CONGRESO ALAT

Simposio: Explorando a la EPOC aguas arriba - Parte II

¿Qué nos espera en la EPOC en los próximos 10 años?

Alvar Agusti

Universitat de Barcelona
Clínic Barcelona
IDIBAPS Institut D'Investigacions Biomèdiques August Pi i Sunyer
ciber ES
Sigmund Freud PrivatUniversität Wien
Global Initiative for Chronic Obstructive Lung Disease
Barcelona Respiratory Network Collaborative research
CADSET Chronic Airway DiSeases Early sTratification
centre of excellence treatable traits
Reial Acadèmia de Medicina de Catalunya

Conflictos de interés

Research grants/clinical trials:	AstraZeneca, GSK, Menarini,
Lector for:	AstraZeneca, Chiesi, Menarini, GSK, Zambon
Member of scientific (advisory) board:	AstraZeneca, Chiesi, Menarini, GSK
Consultant:	None
Employer (including part-time):	None
Tobacco Industry relationship:	None

GLOBAL INITIATIVE FOR CHRONIC OBSTRUCTIVE LUNG DISEASE

¿Qué nos espera en la EPOC en los próximos 10 años?

Hacer predicciones es muy difícil, especialmente cuando se trata del futuro.

(Niels Bohr)

1885 - 1962

¿Qué nos espera en la EPOC en los próximos 10 años?

1. **Considerar el eje temporal: la EPOC no empieza a los 65 años**

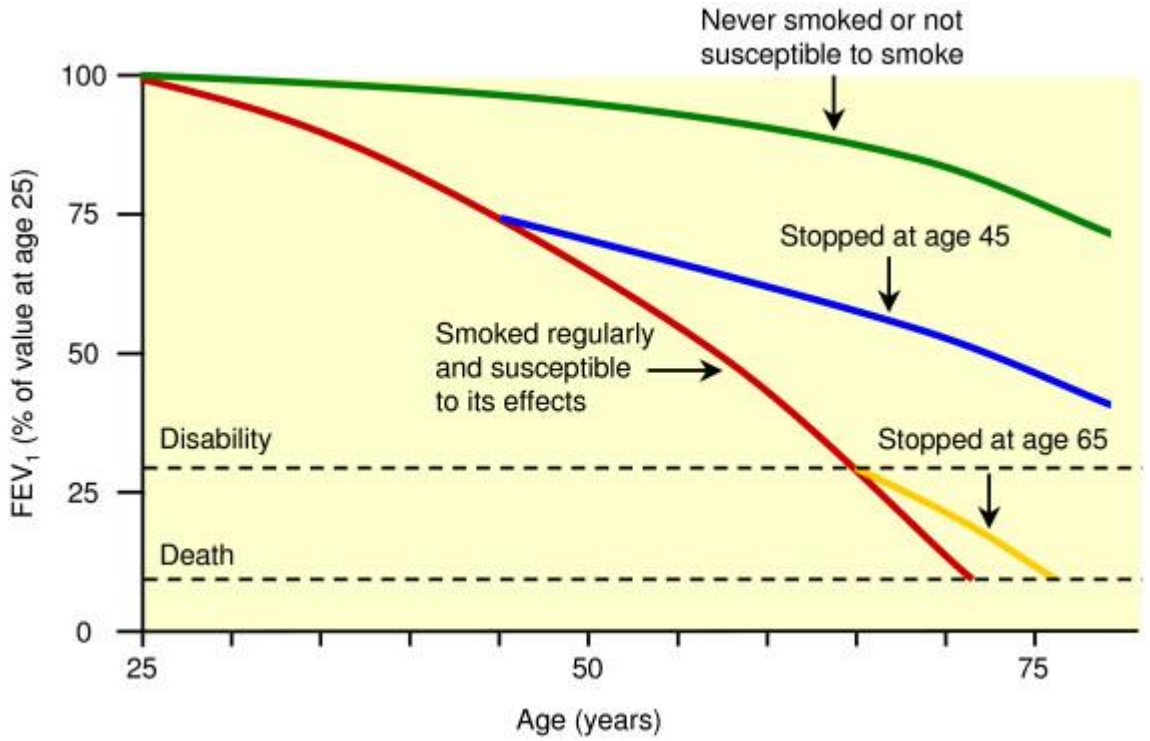
2. **Abordar la complejidad biológica de la EPOC en la práctica clínica**

¿Qué nos espera en la EPOC en los próximos 10 años?

1. **Considerar el eje temporal: la EPOC no empieza a los 65 años**
   - Mas allá del tabaco
   - GETomics
   - Trayectoma
   - Plasticidad individual

