FINAL PROPOSAL TO GLOBAL BRIDGES

Project ID: **13448675**

Project title: **Training Community Health Workers in Rural Uganda to Introduce Stop Smoking Interventions in the Context of a Lung Health Awareness Campaign**

Organisation: **International Primary Care Respiratory Group**

A. Main Section of the proposal (not to exceed 12 pages):

B.1 Overall Goal & Objectives:

The goal of the project is to train community health workers (CHWs) and health care workers in Masindi District in rural Uganda about lung health and to develop educational materials for them to use in raising awareness, intervening to stop tobacco use and promoting other actions to improve lung health in their local communities.

The objectives of the project are to:

1. Develop a cascading and sustainable 'train the trainers' module that will be used to train Masindi District community health workers (CHWs) and health care workers in improving lung health including facilitating stopping tobacco use and reducing exposure to indoor biomass smoke.
2. Create with CHWs educational materials that they can use with their local communities to support people to stop using tobacco and reduce their other risks to lung health problems.
3. Train CHWs and health care workers in supporting people to stop using tobacco through interventions that are adapted to the local cultural and economic conditions and are feasible to implement in the context of Masindi District.
4. Provide on-going support to CHWs using mobile telephone technology.
5. Integrate these activities into a larger International Primary Care Respiratory Group (IPCRG) supported programme to improve lung health including physical activity and rehabilitation.
6. Identify and share the learning from the project using the Global Bridges network and the IPCRG knowledge platform in order to build capacity for interventions that facilitate stopping tobacco use in other low and middle income countries (LMICs).
7. Contribute to developing the evidence base on effectiveness and cost-effectiveness of interventions to facilitate stopping tobacco use in LMICs.

The proposed project addresses the pressing need to educate people in Masindi District in Uganda about the dangers of tobacco use and exposure to second hand smoke. Masindi is a rural area of a low income country with poor health infrastructure and tobacco growing is an important source of income. Because we have identified high levels of exposure to other forms of indoor air pollution including biomass fuel smoke and smoke from drying tobacco leaves, education needs to address these factors too. Therefore, our project will adopt a holistic lung health approach which encompasses the full range of risk factors and associated causes of mortality and morbidity, including chronic obstructive pulmonary disease (COPD), lung cancer, tuberculosis, asthma and other non-communicable diseases (NCDs).

The population of Masindi District is predominately rural and widely dispersed. Health care infrastructure is well organised but sparse and many people have limited access to health care professionals. Therefore our proposed project will use CHWs as local champions of smoking cessation. We have already worked with the communities and CHWs in a burden of disease survey, as part of the FRESH AIR Uganda initiative, which identified the magnitude of the community's exposure to smoke and the prevalence of COPD. The CHWs will be trained in lung health and interventions to facilitate stopping tobacco use based on peer counselling and support. They will also be involved in developing educational materials to support their interventions that are adapted to specific cultural and tribal practices, which are often

extremely localised. Educational resources will also need to reflect the way that gender, age and socio-economic status influences exposure to risk factors. In addition, we will test how best to support CHWs with mobile phone technology throughout the project.

The proposed project will use interventions to facilitate stopping tobacco use for which there is clear evidence of effectiveness. Because the evidence base of effectiveness for interventions on smoking cessation is weak for LMICs, we will adapt behaviour change interventions for which the evidence of effectiveness is very robust in other contexts.[1] In adapting interventions we will address specific factors relating to the capacity of the public health care system in Masindi District and the lack access to pharmacotherapy and behavioural support for smoking cessation.

The IPCRG has a track record of working in Masindi District. We have already established excellent working relationships with key senior health staff and we have set up financial and management systems that been shown to be effective. In addition, the IPCRG has an extensive international network that it will use, together with the Global Bridges network, to extend the learning to colleagues in other rural low income areas such as Pakistan and Bangladesh, parts of India, Eritrea and Kyrgyzstan. Therefore, this proposal meets the overall requirements of the RFP as it is a collaboration across multiple countries and across regions. Our proposed project also aligns with the RFP's focus on LMICs because it takes place in Uganda, which according to World Bank figures ranks as the world's 16th poorest country.

