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Acceptability and feasibility of a task-shifted collaborative care model for depression and anxiety in primary HIV clinics in the Philippines: a qualitative inquiry

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Abstract

Background Depression and anxiety can greatly impact the overall health of a person living with HIV (PLHIV). Management of mental health disorder should be an integral part of HIV care. The Collaborative Care Model (CoCM) is an evidence-based model of care that integrates mental health in primary care. This study aimed to assess the acceptability and feasibility of implementing the CoCM for depression and anxiety in HIV clinics in the Philippines using HIV counsellors as care managers.

Methods We conducted a descriptive qualitative study by facilitating focus group discussions ($n = 7$) and key informant interviews ($n = 18$) with 53 HIV and mental health stakeholders, including PLHIV ($n = 20$), HIV counsellors ($n = 11$), physicians ($n = 10$), clinic heads ($n = 4$), policy makers ($n = 4$), and mental health providers ($n = 4$) from August 2021 to March 2022. Participants were recruited from 17 HIV clinics in the Philippines. We employed a thematic analysis using the Consolidated Framework for Implementation Research (CFIR) domains as themes.

Results Almost all PLHIV participants were men (95%), with a mean age of 28 years. The other stakeholders had a mean age of 44 and had worked in their field for an average of 8 years. Overall, 58% were women. Factors that influenced the acceptability of the CoCM included the possibility of increased access to mental health services with a more holistic care team. Perceived barriers included inadequate numbers of psychiatrists, an overburdened and understaffed HIV workforce, low mental health knowledge among HIV providers, and implementation cost. Perceived facilitators were willingness of HIV providers to provide care and knowledge of HIV counselling.

Conclusion We found the CoCM to be acceptable among study participants. Recommendations included capacity building for HIV providers, collaborations within and across clinics to facilitate access to psychiatrists, clear management protocols, and pilot testing. Mental health and HIV care coverage within national policies should be amended to allow for non-mental health specialists to provide low-intensity therapies. Closer partnerships among HIV and mental health policy makers would improve integration implementation.

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Keywords Collaborative care model, HIV, Mental health

Introduction

People living with HIV (PLHIV) have at least double the prevalence of mental health disorders than the general population, with depression and anxiety being the most common diagnoses [1–3]. If left undiagnosed and untreated, they may negatively impact the HIV care continuum. Studies show an HIV diagnosis hinders successful linkage to mental health care. Depression symptoms negatively affect antiretroviral adherence, causing viral non-suppression, and mental health disorders adversely affect quality of life [4–8]. Bringing aspects of mental health care delivery into HIV care has been recommended to address the mental health needs of PLHIV. Integrating mental health into HIV care can be done through mental health promotion and prevention and integration of mental health services in HIV care [9]. These services can include psychosocial interventions, assessment and management of neurocognitive and substance use conditions, and pharmacological interventions.

The Collaborative Care Model (CoCM) is an evidence-based approach to integrating mental health services in primary care settings through a task-sharing strategy that utilizes non-specialized providers [9]. Based on large-scale adaptations mostly done in high-income settings, the American Psychiatric Association and Academy of Psychosomatic Medicine summarized the four essential components of the CoCM [10]. First, it is *team-driven*, defined as care led by a primary care physician with support from a care manager who is a behavioral health provider (e.g., social worker, licensed counsellor, nurses with mental health training) and a consulting psychiatrist. Care managers provide psychoeducation, brief behavioral interventions, or referral to specialist care. A psychiatrist provides guidance to the team and is available to treat more complicated cases. Second, the CoCM is *population-focused*, meaning a patient registry is shared among the members of the care team to monitor responses to treatment and track patients who need more focused care. Third, the CoCM is *measurement-guided* through the use of standardized mental health symptom rating scales to guide assessment, formulate treatment plans, and enact monitoring. Finally, the CoCM provides *evidence-based* care, such as established psychotherapies and primary care provider-prescribed pharmacotherapy [10, 11].

The CoCM has effectively reduced the clinical burden of common mental health disorders, demonstrating short- and long-term improvements in depression as compared to the standard of care [12–15]. The approach has been adapted and studied in diverse primary care settings to manage HIV and other chronic conditions, such as diabetes and coronary heart disease, in both high-income and low-and-middle income countries (LMIC) like India, Nepal, South Africa, and Vietnam [16–19]. Barriers in implementing this model have included provider-level challenges (e.g., lack of knowledge and skills and engagement), patient-level issues (e.g., engagement and mental health stigma), organizational limitations (e.g., work flow issues, standardization of processes, workforce shortages), and insufficient financial resources [20, 21].

Recommendations to support successful implementation have entailed multi-disciplinary linkages across service sectors, stakeholder engagement, and strong leadership. In some settings, health workers from other disciplines were trained as care managers, such as in India where nutritionists in diabetic clinics were trained to deliver mental health care [16]. Remote consultations have been utilized when frequent or in-person clinic visits by the psychiatrist were not possible [19].

The present study

The Philippines currently has the fastest growing HIV epidemic in the western pacific region, with a 411% increase in new HIV infections from 2012 to 2023 [22]. Similarly, mental health disorders are now considered a silent epidemic with at least 3.6 million Filipinos with common mental health disorders [23]. Among PLHIV in the Philippines, studies found 3–21.8% have depression, and 10% with anxiety [2, 24]. The double burden of HIV and mental health disorders in the Philippines and the impact of mental health on the HIV care continuum underscore the need for integrating mental health in HIV services in the country.

Several national level policies have been enacted to address the burdens of HIV and mental health disorders in the Philippines. The Mental Health Act in 2018 has scaled up mental health services in the country by increasing 'access sites,' identified specialized or non-specialized mental health facilities where essential medicines for mental health disorders are provided. Health care workers at the primary care level have been trained in the WHO Mental Health Gap Action Programme (mhGAP)-in the management of mental health disorders [25, 26]. The Universal Health Care Act aims to increase access to primary care services for all Filipinos. The Philippine HIV and AIDS Policy Act strengthens comprehensive services for the prevention, treatment, care and support for PLHIV.The Mental Health Act aims to enhance delivery of integrated mental health services [27–29].

