

## **Research Proposal Research**

**Free Respiratory Evaluation and Smoke-exposure reduction by primary Health cAre Integrated gRoups – Making the case for action**



Submitted to LUMC CME 08-03-2016

(day. month. year)

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# 1. FRESH AIR STUDY PROTOCOL WORK PACKAGE 3.2

## – MAKING THE CASE FOR ACTION

### 1.1 FULL TITLE PROTOCOL

Exploring beliefs, perceptions and behaviours of chronic respiratory symptoms in low-resource, rural community settings in the Kyrgyz Republic

### 1.2 STUDY INVESTIGATORS

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## 1.3 (EXECUTIVE) SUMMARY

### **Background**

The greatest burden of non-communicable lung disease (NCLD) occurs in low- and middle income countries (LMICs) where exposure to household air pollution (HAP) and/or tobacco smoke is high. Yet these countries are seriously under-represented in current scientific research. For a tailored approach towards NCLDs in rural, low-resource settings, it is desirable to be aware of local beliefs, perceptions and behaviour towards this problem. This protocol is part of the FRESH AIR study, an international study towards chronic respiratory disease in diverse low-resource settings.

### **Aim**

The objective of this study is to explore and understand local beliefs, perceptions and behaviours towards NCLD in diverse rural, low-resource settings: Greece, Vietnam, the Kyrgyz Republic and Uganda. Via the knowledge obtained, the overall aim is to tailor evidence-based interventions to the local situations in each of the settings. By doing so, the process of implementation can be improved and in turn, the likelihood of health improvement can be increased.

### **Research question**

What local beliefs, perceptions and behaviours can be observed towards chronic respiratory symptoms in rural, low-resource settings in the Kyrgyz Republic, Vietnam, Uganda and Greece?

### **Materials and methods**

The study will be performed in rural, low-resource settings in each of the four countries. These settings are selected because of their high tobacco consumption and/or exposure to HAP. A mixed-method design will be employed via the Rapid Assessment (RA) approach. RA is a flexible and time-effective approach which enhances the fit with local circumstances and acts upon emerging opportunities. The focus in RA is on the local system (community) perspective. In each of the countries, communities will be visited for one week, in which semi-structured interviews, observations, focus groups, document analysis and questionnaires will be conducted simultaneously. Data are preliminarily analysed daily, monitoring data saturation and allowing for iterative adjustments of planning, methods, materials, themes and informants.

The research team is multidisciplinary, consisting of external and local researchers. Communities and informants will be selected transparently. Selection will be purposively for the qualitative part of the study and be directed towards creating diversity. Selection will be at random for the quantitative part (the questionnaires). Data will be analysed using a framework approach. The COREQ consensus statement will be adhered in documentation

## 1.4 STUDY RATIONALE AND BACKGROUND

The greatest burden of lung disease occurs in low-resource settings<sup>1</sup>: according to the World Health Organization (WHO), over 90% of chronic obstructive pulmonary disease<sup>2</sup> (COPD) deaths and over 80% of asthma<sup>3</sup> deaths occur in low-and middle income countries (LMICs).(2,3) The link between exposure to smoke, including tobacco smoke, indoor and outdoor environmental exposure and lung diseases is well established.(4,5)

Both tobacco smoke and household air pollution (HAP) are a highly relevant risk factor for lung disease in LMICs. First of all, smoking has been projected to cause 10 million tobacco-related deaths annually within 25 years. Seventy percent of these deaths are projected to be in LMICs.(6) Next to that, almost half of the world's population relies on biomass fuel for cooking and heating. In many LMICs, however, government officials, healthcare professionals and the public are not aware of the damage caused by exposure to biomass smoke and tobacco smoke.(7-9)

Meanwhile, LMICs are seriously under-represented in current research into lung diseases. For example, a recent study on tobacco use found that only 4% of randomised controlled trials included in systematic reviews and 2% of on-going trials were performed in LMICs.(10) Extrapolations of data from studies in Western countries to rural<sup>4</sup> low-resource settings might result in an underestimation of the burden of disease. It is particularly prone to errors concerning the risk caused by indoor- and outdoor air pollution.(11) This is likely due to the primitive cooking and heating circumstances, where biofuels and poorly ventilated areas result in smoky rooms. Rural areas, with limited access to electricity facilities, are prone to these conditions. Earlier FRESH AIR research on the prevalence of COPD and its risk factors in a rural district in Uganda showed that "COPD starts early in life, and that major risk factors were biomass smoke for both sexes and tobacco smoke for men. In addition to high smoking prevalence in men, biomass smoke could be a major health threat to men and women in rural areas of Uganda."(12)

The approach of non-communicable lung disease<sup>5</sup> (NCLD) in low-resource settings is hampered by barriers including poor public awareness of lung disease and its risk factors, lack of knowledge and engagement of policy makers, lack of translated and culturally adapted guidelines, limited (geographical) access to trained healthcare professionals, diagnostic facilities and treatment options. For the development of an effective policy concerning prevention, diagnosis, treatment and implementation that is tailored to the local situation, knowledge on the local situation is desired.

Work package 3: 'Making the case for Action' within the FRESH AIR research project (acronym for Free Respiratory Evaluation and Smoke-exposure reduction by primary Health cAre Integrated gRoups), addresses the need for the knowledge mentioned above. The study will be conducted in communities<sup>6</sup> in low-resource settings, where the greatest burden of disease occurs. These settings have high levels of tobacco consumption and population exposure to household air pollution.

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<sup>1</sup>Definition low-resource settings: Settings characterized by a lack of funds to cover health care costs, on individual or societal basis, which may lead to limited access to medication, equipment, supplies and devices, less-developed infrastructure, fewer or less-trained personnel, limited access to maintenance and parts and limited availability of equipment, supplies and medication. (Author unknown, 2014)

<sup>2</sup>Definition COPD: A chronic lung disease characterized by chronic obstruction of lung airflow that interferes with normal breathing

<sup>3</sup>Definition asthma: *General medical definition*: an inflammatory disorder with hyper-reactive airways resulting in narrowing of the bronchial tree and airflow obstruction and production of overt mucus. (Levy, 2006) *In this protocol*: Self-reported diagnosis as provided by a general practitioner or certified physician, or a strong suspicion of asthma noted by the presence of asthma symptoms. Asthma symptoms are defined as "long-term cough or/and wheeze and breathing difficulties and attacks of severe cough and breathing difficulties" (Levy, 2006) in absence of a viral infection.

<sup>4</sup>Definition rural: All territory, population and housing units in areas with a population density less than 2,500 residents per square mile (Ricketts, 1998)

<sup>5</sup>Definition non-communicable (lung) disease. *General definition*: A medical condition or disease that is non-infectious or non-transmissible (WHO). *In this protocol*: asthma and COPD, the primary focus is not on other non-communicable pulmonary pathology such as oncology or congenital disease.

<sup>6</sup>Definition community: A common social system or structure

## **1.5 AIM AND OBJECTIVES**

The overall aim of the FRESH AIR study is to improve health outcomes for people at risk of or suffering from NCLD in low-resource settings. This is done by developing capacity for implementation of evidence-based interventions for prevention, diagnosis and treatment in these contexts.

The FRESH AIR sub-study 'WP 3-Making the case for action' aims to provide the other WP's with fundamental background knowledge for their intervention-studies, focusing on the local beliefs, perceptions and behaviour towards NCLD in rural low-resource settings in the Kyrgyz Republic, Uganda, Vietnam and Greece.

### **Objectives**

The objective of this study is to explore and understand local beliefs,<sup>7</sup> perceptions<sup>8</sup> and behaviours of rural community members, healthcare professionals and other relevant key stakeholders about NCLD.

### **Research question**

What local beliefs, perceptions and behaviours can be observed towards chronic respiratory symptoms<sup>9</sup> in rural, low-resource settings in the Kyrgyz Republic, Uganda, Vietnam and Greece?

## **1.6 THEORETICAL FRAMEWORK**

This study will use a theoretical framework to guide the development of the materials that will be used (e.g. topic lists, observation forms, questionnaires). The framework developed consists of a combination of the Health Belief Model (HBM) (13), the Explanatory Model of Illness (EM) (14) and the Theory of Planned Behaviour (TPB) (15) (see figure 1).

*The Health Belief Model* by Hochbaum intends to explain and predict health behaviour by focusing on beliefs of individuals (16). The model consists of several key concepts. The individuals' sociodemographic characteristics are taken into account, but also the individuals' perceptions regarding susceptibility to a sign/disease, the perceived illness severity and the perceived benefits and barriers of performing certain behaviour. Rosenstock (17) added the aspect of self-efficacy to the model; the perceived capability of performing a behaviour. The HBM implies that these factors, combined with certain internal and external cues to action (e.g. 'pain' or 'the illness of a friend') lead to certain health behaviour.

Limitations of the HBM are that it does not help explain relations between the different factors, nor does it explore an individual's emotions or the relation with the sociocultural context of the individual.

For the latter, components of *the Theory of Planned Behaviour* are added to this framework. The first is 'normative beliefs', meaning an individual's perception of social normative pressures. The second is 'subjective norm' which is an individual's perception about the judgement of significant others (parents, friends, teachers) towards certain behaviour. Also, it adds the component of 'intention', which precedes performing behaviour. Limitations of the TPB are that it does not take the individuals' emotions into account, just like the HBM. Also, it does not involve environmental factors (economic, physical) that influence a person's intention to perform behaviour.

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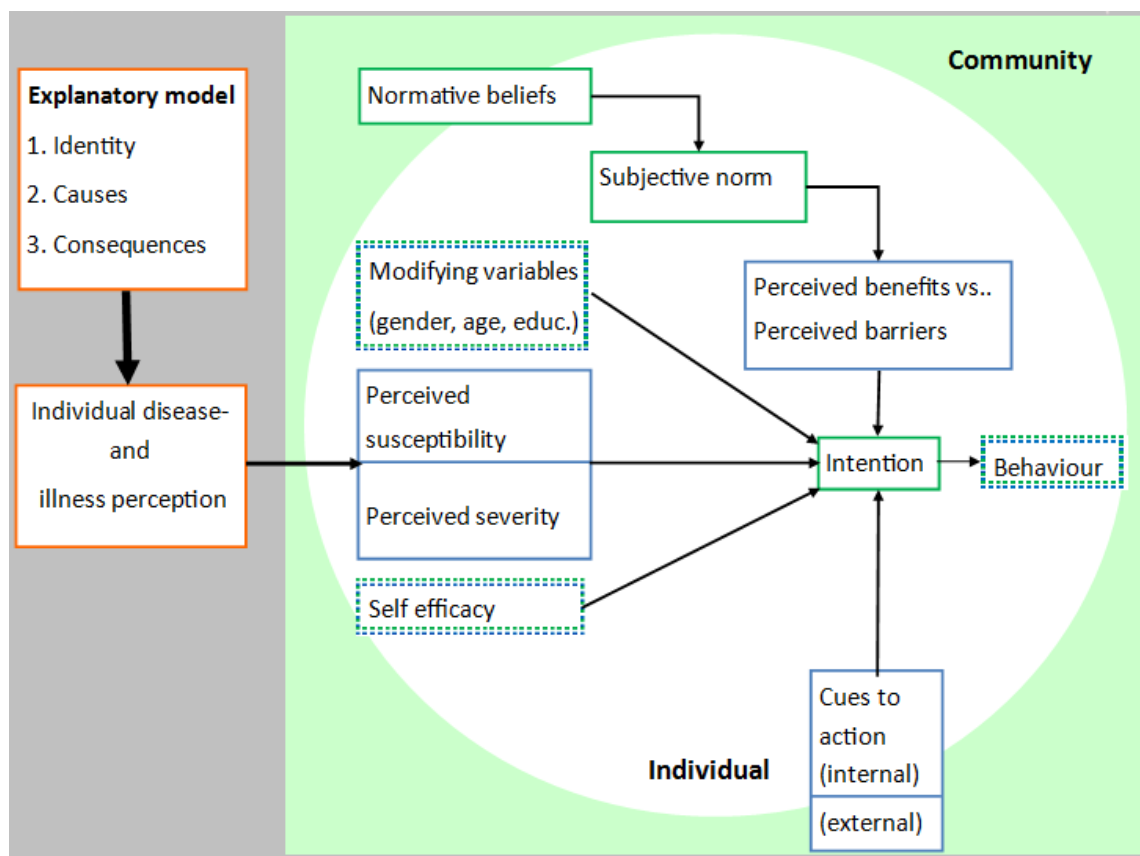
<sup>7</sup>Definition belief: An idea or principle judged to be true

<sup>8</sup>Definition perception: The organised cognitive representations that individuals have about a subject. (Definition based upon definition of illness perception by Leventhal, 1984).