2. **Abordar la complejidad biológica de la EPOC en la práctica clínica**

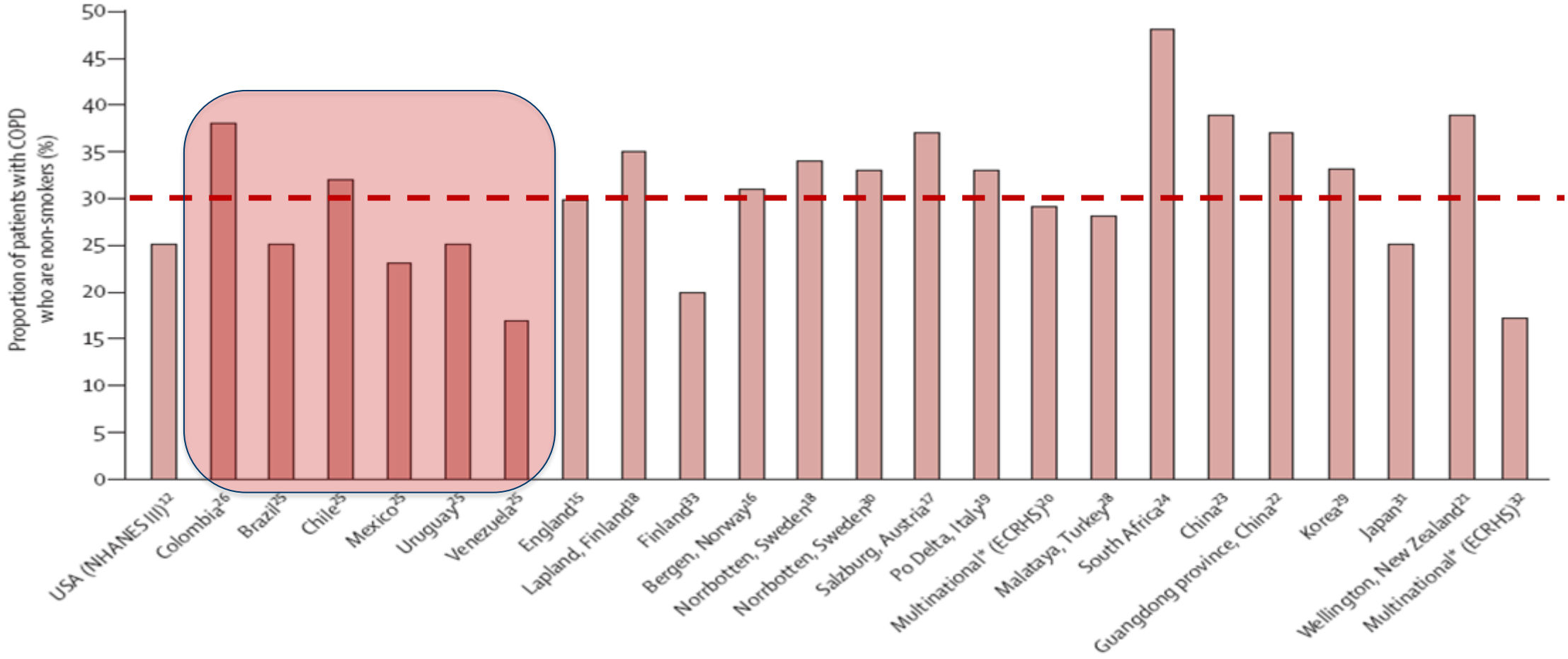
EPOC: paradigma tradicional



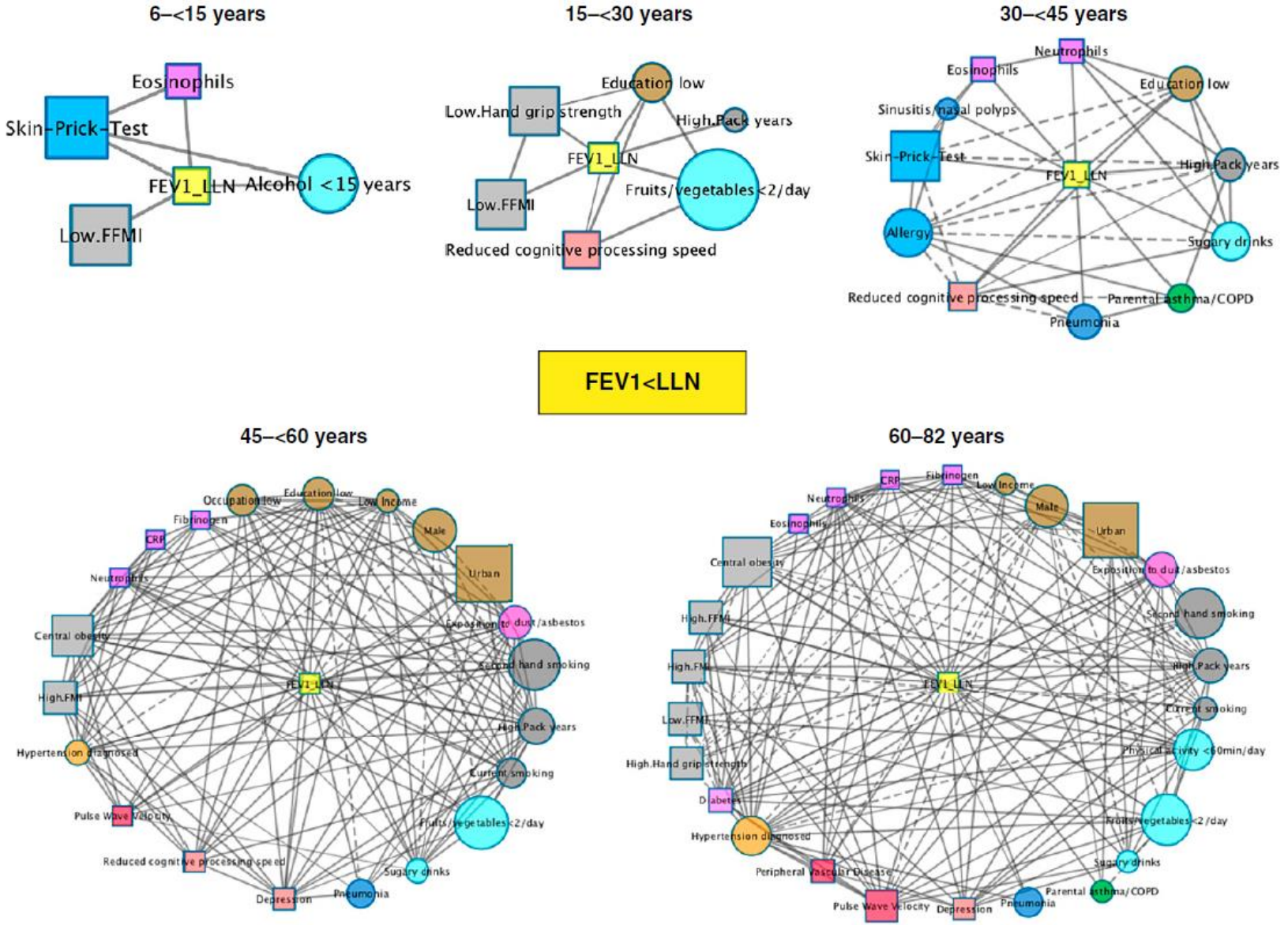
CHARLES FLETCHER, RICHARD PETO

British Medical Journal, 1977, **1**, 1645-1648

