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Abstract ID = 8621

Presented at: 8.1 Tapas/Petiscos Best Practice from IPCRG Members - Adding Value to Your

Practice: 02/06/2018 09:00-10:20

Acute asthma rescue therapy in a primary care institution in Singapore: Observations from a National Asthma Program from 2010-2016

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#### Aim:

Asthma exacerbation is potentially life-threatening, leading to breathlessness and ill-health of the affected patients. Patients with acute asthma exacerbations often seek treatment in public primary care clinics (polyclinics) in Singapore due to accessibility and affordability of its walk-in, fee-for-service primary healthcare system. The proportion of such patients receiving rescue therapy for acute asthma, over the total asthma attendances, is an indicator for quality of care and disease burden in the institution. The aim of this study is to describe the asthma attendances over seven years for well patients and those who required rescue therapies, in a cluster of polyclinics located in eastern and southern Singapore.

## Methods:

This study retrieved the 2010-2016 aggregated data from the Singapore National Asthma Program and Quality Indicators database in the institution. They included demographic variables of patients of all age groups who attended any of its nine polyclinics, their asthma control test scores, rescue therapies using inhalational bronchodilators in the polyclinics, referral to emergency units in hospitals for severe asthma exacerbations after failed rescue therapies.

#### Results:

From 2010 to 2016, the overall asthma attendances increased 38% from 27,345 to 37,782. The proportion of patients who achieved good asthma control (Asthma Control Test score  $\geq$  20) had risen from 71.4% to 80.9% during this period of time. Conversely, the rescue therapy and referral rates to hospital emergency units decreased from 15.8% to 12.0% and 0.7% to 0.5% respectively from 2010 to 2016, despite an increase in total asthma attendances. This improvement was attributed to increasing use of inhaled corticosteroid and/or combined with Long-Acting Bronchodilator and asthma education using their personalized asthma action plan.

#### Conclusion:

Despite increasing proportions of patients attaining better asthma control, resulting in fewer rescue therapy and referrals for emergency care, more measures will be taken to further reduce the asthma exacerbation rate.

#### **Declaration of Interest**

The Singapore National Asthma Program funds the manpower to collect data for the institution database. I declare no further funding for this project.

## **References and Clinical Trial Registry Information**

nil

Abstract ID = 8722

Presented at: Quality Improvement/Service Development Posters 31/05/2018 09:00-10:00

Adaptation of a difficult-to-manage asthma programme for implementation in the Dutch context: a modified e-Delphi.

Jiska Snoeck-Stroband General Practice 'Akel

Patients with difficult-to-manage asthma represent a heterogeneous subgroup of asthma patients who require extensive assessment and tailored management. The International Primary Care Respiratory Group approach emphasises the importance of differentiating patients with asthma that is difficult to manage from those with severe disease. Local adaptation of this approach, however, is required to ensure an appropriate strategy for implementation in the Dutch context. We used a modified three-round e-Delphi approach to assess the opinion of all relevant stakeholders (general practitioners, pulmonologists, practice nurses, pulmonary nurses and people with asthma). In the first round, the participants were asked to provide potentially relevant items for a difficult-to-manage asthma programme, which resulted in 67 items. In the second round, we asked participants to rate the relevance of specific items on a seven-point Likert scale, and 46 items were selected as relevant. In the third round, the selected items were categorised and items were ranked within the categories according to relevance. Finally, we created the alphabet acronym for the categories 'the A-I of difficult-to-manage asthma' to resonate with an established Dutch 'A-E acronym for determining asthma control'. This should facilitate implementation of this programme within the existing structure of educational material on asthma and chronic obstructive pulmonary disease (COPD) in primary care, with potential for improving management of difficult-tomanage asthma. Other countries could use a similar approach to create a locally adapted version of such a programme.

Abstract ID = 8481

Presented at: 8.5 Oral Abstracts 9 Use of Data 02/06/2018 09:00-10:20

Allergy Management Support System(AMSS) in primary care: preparation for computerisation

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- **1.Aim:** To prepare the allergy management support system (AMSS) for computerisation.
- **2.Context:** Diagnosis and management of patients suspected of allergy is often performed by general practitioners (GPs), but is becoming more difficult by increases in both complexity and prevalence of allergic diseases. GPs often feel ill-equipped for this task, especially for food allergy and anaphylactic reactions, which may result in unnecessary specific IgE (sIgE) tests determinations and inefficient references to secondary care.
- **3.Intervention:** The AMSS has been developed to assist GPs in diagnosing and managing allergy¹ based on a patient-reported history questionnaire and sIgE tests. The AMSS contains more than 150 diagnostic categories and corresponding management recommendations. We previously demonstrated the AMSS is feasible and that GPs tend to follow the AMSS recommendations.

## 4. Strategy for change

The AMSS has been tested on paper and now needs to be computerized and run efficiently within existing computer systems of GPs. The questionnaire will be digitalized and the 150 categories will be converted to algorithms. The computerized AMSS will be tested with earlier data and pre-tested in new patients and a baseline measurement (slgE blood tests and referrals) will be performed. We aim to launch the computerized AMSS by the end of 2018.

#### 5. Effects of changes

By receiving individualized patient-specific feedback on each case, GPs should become more effective in identifying, managing and referring allergic patients. Additionally, using AMSS we assume a reduction of unnecessary specific IgE tests by GPs and more efficient referrals to secondary care.

- **6.Lessons learnt:** Future developments may include using the AMSS to guide and rationalize slgE testing and prioritizing referral to secondary care based on severity as ascertained by the AMSS.
- **7.Message for others:** The AMSS holds promise for the improvement of the quality of primary care for allergic patients

## **Declaration of Interest**

The authors declare no competing interests. Funding: unrestricted grants from Phadia BV (2009)¹ and ALK Abelló BV (2013-12ACT-05)¹ and grant from UMCG (CDO12.0060/round 2012-2/nr.140)². Trial registration: ISRCTN ISRCTN36780877 (retrospective 23-11-2017).

## **References and Clinical Trial Registry Information**

Flokstra – de Blok BMJ, van der Molen T, Christoffers WA, Kocks JWH, Oei RL, Oude Elberink JNG, et al. Development of an Allergy Management Support System in primary care. J Asthma Allergy. 2017 Mar 15;10:57-65

Abstract ID = 8532

Presented at: 8.1 Tapas/Petiscos Best Practice from IPCRG Members - Adding Value to Your Practice 02/06/2018 09:00-10:20

## Asthma Best Practice (ABP): A national asthma education program changing primary health care practice

Judi Wicking, Siobhan Brophy National Asthma Council Australia

**Aim:** To reinforce and increase awareness of best-practice asthma management guidelines to primary health care professionals (PHCP).

