Physician Staffing for the Practice of Psychosomatic Medicine in General Hospitals: A Pilot Study

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Background: *The treatment of psychiatric illnesses, prevalent in the general hospital, requires broadly trained providers with expertise at the interface of psychiatry and medicine. Since each hospital operates under different economic constraints, it is difficult to establish an appropriate ratio of such providers to patients.* **Objective:** *The authors sought to determine the current staffing patterns and ratios of Psychosomatic Medicine practitioners in general hospitals, to better align manpower with clinical service and educational requirements on consultation–liaison psychiatry services.* **Method:** *Program directors of seven academic Psychosomatic Medicine (PM) programs in the Northeast were surveyed to establish current staffing patterns and patient volumes. Survey data were reviewed and analyzed along with data from the literature and The Academy of Psychosomatic Medicine (APM) fellowship directory.* **Results:** *Staffing patterns varied widely, both in terms of the number and disciplines of staff providing care for medical and surgical inpatients. The ratio of initial consultations performed per hospital bed varied from 1.6 to 4.6.* **Conclusion:** *Although staffing patterns vary, below a minimum staffing level, there is likely to be significant human and financial cost. Efficient sizing of a PM staff must be accomplished in the context of a given institution's patient population, the experience of providers, the presence/absence and needs of trainees, and the financial constraints of the department and institution. National survey data are needed to provide benchmarks for both academic and non-academic PM services.*
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In most general hospitals, psychiatric consultants, that is, practitioners of Psychosomatic Medicine (PM), are called upon to identify and treat psychiatric symptoms and diagnoses; however, some authors have speculated on whether this care should be provided by PM practitioners or by primary-care providers. Because medical and surgical inpatients with comorbid psychiatric conditions incur substantially higher medical costs, effective, value-added treatments and interventions are needed.[1–4] Timely, successful psychiatric treatment reduces length of stay (LOS), hospital costs, and the prevalence of untreated or undertreated psychiatric illness.[1,5,6] Inadequate staffing results in having no back-up coverage during physician absences and little or no ability to provide follow-up care for patients.

Approximately 20%–40% of medical inpatients meet DSM–IV criteria for a psychiatric diagnosis; of these, depression, anxiety, substance abuse, delirium, and dementia are among the most common problems encountered.[7–9] Specialized units, including ICUs, palliative care, and oncology, typically report an even higher prevalence of psychiatric disorders, especially delirium.[10] Obstacles to providing psychiatric care are abundant and include the following: failure of medical and surgical practitioners to recognize psychiatric syndromes; failure to call for consultations, even when such syndromes are diagnosed;[11] the need for preauthorization of psychiatric visits; and inadequate reimbursements for visits. These obstacles challenge the viability of PM services and limit the number of psychiatrists willing to perform such services.

To ensure high-quality care, both initial and follow-up consultation visits must be provided. Quality-improvement measures can increase diagnostic accuracy and enhance the delivery of timely, appropriate, effective interventions. Unfortunately, because third-party payors rarely reimburse providers adequately for services provided, many programs in PM are understaffed. Adequate PM staffing (Table 1) also helps hospitals provide quality care to uninsured patients who have mental illness and assures that comprehensive training and education of medical students, residents, and fellows will be provided.

Adequate staffing can reduce morbidity and possibly mortality (e.g., related to improper use of restraints in agitated general-medical patients), can initiate delirium-prevention programs, and can encourage proper recognition and implementation of evidence-based treatments. Positive outcomes (reduced distress) are more likely when practitioners of PM provide such services.[12] Targeted prevention and treatment programs can shorten LOS and can reduce the need for costly services (e.g., constant observation).[13–15]

