Behavioral Health Problems in Medical Patients

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ABSTRACT

- **Objective:** To describe the clinical presentations of medical patients attending a behavioral health clinic staffed by medical residents and faculty in the patients’ usual medical setting.
- **Methods:** We extracted the following clinical data from the patients’ electronic medical records: duration of problem; symptom presentation; symptom types; use of narcotics, antidepressants, benzodiazepines, antipsychotics, and mood stabilizers; impairment/disability; PHQ-9 scores and DSM-V diagnoses; and prior care from behavioral health professionals.
- **Results:** There were 64 patients, with an average age of 48.6 years. 68.8% were female, and 81.3% had had the presenting problem > 5 years. Presentation was psychological in 21/64 (32.8%), physical in 16/64 (25%), and both in 27/64 (42.2%). Patients averaged 3.3 common comorbid medical disease diagnoses. DSM-V diagnoses averaged 2.3 per patient; 30/64 (46.9%) had somatic symptom disorder, 27/64 (42.2%) had major depressive disorder, and 24/64 (37.5%) had generalized anxiety disorder. Social and economic impairment was present in > 70%. Some narcotic use occurred in 35/64 (54.7%) but only 7/35 (20.0%) were on unsafe doses; 46/64 (71.9%) took antidepressants but only 6/46 (13.0%) were on subtherapeutic doses. Averaging 71.9 months in the same clinic, only 18/64 (28.1%) had received behavioral health care for the presenting problem, and only 10.9% from psychiatrists.
- **Conclusion:** We described the chronic behavioral health problems of medical patients receiving behavioral care in their own medical setting from medical residents and faculty. These data can guide educators interested in training residents to manage common but now unattended behavioral health problems.

Patients with “any DSM behavioral health disorder” (mental health and substance use problems) account for 25% of patients seen in medical clinics [1]. These patients frequently present with poorly explained and sometimes confusing physical symptoms, and less often with psychological symptoms [2,3]. Common complaints in this population include chronic pain in almost any location, bowel complaints, insomnia, and fatigue [4]. Multiple somatic symptoms and increasing severity of symptoms correlate with the likelihood of an underlying depressive or anxiety disorder [5]. Unfortunately, medical physicians often do not recognize behavioral health problems and provide inadequate treatment for those they do [5].

As part of a Health Resources and Services Administration (HRSA) grant to develop behavioral health training guidelines for medical residents [6], we developed a special clinic for these patients. The clinic was located in their regular clinic area, and care was provided by medical residents and faculty. The objective of this paper is to describe the clinical presentation of patients attending the behavioral health care clinic, thus highlighting the common problems for which medical physicians are increasingly called upon to diagnose and treat.

METHODS

We are in the third year of a 5-year HRSA grant to develop a method for teaching residents a primary care behavioral health care treatment model based on patient-centered, cognitive-behavioral, pharmacologic, and teamwork principles [6]. It is derived from consultation-liaison psychiatry, multidisciplinary pain management, and primary care research [7–10] and adapted for medical physicians. Described in detail elsewhere [6], we intensively train PGY-2 and PGY-3 residents in the

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### Behavioral Health Problems

**Table 1. Announcement Seeking Referrals to the Complex Patient Clinic**

1. We are initiating a Complex Patient Clinic.
2. Complex Patients are any patients posing difficulties in diagnosis or treatment. While these could be a pure disease diagnosis or treatment problems, we expect that most will have psychosocial issues in association with their disease problems:
   - medically unexplained symptoms, especially chronic pain
   - depression, including suicidal ideation and bipolar disorder
   - anxiety and panic disorders
   - drug/alcohol misuse, including problems around prescription narcotics and other addicting substances
   - nonadherence with treatment regimens
   - grief
   - stress
   - sexual concerns
   - working with families
   - end of life issues
   - difficulty accessing community resources
   - psychosis
   - personality disorders
   - declining cognitive skills
3. We are seeking referrals to this Complex Patient Clinic from faculty and residents with the following understanding:
   - That they are not already under effective, ongoing care from a mental health professional
   - Patients will remain under the care of their referring PCP while we are consulting. We envision seeing some patients only 1-2 times and others more frequently but not on a long-term, chronic care basis. We seek, rather, to provide consultation for management by the referring PCP
   - Depending on volume, we may not be able to accept some patients
   - We do not provide emergency care or same-day appointments for this once weekly clinic
   - Patients will be billed just as they now are
   - The PCP first discusses the referral with the patient and documents in the medical record their approval; we cannot see them without this documentation. Please use the term “complex” in presenting this clinic referral to the patient, and do not use terms like mental health, psychiatry, or counseling. Patients should be told they will be seen primarily by primary care physicians in the same clinic setting, but that mental health professionals and case managers also will be involved, and that we will provide recommendations to their PCP in the EMR (also, sometimes, in person) or, in some cases, follow them over the short-term, co-managing with their own physician.
4. To make the referral, use the EMR and refer to 'Complex Patient Clinic,' including that the patient has agreed. We will then schedule them for an appointment within 1-2 weeks.

