PSYCHOLOGY DEPARTMENT

STUDY TITLE

RANDOMIZED CONTROLLED TRIAL OF THE EFFECTIVENESS OF THE VITALK CHATBOT ON THE MENTAL WELLBEING OF HEALTH WORKERS IN MALAWI

STUDY INVESTIGATOR(S):

ECKHARD KLEINAU

TILINAO LAMBA

LIMBIKA MALIWICHI

EDISTER JAMU

DEMOUBLY KOKOTA

ALEX ZUMAZUMA

SUBMISSION DATE:

UNIVERSITY OF MALAWI RESEARCH ETHICS COMMITTEE (UNIMAREC)

CHECKLIST FOR ETHICAL REVIEW SUBMISSION

[*To accompany research proposals submitted to the committee for review*]

Note: Before submitting a research proposal to UNIMAREC, an applicant must complete the following checklist by ticking each item in the box and making sure that all the relevant documents corresponding to the ticked boxes are included.

Incomplete submissions will not be processed.

TITLE OF PROPOSAL: RANDOMIZED CONTROLLED TRIAL OF THE EFFECTIVENESS OF THE VITALK CHATBOT ON THE MENTAL WELLBEING OF HEALTH WORKERS IN MALAWI

PRINCIPAL INVESTIGATOR: ECKHARD KLEINAU (COUNTRY LEAD: TILINAO LAMBA)

NAME OF SPONSOR: USAID

AMOUNT OF FUNDING: USD 142,309.25 MK 115,982,035.00

I declare that the following items are included in this submission;

1. Covering letter of introduction from the investigator [✓]
2. Three (3) hard copies of the Research Proposal prepared and bound according to UNIMAREC guidelines [✓]
3. A soft copy of the proposal with all the required information as specified below; [✓]

Proposal Title (on cover page) [✓]
Names of Investigators and their Qualifications [✓]
Institution of affiliation (local or international) [✓]
Introduction/ [✓]
Research Problem statement/Justification [✓]
Main and Specific Objectives [✓]
Literature Review [✓]
Description of Methodology/Materials and Methodology/Study design [✓]

- Study sites/locations [✓]
- Study participants [✓]
- Study period [✓]
- Sampling methods [✓]
- Sample size [✓]
- Data collection instruments [✓]
- Data management methods [✓]
- Data analysis method [✓]

Research dissemination strategy [✓]
Ethics

- Risks and strategies for obviating them to enhance protection of rights and welfare of study participants [✓]
- Informed consent form/sheet/assent in English and/or translated into an appropriate local language containing standard elements of an informed consent form/sheet/assent [✓]

Work plan (including roles of collaborators clearly defined) [✓]
Budget (*that include a **10%** research compliance and capacity building fee when study is approved*) [✓]
Budget justification [✓]

	Bibliography	[✓]
4.	Data collection instruments translated into appropriate local language and referred to in the annex	[✓]
5.	Letter of approval from foreign ethics committee (for all studying in foreign universities)	[ ]
6.	Application/Processing fee of US$ 150 or its MKW equivalent	[✓]
7.	Curriculum vitae (CVs) for all the investigators (in annex)	[✓]

SIGNATURE:_____ **NAME (PRINT**)_____DATE**:**

DEPARTMENT OF PSYCHOLOGY

Tilinao Lamba
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The Chairperson
UNIMAREC
P.O. Box 280
Zomba, MALAWI

Date: 6th September, 2021

Dear Sir/Madam,

SUBJECT: APPLICATION FOR RESEARCH ETHICAL APPROVAL

On behalf of my colleagues, I write to seek an expedited review of the research protocol for ethical approval of our research project, entitled "Randomized Controlled Trial of the Effectiveness of the Vitalk Chatbot on the Mental Wellbeing of Health Workers in Malawi".

The Department of Psychology at the University of Malawi is partnering in this USAID-funded study with Human Resources for Health 2030 (HRH2030) and Chemonics Intl., an international development consulting firm, to investigate the effectiveness of online platform Vitalk, a digital mental health app in improving the mental health indicators of health workers within Blantyre district.

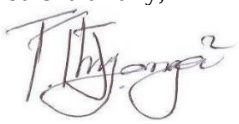
Included in this application are the following pieces of documentation:

1. UNIMAREC Checklist
2. $150 UNIMAREC Fee - Bank Slip: exchange rate @ ….. MK:1 USD
3. The research protocol, including:
    a. Research budget
    b. All data collection tools (mental health assessments, questionnaires and FGD guides)
4. CVs of all indicated investigators.

The scheduled end time of the HRH2030 funding for this project is December 2021. Therefore, we are under a tight schedule to conduct this trial and complete all data analysis and reporting
by that time. Hence, we appeal to your committee to expedite the review of this research protocol so that we can begin the roll out of this project by Monday 27th September, 2021.

We look forward to your usual timely support in evaluating and approving this application.

Yours faithfully,



Tilinao Lamba
Lecturer – Psychology department
Country Lead – Vitalk RCT project

1. Introduction

This application serves as an expression of interest to conduct research to evaluate the effectiveness of the innovative digital mental health support application “Vitalk” in improving the mental health and resilience of health workers in Malawi.

The details of applicants are presented below, with curriculum vitaes of all researchers appended to this document:

Name	Institution and Position	Academic Qualifications	Areas of Expertise
Eckhard Kleinau	Director of Research and Evaluation, HRH2030/University Research Co. (URC)	**MD** – University of Tübingen **DrPH** – Health Policy & Management, Program Evaluation, Harvard University **MSc** – Health Service Administration, Harvard University **MSc** – Epidemiology, Harvard University	Experimental and quasi-experimental studies, Program evaluation, Implementation research/science
Tilinao Lamba	Lecturer Dept. of Psychology University of Malawi – Chancellor College	**BA** – Psychology (Daystar University, Kenya) **MSc** – Counselling Psychology (Keele University, UK)	Counselling Psychology, psychotherapy, qualitative research (IPA, Content Analysis).
Demoubly Kokota	Lecturer Dept. of Psychology University of Malawi – Chancellor College	**BSOC -** Psychology (University of Malawi) **MPhil -** Mental Health (University of Cape Town, SA)	Public Mental Health, Health psychology, Community psychology, Psychology of Special Populations, Personality Psychology
Limbika Maliwichi	Senior Lecturer, Dept. Of Psychology University of Malawi	**BA –** Psychology & Philosophy, University of Malawi (ZA-MW) **MA** – Clinical Psychology, Sam Houston State University (TX-US) **MHS** – Public Mental Health, Johns Hopkins University (MD-US)	Child & Adolescent Mental Health (RCTs) Psychometrics-adaptation of test batteries Psychotherapy
Edister S. Jamu	Senior Lecturer and Head of Department, Department of Psychology, University of Malawi	**PhD** in Business and Economic Studies (Work and Employment Relations), Leeds University (UK); **MSc** in I/O Psychology and Graduate Diploma in Science (Psychology), University of Western Australia (Perth, Aust.) **BSOC** - University of Malawi	Qualitative research (designing, implementing, analysis, NVIVO); organisation studies, talent management,
Alex Zumazuma	Assistant Lecturer, Department of Mental Health Kamuzu University of Health Sciences (KUHES)	**MBBS**, University of Malawi, College of Medicine **MMed** in Psychiatry, KUHES	General Adult Psychiatry, Child and adolescent mental health services, Psychogeriatrics, Addictions, Psychotherapy, Liaison psychiatry and therapeutics

2. Background

Healthcare provision can be stressful even in normal times and maintaining the mental wellbeing of health workers is of utmost importance for optimal and safe patient care (Søvold et al., 2021). The COVID-19 pandemic of 2020/21 has overwhelmed countries' health systems and increased care-related pressure manyfold in the effort of ensuring patient care and staff safety. Added stress of too many life and death decisions, physical exhaustion, lack of protective equipment, and fear of infecting themselves or their families threatens health workers' mental wellbeing daily. Over the last two years, an increasing number of studies report a high proportion of health professionals globally suffering from depression, anxiety, and burnout. A systematic review of 59 studies by Muller et al. (2020) found that a median of 24% of health workers suffered from anxiety, 21% from depression, and 37% from distress. Nochaiwong et al. (2021) reported slightly higher levels in a meta-analysis from 36 countries – 8.0%for depression; 26.9% for anxiety; 24.1% for post-traumatic stress symptoms; 36.5% for stress; and 50.0% for psychological distress. Recent studies from Sub-Saharan Africa showed similar levels. In a multi-centre cross-sectional study from Ghana, Ofori et al. (2021) found that 21.1%, 27.8% and 8.2% had depression, anxiety and stress, respectively. Research not yet peer reviewed from Ethiopia found a prevalence of depression, anxiety and psychological distress was 20.2%, 21.9% and 15.5% respectively. Data from South Africa suggest much high levels of metal disorders of around 50% among all types of health workers due to work-related stress (Msomi, 2021). While there are no peer-reviewed studies yet from Malawi, initial research using a small sample of nurses and the Coronavirus Anxiety Scale suggests that 26% (n=26) of respondents had COVID-19 related anxiety and 48% (n=49) functional impairment (Chorwe-Sungani, 2021).

Mental disorders not only pose threats to patient safety and health workers' quality of life, but they also come at high economic costs. A World Health Organization (WHO)-led study well before the COVID-19 pandemic found that depression and anxiety disorders cost the global economy US$1 trillion each year. A return on investments between 2.3 and 5.7 to 1 was estimated for scaled up treatment of these mental disorders (Chisholm, et al. 2016). Mental health interventions include basic psychosocial counselling for mild cases, and either basic or more intensive psychosocial treatment plus antidepressant drugs. Over the last decade computer- or internet-based cognitive behavioural therapy (c-CBT or i-CBT) has been tested and implemented as an alternative to in-person treatment of mental health issues. Research has shown that computerized CBT-based self-administered interventions improve depression and anxiety in adults. A meta-analysis by Grist and Cavanagh (2013) of 49 RCTs revealed a significant medium effect size (g=0.77, 95% CI 0.59-0.95) for computerized CBT (CCBT) for depression and anxiety.

Another meta-analysis by Andrews et al. (2010) of 22 RCTs found an even greater effect size (g=0.88, 95% CI 0.76-0.99). However, in a recent systematic review Christ et al. (2020) found small to medium posttreatment pooled effect sizes regarding depressive symptoms (g=0.51, 95% CI 0.30-0.72) and anxiety symptoms (g=0.44, 95% CI 0.23-0.65) of c-CBT for reducing anxiety and depressive symptoms in adolescents and young adults compared with passive controls. Clinical trials have established that a mobile application can effectively deliver a CBT program for the treatment of depression (Watts et al., 2013), self-management of chronic pain conditions (Kristjánsdóttir et al., 2013) and social anxiety disorder (Dagöö et al., 2014). C-CBT or i-CBT can lower the barrier to seek help and it is especially important where access to psychologists and therapists is low, which is the case in most countries in Sub-Saharan Africa (Bakker et al., 2016).

C-CBT or i-CBT have evolved into interactive chatbots that are driven by artificial intelligence. Chatbots are conversational agents and include the recent entrant Vitalk. Vitalk distinguishes itself that it is available for the public as well as a version adapted for health professionals. The effectiveness of the public version has been established through a panel study without control group by Daley, Hungerbuehler et al. (2020) in Brazil, who found a large post-intervention effect size of Cohen's d of -0.81 or greater for anxiety, depression and stress. The version for health workers has been pilot tested in Malawi, a country where access to mental health therapy is very limited. Statistics on the mental health force in Malawi show that the country has only 0.02 psychologists, 0.01 psychiatrists and 0.04 occupational therapists per 100,000 populations (WHO, 2018). Only recently has the country successfully trained three psychiatrists. This situation is worsened by the frequent deployment of mental health professionals especially psychiatric nurses to other duties such as maternity services (Kauye, 2008).

To date, there have been few studies for establishing the effectiveness of chatbots and even fewer RCTs. Most of these trials were based on small samples of 70 participants or less, had a short duration of 2-4 weeks, suffered from serious biases, and fell short of establishing that chatbots lead to improved mental health outcomes. All trials were conducted in high-income countries, none in low resource settings (Abd-Alrazaq et al., 2020). No RCTs have been conducted to assess the effectiveness of chatbots in improving the mental health status of health workers specifically (Bakker et al., 2016).

The proposed RCT addresses this evidence gap about the use and effectiveness of chatbots within the health workforce. Building on the earlier pilot test, a RCT will be conducted in Malawi to explore whether a chatbot, Vitalk, is an acceptable source of advice and counselling for health

workers to effectively cope with work-related depression, anxiety and burnout and how resilience-building behaviours can mitigate poor mental health outcomes.

3. Research Objectives

Main research objective

The main objective of this study is to test the *null hypothesis that the use of a chatbot such as Vitalk over a period of eight weeks does not result in different mental health outcomes in a treatment and control group* of health workers in Malawi. The null hypothesis will be tested in a two-arm RCT comparing the pre-treatment to post treatment scores using standardized scales for depression, anxiety, resilience, burnout, and loneliness.

Specific objectives

In addition to testing the null hypothesis, specific research questions are as follows:

1. Are the levels of engagement and continuity of use of Vitalk adequate to meet the need for mental health support (rate of adoption and continuity)?
2. Are the frequency and duration of interaction with Vitalk statistically significant predictors of mental health outcomes (stickiness/intensity of use)?
3. Does the use of Vitalk significantly reduce sub-clinical and clinical episodes of depression and anxiety as well as levels of low resilience, burnout and loneliness over the study period (effectiveness)?
4. Which features of Vitalk are liked or disliked; what improvements are suggested by users; and does user experience drive stickiness (user experience)?

4. Research Methodology

4.1. Study Design, Randomization, And Blinding

This study is guided by the conceptual framework shown in Figure 1 below. The study is a two-arm, parallel randomized controlled trial with a pre-treatment assessment, 8-week intervention period and mid-study assessments at 4-5 weeks and an end-of-study assessment at 9 weeks[1]. Interested study participants will be randomly assigned to either the treatment or control group at the time of registration. Vitalk, the developer of the app, will create a study web portal where study participants register, give their consent, are assigned to one of the study arms, are given a unique study identification number, and enter their demographic information. Depending on the random assignment, participants will be taken to either the treatment app, Vitalk, or the website for the control group. This is a single blinded design because only the research team will be blinded to the study arm assignments; all participants in both study arms will be told they are participating in '*an online self-help for mental wellbeing*'.

[1] The support from HRH2030 will end December 31, 2021. If additional resources beyond the life of HRH2030 can be mobilized, it is recommended to double the length of the trial to 16 weeks. This would help study the longer-term effects of the chatbot use. One option would be to not cover participants' airtime during this extended period to assess how internet resources would be accessed without such support.

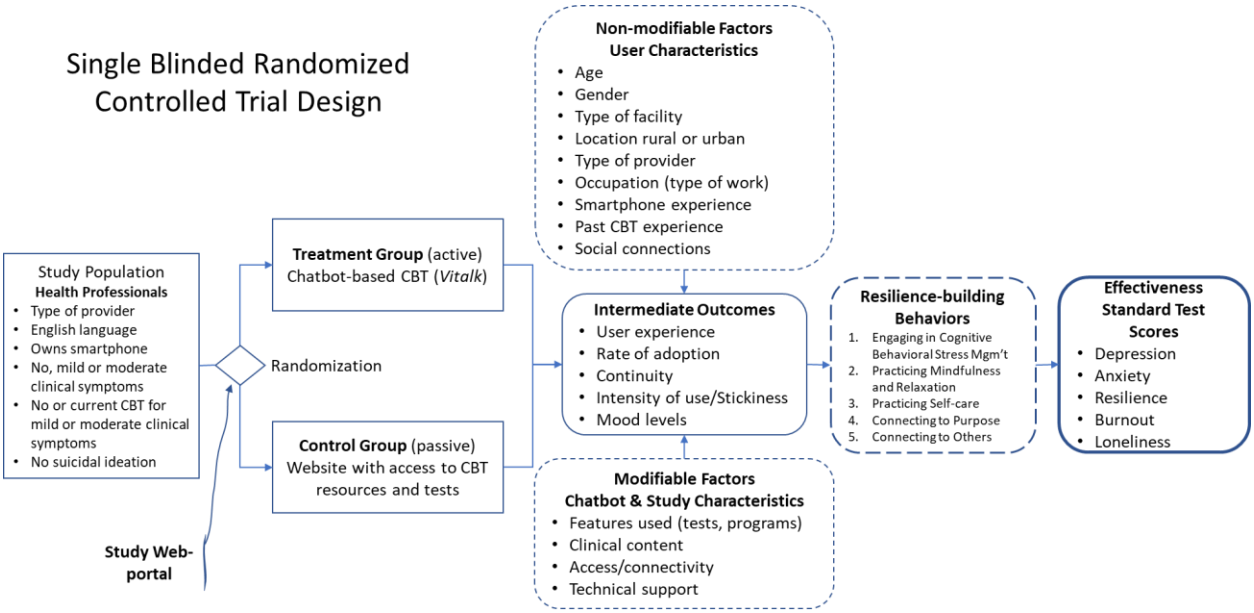
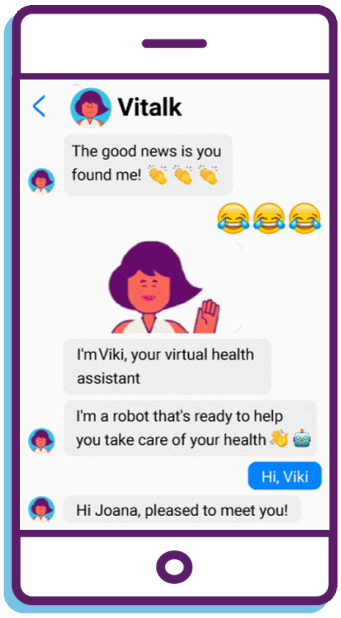


Figure 1. Study framework

Participants will be required to seek approval from their employers to participate in the study, because some activities will occur during working hours, but no information collected during the trial that could identify participants or their facilities of affiliation will be shared with the employers. A trial management team will be created by Vitalk, the Department of Psychology (UNIMA) and Chemonics International that is separate from the research team. The trial management team will provide technical support in case participants encounter difficulties with the study portal or the Vitalk app and be therefore privy to the group assignment, but this information will not be shared with the research team during the study. The study portal and control group website will be optimized for and accessible through smartphones. Vitalk is a smartphone app for Android.