<sup>9</sup>Definition chronic respiratory symptom: The organised cognitive representations or beliefs that patients have about their chronic respiratory signs. Chronic respiratory signs are, in turn, defined as the episodically or continuous presence of cough, wheeze, chest tightness, breathlessness, and/or chest pain from respiratory origin, in absence of signs of a pulmonary infection. (Definition based on definition by Levy, 2006).

Moreover, both the TPB and the HBM have 'disease' as a starting point for the exploration of an individual's perception and behaviour. In some cultures however, certain signs such as 'coughing' are not perceived as pathological. It is therefore important to also explore the perception of these signs and their place in the cultural context. Therefore, Kleinmans' *Explanatory Model of illness* provides a useful addition to this research framework (18) (see appendix 1). This model does include the individuals' emotions, and it focusses on the beliefs one holds about his symptoms (illness), the personal and social meaning he attaches to this symptoms, his expectations about what will happen to him, what the doctor (or other care providers) will do, and his own therapeutic goals. This model therefore helps to elucidate how perspectives can differ across cultures and backgrounds, e.g. between patients and doctors.

Figure 1 summarises the combined model and shows the origin from each of the concepts.



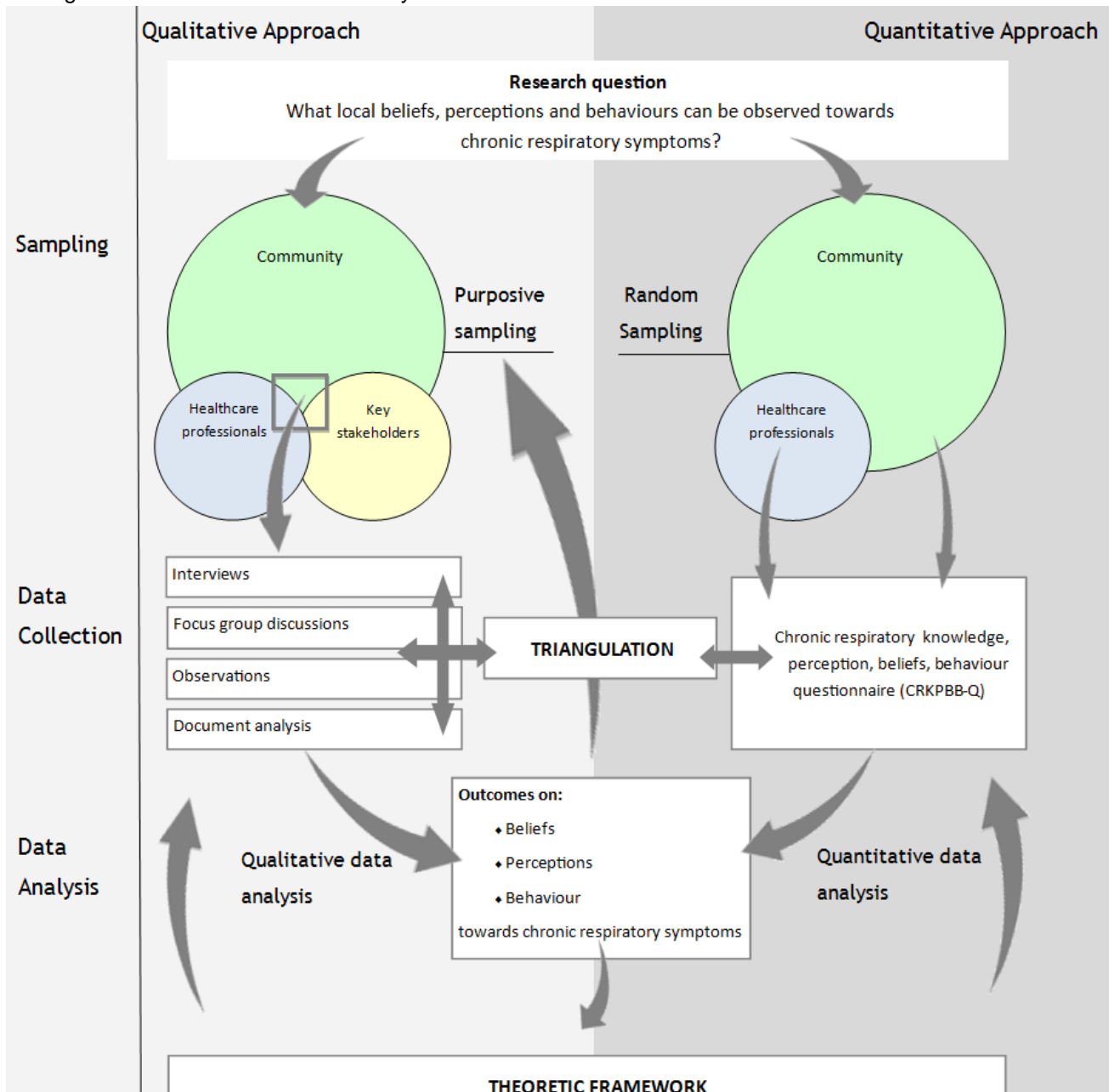
**Figure 1 Theoretical framework:** A combination of concepts of the Explanatory Model (orange), Health Beliefs Model (blue) and the Theory of Planned Behaviour (green).

## 1.7 STUDY DESIGN

This study has mix-method design, including qualitative interviews, focus groups, observations, document analysis and quantitative questionnaires. The study is both explorative and descriptive.



See figure 2 for an overview of the study flow.



**Figure 2 Schematic representation study flow :** The research question will be approached by a qualitative as well as a quantitative method. For the qualitative method, sampling will be purposively and participants will be from three informant groups: community members, healthcare professionals and relevant key stakeholders. Data collection will be performed by four field methods: interviews, focus group discussions, observations and document analysis. These multiple methods are chosen to triangulate the collected data. Development of the materials used in these methods (topic lists, observations forms, etc.) was guided by the theoretical framework. Preliminary analysis of the data may lead to iterative adjustments in the field methods or in the potential informants approached for participation. This will enhance an optimum fit with the local situation. Next to this, a quantitative method is conducted. Sampling of this method will be at random. There will be two informant groups: community members and healthcare professionals. Participants will receive a questionnaire tailored to their informant group. Questionnaire development is guided by the theoretic framework and based upon a combination of existing respiratory questionnaires (explained in more detail at '1.11.1 E Questionnaires'). The results will be used for triangulation of the qualitative data, as well as provide the other WP's with results at an earlier stage as the quantitative data are more likely to be analysed relatively quickly.

## **1.8 STUDY SETTING**

The study will be conducted in five rural, low-resource settings that have been selected to represent diversity. A rural setting is chosen because we are interested in the relation between HAP, which is expected to be higher in rural areas. This is due to the limited access to gas and electricity. In Uganda, the Jinja district in the south of the country has been selected. In Greece, low-resource settings are selected at Crete. In Vietnam we will investigate rural regions west of Ho Chi Minh city. Lastly, we have selected two regions in the Kyrgyz Republic. This is a mountainous country; we expect a high difference between the high- and lowlands of the country. Populations in the highland are more exposed to extreme weather conditions, we therefore expect a higher use of biomass fuels for heating and therefore a higher exposure to HAP. The selected lowland region is the Chui Region, and the selected highland region is the Naryn Region.

## **1.9 STUDY POPULATION**

For the qualitative part, participant selection will be performed by means of a combination of 'purposive and convenience sampling'. This means selection is not at random but purposively aimed at representing diversity within the study population - for example in terms of gender, age, background, profession, working experience, etcetera - as well as based on opportunity and willingness of potential participants.

Sampling will be transparent. In collaboration with the FRESH AIR's stakeholder engagement group,<sup>10</sup> potentially relevant participants will be identified. Amongst others they may involve but will not be limited to healthcare professionals (e.g. medical doctors, trained nurses, traditional healers, pharmacists, etc. see also 'definitions'), community members, and key informants (community leaders<sup>11</sup>, teachers). Snow ball sampling will furthermore be used to identify new potential participants. This means participants will be asked to name other relevant stakeholders that could be invited to participate.

All potential participants will be listed and if possible, verbally invited for participation. If verbal invitation is not possible, they will be invited via email. All participants that agree to participate will be included in our study, if they meet the criteria as listed below. These criteria are separately stated for each informant-group.

### **1.9.1 *INCLUSION CRITERIA***

- Healthcare professionals: Any worker in NCLD working within community boundaries
- Community members: Any stakeholder above eighteen years of age living inside the community boundaries.
- Key stakeholders: Any relevant stakeholder in NCLD with either a specific expertise, an in-depth knowledge or overall overview on the subject and in direct contact with the community.

### **1.9.2 *EXCLUSION CRITERIA***

People living outside the community boundaries and not in direct contact with the target population. People unable to participate due to physical or mental disabilities.

### **1.9.3 *SAMPLE SIZE CALCULATION***

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<sup>10</sup>**Definition stakeholder engagement group:** group formed by the country lead and his team, aiming to provide an optimal reflection of the stakeholders involved. This group will be recruited transparently and fairly from several groups, such as policy makers, healthcare professionals, managers, patients, villagers, teachers and students.

<sup>11</sup>**Definition community leader:** Any person within the community in a leading position over the community leader members. This may include but not be limited to district officers, village chairman, church leaders, etc. Community leaders will be identified by with help of the stakeholder engagement group.

The following targets numbers are set for the data collection, though the numbers from the qualitative methods may be subject to change depending on when data saturation is achieved. Numbers are per study setting, there are five settings in total.

Method	Selection	Participants	Number per setting
<i>Qualitative</i>			
Interviews	Purposively	Healthcare professionals: <ul style="list-style-type: none"> <li>• Official healthcare workers</li> <li>• Traditional healers</li> <li>• Others (e.g. pharmacists)</li> </ul> Key stakeholders: <ul style="list-style-type: none"> <li>• Community leaders</li> <li>• Liaison officers</li> </ul>	Approximately 10-15 Total: 20-30
Focus groups	Purposively	Community members: <ul style="list-style-type: none"> <li>• 1 male group</li> <li>• 1 females group</li> <li>• 1 mixed group</li> </ul>	2-3 groups of 8-10 participants (=16-30 per setting) Total: 32-60
Observations	Purposively	Healthcare professionals: <ul style="list-style-type: none"> <li>• Patient-healthcare worker respiratory consultations</li> <li>• Traditional healthcare practices</li> </ul> Community members: <ul style="list-style-type: none"> <li>• Living/cooking conditions</li> <li>• Smoking behaviour</li> </ul> Others (if opportunity arises: educational classes regarding lung disease, women leader committee, etc.)	10-15 Total: 20-30
Document analysis	Purposively	<ul style="list-style-type: none"> <li>• Teaching materials/education policy documents, curricula/course materials</li> <li>• Locally applied guidelines/protocols?</li> <li>• Relevant advertisements?</li> <li>• Relevant newspapers, magazines, radio, television?</li> </ul>	Will depend on availability
<i>Quantitative</i>			
Survey	Randomly	<ul style="list-style-type: none"> <li>• Healthcare professionals</li> <li>• Community members</li> </ul>	40 healthcare professionals, 200 community members

## 1.10 METHODOLOGY

### 1.10.1 *STUDY OUTCOMES/ENDPOINTS*

The outcome of this study will be a qualitative and quantitative description of local beliefs, perceptions and behaviours towards chronic respiratory symptoms in each of the five settings. Foreseen subtopics within these three domains will be:

symptom identity (a description of the perceived meaning of chronic respiratory signs)

- causes
- consequences
- susceptibility
- severity
- self-efficacy
- normative beliefs

- subjective norm
- benefits of altering behaviour
- barriers against altering behaviour
- intention to alter behaviour
- cues to action that trigger behaviour

The results will be specified per settings (so also per country), per informant group (community members, healthcare professionals and key stakeholders). In the qualitative research, potentially other emerging topics and/or stakeholders may be added. Outcomes will be topic descriptions in the qualitative part of the study, and percentages of numeric/scale/categorical outcomes in the quantitative part. Table 1 shows the field methods used for each outcome, per informant group.