**Brief outline of context:** With a high burden of asthma in the Australian community, the Australian Government provided funding to the National Asthma Council Australia (NAC) to improve asthma management in primary care.

**Brief description of the change/intervention and why you thought it would work:** The NAC established a face-to-face education program with several workshop types to upskill PCHP in guideline-led asthma management. Workshops types included general primary health care professionals: e.g. GPs, practice nurses and allied health professionals and role specific education for practice nurses, pharmacists and Aboriginal Health Workers. Targeted education is an established mechanism for guideline implementation.

## Strategy for change: who, how, following what timetable

Over 2002–2017, across Australia 21,170 PCHP attended 1,096 workshops. Evaluators were appointed to assess program outcomes. Participants completed a written evaluation survey immediately post-workshop. Follow-up surveys were conducted with volunteer participants 6 months later to assess change in practice.

Effects of changes: The average immediate post-workshop evaluation survey response rate was over 80%. Across all workshop types, most respondents (91%) reported attending the workshop had increased their knowledge of evidence-based best practice, 89% increased their practical skills to support their application of evidence-based practice in asthma care, and 87% expected improvement in their asthma management practices.

The response rate for the 6-month follow-up survey in the 2013-2017 program was 22%. All responders reported they had 'entirely' or 'partially' retained knowledge from attending an NAC workshop. Confidence in exercising practical skills six-months post workshop ranged between 78%-97%, depending on skill area and workshop type.

Lessons learnt: Face-to-face small group learning is still warranted

**Message for others:** The NAC education is a targeted, role specific, national program and a successful model for providing evidence-based asthma management guidelines and training to PCHP. Change in practice is achievable through appropriate education.

**Declaration of Interest** (including funding source and trial registration if appropriate)

Nil

Abstract ID = 8581

Presented at: 4.5 Oral Abstracts 5 COPD Low and Middle-Income Countries 01/06/2018 10:20-11:20

Can the Community Health Workers help drive a National COPD Prevention and Control Program in a resource poor country like India?Proposed RESPIRE funded Project

Deesha Ghorpade, Dr. Sundeep Salvi Chest Research Foundation

Aim: To investigate whether Community Health Workers can help drive a National COPD Prevention and Control Program in a resource poor country like India. Brief outline of context: India, like many other developing countries in Asia, Africa and South America, has witnessed a rapid transition from communicable to non-communicable diseases over the last two decades, with COPD emerging as one of the leading causes of suffering and death. With 55.3 million prevalent cases, 0.84 million deaths and 22.4 million DALY's every year, COPD is ranked as the second leading cause of deaths and disability in India, with ambient and household air pollution as the leading risk factors.

Brief description of the change/intervention and why you thought it would work: In order to tackle this huge and growing burden of COPD in India, innovative, cost-effective, feasible, multipronged educative, preventative and early screening/diagnostic interventions are required which need to be integrated into the national health care policies. Community health workers have been shown to deliver basic health care services, especially in the field of communicable diseases across many resource poor countries in world, including India, Bangladesh, Pakistan and other African countries.

**Strategy for change ( who, how, following what timetable):**In this proposed RESPIRE funded 2 yearlong project, we want to test the research idea that the accredited social health activist (ASHA) workers, which is the largest group of community health workers in India (0.9 million in total) may be useful in driving a national COPD prevention and control program through understanding the level of knowledge about COPD in the community, creating awareness using innovative community-based and home-based educational approaches and performing rapid home-based screening for COPD using a simple questionnaire ± peak flow metry.

**Effects of changes:** This Proposed observational and interventional study in Pune district of India will give us insights into the role of a community health worker in driving such a program that can be further scaled up not only at a national level, but can also form the basis for such similar programs in other similar countries.

Lessons learnt: Study to start.

Message for others: Study to start.

Abstract ID = 8704

Presented at: Resumos em Português e Castelhano – Apresentações orais 31/05/2018 11:00-12:45

Chronic Obstrutive Pulmonary Disease - an approach in Primary Health care - Projeto " Respirar bem, viver melhor"

Rui Nêveda, Odete Alves, Isabel Pires, Ligia Sá, António Fradão, Luis Freixo, Henrique Viana, Franklim Ramos Unidade Local de Saúde do Alto Minho. EPE

#### INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) is a chronic underdiagnosed and undertreated illness and one of the primary causes of morbimortality. Spirometry is the "Gold Standard" diagnostic test and should be made easily available under Primary Health Care (PHC)

#### **OBJECTIVES**

To create an integration device between PHC and Hospital Care (HC) that permits the proper diagnostic and therapeutic approach for COPD patients.

#### SIGNIFICANCE

Its implementation will reduce costs, improve the quality of life of its users, utilize existing resources being used in home based respiratory care; establish community partnerships; and, articulate with the family health teams, resulting in broader health benefits.

#### **DESCRIPTION**

Establishment of a working group representative of the PHC and HC; Creation of a flowchart for identification of patients with suspected COPD, 40 years of age and older, exhibiting symptoms and risk factors; Acquisition of a spirometer and hiring of a technician in Cardiopneumology (30 hours) for the administration of the spirometry tests and collection of clinical data; Diagnosis (IT< 70% post BD negative) and staging (A,B,C,D) of the disease according to the GOLD criteria; Training of health professional staff; Engagement of three pilot UCC for the development of communitarian interventions. *DISCUSSION* 7199 patients were summoned between February 2, 2014 and December 31, 2017, and 6529 spirometries were administered (90,6% participation) under the auspices of PHC; 57,5% were men and 42,5% women, predominantly between ages 50 and 80 years; 52,3% were smokers or former smokers and biomass exposure was present in 57,3% of cases. COPD was diagnosed in 838 patients as follows: Group A 29,8%; Group B 39,4%; Group C 5,0% and Group D 25,8%, requiring on average 7,79 spirometries in order to confirm the disease, a larger number than the 3,36 spirometries found in a 2013 study undertaken by the DGS.

## **CONCLUSIONS**

The participation of the Units of Family Health and of the Units of Primary Care Health has been positive, resulting in an increase in the number of COPD diagnosed cases, which along with the appropriate therapy can improve the quality of life of the patients. These health gains will be larger if there is an effective association, if there is a better use of the existing resources, and if communitarian partnerships are developed. The engagement of the Community and the establishment of partnerships in PHC will permit a better utilization of resources and intervention in the control of smoking, biomass exposure and rehabilitation.