TABLE 1. Potential Benefits of Adequate Psychosomatic Medicine (PM) Staffing

- Adequate care for uninsured or underinsured patients
- Available staff for service-line care delivery (e.g., transplantation, dialysis, intensive care)
- Better integration of psychiatric outcomes and medical-surgical care-delivery
- Better utilization of staff resources on each unit (e.g., with ongoing and prevention management of agitation)
- Clarification of roles and qualifications of PM staff
- Decreased cost of care-delivery, healthcare utilization
- Decreased delay in psychiatric consultation
- Delirium-prevention programs
- Delivery of effective PM interventions and treatments
- Education programs for non-PM staff
- Education and training: fellows, psychiatry residents, medical students
- Evaluation of appropriate disposition and/or discharge planning
- Increased total volume of clinical care delivery
- Improved clinical outcomes
- Improved diagnostic accuracy
- Improved patient satisfaction
- Improved quality of care
- More follow-up consultation care
- Reduced length of stay (LOS)
- Reduced morbidity and mortality from proper use of restraints
- Reduced need for constant observation
- Risk management: reduction of liability with difficult and/or dangerous patients

In 2006, the Academy of Psychosomatic Medicine's (APM) Practice Management Task Force was created to determine the practice needs of its members (as a component of the organization's efforts at strategic planning) and to recommend ways that the APM could assist its members in these areas. Co-chaired by Drs. Kunkel and Stern, the Task Force's members were selected from different geographic areas and types of practices. The Task Force surveyed 718 APM members in 2006. The survey questions and the results (response rate: 22%) are available at *http://www.zoomerang.com/web/SharedResults/SharedResultsPasswordPage.aspx?ID=L22SU57RZ665* and are not reported here. The APM Task Force survey results emphasized the need to provide staffing benchmarks for PM services so that hospital administrators and departments of psychiatry could align physician staffing with demands for clinical service and education. The authors present pilot data of PM staffing, fol-

lowed by a discussion of all available staffing survey data to-date.

METHOD

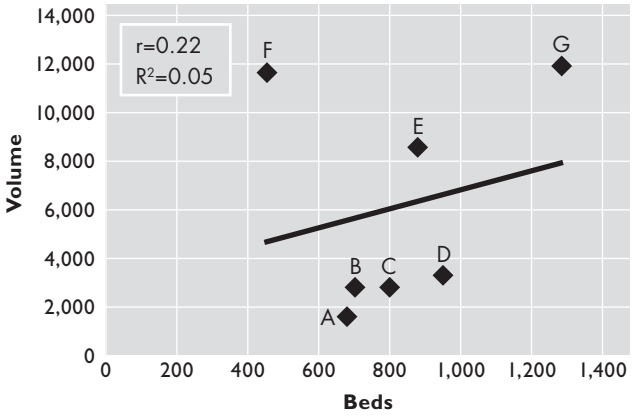
One of the authors (EK) e-mailed the directors of seven university-affiliated, urban PM programs in the northeastern United States for information related to physician staffing: the number of new inpatient consultations and follow-up visits conducted (excluding care in the Emergency Department); the number of attending physician full-time equivalents (FTEs) working on the service; the number of fellows on the service each year; the number of beds in the hospital; and total staffing levels for PM programs (all physicians and nonphysicians). All nonphysician FTEs were considered as one group, regardless of discipline. Because the sample size was small, only descriptive statistics were used. The study was exempt from Institutional Review Board (IRB) approval. FTEs were defined primarily by percent-effort devoted to inpatient PM care. All inpatient initial and follow-up consultations visits were included. Patients were seen by the attending physician or by both the attending physician and a trainee (resident or fellow).

RESULTS

All seven program directors responded to the survey. The total volume of clinical service provided (new consultations plus follow-up visits per year) did not correlate significantly with the number of hospital beds ($r=0.22$; $r^2=0.05$; Figure 1).

We then considered whether staffing accounted for volume. Total staffing was defined as all MD and non-MD staff assigned to the PM Service. We included attending physicians and fellows in PM in our MD counts for staffing. Each fellow was counted as one FTE. Staffing patterns varied widely, both in terms of the number of clinical PM staff and types of staff (e.g., physicians, psychologists, and social workers). The average number of total staff was 6.1 (range: 1.8–11.5; Table 2). The volume (number of initial consultations plus follow-up visits per year) correlated better with the total staffing ($r=0.83$; $r^2=0.69$; Figure 2) than with the number of hospital beds. Comparing the ratio of total consultation volume (per year) to beds (new plus follow-up consultations/beds) with total staffing did not improve the correlation ($r=0.74$; $r^2=0.55$; Figure 3).

