Collaboratively reframing mental health for integration of HIV care in Ethiopia

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Background Integrating mental health with general medical care can increase access to mental health services, but requires helping generalists acquire a range of unfamiliar knowledge and master potentially complex diagnostic and treatment processes.

Method We describe a model for integrating complex specialty care with generalist/primary care, using as an illustration the integration of mental health into hospital-based HIV treatment services in Ethiopia. Generalists and specialists collaboratively developed mental health treatments to fit the knowledge, skills and resources of the generalists. The model recognizes commonalities between mental health and general medical care, focusing on practical interventions acceptable to patients. It was developed through a process of literature review, interviews, observing clinical practice, pilot trainings and expert consultation. Preliminary evaluation results were obtained by debriefing generalist trainees after their return to their clinical sites.

Results In planning interviews, generalists reported discomfort making mental health diagnoses but recognition of symptom groups including low mood, anxiety, thought problems, poor child behaviour, seizures and substance use. Diagnostic and treatment algorithms were developed for these groups and tailored to the setting by including possible medical causes and burdens of living with HIV. First-line treatment included modalities familiar to generalists: empathetic patient–provider interactions, psychoeducation, cognitive reframing, referral to community supports and elements of symptom-specific evidence-informed counselling. Training introduced basic skills, with evolving expertise supported by job aides and ongoing support from mental health nurses cross-trained in HIV testing. Feedback from trainees suggested the programme fit well with generalists’ settings and clinical goals.

Conclusions An integration model based on collaboratively developing processes that fit the generalist setting shows promise as a method for incorporating complex, multi-faceted interventions into general medical settings. Formal evaluations will be needed to compare the quality of care provided with more traditional approaches and to determine the resources required to sustain quality over time.

Keywords Africa, HIV, integrated care, mental health
KEY MESSAGES

- Integrating comprehensive mental health care into a general medical setting requires novel approaches to the transfer of knowledge from specialists to generalists
- Mental health diagnoses and treatments can be reframed in a way that makes them more readily incorporated into general medical care
- Reframing diagnosis requires determining categories of emotional and behavioural problems already recognized by general health care providers and providing tools for validating those categories
- Reframing treatment builds on general health care providers’ existing skills and identifying brief interventions, including psychoeducation, supportive counselling and medications, that can be safely used in a stepped manner within a few broad categories of initial patient presentations

Introduction

In nearly every country in the world, mental health treatment resources lag demand and estimated need. Although producing more mental health specialists remains a priority, the World Health Organization (WHO) and other groups have developed plans for more feasible efforts to increase access to mental health care (WHO 2008; Foy and American Academy of Pediatrics Task Force on Mental Health 2010). A central part of these plans includes increasing general medical sector capacity to identify and treat mental health problems and to be a more efficient gateway to specialty services where they exist.

The concept of integrating new services into general (or primary) medical care is not new, but integration of mental health poses unique problems when compared with somatic care. Most generalist providers have had minimal graduate or post-graduate training in mental health when compared with infectious diseases or other specialties. Thus, the foundation on which to add additional skills is limited. In addition, mental health concerns are stigmatized among clinicians as well as the general public and often neither see medical services as a place where mental health is discussed (Horwitz et al. 1998; Stein et al. 2008). Finally, mental health concerns, as they are conceived by specialists, do not lend themselves to rapid diagnosis or to brief interventions in the context of very short clinical visits.

Nonetheless, some success has been achieved overcoming these barriers. Some programs have involved training for general medical providers themselves (Roter et al. 1995; Araya et al. 2003; Rahman et al. 2008; Wissow et al. 2008; Jenkins et al. 2010; Pereira et al. 2011), and others have involved placing specialists at general medical sites or training auxiliary staff already in place (Asarnow et al. 2005; Futterman et al. 2010; Katon et al. 2010; Chibanda et al. 2011; Petersen et al. 2011) to help make diagnoses, administer treatments and track patients. The majority of these programs have focused on single conditions—most often depression among adults and adolescents. Depression makes a particularly attractive target because it is among the most common mental health problems in these populations, it is detectable with simple screening instruments across many cultures and is often responsive to readily available medications or brief cognitive treatments.

Mental health needs in HIV care, however, are more complicated. By various estimates, mental health problems are anywhere from two to five times more prevalent among people living with HIV than in the general population (Rabkin 2008; DeribeW et al. 2010). People attending HIV care can have various combinations of problems that range from difficulties coping with stress and demoralization, to the ‘common mental disorders’ such as anxiety and depression, and to major mental disorders including schizophrenia, bipolar disorder and dementia, all which are frequently related to or co-morbid with physical illness and social adversity.

