Piloting the PROMISE HSA training and psychosis screening: Feasibility Report

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THE UNIVERSITY *of* EDINBURGH

KAMUZU UNIVERSITY
OF HEALTH SCIENCES

1. Psychosis Recovery Orientation in Malawi by Improving Services and Engagement (PROMISE)

PROMISE is a five-year study funded by the Wellcome Trust that uses mixed methods to build on existing services to develop sustainable psychosis identification systems and management pathways to promote recovery. We are using a validated psychosis screening tool to facilitate detection by Health Surveillance Assistants (HSAs) at the village level and developing a simple management blueprint encompassing education and community support, with an integrated care pathway including Primary Health Centre Clinics (PCHCs) and District Mental Health Teams (DMHTs). In Work-package (WP)1, PROMISE co-designed a psychosis detection and management system which is illustrated in the PROMISE Theory of Change and the PROMISE implementation plan. In WP2, we are testing the feasibility of the psychosis detection and management system to refine it for implementation and evaluation in three districts in WP3 and 4. Our PROMISE Theory of Change, developed with stakeholders, is central to the development, piloting and evaluation of the intervention (Figure 1).

This report provides a brief overview of the development of the PROMISE detection and management pathways and the resulting pathways (WP1). We then describe the piloting of the HSA training and screening. We outline the risks we have identified, our mitigation strategies and our plans for WP3 and WP4.

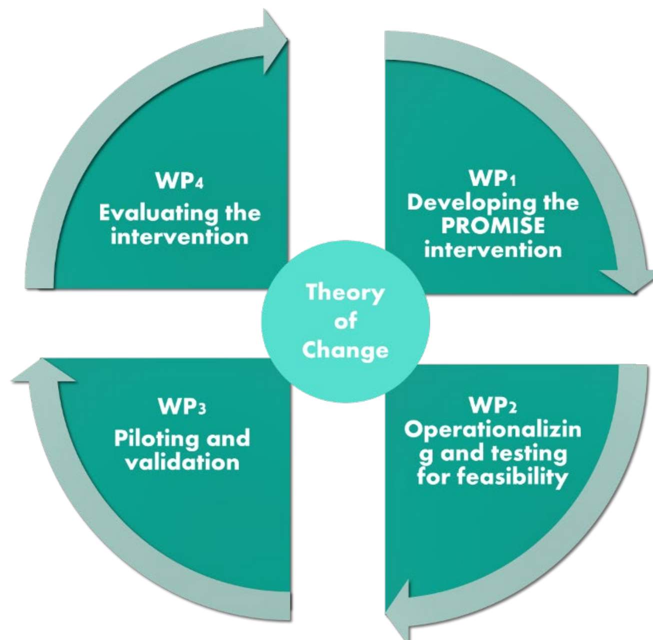

Figure 1 PROMISE Work-packages

1. PROMISE Detection and Management Pathway

Development

During WP1 we used a number of methods to understand the experience of and care for psychosis in Chiradzulu and Salima to inform the development of the PROMISE intervention. These included qualitative interviews (n=28) and focus groups with people with psychosis and their families (18 groups, n=87 participants), photovoice (n=16), systematic reviews of the literature and surveys with Health Surveillance Assistants(n=40).

To develop detection and management pathways and the role of PROMISE we conducted a Theory of Change workshop in Chiradzulu (n=23) and Salima (n=23). Participants included people with psychosis, family and caregivers, traditional healers, religious leaders, HSAs, primary care health care workers, district Mental Health Team staff, District Health Officer or representative, District Medical Officer, District Environmental Health Officer or representative, District Nursing Officer, pharmacist, government representative, traditional leaders, and a Central Medical Stores Representative. In each district, we developed a Theory of Change. They were similar across the two districts, so we synthesised and compiled them into one PROMISE Theory of Change (Figure 2). We formed an additional HSA training development group (including people with lived experience of psychosis) to develop the training manual and slides, including pictures drawn by a Malawian artist. The PROMISE implementation plan (Appendix 1) and HSA training manual (Appendix 2) and training slides (Appendix 3) were reviewed at a third Theory of Change workshop in Chiradzulu (n=23) and by our Lived Experience Advisory Panel.

