

Sustainable Community Mental Health Services: A Description and Review of an Integrated Care Model in Uttar Pradesh

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ABSTRACT

Background: Mental health services were integrated into the primary health programs of Ramakrishna Mission, Varanasi (RKM) as part of the Jan Man Swasthya Pariyojana (JMSP). The program was delivered with JMSP support for three and a half years till June 2017, when funding ended. From then onwards, mental health services continue to be delivered till date in a sustainable manner. **Aim:** We describe the implementation of the community mental health program during the 3.5-year JMSP period, and the subsequent 4 year sustained period till date. **Materials and method:** The program identified and treated persons with Common Mental Disorders (CMD) and Severe Mental Disorders (SMD). The enrollments and outcomes over the JMSP period and subsequent 4-year sustained period were analyzed. **Results:** 288 patients with CMD and 166 patients with SMD were enrolled in the JMSP period. The enrolment of patients during the sustained period was consistent with the forecast based on the JMSP period. Program fidelity was maintained over most activities. The primary care doctors demonstrated competence in diagnostic and pharmacotherapeutic skills. Program adaptation occurred through the introduction of telemedicine. **Conclusion:** This paper describes a sustainable community mental health program delivering services integrated with primary health care in eastern Uttar Pradesh. Over a four-year continued period, the program demonstrated sustained benefits to clients, as well as program fidelity and adaptation. This experience can contribute to new community mental health programs, as well as to the National Mental health Programme.

Keywords: *Community Mental Health, Integrated Care, Sustainability*

Mental disorders are an important cause of health loss and disease burden. Depressive disorders are the single largest contributor to non-fatal health loss, accounting for 7.5% of all years lived with disability and affecting 4.4% of the global population. On these same measures, anxiety disorders are the sixth largest contributor (WHO, 2010).

Two recent surveys offer an Indian perspective on the public health importance of mental disorders. These multisite studies have estimated the prevalence of psychiatric disorders, and their treatment gap. The prevalence and treatment gap for common mental disorders -

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anxiety, mood and substance disorders- was reported for eight of the 11 Indian sites covered by the World Mental Health Survey. The 12-month prevalence of any common mental disorder was 5.52%. The treatment gap was estimated at 95% (Sagar et. al., 2017).

The National Mental Health Survey 2015-16 (NMHS) was conducted in 12 states of India (NMHS, 2016). Findings from the state of Uttar Pradesh showed a current and lifetime prevalence of 'any mental morbidity' (excluding tobacco use disorders) of 6.08% and 7.97% respectively. The current prevalence of Common Mental Disorders (CMD) was 6.25% in males and 5.55% in females. The corresponding figures for Severe Mental Disorders (SMD) were 0.45% and 0.23%. The overall treatment gap was 86.7% for CMD and 75% for SMD.

When these prevalence and treatment gap numbers are looked at in the context of the marked shortage of mental health professionals (Khandelwal et. al., 2004; Thirunavukarasu et. al., 2010), it is clear that new models of community mental health need to be developed and implemented. Evidence based treatment models for providing community-based care for mental disorders do exist and have been tested in India at small scale (Patel et. al., 2011). Organizations and professionals with expertise in designing and implementing such programs typically do not have a presence in low resource areas, which are mostly in remote and underserved regions. One way by which their expertise is channeled into these areas is through projects implemented in partnership with organizations that are already delivering other health services in those regions.

The Jan Man Swasthya Pariyojana (JMSP) was developed as an attempt to translate these tested treatment models into catchment area-based community mental health services in diverse real-life settings. The aims of the program were two-fold. The first was to reduce the treatment gap for people with selected mental disorders. The second was to address the systemic challenges faced in the implementation and sustainability of mental health interventions.

Ramakrishna Mission Home of Service (RKM) at Varanasi was one of the six organizations where JMSP was implemented. All the sites were rural, though they varied widely in terms of developmental and health status indicators. RKM site was severely disadvantaged across a range of social and health system indicators, with a poor state of public health facilities and no public or private mental health service.

Implementation is the bridging of the gap between what is known about effective treatments, and what is provided as routine care in community settings. The lack of knowledge about implementation and sustainability in health care organizations has been characterized as a serious gap in the literature (Greenhalgh et. al., 2004).