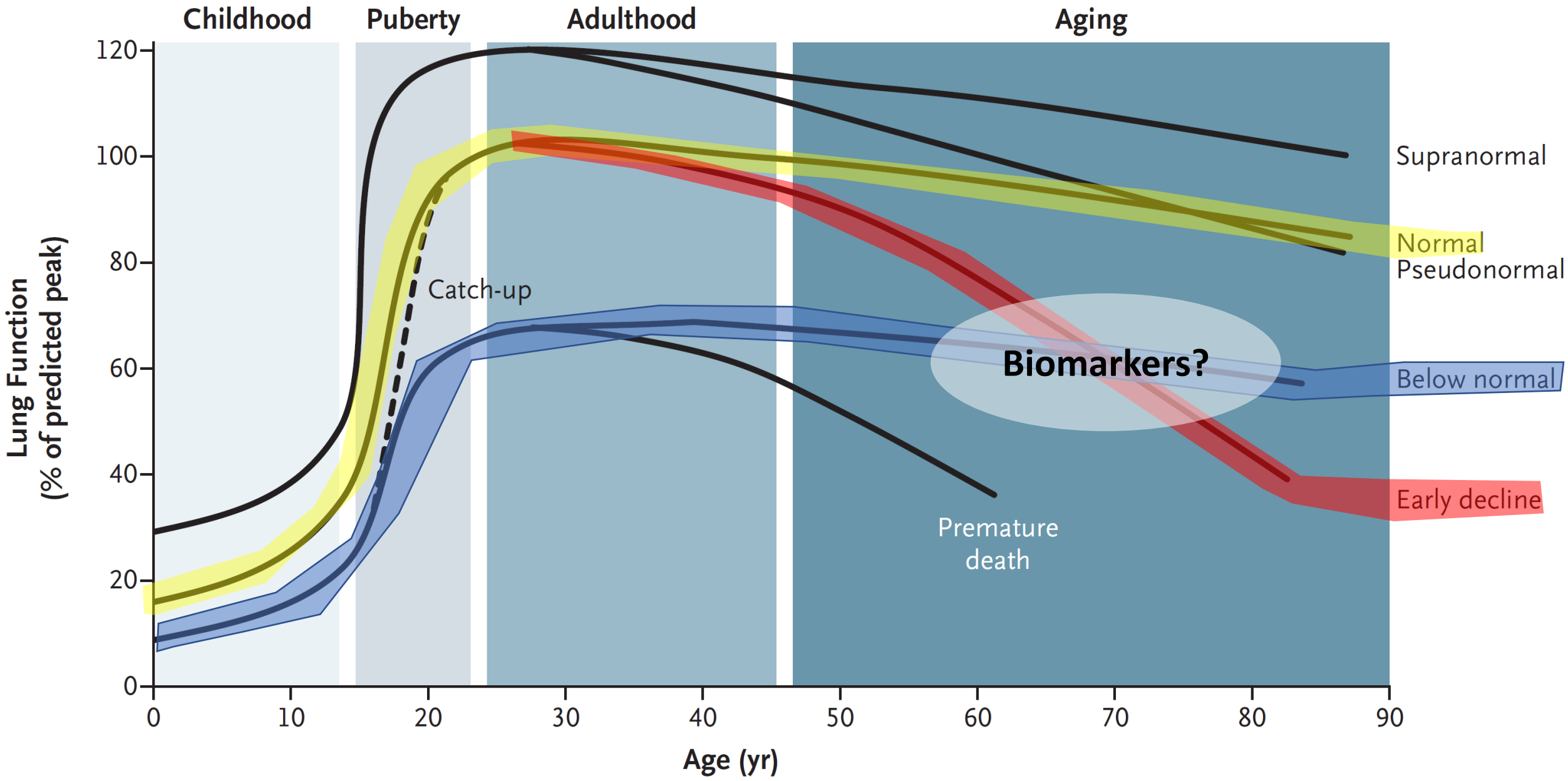
EPOC: mas allá del tabaco



Salvi SS, Barnes PJ. *Lancet* 2009: 374: 733

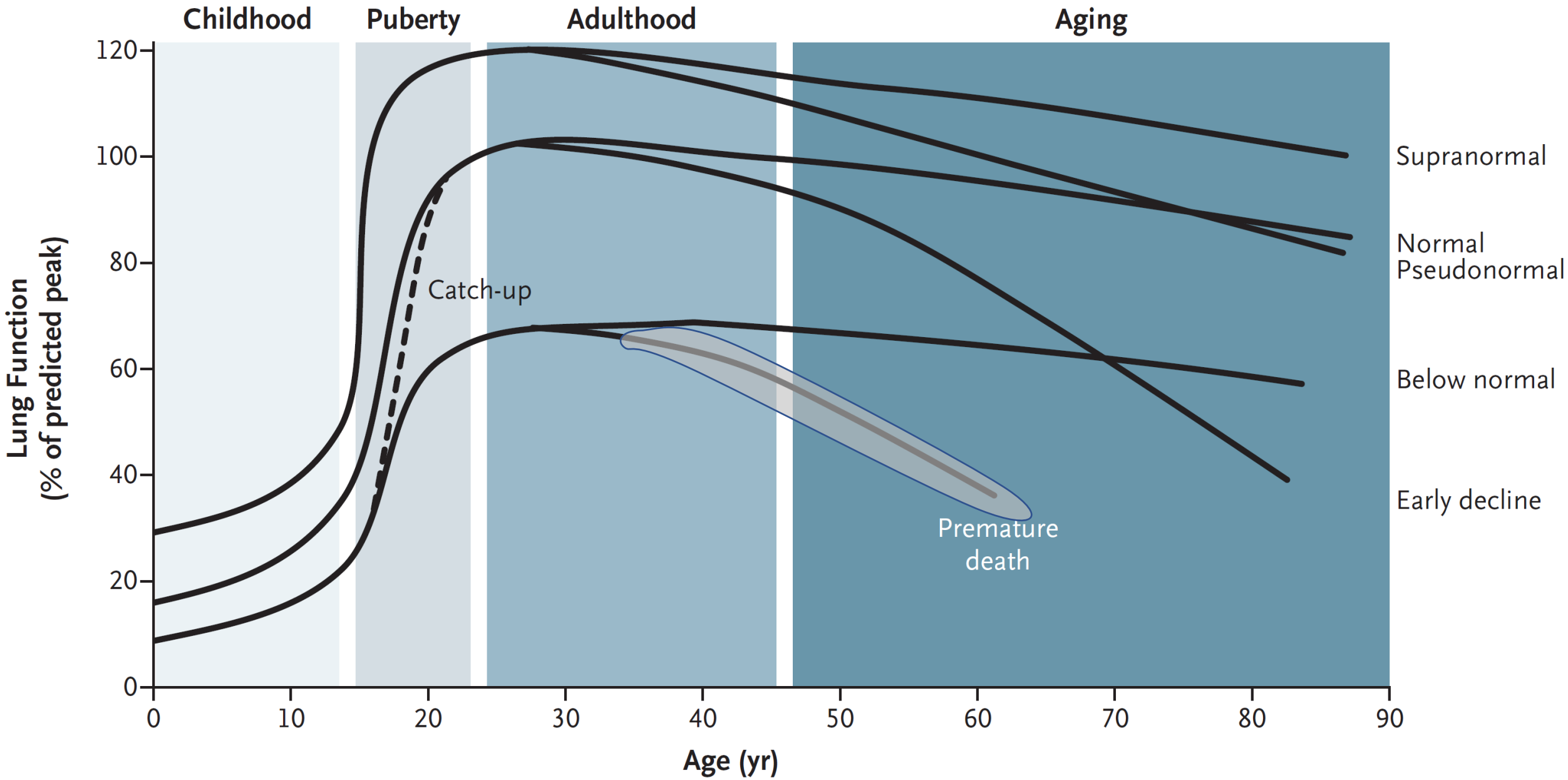


Breyer-Kohansal R *et al. AJRCCM* 2020; 202: 292



The trajectome

Agusti A, Hogg JC. *New Engl. J. Med*. 2019; 381: 1248