PROMISE Intervention

The PROMISE intervention is a multi-component intervention which will be implemented at the community, facility and district level in the PROMISE districts. As illustrated in our Theory of Change (Figure 2) and Implementation Plan (Appendix 1) some interventions will be delivered directly by the PROMISE research team, others by the current health system (with PROMISE support) and others by our Lived Experience Advisory Panel and Committee.

The purpose of WP2 was to test the feasibility of the PROMISE HSA training manual and training. In this report, we report on this and discuss our learnings, risks and mitigation strategies.

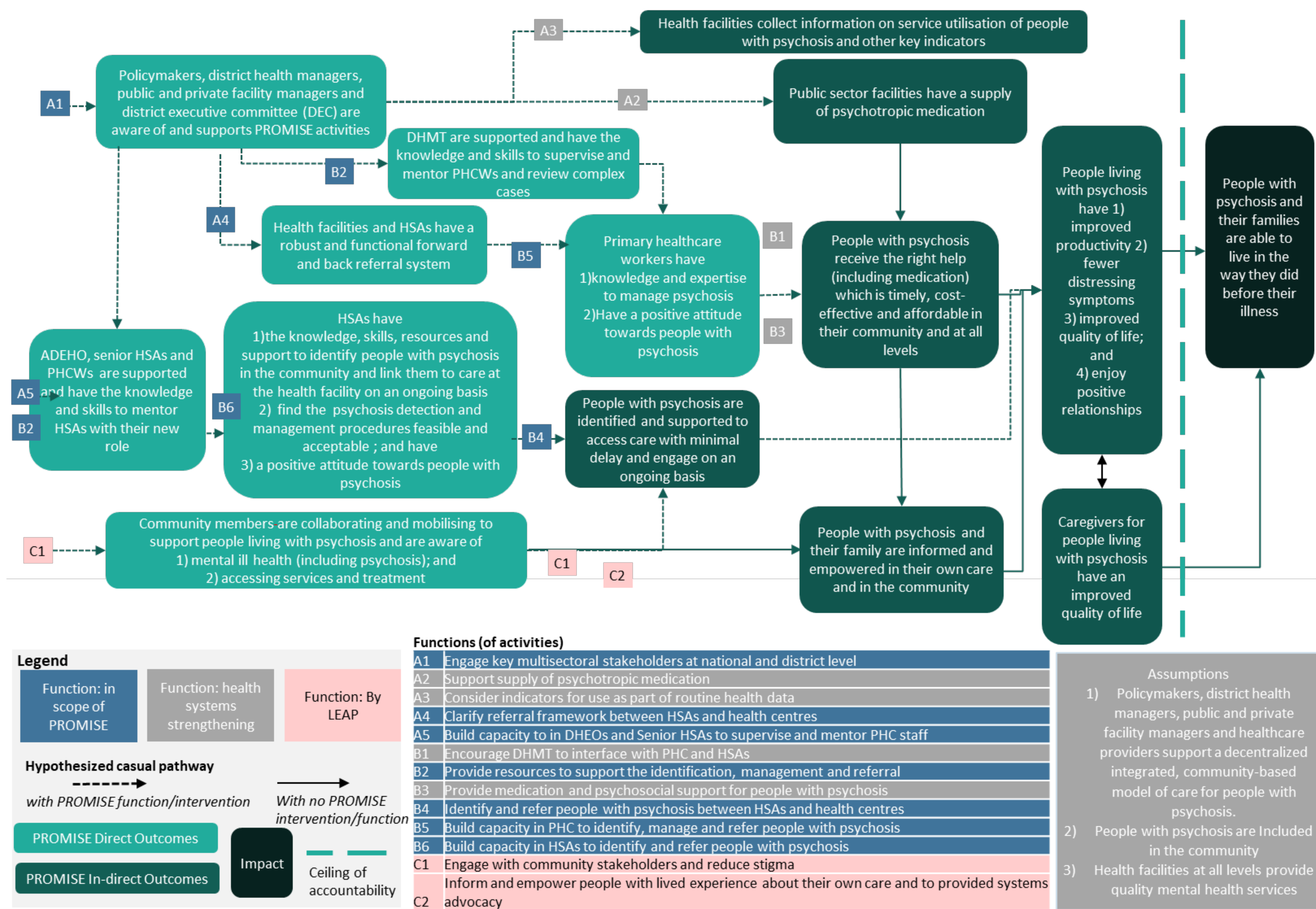

Figure 2 PROMISE Theory of Change

Pilot HSA training was conducted by the PROMISE team over 2 days (28th to 29th August 2024). The training followed the HSA training manual (outlined below) and included people living with psychosis as part of the facilitating team.

Box 1. Outline of PROMISE Training Manual

1. Introduction
2. Understanding Psychosis and its Treatment/Management
a) What is psychosis?
b) Management of acute psychosis
c) Management of chronic psychosis
3. Role of HSAs in Community Identification and Management
a) Case Identification
b) Referral pathways – who and when to refer to PCHCs and DMHTs
c) Referral tools
4. Community Engagement and Support for Psychosis
a) Initial approach to people with possible psychosis / their carers
b) Community awareness of people with possible psychosis
c) Essential Psychosis Information simple education sheets for PWLE
d) Reducing stigma
e) Community Resources for Mental Health Support
f) Community-based rehabilitation
5. Appendices
a) Vignettes
b) HSA Screening & Referral Form
c) Simple Information Sheet for PWLE
d) Community Asset Map example
e) Time Motion Activity Template
f) References
g) Standard Operating Procedures (for example, dealing with aggression and violence)

Below we outline the methods and findings from this pilot training and use of the HSA screening tool and manual procedures by the HSAs.

2. Methods

We conducted a mixed-methods study using both qualitative and quantitative data to evaluate the training and the use of the detection and management system. The study has two components: 1) training of HSAs; and 2) feasibility testing of the manual and procedures.

Study Setting