While dissemination of single-condition integration programs may be possible with traditional models in which specialist experts choose an evidence-based intervention and teach it to generalists (Bauman et al. 1991; Backer and Department of Health and Human Services/Substance Abuse and Mental Health Services Administration/Center for Substance Abuse Prevention 2002), this approach can fail when diversity among patients, providers, health systems and communities requires front-lines clinicians to provide a range of interventions tailored to the needs of particular individuals (Daleiden et al. 2006). For complex interventions in heterogeneous patient populations, alternative models of integration development have evolved that seek to leverage existing front-line clinician expertise rather than replace it with new knowledge (Hargreaves 2007; Daleiden et al. 2006; Beidas and Kendall 2010; Afifi et al. 2011). In these models, the integration evolves collaboratively, with specialists responding to what patients and front-line clinicians say they need. The goal of specialists then becomes not to teach a specialty approach to care, but rather to provide information that helps front-line clinicians do a better job of what they are already doing (Leprohon & Patel 1995).

The goal of this article is to describe in detail a collaborative model of integration development applied to the integration of comprehensive mental health and general medical care. The model aims to produce programs that fit well into the worlds of both specialist and generalist providers (Aarons et al. 2011). To illustrate the model, we use a case study of its application to the design of an integrated HIV-mental health program in Ethiopia.1

Methods

Development team and context

The Ethiopian program was developed by a team that included two psychiatrists, one Ethiopian and the other from the United

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The overall process was based on similar projects using collaboration with target patient and provider populations. The work was carried out to develop the program, and the publication of the case study was approved by the Centers for Disease Control’s (CDC’s) Center for Global Health, Division of HIV/AIDS (CGH/DGHA).

JHU-TSEHAI supported HIV services in Addis Ababa, the capital and three predominantly rural regions of Ethiopia. Addis Ababa is culturally diverse and has, overall, a higher literacy rate than the rest of the country, which is mostly rural and in which the population tends to be poorer (Macro International Inc. 2008). Ethiopia remains one of the poorest countries in the world, with 78% of the population living on <$2/day and a gross national income of $390/person (World Bank 2012).

Addis Ababa is the site of the country’s only specialty mental health facilities and the location of its only training program for physicians interested in becoming psychiatrists. The large majority of Ethiopia’s few doctoral-level mental health professionals practice in the city (there are ~40 adult psychiatrists, two child psychiatrists and 40 clinical psychologists in this country of over 80 million people). Some 460 mental health nurses are better distributed around the country, but they often practice in isolation without access to consultation or medications (Ministry of Health 2011). ART (anti-retroviral therapy) providers, who can be nurses, health officers or generalist physicians, vary in their workload across sites, but may be required to see as many as 50 patients a day in visits that can be as short as a few minutes.

### Development process

The overall process was based on similar projects using collaboration with target patient and provider populations (Afifi et al. 2011; Shin et al. 2012). It began with a focused review of published descriptions of mental health-medical care integration efforts in high- and low-/middle-income countries. We searched medical and psychological databases (PubMed and PsychInfo), used general Internet search engines and reviewed publications of the WHO, following up on citations within publications and suggestions from colleagues.

The second step involved individual meetings with Ethiopian health professionals and officials to determine both priority conditions and approaches that would be consistent with overall health policy. We found these contacts (more than 20, some of whom we spoke to multiple times) through ‘snowball’ sampling starting with individuals with whom the JHU-TSEHAI program had already built relationships. It was particularly important to understand the structure of the health care system so that we could try to talk with individuals at key clinical sites as well as important divisions (regional and federal) of the health care administration. Thus, we spoke to individuals in the federal Ministry of Health, regional health offices, hospitals with HIV clinics, universities and community-based organizations that served individuals living with HIV or mental illness.

The third step involved visiting potential integration sites (HIV treatment facilities, n = 13) to both observe treatment conditions and learn the priorities and concerns of HIV providers. JHU-TSEHAI had contacts at these sites through its ongoing technical assistance for HIV care. At each site, we again employed a ‘snowball’ approach, asking our primary contact for others to whom we should talk across all levels of clinical, administrative, and support staff. Table 1 contains the questions we sought to answer in these visits. We also held four group meetings: one with adult ‘expert patients’ who worked as case managers, peer counsellors and home aides; one with members of the National HIV/AIDS Counselors’ Association; and two with groups of medical staff who routinely gathered for ‘burnout prevention’ at two HIV treatment sites.

