

EDITORIAL

Clinical & Experimental Allergy

Building the investment case for asthma R&D: the European Asthma Research and Innovation Partnership argument

S. M. Walker¹, C. Akdis², S. E. Dahlen³, R. Djukanovic⁴, J. Edwards¹, L. Garcia-Marcos⁵, S. Johnston⁶, M. Kupczyk⁷, T. Martin⁸, D. Myles⁹, S. Palkonen¹⁰, N. Papadopoulos^{11,12}, P. Powell¹³ and J. Riley¹⁰

¹Research & Policy, European Asthma Research & Innovation Partnership, Asthma UK, London, UK, ²Swiss Institute of Allergy and Asthma Research (SIAF), Medical Faculty, University of Zurich, Zurich, Switzerland, ³Asthma and Allergy Research, IMM Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden, ⁴Department of Medicine, Southampton NIHR Respiratory Biomedical Research Unit, University of Southampton, ⁵Department of Paediatrics, Paediatric Respiratory and Allergy Units, Arrixaca University Children's Hospital, University of Murcia, Murcia, Spain, ⁶Department of Respiratory Medicine, Airway Disease Infection Section, National Heart and Lung Institute, Imperial College London, London, UK, ⁷Medical University of Łódź, Łódź, Poland, ⁸Respiratory Therapeutic Area, Respiratory Franchise, Novartis Pharmaceuticals, East Hanover, NJ, USA, ⁹Asthma Clinical Discovery, Respiratory Therapy Area Unit, GlaxoSmithKline, Hertfordshire, UK, ¹⁰European Federation of Allergy and Airways Diseases Patients' Associations (EFA), Brussels, Belgium, ¹¹Allergy Department, University of Athens, Athens, Greece, ¹²Allergy & Paediatric Allergy, University of Manchester, Manchester, ¹³European Lung Foundation, Sheffield, UK

Asthma outcomes in Europe are unacceptably poor; fourteen EU countries feature in the top 20 worst countries globally for asthma prevalence in adults [1]. Over 30 million people live with asthma in Europe [1] which is associated with considerable morbidity and an estimated annual cost of >€72.2 billion [2]. The global prevalence of asthma is expected to grow to over 400 million by 2025 [3]. Between now and 2020, if no major breakthroughs in research and the management of asthma are made, about 120 000 people in Europe will die as a result of asthma attacks, and 4 million will

be hospitalized [2]. Two-thirds of these are probably preventable [2].

A lack of coordination and persistent gaps within the asthma innovation pathway mean that there are no effective treatments for about 5% of people with asthma, and treatments are not always appropriate for the breadth of symptoms and subtypes of asthma. Coupled with poor adherence to prescribed treatment in a large subgroup of asthmatics [2], the result is poor health, and millions of days off work [2], for the millions of people in Europe who have asthma, and thousands of deaths a year in Europe from asthma attacks [2].

Asthma also has one of the highest socio-economic impacts of any European disease because it often begins in infancy; it is the most common chronic disease in childhood across Europe (and much of the rest of the industrialized world); and the number of affected people continues to be high throughout the whole period of adult life.

Additionally, there is a high social cost to individual asthma patients trying to manage their persistent and recurrent breathing problems, as they face restrictions

Correspondence:

SM Walker, Research & Policy, Asthma UK and European Asthma Research & Innovation Partnership, London, UK.

E-mail: swalker@asthma.org.uk

Postal address:

Asthma UK, 18 Mansell Street, London, UK E1 8AA

Cite this as: S. M. Walker, C. Akdis, S. E. Dahlen, R. Djukanovic, J. Edwards, L. Garcia-Marcos, S. Johnston, M. Kupczyk, T. Martin, D. Myles, S. Palkonen, N. Papadopoulos, P. Powell and J. Riley. *Clinical & Experimental Allergy*, 2016 (46) 1136–1138.

on work and family life alongside the physical and emotional distress of the illness itself. We also know that the economic cost for patients and for health services is high because the large volume of asthma patients constantly require medication, the attention of physicians, and the resources of hospitals.

So what is the solution?