4.2 TREATMENT AND CONTROL GROUP INTERVENTIONS

4.2.1 Vitalk chatbot app (treatment group, *active*)



Originating from Brazil, Vitalk is an automated chatbot delivering mental health content to its users using a conversational format, with the aim of improving well-being by reducing stress, anxiety and depression using a preventative approach to mental health (Daley, Hungerbuehler et al., 2020). The Vitalk app uses psychoeducation, cognitive restructuring, behavioral activation, gratitude, and practical exercises (such as breathing, relaxation and meditation) to bring about improvements in users' mental health (ibid). These techniques and strategies are rooted in CBT and Positive Psychology, two commonly used psychotherapy methodologies that have been used widely in various settings and have registered high effectiveness among patients presenting with various psychological challenges (Beck, 2011; Seligman, 1998; Wills, 2009). Only the treatment arm of the study will have access to Vitalk.

4.2.2 Mental health resource website (control group, *passive*)

The control arm of the study will have access to a website with links to mental health resources from WHO and other self-help providers as well as contact information for psychologists and mental health counselors in Malawi. This website consists of a few pages with basic mental health and coping information, links to mental wellbeing resources, mood meter and standardized mental health tests. Its content is static without user interaction beyond clicks to access web-based mental health resources. Whether or not these resources are used depends entirely on the initiative of control group participants.

Study sites/locations

The study will be conducted in Blantyre and Lilongwe districts of Malawi. It will target health workers employed in various health facilities (private, public or mission-managed/religiously affiliated) both within the urban and peri-urban area of Blantyre and Lilongwe districts.

Study participants

Study participants will be recruited from all public and private primary, secondary and tertiary care facilities within Blantyre and Lilongwe districts.

Inclusion criteria are as follows:

Participants must:

- Be currently employed as one of the types of service providers (cadres) listed below
- Possess some degree of English language proficiency
- Own a smartphone with an Android operating system
- No history – past or current – of counseling or therapy for severe mental health disorders
- Not have self-reported suicidal ideation
- Score below “very high risk” levels on the initial assessments for anxiety and depression

Recruitment will be done by hanging posters in all health facilities that agree to have their health workers participate in the study. All facilities will be contacted by phone and email; in larger facilities the study team may do short presentations about the study.

Participants of this study will be health workers of the following professional cadres from public and private health facilities:

- Doctors
- Medical Assistants
- Laboratory technicians
- Pharmacists
- Nurses
- Clinical officers
- Physiotherapy technicians
- Physiotherapists

The minimum required educational qualification is a diploma in their respective fields of specialization, in adherence to the Ministry of Health employment criteria for the respective cadres of health workers. However, Medical Assistants who completed 2 years of college will be allowed to participate even though their qualification is a certificate. These selection specifications are put in place based on the general assumption that such participants are competent in the English language as a medium of communication, which will facilitate their interactions with the Vitalk App and the mental health resource website since all the interactions on these platforms are in English. Additionally, study participants are expected to own an Android-based smartphone on which they can download and use the Vitalk App and access the mental health resource website, which is an additional reason for limiting participant selection to the above cadres.

Exclusion criteria for this study includes all other hospital- or health-related personnel, such as health surveillance assistants, hospital assistants or laboratory assistants, due to their lower educational qualification requirement for employment. In addition, considering that smart phones are not very widely available within many social circles in Malawi and are considered to many as a luxury, this research assumes that cadres listed above have a higher chance of owning a smart phone due to their higher grade of pay than those of lower employment cadres.

Lastly, clinical exclusion criteria will apply to all health workers with a history – past or current – of counseling or therapy for a severe mental disorder and to all study applicants at "very high risk" of depression and anxiety according to their initial scores from standard mental health tests. Participants who check suicidal ideation in question nine of the PHQ-9 will also be excluded. The burnout, resilience and loneliness scales will not be considered as exclusion criteria, because unlike depression and anxiety, these are not assessing clinical manifestations of mental health disorders. Those excluded will not have their identity revealed, but they will simply not be able to stay registered for the study. Participants meeting the exclusion criteria will be offered resources for self-help and contacts of local mental health counselors. This study has made provisions for the procurement of the psychotherapy services of two locally-based psychologists, who will be available to provide psychosocial counselling support to participants experiencing distress through the duration of the study.

Study period

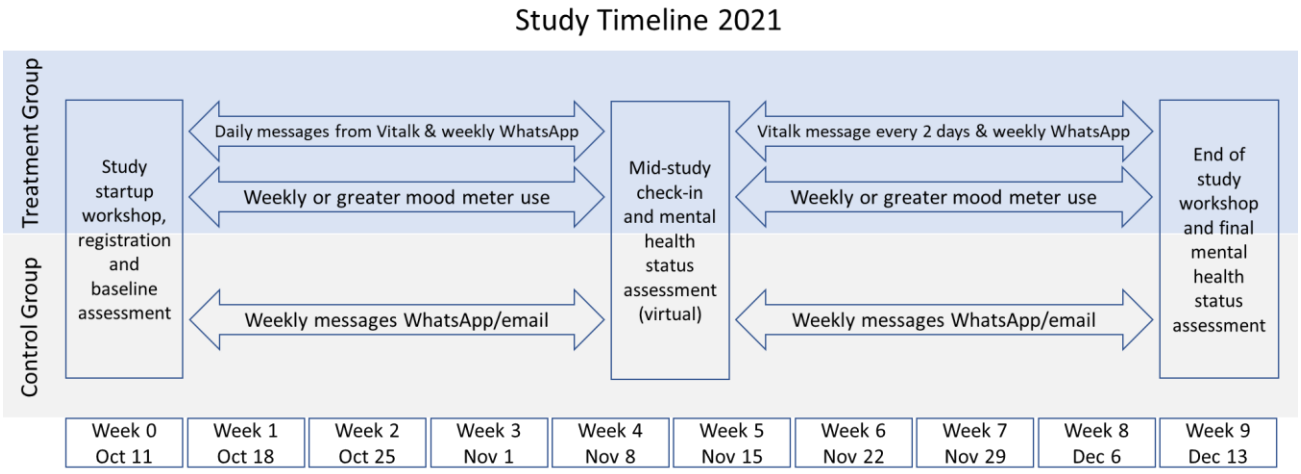


Figure 2. Study process and timeline

This trial is scheduled to span 56 calendar days, from the week beginning on or before the 18th of October 2021 until the 18th of December 2021 latest. The entire process and timeline are shown in Figure 2. Study participants in both the treatment and control groups will begin their participation in this project by attending a half-day workshop prior to the start of the trial before October 18, which shall serve a triple purpose. Firstly, during this workshop participants shall receive a presentation about general tenets of mental health, how mental health affects work performance, the impact of one's mental health upon their work, and a description of the five specific areas of mental health that will be assessed: namely anxiety, depression, low resilience, burnout, and loneliness. Secondly, participants will be provided with an overview over the study of '*an online self-help for mental wellbeing*' and the eligibility criteria, but NO specifics about interventions in the treatment or control groups will be mentioned. Only information pertaining to both groups will be discussed. Thirdly, the informed consent will be explained in detail at the workshops with Q&A. Participants will get a printed copy of the consent, because it is much easier to read than on a mobile phone, and be asked to sign the paper version, which will be kept under

lock at UNIMA/Psychology. All participants will register for the trial at the workshop. To ensure that there will be no service disruptions, there will be six workshops per district for participants to choose from including weekends. Shortening their duration may be an option as well, which will be decided after the first workshop.

At the workshop, participants will have the option to join the trial or to leave. Those opting to join will be directed to the study web-portal (Annex 1.2.8), provide their consent, complete a pre-screening to establish eligibility, and register for the trial. All participants eligible at this stage shall then complete the initial mental health assessment to assess the initial scores for depression, anxiety, resilience, burnout, and loneliness. Anybody scoring at a "very high risk" level for anxiety and depression or showing signs of suicidal ideation will be excluded from the trial and be provided with contacts to mental health professionals in Malawi and Vitalk-affiliated psychologists. All participants passing these final eligibility criteria shall be admitted to the trial and familiarized with links to mental wellbeing resources on the internet and contacts with local psychologists and mental health counselors.

To achieve some degree of participant blinding to the intervention NO information about Vitalk or specifics about interventions in the treatment and control groups will be shared with workshop participants. Participants who completed registration will NOT be informed of their admission into the trial during the workshop; this will happen through an email after the workshop that provides the links to either Vitalk for the treatment group or the website for the control group or informs those not eligible for the trial. The trial manager will monitor whether the desired sample size is achieved; if it is not, additional recruitment efforts and workshops may be necessary.

Participants in the treatment group will receive daily messages and counseling for the first four weeks of the trial to encourage engagement with Viki, the Vitalk virtual counselor. This will

change to every other day during weeks five though eight. Participants in the treatment and control group will receive weekly emails throughout the trial to encourage use of web mental health resources. The treatment group will be asked to use the mood meter at least once a week to monitor mood changes. The control group will not measure their mood, because mood assessments require self-awareness, and raising self-awareness is part of the intervention.

All participants will be asked to take the standard mental health tests again in week four or five of the trial. This will be done virtually though email to all trial participants as a mid-trial check-in. After the end of the 56-day period, in week nine, both the treatment and control groups will be invited to attend a concluding half-day workshop, during which they shall again be evaluated on their general mental health using the previously completed mental health assessment tools. They shall then complete an anonymous online questionnaire on their experiences of interacting with the app or accessing the referred mental health links. Some participants will be invited to take part in focus group discussions (FGD) aimed at gaining detailed feedback about their experiences of using the two different interventions and the Vitalk app specifically (treatment group participants only for the latter). While the Vitalk app was previously adapted to the Malawian context, the FGDs will further explore its cultural appropriateness. A mix of in-person and anonymous virtual FGDs are planned given the sensitive nature of mental health. A virtual FGD would be done without video and participants would only be identified by number not name. The use of two FGD formats, in-person and virtual, allows the comparison of how responses may differ between these two approaches. Information about the two interventions will be shared with participants at the final workshop. All participants, including the control group will get access and be encouraged to use the Vitalk app henceforth. This study concludes with the workshop and FGDs in the 9^{th}-week.

Sampling method

Study participants will be recruited from all primary, secondary and tertiary care facilities within Blantyre and Lilongwe districts on a first come-first served basis. While this is a convenience sample based on self-selection, random assignment to treatment and control groups will counteract biases inherent to this approach. All participants are volunteers and agree to be assigned to either the treatment or the control group.

The required study population size for paired tests of correlated means was calculated using STATA 17 and is based on the following:

- Pre-post-treatment difference of 1.5 points on standard test scales
- Standard deviation of the difference = 6
- Power 80%
- Significance level 5%

This results in a minimum of 128 participants per study arm. Given the continuity experience – the proportion of participants completing the pre- and post-treatment assessments for depression, anxiety and stress – of 20-45% reported by Daley, Hungerbuehler et al. (2020), we assume that the dropout rate will be as high as 75% for at least one of the standard mental health assessments. This means that a sample of 512 participants will be required per study arm to yield an effective post intervention sample of 128. Furthermore, if 20% of potential study participants will not meet inclusion criteria or drop out for other reasons, about 640 people will need to be recruited initially per study arm.

Data collection

This study will collect data on intermediate outcomes related to Vitalk use, resilience-related health behaviors and final outcomes of treatment effectiveness measure as mental health status through standardized tests (see Annex 1.2.9). In addition, data on independent determinants that potentially influence Vitalk use, resilience-building behaviors and mental health outcomes will be collected. Resilience-building behaviors can be determinants of mental health outcomes and will be measured as the frequency of five specific behaviors (see Annex 1.2.10). As shown in Figure 1, these independent determinants fall into two groups: non-modifiable factors related to participant characteristics and modifiable factors related to the Vitalk app and study characteristics. While self-monitoring, knowledge and skills for mental health and coping mechanisms could be among modifiable determinants, the burden of data collection will be too high and outweigh any benefits of obtaining this information, because it would impact response rate negatively.

This study shall utilize the following standardized tests of various mental health indicators, in order to measure the effectiveness of the various mental health platforms that the treatment and control groups shall use:

Generalized Anxiety Disorder (GAD-7)

The GAD-7 is a 7-item self-report scale used to assess anxiety symptoms over the past 2 weeks (e.g., how often have you been bothered by feeling afraid something awful might happen). Scores range from 0 (not at all) to 3 (nearly every day) with a total of 21. The total scores are divided into four categories: none (0–4), mild (5–9), moderate (10–14) and severe (15+) symptoms. GAD-7 has been utilized effectively in Malawi and LMICs with comparable demographics (Mughal et al., 2020).

Patient Health Questionnaire (PHQ-9)

The PHQ-9 is a 9 item self-report scale that evaluates symptoms of depression over the past 2 weeks (e.g., how often have you been bothered by feeling down, depressed, or hopeless). Item response options use a Likert scale ranging from 0 (not at all) to 3 (nearly every day). Total scores are divided into five categories: none (0–4), mild (5–9), moderate (10–14), moderately severe (15–19) and severe (20+) symptoms. The PHQ-9 has been widely used and validated in Malawi (Udedi et al., 2019).

14-item Resilience Scale (RS–14)

Resilience refers to the ability to withstand or adaptively recover from stressors. Resilience also promotes psychological and physical well-being. Resilience is negatively correlated with symptoms of generalized anxiety and posttraumatic stress and positively correlated with gratitude, optimism, and positive affect. The five characteristics of resilience are meaning and purposeful life, perseverance, equanimity, self-reliance, and existential aloneness (Wagnild, 2009a). Total scores are categorized as very low (14–56), low (57–64), on the low end (65–73), moderate (74–81), moderately high (82–90), and high (91–98). RS-14 has been validated and used in low and middle-income countries (Wagnild, 2009b; Siriwardhana, 2015)

Oldenburg Burnout Inventory (OLBI)

Burnout is linked to relatively high work requirements and limited resource availability for managing them, which leads to negative emotional states. Therefore, the discrepancy between resources and challenges creates a significant negative emotional state. The OLBI has 16 items,

eight to describe exhaustion and eight to describe disengagement (Demerouti & Bakker, 2008). The questionnaire includes both straight and reversely worded items in both dimensions. Low, medium, or high OLBI-D scores are based on scores above or below 1 standard deviation of the mean (mean= 2.15, SD = 0.52; ≤1.62= low, 1.63 to 2.67= medium, ≥2.68= high). OLBI has been validated and used in low and middle-income countries (Kaggwa et al., 2021).

UCLA Short (three-item) Loneliness Scale

There is no agreed definition of "loneliness" in research. One explanation of loneliness is that it is a painful feeling that occurs when this is a gap, or a mismatch, between the number and quality of social relationships and connections that we have, and those we would like. Others define it as two dimensions of loneliness: social and emotional. Social loneliness occurs when someone is missing a wider social network and emotional loneliness is caused when someone misses an intimate relationship. Overall, loneliness is described as an unwelcome, painful and unpleasant feeling. Loneliness is a fluid experience that can come and go over a short time or persist in the longer term. Scores are added across the three items, and the higher the score the greater the loneliness. Scores of 3-5 are classified as non-lonely; and scores of 6-9 are classified as lonely (Steptoe, 2013; Hughes, 2004).

Stress is not included in these assessments, because past evaluations have shown almost universally high stress levels pre- and post-intervention, which makes it impossible to use it as an outcome if there are no discriminating factors.

Participants will see their results immediately after completing the five questionnaires. Based on the scores, participants will receive messages of encouragement and to use the available online resources (control group) or interact with Viki, the virtual counsellor, on the Vitalk app. All professional advice is virtual and automated because that is what this RCT aims to test. Individuals flagged at the "very high risk" category on the anxiety and depression questionnaires will receive an email with contacts to local psychologists or have someone reach out to the participant if the participant provides consent via email. We have secured the collaboration of two psychologists, and they will be accessible for the duration of the study.

Connecting very high-risk participants to care is the most this study can do while still maintaining participant privacy and the confidentiality of the information provided. This study is not testing clinical diagnoses or treatments of mental disorders; therefore, referrals cannot be made without consent nor can any follow up be done.