The study was conducted in Namitambo in Chiradzulu district, one of the three districts in which we will implement PROMISE in WP3 and 4. Namitambo is approximately 35km east of Blantyre, Malawi.

Chiradzulu district is divided into clusters, each comprising three or more health centres. Environmental health activities in each cluster, which includes the work of the HSAs, is managed and supervised by an Environmental Health Officer (EHO). At the health centre level, environmental health activities are overseen by an Assistant Environmental Health Officer (AEHO), who reports to the EHO. The AEHO supervises 2 Senior Health Surveillance Assistants (SHSAs), who are responsible for overseeing 28 HSAs assigned to various villages within the health centre's catchment area.

Details on the number of health workers in the different roles are outlined in Table 1 below.

Table 1 Health workers in Namitambo

Health facility	Health Surveillance Assistants	Senior HSAs	Assistant Environmental Health Officers	Environmental Health Officers	Primary Healthcare workers	DHMT
Namitambo	28	2	1	1 [a.]	11	3[b]

a. This EHO caters for an entire zone namely, Namitambo, Nkalo and Chimwawa.
b. DMHT is comprised of 2 clinical Officers and a nurse and covers the entire Chiradzulu district

For the PROMISE pilot, 11 HSAs and 1 SHSA were trained and serve as the primary liaison with the community. They were responsible for identifying, screening, and referring individuals with probable psychosis to primary healthcare workers (PHCWs). We also included the AEHO in the training as they oversee the work of the HSAs and SHAs.

Participants and sampling

Phase 1: HSA Training

We recruited eleven HSAs and one SHSA from Namitambo with good knowledge of English to attend the training. These were selected by the research team in collaboration with the mental health clinical officer at the district hospital in a convenience sample. Once recruited the research team obtained consent from the HSAs as per procedures in the ethics approval. People with lived experience of psychosis were part of the facilitating team.

Phase 2: Feasibility testing

We aimed to conduct feasibility testing on at least 10 people with possible psychosis so that each HSA engaged with and assessed at least one person with possible psychosis using the manual and screening tool. We excluded those with a known organic explanation for their psychosis (such as epilepsy, malaria or HIV).

