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Integrating Physical Health: What Were the Costs to Behavioral Health Care Clinics?

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Abstract

Objective—To inform providers and policy-makers about the potential costs of providing physical health care in mental health clinics.

Methods—Cost data were collected through interviews with 22 behavioral health clinics participating in New York State Office of Mental Health's health monitoring and health physicals programs. The interview data was combined with financial reporting data provided to the state to identify per interaction costs for two levels of physical health services: health monitoring and health monitoring plus health physicals.

Results—This study gives detailed information on the costs of clinics' health integration programs, including per interaction costs related to direct service, charting and administration, and total care coordination. Average direct costs per client interaction were 3 times higher for health physicals than for health monitoring.

Conclusions—Costs of integrating physical care services are not trivial to mental health clinics, and may pose a barrier to widespread adoption. Provision of limited health monitoring services is less expensive for clinics, but generates proportionally large non-clinical costs than health physicals. The relative health impact of this more limited approach is an important area for future study. Also, shifting reimbursement to include health care coordination time may improve program sustainability.

Keywords

Integrated Care; Serious Mental Illness; Medicaid; Cost Analysis

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Disclosures

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1. INTRODUCTION

Adults with serious mental illness (SMI) suffer disproportionately from physical health conditions, such as diabetes and hypertension, for which they often receive low quality care [1–4]. In recent years, efforts have been made to integrate treatment for these conditions into specialty mental health clinics, the clinical settings through which many adults with SMI access the health care system [5, 6]. Provision of primary care services to adults with serious mental illness in specialty mental health clinics has been found in randomized controlled trials to improve quality of physical health care[7, 8]. The Substance Abuse and Mental Health Services Agency (SAMHSA) supports mental health clinic based primary care services through its Primary Behavioral Health Care Integration (PBHCI) grants, which have been awarded to over 160 mental health clinics across the country since 2009 [6, 9, 10]. However, the financial sustainability of integrated care models, particularly for clinics that do not have dedicated external grant funds, remains a challenge [11–13]. Information on the costs of providing these services is essential for clinics considering adding primary care to their scope of practice and for Medicaid and other state and federal payers and policy makers interested in designing payment systems to support these services.

While a number of studies have examined the costs of integrating behavioral health care into primary care clinics [14, 15], such as the Advancing Care Together program[16], little is known about costs of integration of physical health care services into behavioral health clinics. The one study which has examined costs of providing medical management of physical health conditions in a single behavioral health clinic found that the costs were unsustainable without higher enrollments in Medicaid[13]. No studies have examined component costs to multiple clinics for providing these services and how these vary by the level of services provided by clinics. In addition, existing data systems at the majority of clinics are limited to services that were billed to payers, but many physical care services were never billed. Thus, interviews with the clinic staff are the only source of comprehensive information about the workload associated with physical health programs in behavioral health focused settings.

In 2010 the New York State Office of Mental Health (OMH) introduced regulations designed to promote physical health care in mental health clinics by allowing reimbursement for limited services through Medicaid [17]. This study uses detailed cost interviews with a sample of the clinics that enrolled in that program to examine the incremental costs to clinics of providing different types of physical health services. The data are used to identify and compare the major cost components associated with different levels of care that can be provided in mental health clinics, including direct patient interaction, charting, and care coordination costs. Results from the New York experience can inform decision-making by clinics as well as state and federal policy makers.

