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Editorial

Innovations for integrated care: The Association of Medicine and Psychiatry recognizes new models



ABSTRACT

This editorial looks at the current state of the integration of medicine and psychiatry in clinical practice. We note selected recent triumphs and barriers to implementing integrated care, highlighting some gaps and priorities for future innovations. In contrast to the relatively more orderly culture of health services research, where some notable innovations in integrated care were funded, tested, and published, the health care marketplace can be a difficult place to identify and track the innovations that could shape health care reform. Recognizing the need to find, describe, and disseminate the most innovative models in integrated care, the Association of Medicine and Psychiatry (AMP) launched in 2016 the Innovative Models for Integrated Care Awards. Although many service innovations solve local problems, some can also act as models to be adopted in multiple settings. The projects that win AMP Innovative Models for Integrated Care Awards are selected for their innovativeness, their clinical importance, their generalizability, and their effectiveness. We briefly describe here the four models that earned these awards at the 2017 AMP Annual Meeting. They demonstrate innovations across a range of settings and populations: inpatient general hospital patients under constant observation in New York, severely mentally ill patients in a federally qualified health center in San Francisco, outpatients in a VA women's health center in Chicago, and HIV patients in an academic infectious disease clinic in Charleston, south Carolina. These model descriptions aim to encourage the implementation of innovative models that advance the integration of medicine and psychiatry.

1. Introduction

The forces of health care reform during the past ten years have driven innovations in systems of practice, particularly in the integration of medicine and psychiatry. This recent emergence of integrated care as a target for health care reform has led to a rush of enthusiasm for services research and innovations in clinical practice and training. Notable examples of leadership in this integrated care field include the University of Washington's AIMS Center, the American Psychiatric Association's courses for retraining psychiatrists in integrated care, and the University of California at Davis, which provides training in integrated care to primary care clinicians through the Train New Trainers-Primary Care Psychiatry Fellowship program.

However, during the translation from the “bench” of orderly clinical trials to the messier systems that deliver care at the bedside or in the clinic, the implementation of these system innovations on a large scale has met substantial barriers. For example, in spite of 69 clinical trials of collaborative care for depression in primary care by 2012 [1], and in spite of the success of the Center for Medicaid and Medicare Services (CMS) COMPASS demonstration project of the effectiveness of the collaborative care model at 37 centers around the country [2], widespread implementation of this model could not begin until novel methods of payment made it economically feasible. These payment options only opened on a national level in 2017 when the CMS approved G-codes for collaborative care (<https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/BehavioralHealthIntegration.pdf>).

Outside the controlled culture of federally funded services research, innovations in integrated care have been understandably accidental and opportunistic. One of the earliest triumphs of integrated care that spread widely around the country was the embedding of mental health

services into cancer centers in the 1980s and 1990s and the emergence of psychosocial oncology as a sort of subspecialty with its own professional organization (<https://apos-society.org/>), journal, and meetings. On the other hand, such embedding of mental health services is rare in the equally common heart centers around the country, in spite of the robust evidence that depression is as strong a predictor of poor outcomes for coronary heart disease as many of the traditional cardiovascular risk factors [3].

1.1. Financing models

If collaborative care for depression in primary care is the signature triumph of integrated care, what are the gaps that have not yet earned as much attention? To respond to the economic imperatives of health care reform, we need more innovations in integrated care that focus on the high cost problems in our systems and capitalize on the proven capacity of collaborative care to save substantial amounts of money. How can we adapt the successes in the outpatient sector to similar systems innovations in the inpatient sector where the possibilities for cost savings may be greater and quicker to realize? Perhaps the proactive psychiatric consultation model offers one example [4].

1.2. New populations of interest

New populations of interest demand new approaches. If 66% of the health care dollar is spent on 10% of the population, we should concentrate our innovations on those high cost patients, most of whom have multiple chronic conditions, including severe mental illnesses. How can hot-spotters identify those who are most likely to benefit from integrated care? The opiate epidemic calls for innovations in integrated care wherever the patient with addiction travels—in primary care, in

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acute care hospitals, in schools and prisons and the workplace. Specialty settings with high rates of medical and psychiatric comorbidities, such as pain clinics, HIV centers, hepatitis clinics, and sickle cell services may provide opportunities for innovations in integrated care.