Despite these policies, our experience working in HIV healthcare systems suggests most local HIV clinics still have poor access to mental health care. HIV providers, which includes physicians, nurses and counsellors - are trained by the Department of Health to provide psychosocial support to PLHIV. These providers mostly deliver the available mental health support in HIV clinics, but access to mental health treatment remains inadequate [29].

We selected the CoCM to increase access to treatment of mental health disorders to include pharmacological interventions, if needed, by leveraging the existing system of HIV care in the Philippines through dedicated HIV providers and capitalizing on their patients' comfort level in receiving care from them [24]. We aimed to explore if the CoCM, using HIV counsellors as care managers, is acceptable and feasible in local HIV clinics by engaging diverse stakeholders involved in decision making, care delivery and receipt of care. The Consolidated Framework for Implementation Research (CFIR), is a framework used in implementation science with five domains, namely the intervention characteristics, outer setting, inner setting, individual characteristics and processes, and constructs used to guide the systematic assessment of barriers and facilitators [30]. Using the CFIR, we evaluated key stakeholder perspectives on implementating the CoCM in local HIV clinics in the Philippines.

Methods

Setting

The Philippines is a lower middle income country that has a population of 116 million people spread out across 7,641 separate islands in three major geographic areas: Luzon, Visayas and Mindanao [31, 32]. In 2020, 54% of the population lived in urban areas. It is a predominantly Catholic (79%) with over 30 ethnicities, the majority of which is Tagalog (26%); 86% are considered non-indigenous people and 7.6% are Indigenous people. There are over 170 languages spoken, with Filipino as the national language [33–35].

As of September 2024, there was an estimated 215,400 PLHIV in the Philippines, where only 61% are diagnosed, 94% of whom are male. The primary mode of transmission is sexual contact, particularly between men. The majority of new cases occur in Luzon, with 40% of the new cases observed in Metro Manila and the Calabarzon region [36]. There are currently 198 HIV clinics in the Philippines, which include treatment hubs, hospitals that offer both outpatient and inpatient care, and primary HIV clinics, stand-alone clinics offering only outpatient care and treatment. These clinics can be private, non-government or government facilities [37]. Common to these care facilities are HIV counselors, nurses, and physicians who may be trained in general medicine, family medicine, internal medicine, or infectious diseases. Treatment hubs usually have access to other specialists in the same hospital, while most primary HIV care facilities do not.

In this study, we selected 17 urban HIV clinics given the high HIV prevalence in these settings: 7 in Metro Manila, 5 in Calabarzon (both in Luzon), 3 in Central Visayas, and 1 in Davao Region in Mindanao (Table 1).

Study design

We employed a descriptive qualitative study design utilizing focus group discussions (FGDs) and key informant interviews (KIIs) with stakeholders (policy makers, health care providers, PLHIV) involved in different aspects of HIV and/or mental health care.

We used CFIR 1.0 constructs and domains as a guide and as themes in the data analysis in exploring the potential barriers and facilitators related to the five CFIR domains. The study was approved by the Research Institute for Tropical Medicine Institutional Review Board in Muntinlupa, Philippines.

Participant selection

We used purposive sampling to select participants from areas with the highest HIV incidence and stakeholders with experience in HIV and mental health.

PLHIV patients

HIV counsellors and physicians were asked to share a brochure about the the study with PLHIV receiving care at their clinics. Interested participants were advised to contact the study team via email or phone. An email invite with study information and a copy of informed consent were sent to the PLHIV once deemed eligible. To be eligible, the PLHIV were at least 18 years old, received HIV care for at least 1 year in the selected HIV clinic, and consented to join the study.

Table 1 HIV clinics

Geographic area	Region	Treatment Hub		Primary HIV Clinic	
		Government	Private	Government	Non Government
Luzon	Metro Manila	2	2	1	2
	Calabarzon	3	1	2	
Visayas	Central Visayas	1		2	
Mindanao	Davao Region	1			

Professional stakeholders

Other stakeholders, including healthcare providers (HIV physicians, counsellors, mental health providers, clinic heads) and policy makers (HIV and mental health policy makers), were recruited through email invitations. To be eligible, professional stakeholders were at least 18 years old, worked for at least a year in their position, and consented to join the study. Out of the 46 email invitations sent to stakeholders, 33 (72%) agreed to participate. Reasons for not joining included: (1) declined, (2) cancelled due to a scheduling conflict, and (3) no reply. For the purpose of this manuscript, 'HIV providers' are collectively used to refer to both HIV physicians and counsellors.

Study participants were offered a reimbursement of Php 500 ($10) for time and communication costs for using an online platform. All participants provided informed consent virtually using DocuSign, PDF electronic signature, or by scanning and emailing a signed document file.

Data collection

Data collection was done from August 2021 to March 2022 by conducting seven FGDs and 18 KIIs. PLHIV and HIV providers were invited to participate in FGDs and were homogeneously grouped according to type of stakeholder. Due to scheduling challenges, one FGD only had three PLHIV participants. However, this was still considered a small FGD and included in the data analysis because the structure and methods were the same as other FGDs. One FGD was conducted with HIV physicians. However, other HIV physicians had KIIs due to scheduling conflicts and preference. KIIs were also conducted among mental health providers, HIV and mental health policy makers, and clinic heads. The number of interviews and FGDs conducted were finalized as data saturation was reached.

Separate guides were developed for each of the three groups of stakeholders (policy makers, health care providers, and PLHIV) to correspond with their diversity of knowledge and experiences in the fields of HIV and mental health. We used the CFIR 1.0 constructs to guide the development of the interview guides to include questions about barriers and facilitators identified from other CoCM studies (i.e., knowledge, skills, organizational culture, cost) [20, 21] as well as other potential barriers and facilitators based on the local context (see Supplementary Table 1). The interview guides covered three main topics: (1) HIV and mental health, (2) current mental health services in HIV clinics, and (3) attitudes towards the CoCM. At the start of the FGD and KII, the researcher introduced herself as an HIV physician, explained why this study was conducted, and provided information about the CoCM through a powerpoint presentation. Interview guides were pilot tested with one HIV counsellor and one PLHIV to check for clarity and revised accordingly.