## **Declaration of Interest**

Nothing to declare

Abstract ID = 8692

Quality Improvement/Service Development Posters 31/05/2018 09:00-10:00

## **COPD: A reinforced approach**

Silvia Madureira, Maria João Faria, Daniela Rocha, Dalila Lima, Rita Regadas *USF Aquilino Ribeiro* 

**Aim:** Evaluate the quality of health care provided to the patients with COPD.

**Brief outline of context:** In Portugal the prevalence of COPD is nearly 14.2% in adults over 40 years. In Aquilino Ribeiro Family Health Unit, according to data collected in 2015, we observed that only 2.1% of our users are diagnosed with COPD, far below the national estimated prevalence. On the other hand, as smoking is a major risk factor for the development of COPD, we also consider essential to improve the registration of the proportion of smokers in the population aged  $\geq$  14 years, as well as the diagnosis of tobacco abuse, which corresponded only to 21.3% of our users.

Brief description of the change/intervention and why you thought it would work: Improve diagnosis, classification and approach of users with COPD, using the available indicators related to this clinical area, as well as creating new goals to be evaluated.

**Strategy for change:** Promote internal training, planning and distributing new tasks to all members of the Family Health Unit in order to improve the knowledge on the pathology. Encouraged them to use all opportunistic appointments to question about smoking habits and/or exposure to other risk factors of COPD and to request spirometry for users over 40 years of age, with risk factors and/or symptoms or with diagnostic of COPD.

**Effects of changes:** Increase the diagnosis of new cases of COPD and the number of patients with COPD with a spirometry record in the last 3 years, so as to intervene in a timely manner and slow the decline of the patient's respiratory capacity, with a significant impact on the prognosis.

**Lessons learnt:** The diagnosis of COPD was clearly under-estimated, which reinforced the necessity of the implementation of evaluation instruments in order to detect technical-scientific problems and to develop corrective strategies.

**Message for others:** The team recognize COPD as an unequivocal cause of chronic morbimortality and intends to improve its overall results.

## **Declaration of Interest**

The authors declare that there are no conflicts of interest related to this intervention.

## **References and Clinical Trial Registry Information**

Direcção-Geral da Saúde. Divisão de Doenças Genéticas, Crónicas e Degenerativas. Programa Nacional de Prevenção e Controlo da Doença Pulmonar Obstrutiva Crónica. CIRCULAR Normativa nº: 04/DGCG. Lisboa, 2005

Global Initiative for Chronic Obstructive Lung Disease. Global Strategy for the Diagnosis, Management and Prevention of Chronic Obstructive Pulmonary Disease. 2011.

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Abstract ID = 8653

Presented at: 3.3 Oral Abstracts 3: Asthma & Inhaler Delivery 01/06/2018 09:00-10:20

Development of a shared decision-making tool to support patients and their healthcare provider in choosing the best inhaler device

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**Aim** To develop an online tool that can be used to support the choice of an inhaler that matches patients' needs and preferences.

**Context:** Successful inhaled therapy is hardly achieved in daily practise due to frequent incorrect inhaler use and inadequate inhaler adherence. Shared decision making (SDM) by patient and healthcare provider might enhance adherence and self-efficacy in patients.

**Intervention:** An online questionnaire was sent to 724 asthma/COPD patients with questions about "inhaler satisfaction" and "inhaler preferences" to detect for patients important inhaler characteristics. **Strategy for change:** Data from these questionnaires was used to develop the online SDM tool. The tool was developed in Qualtrics and contains movie clips. 452 patients filled in the questionnaire (64% female, 74% between 50 and 75 years). The most important characteristics were: "dose counter," "feedback mechanism," "environmental friendly," "<€10," "only once a day," "easy and quick to use," "easy to carry."

**Effects of changes:** First the prescribed drug class (e.g. LABA, LAMA, ICS, combination) needs to be chosen. Then a video of the different inhaler groups is presented (e.g. *MDI*, *SMI*, *DPI etc.*). The patient can choose one of these inhaler groups. Afterwards the characteristics of all inhalers within the chosen inhaler group are presented in a short video. The final step for the patient is to choose the preferred device. The total time needed to is maximal 10 minutes.

**Lessons learnt:** It was possible to create an easy to use, online SDM tool.

Message for others. Our tool can empower patients in a choice of their inhaler. The efficacy of this tool needs to be evaluated in clinical practice.

## **Declaration of Interest**

Funding was received from The Royal Dutch Pharmacists Association (Koninklijke Nederlandse Maatschappij ter bevordering der Pharmacie, KNMP)

Abstract ID = 8560

Presented at: 8.1 Tapas/Petiscos Best Practice from IPCRG Members - Adding Value to Your Practice 02/06/2018 09:00-10:20

# Development of an innovative self-management app for asthma patients based on a user-centred approach – a study protocol

Charlotte Poot<sup>1</sup>, Eline Meijer<sup>2</sup>, Susanne van de Hei<sup>3</sup>, Esther Metting<sup>3</sup>, Job van Boven<sup>4</sup>, Janwillem Kocks<sup>3</sup>, Niels Chavannes<sup>2</sup>

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#### Aim

To develop an asthma self-management application that aligns with the needs of asthma patients.

## Brief outline of the context:

Despite the availability of effective treatment, asthma remains sub-optimally controlled among half of patients. Suboptimal asthma control can result from poor adherence to the prescribed medication regimen, either intentionally or unintentionally. Self-management based electronic health (eHealth) interventions have shown promising results in increasing adherence and maintaining asthma control. First generation smart inhalers have demonstrated that adherence is improved by reminders and motivational messages. Although some measures are effective, many are either inconsistent with current medical guidelines, do not meet intentionally and unintentionally non-adherent patients' needs in driving behavioural change, and/or lack usability. Hence, for an overall effective strategy, patient preferences and the diverse reasons for non-adherence should be considered.

## Brief description of the change/intervention and why you thought it would work

Our study will deploy an iterative, user-centred design approach to further develop a self-management application that is easy to use, meets users' needs, and helps establish correct behaviour and asthma control.

## Strategy for change

During an 'inspirational phase,' in-depth interviewing, 'think aloud' exercises, and/or user journey mapping will provide understanding of patients' specific needs and requirements for managing asthma. Needs and design requirements will be analysed through thematic analysis of the interview transcripts. During subsequent iterative cycles of prototyping and user testing, prototypes will be discussed, tested, improved, and evaluated based on acceptability and usability. Healthcare professionals will be consulted as experts during all product development stages.

## **Effects of changes**

Development of an asthma self-management application with asthma patients will ensure the design and incorporation of features that are important for end-users as well as increasing acceptability.