Table 1. Field methods used for each outcome

Informant group:	Community members		Healthcare professionals		Key stakeholders	
	Belief, perception	Behaviour	Belief, perception	Behaviour	Belief, perception	Behaviour
Interviews			X	X	X	X
Focus groups	X	X				
Observations	X	X	X	X		
Document analysis	X	X	X	X	X	X
Questionnaires	X	X	X	X		

For each community member and key stakeholder age, gender, number or years living in the community, education, profession, history of NCLD and distance to healthcare facility will be documented.

For each participating healthcare professional age, gender, number or years working in the community, type of healthcare facility, education and profession will be documented.

In the end, there will be a comparison of beliefs, perceptions and behaviours across the diverse settings.

## 1.10.2 STUDY PROCEDURE

As described above, qualitative data will be obtained by a combination of semi-structured interviews, focus group discussions, observations and document analysis. This research is supplemented with quantitative data obtained by questionnaires. These five field methods are elucidated further below. All field methods are conducted simultaneously by means of a 'Rapid Assessment Process'<sup>i</sup> (or 'Rapid Appraisal'). (19)

### Rapid Assessment

Rapid Assessment is a qualitative technique for collecting data in a concise and time-effective way. It is based upon three basic principles:

- 1) Focus on system (community) perspective
- 2) Triangulation of data collection
- 3) Rapid, in depth and iterative data collection and analysis (20)

Within a Rapid Assessment, a research team visits the community for a short period of time (e.g. a week) and collects data in a multi-method way. Iterative adjustment of the data collection strategy occurs after frequent meetings where the data collected is pre-analysed. This procedure enables adaptation and tailoring, ensuring that the data collection is driven by local developments and research needs.

In this study, a research team will visit the communities in each of the countries for a period of five days. This period is chosen because research (21) and previous experience with the technique prescribes that it should last a minimum of four days and that more than five consecutive days of more than five hours of interviewing per

day is ineffective. In this study, pre-analysis of the collected data will occur during daily meetings, after which the collection strategy will be iteratively adjusted.

### **Team composition**

The research team of this study will be multidisciplinary and consist of local and non-local researchers, ideally from both genders. Members from the local community in each country should preferably also partake in the research team. The team will be chaired by a researcher with expertise in the Rapid Assessment Process. Also, the team will be accompanied by interpreters to overcome language barriers.

Before starting the Rapid Assessment, all researchers will receive an intensive one-day training by the experienced researcher. This will enhance uniformity in data collection.

### **Planning and structure of the Rapid Assessment**

#### *Logistics*

The research team will preferably stay near the site where most informants can be found in order to avoid loss of time by travelling or traffic jams. Beforehand, a work schedule is developed, including a planning detailing which research activities will take place, who will perform the activities and when they will occur. As described earlier this planning will be iteratively adjusted.

#### *Daily meetings*

Before the fieldwork starts, all research tasks will be divided and the work schedule will be discussed. Daily, after data collection, a systematic preliminary evaluation will be held with the entire team. Experience shows that an intensive short meeting at the end of the afternoon, after data collection and before dinner, is most effective and allows for timely adaptations.

A data matrix will help structure the input of these sessions and help decide in which areas data saturation has occurred and which data are still lacking. (The matrix is described in more detail under 'data analysis'.) Via this procedure, unexpected emerging issues (e.g. themes or informants) can also be identified. All results will be triangulated, and discrepancies found will be discussed. The research materials (e.g. topic lists) and work schedule will then be adjusted accordingly. Alongside a log will be kept listing all decisions made during the team meetings, as well as all steps agreed upon in the research process. This log will serve as a memory guide and will be taken into account in the further process of data analysis.

### **Description of each field method**

The five field methods are now described more into detail. Interviews and focus group discussions will be conducted in a private place, where participants feel that they can speak freely. These will be audio recorded, anonymity in the recordings will be ensured.

For each of the methods, the theoretical framework of this study guided the development of the materials used. Topic lists, observation forms and questionnaires are tailored to their specific informant group, so that e.g. healthcare professionals and community members have different questions. Materials will iteratively be adjusted according to emerging themes or informants, in order to enhance an optimum fit with the local situation. Appendix 2-5 show the initial topic lists and observation forms for the specific informant group.

#### **A) Semi-structured interviews**

Semi-structured interviews with the healthcare professionals enable in-depth exploration, as interviewees often speak more freely in a smaller setting, for example because they experience less limitations due to hierarchy. Also, interviews provide an opportunity for acquiring insights from key stakeholders that have an in-depth view or an overview of the situation due to their position (e.g. a church leader or community leader). The topic lists for these interviews will be based upon versions of the other topic lists (appendix 2 and 3), and will be tailored to the specific key stakeholders once he or she has been identified. We expect most interviewees not to speak English. In that case interviews will be held in the local language, with an interpreter who will literally translate each question and response. The duration of the interviews will approximately 45-60 minutes.

### **B) Focus group discussions**

The focus groups will be held to explore perspectives of multiple participants in a time-efficient way. The discussions will be held with community members of the same level in hierarchy to enhance them to speak freely (e.g. only community members excluding community leaders). There will be male, female and mixed discussion groups so that the discussions will not be dominated by participants from one sex. This also helps explore a potential gender-related difference between the perceptions. Key questions will provide a lead for the discussion, but the leads can be tailored or adapted to the participants' needs and input based on the flow of the dialogues. The focus groups will be held in the local language with an interpreter who will literally translate each question and paraphrase the responses. The duration of a focus group discussion will be approximately one hour. If the discussion shows that more in-depth exploration with a participant about a certain topic would be desirable, a subsequent in-depth interview may be scheduled.

### **C) Observations**

The direct observations will be structured. Observations will be valuable for revealing insights that might be hard to detect otherwise because of possible self-serving bias. It will e.g. help detect potential differences between the *observed* behaviour of healthcare professionals during consultations, and the behaviour *verbally* stated by healthcare professionals. (More specifically: if they state they prescribe certain medications in a situation, is this actually also being done in such a situation?)

It will be strived for to observe different situations depending on the informant group.

- For the community members, the living and cooking conditions will be observed, as well as their smoking behaviour. In this way observations can help triangulate the focus group discussions.
- Healthcare professionals will be observed during patient-healthcare worker consultations. In the waiting room or when the patient enters the consultation or waiting room, he or she will be informed about the study and asked for informed consent to the presence of an observer in the room (see appendix 11b). After informed consent is obtained, the observation starts. In case a consultation involves a child, the caretaker will be asked for informed consent.

The observer will leave the room or will not enter the room in case it becomes clear that a patient is not visiting the doctor for respiratory symptoms. These observations help triangulate the interviews with the healthcare professionals and may be a valuable addition to the document analysis (e.g. guidelines of how healthcare workers are supposed to approach chronic respiratory symptoms).

- In case opportunity arises, traditional healthcare practices will be visited and educational classes will be attended to perform observations. All observed situations will depend very much on availability and permission for observation. Observations will be in the natural situation and take as long as the situation takes place (e.g. an entire consultation) with an expected maximum of one hour per situation (e.g. in cooking circumstances).

### **D) Document analysis**

Relevant available documents will be analysed and used to triangulate other data sources. In this way e.g. a guideline regarding chronic respiratory symptoms could be compared to the stated behaviour of a healthcare professional, which could in turn be compared to an observed behaviour during a consultation. Selection of document will be dependent on availability, and can for example be a local protocol regarding the approach of (chronic) respiratory symptoms or locally used teaching materials regarding lung disease, or informative posters in the healthcare facility. Translators will translate relevant paragraphs of documents in verbatim in case they are in the local language. A paragraph is considered relevant when it mentions anything related to the definition, cause, prevention, diagnostics, treatment, follow-up and prognosis of lung disease.

### **E) Questionnaires**

For the community members and the healthcare professionals, the four methods above are complemented with quantitative questionnaires. These questionnaires help triangulate the qualitative data. Furthermore they enable to generate data that can be analysed relatively quickly, so that the other work packages can be provided with

relevant data at an earlier stage in the development of their interventions. This is because all data will be categorical, numeric or in a scale instead of texts. On top of that, they will not need the time-consuming translation and transcription.

Both informant groups have their specific questionnaire. Development of the questionnaires is guided by the theoretic framework as well as based upon the Illness Perception Questionnaire. This questionnaire has been adjusted for low-resource settings. Because the participants will not necessarily be patients but concern community members or healthcare professionals, a vignette is used to introduce the chronic respiratory sign. The questionnaires will be translated to the local language. Illiterate participants will be included by reading the questions out loud. Each questionnaire will be tested on the target population on feasibility and acceptability (see appendices 6 and 7), before they are used on a larger scale. If necessary, the questionnaires will be replaced by a simplified version (see appendices 8 and 9). This means the content will not be changed, only the formulation of the questions will be adjusted and some questions will be left out.

### **Sampling**

Sampling will be random at household level and purposeful at individual level. We aim to include 200 participants for the questionnaires for community members in each of the five settings. These will be selected by a stratified random sampling method using a detailed map showing the households. (22) We will place a raster over this map, selecting every 'n<sup>th</sup>' household to be approached for participation ('n' to be determined depending on the amount of households that we encounter). To the best of the insight of the local researcher, we will choose a day and time that we expect most of the residents will be at home. In case none of the residents in the household are present or they do not want to participate, the neighbouring house will be approached. In this way we enhance an equal distribution between participants of more remote areas and more densely populated areas. The first ten participants will receive the full version of the questionnaire. In case the questionnaire turns out to be too long or too difficult, the next participants will receive the brief version of the questionnaire. In this case the first ten participants will be replaced by an extra ten participants, who will be selected similarly. As we expect the number of healthcare workers to be relatively low, we will approach all healthcare workers that meet the inclusion criteria for participation. We aim to reach a sample of 40 healthcare workers in each of the five settings. The first four participants will receive the full version of the questionnaire. In case the questionnaire turns out to be too long or too difficult, the next participants will receive the brief version of the questionnaire. In this case the first four participants will be replaced by an extra four participants, who will be selected similarly.

### **1.10.3 DATA COLLECTION AND DATA HANDLING**

Throughout the data handling and processing of the data, the COnsolidated criteria for REporting Qualitative studies (COREQ)-guidelines will be adhered (see appendix 10). As part of our Data Management Plan, and in full respect of the relevant European Union legislation, anonymised data will be shared between partners as necessary for statistical and health economic analysis. Intellectual property of the data will be confirmed. All data will be kept securely taking the participants privacy into consideration. The amount of data can be derived from the estimated sample size. However, the exact amount will depend on when data saturation is achieved.

Recordings will be labelled as mentioned below. Audio recordings will not start until the interviewee has given consent and will not record their name. They will be stored along with the field notes.

Field notes will be taken throughout the interviews, focus groups and observations. They will be labelled with practical information such as the name and function of the interviewer/observer, the date and location. The participant will be anonymised by a unique number written on all related documents. Names of participants will not be used at any stage of the data collection process. Therefore, data is completely anonymous. (Type A in the Code Goed Gedrag FMVV). Furthermore, the notes will contain descriptions about the setting, atmosphere and an anonymous description of demographics of the participants. Moreover, field notes will contain the responses of the participants and non-verbal behaviour during the interview or discussions. Preferably these

notes will be in English; if this is not possible the notes will be in the local language and translated into English later.