### Table 1 Questions for ART clinicians during program development

| Questions about the scope of mental health services needed |
| Who are the kinds of clients you usually interact with—who you are thinking about when we ask the questions that follow: |
| What ‘syndromes’ do you suggest that we look for? What are ways in which clients may suggest that they are having difficulties? Are there particular words, phrases? |
| Questions about approaches to diagnosis |
| What is it about the way that you talk to clients that you think makes them willing to tell you about their problems? |
| How do you start to ask people for more information? How do you explain why you are asking, or do you have to? |
| What do you think are the crucial questions to ask—the most important to detect serious problems and also the most important to get at what may be troubling to the client? Are there questions to avoid at first? |
| If clients reply with long or vague answers, do you have techniques for helping them be more clear or take less time that seem to be well accepted as still polite and interested? |
| Questions about the approach to treatment |
| When people come to you with some of the problems you mentioned in the first question, what do you do or say that seems most helpful? |
| When clients tell you about these things, what is it that you think they expect you will do or say? |
| Who else do you think your clients might have told about these problems and where might they have sought help? |
| What do you think that clients believe causes this type of problem? What do you think they believe are the implications for them? |
| If someone needs a higher level of help (you suspect a more serious thought problem, you think a medication might help) is there a way to raise that thought? |
A generation of the training materials was then reviewed by a consultative panel convened by the Ethiopian Ministry of Health. Panel members came from the Ministry, Addis Ababa University, the WHO Ethiopia office and JHU-TSEHAI. Two additional pilot trainings were then conducted with further revisions made based on feedback and process notes. These revisions led to the final published version of the training materials. Finally, a series of visits to sites that had sent participants to the pilot trainings assessed impressions of the extent to which mental health care was being integrated with HIV care.

Results

Literature review

The literature review drew on studies (cited above) that had examined integration of mental health services into primary or HIV care in low- and middle-resource countries, whether they focused on training generalists providers themselves and regardless of the range of problems treated. It also examined Ethiopian psychiatric epidemiology and mental health services research (Shibre et al. 2002; Fekadu et al. 2008; Hadley et al. 2008; Hanlon et al. 2008). An initial impression was that adult depression could be a first, feasible target because of successful integration models in other low-resource settings, but that there was no single instrument suitable for depression screening in Ethiopia given the country’s cultural and linguistic diversity.

We also examined the evolving literature on parallels between care in general medical and mental health settings (Table 2). Mental health, as traditionally taught, involves diagnostic and treatment paradigms that differ from how generalists think and provide care. Alternative formulations of mental health treatment offer the possibility of a better fit with general medical settings. It also examined Ethiopian psychiatric epidemiology and mental health services research (Shibre et al. 2002; Fekadu et al. 2008; Hadley et al. 2008; Hanlon et al. 2008). An initial impression was that adult depression could be a first, feasible target because of successful integration models in other low-resource settings, but that there was no single instrument suitable for depression screening in Ethiopia given the country’s cultural and linguistic diversity.

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We also reviewed several manuals developed for treatment of mental health in general medical and HIV treatment settings, including the WHO’s ICD 10-PC (Ustün et al. 1995; Jenkins 2004), Mental Health Gap Action Programme (WHO 2008), Mental Health and HIV/AIDS series (Cournots et al. 2005) and Nations for Mental Health Project (Mental Health Unit, undated). These manuals had a range of recommendations for brief interventions that their developers believed were suitable for use in general medical settings.

Stakeholder recommendations

The scope of mental health

Community and site stakeholders supported the need for including mental health as a component of HIV care. However, we had to clarify the boundaries of ‘mental health,’ since the term meant different things to different people. There was an interest in trying to offer care for three distinct groups: people who functioned fairly well but who were experiencing challenges to their sense of well-being (their ability to feel good about themselves, get along with others, and meet everyday economic and social challenges), but not meeting criteria for a mental disorder; people experiencing ‘common mental disorders’ like depression and anxiety; and people with potentially serious mental illnesses, including substance abuse, psychotic disorders, dementia and epilepsy (Payton 2009). The limited help available for developmental disabilities and the degree to which they created burdens for the patient and family, suggested that, too, be included in our definition.

Table 2 Cross-walks between care in general medical settings and innovations in mental health services

<table>
<thead>
<tr>
<th>Characteristics of general medical settings</th>
<th>Parallel concepts in mental health services</th>
<th>Citations in mental health services literature</th>
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</thead>
<tbody>
<tr>
<td>Treatment based on brief counselling focused on patient-identified problems</td>
<td>‘Common elements’</td>
<td>McGarry et al. (2008) and Weisz et al. (2012)</td>
</tr>
<tr>
<td>Treatment delivered in pulses of a few visits with follow-up and longer intervals for monitoring or as needed</td>
<td>‘Single session’ treatment models</td>
<td>Perkins and Scarlett (2008)</td>
</tr>
<tr>
<td>Initial treatment often presumptive or relatively non-specific</td>
<td>Stepped care models with increasing specificity of diagnosis and intensity of treatment</td>
<td>Katon et al. (2010)</td>
</tr>
<tr>
<td>Referrals to community services</td>
<td>Peer/family navigators</td>
<td>Davis et al. (2010)</td>
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</tbody>
</table>
Also expressed was a desire for the program, from the start, to be inclusive of many different mental health problems rather than taking an incremental approach. This was driven primarily by the widely varying priorities described by clinicians across potential intervention sites. For example, the generalist staff at one site was most concerned with managing epilepsy (treated by psychiatrists in Ethiopia), because they worked not only in the HIV clinic but also in the hospital’s emergency ward where seizures were common acute concerns. Clinicians at a site in the capital focused on common mood problems because they felt that patients with more serious disorders (psychosis, seizures) went to the nearby mental hospital, instead. Clinicians in regional sites saw a mix of problems and ages; some sites saw many children and some saw few or none. Even substance problems varied by region, with khat and commercial alcohol consumption being more prevalent in the capital and traditional alcoholic beverages (with additional toxicities) being more prevalent in rural areas.