2. METHODS

2.1 Health Services Programs in Mental Health Clinics

In 2010 NYSOMH introduced new regulations designed to promote physical health care in mental health clinics by allowing reimbursement through Medicaid. Specialty mental health

clinics had the opportunity to enroll in two levels of integrated health services, health monitoring and health physicals [18]. OMH defined health monitoring (HM) as the ongoing assessment of specific health indicators associated with increased risk of medical illness and early death, including but not limited to blood pressure, body mass index, smoking, activity or exercise level. HM services can be provided by an RN, LPN, physician, nurse practitioner, or physician's assistant. OMH guidance defines health physicals (HP) as a comprehensive physical evaluation including age and gender appropriate history, examination, and appropriate laboratory or diagnostic tests. Only physicians, nurse practitioners, and physician's assistants are eligible to bill for HP services under this program. HP can only be billed once annually, but HM can be billed on a frequent basis. The vast majority of clinics that enrolled chose to implement HM only (177 clinics) or for both HM and HP (111 clinics), effectively creating two groups of clinics, with lower (HM only), and higher (HM and HP) levels of integrated physical health care.

2.2 Clinic Sample

Clinics were selected for the cost interview based on their enrollment in either the HM only or HM and HP program and an established record of providing HM and/or HP services as evidenced by Medicaid claims and encounters in OMH data warehouse. Clinics were also selected to represent a diversity of geographic locations across the state, and clinic affiliations (hospital-affiliated, government, or free-standing). Research methods were approved by RAND's Human Subjects Protection Committee.

2.3 Data Sources

Data on costs of providing physical health care services were collected through interviews with clinic staff. Supplementary information was drawn from certified financial reports submitted annually by clinics to the NYS Department of Health and a the Patient Characteristics Survey, a bi-annual census of mental health clinics conducted by the NYS OMH[18].

2.3.1 Interviews—Telephone interviews were conducted in collaboration with the Office of Mental Health, by a cost analyst and a research assistant with clinic directors, leadership and health and billing staff between April, 2015 and November, 2016. The interviews followed a structured interview guide that was adapted to the purposes of this study from the Treatment Cost Activity Tool (TCAT) [11] and the TCAT-Lite [19], both of which were originally designed to collect costs on substance use treatment. The instrument was redesigned to assess the incremental costs to the clinics associated with provision of physical health services, i.e. costs incurred through the provision of these specific services over and above the cost of operating as a mental health clinic.

Prior to each interview, respondents were given a cost template in spreadsheet form. The cost template was then filled in during the course of the interview. Answers to questions requiring more detailed examination of administrative records were provided to the research team by clinic staff by follow-up email or phone calls. The interview form is available from the authors.

2.3.2 Financial Reports—NYS requires mental health clinics to submit Certified Public Accountant certified financial reports on an annual basis through the Consolidated Fiscal Reporting System (CFRS). Information on clinic budgets, client population, staffing and staff costs were obtained from the 2015 fiscal year reports.

2.3.3 Clinic Census—Data on clinic characteristics were drawn from the 2015 Patient Characteristics Survey (PCS)[20]. The PCS is conducted every other year and collects information on caseloads over a one week period for all mental health clinics in NYS.

2.4 Types of Health Services

Physical health services were defined to include HM and HP, as described above, as well as care coordination for management of physical conditions. Care coordination related to physical health care included communication with internal and external providers regarding treatment planning, health status, or referrals.

2.5 Analysis by Cost Components and Service Type

All cost estimates were measured in 2015 dollars. To reflect the diversity of care provision across clinics in our sample, we generated average and median costs by cost component and service type. Costs were divided into clinician costs and overhead:

2.5.1 Cost of Physical Care Clinician Effort—A bottom up approach was taken to estimating the costs of paying staff to provide care, based on the time required to deliver HM or HP services, including time spent on direct patient services as well as clinician time spent on administration and charting per interaction.

Clinic interview data was used to identify the types of clinical staff used to provide HM and HP services at each clinic. Clinic CFR data was used to determine the annualized cost of these staff, and an average cost per minute was calculated for the HM and HP clinicians. A mean time per HM or HP interaction was calculated from clinic interview data. When more than one type of clinician provided services, we developed a weighted mean for the cost of their time. The average cost of clinician time per interaction was calculated by multiplying the mean cost of the clinicians' time per minute (from the CFR) by the mean time spent by the clinicians on direct patient care, and on administrative and charting (from the clinic interviews) for HM and HP services.