Sustainability is an important consideration because the support provided by these projects to the partner organization is usually time bound. The expectation is that the skills transfer and linkage development that happens within the time period of the project will be sufficient to ensure the sustainability of the services by the partner after the project ends, and the support ceases.

RKM has been delivering community-based health services in 9 village cluster of Mirzapur district in Uttar Pradesh for the last 14 years. This paper describes the integrated care model

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that developed during the JMSP period, and that demonstrated sustainability after financial and technical support ended in June 2017.

Description of the program

Jan Man Swasthya Pariyojana (JMSP): JMSP focused on the treatment needs of people with Common Mental disorders (CMD), Severe Mental Disorders (SMD) and convulsive epilepsy. CMD refers to depression (excluding severe depression with psychotic features), anxiety, and mixed anxiety and depression. SMD refers to schizophrenia, bipolar disorders and other psychoses. Substance abuse disorders were not included in the JMSP.

The RKM site: The RKM has been providing health care services through its village medical camps in 9 village clusters spread over 7 blocks of Mirzapur and Sonbhadra districts since 2006. These villages range from 40 to 130 km from RKM, Varanasi. The total population covered is around 70,000, with most people engaged in labor and agriculture. The sex ratio is 903 females/1000 males. The literacy rate is 70% in men and 30% in women. 40% of the population are Below Poverty Line. 8% are Muslim, and a little over a quarter are from the Scheduled Castes. No psychiatric facility exists in the area in the government or private sector. Patients with mental health problems are therefore forced to go to Allahabad or Buxar (50-120 km) for treatment.

The health care services of RKM are provided through a 3-tier system, with the physician based in the mobile unit, the Community Health Worker providing door-to-door coverage, and the Middle Level Team (MLT) of around 11-18 members working as physician substitutes and trainers of Community Health Workers, thus providing the bulwark of the program.

Primary health care, especially focusing on mother and child health, is delivered from fully equipped mobile medical units. Each village is visited once a week. On every visit, 120-200 patients attend the OPD. The Community Health Worker and Middle Level Team conduct door to door visits, and also conduct multimedia-based health education programs.

Aim & Objectives

Aim

- To describe the implementation of the community mental health program during the 3.5-year JMSP period and the subsequent 4 year sustained period.

Objectives

1. Gather the data on patients presenting with common mental disorders and severe mental disorders in both these periods.
2. Review the data to discuss the sustainability of community mental health programs.

MATERIAL AND METHODS

Timeline of the program

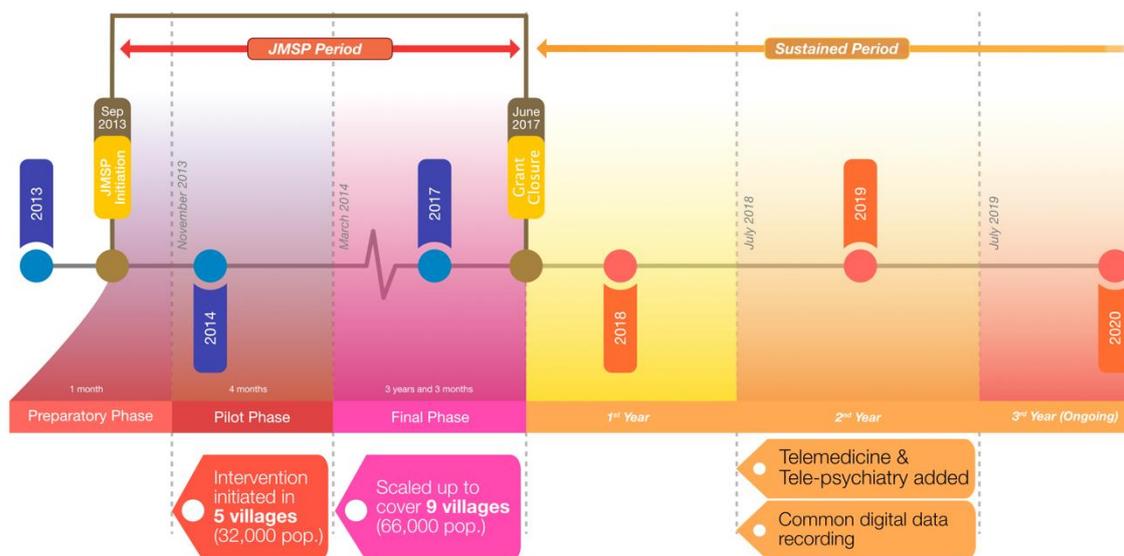


Figure 1: Timeline of the program

The intervention delivery team at RKM site

The Community Health worker (CHW) was responsible for identifying both medical and mental health problems. The Intervention Facilitators (IF) were competent in supervising the Community Health workers and in interventions in both kinds of illnesses. One among the Intervention Facilitators received complete training as a Master Trainer (MT). Rest of the Intervention Facilitator team were trained by this Master Trainer, Project Head and Mentor.