Anonymous online user experience questionnaire

This instrument will be applied during the workshops at the end of the study to collect user experiences from both arms of the study. This online questionnaire will be completed anonymously.

Focus Group Discussions

Qualitative data will be collected partly online and through focus group discussion (FGD). The concluding workshops in week nine after the end of the 56-day pilot period shall utilize a FGD guide to gain participant feedback on their experiences of using the Vitalk app in treatment group and the and web resources in the control group. FGDs will be conducted by researchers with

degrees in psychology or counseling from the University of Malawi who are experienced with this type of assessment. A mix of in-person and virtual FGDs will be used. Virtual FGDs are experimental to test their feasibility; a 50/50 split is planned. All focus group discussions shall be recorded, along with notes collected during the FGDs. Once collected and transcribed, all data will be kept in locked cabinets at the investigator's office. The recordings will be deleted after the completion of data analysis and the journal publication of the study is accepted.

Data management

The study will collect quantitative and qualitative data. All quantitative data will be collected online through the study portal and the Vitalk app. This will avoid any interviewer or researcher bias. Names, email addresses and phone numbers will be stored only during the trial phase. The data will be de-identified or anonymized prior to analysis and any data sharing by deleting all fields containing identifying information per the Safe Harbor Rule of the U.S. Health Insurance Portability and Accountability Act of 1996 (HIPAA) and subsequent guidance published by the Office for Civil Rights (OCR) at the U.S. Department of Health and Human Services (HHS) (HHS, 2008; HHS, 2012). A participant's clinical trial number will be the unique identifier retained, but it will be encrypted with a secret key to create a pseudonym. Only the trial manager will have a copy of the encryption key. All other identifying information will be permanently deleted. All trial data will be securely stored in the cloud and access to de-identified data restricted to the research team. Access will be controlled by the trial manager for each individual researcher.

Data analysis method

Upon completion of data collection, all raw collected data shall be digitally anonymized so that the research team is unable to associate any participants' identity with their responses. This anonymized data will then be equally accessible to all members of the research team (in Malawi, USA and Brazil) for analysis.

Data analysis will begin after the final workshop is concluded. There will be no interim sharing or analysis of trial data other than monitoring sample size in the two treatment arms and data completeness and appropriateness per data analysis plan for the entire trial data set. Data monitoring will be done by the trial manager.

The data analysis will start with descriptive statistics and bivariable analyses for mental health outcomes, resilience-building behaviors, intermediate outcomes, and user and study characteristics (non-modifiable and modifiable factors). This will include tests for central tendency and distribution.

The difference between treatment and control arms in mental health outcome scores at baseline, mid-study check-in and end-of-study-will be calculated using a linear, mixed-effect model for longitudinal data (e.g., STATA *mixed* or SPSS *MIXED*) applying maximum likelihood estimation, which takes into account any time trends. This method will allow the simultaneous modelling across different time points and estimate the difference in outcomes between the treatment and control groups across the entire study period.

This study will utilize Interpretative Phenomenological Analysis (IPA) as the main method of analysis for the qualitative data that shall be collected during the focus group discussions. Content Analysis will also be utilized to evaluate the participants' experience in relation to pertinent social and psychological theories in order to explain attitudes and stigma behaviors. This

process will also help to identify solutions and interventions that can be applied in order to ensure increased willingness to properly support health workers facing mental health challenges and a reduction in stigma against mental illness.

Risks

Vitalk is not intended to replace a mental health professional, make or confirm clinical diagnoses of mental health disorders, or to offer treatment. Users are made aware of this in the informed consent that each participant is required to sign. Study participants are advised to seek additional support if they show a very high risk of depression or anxiety during the study. Where Vitalk identifies a very risk issue, the user is sent details of support services, including the national suicide line, and, if the participant elects the option, a follow up conversation with a local mental health professional is initiated. Participants identified as very high risk or with suicidal tendencies will be removed from the study and referred for mental health support. Under no circumstances will the participant's identity be shared with the research team or anybody outside this study.

The Vitalk App, the mental health resource website and all literature and presentations shared with the research participants shall contain contact information of mental health service providers that the research participants may access in the event of needing further psychological support.

We expect minimal risks to study participants due to COVID-19. The risk of exposure that may be encountered during the workshops is significantly mitigated by the fact that the majority of health workers are vaccinated against COVID-19. Regardless of this, both the research team and participants will be required to maintain the recommended amount of social distance, wear face masks and follow local guidelines as stipulated by the ministry of health.

Benefits/Impacts

The primary benefit of involvement in this project is the anticipated mental health and wellbeing of participants. The overall aim of Vitalk is to improve wellbeing by reducing stress, anxiety and depression using a preventative approach to mental health, which the participants shall benefit from. Additionally, the participants will also benefit from the mental health presentations to be conducted at the workshops, in which the members of the Department of Psychology shall discuss various aspects of mental health and how it affects workplace performance and wellness.

Participants will receive an allotment of 10Gb data bundle allowance valued at K15,500 (about $20) with a selected mobile carrier to eliminate any barriers of accessing the internet during the trial. Those not using the preferred provider at the time of the trial will receive a free SIM card. If it is feasible for the mobile service provider to track whether Vitalk or the control group website were accessed, airtime allocations will be contingent on the use of Vitalk or the control group website. In addition, all participants will be reimbursed $10 for their transport and time, as well as the government rate lunch allowance of K4000 during the attendance of the introductory and concluding workshops. All workshop attendants will receive these benefits including those who are excluded from the study.

In addition, and following common practice in clinical trials, participants will receive an appreciation allocation of about 3Gb airtime valued at K6,000 (about $7) at the end of the trial, the final workshop, in recognition of their time sacrifice and as appreciation of their contribution to science. This incentive will hopefully encourage participants in the treatment group to continue the use of the Vitalk app and participants in the control group to try out Vitalk.

5. Research dissemination strategy

The results of this study will be published in an international, peer-reviewed journal and a copy will be submitted to UNIMAREC. These results can also be presented at relevant research conferences, whether local or international. The results of this research will also be disseminated through presentations in fora that will inform policy at a national level and health system strengthening approaches supported by development organizations such as the Ministry of Health, health facilities from which participants were recruited, USAID, Chemonics and University Research Co. (URC), and academic institutions such as the University of Malawi. The focus will be on strengthening of mental health services refining and expanding the use of virtual, online tools and innovations.

6. Ethics

The study will be conducted with full adherence to ethical standards as expressed in the APA Code of Ethics on psychological research, as well as the Declaration of Helsinki. Before commencement of the study, relevant authorization will be sought from University of Malawi Research Ethics Committee (UNIMAREC). Participation in the study will be voluntary and participants will be informed of this, and that they may withdraw at any time of the study. Participants who agree to participate in the study will be informed clearly what the study is about and how their information will be used. Informed consent will be obtained online upon registration at the study web-portal. All forms will be printed and kept in a locked cabinet at the Department of Psychology, UNIMA.

7. Workplan

KEY TASKS	Lead Responsible	Aug 9-13	Aug 16-20	Aug23-27	Aug 30-31	Sep 1-3	Sep 6-10	Sep 13-17	Sep 20-24	Sep 27-30	Oct 1-8	Oct 11-15	Oct 18-22	Oct 25-29	Nov 1-5	Nov 8-12	Nov 15-19	Nov 22-26	Nov 29-30	Dec 1-3	Dec 6-10	Dec 13-17	Dec 20-24	Dec 27-30
Draft/submit WP addendum/budget for AOR approval	PMU	X																						
Develop SOW and execute Sub-agreement with Vitalk	PMU		X																					
Develop SOW and execute amendment with URC	PMU		X																					
Develop SOW and execute consultancy agreement with Local Expert	PMU		X																					
Map out steps to develop research protocol for Pilot 2 in Blantyre	Eckhard/ Bruno/ Tilinao		X																					
Develop and submit research proposal to UNIMAREC	Eckhard/ Tilinao			X	X																			
Obtain buy-in from DHO and Blantyre hospitals to reach target number of participants	Tilinao						X	X																
Adapt communications materials: posters, emails	Tilinao						X																	
Identify local venues for workshops	Tilinao				X																			
Develop workshop budget	Tilinao				X																			
Identify local facilitator to provide administrative support to local expert and participants	Tilinao							X																
Identify finance and logistics support	PMU							X																
Translate additional content (15 sessions + 3 audio sessions + mood diary)	Vitalk			X	X																			
Review of additional content	Tilinao					X																		
Upon UNIMAREC Clearance: Launch pilot 2 in Malawi NO LATER THAN OCTOBER 4																								
Communication outreach about Vitalk App: posters, emails	Tilinao								X															
Orientation workshops with all participants	Tilinao, F&A support									X														
Pilot implementation in Blantyre											X	X	X	X	X	X	X	X						
Mid-term check-in workshops with participants VIRTUAL	Tilinao														X									
Mid-term team check-in to monitor and measure process, progress, results	All														X									
Concluding workshops with participants for final check-up	Tilinao																		X					
Data analysis	Eckhard/Tilinao																			X	X			
Adapt How To guide for replication and FAQ document	Vitalk																			X	X			
Draft and disseminate technical reports and other communication products of findings and lessons learned	PMU																			X	X	X		
Draft manuscript for publication	Eckhard/ Tilinao																			X	X	X	X	X

BUDGET FOR VITALK PILOT 2 IN BLANTYRE, MALAWI							
	ITEM	UNITS	FREQUENCY	UNIT COST (MKW)	TOTAL COST (MKW)	TOTAL COST (USD)	DESCRIPTION
A	**Planning and Logistics (Pre-Workshops)**						
	Blantyre						
A.1	Research team transport	1	2	80,928	161,856	198.60	Wear-and-tear refund on personal vehicles. Using UNIMA formula of 60%*Fuel Price(K899.20)*Dista
A.2	Research team fuel	1	2	19,269	38,537	47.28	7km/litre x 150km round trip to Blantyre (meeting with DHO, QECH directors & publicity)
A.3	DHO/Dept. of Psy meeting - lunch allowance	25	1	4,000	100,000	122.70	As per DHO meeting requirements
A.4	DHO/Dept. of Psy meeting - snacks	25	1	2,500	62,500	76.69	As per DHO meeting requirements
A.5	QECH research requirements	1	1	123,000	123,000	150.92	Requirement for hospital involvement in research
A.6	QECH/Dept. of Psy meeting - lunch allowance	6	1	4,000	24,000	29.45	As per QECH meeting requirements
	Lilongwe						
A.7	Research team transport	1	1	315,619	315,619	387.26	Wear-and-tear refund on 1 personal vehicle. Using UNIMA formula of 60%*Fuel Price(K899.20)*Dist
A.8	Research team fuel	1	1	75,147	75,147	92.21	7km/litre x 585km round trip to Lilongwe (meeting with DHO, KCH directors & publicity)
A.9	Research team accommodation	3	3	64,000	576,000	942.33	3 nights in Lilongwe, 2 meetings on consecutive days (Lilongwe DHO, Kamuzu Central Hospital)
A.10	DHO/Dept. of Psy meeting - lunch allowance	25	1	4,000	100,000	122.70	As per DHO meeting requirements
A.11	DHO/Dept. of Psy meeting - snacks	25	1	2,500	62,500	76.69	As per DHO meeting requirements
A.12	KCH research requirements	1	1	123,000	123,000	150.92	Requirement for hospital involvement in research
A.13	KCH/Dept. of Psy meeting - lunch allowance	15	1	4,000	60,000	73.62	As per KCH meeting requirements
	Other Direct Costs						
A.14	Internet costs	4	4	20,000	320,000	392.64	Monthly costs for UNIMA research team
A.14	Telephone airtime	4	4	10,000	160,000	196.32	Monthly costs for communication
A.14	Poster printing	1	100	1,200	120,000	147.24	A3 publicity posters for workshops
A.17	Sign-up sheets printing	8	10	50	4,000	4.91	To be distributed in health centres/hospitals for interested attendants to sign up
A.18	Attendance sheets printing	3	18	50	2,700	3.31	For attendants to sign in upon arrival at the workshops
A.19	Publicity and outreach	1	4	10,000	40,000	49.08	1 person to liase with health centres, distribute sign-up sheets, display posters
A.20	Research protocol printing	71	3	50	10,650	13.07	UNIMAREC requires 3 hard copies of bound research protocol submitted
A.21	Research protocol binding	1	3	1,000	3,000	3.68	UNIMAREC requires 3 hard copies of bound research protocol submitted
A.22	UNIMAREC application fee	1	1	123,000	123,000	150.92	USD $150 once-off payment
	Total, Planning & Logistics				*2,605,510*	*3,196.94*	
B	**Orientation Workshops**						
	Blantyre						
B.1	Venue hire	1	6	34,000	204,000	250.31	1 meeting halls: 55-60 participants/session each (2 sessions per day, for 6 days)
B.2	Refreshments	640	1	2,500	1,600,000	1,963.19	Refreshments to be served midway through each 3-hour training session.
B.3	Research team transport	2	1	80,928	161,856	198.60	Wear-and-tear refund on personal vehicles. Using UNIMA fomula of 60% of Fuel Price*Distance
B.4	Research team fuel	2	1	19,269	38,537	47.28	7km/litre x 150km round trip to Blantyre
B.5	Research team accommodation	2	7	64,000	896,000	1,099.39	7 nights in Blantyre
B.6	Accountant accommodation	1	7	56,000	392,000	480.98	Handling external financial transactions
B.7	Office assistant accommodation	1	7	47,000	329,000	403.68	Assisting in workshop registration and allowance disbursement.
	Lilongwe						
B.8	Venue hire	1	6	150,000	900,000	1,104.29	1 meeting halls: 55-60 participants/session each (2 sessions per day, for 6 days)
B.9	Refreshments	640	1	2,500	1,600,000	1,963.19	Refreshments to be served midway through each 3-hour training session.
B.10	Research team transport	2	1	315,619	631,238	774.53	Wear-and-tear refund on personal vehicles. Using UNIMA fomula of 60%*Fuel Price*Distance
B.11	Research team fuel	2	1	75,147	150,295	184.41	7km/litre x 585km round trip to Lilongwe
B.12	Research team accommodation	2	7	64,000	896,000	1,099.39	7 nights in Lilongwe
B.13	Accountant accommodation	1	7	56,000	392,000	480.98	Handling external financial transactions
B.14	Office assistant accommodation	1	7	47,000	329,000	403.68	Assisting in workshop registration and allowance disbursement.
	Other Direct Costs						
B.15	Notepads	1280	1	600	768,000	942.33	Note-taking for participants during workshops.
B.16	Pens - box of 60	1	21	8,950	187,950	230.61	Note-taking for participants during workshops.
B.17	Marker (felt-tip) pens - boxes	4	1	3,200	12,800	15.71	To be used by participants during brief group discussion exercises.
B.18	Flip charts	4	1	3,500	14,000	17.18	To be used by participants during brief group discussion exercises.
B.19	Participant lunch allowance	1280	1	4,000	5,120,000	6,282.21	Workshop times: 8:30am-11:30am and 1pm-4pm.
B.20	Participant transport refund	1280	1	8,000	10,240,000	12,564.42	Round trip (health facility to venue)
B.21	Participant mobile data bundles	1280	1	15,500	19,840,000	24,343.56	10GIG bundle of internet data uploaded directly to their phones.
B.22	Photographer - Professional Fees	1	1	230,000	230,000	282.21	3 days, pictures and video
	Total, Orientation Workshops				*44,932,676*	*55,132.12*	