At the end of each interview, observation or focus group discussion, the interviewer/observer and/or note-taker will summarise the key findings, guided by a summary-checklist. Also, the researcher will reflect on the relationship between the participants and the observer, and how this might have affected data collection. Documents will also be collected with concomitant field notes of where, how and by whom the documents were obtained. These notes will be stored with a copy of the documents. Data will be stored in a secure encrypted data storage system.

#### **1.10.4 DATA ANALYSIS**

To facilitate data analysis, all data will be translated into English by professional transcribers.

The Framework Method (FM) will be used to guide the qualitative analysis of the collected data.<sup>(23)</sup> This means data will be structured in a matrix output formed by rows (cases), columns (codes) and 'cells' (summarised data). In this way the data can be systematically reduced by case and by code for analysis. It allows for comparison of data across cases in the data set, as well as analyses within individual cases. The broad and systematic structure is particularly suitable in this research where multiple data sources will be used (interviews, field notes, etc.). Also, this format suits large data sets with a holistic approach because the overall pictures as well as its details will be shown.

Coding will be mainly inductively, where themes are generated by open coding to explore the unexpected. It will be complemented by a deductive approach, where some of the themes are pre-selected based upon previous literature.

This FM consists of 8 stages:

1. **Transcription:** in this study each of the interviews and focus groups will be anonymised and transcribed in verbatim. This will be outsourced to a local professional transcriber; Transcribers will be familiar with the theoretical perspectives of the study and will ensure this is reflected in the approach to transcription.
2. **Familiarisation with the interview:** English audio recordings will be listened, translated transcripts and contextual/reflective notes will be read. Analytical notes or thoughts will then be noted in the margins.
3. **Coding:** in this study the transcript will be read by line, coding both inductively and deductively (see above). Two researchers will independently code the first few transcripts.
4. **Developing a working analytical framework:** after the first few transcripts are coded, the labels are compared, codes are grouped into categories (through a tree diagram) which are clearly defined. The framework may iteratively be adjusted when new themes emerge.
5. **Applying the analytical framework:** subsequent transcripts are indexed using the categories and codes. Atlast.ti will be used in this stage to speed up the process, ensuring that data are also later easily retrievable.
6. **Charting data into the framework matrix:** data are charted into the matrix by two researchers. At an early stage, consistency within the team is ensured by comparing the styles of summarizing. References to interesting or illustrative quotations may be added.
7. **Interpreting the data:** emerging themes will be discussed with other members of the research team. Gradually, ideas about characteristics of and differences between the data is developed. Relations, connections and causality are further explored and interpreted and conclusions are drawn.
8. **Member checks:** 2-3 participants per informant group (e.g. community members, healthcare professionals) will be performed throughout the RA by providing and verifying the preliminary results of our study.

Reflexivity will be documented in a research diary, that each of the involved members of the research team will keep throughout the process.



## **Quantitative analysis**

We aim to explore the results using descriptive statistics. Data will be analysed using SPSS version 21.0. The outcomes (1) beliefs and perceptions and (2) behaviours towards chronic respiratory diseases will be assessed in frequency of prevalence.

### **1.10.5 TIMELINE**

The final protocol will be submitted for ethical approval by March 2016. Depending on approval, we aim to start data collection in:

April 2016 – Uganda

May 2016 – the Kyrgyz Republic

June 2016 – Greece

July 2016 – Vietnam.

Data collection will be performed within two consecutive weeks (conducting the questionnaires may take slightly longer up to 1 month). Data will be processed, translated and transcribed in the subsequent 3 months. Data analysis is planned from September 2016 – February 2017. The study and its results will be described in a scientific paper, which is planned to be submitted for publication to a relevant journal before June 2017.

## **1.11 ETHICAL CONSIDERATIONS**

### **1.11.1 REGULATION STATEMENT**

The research proposed will be conducted in full compliance with national and international standards and regulations. We will follow to standards of the World Medical Association Declaration of Helsinki - Ethical Principles for Medical Research Involving Human Subjects last amended October 2013. Also we will follow the Charter of Fundamental Rights of the European Union and the EU Directive 95/46/EC, harmonising national provisions on protection of individuals in processing and free movement of personal data.

Before starting the investigations, we will ask a the Medical Ethical Committee of the LUMC as well as the local committees for a declaration of no objection.

### **1.11.2 RECRUITMENT AND CONSENT**

We will follow guidance from the International Committee of Medical Journal Editors (ICMJE)<sup>ii</sup> which states that registration is unnecessary when we are examining the impact on healthcare providers' knowledge and attitudes. (24) Where FRESH AIR is collecting and analysing clinical and physiological data relating to patients, informed consent will be sought and new encrypted databases for storage of coded patient data will be generated. See appendix 11a and b for the informed consent forms used per situation. These forms will be translated to the local language of the potential participants.

Study personnel will seek written informed consent from any participant prior to participating in this study. Additional informed consent will be sought for when aiming for recording the field-method. Also, informed consent will be asked for the presence of an observer in the room (observing the healthcare worker, not the patient) during a consultation. In case the participant is unable to read or write, the information will be read out loud and audio recording will be used instead of a signature. The nature and purpose of the research will be explained and participants will be free to withdraw from being observed at any time during the ethnography. All explanation and consent will be in the local language.

### **1.11.3 RISK ASSESSMENT**

We do not anticipate any risks or ethical concerns in this observational and descriptive study. No interventions will take place.

With regard to vulnerable groups; we will take into account the potential hierarchical differences between community members and healthcare professionals by holding focus groups only with people from the same level of hierarchy (i.e. we will not mix healthcare workers with community members). We will anticipate on these challenges by asking participants prior to the focus group or interview what is needed for them to express themselves freely and openly. This input will be used to design the setting.

We will observe healthcare workers (not patients) during a consultation. We ensure no observation will be conducted before informed consent from the patient has been obtained regarding the presence of the observer. When the patient enters the consultation room, he or she will be informed about the study and asked for informed consent to the presence of the observer in the room (see appendix 11b of the protocol). After informed consent is obtained, the observation starts. The observer will leave the room in case it becomes clear that a patient is not visiting the doctor for respiratory symptoms.

To ensure the anonymity and confidentiality of our data, we will use a secure and encrypted data storage system to store all data and analysis logs.

## **1.12 ADMINISTRATIVE ASPECTS AND PUBLICATION**

### ***1.12.1 END OF STUDY REPORT/ PUBLICATION***

The findings in response to the research question will be presented in a research paper aimed to be published in peer-reviewed scientific journals, with gold standard open access.

The research will comply with national and international ethical standards and the reporting of results will be in accordance with the STrengthening the Reporting of OBservational studies in Epidemiology (STROBE) guidelines.

### ***1.12.2 PUBLIC DISCLOSURE***

All participant data will be anonymised and we aim to publish the results in peer-reviewed journals. Identity of participants will therefore not be disclosed in any publications.

### ***1.12.3 BUDGET AND MANPOWER***

The FRESH AIR research project is funded by the European Commission on a Horizon 2020 grant. The WP 3 lead and WP 3 task lead will collaborate closely with the country lead. The country lead has appointed a research team of fieldworkers at the specific site for the data collection. If necessary, an interpreter will be appointed to ensure optimal circumstances for the interviewees to ventilate their opinion. Professional transcribers will be asked to transcribe and translate the collected data. The WP 3 task lead and another senior researcher will analyse all data and process results into a paper.

### ***1.12.4 STUDY ORGANIZATION AND RESPONSIBILITIES***

The country lead has the overall responsibility for the ethical approval and conduct of the study, the acquisition of informed consent from the participants, and the data collection and entry in each country.

The Work Package 3 lead and task lead will collaborate with the country lead according to FRESH AIR codes of conduct and assist in any principal issues relating to data collection and processing the results for a paper.

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## ***APPENDICES***

### **Appendix 1 : Kleinman's eight questions**

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#### **Kleinman's 8 Questions on the complex health seeking behaviour**

1. What do you call the problem?
2. What do you think has caused the problem?
3. Why do you think it started when it did?
4. What do you think the sickness does? How does it work?
5. How severe is the sickness? Will it have a long or a short course?
6. What kind of treatment do you think the patient should receive?
7. What are the chief problems the sickness has caused?
8. What do you fear most about the sickness?

## Appendix 2: TOPIC LIST INTERVIEW: Healthcare professional (e.g. physician, nurse, traditional healer)

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**FRESH AIR**

WP3

DOCUMENT ID \_\_\_\_\_ DATE \_\_\_\_\_

Duration Interview: 45-60 min

**A.** Introduction, explanation, consent

**B.** Demographic data:

- Sex, age, education, profession (type or work, total years of work experience, years of work experience in the community, type of healthcare facility), religion
- 

**C.** Introduce **vignette** about chronic respiratory signs:

*Anna notices that she has become more easily out of breath over the past five years. The breathlessness increases with physical activity, such as cleaning the house or walking a longer distance. Also, she has an ongoing cough. The cough frequently produces mucus, especially in the mornings. In some periods the breathlessness and cough become very severe. This lasts over a week. Antibiotics do not improve the situation. Furthermore, Anna notices that she has less energy than five years ago.*

---

1. What would you say, is going on? And how would you call it?  
(**Probe:** Is she ill? Which disease would this be? How would you call it? Local terminology given to phenomenon )
  2. - What do you think is the cause of these signs (If term has been mentioned, it can now be called 'the disease'.  
(**Probe:** it's the course of life, it's a health problem, mental problem, external influences such as weather, working, living conditions, tobacco, exposure to indoor smoke through cooking or tobacco smoking, evil spirits, etc. If not mentioned, could tobacco/indoor pollution play a role/professional pollutant exposure?)  
- What do most people in the community think causes these signs?
  3. Do you think she should do something about it? If so, what should she do?  
(**Probe:** change working/living situation, seek help)
  4. **If the answer to 3 is yes:** Who you be able to provide help? What would you do?  
(**Probe:** would you be able to treat it or cure it? Upon what does the success of treatment depend?)
-

**D.** Personal

5. Do you ever have people visiting you for the same problems as Anna has? (coughing/breathlessness/fatigue/mucus for a long period of time or, when clearly named during the interview apply local term)?
  6. If you think this is a disease, how would you diagnose it?  
**(Probe:** why do you do it this way? Is this also the way you ideally would do it. Why (not) (lack of knowledge, resources, etc.)?
  7. If you think this is a disease, how would you treat it?  
**(Probe:** why do you do it this way? Is this also the way you ideally would do it. Why (not) (lack of knowledge, resources, etc.?)
  8. Are there any guidelines that you can use for the treatment of her problems? If so, which one? Do you use this guideline? Why (not?)  
**(Probe:** lack of access to guidelines, guidelines are not suitable for local situation, don't believe in the guidelines)
  9. Which problems have you experienced in treating people like Anna?  
**(Probe:** lack of access to resources, lack of compliance, etc. )
  10. What are potential problems for people like Anna to visit a healthcare worker?  
**(Probe:** access to healthcare, money, communication, dislike treatment?)
- 
11. How likely is it that people in the community will develop this condition? (or, when clearly named during the interview apply local term).  
**(Probe:** How likely, why (not)?)
  12. Who do you think will get these symptoms / this condition?  
**(Probe:** why, why not other not mentioned?)
  13. Do you think that respiratory symptoms could be prevented? If so, what could be done? **(Probe:** what can the patients do? What can healthcare workers do?)
  14. What is already being done? Why does it (not) work?  
**(Probe:** smoke is needed for malaria prevention, cooking on biomass enriches the food's flavour, smoke protects against hyena's, etc.)
  15. What do you think will happen if these chronic respiratory symptoms are not treated?  
**(Probe:** what problems may it bring to Anna, and to the family? In terms of health, money, or socially)

Duration Focus Group: approximately 60 min

**A.** Introduction, explanation, consent

**B.** Demographic data:

- Identification number, sex, age , education, profession (type or work, daily routine, how long does person live in community)
  - Personal and cultural background (family situation – and size, composition, religion)
  - External health related conditions (distance to health care facility)
- 

**C.** Introduce **vignette** about chronic respiratory signs:

*Anna notices that she has become more easily out of breath over the past five years. The breathlessness increases with physical activity, such as cleaning the house or walking a longer distance. Also, she has an ongoing cough. The cough frequently produces mucus, especially in the mornings. In some periods the breathlessness and cough become very severe. This lasts over a week. Antibiotics do not improve the situation. Furthermore, Anna notices that she has less energy than five years ago.*

---

16. What would you say, is going on?

(**Probe:** is this normal? Or is she ill? How would you call it? local terminology given to phenomenon )

17. What do you think is the cause of these signs (the breathlessness, cough, mucus and fatigue)?

(**Probe:** it's the course of life, it's a health problem, mental problem, external influences such as weather, working, living conditions, tobacco, exposure to indoor smoke through cooking or tobacco smoking, evil spirits, etc.)