1.3. System designs

Integrated care demands systems smarts and creative thinking about how we deliver health care. Recent innovations have stretched our traditional health care roles, our tools, and our ways of operating. Future innovations are likely to stretch the traditional systems of care even farther. Just as the introduction of care managers and patient registries has forced new types of training, payment, and data management, system redesigns we can't yet imagine will force similar demands, driven by greater benefits.

1.4. The Innovative Models for Integrated Care Awards

To recognize and promote the most creative innovations emerging in integrated care, the Association of Medicine and Psychiatry (AMP) launched in 2016 the Innovative Models for Integrated Care Awards. These awards are an effort to contribute to and disseminate the collective wisdom about integrated care. Though none of these projects was the product of formal services research, their presentation as case reports here may contribute to the growing implementation science of developing integrated care services [5]. The aim is to achieve model descriptions that are sufficiently detailed to invite replication or elaboration in other settings. This set of awards is given annually to the authors who submit the model descriptions that best represent innovations that are clinically important, generalizable, and effective. The distinguishing features of the four projects that won the 2017 Innovative Models for Integrated Care Awards are summarized in [Table 1](#).

2. Co-winner: Aaron Pinkhasov, NYU Winthrop University

Aaron Pinkhasov, MD, Clinical Professor of Psychiatry at NYU School of Medicine and Associate Clinical Professor of Psychiatry and Medicine at Stony Brook School of Medicine. He assumed role of chairman of the Department of Behavioral Health at NYU Winthrop Hospital in 2014.

2.1. Title: *Integrated care of patients on constant observation in a general hospital setting*

2.1.1. Setting

Constant observation (CO) utilization in general hospital settings leads to significant economic burden without any demonstrated reduction in adverse events [6,7]. Given the high prevalence of psychiatric co-morbidity in general hospital settings, this project examined the benefits of a designated Behavioral Health Program in the management of patients on CO in a general hospital on Long Island. For all patients on CO proactive psychiatric consultation was initiated and continued for the duration of CO status ([Fig. 1](#)).

2.1.2. Innovations

Proactive involvement of psychiatry service on all patients requiring CO facilitated efficient and safe management of a complex population with medical and psychiatric co-morbidity. In total, 491 patients underwent this protocol over the six month period ([Fig. 2](#)).

2.1.3. Importance

There was a 33% reduction in the average monthly costs of CO and an associated 15% reduction in LOS. In addition, comparison of aggregate data of both groups demonstrated dramatic decrease in falls (from 63 to 2), inadvertent extubations (from 10 to 0), elopements

(from 3 to 1) as well as 30-days readmissions from 20 to 10 in this studied CO population.

2.1.4. Generalizability

This model may be implemented in any general hospital with the capacity for proactive consultation by a behavioral health team. Constant observation (CO) use has long been a challenge in general hospital setting, adding substantial burden on hospital finances and personnel resources [7]. Depending on the size of the hospital, CO costs may range from 2 to 6 million dollars per-year not including CO utilization in primary psychiatric settings [8]. This is not surprising considering that up-to 35% of general medical admissions have behavioral health co-morbidity [9]. Failure to reassess need for ongoing CO, on a daily or shift basis is described as a contributor to high CO cost in general hospital setting.

2.1.5. Comments

This innovative collaborative approach addresses the gap between medical and psychiatric aspects of care of CO patients, a population that is as prevalent as it is complex due to med-psych co-morbidity. Institutional buy-in and true team efforts involving nursing department and hospital administration are paramount in making this program a success.

3. Co-winner: Carrie Cunningham, MD

Carrie Cunningham, MD, is board certified in Family Medicine and Psychiatry. She attended the University of California San Francisco ZSFG Public Psychiatry Fellowship and is now an Assistant Professor of Psychiatry at UCSF Citywide.

3.1. Title: *ACCESS-SMI (Advancing Collaborative Care to Ensure Systematic Screening in Severe Mental Illness)*

3.1.1. Setting

The ACCESS-SMI Model was implemented in January 2017 at the Haight Ashbury Medical Clinic, a federally qualified health center in an urban, safety net center of San Francisco, California. The Haight Ashbury Medical Clinic is a primary care clinic with onsite integrated mental health services including psychiatry, therapy, and case management. The clinic is part of HealthRight 360, an organization comprised of integrated health programs including triple integration between medical care, mental health, and behavioral health/substance use treatment. Factors that contributed to the creation of this modified collaborative care model for people with severe mental illness (SMI) include a) the large proportion of patients referred to psychiatry from primary care who have a diagnosis of SMI; b) the number of patients treated solely by a primary care provider who have a diagnosis of SMI; c) the low rate of metabolic and other health screening for people with SMI and d) challenges in referring patients to community mental health treatment from primary care.