C	**Concluding Workshops**						
	Blantyre						
C.1	Venue hire	1	6	34,000	204,000	250.31	1 meeting hall: 55-60 participants/session (2 sessions per day, for 6 days)
C.2	Refreshments	640	1	2,500	1,600,000	1,963.19	Refreshments to be served midway through each 3-hour training session.
C.3	Research team transport	2	1	80,928	161,856	198.60	Wear-and-tear refund on personal vehicles. Using UNIMA fomula of 60% of Fuel Price*Distance
C.4	Research team fuel	2	1	19,269	38,537	47.28	7km/litre x 150km round trip to Blantyre
C.5	Research team accommodation	2	7	64,000	896,000	1,099.39	7 nights in Blantyre
C.6	Accountant accommodation	1	7	56,000	392,000	480.98	Handling external financial transactions
C.7	Office assistant accommodation	1	7	47,000	329,000	403.68	Assisting in workshop registration and allowance disbursement.
	Lilongwe						
C.8	Venue hire	1	6	150,000	900,000	1,104.29	1 meeting hall: 55-60 participants/session (2 sessions per day, for 6 days)
C.9	Refreshments	640	1	2,500	1,600,000	1,963.19	Refreshments to be served midway through each 3-hour training session.
C.10	Research team transport	2	1	315,619	631,238	774.53	Wear-and-tear refund on personal vehicles. Using UNIMA fomula of 60%*Fuel Price*Distance
C.11	Research team fuel	2	1	75,147	150,295	184.41	7km/litre x 585km round trip to Lilongwe
C.12	Research team accommodation	2	7	64,000	896,000	1,099.39	7 nights in Lilongwe
C.13	Accountant accommodation	1	7	56,000	392,000	480.98	Handling external financial transactions
C.14	Office assistant accommodation	1	7	47,000	329,000	403.68	Assisting in workshop registration and allowance disbursement.
	Other Direct Costs						
C.15	Participant lunch allowance	1280	1	4,000	5,120,000	6,282.21	Workshop times: 8:30am-11:30am and 1pm-4pm.
C.16	Participant transport refund	1280	1	8,000	10,240,000	12,564.42	Round trip (health facility to venue)
C.17	Printing FGD guides	1	150	50	7,500	9.20	8 to 10 participants per focus group
C.18	Participant compensation	1280	1	6,000	7,680,000	9,423.31	3G mobile data bundles as appreciation for participation in study
	Total Concluding Workshops				*31,567,426*	*38,733.04*	
D	**Report Preparation**						
D.1	Researcher team	1	1	383,520	383,520	470.58	To compile qualitative data, analyse and draft report
	Total Report Preparation				*383,520*	*470.58*	
	OPERATIONAL BUDGET				*79,489,133*	*97,532.68*	
E	**Professional Fees**						
E.1	Trial manager	1	45	24,816	1,116,720	1,370.21	Daily rate for demonstrator (hourly rate*8 hours) * 45 project days
E.2	QECH research partner (KUHES - asst.	1	12	71,191	854,291	1,048.21	Daily rate for assistant lecturer (monthly salary/22 days) * 12 days
E.3	UNIMA research team						
	Senior lecturer	2	37	109,113	8,074,392	9,907.23	Daily rate for senior lecturer (monthly salary/22 days) * 37 project days
	Lecturer	1	37	94,320	3,489,822	4,281.99	Daily rate for lecturer (monthly salary/22 days) * 37 project days
E.4	Co-Investigator	1	55	94,320	5,187,573	6,365.12	Daily rate for lecturer (monthly salary/22 days) * 55 project days
	Total Professional Fees				*18,722,796*	*22,972.76*	
	TOTAL, OPERATIONAL BUDGET AND PROFESSIONAL FEES				*98,211,929*	*120,505.43*	
F	**Institutional Fees**						
F.1	UNIMAREC compliance fee	1	1		7,948,913	9,753.27	10% of operational budget (minus professional fees)
F.2	UNIMA institutional overhead fee	1	1		9,821,193	12,050.54	10% of total budget (operational + professional fees)
	Total Institutional Overhead				*17,770,106*	*21,803.81*	
	GRAND TOTAL				**115,982,035**	**142,309.25**	

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APPENDIX A: CONSENT FORMS AND DATA COLLECTION TOOLS

1.1 INFORMED CONSENT FORMS

Annex 1.1.1 Informed Consent to Participate in the Entire Study

Consent to Participate in Research

Dept. of Psychology, University of Malawi/Human Resources for Health in 2030 (HRH2030), USA

Mobile-phone-based study of *online self-help for mental wellbeing*

Principal Investigator: Dr. Eckhard Kleinau, HRH2030/University Research Co. (URC)

Co-investigators: Tilinao Lamba (Country Lead), Edister Jamu, Demoubly Kokota, Limbika Maliwichi, Dept. of Psychology, University of Malawi; Alex Zumazuma, Queen Elizabeth Central Hospital

You are being asked to take part in a *Mobile-phone-based research study of online self-help for mental wellbeing*. Taking part in research is voluntary. Your decision whether or not to take part will have no effect on the quality of your medical care, academic standing, or your job status. **No information collected during the trial that could identify participants or their facilities of affiliation will be shared with the employers**. Please ask questions if there is anything about this study you do not understand. You can contact us at Tilinao Lamba, tilinao.otilera@gmail.com / tlamba@cc.ac.mw or Eckhard Kleinau, ekleinau@hrh2030program.org.

What is the purpose of this study?
The purpose of this study is to assess whether certain forms of *online self-help for mental wellbeing* are more effective than others. Challenges to mental wellbeing covers depression, anxiety, resilience, burnout, and loneliness due to work-related or personal pressures.

Are there any benefits from taking part in this study?
You might or might not personally benefit from being in this research study. Through this study we hope to gather information that may help health professionals like you in the future.

What does this study involve?
Your participation in this study may last up to **10 weeks**, beginning on or around October 4, 2021 and ending latest on December 18, 2021. At the beginning of the study you will be asked to provide some information about yourself, which will be used to determine eligibility for the study according to pre-established criteria. If you elect to participate, you will need a smartphone and access to the internet and study-related websites. Participants will be assigned to different websites at random; you do not have a choice in this matter. The research team will not know to which website you are assigned.

The study team will provide airtime with a mobile carrier contingent on your active participation in the study and, if necessary, a SIM card. During the study period the website will ask you to identify yourself and provide information about your work. You will also be asked to complete five short mental wellbeing tests at the beginning, middle and end of the study. We use the information

collected in assessing your levels of mental wellbeing and will share this information with you in real time. The website will prompt you periodically; depending on the website this may happen daily, every other day or weekly. You will receive specific instructions about how to interact with your website. The website will collect how often you access the study website and the duration of your interaction with different parts of the website. The website does NOT collect other information such as your location or web browsing history outside the study website. At the end of the study, we ask about your experience in using the website through and anonymous online survey and focus group discussions.

What are the options if you do not want to take part in this study?

Participation is voluntary. You are responsible for seeking approval for participating in this study from your supervisor, if so required; the study personnel will not be responsible for this. If you do not want to take part in the study do not complete this consent form (by clicking Submit below). Once enrolled in the study, you can withdraw fromthe study at any time by following the "leave the study" link on the study website. Your right to anonymity will be protected by ensuring that data related to you is kept anonymous and, in addition, any data that can identify you will be deleted at the conclusion of the trial.

What are the risks involved with being enrolled in this study?

No risks are expected. Should the information you provide indicate that you are feeling overwhelmed by depression, anxiety, burnout, or loneliness we will provide contacts in Malawi where you can get help. If the signs are acute and severe, you will not be able to continue with the study and will refer you for mental health counseling but only with your consent.

Other important items you should know:

- **Leaving the study:** You may choose to stop your participation in this study at any time; simply follow the "leave the study" link on the study website. Your decision to stop your participation will have no effect on your academic standing or job status.
- **Number of people in this study:** We expect over 1,000 health professionals to enroll in this study.
- **Funding:** This study is funded by the United States Agency for International Development (USAID) through the Human Resources for Health in 2030 (HRH2030) program.
- **Study Implementation:** The study is implemented jointly by the Dept. of Psychology, University of Malawi and the HRH2030 program, USA.
- **Product Development:** If the results of this research are used to develop a product soldfor a profit, you will not share in the profit. You will not receive money from the profits.

How will your privacy be protected?

We value your privacy. For the duration of the study, we will collect your name, mobile number and email address. We will use this information to verify your identity, allocate airtime and any other compensation, and to contact you regularly during the study period with information. At the beginning of the study, you will be assigned a unique identification (ID) number. At the end of the study before data are analyzed we will securely encrypt this identification number and delete all personal identifying information so that the information collected during the study can never be related to you. The analysis will be performed with anonymized data only. We will never keep or share any identifiable information.

The information collected in this study includes your responses to the mental wellbeing test, and certain information about you and your work collected at the time of registration. We will store this information on a secure cloud server. The information will be used only for the purpose of this research study as stated earlier in this form and will be deleted when no longer needed. Your identifiable information will not be shared with any third party.

What about the costs of this study?
There is no cost to participate in this study.

Will you be paid to take part in this study?
You will receive a total of 10Gb airtime allowance valued at K15,500 (about $20) with a specific mobile carrier for the time you participate in the study. This airtime allowance is provided contingent on your participation in the study. "*Participation"* means that you access the website on a regular basis as requested. The website automatically uploads the data to our secure server whenever a mobile signal or Wi-Fi is available, so to upload the data simply connect to the internet.

In addition, and following common practice in clinical trials, you will receive an appreciation allocation of about 5Gb airtime valued at K8,200 (about $10) at the end of the trial, the final workshop, in recognition of your time sacrifice and as appreciation of your contribution to science. This incentive will hopefully encourage your continued use of internet resources to help your mental wellbeing.

Whom should you call with questions about this study?
If you have technical problems with our app, email us at ines@tnh.health.

If you have questions or concerns about this study, you can call the research directors for thisstudy Tilinao Lamba, tilinao.otilera@gmail.com / tlamba@cc.ac.mw, 0885795906, or Eckhard Kleinau, ekleinau@hrh2030program.org.

If you have questions, concerns, complaints, or suggestions about human research, you may contact the Chairperson, UNIMAREC. P.O Box 280. Zomba at unimarec@cc.ac.mw.

CONSENT

I have read the above information about the *Mobile-phone-based study of online self-help for mental wellbeing*. I agree to participate in this study.

Full Name

My email address:

My phone #:

After you click submit, we will send you an email message with instructions on how to proceed to the study website and how to participate in the study.

Annex 1.1.2 Informed Consent to the Anonymous Online Survey

Consent to Participate in Anonymous Online Survey

Dept. of Psychology, University of Malawi/Human Resources for Health in 2030 (HRH2030), USA

Mobile-phone-based study of *online self-help for mental wellbeing*

Principal Investigator: Dr. Eckhard Kleinau, HRH2030/University Research Co. (URC)

Co-investigators: Tilinao Lamba (Country Lead), Edister Jamu, Demoubly Kokota, Limbika Maliwichi, Dept. of Psychology, University of Malawi; Alex Zumazuma, Queen Elizabeth Central Hospital

You are being asked to complete this anonymous questionnaire in response to questions regarding your involvement in the above-named research project. The aim of this research project was to evaluate the effectiveness of mobile-phone-based resources in improving mental wellbeing in health workers.

For the past 10 weeks, as one of the participants of this study, you were presented with specific online resources to aid as self-help tools for improving your mental wellbeing. At this point, we would like to ask that you complete this survey with your honest evaluation of your experiences in this exercise.

Voluntary participation: Taking part in research is voluntary. You may refuse to take part in the research or exit the survey at any time without penalty. You are free to decline to answer any particular question you do not wish to answer for any reason. Your decision whether or not to take part will have no effect on the quality of your medical care, academic standing, or your job status.

Confidentiality: This survey is anonymous. No information collected during the trial that could identify participants or their facilities of affiliation will be shared with their employers.

Contact: If you have questions at any time about this survey, you can contact us at Tilinao Lamba, tilinao.otilera@gmail.com / tlamba@cc.ac.mw or Eckhard Kleinau, ekleinau@hrh2030program.org.

Electronic Consent: Please select your choice below. Clicking on the "Agree" button indicates that

- You have read and understood the above information
- You voluntarily agree to participate in this anonymous questionnaire to aid with the research of evaluating the effectiveness of mobile-phone-based resources in improving mental wellbeing.

☐ Agree

☐ Disagree

Annex 1.1.3 Informed Consent to the Focus Group Discussions

Consent to Participate in Feedback Focus Group Discussion

Dept. of Psychology, University of Malawi/Human Resources for Health in 2030 (HRH2030), USA

Mobile-phone-based study of *online self-help for mental wellbeing*

Principal Investigator: Dr. Eckhard Kleinau, HRH2030/University Research Co. (URC)

Co-investigators: Tilinao Lamba (Country Lead), Edister Jamu, Demoubly Kokota, Limbika Maliwichi, Dept. of Psychology, University of Malawi; Alex Zumazuma, Queen Elizabeth Central Hospital

You are being asked to participate in a Focus Group Discussion in response to questions regarding your involvement in the above-named research project. The aim of this research project was to evaluate the effectiveness of mobile-phone-based resources in improving mental wellbeing in health workers.

For the past 10 weeks, as one of the participants of this study, you were presented with specific online resources to aid as self-help tools for improving your mental wellbeing. At this point, we would like to ask that you take part in a Focus Group Discussion with other study participants and share your honest evaluation of your experiences in this exercise.

FGD format: You will be placed in a group with between 7 to 9 other health workers who have also been taking part in this study. You will then be engaged in a discussion according to an FGD guide, containing questions about your experiences in using mobile-phone-based self-help resources to improve mental wellbeing. We encourage you to be as honest as possible in your responses.

Voluntary participation: Taking part in research is voluntary. You may refuse to take part in the research or exit the survey at any time without penalty. You are free to decline to answer any particular question you do not wish to answer for any reason. Your decision whether or not to take part will have no effect on the quality of your medical care, academic standing, or your job status.

Confidentiality: Your responses during these FGDs will not be linked to your identity. All responses shall be made anonymous by the research team. No information collected during the FGDs that could identify you or your facilities of affiliation will be shared with your employers. FGD participants will be asked to respect the privacy of other participants by not disclosing any content discussed during the focus group discussion.

Contact: If you have questions at any time about this survey, you can contact us at Tilinao Lamba, tilinao.otilera@gmail.com / tlamba@cc.ac.mw or Eckhard Kleinau, ekleinau@hrh2030program.org.

Electronic Consent: Please select your choice below. Clicking on the "Agree" button indicates that

- You have read and understood the above information
- You voluntarily agree to participate in this FGD to aid with the research of evaluating the effectiveness of mobile-phone-based resources in improving mental wellbeing.

☐ Agree
☐ Disagree

1.2 DATA COLLECTION INSTRUMENTS

Annex 1.2.1 **Screening questionnaire (online)**

1. What type of health worker are you? *Please select*
    a. Doctor
    b. Nurse
    c. Clinical officer
    d. Medical Assistant
    e. Physiotherapy technician
    f. Physiotherapist
    g. Laboratory technician
    h. Pharmacist
    i. Other

2. English language proficiency
    a. Proficient
    b. Some proficiency
    c. None

3. What is the operating system of your smartphone?
    a. Android (*If your phone is not an Apple iPhone then you have an Android-based phone*)
    b. Apple iOS
    c. I do not have a smartphone

4. Do you use your phone to check email?
    a. Yes
    b. No

5. Are you using TNM as a service provider?
    a. Yes
    b. No

6. Are you **currently** being counseled or treated for mild or moderate mental health issues?
    a. Yes
    b. No

7. Have you been counseled or treated for mild or moderate mental health issues in **the past**?
    a. Yes
    b. No

8. Are you **currently** being counseled or treated for acute or severe mental health issues?
    a. Yes
    b. No

9. Have you been counseled or treated for acute or severe mental health issues in **the past**?
    a. Yes
    b. No

Annex 1.2.2

Participant characteristics questionnaire (online)

1. How old are you? *in years*

2. What is your gender:
    a. Male
    b. Female
    c. I prefer not to disclose

3. At what type of health facility do you work?
    a. Tertiary/central hospital
    b. Secondary/district hospital
    c. Primary care facility (clinic, health center, community and rural hospital, maternity unit)

4. What type of facility is it?
    a. Public/government
    b. Private-not-for-profit (for example, CHAM)
    c. Private-for-profit

5. Where is your facility located?
    a. Urban
    b. Peri-urban
    c. Rural

6. In which district is your facility located?
    a. Blantyre
    b. Lilongwe
    c. Other _____

7. What is the main area in which you work? *Single choice*
    a. Counseling
    b. Dental care
    c. Emergency care
    d. General inpatient care
    e. Intensive care
    f. Laboratory services
    g. Maternity care
    h. Mental health care
    i. Neonatal care
    j. Outpatient care
    k. Pediatric care
    l. Physiotherapy
    m. Radiology services
    n. Surgical care
    o. Other

8. I use my smartphone for: *check all that apply*

How often (one check per row):	*Daily*	*Several times a week*	*Weekly*	*Less often*	*Never*
a. Browsing the internet	○	○	○	○	○
b. Calling, texting, WhatsApp	○	○	○	○	○
c. Facebook, Twitter	○	○	○	○	○
d. Interactive chat apps	○	○	○	○	○
e. Mobile Money	○	○	○	○	○
f. Playing games	○	○	○	○	○
g. Reading and sending email	○	○	○	○	○
h. Watching videos/movies, listening to music	○	○	○	○	○

9. Are you currently in therapy or have you had therapy in the past for mental health issues? *Select one*
    a. Currently in therapy
    b. Had past therapy during the last 6 months
    c. Had past therapy during the last 2 years
    d. Had past therapy more than 2 years ago
    e. Never had therapy

10. Are you **currently** using a mobile chat app for mental health or wellbeing?
    a. Never
    b. Sometimes
    c. Often

11. Have you used a mobile chat app for mental health or wellbeing **in the past**?
    a. No
    b. Yes

12. Are you **currently** using websites for information about mental health or wellbeing?
    a. Never
    b. Sometimes
    c. Often

13. Have you used websites for information about mental health or wellbeing **in the past**?
    a. No
    b. Yes

14. How has the COVID-19 pandemic affected your workload over the past 12 months?
    My workload
    a. Greatly decreased
    b. Somewhat decreased
    c. Stayed the same
    d. Somewhat increased
    e. Greatly increased

15. How were your daily work hours affected by COVID-19 over the past 12 months?
    My work hours

a. Greatly decreased
b. Somewhat decreased
c. Stayed the same
d. Somewhat increased
e. Greatly increased

16. How has COVID-19 affected your work-related stress level over the past 12 months?
    My stress level

    a. Greatly decreased
    b. Somewhat decreased
    c. Stayed the same
    d. Somewhat increased
    e. Greatly increased

17. Did COVID-19 prevent you from going into work over the past 12 months?

    a. No disruptions at all
    b. Several days over the entire year
    c. Several days every month
    d. Several days every week
    e. I did not work at all

Annex 1.2.3

Data collected by the website for the control group and Vitalk for the treatment group

All participants

1. Completed registrations (enrollment)
2. Eligibility and participant characteristics questionnaire (Google forms)
3. Completed GAD-7 and scores
4. Completed PHQ-9 and scores
5. Completed RS-14 and scores
6. Completed OLBI and scores
7. Completed UCLA Loneliness and scores
8. Completed resilience-building behavior assessment and results
    a. Frequency of Engaging in Cognitive Behavioral Stress Mgm't over last 2 weeks
    b. Frequency of Practicing Mindfulness and Relaxation over last 2 weeks
    c. Frequency of Practicing Self-care over last 2 weeks
    d. Frequency of Connecting to Purpose over last 2 weeks
    e. Frequency of Connecting to Others over last 2 weeks

Web resources (control group)

9. Links followed and sites accessed (click throughs)
10. Frequency of access (how often in a week or month), timing (daily, every other day, weekly, etc.) and duration of interaction (minutes) with Web resource page
11. Number and frequency of technical support requested; what issues

Vitalk (treatment group)

12. Frequency of use and results of Mood Meter
13. Careline selected and specific clinical content accessed in Vitalk
14. Number and frequency of questions asked
15. Frequency of access and duration of interaction with Vitalk
16. Number and frequency of technical support requested; what issues

Annex 1.2.4

Concluding Workshop Questionnaire: Treatment Group

Thank you for joining us for the workshop today and for engaging with us as we have explored health workers' psychosocial wellbeing and interacted with the Vitalk app over the past 56 days. We appreciate your time and participation!