FIGURE 1. Beds and Consultation Volume



The average number of new consultations per bed per year was 2.6 (range: 1.6–4.6).

Finally, we examined the number of FTE attending physicians (average: 3 per program; range: 1–6.5). The number of FTE attending physicians was very closely related to the total clinical volume ($r=0.92$; $r^2=0.84$). Programs with more faculty (in FTEs) conducted more visits per physician-FTE (Figure 4). Because the sample size was small, we did not calculate p values.

DISCUSSION

Although the data presented here represent the summary of staffing patterns of only seven PM programs in the United States, it is the best approximation of resource allocation for such services to-date. These data may serve as a foundation upon which program directors in PM and departments of psychiatry may negotiate for more PM FTEs. Our experience suggests that when a program has more FTEs, it can facilitate discharge-planning, improve clinical outcomes, and provide more effective prevention programs.[16] Such measures can be used for performance-improvement initiatives. Increasing the number of PM faculty can increase the volume of new and follow-up consultation visits, address specific problems prospectively (e.g., use of restraints and 1:1 observation), and can address issues related to increased LOS.

The complexities of collecting survey data on physician staffing are myriad. Survey definitions need to be precise so that data are comparable across institutions. Questions that need to be refined include the following:

1) Are consultations done in the inpatient setting, the outpatient setting, or in both?

TABLE 2. Program Survey Data

Program	A	B	C	D	E	F	G	Mean
Attending physicians (FTEs)	1.8	1	2	2	3.3	4.5	6.5	3.0
Staffing	1.8	5.5	2	4	11.5	10.3	7.5	6.1
Volume	1,450	2,700	2,700	3,200	8,500	11,550	11,800	5,986
Beds	678	700	800	950	880	453	1,290	822
Volume/beds	2.1	3.9	3.4	3.4	9.7	25.5	9.1	8.6

Results for the seven participating hospitals. FTEs: Number of physicians (attendings) on the Psychosomatic Medicine psychiatry service, counted by full-time equivalents (not head-counts). Staffing: all MD and non-MD personnel on the consultation–liaison psychiatry service in FTEs. Fellows and attendings were included. Volume: all new and follow-up consultation visits per year. Beds: total hospital beds, excluding psychiatry-inpatient beds.