Complex Patient Clinic (CPC), the name we applied to a behavioral health care clinic and the focus of this report.

**Theoretical Base**

The theoretical basis for this approach is general system theory and its medical derivative, the biopsychosocial (BPS) model [11]. In describing prevalent but overlooked behavioral health problems of patients attending our CPC, we underscore the importance of the BPS model relative to the prevailing biomedical, disease-only model. The latter does not include behavioral or psychosocial dimensions, the result being that they are largely excluded from medical education and, hence, overlooked in practice. The BPS model provides the theoretical basis for including these behavioral health patients in teaching and care.

**Patients**

Table 1 presents the flyer sent to internal medicine and family medicine residents and faculty to request referrals to the CPC. It indicates the types of patients to consider, emphasizing any difficult diagnostic or treatment problem such as patients with medically unexplained symptoms, depression, anxiety, and substance abuse; the flyer also indicates that emergency patients and patients already under care of a psychiatrist are excluded. Patients were referred
by specialist and primary care faculty as well as residents via the electronic medical record (EMR). Referring physicians discussed the referral with the patient and obtained their approval. They emphasized that the CPC was in the same clinic area, that it was supervised by both medical and psychiatry faculty, that they would be seen by medical physicians being trained, that the same clinic case manager would be involved, that video monitoring of their interaction would be requested for teaching purposes, and that they, as referring physician, would continue to be involved in care. Patients registered at the usual desk, waited in the regular clinic waiting room, and were escorted into the room by the clinic medical assistant who explained the consent procedure for monitoring and reviewed the form they would be asked to sign. The resident (or faculty) trainee requested that the interaction be observed via the computer. If signed permission was not obtained, the consultation proceeded without video monitoring. Two patients refused to sign permission. Institutional review board approval was obtained for the project.

**Observations**

The CPC uses 3 examination rooms for one half-day a week in the usual resident and faculty area of the Clinical Center of Michigan State University Department of Medicine. Rooms are similar to other clinic examination rooms except that a second computer attached to small audio video recorder is placed on the physician’s desk. Visible to the patient, it broadcasts live the patient-resident interaction to a nearby room where teaching faculty observe the interaction on a computer linked by a special software program (Vidyo, Hackensack, NJ) [12]. Access and control of Vidyo virtual rooms is restricted and rooms can only be entered by participating faculty using pre-assigned usernames and passwords. No recordings of the interactions are made.

Training faculty and the resident reviewed the patient’s EMR before each interaction and faculty continued to review it while observing the interaction. Both faculty and trainee documented information in the EMR in the fashion used with other patients.