Clinics also reported on the type of staff and total time spent weekly on physical health related care coordination. Information on costs of different staff types was drawn from the CFR, and was used to calculate the average annual cost of providing health related care coordination.

2.5.2 Facilities and Administrative Overhead—Two types of overhead costs, facilities and administrative personnel, were calculated by allocating total overhead costs as reported in the CFR. The total annual non-personnel facility cost from the CFR was divided by total annual clinical staff FTEs to create a facility cost per clinical FTE, and a facility cost per clinical staff hour. The facility cost per interaction was estimated by multiplying the facility cost per clinician hour by the average total duration of clinician time per HM or HP

interaction including direct care, administration and charting. Facility cost per clinical staff hour were also applied to time spent on physical health related care coordination.

Similarly, to calculate the cost of administrative personnel overhead, the total annual cost of administrative and housekeeping staff from the CFR was divided by the total number of clinician FTEs and converted into administrative overhead cost per clinical staff hour. The average clinical staff time per HM or HP interaction in hours was multiplied by the administrative cost per clinician hour to determine the administrative cost per interaction. Administrative staff overhead costs per clinical staff hour were also applied to the time spent on health-related care coordination.

3. RESULTS

A total of 22 clinics were interviewed, of which 14 provided HM services only and 8 provided HM/HP. Clinic characteristics are presented in Table 1, including number of clients served weekly and annually, the proportion of clients with serious mental illness and with Medicaid insurance, annual budget, and whether the clinic is freestanding as opposed to governmental or hospital affiliated clinics. The HM only and HM/HP clinics see similar numbers of clients, with median caseload of 217 and 203 per week, respectively, but some of the HM/HP clinics are much larger, pulling the average caseload size of that group of clinics up to 400 per week. Both groups have high proportion of clients with SMI or serious emotional disturbance, high average number of visits per client per year, and high proportion of clients with Medicaid. The mean annual clinic budget was smaller in the HM only clinics than in the HM/HP clinics, \$2.2M vs. \$3.1M. Half of the clinics interviewed were freestanding, as opposed to governmental or hospital affiliated, with the majority of these clinics providing HM services only.

Results from the bottom-up estimation of costs per clinical interaction are shown in Table 2. Direct patient care costs for a health physical are \$67. Health monitoring visits are less expensive with a typical cost of \$18 per visit. The charting and administration costs are about \$22 for health physicals whereas health monitoring is about \$11. Health monitoring interactions are also costly compared to 15-minute reimbursement, but would make sense for some clinics at 30 minutes.

As shown in Table 3, direct care coordination costs were higher in the HM only clinics than in the HM/HP clinics. The HM clinics spent more time coordinating care for their clients, but they used less expensive staff than the HM/HP clinics. The mean annual cost for care coordination including overhead was \$66,700 in the HM clinics and \$67,200 in the HM/HP clinics. In interviews staff indicated that physical care coordination time per client was highly variable based on complexity, so they were unable to calculate a typical amount of time per client, but rather were able to estimate how much time the staff spend each week on the task. To account for variations in clinic size we show the mean cost per 100 persons served in the clinic each week at 540 dollars for HM clinics and 790 dollars for HM/HP, but recognize at most facilities that not everyone seen by the clinic is actually participating in physical health care services nor receiving physical care coordination, so actual cost per 100 patients receiving physical care is much higher. Facilities overhead for HM/HP tends to be

higher than for HM, which is to be expected, because of the larger number of hospital affiliated clinics that provide HM+HP. Aforementioned direct costs for HM clinics are higher than for HM/HP. The majority of free-standing clinics interviewed selected HM only and therefore felt these higher direct costs of care coordination. Five clinics were unable to provide care coordination time estimates but indicated that they do some form of care coordination. One clinic indicated they do not provide care coordination outside of direct patient interaction or charting.