We implemented a modified collaborative care model for people with severe mental illness (SMI) using a population-based registry, patient-centered team care, measurement-based treatment to target for medical outcomes, and a stepped care model. Our goals were to: 1) examine the feasibility and acceptability of creating an SMI registry within primary care; 2) document baseline screening rates on the following metrics - metabolic monitoring (BMI, A1c, LDL, BP), HCV, HIV, smoking status, referral to community mental health treatment - and track outcomes after intervention to improve screening; 3) use the registry to conduct psychiatric caseload review at weekly primary care/behavioral health team meetings; and 4) inform best practices for treating patients with SMI in primary care settings. Outcomes were assessed as part of a prospective cohort study to evaluate the implementation of the model.

Table 1
Innovative models for integrated care.

Team	Project title	Setting	Innovations	Outcomes	Generalizability
Aaron Pinkhasov, NYU Winthrop University	Integrated care of patients on constant observation	Behavioral Health Program for constant observation patients in general hospital on Long Island	Proactive psychiatric consultation on all CO patients	-491 patients enrolled. -33% reduction in avg. monthly costs -15% reduction in LOS -reduced falls, extubations, elopements and 30-day readmissions	All general hospitals with capacity for proactive consultation by behavioral health team.
Carrie Cunningham, University of California at San Francisco	ACCESS-SMI	FQHC in San Francisco	Collaborative care to improve primary care for patients with SMI	Increased LDL, HBA1c, HIV, and Hep C screening	FQHC's with specialty MH team and registry for SMI
Laura Miller, Hines VAMC, Chicago	Integrated Care for Women Veterans	Large VAMC with Women's Health Clinic	MH team on site, patient advisory board, peer support specialist	Steady growth in number served, 92% access, 1.4% improvement in functioning, patient and provider satisfaction > 90%	VAMC's with Women's Health Clinics and integrated MH services
Allison Smith, Sarah Oros, Edward Kantor, Daena Peterson, Medical University of South Carolina	Psychiatry in HIV/infectious disease clinic	Academic infectious disease clinic, Charleston, SC	Co-located psychiatric care for HIV patients, systematic case reviews	Increased recognition and treatment of psychiatric disorders	HIV clinics in academic medical centers with Ryan White funding, or other sources.

3.1.2. *Innovations*

Existing collaborative care and other integrated care models do not specifically address the complexities of working with people with severe mental illness (SMI) in primary care settings (Unutzer 2013: <https://www.medicaid.gov/state-resource-center/medicaid-state-technical-assistance/health-home-information-resource-center/downloads/hh-irc-collaborative-5-13.pdf>). Though behavioral health homes and other reverse integration models aim to address the health of people with SMI followed in community mental health clinics, there are a number of patients with SMI who are treated solely in primary care. Barriers to caring for people with SMI in primary care include limited time, lack of provider knowledge, and stigma. The goal of this implementation project is to adapt the collaborative care model for people with severe mental illness (SMI), including the creation of a population-based tool to track screening and coordinate care for patients with SMI in a primary care setting.

3.1.3. *Clinical importance*

With the life expectancy of people with SMI 10–25 years lower than the general population [10], these complex medical issues necessitate an integrated approach to treatment. The feasibility and acceptability of a collaborative care model for people with SMI was demonstrated at the Haight Ashbury Medical Clinic. Pre- and post- intervention screening rates for low-density lipoprotein (LDL), hemoglobin A1c (A1c), HIV, and Hepatitis C were compared in a subset of the study population with the following psychotic spectrum diagnoses: schizophrenia, schizoaffective disorder, and other psychosis. An increase in screening for LDL, A1c, HIV, and Hepatitis C was found after the model was implemented, with the increase reaching statistical significance in screening for HIV (p = 0.01) and Hepatitis C (p = 0.01). Prior to implementation of the intervention, a medical assistant already completed routine screening for blood pressure, body mass index, and smoking status as part of pre-visit assessments at the health center. Screening rates for these parameters remained high post-intervention.