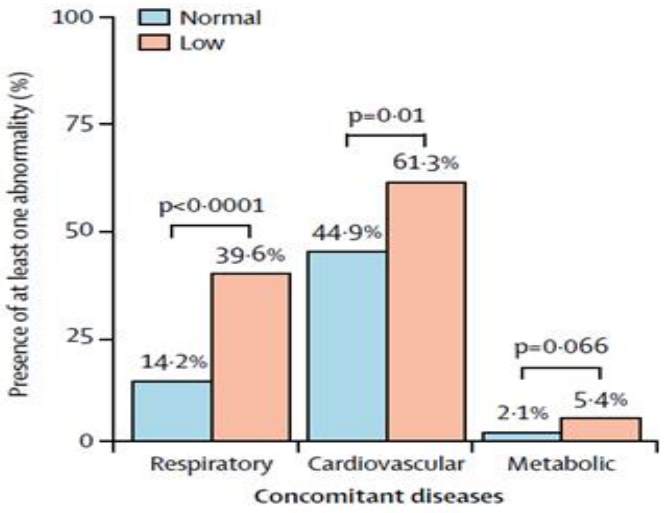
The trajectome

Agusti A, Hogg JC. *New Engl. J. Med*. 2019; 381: 1248

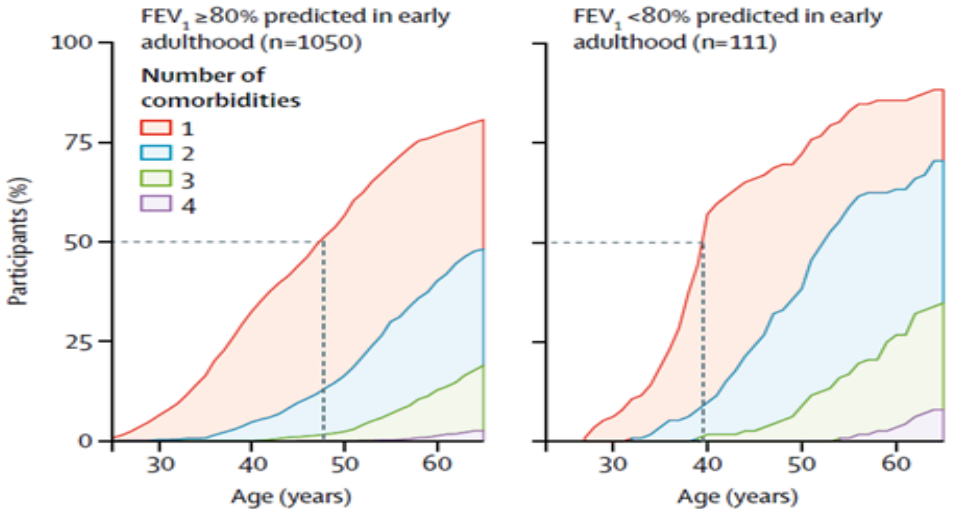
Lung function in early adulthood and health in later life: a transgenerational cohort analysis