**Approach to diagnosis**

A consistent theme across both mental health and HIV clinicians was the mismatch between the way that mental health problems were presented by patients and the diagnostic and therapeutic approach of Western psychiatry. As perhaps nearly everywhere in the world, mental health problems were most often expressed to clinicians as somatic concerns (Kirmayer 2001). Even psychotic symptoms might be initially described as a form of ‘headache,’ and anxiety might be described as a burning or crawling sensation in the head. Clinicians provided the Amharic names for a number of these concerns, for which Ethiopian psychiatrists were able to provide crosswalks to likely underlying mental health problems (Manson 1997).

In addition, sexuality, suicidality and trauma of various kinds were described as highly stigmatized subjects of discussion, as was the fact that a patient or family member had experienced a serious mental illness in the past. An ART provider at a training said that if a marriage was proposed, one of the potential partner’s families might ask if there had been a history of mental illness among the future in-laws. A physician reflected that there was a long Ethiopian tradition of secrecy around illness and strong emotions so that individuals became practised in the art of expressing themselves in such a way as to be able to claim that they had been misunderstood if a listener responded poorly. For example, a mention that ‘life seems darker’ could be a hint about suicidal thoughts, or a husband described as ‘rude’ might in fact be abusive. Again, Ethiopian psychiatrists had advice about culturally appropriate ways to ask about these problems, including the need to understand potentially convoluted answers as bids to see how a clinician would respond.

Administrators and ministry representatives were particularly interested in the use of screening instruments. Screens were attractive to them not only as an aide to diagnosis but also because they provided a way to routinize and monitor mental health integration—much of the quality assurance process built into the national ART program was based on instituting and documenting routine procedures such as measurement of weight or the offering of voluntary HIV testing. However, no single, brief instrument has yet to be validated for adult or child mental health case detection across Ethiopia’s diverse language and cultural groups, and some HIV counsellors doubted, given the stigma attached to mental health problems, that patients would necessarily be frank in their responses. We ultimately adopted a set of routine questions, proposed by Ethiopian mental health professionals for use by community health workers (Hanlon and Fekadu 2010) (Table 3), and encouraged their use not so much because they would rule in or out mental health problems, but as indicators to patients that these were appropriate topics to discuss with HIV clinic staff.

Although many HIV clinicians, and especially physicians, were familiar with formal psychiatric diagnosis, they were uncomfortable with their ability to make a diagnosis based on strict criteria. However, the clinicians described being readily able to identify patients who had confused thoughts, sad or anxious feelings or harmful patterns of substance or alcohol use. As our interviews and discussions progressed, these three main clusters of symptoms were eventually expanded into seven groups of presenting problems (thought problems, depression, anxiety/trauma, child behaviour, substance use, seizures and problems living with HIV) (Table 4 and Figure 1) that met the criteria of being (1) already recognizable to experienced generalists, (2) breaking the range of possible mental health problems into a number of presentations that did not seem overwhelming to trainees and (3) were similar to the ways in which other mental health manuals for generalists had

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**Table 3 Questions suggested for opening up discussion of mental health-related topics**

*For adults and adolescents, ask the patient and, if they are accompanied by a partner, ask the partner as well (with the patient’s permission):*

- Have you (or has the patient) been having problems sleeping at night?
- Have you (or has the patient) been feeling unhappy or more irritable?
- Have you (or has the patient) lost interest in things or not felt like being with other people?
- Have you (or has the patient) been feeling worried, nervous or frightened?
- Have you (or has the patient) been having trouble remembering things or doing things you (or he/she) used to do?
- Have you (or has the patient) worried or been told that you smoke too much, use too much alcohol or any other drug?

*For children, ask the child and the parent/guardian:*

- Have you (or has the patient) been having problems sleeping at night?
- Have you (or has the patient) been feeling unhappy or more irritable?
- Have you (or has the patient) lost interest in things or not felt like being with other people?
- Have you (or has the patient) been feeling worried, nervous or frightened?
- Have you (or has the patient) been having trouble remembering things or doing things you (or he/she) used to do?
- Have you (or has the patient) worried or been told that you smoke too much, use too much alcohol or any other drug?

