Psychopathology and Emotional Distress Among Older High-Utilizing Health Maintenance Organization Patients

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Background. Rates of psychopathology are often underestimated in primary care populations, especially older patient groups. High medical utilization is often a reflection of psychopathology and/or emotional distress. Increased awareness of primary care patients’ emotional distress can help to improve well-being and reduce unnecessary high utilization of medical services. This study aimed to assess the degree of psychopathology present in a sample of older health maintenance organization (HMO) patients who utilized higher-than-average amounts of medical services.

Methods. Patients in a large HMO aged 55 years old and older who exceeded the mean number of inpatient and outpatient visits in the past year were recruited. Sixty-nine patients, mostly female (69%) and white (93%), volunteered. Patients were assessed with the Medical Outcomes Study SF-36 health survey and the Symptom Checklist-90-Revised (SCL-90-R).

Results. Respondents made a mean of 41 visits in the previous year to medical providers, versus 24 visits per year for the average patient of this age in the HMO. Significant elevations on SCL-90-R global psychopathology, obsessive-compulsive, somatization, and depression scales were found. All patients met SCL-90-R criteria for psychiatric caseness. SF-36 health ratings were comparable with those of patients with chronic medical conditions assessed in other SF-36 samples.

Conclusions. Older high-utilizing HMO patients show significantly more psychopathology and view their health status as poorer than that of other medical subpopulations; results suggest that care for these problems is rarely received.

In general medical settings, a small percentage of patients utilizes a disproportionate share of medical services. Katon (1) found that the 15% highest-cost patients accounted for 64% of total health care costs in a primary care setting. Patients who are high utilizers of health care services have a much higher incidence of psychologic distress and psychiatric disorders, in addition to poorer health status, when compared with lower utilizers (2–6). However, there has been little research in older patient populations: this study attempts to address this issue among older health maintenance organization (HMO) patients.

The most common psychiatric disorders found in a general medical setting are panic disorder, somatization, and depression (1, 7–10). The impact on medical utilization of these three common conditions and the associated cost are enormous. Panic disorder is associated with the highest rates of utilization compared with either patients with other psychiatric diagnoses or patients without any psychiatric diagnosis (1). Somatization disorder patients who received care in primary care settings incurred health care utilization costs nine times higher than the U.S. per capita rate (10). In a study of 767 distressed high utilization patients in an HMO population, Katon and colleagues (8) found that patients with depression utilized significantly more nonpsychiatric medical care than patients without depression (8). Conversely, assessing the rates of psychopathology among high utilizing medical patients, these authors found that more than half (51%) of the top 10% of utilizers scored one standard deviation (SD) above the mean on subscales of the Symptom Checklist-90-Revised (SCL-90-R) that measured anxiety, depression, or somatization.

Assessing the prevalence of mental health problems in a probability sample of 8098 U.S. citizens aged 15–54, Kessler and colleagues (11) found that the prevalence of psychiatric disorders in the United States was not only higher than previously expected, but the majority of individuals never sought professional help. Many patients with untreated psychiatric disorders seek medical help for vague or confusing organic symptoms for which underlying and/or comorbid psychiatric problems are often not diagnosed or treated by the primary care provider. Women are not only more willing than men to seek medical help, but show a higher prevalence than men for affective and anxiety disorders (11). In addition, patients with diagnosed psychiatric disorders are seen twice as often, on average, by primary care physicians as those without mental health disorders (12).

It is likely that improved mental health services could reduce unproductive utilization of medical care in a distressed primary care population. A number of studies have assessed this phenomenon in economic terms, titling it cost offset. In a well-known meta-analysis of 58 controlled studies to assess the degree of cost offset, Mumford and colleagues (13) found that psychotherapy resulted in a 10%–33% decrease in medical utilization with an average reduction of 1.5 days in hospital length of stay among patients who accepted referral to mental health services. The cost-offset effect was larger for persons over 55.
years of age. It has been suggested that mental health needs may increase with age and possible social isolation (14); the need for medical services increases with age (3,13), and many elderly people have special mental health needs that are due to such major life changes as retirement or deaths of spouse and friends.

The purpose of the present study is to assess the extent of psychological symptoms and level of subjective distress of a sample of patients aged 55 years and older enrolled in an urban HMO who have not been diagnosed or treated by mental health professionals. We first describe the HMO sample studied, compare our sample with other populations, and describe male and female patients on relevant dimensions. We hypothesize that a sample of older high-utilizing patients will show significant psychopathology and emotional distress.