Alvar Agustí, Guillaume Noell*, Josep Brugada, Rosa Faner*

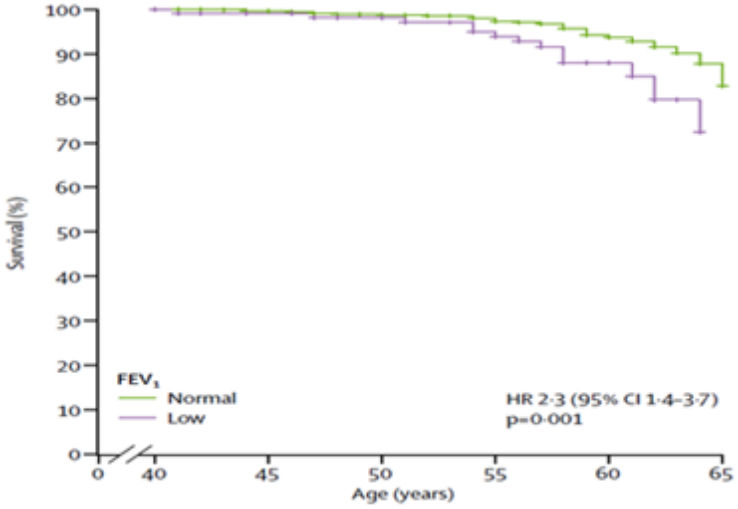
Prevalence



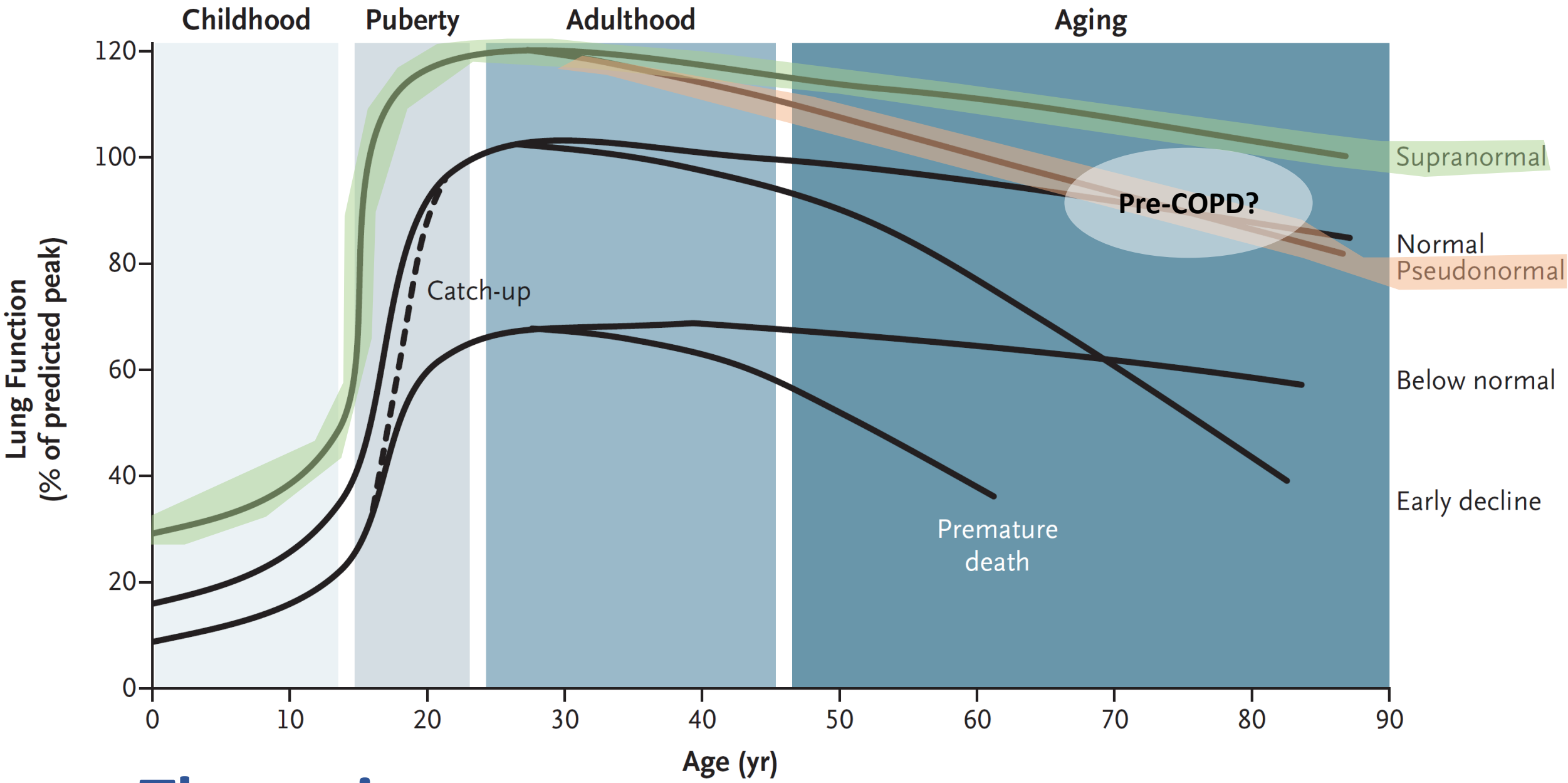
Incidence



Mortality