FGDs and KIIs were conducted in both Filipino and English by the study lead (ADL), a female HIV physician and research fellow with training in qualitative research. She was accompanied by a female research assistant, a psychology masters student who took field notes during FGDs. As the study lead is an HIV physician with interest in improving HIV services, potential interview bias was addressed by adhering to the interview guides.

Due to the COVID-19-related travel restrictions and safety measures in place at the time of the study, most KIIs and FGDs were conducted via Zoom. Two KIIs were conducted in person inside a private space at a local hospital, following safety protocols of social distancing and wearing face masks. KIIs were between 25 and 40 min with an average of 35 min, while FGDs lasted between 60 and 90 min, with an average of 80 min. Only the interviewers and participants were present during the data collection. Participants were asked for feedback or additional information at the end of the FGD or KII to ensure participant triangulation. To ensure confidentiality, especially during the FGD, participants were asked to use a code instead of their real names upon logging in. Although the video was on during the FGD, no video recording was done and only audio recordings were saved in a password-protected computer.

Audio recordings were transcribed verbatim by a professional transcriber. Then the study lead and research assistant listened to the recordings and read the transcripts to check for accuracy. The initial three transcripts were translated from Filipino into English prior to coding and were discussed with a third expert who speaks English. Subsequent transcripts were directly coded and analyzed by the study lead and research assistant. Although the codebook was in English, the study team saw the strength in analyzing the transcripts in the original languages, a mix of Filipino and English. The study lead and research assistant were both bilingual in English and Filipino. Translation to English was done for selected excerpts used in the results. Transcripts were not returned to the participants and no repeat interviews were done due to clarity of transcripts after review.

Data analysis

We employed thematic analysis using the CFIR 1.0 domains as themes for data analysis. The study lead and research assistant used inductive coding by developing an initial set of codes after reviewing patterns and topics from the first three transcripts. The codebook was iteratively reviewed and revised based on new KIIs and FGDs that were being conducted. Data saturation was determined as achieved when no new codes were added to the codebook when reviewing the transcripts. After finalizing

the codebook, the lead investigator and research assistant independently double-coded all transcripts. Dedoose software was used to code qualitative data.

We then applied a deductive approach to analyze and organize the codes according to the CFIR 1.0 constructs as subthemes and domains as the main themes [30]. Codes were analyzed as facilitators or barriers that affect the acceptability and feasibility of the CoCM in HIV clinics [38].

Results

Participant demographics

A total of 53 stakeholders (n = 20 PLHIV patients, n = 11 HIV counsellors, n = 10 HIV physicians, n = 4 clinic heads, n = 4 policy makers and n = 4 mental health providers) participated in seven FGDs and 18 KIIs. Of the 20 PLHIV patients, 19 identified as men and 1 identified as transgender. They had a mean age of 28 years old. The majority were under the care of treatment hubs and were college graduates (Table 2).

Among the other stakeholders (n = 33), the majority (n = 19) were women with a mean age of 44. The professionals had been working in their field of work, either in HIV or mental health, for an average of 8 years. Primary clinics and treatment hubs were equally represented by the HIV providers and clinic heads. Aside from the required basic training for HIV counsellors for HIV testing, most had received further trainings including training of trainers (n = 6) and HIV case management (n = 9). Most of the physicians and clinic heads were general practitioners (n = 10) who were practicing as HIV physicians (Table 2).

Themes

Factors that affected the perceived acceptability and feasibility of the CoCM in HIV clinics spanned the five CFIR domains, as shown in Table 3 and Supplementary Table 2.

Intervention characteristics

Barriers (adaptability, cost)

Policy makers and mental health providers emphasized the inadequate number of psychiatrists in the country as a barrier to constructing the care team in local HIV clinics. This was compounded by the unequal distribution in rural and urban areas (most are in urban centers).

Table 2 Demographic characteristics of participants (n = 53)

Demographic characteristics		PLHIV patients (n = 20)	Professional Stakeholders (n = 33)
Stakeholder	PLHIV patients	20	
	HIV physicians		10
	HIV clinic heads		4
	HIV counsellors		11
	Policy makers		4
	Mental health providers		4
Gender	Men	19	12
	Women	0	19
	Transgender	1	2
Age	Range	18–59	26–64
	mean	28	44
Years attending in the clinic	Range	1–11	
	Mean	6	
Clinic type	Primary clinic	6	12
	Treatment hub	14	13
Years in service	Range		1–28
	Mean		8
Educational Attainment	Post graduate level	1	
	College level	10	
	Some college	6	
	Vocational course	2	
	High school level	1	
Training background	HIV counselling to testing		11
	Training of trainers		6
	Case Management Training		9
	General practitioners		10
	Infectious Disease Specialists		4

Table 3 CFIR themes and constructs

Themes	Constructs		Feasibility		Acceptability
			Barriers (-)	Facilitator (+)	
Intervention Characteristics	Adaptability	Psychiatrist availability	(-)	(+)	(+)
		Number of MH providers	(-)		
		Screening		(+)	(+)
		Monitoring and Registry		(+)	(+)
	Design Quality	Care team approach			(+)
	Cost	budget concerns	(-)		
	Evidence based				(-/+)
Outer Settings	Policies		(-)	(+)	(+)
	Patient Needs	Holistic care			(+)
	Stigma				(+)
	Collaborations			(+)	
Inner Settings	Structural characteristics	ratio of providers to patients	(-)		(+)
		workload and time	(-)		
	Available Resources	human resources	(-)		
		Other resources	(-)		
	Leader	leader support in MH	(-)		
	Implementation climate	tension for change			(+)
Characteristics of Individuals	Belief in intervention	Belief in intervention			(+)
		Prefence for separate mental health services			(-)
	Individual capacity	Skills and knowledge in MH/HIV	(-)	(+)	(+)
	Individual identification with Organization	HIV Providers Roles			(+)
		Patient-HIV Provider Relationship			
	Other personal attributes	passion		(+)	(-/+)
Process	Planning	Planning and preparation			(+)
		Trainings		(+)	(+)
	Executing	Process and Clear Protocol			(+)
		Pilot testing		(+)	(+)

We have limitations in the number of psychiatrists. Even if it is recommended as a part of the HIV/AIDS core team, not all can comply.- HIV policy maker.