18. Do you think she should do something about it? If so, what should she do?

(**Probe:** change working/living situation, seek help)

19. **If the answer to 3 is yes:** Who could provide help?

(**Probe:** family, doctor, traditional healer, community leader, church. What should they do about it?)

---



**D.** Personal

20. Have you ever noticed you that you have similar signs as Anna has? (coughing/breathlessness/fatigue/mucus for a long period of time or, when clearly named during the interview apply local term)? **If yes, please ask:**

- When did it start? How long did it last? How did it go?

(**Probe:** period of year, weather, other triggering factors, why do you think it started when it did, do you still have the condition?)

- What happened during the episode?

(**Probe:** precise description of phenomenon/symptoms, severity, how it evolved over time, what was done to solve/treat it? )

- Please describe the episode?

(**Probe:** how did it feel, were you worried)

- Did the episode have any personal consequences?

(**Probe:** short and long term consequences regarding (money costs, health, work, feeling of trust, support )

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21. **If not**, how likely will it be that you will develop this condition (or, when clearly named during the interview apply local term).

(**Probe:** How likely, why (not)?)

22. Who do you think will get these symptoms / this condition?

(**Probe:** why, why not other not mentioned?)

23. Do you think that chronic respiratory symptoms could be prevented? If so, what could be done?

24. What do you think will happen if chronic respiratory symptoms are not treated?

(**Probe:** what problems may it bring to Anna, and to the family? In terms of health, money, or socially)

25. Who would you seek for help to treat chronic respiratory symptoms?

(**Probe:** why this person? What would he/she do? What could a doctor do? Cure or only treat? )

## Appendix 4 : OBSERVATION LIST: Healthcare professional (e.g. physician, nurse, midwife)

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**FRESH AIR**

WP3

DOCUMENT ID \_\_\_\_\_ DATE \_\_\_\_\_

**Country Code** \_\_\_\_\_

**Study Setting** \_\_\_\_\_

**Location of consultation/Clinic** \_\_\_\_\_

**Details** outreach / first line clinic with only outdoor department (policlinic) /  
healthcare centre with inpatient facilities / other  
.....(please specify)

**Healthcare worker description** Male / female Age: \_\_\_\_ Education: \_\_\_\_\_

Profession: \_\_\_\_\_

Total years work experience: \_\_\_\_\_

Years of work experience in community: \_\_\_\_\_

**Patient description** Male / female Age: \_\_\_\_

Comorbidity: \_\_\_\_\_

**Observer** \_\_\_\_\_

**Start** \_\_\_\_\_ : \_\_\_\_\_ AM/PM

**End** \_\_\_\_\_ : \_\_\_\_\_ AM/PM

-----  
Please circle the option that you observe. If you observe option 2, this would look like:

option 1 / **option 2** / option 3

If more than one option is observed, please circle every applicable option  
-----

### A CONSULTATION

#### 1) Reason for consultation

- a) First consultation / follow up consultation
- b) Nature of symptoms: (e.g. breathlessness, cough, dyspnoea, etc.)  
\_\_\_\_\_
- c) Duration of symptoms: \_\_\_\_\_

(Note: important to describe if it is chronic (> 8 weeks) or acute (< 8 weeks)

**d)** Does the healthcare worker make a difference between acute and chronic?

Remarks

**2) Describe: how does the healthcare professional diagnose the disease or the current status of the disease:** (please circle the option observed and add any other possible ways you observe. It is possible to circle more than one option).

**a)** Taking history / physical examination / thermometer / auscultation with a stethoscope / saturation (SpO2) / additional examination / other:..... (please specify)

**b)** If additional examination is used, please describe which:  
Spirometry / Chest X-ray / Chest – CT / arterial blood gas / venous blood testing / other .....(please specify)

Remarks

**3) Describe: what treatment does the healthcare professional initiate or continue:** (please circle the option observed and add any other possible ways you observe. It is possible to circle more than one option).

**a)** No treatment / referral to other centre or healthcare worker / behavioural treatment / medication / oxygen / herbal treatment / other

..... (Please specify)

Remarks

**b)** If behavioural treatment is recommended, please describe what behaviour:

Remarks

- c) If medication is prescribed, please describe exactly which medication (name, dose, prescribed duration, etc.)

Remarks

.....

**4) Describe: does the healthcare professional address the future plan/prognosis:**

- a) no / yes (please circle)
- b) If yes, please specify (follow-up appointment, mention alarm symptoms, inform on prognosis)
- .....

Remarks

**5) Describe: does the healthcare professional address the causes/prevention:**

- a) no / yes (please circle)
- b) If yes, please specify how.
- .....

Remarks

**6) Describe: does the healthcare professional use guidelines:**

a) no / yes (please circle)

b) If yes, please specify which one(s). (Note: this can also be a guideline on a poster on the wall)

*Remarks*

**7) Describe: how is the interaction between the healthcare professional and the patient:**

*Remarks*

---

**Additional remarks and observations**

## Appendix 5: Observation list household of a community member

---

**FRESH AIR**

WP3

DOCUMENT ID \_\_\_\_\_ DATE \_\_\_\_\_

**Country Code** \_\_\_\_\_

**Study Setting (village name)** \_\_\_\_\_

**Household composition** number of household members: \_\_\_\_\_

number of generations living together: \_\_\_\_\_

number of adults: \_\_\_\_\_

number of children (<18 yrs): \_\_\_\_\_

**People present during observation** \_\_\_\_\_

(e.g. mother, daughter and neighbour are present in the house during observation)

**Observer** \_\_\_\_\_

**Start** \_\_\_\_\_ : \_\_\_\_\_ AM/PM

**End** \_\_\_\_\_ : \_\_\_\_\_ AM/PM

-----  
Please circle the option that you observe. If you observe option 2, this would look like:

option 1 / **option 2** / option 3

If more than one option is observed, please circle every applicable option  
-----

### A HOUSING CONDITIONS

#### 1) Type of housing:

e) permanent housing / temporary housing / other: ..... (please specify)

f) hut / brick house / apartment / other: ..... (please specify)

Remarks

#### 2) General household conditions:

a) light source: connected to electricity / gas / kerosene (= paraffin) / other .....(please specify)

b) heating: charcoal / wood / dung / crop residues / grass / natural gas / kerosene /

Remarks electricity / gas / other ..... (please specify)

-----  
**B COOKING BEHAVIOUR**

**1) Type of stove:** open fire / single pot stove / multi-pot stove /  
Remarks griddle stove / other.....(please specify)

**2) Type of fuel:** **(If not observable, please ask the resident)**  
charcoal / wood / dung / crop residues / grass / natural gas / kerosene /  
Remarks electricity / gas / other ..... (please specify)

**3) Ventilation of cooking area:** no ventilation / chimney / electric hood / closed room / room with  
open door/window, room with <3 walls / cooks outside / other  
Remarks ..... (please specify)

**4) Sleeping area:** same room as kitchen / separate room / separate house / other .....  
Remarks (please specify)

**5) Seating area:** same room as kitchen / separate room / separate house/ other .....  
Remarks (please specify)

**6) Meal preparation: (If not observable, please ask the resident)**

person cooking:.....

location of person while cooking: .....

location of child(ren) during cooking: .....

Remarks

**In case the resident is cooking during the observation:**

**7) Smoke present:** much smoke / some smoke / no smoke

Remarks

**8) Symptoms observed by people present in cooking area:**

shortness of breath / coughing / dyspnoea / wheezing / dizziness / nasal

congestion / dryness and irritation of the eyes / other ..... (please specify)

Remarks

---

**C SMOKING BEHAVIOUR**

**1) Smoking**            yes / no

**2) If yes, specify:**    Who (person 1) .....

Substance smoked: (e.g. tobacco, hash, etc.) .....

Form of smoking: (e.g. cigarette, pipe, etc.) .....

Amount smoked during observation .....

Smoking area: same room / separate room / sleeping area / outside / other  
..... (please specify)

Who (person 2) .....

Substance smoked: (e.g. tobacco, hash, etc.) .....



Form of smoking: (e.g. cigarette, pipe, etc.) .....

Amount smoked during observation .....

Smoking area: same room / separate room / sleeping area / outside / other

..... (please specify

*Remarks*

**Additional remarks and observations**

## Health Belief Attitude Questionnaire For A Community Member

### DEMOGRAPHIC INFORMATION

Sex  Male  Female

Date of birth (dd/mm/yy) \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

How old are you? \_\_\_\_\_

What is the highest level of education that you have completed

- no formal schooling
- less than primary school
- primary school completed
- secondary school completed
- high school completed
- college/university completed
- post graduate degree

How many people, including yourself, live in your household? \_\_\_\_\_

What is your occupational sector? (Please tick (☒) the appropriate box)

- Housewife/man
- Traditional farming and agricultural sector
- Manufacturing sector (please specify by encircling the correct answer)  
(Machinery/ electronics/ metals/ food/ chemicals / alcohol or tobacco/ clothing and textile/ carpentry and wood)
- Transportation
- Construction
- Education, health and social services
- Commerce
- Defense, law and order
- others, namely: \_\_\_\_\_

Below is a small story about a fictional person. Please read the story carefully and answer the questions on the next page. We are interested in your own personal views of what you think about the story. Please indicate how much you agree or disagree with the statements below by ticking (☒) the appropriate box.

It is important that you answer according to your actual beliefs and not according to how you feel you should believe or how you think we want you to believe.

**Story:** Anna notices that she has become more easily out of breath over the past five years. The breathlessness increases with physical activity, such as cleaning the house or walking a longer distance. Also, she has an ongoing cough. The cough frequently produces mucus, especially in the mornings. In some periods the breathlessness and cough become very severe. This lasts over a week. Antibiotics do not improve the situation. Furthermore, Anna notices that she has less energy than five years ago.

Read each statement carefully. Check (☒) one best option that explains what you believe.