In the absence of PHCs and local psychiatrists, the in-house doctor fulfilled the role of psychiatrist under the supervision of the Mentor. The Mentor Psychiatrist (AB) was responsible for training the Intervention Facilitators and primary care doctor through regular visits. AB has more than 20 years' experience in clinical and community psychiatry and teaching. On every visit, he conducted training of primary care doctors and the Middle Level Team, and clinical review of patients. This was done hands-on in the field sites. Each visit was for 3 days, with one day each in two field sites, and review meetings and classes in the office. In the first 16 months till December 2014, there were 10 such visits. Subsequently, visits were once every 2-3 months. At all other times, he was available on the phone. In addition to this, the team has also received once-a-week training and supervision from the Project Head, a pediatrician by training, with extensive experience in community health and mental health.

Diagnosis

SMD was diagnosed by Master Trainer and Doctors based on the characteristic symptoms and associated dysfunction. All SMD diagnoses were confirmed by the Mentor psychiatrist. All referred persons were administered the General Health Questionnaire (GHQ). CMD was diagnosed when the score on GHQ was more than or equal to 6 (Goldberg, 1998) and the

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symptoms of anxiety and/or depression were present. The diagnosis and management plan were reviewed with Mentor during his field visits.

Intervention

Individual interventions were provided in a stepped care manner, with people receiving interventions based on their level of need (TATA Trust, 2016). Structured guides for each disorder were developed to provide a uniform intervention, and also help in effective supervision. All interventions were community- and home-based. The stepped care intervention at RKM site was delivered as follows:

	Step 1	Step 2	Step 3
Needs	Mostly met needs	Some unmet needs	Several and complex needs
Intervention providers	Community Health worker	Community Health worker	Community Health worker
	Intervention Facilitators	Intervention Facilitators (under Master Trainer supervision)	Intervention Facilitators (under Master Trainer supervision)
		In-house Doctor	In-house Doctor (under Mentor Psychiatrist supervision)
Intervention	Basic counseling	Basic counseling and medications	Counseling and medications under Mentor's guidance.

Thus, the key practices that were sought to be implemented were:

1. Diagnosis and treatment of CMD and SMD by non-specialist doctors under the supervision of the psychiatrist.
2. Detection, screening and psychosocial interventions for these disorders by physician substitutes.
3. Delivering these services in an integrated care setting.

Sustained period: July 2017 till date

Mental health services are ongoing, integrated at all levels with the other health care services. In the first year of the sustained period, data recording continued in the JMSP format. From the second year of the sustained period, i.e., June 2018 onwards, the program activities and methods have evolved. Telemedicine units have been established in 5 villages, with telepsychiatry as an integrated part of their services. The mobile medical units are continuing their services as before. Simultaneously data recording has been digitized. The integrated telepsychiatry program has been described separately in another paper (Mujawar & Banerjee, 2020)

Definitions of outcomes

- **Planned discontinuation:** patient is symptomatically stable, and a mutually agreed post-discontinuation plan is prepared.
- **Unplanned discontinuation:** patient is not stable, and the family/patient are asking for discontinuation OR if the patient is not traceable, not engaging or persistently in the Non-compliant category for more than 3 months.
- **Non-compliant:** no active session with patient for consecutive 2-4 weeks.

RESULTS

I: JMSP period (01 November 2013 till 30 June 2017).

	Total enrolled	No longer on treatment			On treatment as on 30 June 2017
		Planned discontinuation	Unplanned discontinuation	Non-compliant	
CMD	288 (32% Males)	65 (22.5%)	42 (14.6%)	55 (19.1%)	126 (43.8%)
SMD	166 (73% Males)	12 (7.2%)	16 (9.6%)	61 (36.7%)	77 (46.4%)

More than two-thirds of CMD patients enrolled were women. In SMD enrollments, the opposite held true; almost three quarters were men. Around 45% (CMD n=126, SMD n=77) in both categories remained on treatment at the end of the JMSP period. However, the status of those patients who did not remain on treatment differed in these two categories. CMD patients were more likely to have left by receiving a discontinuation, planned or unplanned. SMD patients were more likely to have left by disengaging from the program.