Once recruited the HSAs will obtain consent from the people with probable psychosis as per procedures in the ethics approval.

Procedures

Phase 1: Pilot HSA Training

As described above, the research team in Malawi trained 11 HSAs and 1 SHSA to use the manual and conduct the screening. We used the HSA survey from WP1 before and after the training to assess change in attitudes, confidence and knowledge using the Community Attitudes to Mental Illness (CAMI) scale, the WHO mhGAP knowledge test, and confidence questionnaires. We asked participants to complete a training satisfaction survey.

Phase 2: Feasibility testing

We tested the feasibility of the manual and procedures with the trained HSAs Namitambo. Each HSA and SHSA assessed at least one possible case using the manual (a total of 12 people with possible psychosis). The HSAs/RAs kept a research log of the numbers with possible psychosis approached, consented, screened and referred for assessment, including the duration of assessments, as a test of the feasibility of the procedure. The data collection instruments are outlined in Table 2 and the overall process outlined in Figure 4.

Table 2 Data collection forms

Data/document collection	Timing	Construct being assessed	Completed by
Consent forms	Before training	Consent	Self-completed by all HSAs
Knowledge and Attitude Questionnaires - **Community Attitudes Towards the Mentally Ill Scale** - **Confidence Scale,** - **WHO mhGAP test**	Before and after training	HSA knowledge, confidence and attitudes	Self-completed by all HSAs
Consent forms	Before assessment by HSAs	Consent	A Person with probable psychosis
Screening Schedule for Psychosis	During routine practice	A Person with probable psychosis symptoms	HSAs
Research log	During routine practice	# probable psychosis # referral #screened	HSAs
Feedback workshop	After routine practice	Progress and challenges	Research assistants

