

## Statement on Europe's Beating Cancer Plan – 27 October 2020

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The European Academy of Allergy and Clinical Immunology (EAACI) and the European Federation of Allergy and Airways Diseases Patients' Associations (EFA), the two organisations coordinating the Secretariat of the European Parliament Interest Group on Allergy and Asthma, warmly welcome the European Commission's Beating Cancer Plan presented in February 2020. Coupled with the Horizon Europe EU Mission for cancer research, the initiatives provide a well-developed framework to address the challenges posed by cancer in the EU.

Cancer is one of the leading causes of mortality globally and the second cause of premature death from non-communicable diseases after cardiovascular diseases. In the EU, cancer accounted for 1,3 million deaths in 2016 alone, representing 26% of the total number of deaths. Further, cancer puts a major strain on national health systems and budgets, and is linked with significant social and emotional costs.

We applaud the ambitious scope of the Beating Cancer Plan, spanning from prevention and access to care to better quality of life; while supporting a *health-in-all-policies* approach with an emphasis on tackling the environmental determinants of cancer. Actions under this framework have the potential to add value to other non-communicable disease areas such as allergy and asthma, which also impose a massive burden on Europeans' lives and pockets.

**Important correlations exist between cancer and Immunoglobulin E (IgE)\*-mediated allergic diseases or asthma.** The term 'AllergoOncology' describes the interesting interface between allergies, IgE responses, and Th2 immunity\*\*, with cancer development:

- Epidemiological and mechanistic evidence indicates an association between IgE-mediated immune surveillance and protection from tumour growth.
  - Several meta-analyses reported **inverse associations for several cancers** including glioma, pancreatic cancer, and childhood leukaemia<sup>1</sup>.
  - There is a **correlation between IgE deficiency and increased malignancy risk**<sup>1</sup>.
- Insights from research in allergen immunotherapy and cancer immunology strongly suggest that **the same key immune cells are involved in immune tolerance induction in allergy as in cancer**<sup>2</sup>.
- While elevated serum IgE is generally associated with allergic/atopic conditions, **very low or absent IgE may hamper anti-tumour surveillance**\*\*\*, indicating the importance of a balanced IgE-mediated immune function<sup>3</sup>.
- **Ultra-low IgE may prove to be an unexpected biomarker for cancer risk**<sup>3</sup>.

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\* **Immunoglobulin E (IgE)** are antibodies produced by the immune system as a normal response against parasites. The immune system of an allergic person overreacts to an allergen by producing IgE antibodies to harmless substances from the environment. These antibodies attach to cells that release substances, causing an allergic reaction. This reaction usually causes symptoms in the nose, lungs, gastrointestinal tract, or on the skin.

\*\* **Th2** cells mediate the immune response to allergens and are triggered by exposure to specific allergens.

\*\*\* **Immune surveillance of tumors** is the ability of the immune system to identify and destroy nascent tumors, and to thereby function as a primary defense against cancer.

<sup>1</sup> Jensen-Jarolim E, Bax H, Karagiannis S. AllergoOncology – the impact of allergy in oncology: EAACI position paper. *Allergy*. 2017 Jun; 72(6): 866–887. Published online 2017 Jan 23. doi: 10.1111/all.13119

<sup>2</sup> Jensen-Jarolim E, Bax H, Karagiannis S. AllergoOncology – the impact of allergy in oncology: EAACI position paper. *Allergy*. 2017 Jun; 72(6): 866–887. Published online 2017 Jan 23. doi: 10.1111/all.13119

<sup>3</sup> Capron M, Castells M, Dombrowicz D, et al. AllergoOncology: ultra-low IgE, a potential novel biomarker in cancer—a Position Paper of the European Academy of Allergy and Clinical Immunology (EAACI). *Clin Transl Allergy*. 2020 Jul 17;10:32.

We expect that the Beating Cancer Plan's focus on the guiding principles of **prevention**, **access**, and **participation** will set a useful precedent for addressing other burdensome non-communicable diseases, including allergy and asthma. We therefore provide an analysis of key actions falling under each principle that will help maximise the added value of addressing cancer and the spill over to other disease areas.

## PREVENTION

About 40% of cancer cases are preventable and the cost-effectiveness of prevention is undeniable. Importantly, in tackling cancer, Europe will also make headway in addressing risk factors shared with allergy and asthma, such as **outdoor/indoor air pollution**, **exposure to pollutants in the workplace**, **tobacco use** and **diet**. Future policies should be drafted on multi-sectoral premises that tackle environmental health as per the recent [Interest Group on Allergy and Asthma Green Deal Statement](#) and promote research in areas such as the **exposome**<sup>4</sup> while adopting a **personalised medicine approach**. For an effective Beating Cancer Plan that generates health co-benefits across diseases, we urge the Commission to act decisively on prevention by targeting:

**Air pollution:** Outdoor air pollution is associated with the premature death of about 400.000 Europeans per year; while indoor air quality claims more than 2 million disability-adjusted life years (DALYs) annually in the EU. Long-term exposure to polluted environments can increase risk of developing allergy and asthma and aggravate their life-long course.