#### Lessons learnt/Message for others

This study will inform future studies on requirements for eHealth-based self-management interventions from the perspective of asthma patients. Foremost, this study will demonstrate the importance of including endusers in all stages of development of an eHealth-based strategy.

## **Declaration of Interest**

This study is funded by AstraZeneca. All authors declare that they have no competing interests.

Abstract ID = 8550

Quality Improvement/Service Development Posters 31/05/2018 09:00-10:00

## Development, promotion and adoption of a person-centred research and care (PCRC) framework in primary care

Michela Tinelli<sup>1</sup>, Elena Petelos<sup>2</sup>, Monica Ensini<sup>3</sup>, Andrea Giustina<sup>4</sup>, Christos Lionis<sup>5</sup>, Ioanna Tsiligianni<sup>6</sup>, Sian Williams<sup>7</sup>, George Samoutis<sup>8</sup>, Jamie Wilkinson<sup>9</sup>, Denis Horgan<sup>10</sup>, Luca Sangiorgi<sup>11</sup>, Androulla Eleftheriou<sup>12</sup>, Silvana Galderisi<sup>13</sup>

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Introduction and aim: It is recognised that person-centred approaches to research and care support patients to develop the knowledge, skills and confidence they need to more effectively manage and make informed decisions about their own health services they need; ultimately this would render them more resilient and, at the same time, contributing towards more resilient groups, systems and societies. There remains, however, a strong unmet need for a widely accepted person-centred-research-and-care (PCRC) framework, endorsed by all stakeholders, to allow for good communication, robust evidence generation and, shared decisions between patients and clinicians, and, ultimately, optimal outcomes, particularly in chronic conditions rather than episodic care. This is at the heart of the chronic care model. It is described by evidence-informed personalised care planning, self-management support, and shared-decision-making taking into consideration information asymmetry and potential disparities across contexts.

The aim of this work was to broker initial dialogue with international stakeholders about their preferences and needs, opportunities and synergies, and their willingness to actively support a collaborative and participatory initiative to support the development, promotion and adoption of such framework in primary care.

**Methods and results:** Policymakers, regulators, academics, healthcare professionals and patient representatives from national and international groups were asked to provide feedback on preliminary plan of collaboration and to examine the key concepts and values to drive the generation, promotion and adoption of a PCRC framework in primary care. Their feedback was collected by email, face-to-face conversation or calls. The key gaps to be addressed include: poor training of stakeholders; information asymmetry, as manifested by limited knowledge and exchange between stakeholder groups across a variety of disciplines, and across a spectrum of various issues; lack of readily accessible information and best practices, including tools to support local policy advocacy programmes and to guide evidence-informed policy, diversity and inclusion schemes; lack of tools to monitor, evaluate outcomes and impact of efforts related to PCRC practices; lack of formal partnership between academia and different stakeholder groups in research and practice.

**Conclusion:** A PCRC framework and a collaborative and participatory model to promote and adopt evidence-informed policy making in primary care is required and such a framework and model would lead to a higher degree of resilience on person, system and society level. Opportunities to pursue person-centred education and exchanges for various primary care respiratory groups, and across settings at national and supranational levels will be explored by the international stakeholder community.

Declaration of Interest – no funding to be declared

Abstract ID = 8604

Quality Improvement/Service Development Posters 31/05/2018 09:00-10:00

Feasibility of conducting an internet-based Spirometry training for health care workers in Uganda: The Fresh Air Horizon 2020 experience

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Aim: To explore the feasibility of providing an internet-based spirometry training to health care workers in Uganda

**Brief outline of context:** Spirometry is the "gold standard" measure of lung function, central to the diagnosis and management of chronic lung diseases (CLDs), such as Asthma and Chronic Obstructive Pulmonary Disease (COPD). However, patient access to this test is unavailable in most Low-Income Countries (LICs). Limiting factors include the lack of spirometers and the lack of training and feedback in performance and interpretation.

**Brief description of the intervention:** The University of Washington (UW) provided access to Spirometry 360, a comprehensive, interactive, and evidence-based training and feedback programme, which is delivered online enabling wide distribution. To overcome foreseeable challenges of internet connectivity and coordination and to ensure comprehension as well as skill acquisition, we planned a group training.

**Strategy for change:** Invitations were sent to health care workers (HCWs) across Uganda. A wide range participated in the training, from biomedical scientists to medical assistants. Attendees gathered in one room with a steady internet connection. To allow adequate comprehension of training materials, the 6-hour training was spread out across 5 days. Participants then emailed spirometry tests to UW for over 7 months and received monthly feedback.

**Effects of changes:** The training was well received; 80% reported the training as very good or excellent, and 100% would recommend the program to a colleague. The percentage of acceptable tests submitted was 73% in the first month of the feedback program, and increased to 98% by its conclusion. Participants appreciated the interactive nature of the training.

**Lessons learnt:** It is feasible to offer an internet-based training and feedback in settings with limited internet connectivity, and have the training well received.

**Message for others:** Training HCWs to perform high quality spirometry and interpretation of tests is a critical step in building capacity to diagnose CLDs in LICs.

## **Declaration of Interest**

FRESH AIR was funded by the EU Research and Innovation program Horizon2020 under grant agreement no. 680997. This study is registered under trial registration number: NTR5759. http://www.trialregister.nl/trialreg/admin/rctsearch.asp?Term=23332

## **References and Clinical Trial Registry Information**

www.spirometry360.org

Abstract ID = 8710

Quality Improvement/Service Development Posters 31/05/2018 09:00-10:00

## Influenza vaccine coverage during pregnancy - quality improvement

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**Aim:** Pregnant women, when infected with *Influenza* virus, are at increased risk of morbidity and mortality<sup>1</sup>. Pregnant women are, thus considered a risk group, with indication for influenza vaccination<sup>2</sup>. This study aims to determine the coverage of influenza vaccination in pregnant women in the *Unidade de Saúde Familiar Santiago* (USFS) during the year 2015, to implement corrective measures and to reassess the impact of these measures in 2016.

**Brief outline of context:** During 2015, there were 117 pregnancies: 41 in the hospital; 27 in the USFS; 30 were followed both at the USFS and by a private doctor, 18 were followed by private obstetricians and 1 pregnancy was not medically monitored. Analyzing the 57 pregnant women medically monitored at the USF, it was observed an Influenza vaccination coverage rate of 17.5%.

**Brief description of the change:** Informative intervention for health professionals and preparation of information leaflets for pregnant women.