METHOD

Setting

The study was conducted at a staff-model HMO that serves the urban population center of Utah. At the time of the study approximately 120,000 of the 180,000 total patients enrolled were enrolled in the staff model. Only patients living in the Salt Lake City area and enrolled in the staff model were eligible to participate in the study; this was approximately 70,000 patients. The HMO's population was disproportionately young, with 64% (44,800) of patients being under the age of 35. Only 10% of patients (7,000) were 55 years old or older, the target age range of this study.

Study Population

HMO patients eligible for the study were those whose inpatient and outpatient medical visits for the previous 12 months were above the mean for all patients 55 years old and older. Patients were excluded from eligibility if their visits were likely a result of an acute or a chronic condition typically requiring many medical visits or if they were likely to have a condition that would make it extremely difficult for them to attend additional visits for mental health services. These categories were determined to be as follows: (i) diagnosis of cancer, (ii) dementia, and (iii) prescription for durable medical equipment (DME). The original intent of this last exclusion criterion was to eliminate patients on oxygen maintenance therapy as well as non-ambulatory patients who would have difficulty attending the visits offered in the study. However, the only category in the HMO information system available to encompass these two classifications was DME. This inadvertently resulted in many more exclusions than we had anticipated. Patients who had been prescribed wheelchairs, beds, power carts, walkers, and crutches were excluded, as well as ambulatory patients prescribed slings, splints, prosthetic shoes, support hose, seat lifts, colostomy bags, heat lamps, etc.

Finally, because the study focused on patients not currently likely to be diagnosed with mental health problems, patients were excluded from eligibility if they had been seen by a mental health provider in the 18 months before the study or were Medicaid patients, as such patients were mandated to receive mental health care elsewhere and researchers had no other way to screen them out.

All HMO patients (N = 269) who fit the criteria listed above were contacted by letter to invite their participation in the study. The letter stated that the study was focused on the “stress caused by medical problems” and offered services to reduce the stress of medical problems.

A number of these initially eligible patients (n = 17) were deceased (n = 3), or were no longer members of the HMO (n = 7) or did not meet criteria when actually contacted (n = 7). In addition, it was not possible to reach 40 patients, either because telephone numbers had changed, they had moved, or their telephones were not answered after several attempts. The true eligible sample size therefore totaled 212. Interestingly, of the 143 patients who refused for one reason or another to participate, 23 indicated too much stress or too many medical problems, and 30 indicated that they were doing fine and needed no help. The effective participation rate was 33%.

The study sample consisted of 69 patients, mean age 65 (range 55–79) and ambulatory. The majority of the patients were female (64%), married (77%), and white (93%). A majority were retired (52%); 29% reported being employed, 6% reported being unemployed, and 13% reported that they were homemakers.

Patients had made a mean of 41 visits to HMO medical providers in the previous year, which was 70% greater than the mean for the over-55 HMO population of 24 visits per year as reported through the HMO's management information system. Patients were asked the primary medical problems for which they were being seen, and almost all (83%) indicated that they were being treated for at least one disease (e.g., asthma or diabetes) that would be considered chronic. A few patients (14%) did not answer this question. For the 59 patients who indicated at least one problem, the most commonly reported problem was hypertension/high blood pressure (32%), followed by arthritis (25%), and other cardiac problems (21%). In addition, although patients treated by a mental health specialist in the previous 18 months were excluded from the sample, 6% of the respondents indicated a psychosocial problem. Four patients reported being prescribed psychotropic medications, all tricyclic antidepressants.

Research Design/Methodology

The study was designed as an exploratory case series, consisting of HMO patients who met criteria for high utilization. The study was approved by the HMO Institutional Review Board. Patients who were willing to participate were invited to visit the HMO, complete the informed consent forms, and complete the SCL-90-R and the SF-36. We hypothesized that this sample of patients would show significant psychopathology and emotional distress.

Measures

Participants were asked to complete the SCL-90-R and the SF-36.

The SCL-90-R is a 90-item self-report symptom inventory designed to assess psychopathology psychiatric and general medical patients (14). The instrument is widely used in psychiatric research, and provides norms for three populations: non-clinical norms, mental health inpatient, and mental health outpatient. Each of the 90 items is scored on a 5-point scale (0–4), lower scores indicating less distress (e.g., not at all). The 90
items are scored and interpreted in terms of nine primary symptom dimensions (somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism) and three global indices of distress. The indices provide additional ratings of overall status and are as follows: the global severity index (GSI), which provides a summary measure of depth of the disorder (14, p. 1); positive symptom distress index (PDSI), which measures the intensity of symptoms, regardless of their number; and the positive symptom total (PST), which simply counts the total number of symptoms endorsed. The time period designed to be covered by the questions is the last "seven days including today."