	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE
I believe this condition will last a short time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe this condition are likely to be permanent rather than temporary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe this condition will last for a long time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe this condition will pass quickly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I expect that Anna will have this condition for the rest of his life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that this condition is serious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe this condition has major consequences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe this condition does not have much effect on Anna's life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe this condition strongly affects the way others see Anna	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe this condition has serious financial consequences.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe this condition causes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>difficulties for those who are close to Anna</b>					
	<b>STRONGLY DISAGREE</b>	<b>DISAGREE</b>	<b>NEITHER AGREE NOR DISAGREE</b>	<b>AGREE</b>	<b>STRONGLY AGREE</b>
<b>I believe that Anna's symptoms will improve in time</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that there is very little that can be done to improve this condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that a treatment will be effective in curing this condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that the negative effects of this condition can be prevented (avoided) by treatment</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that a treatment can control this condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that there is nothing which can help relieving this condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that this condition would change a great deal from day to day</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that this condition comes and goes in cycles</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that this condition is very unpredictable</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that Anna goes through cycles in which his/her symptoms get better and worse</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that it will be likely that I will get the same condition as Anna</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I am confident that I will not get the same condition as Anna</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that I can prevent getting the same condition as Anna</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**In the next section we are interested in how you would cope with the symptoms the fictional person Anna has. Suppose you had these same symptoms . Please indicate by ticking the appropriate box how much you agree or disagree with the following statements**

<b>If I would have this condition then:</b>	<b>STRONGLY DISAGREE</b>	<b>DISAGREE</b>	<b>NEITHER AGREE NOR DISAGREE</b>	<b>AGREE</b>	<b>STRONGLY AGREE</b>
<b>I believe that other people from the community would encourage me to seek help for this condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that other people from the community would think less of me if I would seek help for this condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that my family would encourage me to visit a doctor for this condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that my family would think less of me if I would seek help for this condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe visiting a doctor for the condition would relieve the symptoms</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>It would be difficult for me to seek medical help</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I would be concerned how much a visit to the doctor would cost</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe there would be a lot I can do to control the condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that what I would do would determine whether the condition gets better or worse</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that the course of the condition would depend on me</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that nothing I would do would affect the condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that I would have the power to influence the condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that my action will have no effect on the outcome of the condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that I would get depressed when thinking about the symptoms</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that I would get upset when thinking of it.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that the symptoms would make me feel angry</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that the symptoms would not make me worry</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that the symptoms would make</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

---

me feel anxious

---

I believe the symptoms would make me feel afraid

### CAUSES OF THE SYMPTOMS

We are interested in what you consider may have been the cause of Anna's condition from the story above. We are most interested in your own views about the factors that would cause this condition rather than what others including doctors or family may have suggested. Below is a list of possible causes for the symptoms. Please indicate by ticking (☒) the appropriate box if you believe the factor could have caused the symptom

POSSIBLE CAUSES	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE
Stress or worry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It runs in the family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A germ or virus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diet or eating habits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chance or bad luck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Poor medical care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pollution in the house	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Someone's own behaviour	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Someone's mental attitude e.g. thinking about life negatively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Family problems or worries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overwork	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Someone's emotional state e.g. feeling down, lonely, anxious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ageing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alcohol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smoking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Second hand smoke</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Witchcraft</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>The weather</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Evil spirits</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Accident or injury</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Someone's personality</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>The weather</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Brought from other regions</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>An Allergy</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**In the table below, please list in rank-order the three most important factors that you now believe caused the condition of Anna. You may use any of the items from the box above, or you may have additional ideas of your own.**

**The most important causes**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**CURRENT TOBACCO USE**

**The following questions will be about tobacco use. Please answer the questions truthfully.**

**Indicate your answer by ticking (☒) the appropriate box.**

<b>Do you currently smoke any tobacco products, such as cigarettes, cigars or pipes</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<b>Do you currently smoke tobacco products daily?</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<b>On average, how many (in numbers) of the following products do you smoke</b>	Daily	Weekly
<b>Manufactured cigarettes</b>	.....	.....

Hand-rolled cigarettes	.....	.....	
Pipes full of tobacco	.....	.....	
Cigars, Cheroots, Cigarillos	.....	.....	
Number of shisha sessions	.....	.....	
Other: .....	.....	.....	
<b>During the past 12 months, have you tried to stop smoking?</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
<b>In the past, did you ever smoke any tobacco products?</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
<b>Where do you smoke on an average day</b>	Both indoor and outdoor <input type="checkbox"/>	Only Indoor <input type="checkbox"/>	Only Outdoor <input type="checkbox"/>

**COOKING HABITS**

The next questions concern your usual cooking habits during an average week.  
Please indicate the correct answer by ticking (☒) the appropriate box.

<b>Are you the household member that does most of the cooking and food preparation?</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>			
<b>How long do you on average prepare and cook your food per meal?</b>	<30 min <input type="checkbox"/>	30 min – 1 hr <input type="checkbox"/>	1-2hr <input type="checkbox"/>	2-3 hr <input type="checkbox"/>	>3 hr <input type="checkbox"/>
<b>How many warm meals do you prepare on average per day</b>	Number of warm meals...../day				
<b>What type of stove is mainly used in your household for cooking?</b>	open fire <input type="checkbox"/>	surrounded fire <input type="checkbox"/>	improved single pot stove <input type="checkbox"/>		
	improved multi pot stove <input type="checkbox"/>		griddle stove <input type="checkbox"/>		
<b>What type of fuel does your household mainly use for cooking?</b>	wood <input type="checkbox"/>	Dung <input type="checkbox"/>	Crop residues <input type="checkbox"/>	Grass <input type="checkbox"/>	
	Charcoal <input type="checkbox"/>	kerosene <input type="checkbox"/>	gas <input type="checkbox"/>	electricity <input type="checkbox"/>	
<b>Where is your cooking area situated</b>	outside <input type="checkbox"/>	In a separate building <input type="checkbox"/>	In a separate room <input type="checkbox"/>	In the same room as the living/sleeping area <input type="checkbox"/>	
<b>What type of ventilation is present in the cooking area?</b>	Room with <3 walls <input type="checkbox"/>	Open window/door <input type="checkbox"/>	hood <input type="checkbox"/>	Chimney <input type="checkbox"/>	



## HEATING

The next questions concern your usual heating habits during an average week.  
Please indicate the correct answer by ticking (☒) the appropriate box.

Do you heat your house when it is cold?	Yes <input type="checkbox"/>	No <input type="checkbox"/>						
On average how many months in the year is a stove used for heating?	<1 month <input type="checkbox"/>	1-4 months <input type="checkbox"/>	1-2hr <input type="checkbox"/>	2-3 hr <input type="checkbox"/>	>3 hr <input type="checkbox"/>			
On average when do you use the heater?	Only during the day <input type="checkbox"/>	Only during the night <input type="checkbox"/>	During the day and the night <input type="checkbox"/>	Never <input type="checkbox"/>				
What type of heater do you use?	open fire <input type="checkbox"/>	surrounded fire <input type="checkbox"/>	improved single pot stove <input type="checkbox"/>	improved multi pot stove <input type="checkbox"/>	griddle stove <input type="checkbox"/>			
What type of fuel does your household mainly use for heating?	wood <input type="checkbox"/>	Dung <input type="checkbox"/>	Crop residues <input type="checkbox"/>	Grass <input type="checkbox"/>	Charcoal <input type="checkbox"/>	kerosene <input type="checkbox"/>	gas <input type="checkbox"/>	electricity <input type="checkbox"/>
Where is your sleeping area situated	In a different room than the heater <input type="checkbox"/>	In the same room as the heater <input type="checkbox"/>	Next to the heater <input type="checkbox"/>					
What type of ventilation is present in the cooking area?	Open window or door <input type="checkbox"/>	hood <input type="checkbox"/>	Chimney <input type="checkbox"/>					

## SMOKE

On a scale from 1 to 5 please indicate how much smoke is in your house, by encircling the appropriate answer

How much smoke is in your house when cooking?

0      1      2      3      4      5  
 No smoke at all      The whole house filled with smoke

How much smoke is in your house when heating

0      1      2      3      4      5  
 No smoke at all      The whole house filled with smoke

Listed below are a number of symptoms that you may or may not have experienced yourself before.

Please indicate by circling *Yes* or *No*, whether you have experienced any of these symptoms the past 2 months and whether you have sought help for it.

	I have experienced this symptom <i>in the past 2 months</i>		I have sought help for this symptom <i>in</i> <i>the past 2 months</i>	
	Yes	No	Yes	No
<b>Pain</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Sore Throat</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Feel like vomiting (nausea)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Short of breath (Breathlessness)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Weight loss</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Tiredness (fatigue)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Difficult to move joints (stiff joints)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Eye irritation (sore eyes)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Wheezing</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Headaches</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Upset stomach</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Difficulty sleeping</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Dizziness</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Loss of strength</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

---- End of questionnaire ----

## Appendix 7: Health belief attitude questionnaire (Healthcare professional)

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### Health Belief Attitude Questionnaire For Healthcare Professionals

#### DEMOGRAPHIC INFORMATION

Sex  Male  Female

Date of birth (dd/mm/yy) \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Care Center ID \_\_\_\_\_

#### Type of physician

- nurse  
 midwife  
 primary care physician  
 respiratory specialist  
 other, namely: \_\_\_\_\_

Years in practice: \_\_\_\_\_

Obtained a Medical Degree  Yes, in (place/year) \_\_\_\_\_  No

**Below is a small story about a fictional person. Please read the story carefully and answer the questions on the next page. You may or may not recognize some element from your own experience as health care worker.**

**Story:** Anna notices that she has become more easily out of breath over the past five years. The breathlessness increases with physical activity, such as cleaning the house or walking a longer distance. Also, she has an ongoing cough. The cough frequently produces mucus, especially in the mornings. In some periods the breathlessness and cough become very severe. This lasts over a week. Antibiotics do not improve the situation. Furthermore, Anna notices that she has less energy than five

**Please write down on the line below how you would call this condition.**

**Name(s) of condition:** \_\_\_\_\_

We are interested in your own personal views of how you see the case described below. Please indicate how much you agree or disagree with the following statements by ticking (☒) the appropriate box.

Read each statement. Check (☒) one best option that explains what you believe.

	strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
<b>This condition will last a short time</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>This condition is likely to be permanent rather than temporary</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>This condition will last for a long time</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>This condition will pass quickly</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I expect that Anna has these symptoms for the rest of his life</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe this is a serious condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>This condition has major consequences on Anna's life</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>This condition does not have much effect on Anna's life.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>This condition strongly affect the way others see Anna</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>This condition has serious financial consequences.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>This condition causes difficulties for those who are close to Anna</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>There is a lot Anna can do to control his his condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>What Anna does can determine whether the condition gets better or worse</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>The course of the condition depends on Anna</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Nothing Anna does will affect his condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Anna has the power to influence his condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Anna's actions will have no affect on the outcome of the symptom</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Anna's condition will improve in time</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>There is very little that can be done to</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>improve this condition</b>					
<b>A treatment will be effective in curing this condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>The negative effects of this condition can be prevented (avoided) by treatment</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>A treatment can control this condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>There is nothing which can help this condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>The symptoms of this condition are puzzling to me</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Anna's condition is a mystery to me</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I do not understand Anna's condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>The condition does not make any sense to me</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I have a clear picture or understanding of the condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that Anna's condition would change a great deal from day to day</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that the symptoms come and go in cycles</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that the condition is very unpredictable</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that Anna goes through cycles in which his/her symptoms get better and worse</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that patients such as Anna get depressed when they think about their condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe patients such as Anna get upset when they think about this condition</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that this condition make patients such as Anna feel angry</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that this condition do not make patients such as Anna worry.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that having this condition makes patients such as Anna feel anxious</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>I believe that the condition make the patients such as Anna feel afraid</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## CAUSES OF THE SYMPTOMS

We are interested in what you consider may have been the cause of the above mentioned condition from Anna. Below is a list of possible causes for the condition. Based on what you have heard or know, please indicate by ticking (☒) the appropriate box if you believe the factor could have caused the symptom

POSSIBLE CAUSES	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE
Stress or worry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It runs in the family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A germ or virus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diet or eating habits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chance or bad luck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Poor medical care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pollution in the house	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Someone's own behaviour	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Someone's mental attitude e.g. thinking about life negatively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Family problems or worries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overwork	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Someone's emotional state e.g. feeling down, lonely, anxious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ageing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alcohol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smoking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Second hand smoke	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Witchcraft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Evil spirits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Accident or injury</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Someone's personality</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>The weather</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Brought from other regions</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>An Allergy</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**In the table below, please list in rank-order the three most important factors that you now believe caused the condition. You may use any of the items from the box above, or you may have additional ideas of your own.**

### The most important causes

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

### PREVENTIVE AND CURATIVE BEHAVIOUR

**The following questions will be about COPD health treatment.**

**Indicate your answer by ticking (☒) the appropriate box.**

	Yes	No
Have you seen a patient with the above mentioned condition in your practice the past 12 months?	<input type="checkbox"/>	<input type="checkbox"/>
Have you seen a patient with COPD in your practice the past 12 months?	<input type="checkbox"/>	<input type="checkbox"/>
Are you aware of any COPD protocols or guideline(s)?	<input type="checkbox"/>	<input type="checkbox"/>
Do you adhere to the COPD protocol or guideline(s)	<input type="checkbox"/>	<input type="checkbox"/>