**Data**

Guided by principles of chart review and others doing similar work [13], we constructed a coding sheet (Table 2) for data extraction. Items A through J in Table 2 are routinely collected in all clinic patients. Items K through P were included in response to the literature indicating that behavioral health problems are chronic and present predominantly with physical, often pain, symptoms and that comorbid physical problems were common [2,3]. Items Q through U identified medications commonly used in this population. Morphine equivalents were calculated, using an adaptation of the literature, to quantify prescription substance use [14]. Because mortality rises significantly at 80 to 120 morphine equivalents per day, we used levels > 120 to represent an “unsafe dose” [15]. Therapeutic doses of antidepressants were obtained to inform the frequent finding that physicians use inadequate doses [16] and were based on “usual doses” outlined in a standard primary care psychiatry textbook [17]. Items V through X informed the degree of disability in what may be a very disabled population [18]. This was the one area in data extraction that required interpretation for assessments of physical, economic, and social disability. We reviewed several disability scales, especially those concerning pain, and adapted these self-report scales for our purposes of extracting disability information from a medical record [19,20]. Major impairment/disability was defined as any one of the first three categories for each item. Item Y informed the level of depression observed on the Patient Health Questionnaire-9 (PHQ-9) [21], while Item Z represented the diagnoses established by psychiatry and trained medical faculty based on the Diagnostic and Statistical Manual of Mental Disorders – 5th edition (DSM-V) [22]. Items AA through AC identified how much current and prior care behavioral care patients had received from mental health professionals (psychiatry, psychology, other counselors) and how long they had been cared for in the medical clinic [5].

Two authors, RCS and AD, independently reviewed the EMR records of CPC visits, including follow-up visits and free text sources, and recorded results on an Excel spreadsheet; records of visits prior to CPC consultation were not reviewed nor were later non-CPC visits. They abstracted chart information on the first 5 patients and then updated and refined criteria. This was repeated again for the next 5 patients and near 100% agreement was obtained on all items except disability where > 90% agreement was achieved. All subsequent ratings were independently obtained and any differences were then jointly resolved in this extraction of mostly straightforward descriptive data. RCS is a senior faculty active in teaching and AD is a senior medical resident rated as superior by her faculty.
### Table 2. Data Extraction Protocol

**Demographic**
- A. Patient number (list)
- B. Date of initial visit: (list)
- C. Age at intake: (list)
- D. Gender: 1) Male; 2) Female; 3) Other
- E. Insurance type: 1) Self-pay; 2) Medicaid; 3) Medicare; 4) Ingham Health Plan; 5) McLaren; 6) Blue Cross/Blue Shield; 7) Physicians Health Plan; 8) Other
- F. Race: 1) Caucasian; 2) Hispanic; 3) African-American; 4) Asian; 5) Other
- G. Ethnicity: 1) Hispanic/Latino; 2) non-Hispanic/Latino
- H. Current cigarette smoker: 1) yes; 2) no
- I. Preferred language: 1) English; 2) Other
- J. BMI: (List)

**Presentation**
- K. Presentation mode: 1) Physical symptoms; 2) Psychological symptoms; 3) Both
- L. Duration of presenting problem: 1) < 6 months; 2) 6-12 months; 3) 12-24 months; 4) 2-5 years; 5) > 5 years

**Symptoms**
- M. Physical symptoms of presenting problem—Pain: 1) low back pain; 2) neck pain; 3) joint/muscular pain; 4) headache; 5) abdominal pain; 6) chest pain; 7) pelvic pain; 8) other pain
- N. Physical Symptoms of Presenting Problem—Non-Pain: 1) diarrhea/constipation; 2) vertigo; 3) fatigue; 4) nausea/vomiting; 5) visual; 6) impotence; 7) palpitations; 8) dyspnea; 9) insomnia; 10) pseudo-neurological; 11) confusion; 12) other
- O. Psychological symptoms of presenting problem: 1) depression; 2) suicidal; 3) anxiety/fear/worry; 4) hypomanic/manic; 5) irritability; 6) hallucinations; 7) delusions; 8) obsessions/intrusive thoughts/compulsions; 9) poor attention span; 10) impulsive; 11) flashbacks; 12) nightmares; 13) avoidance/fear of people/places; 14) grief; 15) other

**Comorbid disease (record up to 5 major problems)**
- P. Comorbid physical disease diagnoses: 1) DM; 2) HBP; 3) COPD; 4) obstructive sleep apnea; 5) asthma; 6) other pulmonary; 7) GERD; 8) acid peptic disease; 9) constipation/diarrhea; 10) other GI; 11) coronary artery disease; 12) congestive heart failure; 13) peripheral vascular disease; 14) other cardiac/vasc; 15) cancer anywhere; 16) other hem-onc; 17) any genitourinary; 18) endocrine; 19) any otolaryngology; 20) musculoskeletal; 21) rheumatologic; 22) migraines; 23) other headache; 24) any infectious disease; 25) stroke; 26) convulsive disorder; 27) other neurological; 28) narcotic bowel; 29) narcotic, other; 29) other