Adapted from Hanlon and Fekadu (2010).
organized their approach (Ustün et al. 1995; Cournos et al. 2005; WHO, 2008; Mental Health Unit, undated).

Figure 1 shows the approach to diagnosis that emerged from the literature review and discussion with informants. Because of the lack of validated screening tools, an emphasis would be placed on interacting with patients in ways that prompted disclosure of mental health-related concerns. If these concerns could not be readily put into one or more of the seven large clusters, an abbreviated mental status examination could be used for clarification. As described later, once a patient’s concerns were assigned to one or more clusters, decisions could be made about the need for further diagnostic work vs a trial of a first-line treatment.

### Approach to treatment

All treatment had to be framed in the context of how HIV care was delivered, as described by informants and observed during site visits. Although there were variations from site to site and among clinics at given sites (e.g. pre-ART compared with ART follow-up), in general visits were short (5–10 min). Privacy was also limited. Visits might take place in a room with more than one clinician seeing unrelated patients simultaneously, or in a room with windows open to a corridor in which other patients were waiting. If family members had accompanied a patient to the site, they typically sat in on the visit as well. Wait times for visits could be very long, with both clinicians and patients aware of not wanting to take excessive time during a visit and cause others to wait even longer. It was not unusual for those waiting to knock on the examination room door or even open it if there appeared to be delays, and clinicians sometimes locked the door from inside to prevent intrusions. One HIV clinician suggested that patients appreciated updates on waiting times and this resulted in better attitude when the visit began. The clinician proposed anticipating that those waiting could ‘get

### Table 4 Clinical clusters, related problems and suggested brief interventions

<table>
<thead>
<tr>
<th>Cluster name</th>
<th>Mental health conditions included</th>
<th>Brief interventions suggested&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thought perception and memory problems</td>
<td>Conditions presenting with psychosis, including schizophrenia and mania; dementia; delirium</td>
<td>Counselling family about supportive and non-confrontational care</td>
</tr>
<tr>
<td>Depression</td>
<td>Major depression, adjustment disorder, suicidal ideation</td>
<td>Safety for individuals with suicidal ideation</td>
</tr>
<tr>
<td>Anxiety and psychotrauma</td>
<td>Generalized anxiety, specific phobias, acute and post-traumatic stress disorders (including response to child and intimate partner violence)</td>
<td>Recommendations for stress awareness and reduction</td>
</tr>
<tr>
<td>Substance use and abuse</td>
<td>Alcohol, tobacco and khat use/abuse</td>
<td>Suggestions for active coping</td>
</tr>
<tr>
<td>Epilepsy</td>
<td>Evaluation of a first seizure, chronic seizure disorders, status epilepticus</td>
<td>Acknowledging and empathizing with traumatic experiences</td>
</tr>
<tr>
<td>Behaviour and developmental issues among children</td>
<td>Oppositional and conduct disorders, office evaluation for cognitive and developmental problems among school-aged children</td>
<td>Attention to physical and nutritional problems as causes</td>
</tr>
<tr>
<td>Living with HIV</td>
<td>Demoralization, stigma, disclosure, functional problems that may be associated with HIV-associated neurocognitive dysfunction</td>
<td>Acknowledging burdens, promoting optimism about future</td>
</tr>
</tbody>
</table>

<sup>a</sup>For all clusters, initial brief interventions include active listening, psychoeducation, attention to basic needs and referral to supportive and community resources when available.
agitated' and advised colleagues to suggest to patients that they have some tea at the hospital canteen, ‘after which they might feel more relaxed’.

A theme among clinician informants was that patients were not ‘psychologically minded’. That is, in the eyes of the clinicians, patients were likely to endorse spiritual or behavioural causes for mental health problems rather than seeing them as illnesses that could be diagnosed and treated within the medical care system. The clinicians noted that many if not most patients sought mental health care first from faith and traditional healers before seeking care from a medical site. One Ethiopian psychiatrist felt that psychoeducation was thus an essential part of any mental health care and ‘50% of the battle’ in helping patients. However, the expert patients also underlined the role that economic and social concerns (worries about food, housing, income; concerns about disclosure of HIV status) played in causing low mood and anxiety. They reinforced the priority that needed to be given to providing help with these concerns whenever possible (Hadley et al. 2008; Biadgilign et al. 2009; Deribe et al. 2010).

Another theme expressed by expert patients was the relief they experienced when they were able to express their feelings to HIV clinicians. They said that they valued clinicians who took more time and asked them about their feelings and wanted more of these opportunities.