B.2 Technical Approach:

B.2.1 Current Assessment of need in target area:

Uganda ranks as the world's 16th poorest country according to World Bank figures. In LMICs COPD and other respiratory diseases are an increasing health problem. At present COPD is the fourth leading cause of death, and by 2025 it is predicted to become the third, by which time it will surpass HIV/AIDS in Africa.[2]

In addition, while tuberculosis is often not considered in relation to the tobacco epidemic in high income countries, it is an important factor in LMICs. The World Health Organization (WHO) has concluded 'recent research has demonstrated that tobacco smoking is one of the most important risk factors that favours the progression from latent TB infection to pulmonary disease, increases the probabilities of relapse after TB treatment, and increases TB case fatality. Any reduction in the prevalence of tobacco smoking should be expected to bring about collateral benefits in the control of the TB problem'.[3] Uganda is one of the 22 high TB burden countries that account for about 80% of the world's TB cases. It was also among the 6 countries that reported lower than a 85% treatment success rate. [4]

The IPCRG has been studying the specific risk factors contributing to respiratory diseases in LMICs and exploring how to develop context-adapted treatment and prevention through its FRESH AIR programme that currently covers Uganda, Vietnam and Kyrgyzstan.[5] Our FRESH

[1] Munabi-Babigumira S, Fretheim A, Øverland S. (2012) Interventions for tobacco control in low- and middle-income countries: Evidence from Randomised and Quasi-randomised Studies.
[2] World Health Organization. (2008) World Health Statistics
[3] WHO / The Union (2007) A monograph on TB and tobacco control: joining efforts to control two related global epidemics
[4] WHO, (2013) Global Tuberculosis Report
[5] See http://www.theipcrg.org/display/RES/FRESH+AIR for more information about the FRESH AIR programme.

AIR work in Masindi, Uganda, is a WHO-Global Alliance against chronic Respiratory Disease (GARD) demonstration project. As part of this, the IPCRG has undertaken an in-depth qualitative study of the impact of chronic respiratory symptoms in the Masindi district of Uganda.[6] This FRESH AIR study used focus group discussions with 10–15 members of the community in 10 randomly selected villages.

Masindi District, which is located in the mid-western part of Uganda, has a predominantly rural population, with only 5.4% of the residents living in urban areas. The district population in 2010 was estimated at approximately 370,000. Masindi District has a diverse ethnic composition of 55 tribes, with the dominant tribes – the Banyoro and the Lugbara – forming about 60% of the population.[7] Large parts of Masindi district are tobacco-growing areas and it is considered an economically important activity.

The IPCRG 's recent FRESH AIR study in Uganda concluded that smoking prevalence in men is 34%. In tobacco-growing areas most men and many of the elderly women smoke tobacco. It is their culture and they have easy access to tobacco products. Cannabis is smoked predominantly by young men. Young children smoke too, picking up the pieces thrown away by their fathers. Most of the adults smoke tobacco leaves wrapped in paper (simonko), some mix tobacco with ashes and place it under their tongues, and others – especially men who can afford it – smoke cigarettes. The study found that men smoke anywhere they want, including indoors in the presence of children, exposing their families to tobacco smoke every night. There is a perception that they cannot be challenged as they are the head of the family and can do whatever they want.

In addition to smoking tobacco, the drying of tobacco leaves can contribute to respiratory symptoms. Our FRESH AIR study identified that tobacco leaves were dried in sealed houses using an open fire. Both adults and children kept watch inside to ensure the leaves did not catch fire. Some adults had been exposed to that smoke for more than 30 years.

In addition, this study found that 93% of the population was exposed to indoor biomass smoke. Generally speaking, wood is the major source of biomass fuel for cooking and heating in Masindi. The poorest people in the rural areas are most exposed to biomass fuel smoke as they cannot afford a separate cooking place. Societal roles are largely determined by gender, with the result that women are much more exposed to biomass smoke than men, starting at a young age. Furthermore, our study identified that each tribal group has distinctive practices when it comes to staple food, cooking tradition, sleeping areas, and smoking habits, all of which significantly affect levels of exposure to biomass fuel smoke and tobacco smoke.