Lancet Respir Med 2017



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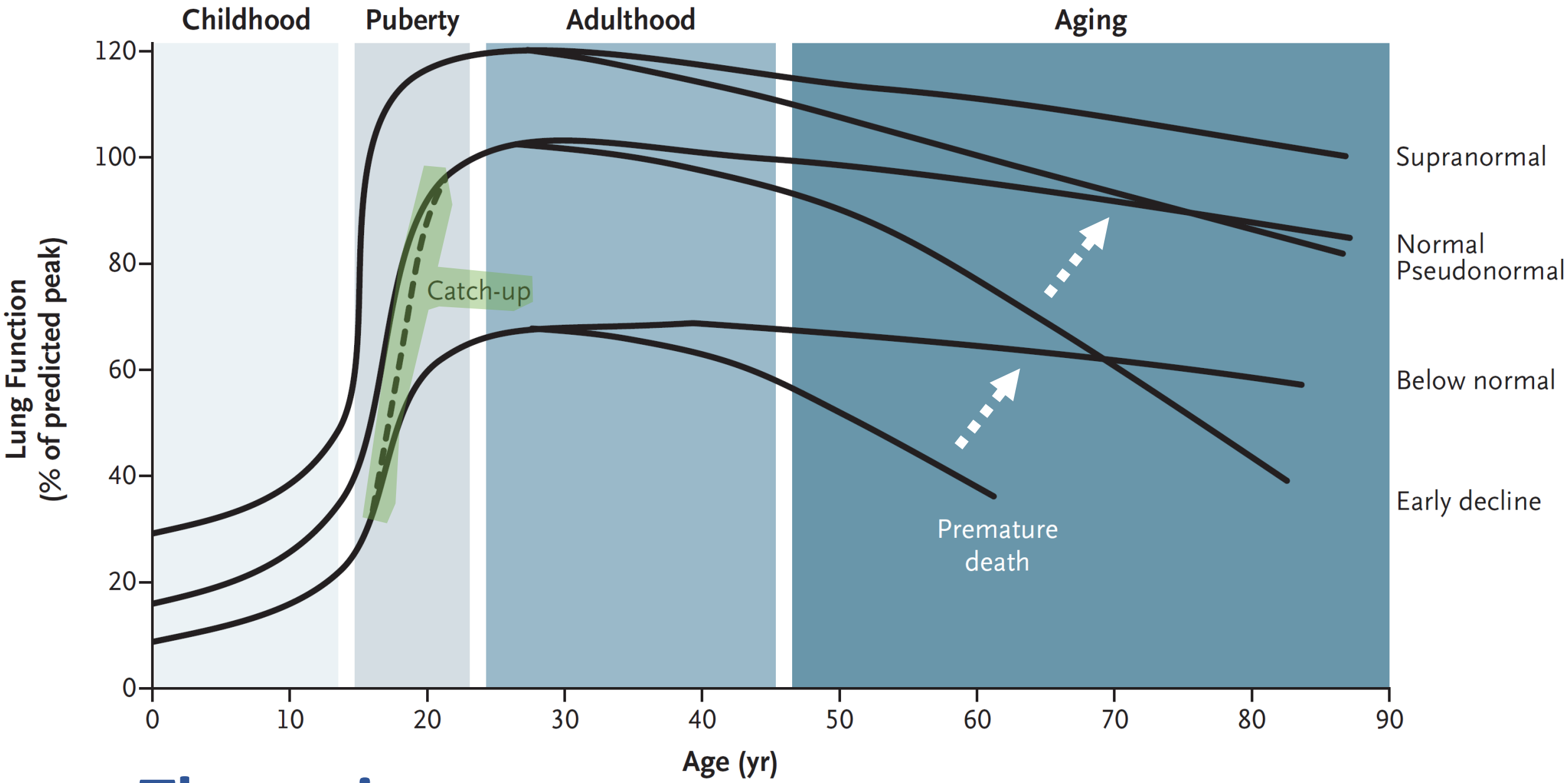
Agusti A, Hogg JC. *New Engl. J. Med*. 2019; 381: 1248