**Medications**
- Q. Narcotic medications: (list in morphine equivalents)
- R. Antidepressant medications: 1) sub-therapeutic dose; 2) full dose; 3) none
- S. Benzodiazepine medications: 1) diazepam; 2) alprazolam; 3) chlordiazepoxide; 4) clonazepam; 5) other
- T. Antipsychotic medications: 1) haloperidol; 2) clozapine; 3) risperidone; 4) olanzapine; 5) quetiapine; 6) ziprasidone; 7) aripiprazole; 8) other
- U. Mood stabilizers, anticonvulsants, and stimulants: 1) carbamazepine; 2) lithium; 3) lamotrigine; 4) valproic acid; 5) topiramate; 6) gabapentin; 7) methylphenidate; 8) amphetamine/dextroamphetamine; 9) other

**Disability**
- V. Physical status: 1) total incapacity, need help with most things; 2) able to be active in-home and care for self but restricted; 3) unrestricted home activities but needs help outside; 4) active outside but restricted; 5) fully active without restrictions
- W. Economic status: 1) complete disability; 2) no gainful employment; can do housework and minor jobs; 3) able to work but not at desired job; 4) able to work at desired job but restricted; 5) able to perform prior work without restriction 6) retired
- X. Social status: 1) unable to function with family/friends/leisure activities desired; 2) able to participate passively but very restricted; 3) able to be active but still restricted; 4) able to fully engage all levels but restricted; 5) able to fully engage w/o restrictions

**Diagnoses**
- Y. PHQ-9: (list actual value)
- Z. DSM-V Axis I diagnoses: 1) MDD; 2) sub-MDD (subsyndromal); 3) bipolar disorder; 4) other depression; 5) generalized anxiety disorder; 6) any phobia; 7) obsessive compulsive disorder; 8) other anxiety; 9) ADHD; 10) PTSD; 11) body dysmorphic disorder; 12) other psychotic disorder; 13) dysthymia; 14) conversion disorder; 15) somatic symptom disorder; 16) grief 17) substance abuse, street (heroin, cocaine, etc.); 18) substance abuse, prescription; 19) any alcohol abuse; 20) other; 21) organic disorder with psychiatric complications (psychological factors affecting medical condition)

**Prior History**
- AA. Prior behavioral health care: 1) psychiatry; 2) psychology/counselor; 3) both; 4) none
- AB. Presently under care of a mental health professional (MHP): 1) psychiatry; 2) other MHP; 3) both 4) none
- AC. How long in our medical clinic: (list in months)
RESULTS

Of 77 patients referred between 19 February 2013 and 10 December 2013, 13 (16.9%) did not complete the first scheduled or any subsequently scheduled appointments, while the remaining 64 patients (83.1%) completed referral to the CPC. Of the 64 attending the CPC, 6 (9.4%) missed the first appointment but made their first visit an average of 36.2 days later. The mean age was 48.6 years (range 25–75), 44/64 (68.8%) were women, 55/64 (85.9%) were Caucasian, 60/64 (93.8%) were non-Hispanic/Latino, and 63/64 (98.4%) were English speaking. All had insurance of some type, and 25/64 (39.1%) were Medicaid patients. Of 3583 total patients seen in the referring clinics during the same period, we found a mean age of 57 years (range, 17–97), 53% women, 75% Caucasian, 95% non-Hispanic/Latino, 97% English-speaking, and 9% Medicaid.

Current cigarette smokers were 22/64 (34.4%) of the population, higher than in national databases but similar to many behavioral health populations [23]. The BMI was 25 or less in 21/64 (32.8%), similar to the national distribution demonstrating that approximately 2/3 of patients are overweight or obese; 12/64 (18.8%) had a BMI of 25–30 (overweight), lower than national data, and 33/64 (51.5%) had a BMI >30 (obese), higher than national data [24]. Similar increased rates of obesity are found in other behavioral health populations [25].