The study found that respiratory symptoms were common among men, women, and children. In several communities respiratory symptoms were stigmatised as they were often associated with tuberculosis. Few people are aware of the relation between smoke and respiratory health. The baseline of knowledge is described in a video we made with a Ugandan TV company to document our work (http://www.theipcrg.org/display/HOME/2013/09/01/Fresh+Air+Uganda+Video).

[6] van Gemert F, Chavannes N, Nabadda N, Luzige S, Kirenga B, Eggermont C, de Jong C, van der Molen T. (2013) Impact of chronic respiratory symptoms in a rural area of sub-Saharan Africa: an in-depth qualitative study in the Masindi district of Uganda. *Prim Care Respir J* 2013;**22**(3):300-305. DOI: http://dx.doi.org/10.4104/pcrj.2013.00064

[7] Male-Mukasa JB. (2010) Uganda National Household Survey, Uganda Bureau of Statistics

Healthcare infrastructure and access to healthcare professionals is limited in Masindi District. At the village level CHWs, known locally as the village health team, offer health education on maternal and child health issues, malaria, pneumonia and diarrhoea. CHWs have no clinical training and receive incentives, rather than a salary. Primary health care services are available in 27 health centres which are generally staffed by a doctor, clinical officers and nurses. There is one hospital, based in Masindi town which acts as a referral hospital for the whole district. Even many senior clinical staff have limited knowledge of chronic lung disease. COPD is not included in Ugandan Clinical Guidelines 2013.

In addition, within the Ugandan health system there is no access to pharmacotherapy for tobacco dependence and the availability of staff with the capacity to undertake motivational interviewing and to offer behavioural support is limited. The only smoking cessation service currently operating in Uganda is a small scale counselling service at the national mental health hospital in the capital city Kampala which is part of a bigger programme on alcohol and substance abuse. There has not been any effort to extend this to community health workers yet.

The IPCRG undertook further qualitative research in Masindi district in January 2014 to explore with key stakeholders how to develop an intervention that addressed the risk factors for respiratory health and specific contextual characteristics identified in the FRESH AIR study. This included interviews with senior district government officials including the Secretary for Health and the District Medical Officer; senior consultants at Mulago Hospital (the main hospital in Uganda); doctors and nurses in the district; community health workers; village leaders; and villagers.

Stakeholders emphasised the need to teach health care workers at all levels about lung health, the important risk associated with tobacco smoking and smoke exposure and to train them in how to support smoking cessation. This requires the development of training materials in a variety of formats. Training needs to include all levels of healthcare professionals because the existing knowledge base is low. Senior clinical staff need to be included as the healthcare system is organised hierarchically so their support for changing practices is key. Because CHWs are an important source of health messages in rural areas with poor access to health care facilities, they also need awareness raising and training.

In addition to providing training, an on-going system to provide continued support for CHWs and health care workers is needed. Evidence shows that mhealth and in particular texting, offers a cost effective and feasible way of doing supporting CHWs. [8] Therefore all health care workers and CHWs will be supported with information through mHealth. Stakeholders also suggested that lung health and smoking cessation should be included in the regional continuing medical development programme.

The qualitative research we undertook in Masindi district in January 2014 also highlighted the need for materials that CHWs and other health care staff can use to educate and raise awareness of lung health and support smoking cessation in their local communities. Local radio was suggested as a cost-effective way to convey messages and keep them alive in people's minds.