Clinicians also felt that, given time, there was value in allowing patients to talk more, and that they were aware of the difference between true active listening (in Amharic, ‘madame’) rather than just ‘hearing’. They said that when given the chance patients frequently expressed feelings of guilt about behaviour that may have led to acquiring HIV, and that it seemed possible to be helpful even just to offer short reminders about Ethiopian sayings such as, ‘no one knows the consequences of what they do today’.

As noted earlier, the literature review included examination of previously published guides to providing care for mental health problems in general medical settings. From these guides, we extracted psychosocial interventions that could potentially be discussed in a few minutes and elaborated on over time in follow-up visits. This model of care has been most developed in smoking and alcohol counselling, but was taken up by the WHO’s ICD-10-PC guidelines and most recently has been used in the ‘common elements’ approach to care within community mental health settings (Ustün et al. 1995; Huibers et al. 2007; McGarry et al. 2008). We refined the selection of brief interventions in the course of pilot trainings. Instructors
suggested which they had used successfully, and we observed which could easily be explained to trainees and with which the trainees already seemed familiar (Table 4).

Thus, from the literature review and stakeholders, we evolved an approach to treatment that had four initial components (Figure 2 shows the treatment algorithm for low mood). Assuming that medical causes and emergencies had already been considered, treatment would consist of active and empathetic listening, attention to basic needs, psychoeducation and brief advice (with or without a medication if one was indicated and available). Training materials spelled out criteria for making a referral, which included failure for the patient’s condition to improve when reassessed at a follow-up visit.

There were two main reasons given to justify this level of first-line intervention, even if it was relatively non-specific and not as potent as might be more intensive treatment. Both reasons related to perceived barriers to patients’ willingness and ability to engage in mental health treatment. The first was the stigma of going to a mental health specialist. Generalist clinician informants felt that patients were more willing to go to specialty referrals if the generalist had already tried some treatment. They would then accept the generalist saying, ‘I did what I can, someone better may be able to help’. The second was the opportunity costs of seeking care. Despite most HIV care being free, to make a visit patients could face considerable expense, relative to their income, for transportation, meals away from home and missed income from work. They would likely also have to pay out of pocket for specialty referrals and medications not available in the HIV pharmacy. Thus, any intervention that could be provided in the context of HIV care was more likely to be accessible.

A final treatment issue that emerged from discussions with clinicians was that patients would likely have a high prevalence of medical problems that could be at least partly responsible for any given set of mental health symptoms. These could include opportunistic and parasitic infections with central nervous system involvement, medication side effects, nutritional deficiencies and CNS involvement with HIV itself. Our ‘mental health’ training would have to include attention to these causes to a much greater extent than would be the case in other general medical contexts.

Approach to training
Consistent with current implementation guidelines, we planned for a ‘coaching’ model in which core knowledge, attitudes and skills could be conveyed via relatively brief training, with the process of refining skills and knowledge, and adapting to varying patient needs supported by ongoing supervision and coaching (Fixsen et al. 2005). The format of the initial brief training was based on approaches developed for medical integration and ‘task shifting’ interventions (Daniels et al. 2010; WHO 2011). It was designed to be delivered over ~4 days (consecutive or spread out). Sessions used a minimum of ‘slides’, both to maximize interaction and reduce dependence on equipment that might be unavailable or, given power outages, non-functional. Training was structured with a participants’ manual that included explanatory text, case-based exercises, and reference material. Each major cluster of symptoms was allotted about a half day, with most training time devoted to walking through and then practicing (in role plays or small-group exercises) a systematic approach to that particular group of symptoms.

Despite the fact that English is the language of instruction in Ethiopian professional education, conversational fluency varied a great deal—especially in our mixed professional groups of nurses, health officers and physicians. Choice of language was even more challenging when talking about mental health-related symptoms and concerns, many of which lack precise English translations. Thus, while written training materials are in English, the training itself is meant to be carried out for the most part in Amharic. A step-by-step trainers’ guide (with key teaching points for all of the exercises) was created so that the training could be delivered by experienced generalists as well as by mental health professionals. We planned that when possible, the basic training would culminate in an opportunity for participants to interview an outpatient with a known mental health problem (with the patient’s consent and under the supervision of a psychiatrist) and then discuss the case with a psychiatrist. This gave the participants a goal for which to prepare during the training and a chance to immediately practise some of the skills they had been learning.