FIGURE 2. Staffing and Consultation Volume

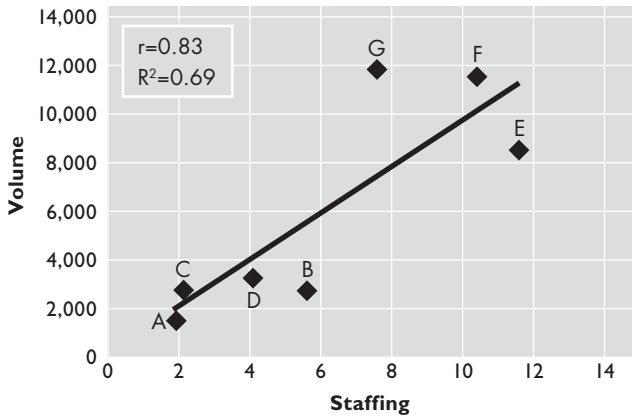


FIGURE 3. Staffing and Volume/Beds

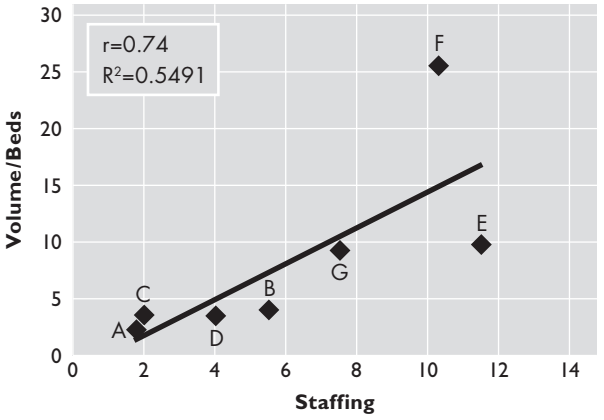
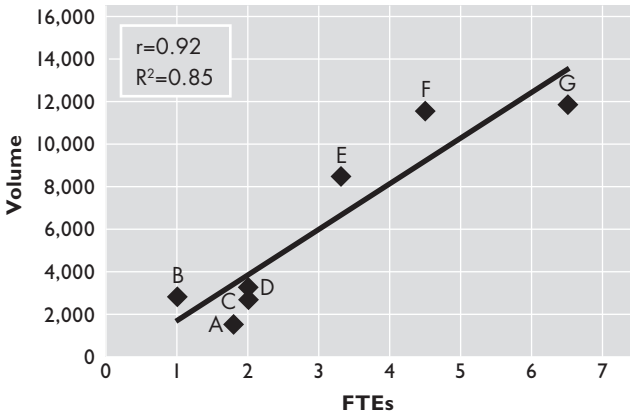


FIGURE 4. Full-Time Equivalents (FTEs; Attending Physicians) and Volume



2) Are data from multiple sites (overseen by the same program) presented separately or integrated together?

3) Is work done by trainees (but not by faculty) included or excluded in the data?

4) Should consultations conducted in the Emergency Department (when performed by a PM service) be included or excluded?

5) Should FTEs and/or staffing be measured by head-count or by percent effort in FTEs?

6) Should the visits performed by non-physician staff be separated or integrated with the visits rendered by physicians?

7) Should larger hospitals have their data compared against smaller hospitals, or should different-sized hospitals be analyzed (and bench-marked) separately?

Staffing models should consider PM staffing as part of comprehensive primary-care services, including outpatient and preventive services.[17,18] Most survey data have failed to distinguish between faculty time that is devoted to inpatient and outpatient PM activities; unfortunately, the definitions for FTEs used in previous surveys were not published.

To-date, there have been four other surveys of PM staffing (see Table 3). Huyse and colleagues[11] reported on the staffing of PM services in 11 European countries (56 PM services). One-third of those services had ≥3 FTEs,

TABLE 3. Survey Metrics on Psychosomatic Medicine Physician Staffing

Survey	FTEs per site[a]	Annual Consultations[a]	Hospital Beds[a]	Annual Consultations per Hospital Bed[a]	Annual Consultations per FTE[a]
Huyse et al., 2001 (N=56)[11]	≥3				
Joseph and Frichionne, 2005 (N=24)[19]	2.8				
APM Fellowship Directory, 2006 (N=35)	5.2	1,412	762	1.9	272
Saravay et al., 2006 (N=15)[20]	2.2	1,881	542	3.5	855
Saravay et al., 2006 (N=3)[20]	0.8	590	204	2.8	738
Kunkel et al., (N=7)	3.0	1,971	822	2.6	657
Total (means)[b]	2.8	1,464	583	2.7	631
Total (weighted means)[c]	3.6	1,553	686	2.4	485

FTEs: full-time equivalents.

[a] Numbers in each survey are the mean of each metric (FTEs per site, annual consultations, hospital beds, annual consultations per hospital bed, and annual consultations per FTE) across all programs surveyed.

[b] Huyse et al.[11] data were excluded from the FTE mean because they were not a mean value; Joseph and Frichionne[19] data were included in the FTE average only.

[c] Averages were weighted by number of programs in each survey.

N: number of programs with Psychosomatic Medicine services.

and almost half of them were multidisciplinary. Less than half had secretarial support, and only 54% provided 24-hour clinical coverage. About one-fifth of referred patients had already been evaluated by nonpsychiatric mental health providers (e.g., social workers, clergy, or medical psychologists).