The proposed project's primary audience are CHWs and health care workers who at present have very limited ability to support people to reduce their risks of increased morbidity and

[8]DeRenzi, B. Et al. (2012) De Improving Community Health Worker Performance Through Automated SMS

mortality from respiratory diseases worsened by tobacco smoking and exposure to indoor biomass fuel because they lack the knowledge and tools to do so. The proposed project will provide training to this primary audience in how to provide smoking cessation support that is evidence based and adapted to the local context. This will include further analysis of motivation to quit, with particular emphasis on the role of gender in smoking and the exposure of children to second-hand smoke. It will also provide educational materials that the CHWs can use in their interactions with members of their local communities in Masindi district. The messages in these materials will be tested with local people and refined.

The local people with whom the CHWs and health care workers intervene, either through one to one patient interactions or through community-based health education sessions, will be the direct beneficiaries of the project. At present there is no education on lung health and the risks of tobacco use and no support available to facilitate people to stop using tobacco. They will be enabled to stop using tobacco and to reduce their exposure to other risk factors for COPD, asthma, TB, lung cancer and other respiratory and chronic diseases.

B.2.2 Intervention Design and Methods:

Our proposed project has been designed to address the specific needs identified in the research outlined above. In doing so we have developed a highly innovative approach which is adapted to the local context and will be based on evidence of what works in smoking cessation. The established needs, how these will be addressed and the results are described below.

Established need 1: Heath care staff at all levels have limited knowledge of smoking cessation and lung health.

Method: The project design recognises that it is important to build knowledge and capacity on lung health at all levels of the health care system in Masindi district. It implements the IPCRG's educational strategy that recognises the need to equip those who will be training their colleagues with requisite training skills. The project will teach health care workers and CHWs about lung health and the risks of smoking, and provide training in how to support behaviour change training. It will use a cascading approach whereby the project team will train selected groups of staff from all levels about lung health and how to provide support for smoking cessation. These trained staff will repeat this with their colleagues at the different levels of the Masindi health care system and throughout the district until 50 health care workers and 46 CHWs have been trained. Support from senior clinical staff is essential in order for more junior health care workers and CHWs to prioritise lung health and our project will build on our already excellent relationships with senior district health officers and clinicians to ensure this is in place

The project team will develop, test and validate the training materials and adapt them based on feedback. Their use will help ensure that the training messages remain accurate and the quality of the training is maintained. The training will also be incorporated into on-going professional development for health care workers and endorsement from key organisations will be sought. This cascaded approach will enable continuation after the completion of this project, thus contributing to the development of a sustainable system for developing and maintaining capacity on smoking cessation and lung health within Masindi District. The training design will build on the evidence base for effectiveness in educating health care workers. This shows that education must be carefully designed, multifaceted, engage health professionals in their learning, provide ongoing support, be sensitive to local circumstances,

and ideally be delivered in combination with other quality improvement strategies. In addition, to be effective, educational interventions must consider the complex healthcare systems within which they operate.[9] The training design will also incorporate recent evidence that emphasises the importance of equipping CHWs with technical and communication skills and confidence in using those skills.[10]

Result: Health care staff at all levels, including CHWs, will have increased awareness about lung health, the risk factors for poor lung health including exposure to smoke, and be trained in behaviour change to support smoking cessation.

Established need 2: Health care infrastructure is sparse and the population dispersed in rural areas so much of the population has limited access to trained health care professionals.

Method: CHWs will be used as local champions of smoking cessation. CHWs are community based workers that help individuals and groups in their own communities to access health and social services, and educate community members about various health issues. Evidence has shown that CHWs play a crucial role in delivering primary health care in such settings. Their role is usually focused around child health but a recent WHO study recommended they should be trained in the prevention and treatment of communicable and non-communicable diseases.[11] Given that CHWs have limited knowledge about health and often have a low level of formal education, the project will design training tailored to their needs and their role in the health care system. Recent research has emphasised that on-going support for CHWs is essential if they are to work effectively.[12] Mobile telephone technology will be used to support and maintain contact with CHWs throughout the lifetime of the project. IPCRG already has experience of training and working with CHWs in this region as part the FRESH AIR study. We have already verified that they have and use mobile phones for texting.

Result: Large numbers of people at risk of harm from tobacco smoking and other factors damaging their lung health will receive basic education in reducing their exposure to risk factors through their regular interactions with CHWs.