Table 2: Total intervention related and supervision related contacts over 2 years

	Intervention related contacts		Supervision related contacts
	Psychosocial	Medical	
CMD	16.2	5.57	6.4
SMD	28.2	13	10.3

In CMD patients, the emphasis was on psychosocial interventions delivered by Community Health Workers, Intervention Facilitators and Master Trainers, which were significantly more frequent than the medical interventions by the doctor and psychiatrist. The SMD patients have more complex needs, and all are on medication. This reflects in the higher frequency of intervention related contacts by both the psychosocial and medical team members, when compared to CMD patients. The more challenging nature of SMD is also reflected in a higher intensity of supervision related contacts made by Master Trainer, doctor and psychiatrist for SMD (10.3 contacts per patient) as compared to CMD patients (6.4 contacts per patient).

II: Sustained period, 1st year: 01 July 2017 to 30 June 2018

Table 3: Enrolment of new patients

	CMD	SMD
JMSP 1st year-2014	143	37
JMSP 2nd year- 2015	78	66
JMSP 3rd year- 2016	52	46
JMSP 6 months-2017	15	17
Sustained period 1st year	42	49

(Forecast from 2015 to 2017 for sustained period: CMD: mean of 6 & upper limit of 42.9, SMD: mean of 17 with upper limit of 76.2)

Table 4: Total CMD enrolled, and intervention status: Sustained period, first year (July 2017 – June 2018)

		Planned discontinuation	Unplanned discontinuation	Non-compliant	Currently on treatment
On treatment as on June 30, 2017 ('old' patients)	126 (25.4% Males)	1 (0.8%)	14 (11.1%)	43 (34.1%)	68 (54.0%)
New enrollments in 1st year sustained period	42 (16.7% Males)	0	0	17(40.5%)	25(59.5%)

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Table 5: Total SMD enrolled, and intervention status: Sustained period, first year (July 2017 to June 2018)

		Planned discontinuation	Unplanned discontinuation	Non-compliant	Currently on treatment
On treatment as on June 30, 2017 ('old' patients)	77 (71.4% Males)	0	0	24 (31.2%)	53 (68.8%)
New enrollments in 1st year sustained period	49 (69.4% Males)	0	0	26(53.1%)	23(46.9%)

Table 6: Comparing outcomes between JMSP period and Sustained period, first year (July 2017 to June 2018)

	JMSP Period		Sustained Period		χ^2
	Enrolled	On treatment*	Enrolled	On treatment*	
CMD	288	126 (43.81%)	42	25 (59.1%)	3.67 $p=0.05$
SMD	166	77 (46.41%)	49	23(46.91%)	0.004 $p=0.94$

(*Note: On treatment refers to number of patients remaining on treatment at the end of the period)

III: Total patients treated over four year sustained period

For the first two years of the sustained period (2017-18 and 2018-19), data for total patients treated per year was available, and it was captured from July to June.

Table 7: Total number of patients treated per year in 1st and 2nd year sustained period.

	CMD	SMD
Sustained period, 1 st year (July '17-June '18)	168	126
Sustained period, 2 nd year (July '18 – June '19)	292	137

From the next 2 years (2019-20 and 2020-21), records were synchronized with the financial year (April – March). Data was available for both old and new patients.

Table 8: Total number of patients treated per year in the 3rd and 4th year sustained period.

	CMD New	CMD Old	CMD total	SMD New	SMD Old	SMD total
Sustained period, 3 rd year	54	219	273	40	98	138
Sustained period, 4 th year	67	47	114	58	77	135

The total number of patients treated in a year is the sum of the number of 'old' patients (those who continued to be on treatment at the end of the previous year) and the number of new patients who are enrolled in that year as mentioned in the table above.

DISCUSSION

Sustainability

Sustainability is the continued use of program components and activities beyond their initial funding period for the continued achievement of desirable program and population outcomes

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(Scheirer & Dearing, 2011). In addition to tracking sustainability outcomes, it is important to assess the characteristics of a program and its parent organization that lead to program sustainability. These process factors are related to keeping interventions alive after their initial funding (Shediac-Rizkallah & Bonem, 1998; Weinstein, 2008).