In addition, the cost of implementing the CoCM, particularly in covering the psychiatrist's fee, additional staff and psychotropic medications was also identified as a potential barrier.

HIV counsellors and PLHIV raised potential concerns with the mental health screening and monitoring processes that included patients' time and willingness to participate and a potential breach of confidentiality in registries or during monitoring.

One is patient confidentiality and data security. We use open source materials, Microsoft excel, Gmail. So, if we have a tracker or registry, we have to make sure that the access is limited. - HIV physician.

HIV providers recommended incorporating mental health screening in follow-up visits or during refill of medications and improving patient registries for security and efficiency.

Facilitators and acceptability (adaptability, design quality, evidence based)

Most participants welcomed the idea of the CoCM, with a care team managing physical and mental health in the same setting.

They may feel a bit more comfortable... there is a team there that is currently addressing both their physical and mental well being... a specific team in one place that would help address (their mental health) might be beneficial for them – mental health provider.

According to an HIV physician, the CoCM can be a good model for less severe cases, if HIV providers can assess mental health concerns using screening tools. A PLHIV expressed acceptability of HIV providers managing mental health with the guidance of a mental health provider.

But of course, there is still the supervision of a psychologist and psychiatrist just in case the physician is no longer able to handle the situation, the psychologist and the psychiatrist are there to handle it.- PLHIV

Some HIV providers and clinic heads shared that they had access to a psychiatrist in their settings, although policy makers and mental health providers expressed concerns about the inadequate number of psychiatrists in the country. Those with access to a psychiatrist were treatment hubs with a psychiatry department or non-government primary HIV clinics with a volunteer or employed psychiatrist For government primary HIV clinics, some HIV physicians and policy makers suggested having at least one psychiatrist in the city or province and utilizing teleconsultations to access psychiatrists.

Both HIV providers and PLHIV viewed the screening tools as helpful. The perceived simplicity, some of the HIV counsellors' experience in administering these tools, and existing registries and monitoring processes mad these CoCM components more feasible. For easier understanding, an HIV clinic head suggested tools translating the tools into other local languages.

Yes, it's quite a simple tool although… so we can translate it maybe if ever, we have – we'll ask the patients to use it, we can translate it into vernacular so that it could be easier for them to understand. But it's simple… the tool is simple.- HIV clinic head.

Although most participants did not reflect on the the CoCM as evidence based, an HIV physician and a few mental health providers pointed out that the screening tools should be validated among Filipinos to be more acceptable and effective.

Outer setting

Barriers (policy)

Mental health providers raised concerns about HIV counsellors providing therapies or administering mental health screening tools, which the Philippine Guidance and Counselling Act does not allow. However, they also pointed out that HIV counsellors are already in a way providing counselling. According to some mental health providers, identifying screening tools that can be administered by a non-mental health provider and determine the level of psychological support needed can potentially address this concern.

As long as they - these counselors have a psychiatrist or psychologists to guide them because they could not administer therapy 'cause you need a license to do that but maybe psychological first aid like they decrease the heightened emotion- mental health provider.

Facilitator and acceptability (patient needs, stigma, policies, collaborations)

Most participants recognized that the CoCM can meet patients' needs through normalization of mental health consultation and providing more holistic care.

Because the care provided by our clinic goes beyond what viral suppression is, what HIV is. We also need to know how their quality of life is…we know if they have drug dependency issues, mental health issues, everything, the approach is holistic.- HIV counsellor.

HIV providers, mental health providers, and PLHIV mentioned the potential of the CoCM to alleviate common barriers faced in accessing mental health care such as psychiatrist fee, delay in referral to mental health providers, which may sometimes cause loss to follow-up, and stigma on both mental health and HIV faced when consulting a psychiatrist.

So the duration of.., or turnaround time of the patient to be referred to a higher form of care, would be shorter and it means better health outcomes, and that's our aim- mental health provider.

Policy makers, mental health providers, and HIV clinic heads highlighted policies, such as the Universal Health Care Act and Mental Health Act, that could support implementation of the CoCM. Mental health providers and policy makers shared that there are trainings done for primary care physicians using the WHO mhGAP and an increase in the hiring of community psychiatrists.

They're already training for primary health care physicians (on mental health) because the process is really primary care - primary health care or the universal health care… there's already a training being done with the mhGAP. So I don't think it's going to be a problem. I think we just need to look (at) what is existing and what can be done.- mental health provider.

The Philippine Health Insurance policy, which includes the Outpatient HIV/AIDS Treatment Package, was raised by some PLHIV and an HIV policy maker as potential source of funding in implementing the CoCM if psychiatrists and psychotropic medications can be covered in this package. Additionally, participants suggested leveraging collaborations, such as within hospitals for treatment hubs with psychiatry services, and across clinics or

hospitals for HIV clinics without psychiatrists to improve access.

One HIV physician shared his idea of collaborating with a psychology training school, while other PLHIV and HIV physicians suggested collaborations with volunteer psychiatrists, mostly only seen in non-government primary HIV clinics, or privately practicing psychiatrists for other clinic settings. A mental health policy maker mentioned the"access sites" and the potential for HIV clinics to collaborate with them or options to refer to other government agencies for financial assistance for psychotropic medications. In addition, an HIV policy maker pointed out the need for partnership between HIV and mental health programs in planning for the HIV-mental health integrated services.

Inner setting

Barriers (available resources, structural characteristics, leadership)

Most HIV providers, clinic heads and PLHIV raised concerns about the inadequate numbers of HIV providers as a barrier.

> *If the doctor is seeing like 100 to 200 patients a day, doing mental health assessment is not just a 1 to 2 min assessment tool. It might require even hours of discussion, of consultation. So, it might be a little bit tasking... if there would be more clinicians or a lower clinician to patient ratio, then it would be feasible. -HIV clinic head.*

HIV providers and PLHIV mostly affiliated with government clinics shared that HIV providers may be affected by employment status (e.g., project based, contractual), turnover rate, and redistribution of roles for the COVID-19 response, resulting in higher caseloads and less time per patient The CoCM may be more feasible in smaller HIV clinics with lower caseloads according to some PLHIV. Participants suggested hiring additional staff, incentivizing current clinic staff, and improving clinic and documentation processes to be more efficient to address the workload problem.