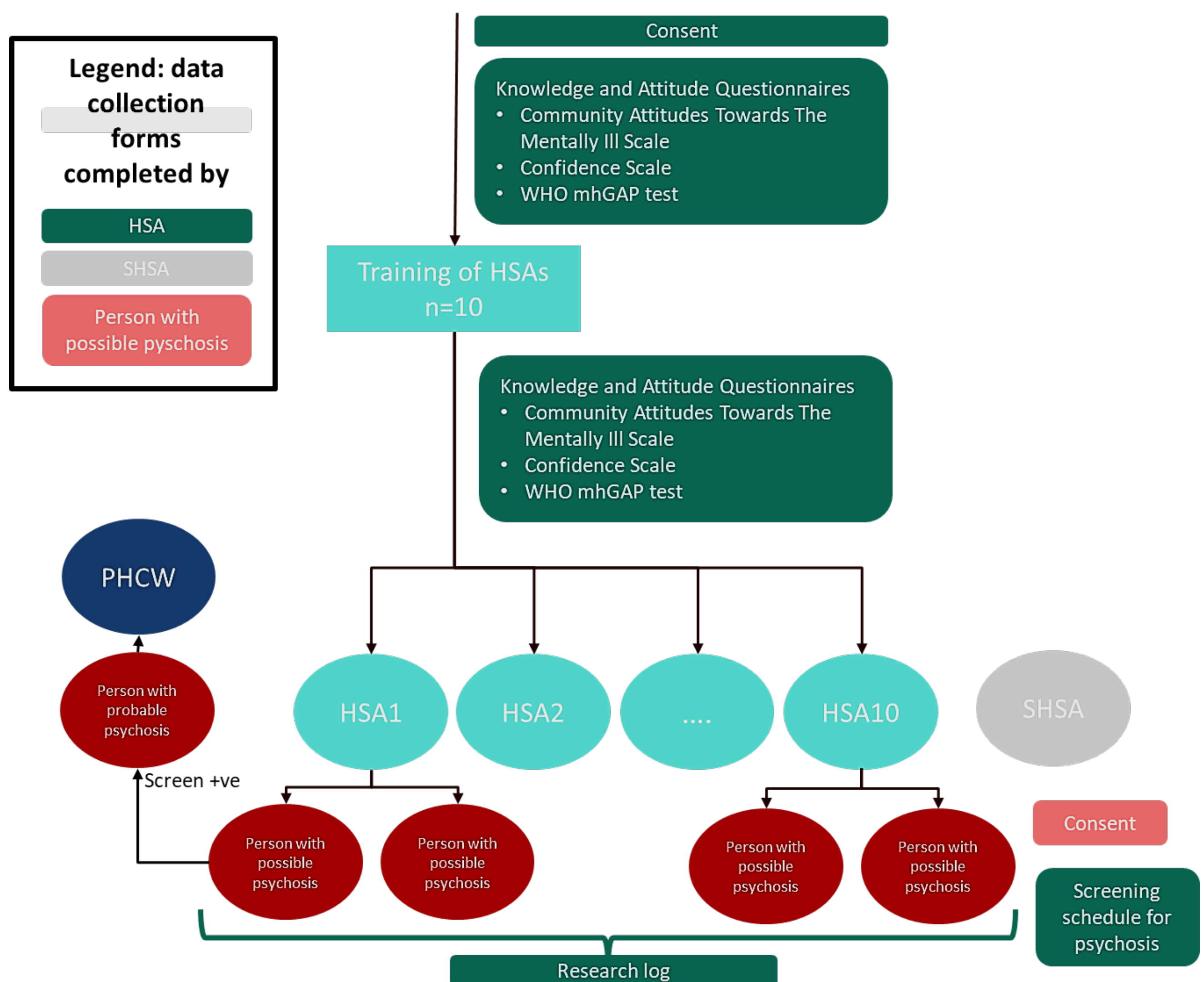

Figure 3 Training and feasibility phases illustrated with data collection forms

Data Analysis

We calculated summary statistics (mean, standard deviation, or frequency and percentage) for sociodemographic data and confidence and knowledge questionnaires. We used paired t-tests to determine whether there was a significant difference between pre and post confidence and knowledge scores. For the evaluation forms, which used a Likert scale, we calculated the percentages responding to each of the categories. Qualitative data was collected from the HSAs during a feedback meeting. We thematically organised this data into predetermined categories 1) experiences with screening; 2) case histories of people screened; and 3) risks and challenges.

Results

a. HSA training

All participants who completed the training (n=13) filled in the pre- and post-knowledge and confidence questionnaires and the workshop evaluation forms. Nine (69.2%) of the participants were male. The majority of the participants (76.9%) had a Malawi School Certificate of Education (MSCE) followed by those with a tertiary diploma (15.4%). The mean age of the participants was 41 years old, and the mean years of experience was 12 years. Further details are outlined in Table 3.

Table 3 Sociodemographic characteristics of participants

Variable		
	Category	**Number (%) (n=13)**
Sex	Male	9 (69.2)
	Female	4 (30.8)
Education	JCE	1 (7.7)
	MSCE	10 (76.9)
	Diploma	2 (15.4)
		Mean (Standard deviation)
Age		41.8 (9.4)
Years of experience		12.9 (10.9)

Workshop evaluation

Most participants found the workshop quality very good (77%) or satisfactory (23%). They described the content and the process of training as either satisfactory (77%) or easy to understand (15%). In the qualitative comments, the participants reported that they liked the knowledge gained (for example, types of psychosis, signs and symptoms, screening, psychoeducation and referral) and that the training was both in English and Chichewa. They asked for the training to be 3 days (instead of two) and to know the training logistics in advance. We have taken these suggestions on board and made changes to future training which will be extended to 3 days.

Change in confidence

The training improved the confidence of the HSAs in detecting and managing psychosis. The mean confidence score increased significantly from 21.2 (SD: 10.9) before training to 37.3 (SD: 5.4) immediately after training; $t = -5.5$, $p = 0.00$.

Change in knowledge

There was no significant increase in the knowledge score before and after the training. The mean knowledge score moved from 10.1 (SD: 2.1) out of 20 before training to 10.5 (SD: 2.0) immediately after training; $t = -0.7$, $p = 0.5$. The lack of change could be attributed to the data collection instrument which contains questions not only about psychosis but other mental illnesses such as depression, mania and substance abuse which were not comprehensively covered during the training. When we looked at the psychosis-specific questions (n=8) then there was a change in the mean knowledge score from 4.9/8 to 5.2/8.