Mode of Symptom Presentation

Psychological symptoms were the sole mode of presentation in 21/64 (32.8%), while physical symptoms were the sole presenting complaint in 16/64 (25.0%). Combined psychological and physical symptoms were the predominant pattern at 27/64 (42.2%). Thus, 43/64 (67.2%) had physical symptoms and 48/64 (75.0%) had psychological symptoms at presentation. The mean duration of presenting symptoms was > 5 years in 52/64 (81.3%); only 5/64 (7.8%) had symptoms < 12 months in duration.

Presenting Symptoms

Psychological symptoms were present in 60/64 (93.8%) and averaged 1.8 per patient. Depression and anxiety/fear were the predominant psychological symptoms (Table 3).

Pain symptoms were present in 53/64 (82.8%) and averaged 1.9 per patient. The details presented in Table 3 demonstrate a high frequency of musculoskeletal problems.

<table>
<thead>
<tr>
<th>Psychological (1.8 Per Patient)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
</tr>
<tr>
<td>Anxiety</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td><strong>Physical – Pain (1.9 Per Patient)</strong></td>
</tr>
<tr>
<td>Musculoskeletal</td>
</tr>
<tr>
<td>Low back</td>
</tr>
<tr>
<td>Headache</td>
</tr>
<tr>
<td>Neck</td>
</tr>
<tr>
<td>Abdominal</td>
</tr>
<tr>
<td>Chest</td>
</tr>
<tr>
<td>Pelvic</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td><strong>Physical – Other (1.5 Per Patient)</strong></td>
</tr>
<tr>
<td>Insomnia</td>
</tr>
<tr>
<td>Fatigue</td>
</tr>
<tr>
<td>Bowel</td>
</tr>
<tr>
<td>Nausea/vomiting</td>
</tr>
<tr>
<td>Pseudo-neurological</td>
</tr>
<tr>
<td>Confusion</td>
</tr>
</tbody>
</table>

Non-pain physical symptoms were present in 45/64 (70.3%) and averaged 1.5 per patient. There was a very high frequency of insomnia (Table 3).

Comorbid Physical Diseases

Comorbid diseases were present in 62/64 (96.9%) and averaged 3.3 per patient. There was a large number of muscular/skeletal/rheumatologic, hypertension, gastroesophageal reflux disease, and migraine diagnoses (Table 4).

Medications

Narcotic use was found in 35/64 (54.7%) patients; of these, 23/35 (65.7%) were using 80 or fewer morphine equivalents and 12/35 (34.3%) were using > 80 morphine equivalents, only 7/35 (20.0%) at > 120 morphine equivalents. Thus, only the latter took unsafe doses. There was no narcotic use in 29/64 (45.3%).

Antidepressant use was found in 46/64 (71.9%); only 6/46 (13.0%) were on subtherapeutic doses while 40/46 (87.0%) were on “usual therapeutic” doses. There was no antidepressant use in 18/64 (28.1%).
**BEHAVIORAL HEALTH PROBLEMS**

**Table 4. Comorbid Diseases (3.3 Per Patient)**

<table>
<thead>
<tr>
<th>Condition</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musculoskeletal</td>
<td>31/62</td>
<td>50.0</td>
</tr>
<tr>
<td>Hypertension</td>
<td>25/62</td>
<td>40.3</td>
</tr>
<tr>
<td>GERD</td>
<td>19/62</td>
<td>30.6</td>
</tr>
<tr>
<td>Migraine</td>
<td>18/62</td>
<td>29.0</td>
</tr>
<tr>
<td>Any genitourinary</td>
<td>17/62</td>
<td>27.4</td>
</tr>
<tr>
<td>Hematological/oncological</td>
<td>14/62</td>
<td>22.6</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>13/62</td>
<td>21.0</td>
</tr>
<tr>
<td>COPD</td>
<td>7/62</td>
<td>11.3</td>
</tr>
<tr>
<td>Other gastrointestinal</td>
<td>7/62</td>
<td>11.3</td>
</tr>
<tr>
<td>Other endocrine</td>
<td>7/62</td>
<td>11.3</td>
</tr>
<tr>
<td>Other</td>
<td>5-10</td>
<td></td>
</tr>
</tbody>
</table>

COPD = chronic obstructive pulmonary disease; GERD = gastroesophageal reflux disease.