Other barriers identified by some PLHIV and HIV providers, mostly from government primary HIV clinics, included a lack of private space for mental health screening and management, deemed important for confidentiality and patients' comfort. They also cited a lack of computers for the patient registry.

HIV clinic heads and providers based in government primary HIV clinics, under the management of the local government, mentioned lack of leadership support for HIV and mental health programs and leader turnover as a potential concern, as this may affect allocation of funds and resources and sustainability of programs and employee turnover.

> *Now that the election is coming the Mayors will be changed again... we just need to wait for it and get along with them again- that's the problem with LGU, I think private organization is much better because it's relatively easy to decide.- HIV physician.*

A mental health provider also shared her insights about HIV counsellor turnover in some HIV clinics because of changes in program leaders in non-government organizations which funds, trains and manages HIV counsellors and assigns them to different HIV clinics in the country. Additionally, policy makers and mental health providers suggested that more data may be needed on the local prevalence of mental health disorders among PLHIV to get better support from leaders and implementers.

Facilitators and acceptability (structural characteristics, implementation climate- tension for change)

PLHIV, HIV providers and an HIV policy maker perceived the current mental health services and referral systems – which include support groups, mental health seminars, and psychosocial support by HIV providers or referral to mental health providers – as inadequate and unclear. At times, these services are only being delivered if patients exhibit severe mental health symptoms. Participants stressed that mental health services in HIV clinics need to be strengthened and noted that the CoCM can address this need.

> *So for me, it's a big step forward in helping out PLHIV who undergo such circumstances such as depression and anxiety. from what you have used before and at least there are very specific teams that would handle a depression. Because now the reality is HIV counseling is not enough.- PLHIV.*

Some HIV counsellors and PLHIV pointed out that despite having a psychiatrist, the low psychiatrist to patient ratio still resulted in delays in mental health consultations, thus making CoCM acceptable by allowing psychiatrists to focus on more severe cases.

> *It's a good thing that here in our facility there are mental health services, but then because of the volume of our patients here- more than three thousand plus (3,000+)- and then we only have one Psychiatrist, it is not really enough.- HIV counsellor.*

Characteristics of individuals

Barrier (individual capacity, passion)

HIV providers shared that their lack of formal training, low confidence, and inadequate knowledge in mental health assessment and management, especially with psychotropic medications, limited their capacity for HIV counselling.

> *We don't really have a formal training (in mental health), it's just like, we just respond to the patient according to the principles we learned in counselling- HIV physician.*

An HIV counsellor in a private treatment hub pointed out that their HIV physician is an infectious disease specialist and would most likely not have any training in mental health. An HIV policy maker and some HIV providers also highlighted that most HIV counsellors are lay people with diverse training and educational backgrounds, some of whom are not college graduates, resulting to different levels of knowledge and skills in mental health care.

> *Counselors are… mostly lay persons, they have to understand… more about behaviors and psychiatry… if we really want them to identify (MH conditions) so that they can refer. -HIV policy maker.*

A few HIV providers mentioned psychiatrists' knowledge about HIV may be inadequate, and they may need to learn more about the unique struggles of PLHIV. In addition, an HIV physician and mental health provider shared a potential challenge of identifying psychiatrists who may be willing to be a part of the care team.

Facilitator and acceptability (belief in the intervention, individual identification and capacity, passion)

Most participants believed that the CoCM can potentially provide more holistic care that may help in early detection of mental health disorders, improving overall HIV care and patient empowerment. An HIV counsellor however, thought that this would only be helpful if the services are sustained. In addition, a few PLHIV and HIV counsellors still expressed preference for a separate mental health program and providers focused only on mental health concerns.

> *Maybe it is best to have a mental health department in a hub. Because the doctor monitoring for HIV, of course, with the huge number of patients, we understand that (HIV) doctors can no longer monitor especially when there is anxiety and depression.- PLHIV.*

An HIV physician in a private treatment hub, who is trained as an infectious disease specialist, expressed preference to refer to the psychiatry department in their hospital for mental health management.

Most HIV providers and PLHIV recognized that HIV counsellors and physicians are commonly the first contact of patients in the clinic making them practical and acceptable for doing mental health assessment and referral. An HIV physician shared they are sometimes treated as family physicians and long term carers for any medical or psychosocial concerns, giving them the opportunity to do mental health assessment and management. Most participants believed there is already trust, comfort and rapport between HIV providers and patients, which may further support mental health management. This reflection was expressed by PLHIV and providers from all types of HIV clinics.

> *the first person you are actually meeting… is the treatment or the facility doctor like the one who facilitates and manage PLHIV. So at that point… you're now giving the trust… I think from our experience here, most of them are really. more comfortable talking with the (HIV) doctor and case managers (HIV counsellors). So now if this is the model that we are proposing… I think that's really helpful.-PLHIV*

Despite the HIV providers expressing lack of confidence in their capacity to provide mental health care, most mental health providers and policy makers believed they could be trained and that they already possess the basic counselling skills.

> *If you are an HIV counselor… as a trained HIV counselor, it means that you can address (ARV) adherence, mental health, suicide, because it is there in the (HIV counselling) training module… they can talk to a patient in crisis because they are counselors, that thing itself is an intervention and help the person cope.- mental health provider.*

A mental health provider, policy maker, and some HIV providers stressed that HIV physicians already have basic psychiatry knowledge as part of their medical training but they lack practice. Most HIV providers expressed their passion for HIV care, resulting in their willingness to participate in mental health trainings and participate in the CoCM despite heavy workloads.

> *That's a good idea. But maybe we still need a lot of training because maybe we're not doing it habitually. Maybe it's not our forte anymore, but we are willing to learn. -HIV physician.*

Also worth noting is that some HIV providers highlighted the poor mental health and burnout of HIV providers, especially those with too much investment in their work, could be a concern. One mental health provider further explained the potential transference and countertransference, especially for HIV counsellors who are PLHIV themselves.