- **Adopt a broader strategic approach to air pollution** by integrating all sources of emissions (industry, transport, agriculture, heating etc.) and spaces (indoors and outdoors).
- **Align EU standards with the upcoming revised WHO Guidelines** to meet latest scientific evidence.
- **Define common standards through an Indoor Air Quality Certification** for the construction and renovation of buildings.

**Tobacco and smoking:** Tobacco use is the single largest avoidable health risk, as 700.000 people die every year in the EU of lung cancer and other respiratory diseases.

- **Update tobacco products legislation** to cover current and new tobacco-based/smoking products posing risks to human health.
- **Harmonise tobacco taxation and promote access to more effective smoking cessation programmes** across the EU to deter consumption.
- **Tackle the health risks of smoking by sharing best practices** to enforce the WHO Framework Convention on Tobacco Control, especially on issues concerning young people, such as exposure to second-hand smoke and smoke-free environments.

**Chemicals:** Exposure to pollutants in workplace and other indoor settings contributes significantly to the incidence and severity of chronic airways diseases.

- **Facilitate construction and renovation of energy efficient buildings** that protect human health from chemical pollutants and other contaminants.
- **Reinforce occupational health standards** within the Carcinogens and Mutagens Directive with further measures for the protection of workers' health.
- **Ensure better consumer information** on chemicals in our daily environment and food ingredients.

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<sup>4</sup> Agache I, Miller R, Gern JE, et al. Emerging concepts and challenges in implementing the exposome paradigm in allergic diseases and asthma: a Practall document. Allergy. 2019 Mar;74(3):449-463

**Diet:** Dietary diversity and composition, especially in pregnancy, infancy and childhood, have a sizeable impact on the incidence of allergic diseases.

- **Maintain a health-centred approach in the Farm to Fork Strategy**, aiming to reverse the loss of biodiversity and to provide access to safe and healthy and nutritious food, in view of its profound impact on all chronic diseases, including allergy and asthma.
- **Guarantee that the EU Policy for the sustainable use of pesticides actually reduces the risk of contamination**, in order to protect citizens from health-harmful effects of exposure to pesticides.
- **Adopt a continued EU Strategy on nutrition, overweight and obesity-related health issues** with a particular focus on childhood.

### ACCESS

Inequalities in access to healthcare services are still major barriers to improving health outcomes and patients' quality of life. In line with other initiatives in the area of health, such as the EU Pharmaceutical Strategy, we call on the Commission to present a concise framework for improved access across the EU with the aim to:

- **Address the persistent inequalities**, particularly in access to preventative tools and treatments emanating from geographical, economic or other barriers;
- **Ensure timely diagnosis across a wide range of chronic diseases** in addition to cancer – under- or misdiagnosis is very common in asthma and allergy, severely impacting people's quality of life and the efficient use of resources.

### PARTICIPATION

Engaging with patients and healthcare professionals at all stages of decision-making is key for an effective dialogue and in order to identify the measures most needed to address unmet needs. As a forum that believes in evidence-based and patient-centred policies, we call on the Commission to:

- **Materialise the participatory approach proposed in the Beating Cancer Plan and expand it** to other chronic non-communicable diseases, such as allergy and asthma.
- **Embed the priorities of patients and healthcare professionals in the research agenda** by encouraging citizens science for the promotion of better health outcomes.
- **Guide the establishment of disease-specific European Reference Networks** to ensure the rapid set-up of first-class quality care at the Member State level.

### About the organisations

The [European Academy of Allergy and Clinical Immunology](#) (EAACI) is the largest medical association in the field of allergy and clinical immunology, uniting more than 12,000 academics, research investigators and clinicians from 121 different countries. More information on EAACI work [here](#).

The [European Federation of Allergy and Airways Diseases Patients' Associations](#) (EFA) is a non-profit alliance of more than 40 allergy, asthma and chronic obstructive pulmonary disease (COPD) patients' organisations, representing over 400,000 patients in 25 European countries.

The [European Parliament Interest Group on Allergy and Asthma](#) is an informal group of Members of the European Parliament (MEPs) committed to address unmet needs of allergy and asthma at EU level and improve prevention, care and research to the benefit of people living with allergy and asthma in Europe.

More information [here](#).