**Strategy for change:** In September of 2016, training was given to health professionals in a work meeting. There was presentation of previous results and display of an information leaflet to be made available to pregnant women.

**Effects of changes:** In 2016 there were 123 pregnancies: 40 in the hospital; 25 in the USFS; 27 were followed both in the USFS and by a private doctor; and 31 were followed by a private obstetrician. On the 52 pregnant women followed at the USF, the Influenza vaccine coverage was 30.8%.

**Lessons learnt:** It was found that pre-intervention coverage was relatively low when compared to international data (53.6% in the United States³). After the introduction of corrective measures, there was a 76% increase in coverage, demonstrating benefits of the interventions introduced.

**Message for others:** The interventions introduced, due to their simplicity of implementation, can be adopted by other primary care units.

## **Declaration of Interest**

None

## **References and Clinical Trial Registry Information**

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Abstract ID = 8628

Quality Improvement/Service Development Posters 31/05/2018 09:00-10:00

## Monthly case-based spirometry e-learning; 4-years of experience in the Netherlands.

Lisette VAN DEN BEMT<sup>1</sup>, Jan Rauws<sup>2</sup>, Jacob van Dijke<sup>3</sup>, Margit Metselaars<sup>2</sup>, Bart Thoonen<sup>3</sup>, Joke Denis<sup>2</sup>, Regien Kievits<sup>2</sup>

<sup>1</sup>Radboud University Medical Center, <sup>2</sup>Dutch primary care respiratory group (CAHAG), <sup>3</sup>Dutch primary care respiratory group (CAHAG) and Department of Primary and Community care, Radboud University Medical Center, Nijmegen, The Netherlands

#### Aim

To keep practice nurses and GPs informed and knowledgeable on the execution and assessment of spirometry as well as the latest insights in asthma / COPD disease management.

#### **Brief outline of context**

Primary care (PC) office spirometry is widely implemented in the Netherlands after the introduction of a nationwide PC spirometry course.(1) It is important that primary health care (PHC) professionals keep their spirometry knowledge up-to-date. Besides formal group refresher courses, a monthly case-based spirometry elearning inspired on recognisable situations for PHC providers could improve the knowledge on spirometry in a convenient way, on a self-chosen location and time.

## Strategy for change

In 2014 we set up a spirometry case-of-the-month e-learning (CASPIR Online). Every case starts with a patient description and a medical indication for spirometry. The e-learning follows a structured assessment of the lung function test as learned at the initial spirometry training. Next, relevant educational goals are added monthly, such as the assessment of obstruction based on LLN criterion and recommendations on e-cigarette use. The e-learning is available on the digital educational platform of the Dutch College of General Practices.

## Effects of changes / Lessons learnt

Currently we are working on the fifth serie of 12 new spirometry cases. The number of subscribers has been stable (between 721 - 932 participants) and many reregister for consecutive years. The 2017 version was scored with a 7.9 (range 6-10) on a scale from 1-10 and 97% of responders to our questionnaire (n=55) said they would recommend CASPIR Online to other PHC workers. We improved our program by broadening the scope and including other relevant disease management topics.

## Message for others

Case-based e-learning is widely appreciated by PHC workers as a tool to obtain and refresh spirometry knowledge.

#### **Declaration of Interest**

CASPIR Online is funded by GSK, Boehringer Ingelheim and Novartis.

## **References and Clinical Trial Registry Information**

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Abstract ID = 8647

Quality Improvement/Service Development Posters 31/05/2018 09:00-10:00

## Opinions of asthma/COPD patients and elderly about the Connecare self-management application

Esther Metting<sup>1</sup>, Lara Verhallen<sup>1</sup>, Maarten Lahr<sup>2</sup>, Klaske Wynia<sup>3</sup>, Margot Jager<sup>3</sup>, Janwillem Kocks<sup>1</sup>

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**Aim:** The aim of this study was to investigate the opinions of asthma/COPD patients and elderly about the CONNECARE self-management application.

**Context:** Asthma and COPD are non-communicable disease(NCD)s with high morbidity and mortality. One of the causes for the increase in NCDs is the rapid aging of populations worldwide. Self-management skills can help both elderly and asthma/COPD patients in controlling their chronic conditions. A promising approach to improve self-management is eHealth. However it is important to investigate if a self-management application developed for asthma/COPD patients and elderly is successful.

**Intervention:** The opinions of asthma/COPD patients and elderly (n=12) about the first version of the Connecare application were investigated with qualitative semi-structured interviews, which took place in the homes of the participants and were recorded with an audio and video recorded. Patients were asked to perform assignments such as "login" or "fill in your weight"

**Lessons learnt:** Both asthma/COPD patients and elderly were positive about the goals of the Connecare application. Especially navigation was complicated for participants, while almost all elderly had problems with the usability of the application: "I'm doing something with this app now and I think: this is abracadabra. Who would have ever thought you can press a screen and...". Asthma/COPD patients reported less usability problems..

**Message for others:** Participants were interested in using a self-management application. However, the usability determines if participant will eventually use the application, especially in elderly users. We have provided recommendations based on these interviews that are also relevant for other E-health developers.

#### **Declaration of Interest**

The CONNECARE project is funded by the EU as Horizon2020 project.

Authors have no conflict of interest.

Abstract ID = 8514

Quality Improvement/Service Development Posters 31/05/2018 09:00-10:00

## Patient empowerment through on-demand inhalers' technique review

José Oliveira Earthbound Solutions

The treatment of Asthma and Chronic Obstructive Pulmonary Disease (COPD) relies on the correct use of inhaler devices. The general practice consultation is a good opportunity for teaching or reviewing it, but sometimes it is not enough, due either to insufficient consultation time, or lack of knowledge/skills explaining less used devices. There are already healthcare materials that help to resolve these problems, but few with complete information easily available patients/professionals. The main objective of this work is to develop a website - www.inhalers.tk - containing videos teaching the inhaler technique according to each device's information leaflet. As a secondary objective it is intended to measure the satisfaction of the patients and professionals with this tool. As it is available worldwide, it is expected that this site can contribute to enhance asthma/COPD control in a wide extent, either by the improvement of the patient's inhaler technique or by increasing teaching opportunities, including at the patients' home.

#### **Declaration of Interest**

The author of this work has no affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this work.

