



## **FRESH AIR Uganda study**

### Letter 4: February 2012

In September 2011 the IPCRG launched a petition: a commitment to clearing the air. The IPCRG collected 1116 signatures of healthcare professionals signing the petition: “We the undersigned call for health policy makers to make the respiratory health of sub-Saharan communities a priority and implement culturally appropriate interventions to control COPD and its risk factors, to halt this growing epidemic. We support the International Primary Care Respiratory Group FRESH AIR study as an example of ‘innovative research relevant to the African context’ that will enable us to quantify the problem in Uganda and test solutions addressing exposure to tobacco and indoor smoke”. Thank you all. This is now being sent to The World Health Organisation, the Commonwealth Health Ministers and the Health Ministry in Uganda.

The FRESH AIR Uganda survey will start mid-February, as scheduled. We have received approval from the Research and Ethics Committee of the University of Makerere in Uganda. The project was well received and we were congratulated on the project. They all agreed the project will provide novel data for Uganda. Many thanks to Bruce Kirenga and Patrick Musinguzi for the terrific job they have done.

The method of work we planned for the survey seemed to ask for difficulties concerning liability, verifiability, logistic difficulties and other technical problems. We decided to change the way of work, improving effectiveness too.

All healthcare workers (medical officers, health officers, and nurses), a total of approximately 100 persons in the district of Masindi, will receive a 1-day training about chronic respiratory diseases, particularly asthma and COPD. We will start this education programme in February in batches of 50 each. Hereafter 18 research assistants (RAs), invited by John Turyagaruka, the District Health Officer of Masindi District, will receive a 3-day intensive training course about spirometry and the protocol of the FRESH AIR survey and finish their education programme about Good Clinical Practice. The RAs will conduct the survey and will therefore be of vital importance to FRESH AIR UGANDA.

The survey will be conducted for 6 days a week, including Saturday. The RAs from each subcounty (Masindi district has 6 subcounties including Masindi town) will work only 1 day a week. Each subcounty will recruit about 8 participants a day, meaning a total of about 48 participants will be recruited in 1 week. After 4 months we will have recruited at least 600 people, 300 men and 300 women aged 30 years and older. The hardware (laptops, spirometers from Vitalograph and the aerosol monitors) will be kept at the district’s office in Masindi, where John Turyagaruka has provided FRESH AIR UGANDA a room in his office. Each morning, the hardware will be driven with a four wheel drive vehicle to the concerned healthcenter (HC). From the HC, the RAs will be driven to the villages on a boda boda, to conduct the survey. At the end of the day, the hardware and the results of the survey, will be driven back to Masindi. Instead of using solar energy, we will load the laptops with our own generator.

Each participant, randomly selected, will be interviewed by the RA using a standardized screening questionnaire, developed from pre-existing validated questionnaires and adapted to local conditions after the pilot survey in 2011. Hereafter, a pre-bronchodilator (BD) spirometry will be performed. All participants with airflow limitation of an FEV1/FVC ratio  $\leq 0.8$  or an FEV1 value  $\leq 80\%$  predicted value (the values are higher to serve as a safe exclusion criteria), will perform a post-BD spirometry and fill in a Clinical COPD Questionnaire (CCQ) to assess their health-related quality of life. The post-BD measurement shall be done with salbutamol using a Redihaler device, avoiding the danger of TB infection while using a spacer. All the questionnaires are English-written and have been translated in Swahili and Luyoro too, the two dominant languages in Masindi district. All the persons involved in the survey will receive their results in writing. Information about a diagnosis such as COPD found during the survey, will be provided to the person concerned in writing too, which he or she can bring along during the next visit to one of the HCs.

The proceedings of the RAs shall be checked by a project assistant (PA). He will have skills in data management and will be of high computer literacy. He will organise logistics for field visits. One of the candidates will be selected next week. The PA will be supervised by the community liaison officer, John Kirungi. Every afternoon, the (written) data will be transferred in a database (twice independently), and the results with the spirograms will be emailed to Bruce Kirenga (PI) or Patrick Musinguzi (co-PI). They will check the results and give comment immediately to the PA, who will then, if needed, contact the RA in question. Naturally the results will be double-checked. The data will be emailed to the UMCG on a weekly basis.

At the same time, 2 RAs will be responsible for data regarding direct exposure to biomass smoke in the indoor environment of households of the most vulnerable group of the community: patients with COPD, found during the survey. Prior to the 24-hours measurement of particulate matter (PM 2,5), using the DuskTrak II from TSI sponsored by ProCare in the Netherlands, and the SidePak, borrowed from FRESH AIR ERITREA, a semi-structured questionnaire will be used concerning cooking habits, traditions like brewing beer and drying leaves, symptoms during cooking, characteristics of the house and sleeping area, and other information. Unfortunately we didn't succeed finding medical students from Uganda and the Netherlands to conduct this survey.

Let us make FRESH AIR Uganda a great success. At the first-ever UN High-Level meeting on non-communicable diseases in September 2011, global leaders recognised the need to tackle the rising burden of non-communicable diseases, including respiratory diseases. We welcome the recognition by global leaders of the rising burden of NCDs, and its risks associated with indoor pollution, as a stepping stone for global action. Let us provide key policy-makers with convincing evidence for the impact of COPD on local communities making it possible to implement culturally appropriate interventions to control COPD and its risk factors.

Frederik van Gemert, Project Lead

12 February 2012

Fresh Air is funded by IPCRG, supported by a grant from Mundipharma International Ltd.