Benzodiazepine use was found in 31/64 (48.4%), antipsychotic use in 8/64 (12.5%), and mood stabilizer use in 10/64 (15.6%).

**Impairment/Disability**

Major physical impairment was present in 27/64 (42.2%), major economic impairment was present in 45/64 (70.3%), and major social impairment occurred in 49/64 (76.6%).

**Diagnoses**

The PHQ-9 was available in 41/64 (64.1%) of cases. Of these, it was < 5 (normal) in 3/41 (7.3%), from 5–10 (mild depression) in 11/41 (26.8%), from 10–15 (moderate depression) in 13/41 (31.7%), from 15–20 (severe depression) in 3/41 (7.3%), and > 20 (very severe depression) in 11/41 (26.8%).

All 64 patients had DSM-V diagnoses and averaged 2.3 per patient, the details in Table 5 demonstrating the high frequency of somatic symptom disorder, major depressive disorder, and generalized anxiety disorder.

**Prior Care History**

Behavioral health care for problems prior to the presentation problem had been received by 27/64 (42.2%): 11/27 (40.7%) from non-psychiatrists, 10/27 (37.0%) from psychiatrists, and 6/27 (22.2%) from both. Behavioral care for the presentation problem had been received by only 18/64 (28.1%): 11/18 (61.1%) from non-psychiatrists, 3/18 (16.7%) from psychiatrists, and 4/18 (22.2%) from both. Thus, of all 64 CPC patients, only 7 (10.9%) had received psychiatric care. Patients had received care in the same medical clinic for an average of 71.9 months.

**DISCUSSION**

We identified the clinical profile of medical patients referred to a behavioral health care clinic. Located in the patients' usual clinic area, care in the CPC was provided by medical residents and faculty. CPC patients were predominantly middle-aged, female, white, and non-Hispanic/Latino. Obesity and tobacco use were greater than in the general population but at levels often found in psychiatric populations [23,25]. Presenting symptoms of most patients were of > 5 years' duration. The most common presentation was a combination of psychological and physical symptoms rather than either alone. Psychological symptoms were mainly depression and anxiety, while physical presentations primarily involved insomnia and many types of pain. These findings parallel the literature, except that psychological symptoms were more prominent than often reported [2,3]. This may indicate better recognition by referring physicians (and thus referral) of patients having a psychological presentation [26].

On average, there were 3.3 common comorbid physical disease diagnoses and 2.3 DSM-V diagnoses in each patient. The most common DSM-V diagnoses were...
somatic symptom disorder (46.9%), major depressive disorder (42.2%), and generalized anxiety disorder (37.5%) [22]. Representing diagnoses with which residents likely would have less recognition, several other disorders were in the 5% to 15% range: bipolar disorder, PTSD, various types of substance abuse, ADHD, psychological factors affecting medical conditions, and dysthymia.

Based on the literature and frequent comments from faculty and residents, we had expected greater narcotic use, especially at unsafe levels [27]. But, nearly half were taking none. Of those taking narcotics, only 20% received unsafe doses (more than 120 morphine equivalents). At odds with the literature citing frequent subtherapeutic antidepressant use by physicians [16], only 13.0% of the 71.9% taking antidepressants were at subtherapeutic levels. This suggests that referring physicians were not remiss when prescribing a single drug and that multiple drugs may be necessary [28]. Referring physicians may not be comfortable initiating and managing these more complex regimens. The narcotic and antidepressant practices by referring physicians suggested that the patients referred were more complex than can be addressed by good general medical care (low-dose narcotics and full-dose antidepressants). The complexity of these patients is further suggested by the PHQ-9 data, which indicated that more than one-third were in the severe to very severe range for depression [21]. The extent of economic and social impairment was striking (>70%).