The second survey polled all known United States training directors in PM for information about PM training at their institution.[19] Training directors responded from 24 of 30 known training programs at that time. Nine of these programs were accredited at the time of the survey. The mean number of fellowship positions at each PM fellowship program was 1.46 (most had only one). Staff at these programs ranged from 1 to 9 FTEs, with the mean number being 2.77 and the mode being 2; 12 of the 24 programs had plans to expand the number of faculty positions at that time. These staffing numbers are consistent with the numbers found in the current survey.

The third source of previously-unanalyzed survey data refers to the 2006 Fellowship Directory of the APM, with 41 programs listed; 35 of the 41 programs had nearly complete data; 6 programs with missing data were eliminated from our analysis. On average, 5.2 full-time faculty per program completed 1,412 inpatient initial consultations annually at hospitals with an average of 762 beds. Two programs documented ≥30 full-time faculty, but programs did not segregate faculty on the basis of inpatient versus outpatient consultation services, and not all of these faculty were dedicated to inpatient PM services. On average, the annual inpatient consults per hospital bed was 1.85; the number of inpatient beds per FTE was 146.43; the annual number of inpatient consultations per FTE was 399.78; and the number of FTEs per hospital bed was 0.01. The programs described above that have a PM fellowship may not be representative of the typical hospital where PM consultations are provided.

The fourth and most recent survey came from the Northeast corridor. Saravay and colleagues[20] contacted 27 general-medical hospitals in New York and found that of the 15 hospitals with 293–1,400 beds (average: 542 beds/hospital), 12 of the hospitals provided PM services (average: 2.2 FTE staff/PM program). In 12 hospitals with 80–261 beds (average: 204 beds), only 3 had PM services, with an average of 0.75 FTE staff per PM program. At larger hospitals, a mean of 1,881 consults were performed each year (average: 3.5 initial consultations per hospital bed), as compared with 590 consultations per year (average: 2.8 initial consultations per hospital bed) at smaller hospitals. Hosaka and colleagues have reported that full-time PM staff provide more psychiatric service and receive greater reimbursements than do part-time staff.[21]

PM programs that reside in teaching hospitals typically face financial challenges, in part because of the competing demands for clinical service, teaching, and academic achievement. Nevertheless, PM programs must establish and maintain services in academic environments. Reimbursement models that emphasize revenue-enhancement and reduce overhead tend to succeed. Incentives that are properly aligned in academic environments will likely be based on productivity in clinical care, research, and teaching. Unfortunately, incentives based on clinical productivity alone discourage attendance at teaching confer-

ences and make direct care for lower-paying or non-paying patients a financial hardship. Ethical practice requires, nevertheless, that such care be delivered. If staffing is to be funded through fee-for-service reimbursement, hospitals should offset the cost of providing care to indigent patients.

Since approximately 70% of patients with active psychiatric and substance-abuse problems fail to receive any formal psychiatric care in the general hospital, and since treatment delivered by non-mental health care providers is generally less effective than that provided by PM psychiatrists, the growth and support of PM programs is most desirable.[22,23] Further research is needed to define which patients experience the most relief of symptoms, the greatest reduction in LOS, and the best medical-surgical outcomes as a result of psychiatric care.

Early studies supported the belief that by increasing PM staffing, we could reduce costs in patients with psychiatric comorbidity by decreasing LOS.[24–27] In at least two studies, psychiatric consultation provided earlier in the hospital stay independently predicted a shorter LOS. This suggested that early detection and treatment of patients at higher risk for mental-health problems may ultimately reduce LOS.[5,6] With today's shorter hospital stays and higher medical acuity, it becomes more and more difficult to demonstrate reductions in LOS and cost. Some have suggested that the impact of demonstrating the efficacy and cost-effectiveness of PM should rest on readmission rates, adherence to medical treatment, disability, days lost from work, and other longitudinal measures of quality of care, psychiatric morbidity, and cost.[17,28] As such, it also may prove useful to provide outpatient PM staffing to address these issues. Strategic planning, with integration of medical and psychiatric care and screening of patients early in their hospital course could identify those patients at risk for increased LOS, highly complex care, and/or increased costs. This would inevitably reduce delays in both psychiatric diagnosis and treatment.