3.1.4. *Generalizability*

This model may be implemented in integrated primary care clinical settings, particularly in urban, safety net centers with high baseline rates of severe mental illness among the primary care population. In addition to the integrated care team (e.g. primary care provider, psychiatrist, therapist), resources include a person tasked with generating and maintaining the registry, which could include a care manager, referral coordinator, or other designated staff member. The clinic would also need to invest in the IT resources to create and maintain a registry.

3.1.5. *Comments*

The dramatic health disparity that exists for people with serious mental illness demands a systematic, comprehensive approach to improve health outcomes for this population. Federally qualified health centers provide a common setting for implementing this model. By adapting the collaborative care model to focus on people with SMI, we can highlight the unique needs of this population and leverage resources towards improving the health of people with SMI in the primary care setting.

4. Honorable mention: Laura Miller, MD

Laura J. Miller, MD, is Medical Director of Women's Mental Health at Edward Hines Jr. VA Hospital and Professor of Psychiatry at Loyola Stritch School of Medicine.

4.1. *Title: Adapting an integrated care model for the treatment of women veterans*

4.1.1. *Setting*

Compared to civilian women, women veterans have a higher

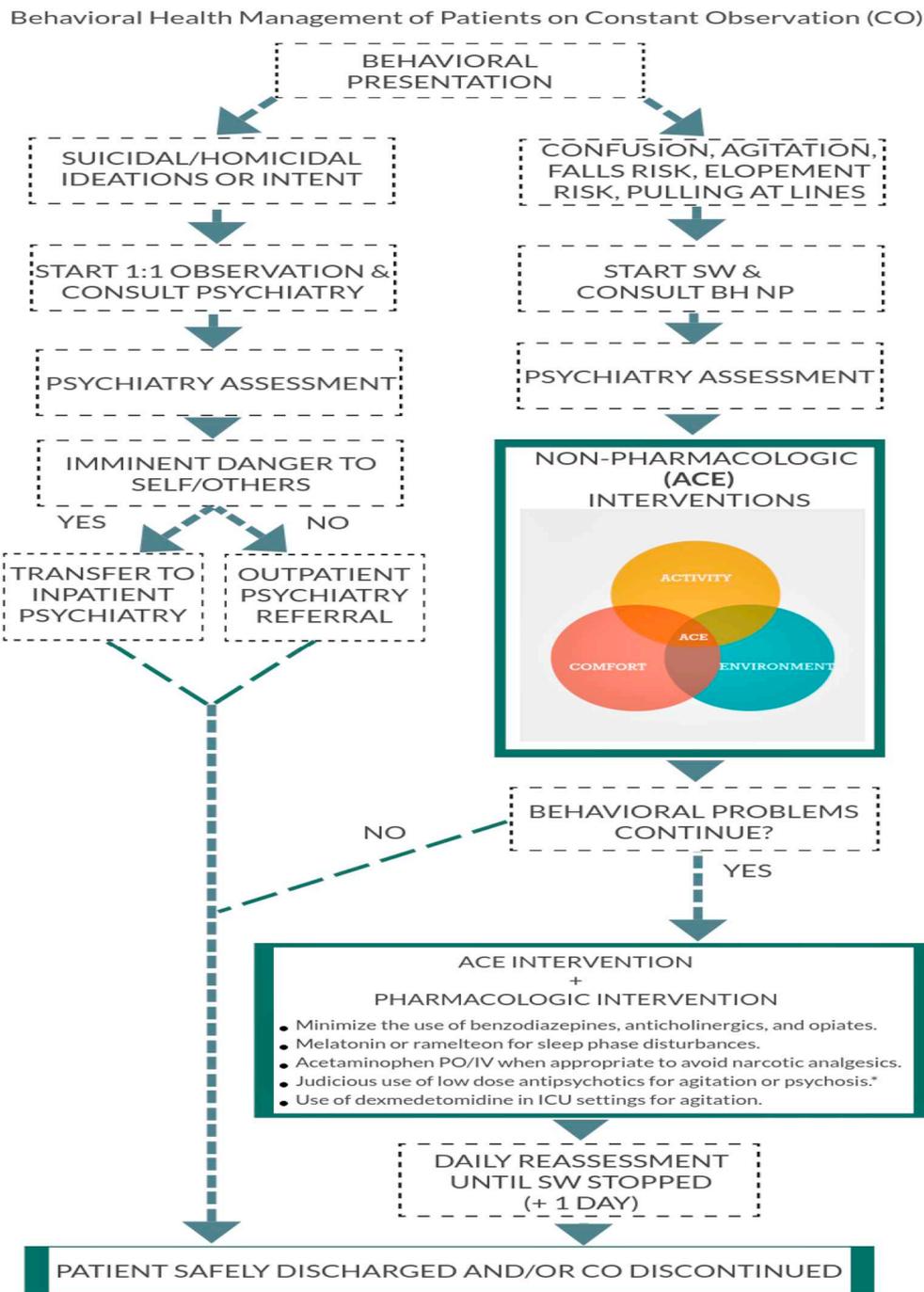


Fig. 1. Behavioral Health Management of Patients on Constant Observation.

prevalence of medical comorbidities and sexual trauma [11]. For this population, integrating primary care and mental health care is essential, but requires modifications due to the relatively high severity and chronicity of mental health problems [12]. Hines VA Hospital implemented a novel integrated care model within its Women's Health Clinic (WHC), a primary and gynecologic care clinic.