Established need 3: Tobacco smoking interacts with other risk factors that are damaging to lung health.

Method: Our project will adopt a whole systems approach to lung health which recognises that in poor communities with high exposure to indoor biomass fuel, tobacco growing and drying in their homes, and smoking a range of substances, the harm caused by tobacco smoke cannot be managed in isolation. Therefore, the essential precursor to effective smoking cessation interventions is to raise awareness of lung health, the risks of smoke (both tobacco and biomass fuel). Training of health care workers and CHWs and educational materials developed for them to use with members of the local community will reflect this.

[9] McDonnell, J, et al. (2012) Effecting change in primary care management of respiratory conditions: a global scoping exercise and literature review of educational interventions to inform the IPCRG's E-Quality initiative

[10] Maternal and Child Health Integrated Program (MCHIP). (2013) Developing and Strengthening Community Health Worker Programs at Scale: A Reference Guide for Program Managers and Policy Makers

[11] Zulfiqar A. et al. Global Experience of Community Health Workers for Delivery of Health Related Millennium Development Goals: a Systematic Review, Country Case studies, and Recommendations for Scaling Up

[12] Maternal and Child Health Integrated Program (MCHIP). (2013) Developing and Strengthening Community Health Worker Programs at Scale: A Reference Guide for Program Managers and Policy Makers

Result: Increased understanding amongst health care workers and CHWs and local communities with whom they work about lung health and how to reduce their exposure to risk factors.

Established need 4: In Masindi district culture, gender, socio-economic status and the importance of tobacco growing as a source of income influences exposure to tobacco smoke and other risk factors.

Method: The project will incorporate messages to address economic concerns related to tobacco growers. It will also explore and address local health beliefs, traditions and cooking culture where these are harmful to lung health. IPCRG's experience of working in this region has shown us that messages need to be graphic and optimistic, given low life expectancy, low levels of self-efficacy amongst the individuals with chronic disease and a perceived dependence on medicines rather than non-pharmacological approaches to improve health. The messages will also emphasise how changes now can improve their children's health, which is a common concern of the community. Messages and materials will be piloted with small groups before being rolled out to test their effectiveness.
Result: Training for CHWs and the educational materials developed for them to use with their communities will be accessible and appropriate.

Established need 5: Improved evidence of the effectiveness and cost-effectiveness of interventions to facilitate stopping tobacco use in LMICs.

Method: The evidence base for both the effectiveness and cost-effectiveness of clinical smoking cessation interventions is strong in high income countries. The evidence base for low income countries is much weaker. There is a need for more rigorous studies conducted in LMICs, s with a particular focus on delivery strategies of therapies that have been successful in high income settings.[13] Our proposed project includes a process and outcomes evaluation that will identify lessons to contribute to the evidence base.

Result: An article based on the project evaluation will be submitted to a peer-reviewed journal, aiming to contribute to the development of this evidence base.

Established need 6: Evidence-based interventions for CHWs to use in their interactions with people to facilitate stopping tobacco use.

Method: The proposed project will use interventions to stop tobacco use for which there is clear evidence of effectiveness. Because the evidence base is weak for LMICs, we will adapt interventions that for which the evidence of effectiveness is very robust in other contexts. [14] These will include the Very Brief Advice (VBA) online module from the UK National Centre for Smoking Cessation Training. [15] The VBA was developed for use in primary care. It involves a 30-second smoking cessation intervention using behaviour change techniques that are supported by meta-analysis including integrative theories of motivation such as

[13] Munabi-Babigumira S, Fretheim A, Øverland S. (2012) Interventions for tobacco control in low- and middle-income countries: Evidence from Randomised and Quasi-randomised Studies. Report from the Norwegian Knowledge Centre for the Health Services 03− 2012. Oslo.
[14] Munabi-Babigumira S, Fretheim A, Øverland S (2012) . Interventions for tobacco control in low- and middle-income countries: Evidence from Randomised and Quasi-randomised Studies. Report from the Norwegian Knowledge Centre for the Health Services 03− 2012. Oslo.
[15] See http://www.ncsct-training.co.uk/player/play/VBA

PRIME theory.[16] The VBA uses the 3 As approach: Ask; Advise; Act. This is applicable to countries without a supply of pharmacotherapies as the 'Act' can be behavioural support and self-help materials. Because the VBA intervention is brief and simple, it is adaptable for use by healthcare workers with limited training, including CHWs. We will also make use of CHWs capacity to provide peer counselling and support which is one of the roles which evidence suggests they are best-placed to fulfil.[17]

Result: Evidence-based interventions will be adapted for this context.