Change in attitude

There was also no significant difference in the average CAMI scores before and after the training. The mean CAMI score was 127.4/200 (SD= 8.9) before the training. Higher scores indicate less stigma towards people with mental disorders. There wasn't much movement in the mean CAMI score (125.6, SD= 7.4) after the training; $t = 0.6$, $p = 0.5$.

Feasibility testing of the manual and procedures

The research team conducted a follow-up visit on the 15th of November 2024 to check in and support HSAs and ensure they were continuing with the screening.

On the 26th of November 2024, the PROMISE team had another meeting with all the trained HSAs to review their progress and their experience with the screening process.

During this visit, the research assistants asked HSAs to role-play how they screen individuals in their communities using the screening and referral forms. The research assistants checked that they were using the screening form and procedures as intended.

In total, 12 people with possible psychosis were identified. All those identified had some previous contact with the health services. Ten had been referred to services including Zomba Psychiatric Hospital (the tertiary facility) and had been on treatment or defaulted. The HSA referred one person to a nearby health facility, but they had previously had a poor experience so chose to use traditional medicine instead. Several challenges were identified:

- The community stigma toward people with psychosis and the perception of psychosis results in families not taking up referral to the health facility and choosing traditional means of treating psychosis.
- Poor experiences with primary health care workers' attitudes when individuals present themselves at the health facility.
- Challenges with the definition of psychosis in Chichewa (the local language). HSAs reported that people relate with terminologies like "*Misala" [insanity]*

which are stigmatising instead of “*Matenda a maganizo angwiro” [Mental Illness that affects thinking]*

- HSAs fear patients and guardians being violent towards them.

In summary, the HSAs can use the tool to identify people with psychosis. However, the lack of knowledge of the PROMISE intervention at the community level meant that only people with long term and severe symptoms were identified. In addition, there is a lack of knowledge and skills at the primary care level to manage referrals at the health facility. In the broader PROMISE intervention, we have included both community awareness activities as well as training for the Primary Healthcare Workers. We will include an additional part of the training for HSAs in how to support people who have disengaged with treatment and re-engage them in services and provide more training in de-escalation skills. We will review the knowledge questionnaire used in PROMISE which was designed to measure change in general mental health worker knowledge for Primary Healthcare Workers to determine whether there might be one more appropriate for use specifically with community health workers related to psychosis. We will also consider evidence-based strategies for how to better include people with lived experience in the training, for example, drawing from the RESHAPE trial by Brandon Kohrt and colleagues[1].

3. Risks and mitigation strategies

We have demonstrated the feasibility of our approach to detect and manage psychosis in Chiradzulu, but several challenges were identified. These are described in detail in our risk register in the Table 4 In brief, these are related to the:

1) Context, for example, “Acts of God” such as floods, cyclones or new pandemics, the community,
2) Community, for example, related to the perception of psychosis and lack of Chichewa terms for psychosis
3) HSAs, for example, lack of willingness of HSAs to participate in the intervention
4) Facility, such as Primary Healthcare Workers not being receptive to referrals
5) Grant administration, such as delays in contracts and ethics approvals
6) Ministry of Health, for example, that their priorities do not align with ours, and
7) Research, for example, not understanding why interventions work (or why not)

These risks will be monitored throughout WP3&4 and discuss them at both our WP3&4 and PROMISE team-wide monthly meetings. Some risks are easily mitigated, for

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[1] Kohrt, B.A., Turner, E.L., Gurung, D. *et al.* Implementation strategy in collaboration with people with lived experience of mental illness to reduce stigma among primary care providers in Nepal (RESHAPE): protocol for a type 3 hybrid implementation effectiveness cluster randomized controlled trial. *Implementation Sci* **17**, 39 (2022). https://doi.org/10.1186/s13012-022-01202-x

example, teaching less stigmatising language for psychosis in the HSA training and extending the HSA training to 3 days. We will also add additional training for HSAs in how to support people who have defaulted from treatment and re-engage them with services as well teaching de-escalation strategies for HSAs.