We would like to ask you a few questions about your experience so that we can learn from this process and from your feedback. Your responses will be used to understand how the process went, what went well, and what improvements could be made in the future. All your responses will be anonymous and will not be linked to you now or in the future, and you can stop taking this survey at any time.

We are interested in your thoughts, so if you have anything to share that did not come up in the conversation today or that you want us to know, please feel free to share those thoughts on this form. If you have any questions or concerns, feel free to reach out to today's facilitator.

If you agree to this information and want to continue, please complete the following questions:

1. How many days have you actively used the Vitalk app after the first workshop?
    - 0 days
    - 1 to 7 days
    - 8 to 14 days
    - 15 to 21 days
    - 22 to 28 days
    - 29 to 35 days
    - 36 days or more

2. If you used the app less than 20 days, what was the reason for not using it more often? (You can skip this question if you used the app 20 or more days)

3. How much do you agree with the following statement: "The Vitalk app helped me feel better"?
    - Completely disagree
    - Somewhat disagree
    - Neither agree nor disagree
    - Somewhat agree
    - Completely agree

4. What did you find the most enjoyable and/or most helpful when using the app?

5. What were the things that you did not like or found the least helpful when using the app?

6. What are the main benefits you got from using the Vitalk app?

7. How could we improve the app for the future?

8. How likely are you to recommend the Vitalk app to others?

Not at all likely										Extremely likely
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

9. During these workshops on psychosocial wellbeing of health workers, I felt…
(check all that apply):
   - ☐ Energized
   - ☐ Renewed
   - ☐ Bored
   - ☐ Inspired
   - ☐ Overwhelmed
   - ☐ Angry
   - ☐ In agreement with the presenter
   - ☐ In disagreement with the presenter
   - ☐ Other

10. Please explain why you checked the boxes you did.

11. Please provide any other feedback you would like to share on the app or these workshops.

Thank you!

Annex 1.2.5

FOCUS GROUP DISCUSSION GUIDE: TREATMENT GROUP

CLOSING WORKSHOP ON PSYCHOSOCIAL WELLBEING FOR HEALTHWORKERS

DATES:

VENUE:

OBJECTIVE: This qualitative enquiry seeks feedback from the experiences of health workers who had been interacted with the Vitalk App over 56 days as a digital mental health solution aimed at improving on their mental health.

QUESTIONS:

1. What are some of the common mental health challenges that health workers face?
2. What specific/unique mental health challenges have health workers faced due to the COVID-19 pandemic?
3. How do social norms or attitudes affect people's ability to get psychosocial help or counselling?
4. What was your initial expectation of the HRH2030 workshops for the psychosocial wellbeing of health workers?
5. What has your experience of using the Vitalk app been like during the past month?
6. How have you been using the Vitalk app in your everyday life?
7. What did you find enjoyable about the conversations with Viki?
8. What conversations with Viki did you find the most helpful?
9. What conversations with Viki did you find the least helpful?
10. What are the main benefits that you got from using the Vitalk app?
11. Which mental health recommendations did you learn from Viki that you will continue to use from now onwards?
12. How would you explain Vitalk to a person who doesn't know about it?
13. What challenges did you face (if any) in using the app?
14. For the participants who did not use the app consistently, what was the reason for the inconsistency?
15. How do you think the Vitalk app can be improved to make it more engaging and effective?

Annex 1.2.6

Concluding Workshop Questionnaire: Control Group

Thank you for joining us for the workshop today and for engaging with us as we have used online mental health resources to improve health workers' psychosocial wellbeing over the past 56 days. We appreciate your time and participation!

We would like to ask you a few questions about your experience so that we can learn from this process and from your feedback. Your responses will be used to understand how the process went, what went well, and what improvements could be made in the future. All your responses will be anonymous and will not be linked to you now or in the future, and you can stop taking this survey at any time.

We are interested in your thoughts, so if you have anything to share that did not come up in the conversation today or that you want us to know, please feel free to share those thoughts on this form. If you have any questions or concerns, feel free to reach out to today's facilitator.

If you agree to this information and want to continue, please complete the following questions:

1. How many days have you accessed the resources that were provided to you on the mental health support website after the first workshop?

   - ○ 0 days
   - ○ 1 to 7 days
   - ○ 8 to 14 days
   - ○ 15 to 21 days
   - ○ 22 to 28 days
   - ○ 29 to 35 days
   - ○ 36 days or more

2. If you accessed the website for less than 20 days, what was the reason for not using it more often? (You can skip this question if you used the app 20 or more days)

3. How much do you agree with the following statement: "The mental health resource website helped me feel better"?
   - ☐ Completely disagree
   - ☐ Somewhat disagree
   - ☐ Neither agree nor disagree
   - ☐ Somewhat agree
   - ☐ Completely agree

4. What did you find the most enjoyable and/or most helpful about the information provided on the website?

5. What were the things that you did not like or found the least helpful about using the website?

6. What are the main benefits you got from the information provided on the mental health support website?

7. How could we improve the website for the future?

8. How likely are you to recommend the use of the mental health support website to others?

Not at all likely — Extremely likely

0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

9. During these workshops on psychosocial wellbeing of health workers, I felt… (check all that apply):
   - ☐ Energized
   - ☐ Renewed
   - ☐ Bored
   - ☐ Inspired
   - ☐ Overwhelmed
   - ☐ Angry
   - ☐ In agreement with the presenter
   - ☐ In disagreement with the presenter
   - ☐ Other

10. Please explain why you checked the boxes you did.

11. Please provide any other feedback you would like to share on the app or these workshops.

Thank you!

Annex 1.2.7

FOCUS GROUP DISCUSSION GUIDE: CONTROL GROUP

CLOSING WORKSHOP ON PSYCHOSOCIAL WELLBEING OF HEALTHWORKERS

DATES:

VENUE:

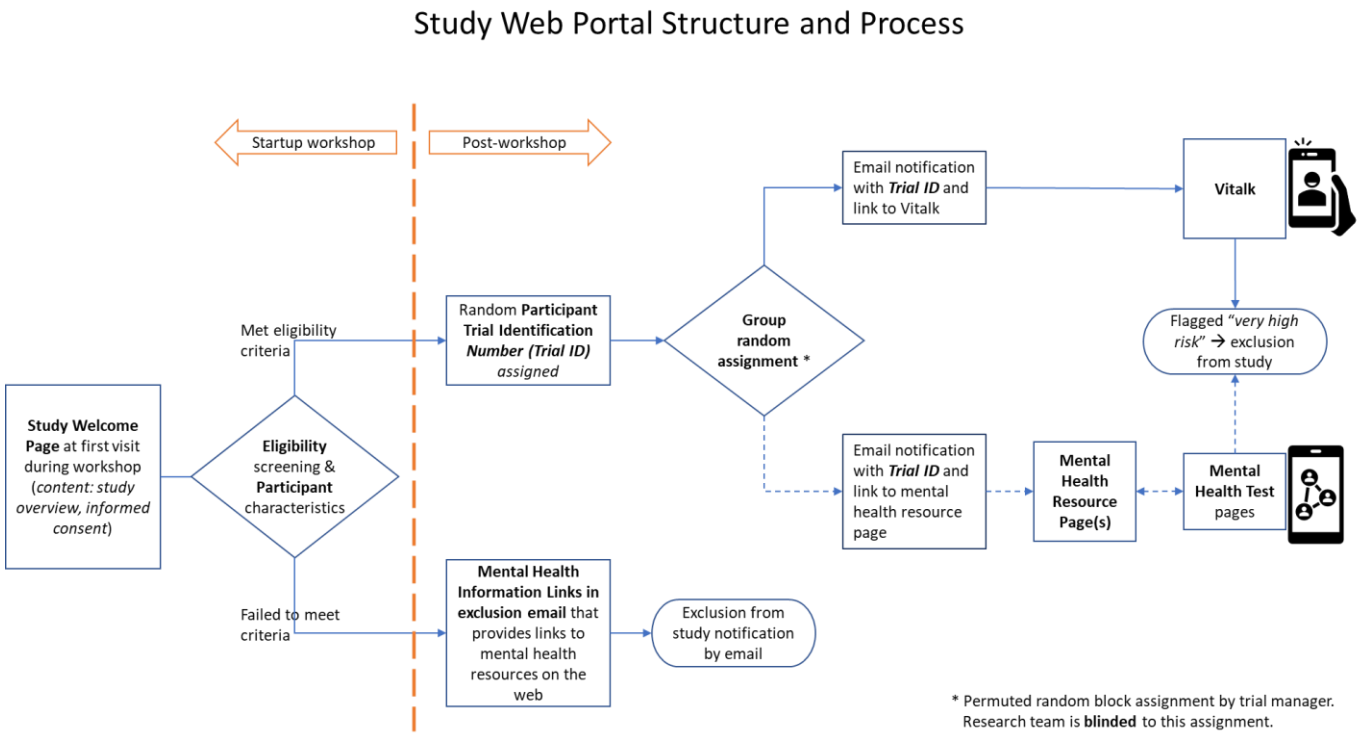
OBJECTIVE: This qualitative enquiry seeks feedback from the experiences of health workers who had given access to online mental health resources over 56 days as a digital mental health solution aimed at improving on their mental health.

QUESTIONS:

1. What are some of the common mental health challenges that health workers face?
2. What specific/unique mental health challenges have health workers faced due to the COVID-19 pandemic?
3. How do social norms or attitudes affect people's ability to get psychosocial help or counselling?
4. What was your initial expectation of the HRH2030 workshops for the psychosocial wellbeing of health workers?
5. What has your experience of using the mental health resource website been like during the past 56 days?
6. How have you been using the website in your everyday life?
7. What did you find enjoyable about visiting and using the website?
8. What did you find the most helpful about the website?
9. What did you find the least helpful about the website?
10. What are the main benefits that you got from using the mental health resource website?
11. Which mental health recommendations did you learn from the website that you will continue to use from now onwards?
12. How would you explain the mental health resource website to a person who doesn't know about it?
13. What challenges did you face (if any) in using the website?
14. For the participants who did not use the website consistently, what was the reason for the inconsistency?
15. How do you think the mental health resource website can be improved to make it more engaging and effective?

Annex 1.2.8

STUDY WEB PORTAL STRUCTURE AND PROCESS



Annex 1.2.9

MENTAL HEALTH ASSESSMENTS

Generalized Anxiety Disorder (GAD-7)
What is anxiety?
Some people experience anxiety as a constant worried or restless feeling. For other people, it shows itself as a concrete fear of something specific, a phobia, and can even cause panic attacks.
Please answer the following questions by telling us how you truly feel

Think about the following questions, considering the last TWO WEEKS

Have you felt nervous, anxious or on edge?	Not at all Several days More than half the days Nearly every day
Have you been unable to stop or control worrying?	Not at all Several days More than half the days Nearly every day
Have you worried too much about many different things?	Not at all Several days More than half the days Nearly every day
Tell me, have you experienced difficulty relaxing?	Not at all Several days More than half the days Nearly every day
Have you been so restless that it's hard to sit still?	Not at all Several days More than half the days Nearly every day
Have you become easily annoyed or irritable?	Not at all Several days More than half the days Nearly every day
Have you felt afraid, as if something awful might happen?	Not at all Several days More than half the days Nearly every day

Scoring

0-4	None = Very low risk
5-9	Mild = Low risk
10-14	Moderate = High risk
15-21	Severe = Very high risk

Patient Health Questionnaire (PHQ-9)
What is depression?
Depression is when you experience discouragement, sadness or indifference which seems to be everlasting, and affects all aspects of your life.
You can also feel a deep tiredness, lack of perspective and pleasure in life in general.
Please answer the following questions by telling us how you truly feel

Think about the last 2 WEEKS...

Have you had little interest or pleasure in doing things?	Not at all Several days More than half the days Nearly every day
Have you felt down, depressed or hopeless?	Not at all Several days More than half the days Nearly every day
Have you had troubling falling or staying asleep, or sleeping too much?	Not at all Several days More than half the days Nearly every day
Have you felt tired or had little energy?	Not at all Several days More than half the days Nearly every day
And have you experienced poor appetite or overeating?	Not at all Several days More than half the days Nearly every day
Have you felt bad about yourself, or that you are a failure or have let yourself or your family down?	Not at all Several days More than half the days Nearly every day
Have you experienced difficulty concentrating on actions such as reading or watching television?	Not at all Several days More than half the days Nearly every day
Have you been moving or speaking so slowly that other people could have noticed? Or have you been so fidgety or restless that you have been moving around a lot more than usual?	Not at all Several days More than half the days Nearly every day

Have you thought that it would be better if you were dead, or have you thought about harming yourself somehow?

Not at all
Several days
More than half the days
Nearly every day

Scoring

0-4	None = Very low risk
5-9	Mild = Low risk
10-19	Moderate = High risk
20-27	Severe = Very high risk

Oldenburg Burnout Inventory (OLBI)
What is Burnout?
Burnout is the highest state of occupational stress.
A person's work conditions cause them to reach their emotional and physical limits.
Answer these statements by indicating your degree of agreement or disagreement.
Please read each question carefully because each is worded differently.

"I always find new and interesting aspects in my work."	Strongly disagree Disagree Agree Strongly agree
"There are days when I feel tired before I arrive at work."	Strongly disagree Disagree Agree Strongly agree
"It happens more and more often that I talk about my work in a negative way."	Strongly disagree Disagree Agree Strongly agree
"After work, I tend to need more time than in the past in order to relax and feel better."	Strongly disagree Disagree Agree Strongly agree
"I can tolerate the pressure of my work very well."	Strongly disagree Disagree Agree Strongly agree
"Lately, I tend to think less at work and do my job almost mechanically."	Strongly disagree Disagree Agree Strongly agree
"I find my work to be a positive challenge."	Strongly disagree Disagree Agree Strongly agree
"During my work, I often feel emotionally drained."	Strongly disagree Disagree Agree Strongly agree
"Over time, one can become disconnected from this type of work."	Strongly disagree Disagree Agree Strongly agree

"After working, I have enough energy for my leisure activities."	Strongly disagree Disagree Agree Strongly agree
"Sometimes I feel sickened by my work tasks."	Strongly disagree Disagree Agree Strongly agree
"After my work, I usually feel worn out and weary."	Strongly disagree Disagree Agree Strongly agree
"This is the only type of work that I can imagine myself doing."	Strongly disagree Disagree Agree Strongly agree
"I feel more and more engaged in my work."	Strongly disagree Disagree Agree Strongly agree
"When I work, I usually feel energized."	Strongly disagree Disagree Agree Strongly agree
"Usually, I can manage the amount of my work well."	Strongly disagree Disagree Agree Strongly agree

Scoring
16-20 = very low risk;
21-25 = low risk;
26-42 =high risk
43+ = very high risk

14-item Resilience Scale (RS–14)

What is resilience?

Resilience is your ability to deal with problems, adapt to change, overcome obstacles or to resist pressure in difficult situations.
It's also the ability to react positively to those situations without having psychological or emotional conflicts.
Please tell us how much you agree or disagree with the following statements.