B.2.3 Evaluation Design:

As this is an innovative project, we expect to carry out a robust evaluation to ensure we capture and share the learning generated through our activities. This is particularly important because the evidence base around effectiveness and cost-effectiveness of stopping tobacco use interventions in LMICs is currently sparse. Because there is no standardised way of evaluating tobacco cessation training programmes for health care staff, our project will use an evaluation methodology based on of Kirkpatrick's hierarchy which looks at four levels of outcomes.[18] This methodology has been used to evaluate the effectiveness of medical education interventions.[19] The levels and outcome measures we will use for each of them are as follows:

1. *Reaction - what participants thought and felt about the training*
    - The impact of mobile telephone text support on the CHWs (tested with interviews with a sample of those CHWs trained).
2. *Learning - the resulting increase in knowledge and/or skills, and change in attitudes*
    - The effectiveness of the one day training conducted by the trainers in increasing the knowledge of those staff trained on facilitating stopping tobacco use and lung health (tested post-training questionnaires with those trained and follow-up interviews with a sample of those trained);
    - The knowledge about and capacity of CHWs to facilitate stopping tobacco use and lung health (tested post-training questionnaires with those trained and follow-up interviews with a sample of those CHWs trained).
3. *Behaviour - transfer of knowledge, skills, and/or attitudes from classroom to the job*
    - The effectiveness of the training the trainers module in increasing the capacity of those trained to train their colleagues (tested by interviews with them, observing the training they carry out and post-training questionnaires with staff they train);
4. *Results - the final results that occurred because of attendance and participation.*
    - The appropriateness of educational messages and the extent of message penetration in surveys of population, including recent ex-smokers and current smokers;
    - For those who stopped tobacco use, what were the motivators to quit and did our messages encourage them to quit. For current smokers, do they intend

[16] See www.primetheory.com

[17] Maternal and Child Health Integrated Program (MCHIP). (2013) Developing and Strengthening Community Health Worker Programs at Scale: A Reference Guide for Program Managers and Policy Makers.

[18] Kirkpatrick, D. L. (1979). Techniques for evaluating training programs. In D. P. Ely & Plomp T. (Eds.), Classic Writings on Instructional Technology (Vol. 1, pp. 231 – 241). Englewood: Libraries Unlimited, Inc.

[19] Hutchinson, L. (1999) Evaluating and researching the effectiveness of educational interventions

to stop using tobacco, what are the obstacles, have they had heard our messages and do they encourage them to quit;
- The impact of one to one interactions with trained CHWs on people's tobacco use and other lung health risk factors (tested with follow-up interviews with a sample of those people who receive one to one interventions from CHWs);
- The impact of group interactions with trained CHWs on people's tobacco use and other lung health risk factors (tested with follow-up interviews with a sample of those people who attend groups sessions led by CHWs).

Our project Expert Advisory Group, which is made up of senior researchers and clinicians, will design the evaluation. The evaluation will be conducted by our project team, with Dr Rupert Jones, an experience clinical and researcher, as lead evaluator. Through our work on the FRESH AIR Uganda initiative, we have developed extensive experience collecting and analysing qualitative and quantitative research data in this context.