As part of the WP3&4 implementation of the broader PROMISE intervention, we will deliver community awareness activities, and train and support PCHC and DMHT staff to manage psychosis, using approaches which we have previously shown to be effective[2]. These were not undertaken during WP2 and should at least partly address the challenges of: community stigmatisation, reluctance by people with psychosis and their carers to engage with PCHC workers at facility level and the perception that primary healthcare workers are unable to manage psychosis.

Two net high risks are identified in our Risk Register. HSAs fear patients and guardians being violent towards them, which could foster a reluctance to screen and otherwise engage with the most ill people in the community. This should be partly mitigated by including de-escalation during training as outlined in our Standard Operating Procedures, HSA exposure to people with psychosis during WP3&4, and greater support available for PWLE and HSAs once the full PROMISE intervention is employed.

We have less clear potential influence on the remaining net high risk – the lack of availability of antipsychotic medication. We plan to work with the MoH and health facilities, including pharmacies, to try to increase availability in and around Chiradzulu. We also have the option, if necessary, to work with PWLE and our LEAP/LEAC to campaign for greater availability.

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[2] Ahrens, Jen, et al. "Implementing an mhGAP-based training and supervision package to improve healthcare workers' competencies and access to mental health care in Malawi." *International journal of mental health systems* 14 (2020): 1-12.

Table 4 PROMSE Risks, Mitigation Measures and Current Status

	Risks	Potential impact	Probabil…	Impact	Mitigation measures	Net risk	Current status
Community	Community perception of psychosis	Families and people with psychosis resist referral	M	M	Community sensitization on psychosis and PROMISE by the HSAs. From previous studies were know that once people access treatment and recover stigma is often reduced. We will also draw on evidence based ways to include further people with lived experience of psychosis as facilitators in the training.	M	Part of HSA role and training; will also be conducted by LEAP
Community	No clear definition of psychosis in local languages	Misunderstanding of diagnosis or increased stigma	H	L	Community sensitization on psychosis and PROMISE by the HSAs We will continue to include people with lived experience of psychosis as facilitators in the training.	M	HAS are spending time explaining what psychosis is
Community	Limited engagement with people with lived experience	Intervention does not work well for people with psychosis	L	M	Setting up Lived Experience and Advisory Panel and Lived Experience Advisory Committee	M	LEAP and LEAC meeting frequently and have given input on specific outputs and representatives attended Theory of Change workshops

Community	Community members currently not aware of HSA new role in screening	Community members don't help the HSAs to identify people	L	M	Community sensitization on psychosis and PROMISE/screening by the HSAs	M	This will start in WP3/4
Context	"Acts of God" – cyclones, floods	Destruction of infrastructure, increased morbidity and mortality; unable to continue study	L	H	Ensure fieldworkers are aware of any potentially dangerous climate conditions or civil unrest	M	No current danger
Context	Fuel shortages/scarcity	Unable to conduct some PROMISE activities.	M	H	Our team plans to book transport a few weeks in advance to give KUHES enough time to plan. We will make sure that the PROMISE vehicle is always fully fuelled when we can to so it is available when needed.	M	We are still suffering from the erratic supply of fuel in Malawi. Things are currently stabilizing and hopefully, we will have a regular supply of the commodity soon.
Facility	PHC workers not receptive to referral	People with psychosis do not go back to formal health services	L	H	Primary Healthcare Worker's training/orientation on PROMISE	M	Planned in WP3/4 based on previous training with mhGAP
Facility	High turnover of health staff at all levels	Knowledge and skills learned are lost	L	M	Offer repeated training sessions for new staff;	M	Currently not a problem – will reassess during WP3/4
HSA	Name change of HSA to Disease Control Surveillance Assistants	New title may limit perceived scope of role	H	M	Change and review materials if change goes through	M	Change is planned but not implemented
HSA	HSAs fear being harmed by people with psychosis and their families	Fear of interacting with people with psychosis	H	M	We will add additional information to the training course including d-escalation strategies. We will continue to include people with lived experience of psychosis as facilitators in the training.	H	No incidents reported