**Please indicate how strongly you agree with the GOLD guideline statements for COPD**

	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE	I DO NOT KNOW
When COPD is suspected, the diagnosis should be confirmed by	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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spirometry

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For patients with stage 2–3 COPD whose dyspnea during daily activities is not relieved with as-needed short-acting bronchodilator, a long-acting bronchodilator should be added

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**In the following section we are interested in how you as a healthcare worker help a patient with COPD, who presents himself with the same symptoms as Anne from the story you have read previously.**

**Please write down in a few sentences in the box below what advice or treatment you would give to Anna**

**I would advise Anna to:**

**The following statements are about how often in your routine clinical practice you perform certain activities when encountering a case such as Anna. Please indicate by ticking (☒) the appropriate box how much it applies to you.**

<b>In my daily clinical practice, when I see a patient with the condition as Anne, I:</b>	<b>1 never</b>	<b>2 rarely</b>	<b>3 sometim es</b>	<b>4 often</b>	<b>5 always</b>	<b>Not applicable</b>
Adhere to the COPD protocol or guideline(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Order or perform a spirometry test when suspecting COPD?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recommend using an inhaled long-acting bronchodilator daily for patients with COPD?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identify and record smoking status of the patient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Give brief advice on tobacco cessation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assess tobacco users motivation to quit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Identify and record other COPD risk factor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discuss the hazards of indoor air pollution, such as cooking smoke	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prescribe a treatment based on antibiotics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prescribe a treatment based on herbs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In your daily routine how confident are you that you are able to:	1 Not at all confident	2	3	4	5 Extremely confident	Not applicable
1. Choose pulmonary function test for COPD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Interpret data on FEV and FVC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. To recommend optimal therapeutic regimen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. To determine response to pharmacotherapy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**There may be several reasons for not adhering to COPD guidelines. Please indicate by ticking (  ) the appropriate box which statements applies for you. Multiple answers can be ticked.**

- I disagree with the recommendation of the guideline for COPD
- I am not aware of the fact that there is a guidelines for COPD
- I find the guideline for COPD difficult to access
- I do not understand the guideline for COPD
- I am not familiar with the guideline for COPD
- The guideline for COPD is to lengthy and difficult to remember

- 
- There is a lack of time to perform the recommendations in the guideline for COPD
  - There is a lack of equipment (spirometry test, cessation expert) to perform the recommendations in the guideline for COPD
  - There is a lack of support/educational material to perform the recommendations in the guideline for COPD
  - The patients are reluctant to be tested with a spirometer
  - Others, namely: .....

## Appendix 8 : Brief Health belief attitude questionnaire (community member)

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### Health Belief Attitude Questionnaire For A Community Member

#### DEMOGRAPHIC INFORMATION

Sex  Male  Female

Date of birth (dd/mm/yy) \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

How old are you? \_\_\_\_\_

What is the highest level of education that you have completed

- no formal schooling
- less than primary school
- primary school completed
- secondary school completed
- high school completed
- college/university completed
- post graduate degree

How many people, including yourself, live in your household? \_\_\_\_\_

What is your occupational sector? (Please tick (☒) the appropriate box)

- Housewife/man
- Traditional farming and agricultural sector
- Manufacturing sector (please specify by encircling the correct answer)  
(Machinery/ electronics/ metals/ food/ chemicals / alcohol or tobacco/ clothing and textile/ carpentry and wood)
- Transportation
- Construction
- Education, health and social services
- Commerce
- Defense, law and order
- others, namely: \_\_\_\_\_

**Below is a small story about a fictional person. Please read the story carefully and answer the questions on the next page. We are interested in your own personal views of what you think about the story. Please indicate how much you agree or disagree with the statements below by ticking (☒) the appropriate box.**

**It is important that you answer according to your actual beliefs and not according to how you feel you should believe or how you think we want you to believe.**

**Story:** Anna notices that she has become more easily out of breath over the past five years. The breathlessness increases with physical activity, such as cleaning the house or walking a longer distance. Also, she has an ongoing cough. The cough frequently produces mucus, especially in the mornings. In some periods the breathlessness and cough become very severe. This lasts over a week. Antibiotics do not improve the situation. Furthermore, Anna notices that she has less energy than five years ago.

**The following questions are about what you have read about Anna. Imagine you had the same condition as Anna. Please read the questions and encircle the number that best corresponds to you views.**

**How much do you think the condition affects the life of Anna?**

0	1	2	3	4	5	6	7	8	9	10
No affect at all										Severely affects his life

**How long do you think the condition of Anna will continue?**

0	1	2	3	4	5	6	7	8	9	10
A very short time										Forever

**How much control do you think Anna has over the condition?**

0	1	2	3	4	5	6	7	8	9	10
Absolutely no control										Extreme amount of control

**How much do you think a treatment can help Anna's condition?**

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

**How much do you think Anna experiences symptoms from her condition?**

0	1	2	3	4	5	6	7	8	9	10
No symptoms at all										Many severe symptoms

**How concerned would you be if you had Anna's condition?**

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

**How well do you feel you understand the condition of Anna?**

0	1	2	3	4	5	6	7	8	9	10
Don't understand at all										Understand very clearly

**How much would Anna's condition affect you emotionally? (e.g does it make you angry, scared, upset, depressed)**

0	1	2	3	4	5	6	7	8	9	10
Not at all affected emotionally										Extremely affected emotionally

**How concerned are you that you will get the same condition as Anna?**

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

**Suppose you had the same condition as Anna, how important would your family think it is to see a doctor for medical help or advice?**

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

**Suppose you had the same condition as Anna, how difficult would it be for you to see a doctor for help or advice?**

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

**Suppose you had the same condition as Anna, how much do you think seeing a doctor would relief the symptoms?**

0	1	2	3	4	5	6	7	8	9	10
No relief at all										Complete relief

**Suppose you had the same condition as Anna, who would you see for help? Please indicate by ticking (☒) the**

**appropriate box**

- Partner
- Friend
- Parent
- Family (non-parent)
- Traditional healer
- Doctor/ general practitioner in a hospital
- Teacher
- Health worker
- Religious leader]
- Other, namely:.....
- I would not seek help

## CAUSES OF THE SYMPTOMS

We are interested in what you consider may have been the cause of Anna's condition from the story above. We are most interested in your own views about the factors that would cause this condition rather than what others including doctors or family may have suggested. Below is a list of possible causes for the symptoms. Please indicate by ticking (☒) the appropriate box if you believe the factor could have caused the symptom

POSSIBLE CAUSES	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE
Stress or worry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It runs in the family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A germ or virus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diet or eating habits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chance or bad luck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Poor medical care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pollution in the house	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Someone's own behaviour	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Someone's mental attitude e.g. thinking about life negatively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Family problems or worries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overwork	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Someone's emotional state e.g. feeling down, lonely, anxious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ageing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alcohol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smoking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Second hand smoke	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Witchcraft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Evil spirits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accident or injury	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Someone's personality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Brought from other regions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
An Allergy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In the table below, please list in rank-order the three most important factors that you now believe caused the condition of Anna. You may use any of the items from the box above, or you may have additional ideas of your own.

**The most important causes**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**CURRENT TOBACCO USE**

The following questions will be about tobacco use. Please answer the questions truthfully. Indicate your answer by ticking (☒) the appropriate box.

Do you currently smoke any tobacco products, such as cigarettes, cigars or pipes	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Do you currently smoke tobacco products daily?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
On average, how many (in numbers) of the following products do you smoke	Daily	Weekly
Manufactured cigarettes	.....	.....
Hand-rolled cigarettes	.....	.....
Pipes full of tobacco	.....	.....



Cigars, Cheroots, Cigarillos	.....	.....	
Number of shisha sessions	.....	.....	
Other: .....	.....	.....	
<b>During the past 12 months, have you tried to stop smoking?</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
<b>In the past, did you ever smoke any tobacco products?</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
<b>Where do you smoke on an average day</b>	Both indoor and outdoor <input type="checkbox"/>	Only Indoor <input type="checkbox"/>	Only Outdoor <input type="checkbox"/>

**COOKING HABITS**

The next questions concern your usual cooking habits during an average week.  
Please indicate the correct answer by ticking (☒) the appropriate box.

Are you the household member that does most of the cooking and food preparation? Yes  No

How long do you on average prepare and cook your food per meal? <30 min  30 min – 1 hr  1-2hr  2-3 hr  >3 hr

How many warm meals do you prepare on average per day Number of warm meals...../day

What type of stove is mainly used in your household for cooking? open fire  surrounded fire  improved single pot stove   
improved multi pot stove  griddle stove

What type of fuel does your household mainly use for cooking? wood  Dung  Crop residues  Grass   
Charcoal  kerosene  gas  electricity

Where is your cooking area situated outside  In a separate building  In a separate room  In the same room as the living/sleeping area

What type of ventilation is present in the cooking area? Room with <3 walls  Open window/door  hood  Chimney

---- Please turn over page to continue questionnaire -

## HEATING

The next questions concern your usual heating habits during an average week.  
Please indicate the correct answer by ticking (☒) the appropriate box.

Do you heat your house when it is cold?

Yes

No

On average how many months in the year is a stove used for heating?

<1 month

1-4 months

1-2hr

2-3 hr

>3 hr

On average when do you use the heater?

Only during the day

Only during the night

During the day and the night

Never

What type of heater do you use?

open fire

surrounded fire

improved single pot stove

improved multi pot stove

griddle stove

What type of fuel does your household mainly use for heating?

wood

Dung

Crop residues

Grass

Charcoal

kerosene

gas

electricity

Where is your sleeping area situated

In a different room than the heater

In the same room as the heater

Next to the heater

What type of ventilation is present in the cooking area?

Open window or door

hood

Chimney

## SMOKE

On a scale from 1 to 5 please indicate how much smoke is in your house, by encircling the appropriate answer

How much smoke is in your house when cooking?

0  
No smoke at all

1

2

3

4

5  
The whole house filled with smoke

How much smoke is in your house when heating

0  
No smoke at all

1

2

3

4

5  
The whole house filled with smoke

Listed below are a number of symptoms that you may or may not have experienced yourself before.

Please indicate by circling *Yes* or *No*, whether you have experienced any of these symptoms the past 2 months and whether you have sought help for it.