Multidisciplinary mental health providers are co-located in the WHC, and provide the full range of mental health services.

4.1.2. Innovations

This model incorporates key elements of integrated care (co-location, warm handoffs, consultation, outcome tracking, population management), a patient advisory board, and a peer support specialist.

4.1.3. Clinical importance

The primary goal of reorganizing this model was to improve access to mental health care for women veterans. Correspondingly, the primary outcome measure was growth in the number of patients completing psychiatric evaluations within the Women's Health Clinic. Table 2 shows the growth trajectory, which followed the expected pattern of initial rapid growth due to unmet need, followed by sustained increases reflecting the growth of the population of women veterans.

We also measured access to urgent appointments, which were available as a means of reducing emergency room visits and hospitalizations. In FY17, there were 199 requests for urgent psychiatry appointments in Women's Health Clinic. Of these, 183 (92%) were accommodated.

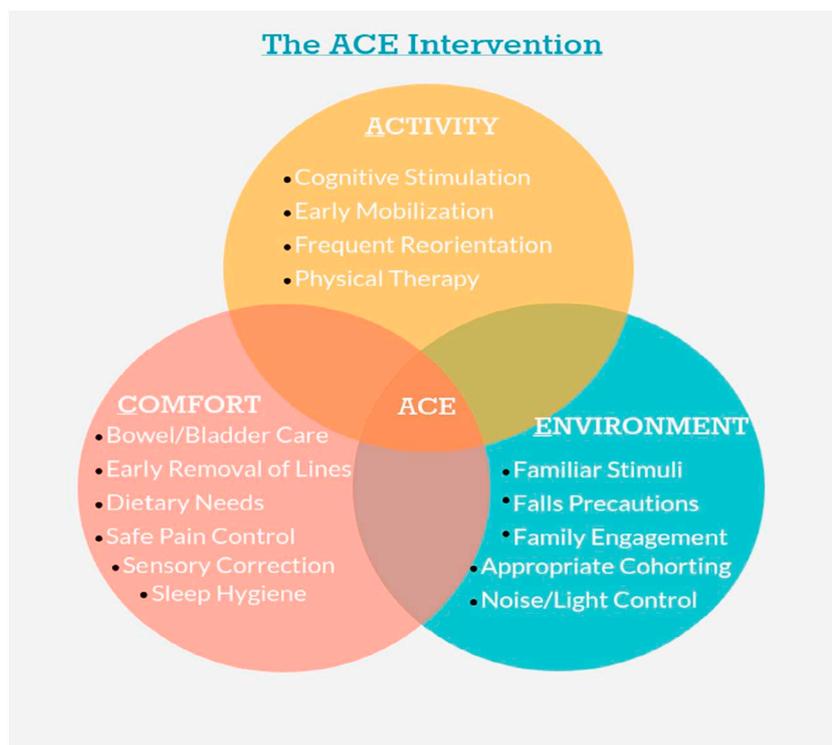


Fig. 2. The ACE Intervention.

Clinical effectiveness: We assessed functional impairment scores at initial evaluation and after 3 months of treatment, aiming for a 10% mean score reduction. Over the course of one year, functional impairment scores improved by 14%.

Patient satisfaction: Patient satisfaction scores on four items ranged from 88.7%–98.4% responding at the highest satisfaction level.

Provider satisfaction – Provider satisfaction scores on five items ranged from 94.5%–100% responding at the highest satisfaction level.