HSA	The gold standard diagnostic tool (SCAN) may be different to the screening results	Care may need to change based on new diagnosis	M	M	We will develop a Standard Operating Procedure to manage this from both a research and an implementation perspective	M	This will be implemented in WP3 and 4
MoH	Ministry of health is not supportive or has competing priorities	Do not support or encourage any health facility-based interventions; unwilling to scale up findings	L	M	We have formally included members of the MoH in our investigator team	M	Our MoH colleagues often attend meetings and give helpful advice
MoH	The PROMISE intervention may not be scalable	Intervention may not be scaled up in Malawi	M	M	We have worked closely with a range of stakeholders to develop a contextually relevant and acceptable intervention	M	We will monitor closely in WP3/4 and adjust as needed
Facility	Lack of regular supply of anti-psychotic medication available in the facilities	People with psychosis who need medication (>90%) are not able to access it	H	H	We have included this in our intervention and have identified multiple ways to ensure this: work with the MoH and health facilities, including pharmacies, to increase availability. to work with PWLE and our LEAP/C to campaign for greater availability.	H	We will monitor closely in WP3/4

Community	COVID-19 or other pandemic interrupts fieldwork	Unable to continue fieldwork; danger of infection for staff and study participants	L	H	During periods of high transmission use safety precautions, modify/pause fieldwork; continue online where able based on lessons learned during 2020-2022	M	COVID is currently endemic in the community; most people are vaccinated; currently no COVID specific precautions in the community
Administration	Delays in administrative processes	Lead to work starting late or institutions not being able to pay their staff	M	M	We will endeavour to get contracts sorted as soon as possible and ethics approval in both UoE and KuhES	M	All contracts are completed. Ethics has been approved for the whole study at UoE. Awaiting ethics submission and approval for KUHES
Results	Lack of understanding why intervention does/does not work	Unable to continue to refine further interventions	L	M	Our Theory of Change approach is specifically designed to understand the mechanisms that support the intervention, and these will be tracked by process measures through the lifetime of the grant. A full theoretical structure will explain why benefits have been secured.	M	The Theory of Change has been developed and informed the measurement tools for WP3/4

Impact	Lack of any results to promote impact	No changes to screening and management of psychosis in Malawi	M	M	Our research is precisely aimed at generating and disseminating better understandings of psychosis in Malawi, and even if the programme is ineffective is likely to be impactful in the longer-term. We also plan to initiate impact activities from the start.	M	We have started impact activities. This includes including feedback to the Ministry of Health, including stakeholders in Theory of Change workshops, presenting at the Malawi Mental Health Conference and submitting several papers
HSA	HSAs are not willing and motivated to participate in the PROMISE intervention	Unable to use HSAs for screening	M	H	In acknowledgement of the expanded role and research administration, the grant will fund the HSA's time and expenses. Some HSAs are likely to be naturally interested and enthusiastic and could become HSA 'MH champions' for this study and the future.	M	HSAs are currently interested in participating
Context	fuel shortages/scarcity	Unable to conduct some PROMISE activities.	M	H	Our team plans to book transport a few weeks in advance to give KUHES enough time to plan. Make sure that the PROMISE vehicle is always fully fuelled when we can to avoid disturbing the activities.	M	We are still suffering from the erratic supply of fuel in Malawi mainly due to forex shortages. Hopefully, we will have a regular supply of the commodity soon.

4. Conclusion

In summary, we have shown that HSAs can use a screening tool to detect people with psychosis in the community, but the lack of implementation of the multi-level PROMISE intervention at the time meant that only people with long-term and severe symptoms were identified, and also highlighted a lack of knowledge, skills and resources at the primary care level to manage referrals at the health facility. In the broader PROMISE intervention, during WP3&4, we will include both community awareness activities and training for the Primary Healthcare Workers. We will regularly monitor all identified risks to the project, look out for others and focus in particular on addressing net high risks. We will continue to work closely with our PROMISE Ministry of Health partners to ensure that the intervention remains relevant and that we provide them with the right types of evidence to inform their decision-making going forward.

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