	I have experienced this symptom <i>in the past 2 months</i>		I have sought help for this symptom <i>in the past 2 months</i>	
	Yes	No	Yes	No
<b>Pain</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Sore Throat</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Feel like vomiting (nausea)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Short of breath (Breathlessness)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Weight loss</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Tiredness (fatigue)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Difficult to move joints (stiff joints)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Eye irritation (sore eyes)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Wheezing</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Headaches</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Upset stomach</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Difficulty sleeping</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Dizziness</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Loss of strength</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

---- End of questionnaire ----

## Appendix 9 : Brief Health belief attitude questionnaire (Healthcare professional)

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### Health Belief Attitude Questionnaire For Healthcare Professionals

#### DEMOGRAPHIC INFORMATION

Sex  Male  Female

Date of birth (dd/mm/yy) \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Care Center ID \_\_\_\_\_

#### Type of physician

- nurse  
 midwife  
 primary care physician  
 respiratory specialist  
 other, namely: \_\_\_\_\_

Years in practice: \_\_\_\_\_

Obtained a Medical Degree  Yes, in (place/year) \_\_\_\_\_  No

---

**Below is a small story about a fictional person. Please read the story carefully and answer the questions on the next page. You may or may not recognize some element from your own experience as health care worker.**

**Story:** Anna notices that she has become more easily out of breath over the past five years. The breathlessness increases with physical activity, such as cleaning the house or walking a longer distance. Also, she has an ongoing cough. The cough frequently produces mucus, especially in the mornings. In some periods the breathlessness and cough become very severe. This lasts over a week. Antibiotics do not improve the situation. Furthermore, Anna notices that she has less energy than five

**Please write down on the line below how you would call this condition.**

**Name(s) of condition:** \_\_\_\_\_

**We are interested in your own personal views of how you see the case described below. For the following questions, please encircle the number that best corresponds to you views.**

---

**How much do you think the condition affects the life of Anna?**

0	1	2	3	4	5	6	7	8	9	10
No affect at all										Severely affects his life

**How long do you think the condition of Anna will continue?**

0	1	2	3	4	5	6	7	8	9	10
A very short time										Forever

**How much control do you think Anna has over the condition?**

0	1	2	3	4	5	6	7	8	9	10
Absolutely no control										Extreme amount of control

**How much do you think a treatment from you can help Anna's condition?**

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

**How much do you think Anna experiences symptoms from her condition?**

0	1	2	3	4	5	6	7	8	9	10
No symptoms at all										Many severe symptoms

**How concerned are you about Anna's condition?**

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

**How well do you feel you understand the condition of Anna?**

0	1	2	3	4	5	6	7	8	9	10
Don't understand at all										Understand very clearly

**How much does Anna's condition affect you emotionally? (e.g does it make you angry, scared, upset, depressed)**

0 1 2 3 4 5 6 7 8 9 10  
Not at all affected emotionally Extremely affected emotionally

**How likely do you think that a member of your community would get the same condition as Anna?**

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

**Suppose you would have a patient such as Anna, how important would your colleagues think it is to help Anna?**

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

**Suppose you would have a patient such as Anna, how difficult would it be for you to help Anna?**

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

**Suppose you would have a patient such as Anna, how much do you think would you be able to relieve the symptoms?**

0 1 2 3 4 5 6 7 8 9 10  
No relief at all Complete relief

## CAUSES OF THE SYMPTOMS

We are interested in what you consider may have been the cause of the above mentioned condition from Anna. Below is a list of possible causes for the condition. Based on what you have heard or know, please indicate by ticking (☒) the appropriate box if you believe the factor could have caused the symptom

POSSIBLE CAUSES	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE
Stress or worry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It runs in the family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A germ or virus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diet or eating habits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chance or bad luck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Poor medical care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pollution in the house	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Someone's own behaviour	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Someone's mental attitude e.g. thinking about life negatively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Family problems or worries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overwork	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Someone's emotional state e.g. feeling down, lonely, anxious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ageing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alcohol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smoking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Second hand smoke	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Witchcraft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Evil spirits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Accident or injury</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Someone's personality</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>The weather</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Brought from other regions</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>An Allergy</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**In the table below, please list in rank-order the three most important factors that you now believe caused the condition. You may use any of the items from the box above, or you may have additional ideas of your own.**

**The most important causes**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**PREVENTIVE AND CURATIVE BEHAVIOUR**

**The following questions will be about COPD health treatment.**

**Indicate your answer by ticking (☒) the appropriate box.**

	Yes	No
Have you seen a patient with the above mentioned condition in your practice the past 12 months?	<input type="checkbox"/>	<input type="checkbox"/>
Have you seen a patient with COPD in your practice the past 12 months?	<input type="checkbox"/>	<input type="checkbox"/>
Are you aware of any COPD protocols or guideline(s)?	<input type="checkbox"/>	<input type="checkbox"/>
Do you adhere to the COPD protocol or guideline(s)	<input type="checkbox"/>	<input type="checkbox"/>



**Please indicate how strongly you agree with the GOLD guideline statements for COPD**

	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE	I DO NOT KNOW
When COPD is suspected, the diagnosis should be confirmed by spirometry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
For patients with stage 2–3 COPD whose dyspnea during daily activities is not relieved with as-needed short-acting bronchodilator, a long-acting bronchodilator should be added	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**In the following section we are interested in how you as a healthcare worker help a patient with COPD, who presents himself with the same symptoms as Anne from the story you have read previously.**

**Please write down in a few sentences in the box below what advice or treatment you would give to Anna**

**I would advise Anna to:**

**The following statements are about how often in your routine clinical practice you perform certain activities when encountering a case such as Anna. Please indicate by ticking (☒) the appropriate box how much it applies to you.**

In my daily clinical practice, when I see a patient with the condition as Anne, I:	1 never	2 rarely	3 sometim es	4 often	5 always	Not applicable
Adhere to the COPD protocol or guideline(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Order or perform a spirometry test when suspecting COPD?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recommend using an inhaled long-acting bronchodilator daily for patients with COPD?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identify and record smoking status of the patient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Give brief advice on tobacco cessation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assess tobacco users motivation to quit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identify and record other COPD risk factor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discuss the hazards of indoor air pollution, such as cooking smoke	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prescribe a treatment based on antibiotics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prescribe a treatment based on herbs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In your daily routine how confident are you that you are able to:	1 Not at all confident	2	3	4	5 Extremely confident	Not applicable
1. Choose pulmonary function test for COPD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Interpret data on FEV and FVC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. To recommend optimal therapeutic regimen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. To determine response to pharmacotherapy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**There may be several reasons for not adhering to COPD guidelines. Please indicate by ticking (  ) the appropriate box which statements applies for you. Multiple answers can be ticked.**

- I disagree with the recommendation of the guideline for COPD
- I am not aware of the fact that there is a guidelines for COPD
- I find the guideline for COPD difficult to access
- I do not understand the guideline for COPD
- I am not familiar with the guideline for COPD

- 
- The guideline for COPD is too lengthy and difficult to remember
  - There is a lack of time to perform the recommendations in the guideline for COPD
  - There is a lack of equipment (spirometry test, cessation expert) to perform the recommendations in the guideline for COPD
  - There is a lack of support/educational material to perform the recommendations in the guideline for COPD
  - The patients are reluctant to be tested with a spirometer
  - Others, namely: .....

## Appendix 10 : COREQ guidelines

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### Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

No	Item	Guide questions/description
<b>Domain 1: Research team and reflexivity</b>		
Personal Characteristics		
1.	Interviewer/facilitator	Which author/s conducted the interview or focus group?
2.	Credentials	What were the researcher's credentials? <i>E.g. PhD, MD</i>
3.	Occupation	What was their occupation at the time of the study?
4.	Gender	Was the researcher male or female?
5.	Experience and training	What experience or training did the researcher have?
Relationship with participants		
6.	Relationship established	Was a relationship established prior to study commencement?
7.	Participant knowledge of the interviewer	What did the participants know about the researcher? <i>e.g. personal goals, reasons for doing the research</i>
8.	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? <i>e.g. Bias, assumptions, reasons and interests in the research topic</i>
<b>Domain 2: study design</b>		
Theoretical framework		
9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? <i>e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis</i>
Participant selection		
10.	Sampling	How were participants selected? <i>e.g. purposive, convenience, consecutive, snowball</i>
11.	Method of approach	How were participants approached? <i>e.g. face-to-face, telephone, mail, email</i>
12.	Sample size	How many participants were in the study?
13.	Non-participation	How many people refused to participate or dropped out? Reasons?
Setting		
14.	Setting of data collection	Where was the data collected?
15.	Presence of non-participants	Was anyone else present besides the participants and researchers?
16.	Description of sample	What are the important characteristics of the sample? <i>e.g. demographic data, date</i>
Data collection		
17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it <i>pilot tested</i> ?
18.	Repeat interviews	Were repeat interviews carried out? If yes, how many? Not planned
19.	Audio/visual recording	Did the research use audio or visual recording to collect the

No	Item	Guide questions/description
		data?
20.	Field notes	Were field notes made during and/or after the interview or focus group?
21.	Duration	What was the duration of the interviews or focus group?
22.	Data saturation	Was data saturation discussed?
23.	Transcripts returned	Were transcripts returned to participants for comment and/or correction?
<b>Domain 3: analysis and findings</b>		Research team
Data analysis		
24.	Number of data coders	How many data coders coded the data?
25.	Description of the coding tree	Did authors provide a description of the coding tree?
26.	Derivation of themes	Were themes identified in advance or derived from the data?
27.	Software	What software, if applicable, was used to manage the data?
28.	Participant checking	Did participants provide feedback on the findings?
Reporting		
29.	Quotations presented	Were participant quotations presented to illustrate the themes / findings? Was each <i>quotation identified?</i> e.g. <i>participant number</i>
30.	Data and findings consistent	Was there consistency between the data presented and the findings?
31.	Clarity of major themes	Were major themes clearly presented in the findings?
32.	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?

## **Appendix 11a : Model informed consent form**

*General informed consent form (interviews, focus group discussions, observations)*

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### ***Subject information for research participation***

#### **FRESH AIR – Making the case for action**

*(Official title: Free Respiratory Evaluation and Smoke-exposure reduction by primary Health cAre Integrated gRoups – Making the case for action.)*

Dear Sir/Madam,

You are kindly asked participate in our study. Participation is voluntary. Participation requires your consent. We will first explain what this study involves for you. Then you can decide if you would like to participate. Please read this information carefully.

This study is designed by the [name of local institution in each of the four countries]. Ethics Committee [name of local ethics committee] has approved this study.

The purpose of this study is to get your opinions, insights, suggestions and behaviour/habits towards respiratory signs, such as coughing or breathlessness. We would like to use these findings to improve the healthcare for breathing diseases. Therefore we would like to [ask you questions/ observe your household situation/ observe your consultations]. This will last [approximately one hour (interviews, focus groups, observations households) / the duration of each respiratory consultation (observation healthcare workers)].

We will use the information from this study to write a report. The report will be a public document. Your real name will not be used at any point in the written report. Instead, you and any other person and place you name will be given fictitious names that will be used in all verbal and written records and reports.

Participating in this study has no direct advantage or risk for you. Your participation in this study is voluntary. You have the right to stop at any point, for any reason. If you stop, we will not use any information we received from you.

If you have any additional questions, please ask the lead investigator [name + contact details country lead researcher].

I confirm that I have been given information about participating in this study and that I understand it. I confirm that I would like to participate in this study.

**YES / NO** (please circle one of the two options)

Audio Recording of study activities:

Interviews may be recorded using audio recording to assist with the accuracy of your responses. Audiotapes will be used only for this study and will not be played for any reasons other than to do this study. You have the right to refuse the audio recording.

I consent to audio recording:

**YES / NO** (please circle one of the two options)

Your name \_\_\_\_\_

Your signature \_\_\_\_\_ The date \_\_\_\_\_

For the researcher:

I declare that I have informed the participant to my best knowledge about participating in this study.

Name researcher: \_\_\_\_\_

Signature researcher \_\_\_\_\_ The date \_\_\_\_\_

## Appendix 11b : Model informed consent form

*Informed consent for patients during consultations for agreeing with the presence of a researcher observing the healthcare professional*

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Dear Sir/Madam,

For our study, we would like to observe your healthcare worker in the coming consultation. We will only do this if you have no objection to our presence in the room. Before you decide, you will be given an explanation about what our study involves. Please read this information carefully and ask the investigator for an explanation if you have any questions.

This study is designed by the [name of local institution in each of the four countries]. Ethics Committee [name of local ethics committee] has approved this study.

The purpose of this study is to understand the behaviour of your healthcare worker towards respiratory signs, such as coughing or breathlessness. We would like to use these findings to improve the healthcare for breathing diseases.

There are no risks or direct benefits to you in this observation. You will still be seen and treated by your healthcare worker if you do not choose to participate. Please be assured that we will only focus on your healthcare worker and not on you. We will not write down or record your name. All information will be confidential.

Your agreement for observation of the consultation between you and the healthcare worker in this study is voluntary. You have the right to withdraw at any point of the study, for any reason

I confirm that I have been given information about this study and that I understand it. I confirm that I have no objection to the presence of any observer in this room who is conducting this study:

**YES / NO** (please circle one of the two options)

In case the patient is a child visiting the healthcare worker, you as a caretaker (for example the parent) may represent your child and fill out this form.

Your name (printed) \_\_\_\_\_

Your signature \_\_\_\_\_ The date \_\_\_\_\_

For the researcher:

I declare that I have informed the participant to my best knowledge about this declaration in this study.

Name researcher: \_\_\_\_\_

Signature researcher \_\_\_\_\_ The date \_\_\_\_\_