Abstract ID = 8510

Presented at: 6.3 Oral Abstracts 7 COPD and Pulmonary Rehabilitation 01/06/2018 14:25-15:45

Promoting pulmonary rehabilitation for COPD- Patient and health professional responses to a targeted intervention

Amanda Barnard<sup>1</sup>, Anna Moffat<sup>2</sup>, Tammy LeBlanc<sup>2</sup>, Lisa Kalisch<sup>2</sup>, Nicole Pratt<sup>2</sup>, Natalie Blacker<sup>2</sup>, Jemisha Apajee<sup>2</sup>, Mhairi Kerr<sup>2</sup>, Kerrie Westaway<sup>2</sup>, John Barratt<sup>2</sup>, Emmae Ramsay<sup>2</sup>, Elizabeth Roughhead<sup>2</sup>

<sup>1</sup>Medical School, Australian National University, <sup>2</sup>Quality Use of Medicines and Pharmacy Research Centre, Sansom Institute, School of Pharmacy and Medical Sciences, University of South Australia, Adelaide, Australia.

**Aim:** To improve awareness and uptake of pulmonary rehabilitation in the management of chronic obstructive pulmonary disease (COPD) in primary care.

**Brief outline of context:** Despite strong evidence supporting the use of pulmonary rehabilitation in the treatment of COPD [1, 2], referral and uptake is poor [3].

Brief description of the change/intervention and why you thought it would work: Patients with COPD were identified based on claims history and received an educational brochure. Patient specific feedback identifying health service use in the year prior was provided to their GPs.

**Strategy for change**: Supportive educational material was developed by a clinical reference group, peer reviewed and endorsed by a national representative committee, which was provided to GPs and veterans.

**Effects of changes:** Responses from 2389 veterans with COPD targeted in the intervention and 238 GPs found the materials promoted recommended actions, with 85% of GPs indicating that they would arrange pulmonary rehabilitation for their patients and 80% indicating that they would ensure that there was a current action plan in place for the patient. In addition, nearly 40% of veterans not already in a pulmonary rehabilitation program, reported that they would talk to their doctor about a pulmonary rehabilitation program.

Prior to receiving the materials; only 15% of GPs reported excellent understanding of the benefits of pulmonary rehabilitation for COPD. This improved to 50% as a result of receiving the materials.

**Lessons learnt:** Uptake of pulmonary rehabilitation and awareness of its benefits are poor in Australian veterans and their healthcare providers.

## Message for others:

Continued promotion of the benefits of pulmonary rehabilitation is required to increase its usefulness for individuals with COPD.

## **Declaration of Interest**

**Declaration of Interest (including funding source):** This intervention was funded by the Australian Government Department of Veterans' Affairs (DVA) as part of the Veterans' MATES program.

Abstract ID = 8641

Quality Improvement/Service Development Posters 31/05/2018 09:00-10:00

## Quality improvement in Home Respiratory Care (HRC)

Marisa Prada Belchior, Joaquim Lima, Manuela Loureiro , Susana Silva Pinto USF Ponte Velha - ACeS Grande Porto I

#### Introduction

According to clinical guidance standards, one of the aims of the National Respiratory Diseases Program in Portugal is to ensure the quality of prescription and use of Home Respiratory Care (HRC).

#### Aim

To ensure the quality of HRC prescription at USF Ponte Velha, by adopting measures to monitor and control the correct and continuous use of HRC by users. To achieve a Good Quality Standard (≥80%).

## Methodology

Descriptive and retrospective observational study. Type of evaluation: two internal and retrospective evaluations regarding the years of 2015 and 2016. Eight indicators were selected for users with ventilation prescriptions and four for users with long term oxygen therapy (LTOT), thus allowing the evaluation of all professional groups at different levels: insertion of users in database, appointment scheduling, obtaining HCR use report, clinical evaluation, monitoring of HCR use, referral for hospital consultation when indicated. Data source: records in *SClinico* and *PEM* programs, Excel® and Acess® databases and nursing follow-up form. Type of intervention: educational. Data analysis: simple descriptive, using Excel®.

## **Results**

In 2015, five ventilation indicators reached a good quality standard (88-99%) and the remaining ones a sufficient quality standard (65-76%). Regarding LTOT, three indicators reached a good quality standard (91-100%) and one indicator attained an insufficient quality standard (45%). In 2016, seven ventilation indicators reached a good quality standard (90-100%) and one indicator reached a sufficient quality standard (77%). As for LTOT, one indicator reached a good quality standard (100%) and the remaining attained a poor quality standard (43-50%).

## Conclusion

There was an improvement in the quality of ventilation indicators in the study period. For the management of LTOT treated patients, these results highlight the need for a better coordination with hospital care, as they require at least an annual hospital evaluation to assess the efficacy of treatment. Greater investment is required in patients treated with LTOT to achieve higher levels of quality.

Abstract ID = 8619

Presented at: 8.1 Tapas/Petiscos Best Practice from IPCRG Members - Adding Value to Your Practice 02/06/2018 09:00-10:20

Setting-up the training corner for teaching the correct use of inhalers devices in Primary Care Health Units: the "Inhalers Corner"

Carla Marisa Gomes<sup>1</sup>, Dyna Torrado<sup>2</sup>, Lília Simões<sup>3</sup>, Ana Isabel Jesus<sup>4</sup>, Silvia Arteni<sup>1</sup>

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Ossónoba. Faro Health Center. Regional Health Administration of Algarve, Portugal., <sup>4</sup>USF Balsa. Tavira Health
Center. Regional Health Administration of Algarve, Portugal.

**Background**: Inhaled medication is the cornerstone of the pharmacological treatment for patients with obstructive respiratory conditions<sup>1</sup>. Multiple studies<sup>2</sup> have shown that there is a high number of patients that use incorrectly their devices and even a high percentage of health professionals that are unaware of the correct technique <sup>3</sup>.

On the other hand, many works<sup>4</sup> also show that education programs with respiratory patients and health professionals improve the inhalation technique, increase therapeutic adherence and result in better disease control.

**Idea:** In this context, comes up the idea of training patients under inhaled therapy about the correct inhalation technique of the different devices and the proper maintenance of the spacer chambers, based on the well-known succeed model of "Breastfeeding Corner" in Portugal, which since 1991 has been protecting, promoting and supporting breastfeeding in the Portuguese Health Care Centres.

Our proposal is to create a space, whether physical or schedule, in each primary care unit - the "Inhalers Corner" - as an open classroom where the patient does not need to make an appointment, provided with properly trained health professionals who can assess and train the inhalation technique of the various devices as well as clarify the patient's doubts and identify possible incompatibilities between the patient and the type of prescribed inhalation device.

**Objective:** To create a privileged moment of teaching patients without taking time out from our already overloaded medical consultations, guaranteeing at the same time the training of all health professionals that will contribute to increase adherence and therapeutic efficacy of the treatment.