"I usually manage one way or another."	Completely disagree Strongly disagree Somewhat disagree Neither agree nor disagree Somewhat agree Strongly agree Completely agree
"I feel proud that I have accomplished things in my life."	Completely disagree Strongly disagree Somewhat disagree Neither agree nor disagree Somewhat agree Strongly agree Completely agree
"I usually take things in stride/calmly."	Completely disagree Strongly disagree Somewhat disagree Neither agree nor disagree Somewhat agree Strongly agree Completely agree
"I am friends with myself."	Completely disagree Strongly disagree Somewhat disagree Neither agree nor disagree Somewhat agree Strongly agree Completely agree
"I feel that I can handle many things at a time."	Completely disagree Strongly disagree Somewhat disagree Neither agree nor disagree Somewhat agree Strongly agree Completely agree
"I am determined."	Completely disagree Strongly disagree Somewhat disagree Neither agree nor disagree Somewhat agree Strongly agree Completely agree

"I can get through difficult times because I've experienced difficulty before."	Completely disagree Strongly disagree Somewhat disagree Neither agree nor disagree Somewhat agree Strongly agree Completely agree
"I have self-discipline."	Completely disagree Strongly disagree Somewhat disagree Neither agree nor disagree Somewhat agree Strongly agree Completely agree
"I keep interested in things."	Completely disagree Strongly disagree Somewhat disagree Neither agree nor disagree Somewhat agree Strongly agree Completely agree
"I can usually find something to laugh about."	Completely disagree Strongly disagree Somewhat disagree Neither agree nor disagree Somewhat agree Strongly agree Completely agree
"My belief in myself gets me through hard times."	Completely disagree Strongly disagree Somewhat disagree Neither agree nor disagree Somewhat agree Strongly agree Completely agree
"In an emergency, I'm someone people can generally rely on."	Completely disagree Strongly disagree Somewhat disagree Neither agree nor disagree Somewhat agree Strongly agree Completely agree
"My life has meaning."	Completely disagree Strongly disagree Somewhat disagree Neither agree nor disagree Somewhat agree Strongly agree Completely agree

"When I'm in a difficult situation, I can usually find my way out of it."	Completely disagree Strongly disagree Somewhat disagree Neither agree nor disagree Somewhat agree Strongly agree Completely agree

Scoring

14-56	Very low (level)
57-73	Low – Moderately low (level)
74-90	Moderate – Moderately high (level)
91-98	High (level)

Thank you for answering these questions. Next we will show you your scores for each questionnaire.

UCLA Short (three-item) Loneliness Scale

What is loneliness?

On the whole, loneliness is described as an unwelcome, painful and unpleasant feeling that occurs when this is a gap, or a mismatch, between the number and quality of social relationships and connections that we have, and those we would like.
Social loneliness occurs when someone is missing a wider social network and emotional loneliness is caused when you miss an intimate relationship.

Next, please tell us how you feel about your relationships with others. Remember, when the term "others" is used, it includes colleagues, friends, neighbors, family members, or intimate partners. Check the circle that represents your response.

In general, how often do you feel that you lack companionship?	Hardly ever Some of the time Often
In general, how often do you feel left out?	Hardly ever Some of the time Often
In general, how often do you feel isolated from others?	Hardly ever Some of the time Often

Scoring

3-5	Non-lonely = Low risk
6-9	Lonely = High risk

Annex 1.2.10

Resilience-building Behaviours

Please tell us how often you have done the following activities over the past 2 weeks:

	None in the past 2 weeks	Once or twice in the past 2 weeks	Several times per week (less than 5 times)	Daily (at least 5 times per week)
How often have you done stress management by understanding your negative thoughts and taking positive actions over the last 2 weeks?				
How often have you practiced self-reflection, mindfulness and relaxation exercises over the last 2 weeks?				
How often have you practiced Self-Care to promote your own physical, mental, and emotional health over the last 2 weeks? Self-care includes • Physical Self-Care like getting enough sleep and eating well • Social Self-Care like spending time with family and friends • Mental Self-Care like activities that mentally stimulate you • Spiritual Self-Care like meditation, attending a religious service, or praying • Emotional Self-Care like processing your feelings and dealing with uncomfortable emotions, like anger, anxiety, and sadness				
How often have you tried to give purpose to your professional and private life over the last 2 weeks? Giving purpose to your professional life means you like your work and look forward to doing it on most days.				
How often did you connect to others over the last 2 weeks? Others include family, friends, colleagues, etc.				

APPENDIX B: CURRICULUM VITAE FOR ALL INVESTIGATORS

Eckhard Kleinau, *Monitoring, Evaluation, Research and Learning (MERL) Director*

Qualifications per RFP/RFA Requirements for Position

Criteria	Qualifications
Has a Master's or Doctoral degree in a health-related field in research and/or monitoring and evaluation.	Dr. Kleinau is a MD with a Doctoral degree in Public Health (DrPH) focused on health policy, management, and evaluation. Has two Masters degrees: Epidemiology & Health Services Administration.
At least 10 years' experience working internationally in the relevant technical area for the position.	Dr. Kleinau has over 30 years of experience working internationally with a wide range of donor organizations, including USAID in the relevant technical area for the position.
Proven expertise in developing and implementing monitoring and evaluation plans.	Dr. Kleinau has developed monitoring and evaluation plans throughout his career for every for every program he worked on and advises USAID Missions in developing M&E Plans and indicators for their projects.
Experience in building learning and research agendas and carrying out qualitative/quantitative research and implementation. Experience in qualitative and/or quantitative analysis	Dr. Kleinau designed and implemented numerous learning and research agendas and conducted experimental and quasi-experimental studies e.g., of enhanced supervision, stepped-wedge evaluation of maternal and child health programs, and operations research on program effectiveness, cost-effectiveness analyses, return on investment studies and econometric modeling, and geospatial and social network analyses. He developed and implemented innovative qualitative studies using relational coordination, maturity model assessments, health worker motivation/mobility studies using Likert-type scales and discrete choice experiments.
Proven ability to liaise effectively and collaborate with diverse stakeholders. Strong interpersonal and capacity building skills including training, mentoring, and coaching skills.	Dr. Kleinau led an analytical and technical services contract for USAID's Bureau for Global Health as Director/Senior Technical Officer for over five years, managing a multidisciplinary team of 40. He successfully managed over $200 million program portfolios in reproductive, maternal, neonatal, and child health. Given his clinical background and having led the data collection and synthesis of outcomes for over 120 programs, Dr. Kleinau can relate and create relevant data systems for a range of stakeholders.

Education

DrPH, Program Management and Evaluation, Harvard University, Cambridge, MA, 1995.
MS, Epidemiology, Harvard University, Cambridge, MA, 1989.
MS, Health Services Administration, Harvard University, Cambridge, MA, 1989.
MD (medical doctor), Eberhard-Karls University, Tübingen, Germany, 1979.

Countries of Work Experience: Bolivia, Burkina Faso, Burundi, Cameroon, DRC, Egypt, Eritrea, Ethiopia, Guatemala, India, Indonesia, Ivory Coast, Kenya, Madagascar, Mali, Morocco, Nepal, Niger, Nigeria, Philippines, Rwanda, Senegal, Sierra Leone, South Africa, Tanzania, Thailand, Togo, Zambia, Zimbabwe

Recent Managerial Experiences

Director of Research and Evaluation/HRH2030 Program **May 2016 – Present**

University Research Co. LLC, Global

Lead HRH2030 as key personnel in designing and implementing effective monitoring, evaluation, learning and research approaches and systems to demonstrate results and inform the greater health community.

Directed a study and follow on learning presentations to determine the role of the health care workforce in modern contraceptive use in low- and middle-income countries under HRH2030 with a focus on LARCs.

Developed research and learning protocols and analysis plans to support local research activities; for example, a study of the social return on investments (SROI) in Ethiopia's health extension program; and the implementation of evaluation methods such as relational coordination capacity assessments in Colombia, maturity framework assessments in West and Central Africa for malaria control.

Designed an HRH optimization tool for FP (HOT4FP) and convened expert clinician groups to define critical clinical parameters for the delivery of family planning that were incorporated into the tool.

Director of the Center for Program Science/Vice President **May 2013 – August 2015**

Palladium, Washington D.C.

Spearheaded the development of M&E plans and oversaw its implementation in focus areas including maternal, neonatal & child health, HIV/AIDS prevention, orphans and vulnerable children, gender-based violence, and water supply, sanitation, and hygiene (WASH).

Designed and conducted operations research for different activities, including a stepped-wedge impact evaluation and health facility assessment of child welfare in Northern Nigeria.

Vice President **April 2011 – April 2013**

CAMRIS International, Washington D.C.

Developed a company-wide strategy plan in international development and represented company with pharma industry for program partnerships.

Provided technical leadership in global health, environmental health and cross-cutting areas including monitoring and evaluation and knowledge management.

Project Director/Senior Technical Officer **October 2005 – March 2011**

RTI International, Rockville, MD

Directed and oversaw all technical support to USAID's Bureau for Global Health and regional bureaus as well as country missions and Led a team of 40 professionals.

Ensured services in response to task orders for strategic information needs for setting priorities, making funding decisions, and exerting global leadership. Responsible for the quality of statistical analysis and Agency reports to Congress.

Senior Evaluation and Research Advisor **1993-2005**

John Snow Inc, Washington DC

Served as senior level manager for USAID MEASURE Evaluation Project (2004-2005) and USAID Environmental Health Project (1999-2004) supporting USAID programs in global leadership for measuring and scaling up integrated population, health, and environment.

Directed M&E portfolio and USAID Basics Project for Evaluation/MIS.

Selected Clinical and Research Experiences

Ministry of Health, World Bank, Madagascar (1994-2004): supported the MOH to strengthen health information system for the capture of clinical services including emergency obstetric care, surgical delivery, and family planning services; specifically the expansion of injectable contraceptive through community-based delivery.

W.K. Kellogg Foundation, South Africa/Battle Creek, MI (1993-1994): Evaluated the quality, effectiveness, and sustainability of family planning services and emergency obstetric fistula repairs provided by the Alexandra Health Center in Johannesburg.

Vector Biology Control, Africa and Central America (1991-1993): Participated in the development of a Health and Management Information System framework for the USAID-funded Ivermectin Delivery Program, with a focus on health and management information systems, rapid assessment, reporting, quality improvement, epidemiologic surveillance, financing and cost recovery, integration, and sustainability.

World Bank/United Nations Development Programme (UNDP), Rwanda/Washington, DC (1990 to 1992): Evaluated national health care financing on measuring and improving service efficiency in public hospitals based on surveys of health services and patients' willingness to pay. Prepared a national health financing seminar and presented study results.

German Agency for International Cooperation, Cameroon, Chief of Party (1983-1988): Led the support to the National Primary Health Care (PHC) Program in Cameroon. Designed and implemented activities to strengthen clinical competencies of frontline health workers and continuous quality improvement.

Languages: Fluent in English, French, German, and basic Spanish

CURRICULUM VITAE
Tilinao Lamba, MSc

University of Malawi – Chancellor College
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LinkedIn: https://www.linkedin.com/in/tilinao-lamba-795684100/
ORCID ID: https://orcid.org/0000-0002-7249-7242

SKILLS

- **Counselling and Psychotherapy**: Person Centred Therapy, Cognitive Behavioural Therapy, Child & Play Therapy, Interpersonal Therapy in Groups.
- **Public speaking/training**: Psychosocial Wellness, Team Building, Stress Management, Trauma Recovery, HIV/AIDS Youth Peer Education.
- **Research/consultancy**: Qualitative research methods: Interpretive Phenomenological Analysis, Content Analysis, Thematic Analysis.

EDUCATION

UNITED STATES INTERNATIONAL UNIVERSITY – AFRICA, KENYA – Doctor of Psychology (PsyD) Clinical Psychology (expected completion: 2025)

KEELE UNIVERSITY, ENGLAND, JULY 2012 – MSc Counselling Psychology (With Merit)

DAYSTAR UNIVERSITY, KENYA, JUNE 2006 – BA Psychology (GPA 3.27)

ACADEMIC EXPERIENCE

LECTURER, PSYCHOLOGY DEPARTMENT, UNIVERSITY OF MALAWI - CHANCELLOR COLLEGE

(September 2012 – Present)

- **Teaching**: Planning, researching and delivering Psychology lectures.
- **Research Supervision**: Working individually with final year students majoring in Psychology, to design and execute research for their final year dissertations.
- **Curriculum Development**: Developing an updated BA Psychology curriculum to be offered at Chancellor College through the Faculty of Social Science.

STAFF ASSOCIATE, PSYCHOLOGY DEPARTMENT, UNIVERSITY OF MALAWI – CHANCELLOR COLLEGE

(March 2008 – September 2012)

- **Teaching**: Planned, researched and taught introductory Psychology courses.
- **Research**: Collaborated with fellow staff members of the Psychology department in data collection and analysis of research projects.

INSTRUCTIONAL EXPERIENCE

Biological Bases of Behaviour
Child Psychopathology
Clinical Psychology
Cognitive Psychology
Counselling Psychology
Developmental Psychology
Disability Psychology
Foundations of Psychology
Health Psychology
Learning and Performance
Personality and Behaviour
Qualitative Research Methods

COUNSELLING EXPERIENCE

COUNSELLOR/PSYCHOTHERIST – PRIVATE PRACITIONER

(September 2012 – Present)

- Contracted to provide counselling for staff, members, or beneficiaries of: NVak Foundation (Malawi), United Purpose (Malawi), Reprieve.
- Provide face-to-face and virtual counselling to clients in private practice.
- Clients range from adults, young adults and adolescents (including groups and couples), presenting with a range of mental health and emotional challenges.

STUDENT COUNSELLOR – UNIVERSITY OF MALAWI, CHANCELLOR COLLEGE, MALAWI

(September 2012 – Present)

- Provide confidential individual guidance, counselling and support services to students on campus presenting with: depression, anxiety, stress, bereavement, substance abuse.

COUNSELLOR - FEATHERSTONE PRISON, WOLVERHAMPTON, UK

(November 2011 – May 2012)

- Conducted individual counselling sessions with adult male prison inmates, presenting with psychiatric disorders, trauma, substance abuse, suicidal ideations, etc.

COUNSELLOR - FAMILY SUPPORT SERVICES, STOKE-ON-TRENT, UK

(October 2011 - May 2012)

- Conducted individual counselling sessions with adult female victims of domestic abuse, presenting with depression, anxiety, trauma, substance abuse, relationship challenges, displacement.
- Co-facilitated group therapy sessions on anger management for perpetrators of domestic abuse.

CHILD COUNSELLOR - CLAREMONT PRIMARY SCHOOL, MANCHESTER, UK

(September 2011 – May 2012)

- Conducted individual counselling sessions with children aged 10 – 12 years, using art and play therapy to deal with domestic challenges, grief, academic challenges, aggression and social adjustment issues.

LEADERSHIP

DEPUTY DEAN – FACULTY OF SOCIAL SCIENCE, UNIVERSITY OF MALAWI, CHANCELLOR COLLEGE

(January 2021 – Present)

- Lead and manage the faculty so that it makes a significant contribution to the operational and strategic development of the University.
- Represent the faculty in academic curriculum development and approval at college level.
- Co-manage the faculty's budgets and expenditures.

HEAD OF PSYCHOLOGY DEPARTMENT – UNIVERSITY OF MALAWI – CHANCELLOR COLLEGE

(January 2016 – December 2018)

- Provided departmental academic leadership and ensured adherence to the University's mission and vision, by fulfilling the departmental strategic plan.
- Managed liaisons between the Psychology department, other academic departments and external partners.
- Carried out people management, departmental representation at university level, quality assurance management.

HEALTH FELLOW – GLOBAL HEALTH CORPS, COVENANT HOUSE CRISIS CENTRE, NEWARK, NJ – USA

(July 2014 – July 2015)

- The Global Health Corps Fellowship is a program designed to foster young leaders in various sectors of health with the aim of ensuring global health equity.
- Worked directly with homeless youth aged between 18 and 21 years to provide health counselling, sexual and reproductive health guidance, medical case management, wellness coordination, physical wellness assessments and health education.

CONSULTANCY

MENTAL HEALTH TRAINER – PRIVATE PRACTITIONER

(January 2020 – Present)

- Provide mental health training sessions for staff of **United Purpose** on various topics: Stress Management, Workplace Wellness, Psychosocial Wellness, Dealing with Anxiety, Anxiety and Depression during COVID-19, Self-Care During Retrenchment.
- Provide training services for lawyers working with **Reprieve**: mental health assessment processes for criminal offenders on death row in Malawi.

MENTAL HEALTH RESILIENCE COORDINATOR – CHEMONICS INTERNATIONAL INC.

(February 2021 – July 2021)

Project implementation and key stakeholder liaison during the piloting of "Vitalk", a digital mental health intervention under the USAID-funded Human Resources for Health in 2030 (HRH2030) Program in Malawi.

SITE INVESTIGATOR (MALAWI) – MANYBABIES AFRICA, STANFORD UNIVERSITY, USA

(July 2020 – July 2021)
Along with L. Maliwichi, operating ethical review and data collection for child language development study in the Malawi lab site, as part of multi-site developmental study.

RESEARCH

PRINCIPAL INVESTIGATOR – ART AND GLOBAL HEALTH CENTRE, MALAWI

(December 2020 – June 2021)
Collaboration with L. Magombo (ArtGlo) and W. Chisiza (Chancellor College) in a mixed methods investigation of youth's attitudes and stigma towards mental health and illness in Malawi. Research is a composite part of "Zamuntima Sizawekha", a project aimed at breaking the barriers and stigma that exist around mental health of youth, using participatory research and performances.