Even though these patients had been in the same medical clinic for nearly 6 years, only 28.1% had received behavioral health care for the presenting problem, and only 10.9% by a psychiatrist [5]. This suggests failure to recognize the problem [5] and/or the inability to access increasingly unavailable psychiatric consultation [29]. The latter is consistent with the literature that psychiatrists care for <15% of all mental health patients [30], are of insufficient numbers in 96% of U.S. counties [31], and that most medical physicians find it nearly impossible to obtain a psychiatric consultation [29]. We also demonstrated behavioral health patients' ready acceptance of behavioral health consultation in a medical setting by medical physicians. The 16.9% no-show rate for referrals to the CPC compares favorably to completion of psychiatry referrals where 50% to 60% no-show rates are not uncommon [32]. While our results may be due to decreased stigma in a medical setting [33], they likely also reflect that direct appointments were made by the referring physician at the time of the appointment (rather than the frequent psychiatry practice of having the patient make the appointment later by telephone), and that there was no more than a 1- to 2-week waiting period [34].

There were important limitations. The patient population from this small academic medical center may vary from that seen in different clinic types, and its physicians may differ in their referral practices. Although it is possible that our results are unique to the CPC and not generalizable, the similarity of our patients to those reported in the survey literature of primary care strongly suggests that these are indeed the types of patients who would be referred to and attend such clinics elsewhere. Patients also were mostly white, so the results may not apply in other populations. Further, some reports indicate using unstructured records from the EMR alone for diagnosing depression has significant limitations [35]. We did not have structured data, and the quality of documentation cannot be assured. A further limitation is that we did not verify our findings by talking with the physicians or with the patients, nor did we use formal diagnostic tools administered to patients, such as the World Health Organization Composite International Diagnostic Interview [36], to establish independently our DSM-V diagnoses [22]. Nevertheless, CPC diagnoses were made by experienced clinicians familiar with DSM-V.

**Conclusion**

This descriptive research demonstrated the clinical presentation of behavioral health patients when consultation was provided by medical physicians in their usual clinic. We have identified the types of patients for which educators may want to prepare their residents (and students) and for which practitioners can seek continuing education. Specifically, we demonstrated that learners will need to know how to diagnose and manage patients presenting with many different physical symptoms, often difficult to explain on a disease basis. Further, they will need to recognize that the usual mode of presentation of a primary care behavioral health problem, typically underlying depression and anxiety, is with multiple physical symptoms [37]. Learners will, in turn, need to be taught the relational, cognitive behavioral, pharmacologic, and teamwork principles that must be used in treatment [37]. Nevertheless, practically speaking, training practitioners has been ineffective [38], and training residents and students would not yield results for many years. Thus, these data also highlight the need for increased training of consultation-liaison and other psychiatrists. The well-
established success of collaborative care [39] warrants increased support, as do related team efforts such as the patient-centered medical home. As well, more support for services and implementation research is badly needed to facilitate behavioral care in the medical setting.

The well-trained physician of the future can greatly complement these current efforts. If we can address all the multiple factors involved, we can look ahead to a much changed behavioral health care scene in 10 to 15 years [40].

Acknowledgements: The authors would like to acknowledge key advisory roles played by the following parts of our team in developing this project. Heather Spots, MSW, advised and participated in team management. Jose Herrera, MD, was crucial in providing psychiatry continuity in the Complex Patient Clinic. Carmen Meerschaert, MD, played a key initial role in developing the structure of the Complex Patient Clinic. Gerard Plantagenes, MS, was responsible to developing and ensuring the function of our internet technology work in the Complex Patient Clinic.

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Funding/support: We are grateful for the generous support from the Health Resources and Services Administration (HRSA) (DS3HP23259) that provides the opportunity to develop this curriculum and produce papers from it. HRSA had no role in the study design; collection, analysis, and interpretation of data; writing the report; or in decision to submit the article for publication.

Financial disclosures: None.

Author contributions: conception and design, FCD, DD, JF, AD, DS, RCS; analysis and interpretation of data, FCD, AD, KGS, DS, RCS; drafting of article, FCD, HLF, LF, DD, JF, AD, KGS, DS, RCS; critical revision of the article, FCD, HLF, LF, DD, JF, AD, KGS, DS, RCS; provision of study materials or patients, FCD, HLF, LF, RCS; statistical expertise, AD, KGS, DS; obtaining of funding, FCD, LF, RCS; administrative or technical support, FCD, HLF, KGS, RCS; collection and assembly of data, AD, RCS.

REFERENCES