## **Declaration of Interest**

without conflicts of interest and own financing

References and Clinical Trial Registry Information

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Abstract ID = 8625

Presented at: 2.4 Oral Abstracts 2 Tobacco Dependence 31/05/2018 16:05-17:30

Teaching primary healthcare professionals to treat tobacco dependence: Insights from the first year of the IPCRG/Global Bridges project.

Juliet McDonnell IPCRG

Aim: To develop a sustainable network of teachers who increase the capacity of healthcare professionals working in primary care to treat tobacco dependence in four countries: Romania, Bulgaria, the Republic of Macedonia and the Kyrgyz Republic.

Context: These four countries in the WHO European Region have high rates of smoking and experience similar challenges in the provision of evidence-based treatment for tobacco dependence. The World Health Organization has called for smoking cessation to be integrated into primary healthcare globally. This requires primary care professionals have the capacity, opportunity and motivation to provide treatment and are able to prescribe pharmacotherapy that is affordable to patients. However, in the four participating countries, evidence shows provision of treatment and access to pharmacotherapy is low.

Change/Intervention: IPCRG developed a model of education called 'Teach the Teacher' (TtT) which seeks to build capacity for both clinical and education practices. A two tier approach was piloted in 2015, when pairs of teachers from eight member countries, tested how to address diagnosis and treatment of difficult to manage asthma successfully in primary care teaching<sup>1,2</sup> The same TtT model has been adopted for the IPCRG/Global Bridges project, but now includes three tiers – country leads, primary care educators and primary healthcare professionals<sup>3</sup>.

Effect of changes: We report on insights from the first year of the project and explore the feasibility of the TtT approach, including its potential as a scaleable model for developing capacity in primary care.

Lessons learnt: Findings to date support the feasibility of mobilising IPCRG's primary care network for capacity building and generation of interest among national primary care clinicians.

Message: Primary care learns best from primary care healthcare professionals. A Teach the Teacher model builds on that motivation in a systematic way.

Declaration of Interest: The TtT Difficult to Manage Asthma programme was developed with support and funding from UBIOPRED and IPCRG.

The TtT project in Eastern Europe is funded by an educational grant from Global Bridges and Pfizer Independent Grants for Learning and Change.

## **References and Clinical Trial Registry Information**

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Abstract ID = 8513

Presented at: 4.5 Oral Abstracts 5 COPD Low and Middle-Income Countries 01/06/2018 10:20-11:20

The 5 steps leaflet: a patient guide to managing their COPD developed in the FRESH AIR programme Rupert Jones<sup>1</sup>, Niels Chavannes<sup>2</sup>, Evelyn Brakema<sup>2</sup>, Pippa Powell<sup>3</sup>, Sian Williams<sup>4</sup>, Emma Thompson<sup>3</sup>, Ioanna Ioanna Tsiligianni<sup>5</sup>, Bruce Kirenga<sup>6</sup>, Wincey Katagira<sup>7</sup>, Richard Kasiita<sup>8</sup>, Minh Ngoc<sup>9</sup>, An Le Pham<sup>9</sup>, Sally Singh<sup>101</sup>Plymouth University, <sup>2</sup>Leiden University Medical Centre, Leiden, <sup>3</sup>The European Lung Foundation, Sheffield, <sup>4</sup>International Primary Care Respiratory Group, Scotland, <sup>5</sup>Faculty of Medicine, University of Crete., <sup>6</sup>Makerere Faculty of Medicine and Lung Institute, Kampala, <sup>7</sup>Makerere University Lung Institute, Kampala, <sup>8</sup>Mulago Hospital, Kampala, <sup>9</sup>Faculty of Medicine and Pharmacy Ho Chi Minh City, <sup>10</sup>University Hospitals of Leicester NHS Trust

**Aim:** To meet every patient's fundamental right to be informed about their disease and how to manage it, we aimed to produce a simple clear booklet describing the steps people with COPD may take to improve their health.

Brief Outline of Context: The FRESH AIR project has shown that people with COPD have difficulty accessing good advice about nature of their condition, the causes and steps they can take to improve their health. Studies using qualitative and quantitative methods explored the local cultural contexts, and clarified the need for patient education in Vietnam, Uganda, Kyrgyzstan and Greece. Many health care workers lacked knowledge of COPD and could not teach patients. As effective drug treatment is often unavailable/inaccessible, patient education and self-management is fundamental and often the only way patients can improve their health.

Brief outline of the change: We designed a simple booklet addressing the 5 steps to better health in COPD:

Step 1 Understand your lungs

Step 2 Protect your lungs from damage

Step 3 Keep active

Step 4 Take the medicines prescribed to you

Step 5 Achieve a healthy weight and eat healthy foods

The booklet has been produced with input from FRESH AIR collaborators for use in Greece, Uganda and Vietnam, versions for other countries are planned.

**Strategy for change:** The booklet is being used in pulmonary rehabilitation in Vietnam and in clinics in Uganda and will be modified by patient feedback. We plan for wide patient use of the booklet with support from the European Lung Foundation and the IPCRG.

**Effects of changes:** The booklets' content and form (presentation, use of images, language) were tailored to their local context with input from the respective countries.

## **Lessons learnt**

Working with local experts and an international expert group, we were able produce and pilot this booklet at low cost. Working with multiple teams in different countries is challenging and slow, especially where there is no dedicated funding.

**Message for others:** The 5 steps booklet enables every patient diagnosed with COPD to access simple clear messages to support self-help. It is being tested in the FRESH AIR countries that welcome the project.

**Declaration of Interest:** This study was funded by the EU Research and Innovation program Horizon2020 under grant agreement no. 680997. This study is registered under trial registration number: NTR5759. http://www.trialregister.nl/trialreg/admin/rctsearch.asp?Term=23332

Abstract ID = 8646

Presented at: Quality Improvement/Service Development Posters 31/05/2018 09:00-10:00

## The physiotherapeutic performance in patients under Invasive Mechanical Ventilation at the Emergency Care Units in São Bernardo do Campo

Giovanna Martins Tiveron<sup>1</sup>, Paula Nayara Godoy<sup>2</sup>, Ariadine Augusta Maiante<sup>3</sup>, Luiz Guereschi Filho<sup>3</sup>, Rubens Martins Neto<sup>3</sup>, Stefanos Paraskevas Lazarou Paraskevas Lazarou<sup>4</sup>, Adriana Monteiro de Oliveira<sup>3</sup>, Thiago Henrique dos Santos Silva<sup>3</sup>

<sup>1</sup>Lead Author Abstrac - Brazil - Unidade de Pronto Atendimento, <sup>2</sup>Brazil - Unidade de Protno Atendimento, <sup>3</sup>Brazil - Unidade de Pronto Atendimento, <sup>4</sup>Brazil - Unidade de Pronto Atendimento

The Emergency Care Units (ECU) are institutions with intermediary complexity between the Basic Health Units and the Hospital Network. They were created to aid the Unified Health System patients who present an acute clinical chart and/or a chronic worsened1.