The SCL-90-R was designed to assess a broad range of individuals, from nonpatients to psychiatric inpatients.

Reliability measures for the symptom indices are acceptable, ranging from .77 (psychoticism) to .90 (depression); test–retest reliability ranges from .78 to .90. The instrument operationally defines psychiatric caseness, or the score on a screening device that defines a positive case, as GSI score greater than or equal to a t score of 63, or any two primary dimension scores greater than or equal to a t score of 63. The instrument has been used with patient populations in all adult age ranges.

The SF-36 (15) is a general health survey that yields perceived health scores in the three World Health Organization domains of physical health, social health, and mental health. The domain most closely related to emotional distress is assessed with the mental health scale. The SF-36 was originally developed for the nationwide Medical Outcomes Study. It is widely used in epidemiological studies and is normed on nonpatient, chronic illness, and mental patient samples. The instrument has been used with patient populations in all adult age ranges.

The SF-36 yields raw scores for eight scales (physical functioning, role-functioning physical, bodily pain, general health, vitality, social functioning, role-functioning emotional, and mental health), scored such that 100 is the maximum score and represents the maximal degree of functioning, whereas a score of zero would represent total incapacitation.

Reliability measures for the SF-36 are acceptable, ranging from a low of .78 (general health) to a high of .93 [physical functioning (16,17)]. The instrument has been used with patient populations in all adult age ranges. SF-36 normative data show matched national averages for the general population, psychiatric inpatients, and psychiatric outpatients (higher scores represent more symptoms or more severe symptoms). As the table shows, for four of the nine SCL-90-R symptom scales, both male and female HMO patients' scores were more than one SD above the nonpatient mean, indicating greater psychopathology. Female patients showed additional three symptom scale scores more than one SD above the nonpatient mean. For two of the three summary scales (GSI and PST), HMO patient scores were similarly elevated. When scores were analyzed by gender, female patients' average scores were two SDs above the nonpatient mean for the somatization and depression subscales, and were at close to this level for the obsessive-compulsive subscale. The GSI mean score for this group was also two SDs above the mean. The only scales on which the female patients averaged less than one SD above the mean were the hostility and the paranoid ideation dimensions. In addition, female respondents scored more than one SD above the mean on anxiety, interpersonal sensitivity, phobic anxiety, psychosomatic, GSI, and PST. The HMO male respondents had slightly lower means than female respondents, but still scored almost two SDs above the mean on the obsessive-compulsive subscale.

In terms of global psychopathology as measured by the GSI of the SLC-90-R for both male and female patients, the average patient met the definitions of psychiatric caseness. There were no significant differences between male and female patients on this measure.

Table 2 shows the percentages of male and female patients who scored above a t score of 63 on each of the SCL-90-R scales. As the table shows, more than half the female sample scored above the case level on scales of somatization, depression, and PST. The HMO male respondents had slightly lower means than female respondents, but still scored almost two SDs above the mean on the obsessive-compulsive subscale.

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sion, and the GSI. For the male sample, more than half scored above the case level on scales of somatization, obsessive-compulsive disorder, depression, anxiety, and GSI.

2. Perceived Health and Subjective Distress (SF-36 Data)

Results obtained from the SF-36 are shown in Table 3. The table compares the HMO patients with five comparison groups of chronically ill patients drawn from the National Health Interview Survey and national age-matched samples (19). The study sample scored lower than all five chronic illness comparison groups on each of the SF-36 scales. Some caution should be exercised in interpreting these results, as the mean age for these comparison samples was somewhat lower (41.1) and more predominantly female (90%). With regard to overall perceptions of physical health, the HMO sample had a mean score of 49.9 out of a possible 100. In comparison with scores for the U.S. population as a whole (81.29), this is substantially lower, as might be expected from a medically ill sample. In terms of overall perceptions of mental health, the HMO sample had a mean score of 65.1 out of a possible 100. In comparison with scores for the U.S. population as a whole (80.41), this is also substantially lower. Of the scales that comprise the overall physical health score, the lowest scores were shown on the scale that reflected role-functioning limitations that were due to physical problems (e.g., problems with work or other activities of daily living); the mean score for the HMO sample on this scale was 39.9. This was in fact the lowest score shown of any of the eight SF-36 subscales. Of the scales that comprise the overall mental health score, the lowest scores were shown on the vitality scale, which reflects feelings of energy or pep: the mean score for the HMO sample on this scale was 40.3.