We recognize that a lot of excellent work and partnerships have been developed to tackle asthma. But it is important to recognize also that Europe's asthma research communities are still considered fragmented, typically working at a national level on discrete and complex subareas of the disease.

A more comprehensive and integrated partnership to tackle asthma is needed to share expertise, improve coordination, remove duplication, agree on the priority research needed, and define the causes and dimensions of outstanding asthma management success at scale. The European Asthma Research & Innovation Partnership (EARIP: (www.earip.eu)) is setting the scene for galvanizing collective expertise and fast-tracking a solution to the immense social and economic burden of asthma in Europe.

The over-arching aim of EARIP is to harmonize efforts to reduce mortality and morbidity from asthma by encouraging focus and prioritization at a pan-European level. By coordinating asthma priorities and activities at this level, the partnership will channel the collective expertise of world-leading asthma experts around a common goal.

EARIP has brought together experts and relevant academic and clinical researchers, with pharmaceutical and healthcare technology companies, patient representative groups, healthcare systems organizers and deliverers, and government departments. Together, we have developed a programme or 'road map' of research and innovation actions to reduce asthma deaths and hospitalizations in Europe through a research programme that directly addresses the significant number of research gaps that have been identified by national and international expert groups over the last few years.

Maximizing the opportunities created by EARIP requires the pan-European collaboration of all asthma stakeholders to work together across both biological and translational agendas to share knowledge and expertise to drive down deaths and asthma hospitalizations. This approach will ensure that where there has been success with reducing asthma impacts, this knowledge does not remain country-bound, but is shared across Europe and lessons are learnt and implemented. It will set the stage for galvanizing collective expertise

and fast-tracking solutions to the immense social and economic burden of asthma in Europe.

The most important element of the partnership is that it has identified and internationally ratified a list of research objectives of greatest potential added value in the treatment and management of asthma and produced a road map setting out the fifteen priorities for the research and innovations needed [4]. Priorities include the need to identify asthma subtypes and their stability over time; to understand the relevance and impact of childhood infection, and different therapeutic interventions on asthma outcomes; to develop new treatments for steroid-resistant asthma; and to optimize self-management and adherence.

This road map – relevant for individual stakeholders, national research programmes, and subthemes of the Horizon 2020 Health research programme – will also be the foundation on which a future EU funding vehicle can build a broader strategic programme designed to transform asthma outcomes throughout Europe. The overarching aim here will be to address the need for a comprehensive effort to manage asthma much more effectively, through fast-tracking change and enhancing technological and research innovation for asthma, with inputs from leading European researchers, clinicians, and large pharmaceutical firms. We also want to use EARIP to encourage innovative collaborations between academic and industry scientists to discover and capitalize on new pathways and targets for treatment of asthma. This in turn would help foster growth of the companies and create jobs across Europe.

At this year's European Respiratory Society congress, we will launch the next stage of our campaign for greater investment in asthma research. We will be asking funders, institutions, European and national societies, researchers, and academics to adopt and address the fifteen research priorities. This will improve collaboration and help us work more effectively towards common goals to improve the lives of the 300 million people living with asthma in Europe. We will be working with funders to adopt the road map in their funding decisions, and encouraging researchers to address the specific priorities using the funding offered in line with these priorities.

We are asking the asthma community to sign up to our statement on the future of asthma research and to support our call to secure more investment from national funders and the European Union. Sign up to www.asthma.org.uk/AsthmaNeedsResearch and join us at our ERS symposium on Monday 5th September in London to hear more details about the asthma research priorities and to show your support for this ambitious plan to transform asthma outcomes in Europe over the next decade.

References

- 1 Masoli, M Global Burden of Asthma, GINA, 2004
- 2 European Respiratory Society White Book. 2nd Edn, 2012. Available at: <http://www.erswhitebook.org/> (Last accessed 1 July 2016).
- 3 Partridge MR. Examining the unmet need in adults with severe asthma. *Eur Respir Rev* 2007; **16**:67–72.
- 4 Masefield SC, Powell P, Kennington EJ *et al*. Driving investment in asthma research in Europe: priorities to prevent, cure and manage asthma more effectively. A102. Highlights in Patient-Centered Research: Methods and Outcomes 2016, A2668