

EDITORIAL

Davos Declaration: Allergy as a global problem

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Allergy and allergic diseases represent a major health problem not only in industrialized 'modern' societies, but worldwide. There has been an epidemic increase in prevalence of allergic diseases in the last few decades with 10–30% of the population affected. Apart from individual suffering, because of their life-threatening or chronic course, these diseases present a high socioeconomic burden. In many countries, patient care of affected individuals is insufficient and/or inadequate. In spite of great progress in research into the causes and treatment of allergy in the last decades, there are still many problems to be solved in moving to reach our goals of more effective therapies and eventual prevention (1–3).

Therefore, a group of 40 scientists and clinicians from four continents and all fields of allergy and related disciplines gathered under the sponsorship of the Christine-Kühne Center of Allergy Research and Education (CK-CARE) in Davos, Switzerland from 17 to 20 July 2011 for the first 'Global Allergy Forum'. Under the topic 'Allergy and Allergic Diseases: Barriers to Cure', the participants formed five working groups to discuss and define the most urgent problems in the field and seek solutions and recommend an action plan.

There are numerous unmet clinical needs and millions of patients are undertreated or not treated with the most appropriate methods. Accessibility to and affordability of effective therapeutic regimens are not provided in many countries. The development of innovative therapies is slow compared to most other fields of medicine. Allergic diseases encompass broad fields of medicine and show a wide heterogeneity involving different organs such as eyes, respiratory tract, gut, and skin. Diseases include rhinoconjunctivitis, asthma, anaphylaxis, eczema, urticaria, and angioedema as well as drug and food allergies. Allergic diseases show variability in severity and clinical course which at the moment are only poorly defined. Much better definition of the subtypes of allergic patients (phenotyping) appears crucial and very much needed to address the right therapy to the right patient.

A new integrative approach is needed to understand how a complex network of immunological, genetic, and environmental factors leads to a complex allergic phenotype (1).

There is a tremendous lack of knowledge regarding many unsolved issues such as:

- The causes of the epidemic increase in allergic diseases are unknown. Environmental exposures that appear to be critical factors include factors as diverse as air quality, diet and nutrition, climate, UV radiation, and direct skin contact as well as psycho-social interactions. Moreover, when genetic predisposition is taken into account, environment can provide either risk or protection.

- The effects of changes in climate, urbanization, etc. have to be anticipated. Better ways to assess spatial and temporal environmental exposure at population and individual levels are much needed and should be related to the assessment of individual genetic susceptibility.
- The interactions between microbes, pollutants, and the immune system are marginally understood.
- There is inadequate understanding of the natural mechanisms that limit acute vs. chronic disease or spontaneous resolution.
- There is a need for better subclassification of allergic disorders based on pathobiology.
- There is a need for new agents acting on specific pathways in pathogenesis with regard to new therapeutic approaches.
- There is a need for better preclinical models for translational research.
- There is a need to develop better tools for complex data analysis.
- There is a need for efficient strategies for primary and secondary allergy prevention.
- There is a need for better approaches in diagnosis and prediction of treatment responses and the monitoring of therapeutic effectiveness.

Apart from true lack of information, there is a tremendous gap between actual existing knowledge and its effective application for the millions of people in need.

- There is a shortage of well-trained allergy specialists in most countries.
- Education and training efforts should also be directed toward medical students at the curricular level and extended to primary care physicians who have to be involved in a strategy for diagnosing and managing allergic diseases with such high prevalence rates of 20% of the population.
- Awareness campaigns for targeted public groups should be performed. Allied health professionals, such as nurses, school teachers, etc., should be included. Better and more effective tools to spread the available information should be developed.
- Close cooperation with patient organizations is highly recommended.
- Decision makers involved in developing and approving health policies and administration must be made more aware of the problem of allergic diseases.

Action should be taken at various levels and through existing doctors, scientists, and lay organizations to solve these problems. The global expertise from clinical allergists, immunologists, microbiologists, biologists, nutritionists,

epidemiologists, bio-informaticians, psychologists, and environmental researchers should be merged to develop focused transdisciplinary research strategies toward sustainable preventive programs and new therapeutic options.

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