Sustainability studies on community mental health programs in India are scarce. One study reported the follow up of such a program in Tamil Nadu that was conducted six years after project termination (Thara et. al., 2008). During the 10 years that the program ran, significant progress had been made in clinical services, networking with PHCs and referral centers, and rehabilitation. The follow up study found that most of these gains had been lost within a year of the termination of the project.

We now discuss the sustainability of our program in terms of:

- Continued benefits to clients.
- Program fidelity, especially community engagement.
- Organizational capacity.

The critical role of the doctors is discussed at the end, in relation to the role of the specialist. Continued benefits for clients: During the 3.5-year JMSP period, 288 patients with CMD, and 166 patients with SMD had been enrolled. Around 45% of the patients in both categories (126 and 77 respectively) were on ongoing treatment at the end of this period and continued to be on treatment as 'old' patients in the sustained period, 1st year. (Table 1)

Sustained period, 1st year: Over the 1st year sustained period, 42 new patients with CMD and 49 new patients with SMD were enrolled (Table 3). This follows the expected trend from the number of new CMD and SMD patients enrolled in the last 2.5 years of the JMSP period. Of the 49 new cases of SMD were enrolled during the first year of the sustained period (July 2017 to June 2018), 5 (10.2%) are now independently looking after themselves and 6 (12.2%) of them are earning their own livelihood.

60% (n =25) of these new CMD patients, and 47% (n=23) of these new SMD patients, remained on treatment at the end of the 1st year sustained period (Table 6). The percentage of new patients that continued to be on treatment showed no significant change in the sustained period compared to the JMSP period, implying effective patient engagement in the sustained period.

Of the old patients, 54% (n=68) of the 126 old patients of CMD, and 69% (n=53) of the 77 old patients of SMD, continued to be on treatment at the end of 1 year of the sustained period (Table 4, Table 5).

In those patients who did not remain on treatment, most were in the Non-compliant category; there were no discontinuations, planned or unplanned. This was true for both old and new patients, and for both CMD and SMD.

We can conclude that the intervention delivery processes remained effective for the patients who were benefiting from them. However, the processes to respond to the patients who improved completely (leading to planned discontinuation) was not well documented on the software in a retrievable form. Also, the processes to respond to those who did not improve at all (leading to unplanned discontinuation) were not sustained.

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Sustained period, 2nd year onwards: The detailed analysis of the integrated care services after the introduction of tele-psychiatry and transition to Electronic Health Record, both of which happened at the beginning of the 2nd year of sustained period, has been presented separately (Mujawar & Banerjee, 2020). As shown in Table 7, a total of 292 CMD and 137 SMD patients were treated in the 2nd year sustained period. When this is compared with the total number of patients seen in the 1st year sustained period, the SMD numbers are similar, while the CMD numbers are notably higher in the 2nd year.

In the 3rd and 4th year of the sustained period, comparable numbers of new enrolments, and total number of patients, were seen. Interestingly, the pandemic, which coincided with the 4th year (April 2020 to March 2021) and which significantly disrupted field visits and patient follow-ups, had different effects for CMD and SMD patients. Markedly fewer old CMD patients came for treatment, while old SMD patient numbers remained essentially unchanged. There was no effect of the pandemic on new enrolments in both categories.

The above data clearly demonstrates that the service is continuing to benefit its clients over the four years of the sustained period. With regard to expenses by the patient, medicines continued to be provided free, and all locations of care delivery were maintained. So, there was no increase in out-of-pocket expenditure on medicines or travel, for the patients. Special investigations like CT scan, however, now are paid for by patients themselves.

Program fidelity

Activities of the original program that have continued are:

- Identification and follow up of patients by door-to-door visits of Community Health Worker
- Intervention and supervision related activities by Master Trainer and Doctors
- Training and supervision of the team by mentor
- Community engagement activities (TATA Trust, 2017)

Mental health education camps were conducted once a month in every village. Role plays were organized elucidating the symptoms of CMD, SMD and epilepsy. These activities emphasized the importance of adhering to treatment, and sensitized people towards persons with mental disorders, both as caregivers and as a community. During the Empowering Rural Women meetings, similar themes were addressed, with a focus on mental health issues faced by women.