CO-INVESTIGATOR – UNICEF AND MALAWI INSTITUTE OF JOURNALISM

(June 2020 – September 2020)
Collaborated with C. Mauluka, L. Maliwichi and T. Damte in conducting a qualitative research study entitled "Explaining the Low Risk Perception of COVID-19 Among Malawians: A Qualitative Analysis of Insights from Communities".

CO-INVESTIGATOR– *TIWALERE II* IPT-G STUDY – FEED THE CHILDREN, MALAWI

(October 2017 – August 2019)
Pilot project of *Tiwalere II*, an initiative that used IPT-G (Interpersonal Therapy in Groups) to reduce maternal depression in pregnant and lactating women in rural Malawi, in order to improve IYCF/WASH indicators. (*Pending publication*)

CO-INVESTIGATOR – FEED THE CHILDREN, MALAWI

(April 2018)
Data analysis on Young People's Behaviour, Drug Abuse and Depression. Funded by USAID. (Results of data analysis provided to FEED to inform organisational operations).

CO-INVESTIGATOR – STUDENT MENTAL HEALTH – CHANCELLOR COLLEGE

(March 2018)
Conducted Mental Health Awareness Campaign in collaboration with the Art and Global Health Centre; collaborated with W. Chisiza to conduct a study on various key aspects of student mental health.

PUBLICATIONS

Mauluka, C., **Lamba, T.,** Damte, T., & Maliwichi, L. Explaining Low-Risk Perception of Covid-19 Among Malawians: A Qualitative Analysis of Insights from Communities. (2021) *Journal of Development Communication, Volume 32 (1)*.

Jamu, E., **Lamba, T.,** & Mhango, W. The social psychology of disability in higher education: Examining the experiential dimension of disablement in Malawi, in Manthalu, C., Chikaipa, V. & Gunde, A. (2021) *Education, Communication and Democracy in Africa: A Democratic Pedagogy for the Future*. UK: Routledge.

Kasayira, J., Zimba, C., ***Thyangathyanga, T.****, Jamba L., Senganimalunje, L., & Jamu, E. Situational analysis of Psychology at Chancellor College, University of Malawi. *Zimbabwe Social Science Review Vol. 1 (2),* December 2010.

*Published under maiden name.

CONFERENCE PRESENTATION

Lamba, T. & Chisiza, W. (2018) *Mental Health among College Students: a case for Awareness and Support.*

International Conference on Higher Education (June 2018): held in Mangochi from 27th to 29th June, 2018 at Sunbird Nkopola Lodge.

REFERENCES

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EDUCATION

Master of Health Sciences-Public Mental Health at Johns Hopkins School of Public Health (US), August 2015 – July 2016. Thesis Title: "Mothers depressive symptoms and neurodevelopmental outcomes in Malawian and Ugandan Children at 12 months of age." (Magna cumLaude, GPA 3.6)

Master of Arts in Clinical Psychology (Summa cum Laude, GPA 3.81) at Sam Houston State University (US), August 2007– August 2009. Thesis title: "Adult attachment and coping stylesrelated to college adjustment."

Bachelor of Arts in Psychology & Philosophy, at Chancellor College, University of Malawi. June, 1999- December, 2003.

CERTIFICATES:

- Good Clinical Practice (GCP) by NIDA Clinical Trials Network
- Protecting Human Research Participants, Cert #: 2447576. by The National Institute of Health(NIH) Office of Extramural Research (USA)
- Applied skills in HIV communication and counseling offered by Stellenbosch University:Office for Institutional HIV Co-ordination, June 2012
- ***Post graduate University Certificate of Education*** (UCE), University of Malawi, 2012
- Critical Incident Stress Management trained by United Nations Department of Safety andSecurity (UNDSS), CISMU in Addis Ababa, Ethiopia, 2011
- Counseling-Practicum training, at Sam Houston State University: Counseling Center.January, 2009 – May, 2009.

EMPLOYMENT AND RESEARCH

Senior Lecturer: Department of Psychology, Chancellor College, University of Malawi, March

2019 to present. Responsibilities: Teach Psychology courses, conduct research and outreach.

Deputy Dean: Faculty of Social Science, Chancellor College, University of Malawi, January 2017 to December 2020. Responsibilities: Lead and manage the faculty so that it makes a significant contribution to the operation and strategic development of the University, manage thefaculty's budgets and expenditures.

Lecturer: Department of Psychology, Chancellor College, University of Malawi, March 2005 to2019. Responsibilities: Teach Psychology courses, conduct research and outreach.

Consultant Clinical Psychologist (2017 to present). Work Safe Africa

Responsibilities: Assessing and counseling out patients, providing mental health awareness and trainings to organizations.

Investigator of Record/PI at Johns Hopkins Research Project-College of Medicine/University of Malawi (Part time)**:** IMPAACT 2016 (RCT)-Evaluating a Group-Based Intervention to Improve Mental Health and ART Adherence Among Youth Living with HIV in Low Resource Settings. Responsibilities: Responsible for ensuring that investigation is conducted accordingly ie Protocolcompliance, Informed consent, Good documentation GCP compliance Safety Reporting, Communication with IRB/IEC, IP Accountability and adequate Resources.

Investigator on a study titled**:** The impact of in utero HIV exposure on infant T and B cell responses and neurocognitive development in Malawi. Funded by United States National Institutes of Health. Responsibilities: Responsible for ensuring that investigation is conductedaccordingly ie Protocol compliance, training research assistants (Nurses and assessors) on neurodevelopmental assessments.

Neurodevelopmental Testing Coordinator (Part time 2012 to 2016): PROMOTE and ND studiesat Johns Hopkins Research Project-College of Medicine/University of Malawi:

1. *"PROMise Ongoing Treatment Evaluation"* funded by PEPFAR.
2. "*Neuropsychological and Physical Growth Outcomes among HIV Exposed Uninfected (HIV-EU) Infants who are exposed to antiretroviral drugs"* Sponsored by NIAID and NICHD, April 2017 to Present. Responsibilities: Coordinating all study activities including neurodevelopmentaltesting, Administering neurodevelopmental tests to study participants, Training and supervising the study team on testing, scoring and QC. Developing & Reviewing SOPs for administration of different neurodevelopmental tests.

Country Lead *for 0-3 Developmental Indicators Project sponsored by World Health Organisation (WHO),* July 2016 to January 2017. Responsibilities: *L*eading a team to ensure thatall items selected for a WHO Child Developmental Indicators tool are feasible and valid for use in Malawi. Responsibilities: Leading all study activities including ethical submission of the protocol, Training and supervising nurses administering population based neuropsychological tests to children and parental reports, Developing SOPs for administration

of different tests, Translating and back-translating the WHO Child Developmental Indicators tool.

Study Coordinator & Psychologist: On a study titled "*Neuropsychological and Physical GrowthOutcomes among HIV Exposed Uninfected (HIV-EU) Infants who are exposed to antiretroviral drugs"* Sponsored by The National Institute of Allergy and Infectious Diseases (NIAID) and The Eunice Kennedy Shriver National Institute of Child and Human Development (NICHD), October 2012 to September 2015. Responsibilities: Coordinating all study activities, Training and supervising nurses administering neuropsychological tests to children, Developing SOPs for administration of different tests.

Principal Site Investigator, on a study titled *"An investigation of Health Surveillance Assistants'mental health care role in Malawi"* 2014 Funded by UKs Health Partnerships Scheme.

Principal Site Investigator, on a study titled *"Multiple caretaking in Austria and Malawi,*

The importance of various attachments for social development throughout childhood" Fundedby University of Vienna 2013

Part time Lecturer, Domasi College of Education. Responsibilities: Teaching Guidance andCounseling to secondary school teachers who are upgrading their studies 2010 to 2012.

Project Leader**,** "*Mental Health Advocacy and Promotion in Girls Secondary Schools"*. Funded by Young African Women Leaders Forum, September 2011 to August 2012. Responsibilities: Conducting Focus group discussions with student leaders, presenting common issues in mental health, administering questionnaires to students, interviewing teachers.

Trainer of Health Surveillance Assistants (HSAs), Zomba Mental Hospital, May 2010-September 2011. A project funded by The International Health Links Funding Scheme (IHLFS).Responsibilities: Curriculum development & review, Delivery and Evaluation of HSA Mental Health Care Training Programme.

Student Counsellor*:* Sam Houston State University Counselling Centre (US), 2009. Responsibilities: Counselling college students: Conducting mental status examinations, Intakes,Risk Assessments, Case Notes, and Treatment Planning.

Principal Investigator on a study funded by Organisation for Social Science Research in Easternand Southern Africa (OSSREA) titled, "Review and Analysis of psychological effects of sexual violence in women," 2007. Responsibilities: Data collection and analysis, monitoring and evaluation, report writing.

Supervisor on a Study funded by Liverpool School of Tropical Medicine, conducted by Dr. Kunkwenzu from February to July 2004. Looked at Quantitative and Qualitative Methods of Analyzing Sources of Health Care for Malaria Patients in Malawi. Research activities included: data collection, entry, and analysis.

Research Assistant at Center for Social Research (CSR), University of Malawi. A national wide survey on the relationship between Drug Abuse and H.I.V/AIDS in Malawi. January -July, 2004. Research activities: data collection (FGDs, Interviews & Questionnaire), entry, and analysis.

Student Research Associate for Save the Children (US) on a Community-Based Child Care of Orphans and Vulnerable Children (O.V.C.) project. Lived with a local family for a month observing and collecting data for my undergrad dissertation at a local daycare. September, 2002

INSTRUCTIONAL EXPERIENCE

Developmental Psychology
Child Psychopathology
Foundations of Psychology
Biological Bases of Behavior
Research Methods
Psychometrics
Projective Assessment
Community Psychology
Learning and Performance
Counseling Psychology
Cognitive Psychology
Psychology of Special Populations
Clinical Psychology
Personality and Behavior
Clinical and counseling Assessment
Guidance and counseling (at Domasi)

VOLUNTEER WORK

Counseling staff and students at Chancellor College, 2005 to present
Orienting Student Leaders & first year students at Chancellor College, 2005 to presentCounseling in and out-patients at Zomba Mental Hospital, May 2010 to April 2012 Counseling out-patients at Queen Elizabeth Central Hospital, September 2012 to 2015

AWARDS/GRANTS

U.S. Fogarty International Center (http://www.fic.nih.gov/Programs/Pages/hiv- aids-research-training.aspx) scholarship to pursue a Master of Health Sciences, Johns Hopkins School of Public Health. August 20015 – July 2016.

Young African Women Leaders Forum Small Grant through the Department of State US to conduct mental health awareness and advocacy in girl's secondary schools. September, 2011 toAugust 2012.

Fulbright Scholarship for a Master of Arts in Clinical Psychology, Sam Houston State University (USA), August 2007-September 2009.

20th Social Science & the 18th Gender Issues Research Grant from the Organisation for SocialScience Research in Eastern and Southern Africa (OSSREA), September, 2006. http://www.ossrea.net/publications/images/stories/ossrea/annual-report-2006.pdf

Malawi Government Scholarship for a Bachelor of Arts Degree, University of Malawi, May,1999-September 2003.
Girls Attainment in Basic Literacy & Education (GABLE) Scholarship for secondary school education, 1994 - 1998.

MEMBERSHIP

Medical Council of Malawi, Reg No. MCM/CLIN-PSYCH/0007
ICAS Employee and Organisation Enhancement Services Southern Africa (Affiliate)
Board Member of the Non Governmental Organisations Board (April 2021 – present)Board Member of Feed the Children US (Jan 2019-present)
Board member of Mentor to Mentor girls initiative (Jan2019-present)

PUBLICATION

Libous JL, Montañez NA, Dow DE, Kapetanovic S, Buckley J, Kakhu TJ, Kamthunzi P**, Maliwichi LA**, Vhembo T, Chawana TD, Nematadzira T and Donenberg GR (2021) IMPAACT 2016: Operationalizing HIV Intervention Adaptations to Inform the Science and Outcomes of Implementation. *Front. Reprod. Health* 3:662912. doi: 10.3389/frph.2021.662912

Gladstone, M., Lancaster, G., McCray, G., Cavellera V., Alves, C. **Maliwichi, L.,** Rasheed, M., Dua, T., Janus, M., Kariger, P.(2021). Validation of the Infant and Young Child Development (IYCD) Indicators in Three Countries: Brazil, Malawi and Pakistan. *Int. J. Environ. Res. Public Health* 2021, *18*(11), 6117; https://doi.org/10.3390/ijerph18116117

Mauluka, C., Lamba, T., Damte, T., & **Maliwichi, L.** (2021). Explaining Low-Risk Perception of Covid-19 Among Malawians. *The Journal of Development Communication*, *32*(1), 42-59. Retrieved from http://jdc.journals.unisel.edu.my/ojs/index.php/jdc/article/view/192

Boivin, M., **Maliwichi-Senganimalunje, L.,** Ogwang, L., Kawalazira, R., Sikorskii, A., Familiar-Lopez, I., Kuteesa, A., Nyakato, M., Mutebe, A., Namukooli, J., Mallewa, M., Ruiseñor-Escudero, H., Aizire, J., Taha, T., & Fowler M., (2019). Neurodevelopmental effects of ante-partum and post-partum antiretroviral exposure in HIV-exposed and uninfected children versus HIV-unexposed and uninfected children in Uganda and Malawi: a prospective cohort study. *Lancet HIV 2019.* http://dx.doi.org/10.1016/S2352-3018(19)30083-9

Wright, J. & **Maliwichi-Senganimalunje, L.** (2019) Pluralism and practicality: village health workers' responses to contested meanings of mental illness in Southern Malawi, Anthropology &Medicine, DOI: 10.1080/13648470.2018.1507103

Boivin, M. & **Maliwichi-Senganimalunje, L.** Wambuzi-Ogwang, L., Kawalazira, R., Sikorskii, A., Familiar-Lopez,I, Kuteesa, A., Mutebe, A., Nakitende, M., Mallewa, M., Ruisenor-Escudero, H., Aizire, J., Taha, T., & Fowler, M.G.(2018) Developmental and cognitive effects of type of antepartum and postpartum ARV exposure for Ugandan and Malawian PROMISE HIV-exposed versus unexposed children at age 12, 24, 48, and 60 months. Conference Oral Presentation: *The 22nd International AIDS Conference, Amsterdam- The Netherlands, 23-27 July 2018***.**

Chokotho, L., Mulwafu, W., Singini, I., Njalale, Y., **Maliwichi-Senganimalunje**, L., & Jacobsen K.H. First responders and prehospital care for road traffic injuries in Malawi. *Prehospital and disaster medicine.32(1):14-19.* February, 2017.

Boivin, M., **Maliwichi-Senganimalunje**, L. Nyakato, M., Sikorskii, A., Wambuzi-Ogwang, L., Kawalazira, R., Mallewa, M., Familiar, Ruisenor-Escudero, H., Aizire, J., Taha, T., & Fowler, M.G.,Neurodevelopment of Ugandan and Malawian PROMISE exposed and unexposed uninfected children at 12 and 24 months of age (abstract P_92). Conference Paper: *8th International Workshop on HIV Pediatrics held*

in Durban, South Africa on 15 & 16 July 2016.

Kauye, F. Chiwandira, C., Wright, J., Common, S., Phiri, M., Mafuta, M., ***Maliwichi-Senganimalunje, L.,*** & Udedi,

M. Increasing the capacity of health surveillance assistants in community mental health care in a developing country, Malawi: Genesis of pilot program and interim results. *Malawi Medical Journal Vol.23(3)* September, 2011.

Hunter E, **Maliwichi-Senganimalunje L**, Langfitt J, Chitimbe P, Mallewa M, Taylor T, Gladstone M. A qualitative study into the perceptions of what constitutes problematic child behaviour in Malawi. Poster presentation: British Academy of Childhood Disabilities, 2016

Kasayira, J., Zimba, C., Thyangathyanga, T., Jamba *L., **Senganimalunje*, L.,** & Jamu, E. Situational analysis of Psychology at Chancellor College, University of Malawi. *Zimbabwe Social Science Review Vol. 1 (2),* December 2010. *http://www.ssrct.org/publications/ZSSR/ZIMBABWE%20SOCIAL%20SCIENCES%20REVIEW%20VOLUME%201%20NUMBER%202.pdf*

Maliwichi-Senganimalunje, L. (2016). Mothers depressive symptoms and neurodevelopmental outcomes inMalawian and Ugandan Children at 12 months of age. Johns Hopkins University

Maliwichi-Senganimalunje, L. (2009). Adult attachment and coping styles related to college adjustment, Sam Houston State University.