4. DISCUSSION

Delivering physical health care in specialty mental health clinics was a promising strategy for improving the care that adults with SMI receive for their physical health conditions[8, 9], but financial feasibility of providing these services remains a major implementation challenge[5, 10, 13]. An understanding of the costs of these services was important both to policy-makers and clinic level decision-makers who aim for care that was sustainable over time. NYS's promotion of health monitoring and health physicals in mental health clinics provides an opportunity to learn about these costs. This study contributed to the literature by describing the cost experience of a diverse sample of mental health clinics that had implemented integrated health services programs.

The bottom up approach examines costs of specific types of clinical interactions. As expected, health physicals were several times as costly to clinics as health monitoring interactions; they use higher cost staff and require more time per interaction. At the same time, health physicals can only be provided once a year and according to interviews require more space and equipment, so the substantial investment would only make financial sense for clinics with a large number of patients eligible for the service. We also found that the proportion of costs that go to charting and administration, as opposed to direct patient care, were higher for health monitoring than for health physicals.

It is also useful to compare the costs reported by the clinics with Medicaid reimbursements. According to the Medicaid reimbursement schedule, reimbursements for a 15-minute HM procedure range from \$33.79 to \$48.82, depending on whether a clinic is located upstate or downstate, is participating in specific quality improvement programs, or is affiliated with a hospital or county government. This compares with average cost per HM encounter before care coordination of \$51, which includes visits of longer than 15-minute duration. Health Physical costs at \$153 are also high compared to Medicaid reimbursements, which range from \$89.48 to \$129.28. While a full accounting of revenues from HM and HP services is beyond the scope of the current project, our data suggest that existing reimbursements defray only a portion of the total costs of providing these services. In addition, other work indicates that having a high uninsured client rate make these programs difficult to sustain [13]

The results also highlight the need for attention to care coordination costs. As has been discussed in mental health integration literature, providers struggle to incorporate integrated care because coordination costs tend not to be reimbursed[21]. In a randomized study, there were full time nurses providing care coordination for a caseload of 75 clients [13]. Similarly for this sample, these costs were substantial and typically staff time spent coordinating care

with internal or external providers cannot be billed for reimbursement. Cost per patient interaction exceed reimbursement rates for health physicals before health care coordination is considered. Notably, for mental health care integration into primary care facilities, CMS now allows for payment of care coordination in Medicare[21]. Therefore, a similar policy would be valuable to pursue in specialty behavioral health for physical health care in both Medicare and Medicaid. The direct staff costs per client are almost as high for HM clinics as HM/HP even though the HM visits are on average substantially shorter. Even basic monitoring of physical health status, such as blood pressure, may generate the need to respond to significant findings through referrals, follow-up, and record sharing with external physical health providers. These direct staff costs may be so high for the HM only clinics because they have less capacity to manage medical conditions internally than clinics with HP staff. In addition, freestanding clinics were likely to rely on coordination with external providers to a greater extent than hospital affiliated clinics, contributing to their higher direct staff costs. These care coordination costs should be considered in any attempt to design sustainable reimbursement systems for these services.

These results should be interpreted in light of the limitations of provider self-report of the time requirements and costs of care. Clinics tend to start and stop providing physical care suddenly with arrival and departure of key staff so services are inconsistent. In addition, clinics only track physical care in financial systems for those payers that cover the services even if they may be providing similar services to other clients. To mitigate potential bias we relied on audited cost reports. Respondents emphasized the wide variability across clients in the amount of time required for specific types of interactions and for care coordination. Some clinics were unable to report on some cost components. Reimbursement rates vary based on a variety of factors and were unable to collect data on the length of each individual visit. Thus comparisons of the difference between cost and reimbursement are limited to ranges rather than detailed distributions. Prospective data collection may provide more robust estimates, but will also place a larger burden of data collection on clinics. The bottom up approach may underestimate costs of salaried HM and HP clinical staff because it does not account for costs of paying staff for no show appointments, attending staff meetings, and other losses of productivity. Limitations of sample size prevented systematic investigation of important cost modifiers, such as rural vs. urban location. Finally, the absolute costs reported here were likely to vary across settings. Interpretation should focus on the relative sizes of the cost components, which is more likely to be consistent across settings.