The HMO sample scored lower than a sample of migraine headache sufferers (19) on all scales, and showed scores more than 20 points lower than this comparison group on physical functioning and general health scores. The scores of the HMO sample were also lower than those of the age-matched general U.S. population and lower than comparison samples of patients suffering from migraine, hypertension, osteoarthritis, and diabetes. However, the HMO sample scored highest on the social functioning subscale, which measures perceived interference with social activities stemming from physical and/or emotional problems.

DISCUSSION

The results from this study of older high utilizers in an HMO are consistent with research concerning the psychological distress and psychiatric symptoms of high-utilizing medical patients. Previous research has found that the most common psychiatric disorders in a general medical setting are panic disorder, somatization, and depression (1,7–9,20). The present study found that SCL-90-R symptom patterns associated with

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Table 2. Percentage of Male and Female Patients Scoring Above t Score of 63 on SCL-90-R Scales*

<table>
<thead>
<tr>
<th>Scale</th>
<th>Female Patient</th>
<th>Male Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t Scores Equal to or Greater than 63</td>
<td>t Scores Equal to or Greater than 63</td>
</tr>
<tr>
<td></td>
<td>(n = 44) (%)</td>
<td>(n = 25) (%)</td>
</tr>
<tr>
<td>Somatization</td>
<td>52</td>
<td>64</td>
</tr>
<tr>
<td>Obsessive-compulsive</td>
<td>48</td>
<td>60</td>
</tr>
<tr>
<td>Interpersonal sensitivity</td>
<td>39</td>
<td>36</td>
</tr>
<tr>
<td>Depression</td>
<td>59</td>
<td>56</td>
</tr>
<tr>
<td>Anxiety</td>
<td>34</td>
<td>64</td>
</tr>
<tr>
<td>Hostility</td>
<td>23</td>
<td>46</td>
</tr>
<tr>
<td>Phobia</td>
<td>23</td>
<td>16</td>
</tr>
<tr>
<td>Paranoia</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Psychosis</td>
<td>27</td>
<td>40</td>
</tr>
<tr>
<td>GSI</td>
<td>54</td>
<td>56</td>
</tr>
<tr>
<td>PDSI</td>
<td>41</td>
<td>20</td>
</tr>
<tr>
<td>PST</td>
<td>43</td>
<td>44</td>
</tr>
</tbody>
</table>


Table 3. Mean SF-36 Health Survey Scores for High Utilizers Compared With General U.S. Population and With Chronic Conditions

<table>
<thead>
<tr>
<th>Scale</th>
<th>Patients (n = 69)</th>
<th>U.S. Population Mean &gt;55 (n = 729)</th>
<th>Migraine (n = 546)</th>
<th>Osteoarthritis (n = 194)</th>
<th>Type II Diabetes (n = 445)</th>
<th>Hypertension (n = 1316)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical functioning</td>
<td>55.9 ±28.0</td>
<td>66.9 ±23.7</td>
<td>83.2 ±24.8</td>
<td>81.9 ±3.3</td>
<td>86.6 ±2.1</td>
<td>89.5 ±1.2</td>
</tr>
<tr>
<td>Role-functioning physical</td>
<td>39.9 ±38.9</td>
<td>60.2 ±21.2</td>
<td>54.0 ±28.9</td>
<td>66.5 ±1.5</td>
<td>76.8 ±2.1</td>
<td>79.0 ±2.5</td>
</tr>
<tr>
<td>Bodily pain</td>
<td>50.5 ±21.1</td>
<td>66.1 ±24.9</td>
<td>51.3 ±3.0</td>
<td>69.7 ±3.3</td>
<td>82.8 ±2.1</td>
<td>83.8 ±1.5</td>
</tr>
<tr>
<td>General health</td>
<td>49.9 ±22.5</td>
<td>66.5 ±28.3</td>
<td>70.1 ±25.9</td>
<td>70.4 ±2.4</td>
<td>66.9 ±1.8</td>
<td>72.6 ±1.5</td>
</tr>
<tr>
<td>Vitality</td>
<td>40.3 ±22.4</td>
<td>57.4 ±23.9</td>
<td>50.9 ±25.9</td>
<td>57.0 ±3.0</td>
<td>61.4 ±1.8</td>
<td>62.7 ±1.8</td>
</tr>
<tr>
<td>Social functioning</td>
<td>68.1 ±28.4</td>
<td>79.0 ±41.0</td>
<td>71.1 ±43.6</td>
<td>90.1 ±2.9</td>
<td>89.4 ±2.3</td>
<td>92.1 ±1.4</td>
</tr>
<tr>
<td>Role-functioning emotional</td>
<td>63.7 ±37.9</td>
<td>76.3 ±41.2</td>
<td>66.5 ±37.9</td>
<td>85.5 ±5.1</td>
<td>80.7 ±2.7</td>
<td>79.6 ±3.0</td>
</tr>
<tr>
<td>Mental health</td>
<td>65.1 ±18.2</td>
<td>75.5 ±35.6</td>
<td>66.4 ±33.8</td>
<td>76.5 ±2.3</td>
<td>76.6 ±1.8</td>
<td>77.3 ±1.3</td>
</tr>
</tbody>
</table>