Book chapters

Sengani, L. (2020). Principles of Assessment and Management in Mullin D.S. & Stewart, R.C. (Eds.). Malawi Quick Guide to Mental Health 1st edt. (pp. 20-31). Scotland-Malawi Mental Health Education Project

Manda, T., Jamu, E., Mwakilama, E., & **Maliwichi-Senganimalunje, L**. (2019). Internet Addiction and Mental Health among College Students in Malawi in Ndasauka, Y. & Kayange, M. (eds.), Addiction in South andEast Africa- Interdisciplinary approaches, (pp. 261-279). Switzerland, Palgrave Macmillan. https://doi.org/10.1007/978-3-030-13593-5_16

REFEREEES

Associate Prof. Judy Bass, Johns Hopkins School of Public Health, *Email:* jbass1@jhu.edu

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Prof. Macpherson Mallewa, Principal, University of Malawi, College of Medicine

Phone: (265) 995835083 Email: mmallewa@medcol.mw

Dr. Marsha Harman, Psychology Department. Sam Houston State University. US

Phone: (936) 294 1174, *Email: EDU_MJH@SHSU.EDU*

CURRICULUM VITAE

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LAST UPDATED: 13th August, 2021

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PERSONAL DETAILS

Surname: Kokota

First name: Demoubly

Date of birth: 29th September 1987 **Nationality:** Malawian

Languages: English and Chichewa

ACADEMIC QUALIFICATIONS

1. **Currently in progress from May 2018: Ph.D. in Mental Health,** *University*

of Malawi,College of Medicine.

2. **2014-2015: Masters in Public Mental Health,** *University of Cape town*
3. **2006- 2009: BACHELOR DEGREE IN SOCIAL SCIENCES WITH A DISTINCTION (MAJORING IN PSYCHOLOGY),**

University of Malawi- Chancellor College

4. **2000- 2004: Malawi schools certificate of education (MSCE),** *Viphya PVT Secondary school*

OTHER RESEARCH CERTIFICATES

- **2017: Clinical trial coordination,** *Research Support Centre, College of Medicine*
- **2015: Introductory Short Course in Postgraduate Research Methods (QualitativeModule),** *Research Support Centre, College of Medicine*
- **2015: Introductory Short Course in Postgraduate Research Methods (Quantitative, Professional Support, and Biomedical),** *Research Support Centre,College of Medicine*
- **2014: Clinical Data Analysis,** *Research Support Centre, College of Medicine*

WORK EXPERIENCE

1. ***December 2020 to date**: **Full-time Psychology Lecturer,** University of Malawi,Chancellor College*
   - ❖ Teaching and assessing psychology courses
   - ❖ Conducting mental health-related research
   - ❖ Supervising undergraduate research projects
2. **January 2016 to Dec 2020: Part-time Psychology lecturer,** *University of Malawi,Chancellor College*
3. **2019-2021: Part-time abnormal psychology lecturer, Master of Arts in CommunityPsychology,** *Malawi Assembly of God University (MAGU)*
4. **January 2016 – December 2018: Research Coordinator (CHAIN study),** *University ofMalawi, College of Medicine*
5. **2011-2016: Project Coordinator,** Scotland-Malawi Mental Health Education Project (SMMHEP), *University of Malawi, College of Medicine*.
6. **2013: Consultant: External Evaluator**, Nkhoma Safe Motherhood Program (NSM) A Community and Facility-based Safe Motherhood Program Nathenje Health Area Lilongwe District Malawi.
7. **2010: Quality control supervisor,** *National statistical office (NSO) in the 2010 Malawi Demographic and health survey*
8. **2009: Research assistant in the Malawi national survey of mental health priorities** conducted by the ministry of health in conjunction with the College

of medicine and the national commission for science and technology. Worked under **Dr. Chiwoza Bandawe** of the mental health department, College of Medicine

9. **2009: Research assistant in the Malawi national survey of trauma and rehabilitation**. Worked under Dr. Wakisa Mwalwafu of the surgery department (Queen Elizabeth Central Hospital).

OTHER EXPERIENCES

2011-2016: Principal organizer of six Annual Malawi Mental Health Research and Practice Development Conferences, *under University of Malawi, College of Medicine*

RESEARCH GRANTS

2020: Landscape of Mental Health Services for Psychosis in Malawi: Principal Lead for the Wellcome Trust Psychosis Flagship Report: Landscape of Mental Health Services for Psychosis in Malawi, *hosted by University of Malawi, College of Medicine*

2021: Psychosis Recovery Orientation in Malawi by Improving Services and Engagement (PROMISE): Part of a team that has successfully secured a grant from Wellcome Innovations for a five year study called PROMISE.

PUBLICATIONS

Manda-Taylor, L., E. Umar, R. C. Stewart, M. Kufankomwe, G. Chorwe-Sungani, O. C. Mwale,

D. Kokota, J. Nyirenda, K. Kulisewa, and M. Pickersgill, "Developing Biopsychosocial Researchon Maternal Mental Health in Malawi: Community Perspectives and Concerns," Ethics & Human Research 43, no. 4 (2021): 11-19. https://doi.org/10.1002/eahr.500095

Kokota, D., Lund, C., Ahrens, J., Breuer, E., Gilfillan, S. (2020). Evaluation of mhGAP trainingfor primary healthcare workers in Mulanje, Malawi: a quasi-experimental and time-series study. Int J Ment Health Systems, 14:3. https://doi.org/10.1186/s13033-020-0337-0

Ahrens, J., Kokota, D., Mafuta, C. et al. (2020). Implementing a mhGAP-based training and supervision package to improve healthcare workers' competencies and access to mental health carein Malawi. Int J Ment Health Syst 14, 11 (2020). https://doi.org/10.1186/s13033-020-00345-y

Kokota, D. & Stewart, R. (2020). Landscape of Mental Health Services for Psychosis inMalawi: Submitted to Wellcome Innovations in September 2020.

2020 Malawi quick guide to mental health handbook. Scotland-Malawi Mental HealthEducation Project (SMMHEP).

Gleadow Ware, S., Daniel, A., Bandawe, C., Mulaheya, P., Nkunika, S., Nkhoma, D., Kokota,D., Stewart, R., Voskuijl, W (2018). Perceptions and experiences of caregivers of severely malnourished children receiving inpatient care in Malawi: An exploratory study. Malawi Medical Journal 30(4). DOI: https://10.4314/mmj.v30i3.7.

Crabb, J., Stewart, R.C., Kokota, D. et al. Attitudes towards mental illness in Malawi: a cross-sectional survey. BMC Public Health 12, 541 (2012). https://doi.org/10.1186/1471-2458-12-541

Kokota D. Viewpoint: Episodes of mass hysteria in African schools: a study of literature.Malawi Med J. 2011 Sep;23(3):74-7. PMID: 23448000; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3588562/

Kokota, D & Dube, A. (2013). End of Term Evaluation for Nkhoma Safe Motherhood Program (NSM) A Community and Facility-based Safe Motherhood Program NathenjeHealth Area, Lilongwe District

REVIEWER

Malawi medical journal: Knowledge and attitude towards mental disorders among adults inan urban community in southwest Nigeria

BMJ Global Health: Engaging Culture and Context in mental health Gap Action Programme(mhGAP) Implementation: Fostering Reflexive Deliberation in Practice

HOBBIES

1. Reading
2. Research

Referees:

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Clinical psychologist
College of Medicine
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DR. ROBERT STEWART,

Psychiatrist
College of Medicine
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Mr. L. Jamba

Head of Department,

Psychology Department,

Chancellor College.
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Dr. Sheila GilfillanG

Psychiatrist

College of Medicine

Email: Sheila.gilfillan@gmail.comCell: 0888 63 28 60/0991 05 80 74

EDISTER S. JAMU, PHD.

University of Malawi, Chancellor College, Department of Psychology, P.O. Box 280,

Zomba,MALAWI

E-mail: ejamu@cc.ac.mw **Cell:** +265 (0) 888 310 343.

QUALIFICATIONS

ACADEMIC QUALIFICATIONS:

- PhD in Business and Economic Studies (Work and Employment Relations) obtained from University of Leeds Business School in the United Kingdom. Thesis- "An institutional analysis of academic talent management in Malawian universities". eThesis link: http://etheses.whiterose.ac.uk/18858/
- MSc (*Industrial & Organizational Psychology*) with distinction, The University of Western Australia.
- Graduate Diploma of Science (*Psychology*) with merit, The University of Western Australia.
- Bachelor of Social Science Degree (Psychology and Demography major) with credit, The University of Malawi.

SHORT COURSES/TRAININGS:

- Training of trainers (Gender, HIV/AIDS); Leadership; Grants Management; Management;Environment; Learning to Teach.

PROFESSIONAL CERTIFICATION:

- SHL Occupational Testing Certificate – Professional use and interpretation of SHL AbilityTests and Interest Inventories.

PROFESSIONAL MEMBERSHIP:

- International Affiliate (Membership # 32685591): American Psychological Association.
- Member: Organization for Social Science Research in Eastern and Southern Africa(OSSREA) Malawi Chapter.
- LEAD (Leadership for Environment and Development) Fellow: LEAD Africa Fellowship Programme, Cohort 16.

WORK EXPERIENCE

- Senior Lecturer of Psychology and Head of Department of Psychology; Faculty Postgraduate Programmes Coordinator in the Faculty of Social Science at Chancellor College, University ofMalawi; Teaching Assistant at the University of Leeds in the UK.
- Principal Hospital Administrator, Senior Human Resource Management Officer, and Human Resource Management Officer in Government Departments.
- Conducting and managing research projects.
- Experienced trainer and facilitator of team building activities.
- Experience in curriculum review and design; talent management; designing and delivering various management, leadership, group/team dynamics, gender, HIV/AIDS, and environmenttraining.

RESEARCH PROJECTS/CONSULTING WORK

- **Consultant**: Mapping of Community of Practice of Social Scientists on HIV/AIDS in Malawi (Blantyre) for Stichting Amsterdam Institute for Global Health and Development (AIGHD): Developing an inventory of Community of Practice of Social Scientists in Malawi (Blantyre) working on HIV/AIDS, Convening a workshop of the Community of Practice of Social Scientists on HIV/AIDS, Authoring a White Paper.
- **Co-Local Consultant** (Alongside Dr Foster Kholowa): End-Line Evaluation of Save the Children's Zomba Sponsorship Programme for HANZ Consulting: Data collection using Key Informant Interviews, Focus Group Discussions, Questionnaires, Facilitated Discussions, MostSignificant Storytelling, and Observations.

- **Researcher** on a six-member research team (Alongside Professor Alister Munthali; Professor Blessings Chinsinga; Dr Tiyesere Chikapa, Ms Elita Chamdimba; & Ms Juba kafumba): Formative study on violence against women and girls for COFEY: Qualitative data collectionusing community workshops and key informant interviews, Data coding in NVivo software.
- **Co-National Investigator** (alongside Dr Boniface Dulani and Mr John Tengatenga). Development of the National Anti-Corruption Strategy II (NACS II): Facilitating stakeholder consultation workshops, Preparation of background documents: (1) The state of corruption inMalawi; (2) The political economy of anti corruption in Malawi; (3) A synthesis report of theconsultation meetings, Member of the NACS task force; and member of the NACS drafting committee which developed the National Anti-Corruption Strategy.

PUBLICATIONS

REFEREED BOOK CHAPTERS

Jamu, E.S., Lamba, T., & Mhango, W. (2021). The social psychology of disability in higher education: Examining the experiential dimension of disablement in Malawi. In Manthalu, C., Chikaipa, V., and Gunde, A. (eds.) *Education, communication and democracy in Africa*. Routledge. https://www.taylorfrancis.com/chapters/edit/10.4324/9781003125440-15

Jamu, E.S., Manda, T.D., & Chirwa, G.C. (2020). Moving beyond the rhetoric: Who really Benefits from investments in digital infrastructure in low income and low literacy communities in Malawi? In Ragnedda, M. & Gladkova, A. (eds) *Digital Inequalities in theGlobal South* (pp. 223-246). Palgrave MacMillan, Cham.https://link.springer.com/chapter/10.1007/978-3-030-32706-4_11

Manda, T.D., **Jamu, E.S**., Mwakilama, E. & Senganimalunje, L. (2019). Internet addiction and mental health among college students in Malawi. In Ndasauka, Y. and Kayange, G. (eds) Addiction in South and East Africa. Palgrave MacMillan. Switzerland. DOI:

https://doi.org/10.1007/978-3-030-13593-5

REFEREED JOURNAL ARTICLES

Bello, F.G., Kamanga, G. & **Jamu, E.S.** (2019). Skills gaps and training needs in the tourism sector in Malawi. *African Journal of Hospitality, Tourism and Leisure; 8(4).* https://www.ajhtl.com/uploads/7/1/6/3/7163688/article_25_vol_8_4_2019_malawi.pdf

Chirwa, G., Sithole, L. & **Jamu, E.S**. (2019). Socio-economic related inequality in Comprehensive knowledge about HIV in Malawi. *Malawi Medical Journal; 31(2); 104-*

111. DOI: https://dx.doi.org/10.4314/mmj.v31i2.1

Kayuni, S & **Jamu, E**. (2015) Failing witnesses in serious and organized crime: Policy perspective to Malawi's witness protective measures. *Commonwealth Law Bulletin*. DOI:https://www.tandfonline.com/doi/full/10.1080/03050718.2015.1074086

CONFERENCES

Jamu, E.S. & Kumbambe, A. (2021, forthcoming). Rethinking the academic talent imperative: Lessons from COVID-19 on academic talent development and academic work (re-) organization for Malawi's public universities. SAAPAM 20th Annual Conference; 28 Sept-1 Oct 2021; Sun City, Rustenburg, South Africa.

Jamu, E.S. & Chikasamba, H. (2018). Academic talent development in the face inclusive higher education in Malawi. 6th Annual Disability Rights Conference; 6-7 November 2018; Centre for Human Rights, University of Pretoria, South Africa.

Jamu, E.S. (2018). Making sense of the state of academic talent management in Malawian universities using metaphors: Academics' perspectives. International Conference on Higher Education; 27-29 June 2018, Sunbird Nkopola Lodge, Mangochi, Malawi.

Jamu, E.S. (2015). Enhancing performance outcomes in education: Teacher training and motivation. 19thConference of Commonwealth Education Ministers, Youth Forum; 22-26June, Atlantis Paradise Island, The Bahamas.

Jamu, E.S. (2015). In the shadows of academics: Barriers to non-academic talent development at a federal university in Malawi. CERIC Doctoral Conference, 13th May,Leeds University Business School, United Kingdom.

CURRICULUM VITAE Alex Zumazuma

a. Personal information

Kamuzu University of Health Sciences (KUHES)
P/bag 360
Blantyre 3
alexzumazuma@gmail.com
0994742763
| Nationality: Malawian **|** DOB: 07 August 1991 **|** Gender: Male

b. Skills

Research, Communication, People management, leadership

c. Education

University of Malawi (College of Medicine) Blantyre, Malawi

1. Master of Medicine in Psychiatry April 2017-Present

- Acute psychiatric services at Queen Elizabeth hospital and Zomba mental hospital
- Management of chronic psychiatric conditions
- Psychotherapy
- Community psychiatry
- Research

2. Bachelor of Medicine, Bachelor of Surgery Jan. 2010 – May 2014

- Research
- Family medicine
- Clerkship in community health
- Clerkship in internal medicine
- Clerkship in Paediatrics and child health
- Clerkship in surgery

d. Experience

1. SUPERNUMERARY REGISTRAR UNIVERSITY OF CAPETOWN 1st June,2019- September,2021

- Acute psychiatric services (Valkenberg hospital)
- Psychiatric Clinical liaison services (Groote Schuur hospital)
- Inpatient therapeutic services (Groote Schuur hospital)
- Child and adolescent psychiatry (Red cross war memorial hospital)
- Forensic psychiatry (Lentegeur hospital)
- Psychogeriatrics (Stikland hospital)
- Addiction psychiatry (Groote Schuur Hospital and Stikland)

2. UNIVERSITY OF MALAWI COLLEGE OF MEDICINE

Assistant lecturer in the Department of Mental Health March, 2017- Present

3. **LILONGWE DHO September, 2016-february,2017**

- Part of district management team (served as District Medical officer (DMO))
- Patient care (both inpatient and outpatient department)

4. **QECH Blantyre, Malawi**

Medical Officer Feb. 2016 – August
Duties include assessing patients, prescribing treatment and follow up plans

- 1. Adult emergency and trauma centre.
- 2. Psychiatry (not allocated to the department but attends clinics twice a week during my free time)

5. **QECH Blantyre, Malawi**

Intern Medical Doctor Aug. 2014 – Jan. 2016
Duties included assessing patients across all health departments i.e., surgery, medicine, paediatrics, and obstetrics and gynaecology.

6. **Blantyre DHO Covid-19 psychosocial support March 2020- present (volunteer)**

Offering supportive psychotherapy to covid-19 patients
Creating covid-19 messages on psychosocial impact and support

7. **Churches action in relief and development (CARD) June,2020 (volunteer)**

Organising and facilitating Training for religious leaders on the psychosocial impact of covid-19

8. **Britam Insurance Company (august,2021**)

Facilitation of seminar on stress at workplace

9. Ministry of Gender Blantyre, Malawi

Research assistant Sep. 2014 – Nov. 2014

10. **Society Of Medical Doctors Chikwawa, Malawi**

It was a volunteer position in which I provided medical support to victims of floods in the Southern region of Malawi in 2015.

11. **College of Medicine Aids Counselling and Testing Society College of medicine 2012-14**

Served as a publicity secretary and advocated for prevention in secondary schools

Achievements/Award

Student exchange Programme (University of Dundee, Scotland) in August, 2013
Scotland Malawi mental health partnership scholarship for MMED in Psychiatry

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