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Citation: Poberezhets, Vitalii, Pinnock, Hilary, Vogiatzis, Ioannis and Mishlanov, Vitaliy (2020) Implementation of digital health interventions in respiratory medicine : a call to action by the European Respiratory Society m-Health/e-Health Group. ERJ Open Research, 6 (1). ISSN 2312-0541

Published by: UNSPECIFIED

URL:

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Implementation of digital health interventions in respiratory medicine: a call to action by the European Respiratory Society m-Health/e-Health Group

To the Editor:

Electronic health (e-health) and mobile health (m-health) technologies came into medicine on a wave of rapid digitalisation in all areas of public life at the beginning of the 21st century. Even before a group dedicated to digital health was established within European Respiratory Society (ERS) Assembly 1, clinicians and researchers from many ERS assemblies and groups had been exploring the potential of telemedicine and telehealthcare. Significant achievements have been made in using e-health/m-health for tuberculosis treatment control, smoking cessation [1], conducting remote pulmonary rehabilitation, physical activity tele-coaching [2] and supporting self management [3].

In 2019, a new ERS group (01.04: m-Health/e-health) was established within the General Pneumology Assembly (ERS Assembly 1) with a vision to develop a global strategy for digital health within respiratory medicine and clinical practice. Vitalii Poberezhets has been elected as the Chair of this Group and Vitaliy Mishlanov as the Secretary. These recent changes in the structure of ERS Assembly 1 reflect a new era which embraces a focus on modern clinical issues and digital solutions in general pneumology [4]. In order to make the ERS a leading organisation in Europe and globally in the application of digital health technologies in respiratory medicine, a number of important issues need to be addressed, as technology offers both great opportunities and significant challenges.

Artificial intelligence and machine learning have huge potential for transforming clinical decision support systems and for developing new algorithms for diagnosis and treatment of patients through simulating interactions and predicting outcomes. But at the same time, many questions remain about the acceptability, feasibility and ethics of using this technology in medicine [5].

Developments in medical and smartphone technology together with high-quality internet connection [6] allow the remote provision of diagnostic examinations, prescription of treatment and assessment of its effectiveness. However, using remote means of communication should not change the doctor's sense of responsibility for someone's life.

The introduction of telecommunications between healthcare professionals enables them to organise a conference or consultation, share videos, images or audio documents with the results of the patient's examination and receive the necessary advice in a matter of minutes. This use of m-health should evolve alongside a secure system for ensuring the safety of personal data about a patient's health status, which will be in line with human rights conventions [7].



@ERSpublications

An action plan prepared by @EuroRespSoc Group 01.04 (m-health/e-health) concerning the implementation of digital health interventions in respiratory medicine <http://bit.ly/2JeEuox>

Cite this article as: Poberezhets V, Pinnock H, Vogiatzis I, *et al.* Implementation of digital health interventions in respiratory medicine: a call to action by the European Respiratory Society m-Health/e-Health Group. *ERJ Open Res* 2020; 6: 00281-2019 [<https://doi.org/10.1183/23120541.00281-2019>].

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Another promising direction for digital medicine are virtual, augmented and mixed realities. Areas of its use include interactive guidance for diagnostic procedures, training of healthcare professionals, as well as a learning tool for patient education to improve understanding of their health status.

For the newly formed Group 1.04, a first step is to develop cooperation with different ERS Assemblies because the scope of e-health/m-Health extends from General Pneumology to all eight disease-related Assemblies as well as the approach-oriented Assemblies such as Assembly 14, encompassing Clinical Techniques, Imaging and Endoscopy. Furthermore, we are looking forward, to collaborate with other international partners, namely the World Health Organization, the American Thoracic Society, the Asian Pacific Society of Respiriology, the *Asociación Latinoamericana de Tórax*, the American College of Chest Physicians, and other sister Societies, as well as the European Society of Radiology, the European Society of Cardiology and the International Society for Telemedicine and e-Health.

Our plan to promote rigorous e-health research will start with an ERS Research Seminar on novel methodologies required to evaluate digital interventions in respiratory disease. This will identify and unite specialists who have expertise in this field as well as those who are keen to join this work. With a multidisciplinary team, it will be possible to identify priorities in all areas of e-Health, determine the e-Health interventions that are most promising, and set criteria for assessing their effectiveness and feasibility for implementation in medical practice. This ERS Research Seminar will facilitate the formation of an ERS Task Force for the implementation of digital health interventions in respiratory medicine, which will ultimately produce Consensus Statements and Technical Standards on this topic.

One of the main goals of the ERS Group 01.04 is to increase the number of specialists involved in the work related to e-Health/m-Health. To achieve this goal, members of Group 01.04 will actively promote e-Health activities at the annual international ERS Congress through poster presentations, symposia and other sessions. In addition, our group plans to expand continuous professional development opportunities through courses, webinars and other e-learning capabilities.

We are pleased to invite everyone with an interest in e-Health to join ERS Group 01.04. We welcome representatives of various groups, assemblies and national respiratory societies as members of our group, in order to build a broad network of respiratory specialists collaborating to embed digital health technologies into the respiratory medicine of the future.

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Received: 26 Aug 2019 | Accepted after revision: 17 Oct 2019

Conflict of interest: V. Poberezhets has nothing to disclose. H. Pinnock has, and has had, a number of research grants in the area of e-health. I. Vogiatzis has nothing to disclose. V. Mishlanov has nothing to disclose.

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