4.1.4. *Generalizability*

VA medical centers with women's health centers and clinics serving women with high levels of trauma histories and medical/gynecologic comorbidities provide settings for implementing this model. Resources were primarily reorganized rather than newly allocated.

4.1.5. *Comments*

This model increased access by over 300% in four years, improved identification of psychiatric disorders, improved clinical ratings of functioning, all while achieving high levels of patient and provider satisfaction [13].

5. **Honorable mention: Allison Smith, MD, Sarah Oros, MD, in collaboration with Edward Kantor, MD and Daena Petersen, MD**

In the fall of 2017 Allison Smith, MD, and Sarah Oros, MD were fourth year residents in Internal Medicine Psychiatry at the Medical University of South Carolina, Charleston.

5.1. *Title: HIV psychiatry - An innovative integrated care model*

5.1.1. *Setting*

The Infectious Diseases/Psychiatry HIV Collaborative Care Clinic is nested within a university outpatient HIV/Infectious Disease clinic at the Medical University of South Carolina in Charleston, South Carolina. The southeastern United States holds some of the highest rates of HIV diagnosis per year, as well as some of the highest death rates from AIDS.

The CDC estimates that the lifetime risk of HIV diagnosis in South Carolina is 1/86 (10th highest in the US). Research has shown that treating mental health issues promotes engagement in HIV treatment. The HIV psychiatry clinic runs two half-day afternoons concurrently with the HIV clinics. Two residents and one supervising attending attend each clinic. The psychiatry residents/attendings sit in the same room as the HIV/ID attendings/fellows/residents/students which fosters open communication across disciplines. Data from the clinic's first year demonstrated slightly lower viral loads and increasing CD4 counts in patients who engaged in mental health treatment in the clinic. Follow up visit attendance to their HIV appointments also improved.

5.1.2. *Innovations*

A collaborative care approach was implemented in the HIV psychiatry clinic. Psychiatry providers attend a weekly open case discussion as well as visit the local HIV/AIDS community program to connect with staff on the forefront of engaging HIV positive individuals in care. Resident participation has been instrumental to the initiative.

5.1.3. *Clinical importance*

Many HIV patients have comorbid mental illness including anxiety, depression, and substance use related to their diagnosis. It is important to recognize and treat both the medical and psychiatric components of our HIV patients. Ultimately we hope to lower complications from the disease, as well as death from the disease.

Table 2

Number of patients seen by psychiatrists in the Hines VA Women's Health Clinic.

Fiscal year (FY)	FY13	FY14	FY15	FY16	FY17
Number of patients served	93	197	329	357	408
% increase from prior fiscal year	–	112%	67%	8.5%	14.3%
% increase from baseline (FY13)	–	112%	254%	284%	339%

5.1.4. Generalizability

Funding for our model initially came from the Ryan White Program, however due to changing guidelines the Infectious Disease Department recognized the value of the clinic and has taken over funding the psychiatry clinic, specifically for space and attending salaries. In this respect our model represents an example of the use of external funding to establish internal support for a valued clinical service. Our clinic borrows support from the Infectious Diseases clinic itself (pharmacy, case management, outreach, scheduling, etc.). This model could be potentially applicable to other medical sub-specialties with high incidences of associated psychiatric co-morbidity (e.g. potentially Rheumatology and Gastroenterology). This model helps address patients with medical and psychiatric conditions in the same setting and could potentially improve quality of health care with its collaborative approach.

5.1.5. Comments

This model represents an example of blending training and clinical needs to provide a novel integrated care service in a specialty medical setting.

6. Discussion

These innovations range from high intensity care on inpatient medical wards to outpatient HIV clinics. They present new applications of pro-active psychiatric consultation, collaborative care, and co-located care in private and public institutions. They span the continent from Charleston to San Francisco to New York, and Chicago in between. These innovations target cost savings, access to primary care, access to psychiatric care in hospitals, and improvements in viral load and CD4 counts. As a group they represent innovations in ways of financing integrated care, targeting special populations, and redesigning systems.

These models also represent innovations in their infancy and none have been adopted outside their original settings. In that respect they are more promising than proven. The wider dissemination of integrated care will depend first on the broad sharing of descriptions of innovative examples of integrated care, and then on services research focused on the implementation of integrated care services that tests these models more widely and rigorously than is possible in any single demonstration project. The case reports presented here offer a step in that direction.

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