> *They should know their role as the (case) manager... sometimes they might do... transference and countertransference 'no, so sometimes, usually, the (case) manager is also a PLHIV right?... because there are vulnerabilities, they tend to exceed beyond professional relationship- mental health provider.*

Process (*planning, executing*)

Facilitators and acceptability

All stakeholders expressed the need to train both HIV providers and psychiatrists to implement the CoCM. Both mental health and HIV providers and policy makers recognized the need for continuous and refresher trainings, considering differences in individual capacities. Mental health providers and policy makers suggested leveraging the current implementation of the WHO mhGAP as a means to train HIV physicians and the potential to incorporate this training or other mental health trainings in existing HIV counselling trainings.

> *They can (on mhGAP training)! They should have. But right now, I'm not aware that we have included them (HIV providers) but considering this discussion so far, I think, I suddenly remembered that they really need to be trained as well.- mental health provider.*

Other HIV providers suggested holding separate trainings specific to the mental health of PLHIV or providing mentoring in HIV clinics that have access to a psychiatrist. In addition, HIV physicians and clinic heads hoped these training activities could be free, done either synchronously or asynchronously for the whole care team to be able to participate. A policy maker suggested also utilizing social workers, HIV nurses or other available health staff as care managers in the CoCM. However, an HIV provider emphasized the importance of post training evaluations to assess HIV providers capacity in mental health management.

> *I don't think there's adequate sessions or training for mental health diagnosis and management (in HIV counselling training), so it should be part of the program before. And then there should also be a tool to assess whether they are indeed capable of assessing and managing mental health issues of patients." – HIV clinic head.*

HIV providers, policy makers and one PLHIV highlighted the need for clear protocols and process flow for the CoCM to be acceptable and feasible. Some HIV providers and PLHIV recognized the need to pilot test the CoCM to establish feasibility and effectiveness needed to procure support, including funding. A few HIV providers and PLHIV from both treatment hub and primary HIV clinics, eagerly expressed their willingness to pilot the CoCM in their clinics with their current available resources then adapting based on the outcome.

> *It's just like, formalizing or adapting it. At least like you have an ideal set up, then you have in a resource limited setting, you can start with what is available and then you just improve to reach the ideal. – HIV counselor*

Other minor, but notable recommendations, expressed by participants included adding suicidal risk and substance use assessment.scales for spirituality due to its effect on mental health in the Filipino culture, and mental health screening with HIV testing. A mental health provider emphasized the need to involve PLHIV and local mental health experts in planning the CoCM and suggested involving other local experts, such as anthropologists, sociologists and local tribe leaders, knowledgeable of the local culture.

Discussion

Most of the stakeholders who participated in our study found the CoCM acceptable and identified potential barriers and facilitators supporting feasibility across the five domains of the CFIR 1.0. Our findings emphasized the need to improve current mental health services in HIV care in the Philippines and to train HIV providers in mental health care. Participants identified potential strategies tailored for the local HIV clinic settings that may increase stakeholder buy-in prior to implementation. To our knowledge, this is the first study in the Philippines to explore the use of the CoCM in HIV clinics.

For intervention characteristics, participants expressed acceptability of the CoCM due to its design of having a care team and the adaptability of the mental health screening tools. While implementation cost and the inadequate number of psychiatrists in the country were identified as barriers to implementing the CoCM in all HIV clinics in the Philippines, some treatment hub- which have a separate psychiatry department, and non-government primary HIV clinics- which have volunteer or employed psychiatrists, are more feasible in implementing the CoCM. This may differ as well in HIV clinics in

the urban areas where psychiatrists can be more accessible, and may not be the same in clinics in rural areas. The inadequate number of psychiatrists was also a barrier in implementing the CoCM in Nepal especially on their long-term retention in the care team which they addressed by shifting the roles of psychiatrists to developing algorithms and decision-support tools to prepare the primary care physicians once the psychiatrists are not available. Teleconsultation or teleconferencing with the psychiatrist was suggested by participants to improve access to psychiatrists. This has also been shown to be effective in a CoCM implemented in Kosrae, an island state of Micronesia, where they utilized teleconferencing for ongoing education and case discussion with the psychiatrist [39].

The use of screening tools and monitoring components of the CoCM were also expressed as feasible as other HIV providers already have these in place. Although there has been validated screening tools translated to Filipino, the Philippines has multiple languages and the recommendation to translate it to other local languages will further impact its understandability. In Kosrae, the mental health screening tools were still not clearly understood despite translating to the local language. Study staff therefore adapted the screening to be more conversational [39]. Implementation costs for health staff, computers or phones, and clinic spaces are also a common barrier mentioned in other CoCM studies, not only in terms of feasibility but also for sustainability despite effective implementation [18, 20]. The Philippine health insurance existing coverage on HIV and mental health services should be explored as a means to fund the CoCM such as coverage of psychiatrist fee and psychotropic medications, if feasible.

In the outer setting, meeting patients' needs by providing a more holistic care and local supportive local policies enhanced the acceptability of the CoCM. Collaborations within or across clinics or hospitals should be explored to address the identified lack of psychiatrist. In addition, access to free or affordable psychotropic medications can also be addressed by exploring collaborations with the mental health program's "access sites". A joint program planning between the HIV and mental health programs in the Philippines is needed to further support implementation of the CoCM in HIV clinics.

Participants in this study believed the CoCM can potentially address both HIV and mental health stigma, similar to a finding in the CoCM implemented in primary clinics in northwest England where delivery of mental health care was less stigmatized when incorporated in other clinial management [40]. However, mental health stigma, among both patients and providers, low awareness of depression, and lack of trust in primary care providers were identified as barriers hindering patients from participating in the CoCM [18, 21, 39, 41].

The Philippines' Universal Health Care Act and Mental Health Act may both support the CoCM as these aim to provide accessible health care including mental health care to all Filipinos by integrating mental health care in basic health services [27, 28]. In addition, programs conducted under the Mental Health Act including training primary care providers using the WHO mhGAP and hiring of community psychiatrists can also support the implementation of the CoCM by addressing the lack of psychiatrists in government primary HIV clinics and capacitating HIV physicians. The Guidance and Counselling Act in the Philippines, however, was mentioned as a possible barrier as only registered guidance counsellors are allowed to provide counselling and psychological testing in this law. Hence, it may potentially restrict HIV counsellors from providing low intensity therapies and mental health screening [29, 42]. In the HIV law, however, HIV counselling includes exploring PLHIV's personal issues, identifying ways of coping with anxiety and stress, and helping resolve personal, social and psychological problems and difficulties in the context of an HIV diagnosis [29]. Despite the Guidance and Counselling Act, most participants believed HIV counsellors can be care managers in the CoCM. This was supported by mental health providers recommending to review what screening tools are allowed to be administered by non-mental health providers and the level of psychosocial intervention that HIV counsellors can provide to address the potential limitation from the Guidance and Counselling Act.