We will disseminate the learning from the project widely including through:

- Updates on the Global Bridges network throughout the duration of the project. We will start at least 5 new discussion threads on topics including: CHWs' role in smoking cessation, TB and smoking, tobacco smoke and lung health, the use of different media in smoking cessation.
- An end-of-project webinar to share the learning from the project on the Global Bridges network.
- Updates on the IPCRG knowledge platform which currently has almost 1,500 users.
- Integration of learning into IPCRG successful tools such as Desktop Helpers.
- An article on the learning from the project submitted to a peer-reviewed journal.
- Presentations at international conferences including the World Conference on Tobacco or Health March 2015 in Abu Dhabi, the IPCRG scientific conference in May 2015 in Singapore and others.

B.3 Detailed Workplan and Deliverables Schedule:

The proposed project has six workstreams that are described below. Each of these workstreams, the activities involved, the timescale for completion and the lead organisation is described below.

Workstream 1: Developing the training the trainers module in facilitating stopping tobacco use and promoting lung health

A training the trainers module will be developed. This will build on our experience of training health care workers in COPD diagnosis in Masindi District. It will also incorporate the evidence of what works best training primary health care workers.[20] The training materials will be designed by the project's Technical Advisory Group with the input of health care workers in Masindi District. Previous work by the FRESH AIR team indicates that the materials need to be in a variety of formats. In addition to being accessible on a website, for the trainers based in clinics written materials are needed. These will include A4 loose-leaf folders and A2 posters. A3 flip charts with pictures and little or no text to show the trainees

[20] McDonnell J, et al. (2012) Effecting change in primary care management of respiratory conditions: a global scoping exercise and literature review of educational interventions to inform the IPCRG's E-Quality initiative, 2012

and more detailed information on the reverse as an aid for the trainers are particularly useful. They will be designed in such a way that they can be used as part of the on-going professional development of health care workers. Furthermore, endorsement by external agencies increases the value and prestige of the content for the learner. Therefore, endorsement will be sought from:

- The WHO Global Alliance against chronic Respiratory Disease (GARD) of which the IPCRG is the primary care representative on the Planning Executive
- Uganda NCD Alliance program
- Ugandan Government Health Education and Promotion department
- IPCRG
- mHealth Alliance of which IPCRG is a member.

The training the trainers module will be finalised by month 4 of the project.

Workstream 2: Rolling out the training to health care workers and CHWs

Training in facilitating stopping tobacco use and promoting lung health will be delivered to health care workers throughout Masindi District using a cascading model. This will be broken down as follows:

- Round 1: Training the trainers - 10 health care workers selected from all health facilities in the district will receive a detailed one week training in how to use the module to train other health care workers using the materials provided in 3 day training sessions.
- Round 2: Training the health care workers - Three day trainings will be conducted with 50 health care workers in all hospitals and health centres in Masindi District by training teams made up of two of the staff who undertook the round one training. Support from the project team will be available throughout for these trainers.
- Round 3: Training the CHWs - One day trainings will be conducted with 46 CHWs throughout Masindi District by training teams made up of two of the staff who undertook the round one training and round 2 trainings. Support from the project team will be available throughout for these trainers. This training will be a version of the round 2 training specially adapted to the role of CHWs and to reflect they do not have a clinical background. It will also include specific training in how to use the education materials developed by workstream 3 (see below).

The health care workers and CHWs will be trained by month 12 of the project.

Workstream 3: Developing the education tools for CHWs

With Ugandan colleagues at Makerere University and the Masindi District Health Office, the project will create lung health educational materials for use by CHWs that include the impact of tobacco dependence and interventions to stop tobacco use. The materials and methods will be designed to reach rural communities with low literacy and health literacy. The project will work with the CHWs to test these materials with community groups, using pre- and post-session assessments of awareness and revise the educational materials based on the outcomes of this testing. The education materials for CHWs to use in their one to one and group interactions with people will be completed by month 6 of the project.