Providing ongoing coaching and decision support
Roll-outs of treatment guidelines in high-income countries and implementation of ‘task shifting’ programs such as HIV care in low- and middle-income countries often rely on highly structured algorithms for generalist providers to follow (WHO 2008). The purpose of these algorithms is both to standardize care and assure that generalists are approaching patients in the same way as would a specialist. Designing these algorithms is a huge challenge, however. When they attempt to encompass all possible combinations of presentation and treatment they become overly cumbersome, and if they are too simple and not sufficiently concrete they fail to be useful clinical tools. Our goal (the success of which remains to be formally evaluated) was to develop algorithms that were simple and relied on providers’ existing and developing clinical skills to know when deviations or adaptations might be needed. For example, we hoped that clinicians could understand when they might need to be following two algorithms simultaneously (as for anxiety and depression), or following more than one branch at a time (pursuing both somatic and psychosocial causes of a condition). This approach relies on the availability of ongoing support so that generalists can use the algorithms as guides but seek advice if they come to a point where a given patient’s problem requires additional decisions. In discussions with clinicians and at sites, several possibilities emerged for providing this advice. First, generalist physicians at the sites would be assumed to have greater expertise than nurses and health officers, especially for decisions regarding possible medical causes and complications of mental health symptoms, and would be a first line of consultation. Second, at some sites, mental health nurses practised elsewhere in the building, offering a ready resource if there was a way to promote collaboration. Third, there was the possibility of obtaining informal consultation by telephone. In North America, several regions have established systems to support mental health task shifting to paediatric generalists by facilitating informal telephone consultation with
a specialist (Sarvet et al. 2011). A similar ‘warm line’ exists in Ethiopia for HIV care-related questions from providers, but it receives very few calls about mental health issues. The clinicians we worked with to design the training suggested that this form of consultation was not generally part of Ethiopian medical culture, and in addition calls could be expensive and would likely have to be paid for out of pocket by clinicians. Finally, periodic support would come from existing ‘site support’ teams, members of the HIV technical assistance program, who are responsible for quality assurance across the

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**Figure 2** Low-mood flow chart. TCA = tricyclic antidepressant. SSRI = selective serotonin uptake inhibitor.
range of HIV clinic functions. We planned that at least some of their visits could be paired with visits by psychiatrists from local universities and specialized hospitals who could review problematic cases or see some patients along with HIV providers.

Supporting components
In addition to the coaching provided by site support teams, two other elements were considered essential to the integration program’s success. First, in a country where medication distribution is limited and cost is a considerable barrier to care, we had to try to build in the ability to supply medications to intervention site pharmacies and, where possible, be able to distribute them without charge. A month’s supply of amitriptyline for depression might cost only US$0.50–0.75 but that was a significant proportion of a monthly income that averages about US$35; a month’s supply of haloperidol could be nearly twice as much. Second, to round out the program and to create a two-way link between the HIV and mental health communities, we arranged for HIV-related training for the mental health nurses at each site. The nurses were trained in provider-initiated HIV testing, and those working on inpatient units were trained in basic HIV staging and medication management.

Feedback from initial sites
The development phase culminated with two trainings led by the core team and its Ethiopian psychiatric consultants. Attendees came from the four pilot sites (two in the capital and two in regional hospitals) and included HIV nurses, physicians, health officers and mental health nurses from the sites themselves and their associated site support teams. Immediate and delayed feedback from attendees, as well as reflections from the trainers, helped shape the final scope of the program and the plan for its implementation (Legesse et al. 2011) (Table 5). Patients were being identified within all of the seven symptom clusters except child behaviour/development; because of turnover in staff, no trained providers were working in paediatric clinics. Providers felt that it had been relatively easy, based on their prior training in HIV-related counselling, to be better listeners and to provide more support and empathy. They were able to provide some brief interventions for low mood and anxiety (psychoeducation, reframing, problem solving), but would have liked more readily accessible job aides (desk charts or pocket guides) to cue them to use a wider range of psychosocial techniques. They felt that they were offering more prescriptions to patients with low mood or anxiety who, before the program, would have either not been recognized or referred to a mental health nurse. At some sites, the volume of visits emerged as a barrier; some providers were able to conduct slightly longer visits to better incorporate mental health questions and treatments, while others were not. Providers at most sites felt that greater privacy during visits would be helpful, but even in crowded conditions there had still been an increase in discussion of mental health. Cross-training mental health personnel in HIV-related skills, and including them in the mental health training of HIV providers, had a number of beneficial effects. When mental health nurses initiated HIV testing with their patients, they found new cases and began to care for them collaboratively with the HIV clinicians. The fact that the HIV program was bringing a focus on mental health to the hospital, and increasing resources for supervision and consultation, gave the nurses new prominence and increased their visibility to the HIV clinicians and others as an important local resource.