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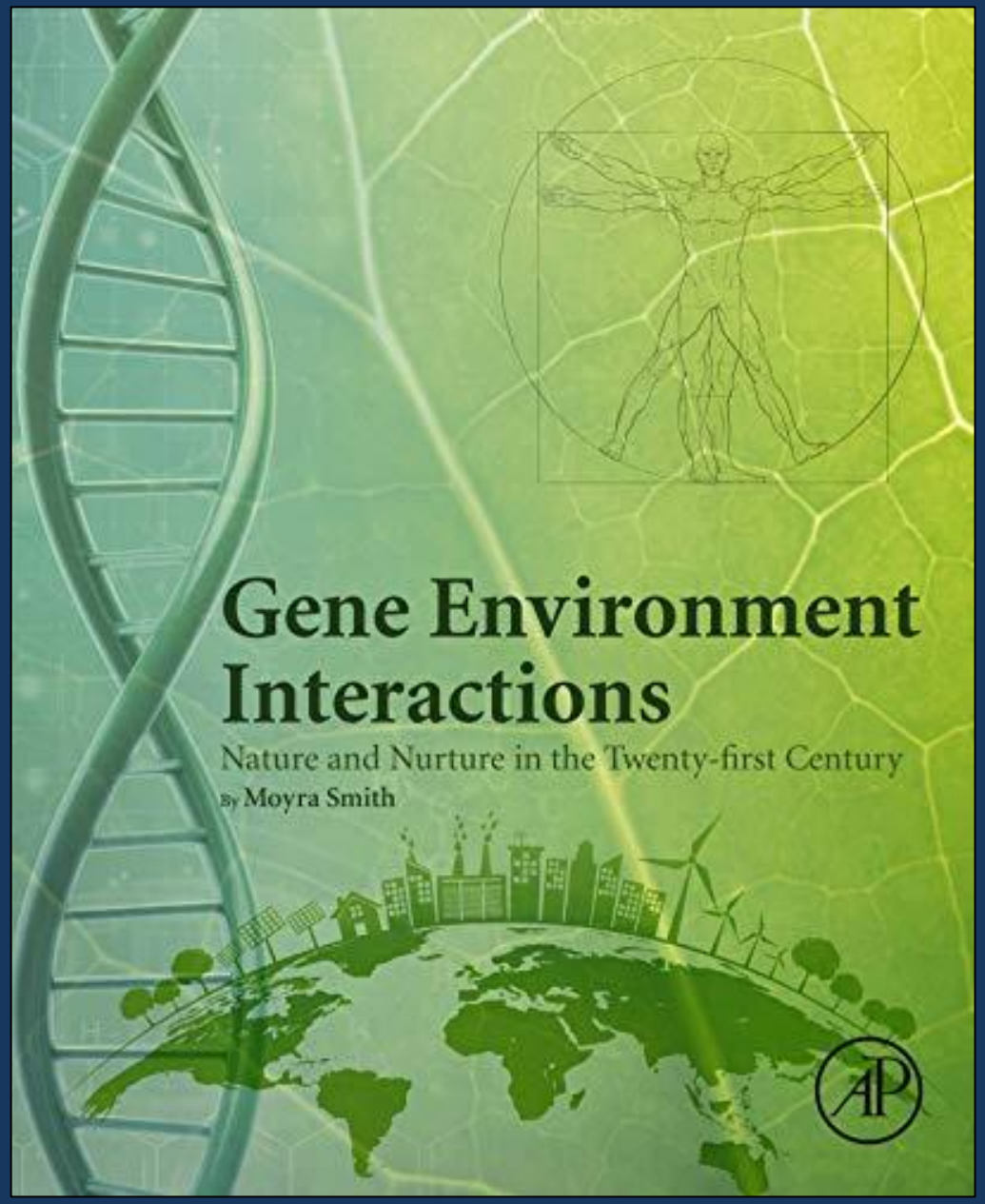
Agusti A, Hogg JC. *New Engl. J. Med*. 2019; 381: 1248



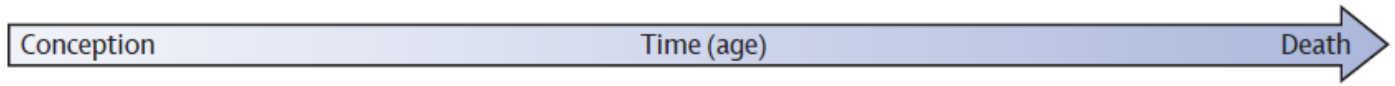
GxE

↓

GxExT

↓

GETomics



Agusti A *et al. Lancet RM 2022*

A GETomics approach to human health and disease

The final outcome (health/disease) of any GxE interaction depends on:

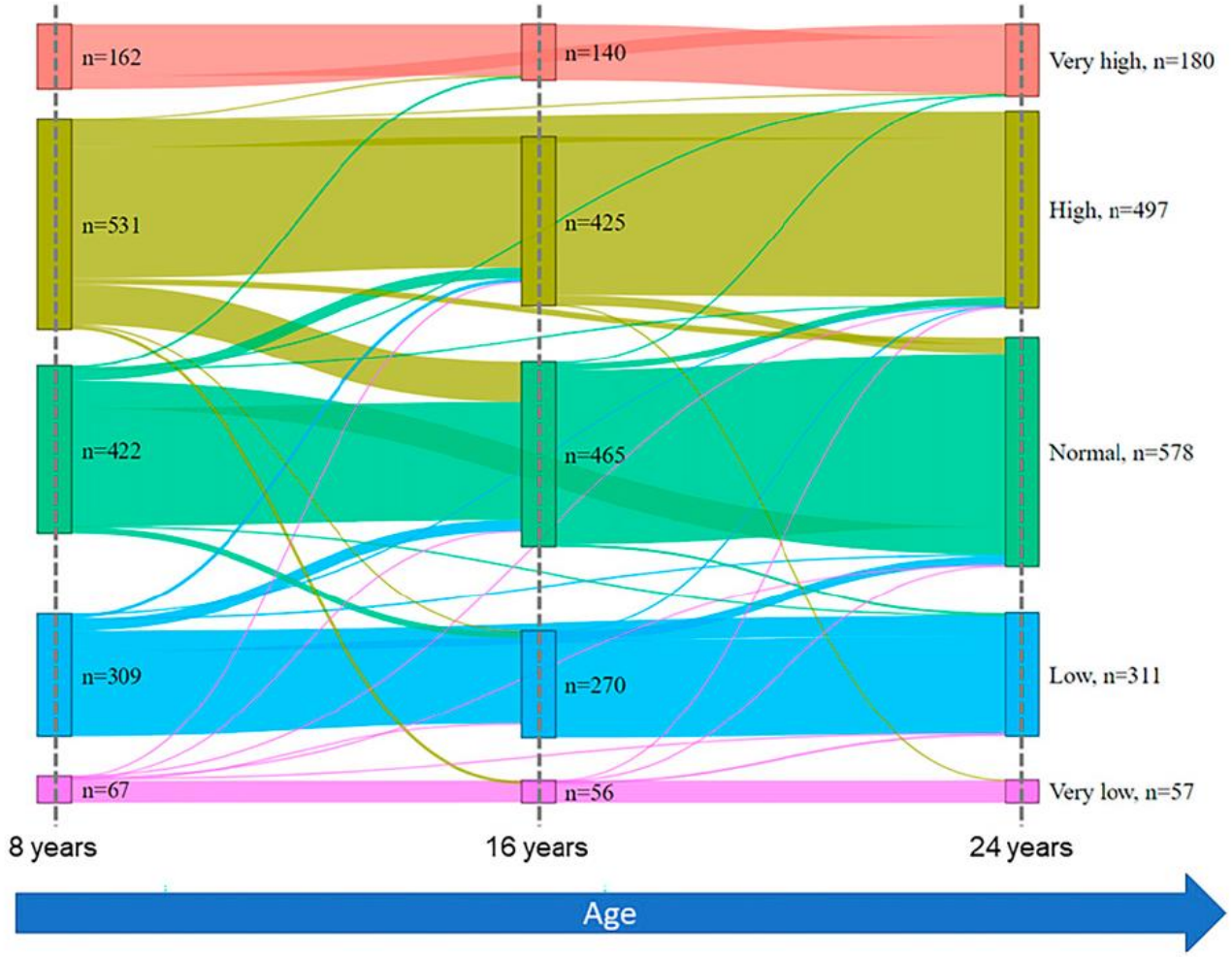
1. The **age of the individual** at which that interaction occurs (pregnancy, infancy, adolescence, adulthood, elderly) because organs are at different developmental/ageing stages with different potential to respond.