Workstream 4: Use of mobile telephone technology and radio messages

We will explore how best to use mobile telephone technology and other media including radio to support the trainers, the CHWs and people receiving education through the project. Our experience to date indicates that mobile phone ownership is high and phones are predominately used for calls and texting. We expect to use texting in three ways. Firstly, the project manager will contact the trainers on a weekly basis using standard texts to update them on the project and remind them what is expected of them, to congratulate them on their successes and identify delays or problems in rolling out the one day training. Where there are problems they will be resolved with support from the right experts identified by the project manager who has access to local, national and international help such as Global Bridges. Secondly, a central texting system will be developed to send messages to the CHWs who have been trained and to encourage them in their one to one and group interactions. Thirdly, a central texting system will be developed to send messages to people who have received stopping tobacco use and lung health education through interactions with CHWs and who sign up to this service. The texts will consist of:

(I) Project updates
(II) Positive messages about the benefits of reducing exposure to cigarette and biomass smoke
(III) Stories of people who have succeeded and the benefits gained
(IV) Information about resources for help.

We will also develop appropriate messages to be delivered through influential media such as local radio advertisements in order to reinforce awareness. The use of mobile telephone technology and other media will continue throughout the life of the project.

Workstream 5: Evaluation of the project and dissemination of the learning

As this is an innovative project we expect to carry out a robust evaluation exploring process and outcomes in order to ensure we capture and share the learning. This is particularly important because the evidence base around effectiveness and cost-effectiveness of stopping tobacco use interventions in LMICs is currently sparse. We have outlined our evaluation approach above. In addition to the final evaluation, we will post updates on the Global Bridges network throughout the duration of the project. We will also hold a webinar to share the learning from the project. The evaluation of the project will be undertaken within 3 months of the project's completion and submitted to a peer-reviewed journal within 9 months.

Workstream 6: On-going project management, expert technical support and reporting

IPCRG will be the accountable body for the funding and will provide regular reports to Global Bridges. IPCRG will convene a Project Steering Committee made up of all partner organisations that will meet by teleconference every month to review progress and identify and resolve any issues. A project manager in Uganda will be recruited. Other staff working on the project will include a trainer, a CHW liaison and support officer and an administrator. An Expert Advisory Group of senior researchers, educationalists and clinicians will provide expert input on content and format of the training and the design of the evaluation. This

Group will be convened by IPCRG. This project management model is based on that used to manage the FRESH AIR Uganda initiative which has been delivered successfully and within budget. The organisations and individuals involved have already well-established working relationships and systems in place. More details are provided in section C of this proposal.

Project management, expert technical support and reporting will continue throughout the life of the project and until the completion of the evaluation. The lead organisation will be IPCRG.

The table below summarises the deliverables from the project and the schedule for their completion and uses assumptions based on current activity and experience in other fields.

Deliverable	**Schedule for completion**
A training the trainers module in facilitating stopping tobacco use and promoting lung health which is endorsed by key organisations	By month 4
Lung health and smoking cessation educational materials for use by CHWs s in one to one and group interactions with people	By month 6
10 health care workers based in the hospitals and clinics trained to become the trainers	By month 6
50 health care workers based in the hospitals and clinics trained in lung health promotion and facilitating stopping tobacco use	By month 12
46 CHWs trained in lung health promotion and facilitating stopping tobacco use	By month 12
The regional continuing medical professional development programme includes lung health and smoking cessation	By month 6
46 CHWs receive on-going support using mobile telephone technology for providing lung health promotion and facilitating stopping tobacco use	By month 24
10,000 number of people who receive messages on lung health and stopping tobacco use through interactions with CHWs	By month 24
1,000 number of people who receive education on lung health and stopping tobacco use through interactions from health care workers based in the hospitals and clinics	By month 24
50 professionals signed up to the Global Bridges on-line network	By month 24
5 new discussion threads on topics including: CHWs' role in smoking cessation, TB and smoking, tobacco smoke and lung health, the use of different media in smoking cessation	Established by month 12 and active thereafter
A webinar on the Global Bridges on-line network to disseminate learning from the project	Month 24
A detailed process and outcome evaluation that contributes to the evidence base on interventions to facilitate stopping tobacco use in LMICs	Month 26 (2 months after completion)
A submitted paper to a peer-reviewed journal which draws on the evaluation findings	Month 30 (6 months after completion)