In the inner setting, participants in this study stressed the need to strengthen mental health services in HIV clinics that the CoCM can potentially address. However, availability of HIV providers, staff shortage and employee turnover, increasing the workload with less time for patients, and lack of leader support for HIV and mental health services were identified as potential barriers. In a CoCM implemented in Nepal, high turnover of primary care providers was also a concern. This was addressed by clear workflows developed for the CoCM for new primary care providers to quickly understand the CoCM despite high turnover rates [43]. However, these may still depend on the type of HIV clinics and these concerns were mostly expressed by participants from government HIV clinics. Interestingly, some HIV clinics with a psychiatrist still see the benefit of the CoCM due to the high workload of the psychiatrist, focusing on more severe cases, which may cause delay in referals and proper managemen of other mental health disorder.

Participants from government HIV clinics which are under the local government's leadership and budget have identified city mayors as important leaders who need to

be engaged if the CoCM is to be implemented, as health programs and services in community clinics are under their leadership. Feasibility of the CoCM in these settings will be highly affected by the level of support on HIV and mental health programs by the local government. Collecting and presenting local data on the burden of mental health among Filipino PLHIV can further engage leaders to support this service which was also mentioned in this study [16]. Similarly, Ngo et al. emphasized the importance of engaging political, administrative, health and mental health leaders for effectively implementing the CoCM in Vietnam. During their implementatiom, leaders were engaged by conducting workshops educating leaders on the need and social impact of depression care and developing a long term plan, resulting to better engagement of multi stakeholders and leaders. Mental health policy makers who were not initially supportive, were also later convinced due to successful stories from both patients and providers, resulting to increase in support and commitment [18]. On the other hand, leadership support was not identified as a potential barrier in non government and private HIV clinics.

For the characteristics of individuals, the lack of mental health knowledge and low confidence among HIV providers was emphasized as a barrier in implementing the CoCM. However, participants still believe that as HIV physicians with medical training, and HIV counsellors capacitated on HIV counselling, they are acceptable and feasible to perform the roles in the CoCM, with proper mental health trainings and guidance from the psychiatrist- who is part of the CoCM care team. In a CoCM implemented in a community health center in Texas, clinic staff still felt their knowledge to be isufficient despite having trainings prior to the implementation [20]. The patients' perception of their provider having inadequate capability to manage their mental health resulted in failure to linking them to the CoCM services in a primary care setting in Illinois [41]. These have an implication on the level and sustained trainings needed to successfully implement the CoCM and patients to have confidence in their HIV providers in managing their mental health.

HIV providers roles as primary care providers for PLHIV where patients may already trust them, and passion in providing high quality HIV care, making them willing to undergo further trainings for mental health care were important facilitators in this study. Conducting a baseline assessment of HIV providers' skills and core competencies in mental health management can help assess their self-efficacy and prepare for their roles in the CoCM. The study in Kosrae found that psychiatrists who developed a deeper understanding of the local culture gave more appropriate mental health recommendations to the care team [39]. This may further support the strengths of HIV providers in providing mental health management as they already have a deep understanding on the struggles of PLHIV. On the other hand, HIV providers in this study felt that some psychiatrists may need to increase their knowledge about HIV, which could help deliver more tailored care. HIV providers' expressed passion for HIV care may be similar to the CoCM for older people in China where the care team members' care for the elderly supported their willingness to participate in the CoCM and was thought to be a factor in its effectiveness in reducing depressive symptoms [44]. A CoCM implemented in Vietnam was initially met with resistance by health care staff due to limited and overburdened health care workers. However, targeting their values and emphasizing their roles as change agents by observing improvement in patients' outcomes were strategies done by implementers that showed improved acceptability and participation in the CoCM [18, 19]. Importance of having trust in providers has also influenced the acceptability of the CoCM in HIV clinics in the US and in China, with patients being more comfortable and truthful with the care team when trust is present [44, 45]. It is important to note, however, that this passion with overworked health care workers may lead to burn out that was pointed out by some HIV providers. This should also be addressed and prevented to support a succesful implementation of the CoCM.

Despite the majority expressing acceptability of the CoCM, some PLHIV and HIV providers in this study still expressed a preference for separate physical and mental health care. This was evident in a private treatment hub where the HIV provider is usually an Infectious Disease Specialist and with a Psychiatry department in the hospital. In a primary care clinic in England, the authors found that integrating mental health in primary care can undermine mental health management, especially if the mental health disorder is explored in the context of patients' medical condition, which may be given higher priority [40] In the context of this study, not all mental health disorders may be related to a person's HIV status hence some PLHIV participants still prefer to have a different provider focused on their mental health. These preferences may impact the acceptability and success of implementing the CoCM and may inform the design of a more flexible model of care, such as option for direct referral to mental health specialist or designating HIV providers more specific for delivery of mental health care [40].