Evidence from randomized controlled trials and evaluations of real-world implementations of mental health clinic based primary care services have shown some promising results. Additional refinement of the model remains necessary if it is to be implemented on a broad, system-wide level, outside of research or grant supported programs. Understanding of the costs of various approaches of care will play an important role in developing sustainable models of care. Accounting for the full range of costs, including unanticipated indirect costs, will be important. Integrating cost information with results from studies of care quality and patient outcomes is an important area for future study.

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Table 1

Clinic Characteristics.

	HM Only Provided				HM and HP Provided			
	N	Mean	Median	SD	N	Mean	Median	SD
# of persons served per week	13	296	217	241	8	400	203	465
# of unique persons per year	12	1101	1200	672	6	1873	988	2201
% of clients with SMI SED most recent year	13	77%	75%	18 %	8	79%	77%	16%
# of visits per client most recent year	11	22.9	18	14	7	21.9	17	13
% Medicaid recipients	13	78%	85%	19%	8	78%	88%	18%
Mean Clinic Budget (\$ million)	11	2.2	2.3	1.36	7	3.1	1.43	3.2
% Freestanding Clinics /	10	91%			1	9%		

/ Free standing clinics includes those that are not hospital-affiliated, or county managed

Table 2

Cost per Interaction by type of Health Service (bottom up estimates, 2015)

Interaction Type	Number of Clinics Reporting on This Service	Direct Patient Care			Charting and Administration			Overhead			Total
		Mean Staff Cost Per Minute \$(SD)	Mean Interaction Minutes (SD)	Mean Cost Per Interaction \$(SD)	Mean Staff Cost Per Minute \$(SD)	Mean Interaction Minutes (SD)	Mean Cost Per Interaction \$(SD)	Mean Facility Cost (SD)	Mean Administrative Personnel Cost (SD)	Mean Cost Per Interaction (SD)	
Health Physical	7	1.82 (0.52)	36 (12)	67 (30)	1.82 (0.52)	13 (3)	22 (7)	53 (57)	12 (7)	153 (71)	49 (12)
Health Monitoring	17	0.87 (0.55)	21 (9)	18 (11)	0.87 (0.50)	16 (22)	11 (19)	20 (27)	7 (5)	51 (45)	36 (25)

Table 3

Cost of Care Coordination for physical care

Service Type	Number of Clinics with this Service/ Number of clinics reporting [/]	Weekly Mean Hours (SD)	Weekly Median Hours	Mean Staff Cost Per hour \$ (SD)	Mean Annual Cost of Staff time to Deliver Physical Care Coordination \$ (SD)	Mean Annual Facilities Overhead \$ (SD)	Mean Annual Administrative Personnel Overhead \$ (SD)	Mean Annual Cost \$ (SD)	Mean Weekly Cost Per 100 Persons Served with overhead \$ (SD)
HM	14/9	19 (17)	15	68 (54)	46,400 (44,300)	11,400 (10,300)	8900 (8,300)	66,700 (53,800)	540 (420)
HM/HP	8/5	10 (6)	8	92 (69)	36,900 (13,647)	22,900 (20,400)	7,500 (3,900)	67,200 (12,500)	790 (410)

[/] One HM+HP clinic said they do not do any care coordination outside of visits and filling in the EHR. Fifteen of the clinics reported details on time spent on this activity. Other clinics were unable to provide details

Weekly hours were calculated based on the amount of time each provider said they spent on talking to internal providers, external providers, reconciling medication, and other physical care coordinating activities