Given that patients in general hospitals have significantly higher rates of psychiatric disorders (e.g., depressive disorders, somatization disorder, delirium, and dementia), than in community samples and patients in primary-care settings,[7] medical schools and residency training programs must emphasize timely diagnosis and treatment of comorbid psychiatric illness. For community hospitals that do not have a PM service, we do not know what the model should be for PM care-delivery and staffing. Survey data from nonacademic hospitals that have psychiatric consultation services and from hospitals without such consultation services will help provide more precise staffing models and benchmarks for PM staffing in the non-academic setting.

Before starting a new PM service, data should be collected on overall LOS; LOS for patients who received psychiatric consultation; LOS for patients who require transfer to drug and alcohol facilities; and LOS for patients who require transfer to an inpatient psychiatry unit. To provide 24/7 coverage, hospital administrators should consider having at least two FTE physicians (so as to account for sick leave and vacations, for instance). LOS should be reviewed on a quarterly basis, and populations at risk for higher LOS (e.g., patients suffering from delirium) should receive targeted interventions. A clear return-on-investment analysis should be done every 6 months.

Since hospitals systems differ dramatically even within the same geographic territory, estimating the size of the required PM workforce remains problematic. Given that we did not survey "typical community hospitals" that treat larger numbers of medical and surgical patients in the United States, our data may not be generalizable.[16] Approximately 24% of admissions to community hospitals are for patients with mental health or substance-use disorders, with or without other comorbid medical disorders,[29] so benchmarks for staffing in such settings is needed. Because the prevalence of mental health and substance use disorders in the community setting is comparable to that in academic settings, a minimum number of FTEs should be allocated to PM programs, within the range of the average FTEs in previous surveys (0.8–5.2), with higher FTEs needed at sites where training is part of the mission of the PM service (see Table 3). By including information from all available survey data and by weighting the data by the number of PM programs surveyed, average metrics for staffing benchmarks can be gleaned (Table 3); clearly these summary data are more reflective of PM programs that have training programs, given the sources of the data.

One must examine the number of practitioners (size of the workforce) and the workforce distribution and quality.[30] The heterogeneous workforce may include psychiatrists, psychologists, social workers, psychiatric nurses, substance-abuse counselors, and those who offer psychosocial rehabilitation. Practitioners of PM come from a mixture of disciplines (with ambiguous boundaries, overlapping roles, and unclear scopes of practices). Our data illustrate that PM services on the Northeast corridor provide from 1.6 to 4.6 initial consultations per hospital bed. Higher staffing levels may drive this ratio higher. How-

ever, a larger sample size is needed to provide more valid and generalizable descriptive statistics. Furthermore, PM staffing benchmarks can be used to assess performance-improvement interventions. For example, can hospitals with more PM practitioners provide better delirium-prevention services? Medicare now allows psychiatric nurse clinical specialists to provide and bill for services rendered in hospitals and nursing homes at 85% of the psychiatrist's reimbursement. Goldberg has questioned whether this will leave the PM psychiatrist handling mostly complex cases, despite a fixed reimbursement rate.[18] Offering teaching to nonpsychiatric clinicians (e.g., on how to prescribe psychotropic medications, delivery of psychological therapies, dissemination of information and clinical practice guidelines, and how to provide intensive, practice-based educational seminars) may reduce the workload for the PM practitioners.

There is no question that benchmarks for staffing (based on patient volume and care complexity, number of high-acuity care beds, and other factors) need to be developed. This pilot study adds to the data available in the literature. Our experience highlights the complexity inherent in collecting such data and the need for a national survey with rigorous definitions of PM staffing, so that meaningful standards can be established. Demonstrating the effectiveness of high-quality PM interventions will be critical to convince payors and hospitals to financially support adequate staffing. Adequate numbers and qualifications of the PM workforce will be essential for optimal care of individuals with psychiatric problems and complex medical illnesses. Finally, tracking of benchmarks (e.g., patient outcomes, hospital costs, LOS) may be necessary so that hospital administrators can determine their return on investment.

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