Note: ± = SD.
these types of disorders were also prominent among the HMO sample of older high utilizers. In addition, among male patients, obsessive–compulsive symptomatology was surprisingly prevalent. In this study both men and women scored significantly higher than the general population on measures of somatization and depression. In addition, high-utilizing male patients scored higher on psychoticism than the general population.

Even though these high-utilizing patients were not being seen by mental health professionals, on average their SCL-90-R scores were more similar to those of psychiatric patients than to those of the medical population in general. Also, the study population scored lower on the SF-36 self-report measure of overall general health than patients with a variety of chronic illnesses. Despite the range of psychiatric diagnoses for which these patients might qualify, none were being treated as far as could be ascertained from this study.

Other research has shown that the majority of individuals with psychiatric disorders never seek professional mental health help (9). The present results cannot address this question, as patients seeking mental health help were excluded, but the results do show that individuals with diagnosable psychiatric disorders seek large amounts of help from medical providers, which is costly to the system and probably ineffective in treating the condition. One implication of this study is that mental health professionals may need to help primary care medical providers recognize the mental health needs of the older, higher-utilizing patient who may have psychiatric problems but will not seek mental health help. This has implications not only for the psychological well-being of such patients but also in helping reduce the medical cost (cost offset).

In terms of general health as measured by the SF-36, these HMO patients scored lower than patient samples from four out of five chronic illnesses (migraine patients being the exception). These lower scores suggest that poorer perceived physical and emotional health and poorer quality of life would be revealed by our results if our exclusion criteria had been less restrictive. These findings may be considered a conservative estimate of the suffering and the disability produced by untreated psychopathology in this older population.

The low response rate limits the confidence with which one can generalize from these findings; one does not know if the nonresponders were psychologically more or less disturbed than the responders. Of those nonresponders who told us why they did not want to participate, 23 (43%) admitted to being too distressed medically or psychologically to participate and 30 (57%) reported not being interested because they were not experiencing distress at this time. In addition, it may be the case that respondents who require DME are also more described than those who do not. However, either or both of these two possibilities would likely increase the levels of somatopsychiatry and distress observed in our sample.

The lack of norms for older patients on the SCL-90-R also limits the present findings, as comparisons with the groups on which these patients are being compared are not age adjusted. We are aware of no research that uses these instruments with an exclusively older population. It has been suggested in at least one study that older men as well as women show an increase in obsessive–compulsive symptoms compared with younger populations (21); however, further work showing changes in overall mental health in older populations would be helpful.

The average age of the U.S. population is increasing while funds to meet the medical needs of older patients are becoming increasingly limited. Methods must be found to appropriately meet the medical and psychological needs of high-utilizing older patients in a cost-effective manner. Research that shows a cost offset from mental health intervention appears encouraging as part of an answer to meet these needs. However, more research needs to be done, particularly among older populations, to determine appropriate treatment intensity and modality. Work is also needed to determine which providers—psychologists, primary care physicians, or others—can best identify and appropriately treat or refer such patients. The clear implication of the present findings is that psychological distress is prominent in this patient population and that patients would benefit from having their problems recognized and treated.

An important question unaddressed in the present study is the linear relationship between utilization and disturbance. Although the present findings show a relationship between high utilization of primary care and increased psychopathology, we are not able to specify further a link between amount of use and level of disturbance. Largely because of the way in which the initial high-utilizing sample was identified (upper half of the distribution), specific numbers of visits were unavailable (because of changes in the ownership of the HMO that took place at the close of our study, it is impossible to retrieve this data). Future studies should address this question more directly, particularly with a larger sample.

High medical utilization in and of itself should be a red flag to primary care systems that possible untreated psychopathology or emotional distress exists. At the minimum, clinicians should carefully assess such patients' mental health status. In future work, we intend to assess the feasibility of providing enhanced mental health services to those patients whose utilization profiles suggest that they may benefit from it.

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