They assist the urgency and emergency cases of the region and possess beds up to 24-hour monitoring, aiming to stabilize severe cases, for hospital transfer2. Although, due to the overcrowding of the hospitals, these patients end up being hospitalized for a longer period, requiring advanced treatments such as the Invasive Mechanical Ventilation (IMV), remaining intubated for days without weaning from the ventilatory parameters and/or getting extubated.

In this situation, the physiotherapist has an essential involvement assisting the conduction of the IMV, since the preparation of the ventilator to the extubation.

In September of 2016, the São Bernardo do Campo ECU's multiprofessional team gained two physiotherapists to improve the quality of the care provided to these patients. They work assisting 9 units according to the severity of the patients.

Trainings regarding the handling of the mechanical ventilators were conducted to the nursing and medical teams as well as distribution of printed information to help the professionals. After that, it was observed that 488 patients required the IMV, remaining - on average - 2.5 days in the UPAS. Of these patients, 19 (3,89%) were extubated at the unit and 9 (47,36%) were direct-home discharged. These data are in accordance with José. A, et al, 2013, that concluded that the physiotherapeutic performance is associated to a shorter hospitalization, ventilatory wean and IMV time3.

Therefore, the data suggest that the inclusion of physiotherapists at the ECU can contribute for a better prognosis, patient development and reduction of time and issues regarding the IMV, hospitalization time, expenses and morbidity risks.

#### **Declaration of Interest**

There is no conflict of interest.

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Abstract ID = 8531

Presented at: Quality Improvement/Service Development Posters 31/05/2018 09:00-10:00

## Thunderstorm asthma - preparing health professionals to prevent and respond

Judi Wicking<sup>1</sup>, Siobhan Brophy<sup>1</sup>, Amanda Barnard<sup>2</sup>

<sup>1</sup>National Asthma Council Australia, <sup>2</sup> Rural Clinical School, ANU Medical School, Australian National University, Australia

#### Aim

To upskill primary health care professionals (PHCPs) on the identification and management of patients at risk of thunderstorm asthma

#### **Brief outline of context**

In response to the severe thunderstorm asthma event in November 2016 the Victorian Government contracted the National Asthma Council Australia (NAC) to develop and deliver a thunderstorm asthma education package for PHCPs.

## Brief description of the change/intervention and why you thought it would work

The package consisted of multidisciplinary face-to-face workshops, role-specific online education (three webinars, one online learning module) with relevant professional colleges, and supporting evidence-based resources (information paper and pharmacy protocol).

## Strategy for change

Timeframe was 2 months for development partially overlapped with 3 months of implementation, using the NAC's existing training and resource development models. Across Victoria, 31 workshops were conducted reaching 810 PHCPs. Online education was completed by 804 PHCPs. Resources were disseminated via hard copy to 5,450 PHCPs and via 2,500 website downloads.

## **Effects of changes**

90% of attendees rated the workshops as "relevant to practice", 92% said they "met learning needs" (response rate 84.2%). For online education, 93% of 230 evaluation respondents rated the education as "relevant and meeting their learning needs".

## **Lessons learnt**

The short timeframe impacted the uptake of the workshops as there was limited time for scheduling, marketing and running sessions

#### Message for others

Having well-established training and resource development models meant a rapid response to an urgent emerging issue was possible. Partnering with other organisations ensured content was relevant and accessible. The topicality of thunderstorm asthma was a successful motivator for PHCPs to undertake asthma education.

**Declaration of Interest** (including funding source and trial registration if appropriate)

Nil

Abstract ID = 8709

Presented at: 4.5 Oral Abstracts 5 COPD Low and Middle-Income Countries 01/06/2018 10:20-11:20

## Translating an internet-based spirometry training for health care practitioners in Vietnam:The FRESH AIR H2020 experience

Pham Le An<sup>1</sup>, Nguyen Nhu Vinh<sup>1</sup>, Tran Diep Tuan<sup>1</sup>, Pham Le An<sup>1</sup>, Nguyen Nhat Quynh<sup>1</sup>, Pham Duong Uyen Binh<sup>1</sup>, Sharon W. Kiche<sup>2</sup>, Louise C. Warren<sup>2</sup>, James W. Stout<sup>2</sup>

<sup>1</sup>The University of Medicine & Pharmacy at Ho Chi Minh City, <sup>2</sup>University of Washington

#### Aim

To explore the feasibility of translating an English spirometry training program into Vietnamese, to increase use by primary care health care practitioners (HCP) in Vietnam.

## **Brief outline of context**

Although spirometry is central to diagnosing and managing chronic lung diseases, access to this test is minimal in most Low- and Middle-Income Countries (LMICs). Lack of training and feedback on performance is one limiting factor. The UW provided access to Spirometry 360, an online spirometry training and feedback program to HCPs in Vietnam. Tracking of both logins and completions of trainings demonstrated that English was a barrier to uptake.

## Brief description of the change/intervention and why it would work

Professors An's and Stout's teams embarked upon translating the resources from English into Vietnamese. Vietnamese is the primary language for education in Vietnam.

#### **Strategy for Change**

Professor An's team created a Vietnamese translation of the slides and scripts of Spirometry 360. These materials were then back-translated into English by a Vietnamese-fluent Seattle collaborator. Differences were reconciled by both teams through video conferencing and email. An additional online log-in tutorial in Vietnamese was developed. The Vietnamese Spirometry 360 launch event was delivered in-person, and remotely, on December 15<sup>th</sup>, 2017. Professor An's team now monitors program logins and completions, and administers certifications.

## **Effects of Changes**

Access to English Spirometry 360 training resources was enabled for Vietnam in July 2016. By January 2017, 20 HCPs had logged in. By June 2017, only 5 HCPs (25%) had completed the materials. Since the December 2017 Vietnamese version release, an additional 28 HCPs have logged in, a number that should increase over coming months. Now the feedback portion of the Spirometry 360 program will begin. Feedback results will be presented in May 2018.

## **Lessons Learnt**

The need for a translation process should have been included in the initial grant as a designated deliverable. There is more engagement with training materials when the local language is used.

**Message for Others:** Consider the context of your program users.

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References and Clinical Trial Registry Information 1. www.spirometry360.org