Discussion
The collaborative model of integration development described here unites several elements in current thinking about dissemination and the collaboration of specialists and generalists. It is based on the belief that for interventions to be successfully disseminated, they need to be adapted not only to the culture of the patients but also to the cultures of the professionals involved and the structure of the system in which they work (Hargreaves 2007) (Table 6). The central feature of the model is how the intervention itself is developed. It is not a scaled-back version of what experts would do, but rather a result of

Table 5 Program-specific feedback from pilot intervention sites

<table>
<thead>
<tr>
<th>Program domain</th>
<th>Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope of training</td>
<td>All clusters represented among patients recognized except child behaviour/development</td>
</tr>
<tr>
<td>Communication skills (listening, empathy, support)</td>
<td>Used readily within time constraints</td>
</tr>
<tr>
<td>Some brief interventions used regularly (psychoeducation, reframing, problem solving)</td>
<td>Others will require reminders/additional training</td>
</tr>
<tr>
<td>Increased use of medications for anxiety and low mood</td>
<td>Still likely to refer epilepsy and thought problems to mental health nurse</td>
</tr>
<tr>
<td>Memory aid for depression might be cost only US$0.50-0.75 but that was a significant proportion of a monthly income that averages about US$35; a month’s supply of haloperidol could be nearly twice as much.</td>
<td></td>
</tr>
<tr>
<td>Supportive need integration into routine record keeping</td>
<td></td>
</tr>
<tr>
<td>Structural barriers</td>
<td>Volume in some clinics (varies within site) discourages new clinical initiatives</td>
</tr>
<tr>
<td>Staff turnover and rotation</td>
<td>Requires flexible approach to providing initial training</td>
</tr>
<tr>
<td>Many clinics lack rooms for private encounters but patients still seem receptive to disclosing psychosocial concerns when screened or prompted by providers</td>
<td></td>
</tr>
<tr>
<td>Ongoing difficulty with adequate, low-cost supply of medications</td>
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</tbody>
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specialists and generalists combining expertise to develop new processes that fit the generalist setting. For specialists, this can mean reaching beyond the boundaries of their discipline. It also can be called a public health model—it tries to find approaches that can be readily applied as first-line treatments, with ongoing surveillance to identify those who need higher levels of care (Petersen et al. 2011).

We will not be able to speak to the success of the model until its clinical impact has been formally evaluated. Feedback from the four initial implementation sites has identified areas of success and needs for re-enforcement during the coaching process (Legesse et al. 2011). Child mental health may need particular attention over time, as it seems to be the area most missing from generalist training. We also found that the integration will likely take somewhat different forms across sites. Screening may be universal at some sites with lesser patient loads and populations for which suitable instruments are available. It may be used on an indicated basis at others that have higher patient volumes. Some sites may choose to periodically use intensive case-finding campaigns in addition to ongoing surveillance to find prevalent cases (Shibre et al. 2002). Sites with active mental health nurses may evolve a model in which HIV providers do more case detection and referral than direct treatment (‘co-location’) (Williams et al. 2006). Turnover and rotation of staff will mean that basic training will need to be offered periodically alongside ongoing support. Work in other countries has emphasized the need to provide ongoing consultation and logistical support to primary care providers taking on mental health work (Petersen et al. 2011).

It is also possible that a formal evaluation could find good uptake of mental health treatment but little impact on patient outcomes because of the low intensity of initial intervention, the many burdens experienced by patients, and the barriers to more intensive care. However, studies have reported positive outcomes from single session or very brief psychotherapeutic interventions among children and youth in higher resource countries (McGarry et al. 2008; Perkins and Scarlett 2008); in Patel et al. (2010) trial of a stepped/combined intervention for adult depression in India, using interpersonal therapy delivered by lay health workers, two-thirds of patients in the successful public clinic arm improved having made fewer than six visits. We could ultimately find that integration succeeds for some patients and conditions but not for others.

We recognize that this collaborative integration process may have been easier for us when compared with others. Ethiopia has a small but sophisticated psychiatric community with advanced research and clinical skills. Our job would have been much more difficult without Ethiopian mental health professionals’ ability to serve as ‘bridges’ between multiple cultures and professional backgrounds. The HIV care system in which we worked has a strong tradition of ongoing skill development and expends considerable time and resources building links among clinicians, academic partners and government agencies. It can afford to finance materials development and pilot testing, and has built-in processes for follow-up of program impact on patterns of care. The mental health community is not threatened by encouraging generalists to address mental health problems; to the contrary, the integration effort appears to have raised the profile of mental health providers and promoted interest among generalists in seeking specialty mental health training.

**Conclusions**

We believe this model of integration of complex interventions can be adapted to other health care systems and other forms of specialist–generalist collaboration, though not without going through a similar development process. Table 4 lists several of the points on which a development process may need to focus, assuming it already had committed to the idea of a collaboratively designed integration model. We are optimistic, however,
that the additional effort needed to design a program grounded in the skills and knowledge of front-line providers will be compensated by increased sustainability, and, ultimately, better clinical outcomes.

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Conflict of interest statement. None declared.

Endnote
1 Copies of the materials discussed are available from the corresponding author. The course participants’ manual has been published by the Ethiopian Federal Ministry of Health.

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