During the JMSP period, 235 such community engagement sessions were conducted. The number of people reached was 34, 260. These community engagement activities, and the door-to-door reach of the program, were built upon community partnerships nurtured over many years. These partnerships remain robust in the sustained period, and community engagement on health-related topics continue, though the mental health-specific component has diminished.

Activities that have significantly diminished are: Gathering and maintaining process and outcome data. Even with the inbuilt supports of the JMSP program, it took more than a year for the data gathering and reporting systems to fall into place. For example, data on intervention related and supervision related contacts were available in a meaningful form only after mid-2015 (Table 3). Throughout the program, data management remained a difficult task. After the JMSP period, it has proved increasingly difficult to sustain data

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gathering and reporting in its proper quality. The implications of this difficulty for desirable activities such as program evaluation, and dissemination of program outcomes, are obvious
Organizational capacity:

The core team - Program coordinator, Master Trainer, and key Intervention Facilitators – were drawn from a committed and stable team working for many years under the Project Head in the pre-existing RKM health programs. The resulting continuity of key members, with a shared outlook, was hugely important to successfully implementing the JMSP. The two doctors and the specialist (psychiatrist/ mentor) too have remained unchanged through the JMSP and sustained period.

The core team remained unchanged through the first 3 years of the sustained period. In the 4th year, the Project Head passed away after a sudden illness. The whole team was emotionally shattered, and the program was in limbo for a few months. However, RKM quickly appointed a new Project Head, and he and the senior team members regrouped and brought the program back on its feet.

Two features of the JMSP, the emphasis on psychosocial inputs, and the encouragement of integrated care, were deeply assimilated because of the team and program characteristics at RKM. Integrated care demands a flexible workforce of members who can transcend traditional professional disciplines and power dynamics. To a great extent, the RKM site and team did share these characteristics. The JMSP was seen by the key staff as an organic development of the RKM programs, and it was implemented with a high intent to continue. One of the critical components of program sustainability is the availability of competent workers. India produces very few clinical psychologists and counsellors, and most of them are present only in big cities. The RKM team recognized this fact and built in-house competency for training new-comers and continuing education of old timers. It also created training manuals, booklets, pamphlets, and videos in Hindi which contributes to both sustainability and scalability.

The primary care doctor and the specialist

The unique role of the in-house doctor and the Mentor at RKM site has been described earlier. Over the JMSP period, the doctors developed competency in the use of psychotropic medicines in a step-by-step manner. First, when basic diagnoses were being discussed, they learnt to understand the organic/substance induced/functional distinctions. In SMD, they learnt to differentiate bipolar disorder from schizophrenia. In CMD, they learnt the endogenous/reactive distinction. They could make decisions on who should receive counselling alone, and who needed medicines in addition. Then, they learnt how to match medicines to the diagnosed condition. At present, they are able to make accurate diagnosis (within this framework), select appropriate drugs (or decide not to medicate), and identify and manage side effects.

The role of psychosocial and community interventions was as important as the medical treatment. The management of CMD patients involved considerably more psychosocial contacts than medical ones. For SMD patients, both kinds of contacts were delivered at a higher intensity (Table 2).

Thus, with regard to the primary care doctor and the specialist, our program demonstrates that:

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1. When provided with appropriate training, support and supervision, the primary care doctor is capable of performing the mental health care roles required for a community mental health service in underserved regions.
2. Such a program can be implemented and sustained without a fulltime local specialist. The training, support and supervision by mental health professionals can be effectively performed by regular visits by the expert, supplemented by availability over the phone or through telemedicine.
3. It is possible to deliver effective psychosocial inputs through non-medical team members. Besides the benefits to patients, an emphasis on these interventions helps the whole team to understand mental health in a broader manner than just involving diagnosis and medication. Developing integrated services in this manner is challenging for the organization and each of the team members, but, as shown here, it is both achievable and beneficial.

CONCLUSION

A structured mental health initiative was introduced in an organization providing community-based health services. The enhanced organizational capacity and the demonstration of utility contributed to the decision to continue and strengthen the program. Over the four-year sustained period described in this paper, the program has shown continued benefits to its clients. The program has evolved, with the introduction of Electronic Health Record and Telemedicine.

The experience from this program can inform the development of program characteristics and organizational processes of new programs in order to ensure similar outcomes. This can contribute towards the generalizability of these processes and, in particular, to the development of the public DMHP at a scale.

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Conflict of Interest

The author(s) declared no conflict of interest.

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