
Alzheimer's dementia medication use	NMDA antagonist and/or cholinesterase inhibitors	110	13.7%
	<i>Alzheimer's medication & Antipsychotic/anticonvulsant</i>	49	6.1%
Antidepressant use	At least 1 Antidepressant	335	41.7%
	<i>More than 1 antidepressants</i>	35	4.4%
	<i>Type: Antidepressant-SSRI</i>	213	26.5%
	<i>Type: Antidepressant-tricyclic</i>	13	1.6%
	<i>Type: Antidepressant-other</i>	161	20%
	<i>Antidepressant & Antipsychotics</i>	102	12.7%
	<i>Antidepressant & Anxiolytic</i>	59	7.4%
Anxiolytic use	Any Anxiolytic	94	11.7%
	<i>Type: Anxiolytic/Hypnotic-Benzodiazepines</i>	43	5.4%
	<i>Type: Anxiolytic/Hypnotic-Other</i>	56	7%
Other psychiatric medications	Anti-mania Agents	10	1.2%
	Antipsychotics	173	21.52%