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Title: COPD case-finding application: SYNERGY project

Claudia 30565 Vargas clauv8@gmail.com MD ^{1,2,3}, Filip 30667 Velickovski fvelickosvki@bdigital.org ⁴, Felip 30566 Burgos FBURGOS@clinic.ub.es ^{1,5}, Albert 30668 Alonso AALONSO@clinic.ub.es ¹, Luigi 30567 Ceccaroni Iceccaroni@bdigital.org ⁴ and Josep 30669 Roca JROCA@clinic.ub.es MD ^{1,5}. ¹ Centro De Diagnostico Respiratorio, Hospital Clinic, Barcelona, Spain, 08011 ; ² Technology Development, Linkcare Health Care Services, Barcelona, Spain ; ³ Lung Function Test Laboraory, Instituto Nacional De Enfermedades Respiratorias, México, Distrito Federal, Mexico ; ⁴ Personalised Computational Medicine, Barcelona Digital Centro Tecnologico, Barcelona, Spain and ⁵ Case-finding, Farma-EPOC Group, Barcelona, Spain, 08011 .

Body: Background-The Synergy-COPD project aims at exploring underlying mechanisms of heterogeneities seen in COPD patients. The project develops subject-specific predictive modelling to enhance patient stratification and case management. The results are feeding Clinical Decision Support Systems (CDSS) integrated into an open Information and Communication Technological (ICT) platform supporting coordinated care for chronic patients. Underdiagnosis of COPD is a well identified problem with a high impact on preventive strategies targeting early disease stages. Aims-To develop and assess a CDSS designed to support a community-based COPD case-finding program linking pharmacy offices and primary care physicians. The study addressed usability and diagnostic efficacy of the CDSS. Method- Modified Nielsen's heuristics and Multiple Heuristic Evaluation Table were used with 7 pharmacists and 3 primary care physicians. Three reported studies (n=2.925), including a cohort of reference subjects, a COPD case finding study (FarmaEPOC) and the PAC_COPD cohort were used to compare between a fixed FEV1/FVC ratio of 0,70 (GOLD) against LLN-FEV1/FVC ratio of selected reference equations. Results – CDSS assessment showed achievement of most of the selected heuristics (95%) and t minimal correctable errors. The fixed-ratio overestimated COPD diagnosis by an average of 23% compared with selected reference equations. Conclusion- The CDSS showed usability, applicability and acceptability by health professionals. The use of LLN-FEV1/FVC is highly advised. The results allow for extensive deployment of the ICT-supported COPD case-finding program. Supported by Synergy-COPD (FP7-ICT-270086) and PITES (FIS-PI09/90634).