Recommendations (Table 4) for processes in implementing the CoCM included training HIV providers, establishing clear processes, pilot testing, and tailoring implementation to the local setting and culture. Adequate training of both HIV and mental health providers is crucial and has enhanced motivation to participate in the CoCM [19]. In Vietnam and India, other personnel - including nurses, village health collaborators and

Table 4 Recommendations

Themes	Barrier	Recommendations
Intervention Characteristics	Adaptability of CoCM and implementation Cost	Inter- or intra-hospital collaborations for access to with psychiatrists
		Collaborations with 'access' sites or government agencies for financial support to address access to free or affordable psychotropic medications
		Review of policies on Philippine health insurance on HIV and MH coverage
		Joint program planning between MH and HIV programs
Outer Settings	Guidance and Counselling Act	Policy review on acceptable screening tools and mental health interventions for non-mental health specialist
Inner Settings	Workload	Clear protocols and work flow process
	Available Resources	Additional Human Resources
	Leader	Leader Engagement
		Collect local data on burden of mental health on HIV to engage leaders
Characteristics of Individuals	Individual capacity	Training and capacity building for both HIV providers and psychiatrists
Process	-	Pilot Testing

health workers, social workers, midwives, HIV counsellors and even nutritioninsts - were trained for the role of care managers [16, 18, 19]. This broadened approach is congruent with the findings in this study that also recommended to explore other health staff as potential care managers aside from the HIV counsellors. Leveraging currently available trainings such as integrating the WHO mhGAP in HIV trainings should be considered. However, post evaluation on HIV providers' capacity and the need for sustained trainings were deemed important. Other means of trainings mentioned was mentoring by the psychiatrist in the care team. In Nepal where the CoCM was implemented, they found the apprenticeship model where the primary physician is mentored by the psychiatrist as practical [43].

Unclear processes and role confusion by the care team physicians and counsellors have been identified as barriers in implementing the care team approach [19, 20]. Establishing the clear roles of the care team members and clear work flow in individual HIV clinics from the screening process to the level of severity managed by the HIV providers and when to refer were important to the participants in this study particularly the HIV and mental health providers and PLHIV for the CoCM to be acceptable. In a US clinic where the CoCM was implemented however, they noted that the time it took to develop the tools and processes prior to implementation may have slowed down the implementation process. A trial and error approach was done in another setting, adjusting the processes while the CoCM is implemented [20]. Similarly in this study, some HIV providers showed willingness to pilot testing and be early adopters of the CoCM with their current available resources and adjust based on their evaluation. This approach would help tailor the CoCM to the available resources and local cultural context, and assess its effectiveness to increase stakeholder buy-in and support future funding [18, 39, 46].

The diversity of the HIV clinics in the Philippines may translate to different feasibility in implementing the CoCM. HIV clinics with a psychiatrist and a supportive leader can be early adopters to pilot the CoCM provided that the HIV providers had mental health training and the willingness to adapt to changes. HIV clinics without a psychiatrist should explore how to add a psychiatrist to their care team through hiring or collaborations. The Philippine health insurance coverage for HIV and mental health should be reviewed especially for coverage of the psychiatrist, additional staff and psychotropic medications. The Guidance and Counselling Act should be reviewed to determine the mental health screening and interventions that non-mental health specialist can conduct that is acceptable in the local setting. Lastly, local HIV and mental health program leaders should work together to create programs and trainings on integrated mental health services in HIV clinics rather than working in silos such as integrating the "access sites" in HIV care and WHO mhGAP trainings for HIV providers.

Future research to be considered includes assessing actual implementation of the CoCM and its adaptability, post implementation assessment and sustainability in local HIV clinics in the Philippines.

Limitations

This study has several limitations with regard to generalizability in HIV clinics in the Philippines. Since purposive sampling was done to recruit participants from areas with high HIV cases, this may reflect a higher case load in the clinics compared to other settings which may affect workforce burden and the feasibility of the CoCM. Additionally, despite including providers and patients from different types of HIV clinics (private, government, hospital-based and stand-alone clinics), organizational settings and culture may still differ by individual clinic, which may correspond to differences in barriers and facilitators. Participants interested in joining the study may have had heightened awareness about the importance of mental health, which may have influenced their perceived

acceptability such as need for mental health services, provider's passion in HIV care and trust between patient and provider. As majority of HIV cases in the Philippines and patients seen at the clinics are males, patients who reached out to the study team were all men, leaving women living with HIV underrepresented in this study. Further, influence of participants' age and gender were not part of the study objective. Younger or older patients, women and patients who are not actively consulting in the clinic may have different perspectives in the acceptability of the CoCM. Lastly, as this is a formative pre-implementation study, acceptability, barriers and facilitators may differ in the implementation phase.

Conclusion

Participants perceived the CoCM to integrate mental health in HIV care using HIV counsellors as care managers in HIV clinics in the Philippines as acceptable. Perceived barriers included inadequate numbers of psychiatrists in the country, an overburdened and understaffed workforce in HIV clinics, and inadequate mental health knowledge among HIV providers. Facilitators and recommendations included training HIV and mental health providers in mental health and HIV respectively, intra- and inter-clinic collaborations to facilitate better access to psychiatrists and psychotropic medications, proper planning with standardized processes and clear protocols in individual clinics, and pilot testing to implement the CoCM in an acceptable and feasible way in HIV clinics in the Philippines. Policy reviews that may hinder or support implementation of the CoCM should be done including the Philippine health insurance coverage for HIV and mental health that may support implementation cost and the Guidance and Counselling Act which may hinder implementation if non-mental health specialist such as HIV providers cannot provide mental health care. Type of screening tools and level of mental health management that HIV provider can deliver should be determined based on the local policies. Lastly, HIV and mental health programs should work together to plan for integrated mental health services in HIV clinics utilizing existing mental health programs and trainings instead of working in silos.

Abbreviations

CFIR	Consolidated Framework for Implementation Research
CoCM	Collaborative Care Model
FGD	Focus group discussions
KII	Key informant interviews
LMIC	Lower middle income countries
mhGAP	Mental Health Gap Action Programme
PLHIV	Person living with HIV

Supplementary Information

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Supplementary Material 1.

Supplementary Material 2.

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Authors' contributions

ADL is the principal investigator and was involved in the conceptualization and planning of the study and led the implementation, data analysis and writing of the manuscript. JM was involved in reviewing the data analysis, writing, design and finalization of the manuscript. AS was involved in conceptualization and planning of the study, reviewed and revised the final manuscript. RD was involved in the conceptualization and planning of the study. MM was involved in the conceptualization of the study and review of the manuscript. RT was involved in the implementation of the study and data analysis as the research assistant of the principal investigator. TD was involved in the conceptualization of the study and assisted in data management.

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Data availability

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

This study was conducted in accordance with the Declaration of Helsinki and has been approved by the Research Institute for Tropical Medicine Institutional review board with IRB protocol number 2020-41. All participants in this study signed an informed consent and all methods done were in accordance to the approved IRB protocol.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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