2. The **previous history of GxE interactions** and the biological response they elicited (**biological memory**): epigenetics & immune response.

Agusti *et al. Lancet Respiratory Medicine* 2022;10:512-24.

Plasticity of Individual Lung Function States from Childhood to Adulthood

Gang Wang[1,2,3,4], Jenny Hallberg[2,5], Rosa Faner[6,7], Hans-Jacob Koefoed[8], Simon Kebede Merid[2], Susanna Klevebro[2,5], Sophia Björkander[2], Olena Gruzieva[3,9], Göran Pershagen[3,9], Marianne van Hage[10], Stefano Guerra[11,12], Matteo Bottai[13], Antonios Georgelis[9], Ulrike Gehring[14], Anna Bergström[3,9], Judith M. Vonk[8,15], Inger Kull[2,5], Gerard H. Koppelman[8,16], Alvar Agusti[6,7,17,18*], and Erik Melén[2,5*]



- **Catch-up: 14.5%**
- **Growth failure: 2.4%**

- **IL-6 and CXCL10: negatively associated with impaired lung function development.**

American Journal of Respiratory and Critical Care Medicine Volume 207 Number 4 | February 15 2023

TIME MATTERS

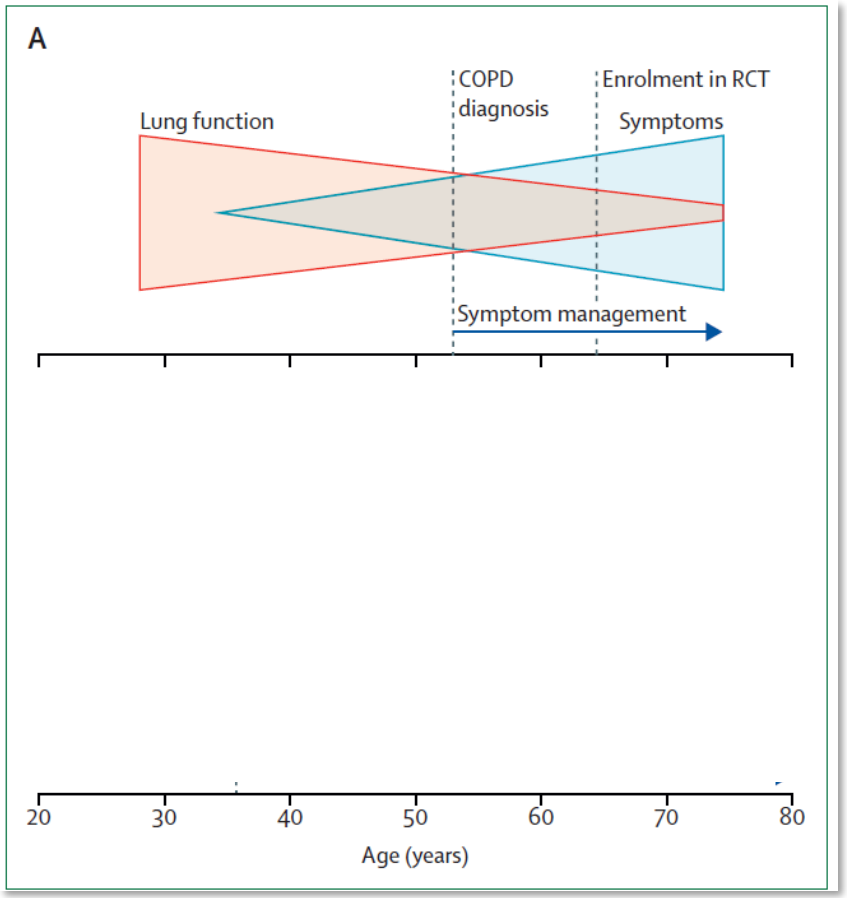

THE EARLIER
the better

The Lancet Commissions

Towards the elimination of chronic obstructive pulmonary disease: a *Lancet* Commission

Daiana Stolz, Takudzwa Mkorombindo, Desiree M Schumann, Alvar Agusti, Samuel Y Ash, Mona Bafadhel, Chunxue Bai, James D Chalmers, Gerard J Criner, Shyamali C Dharmage, Frits M E Franssen, Urs Frey, MeiLan Han, Nadia N Hansel, Nathaniel M Hawkins, Ravi Kalhan, Melanie Konigshoff, Fanny W Ko, Trisha M Parekh, Pippa Powell, Maureen Rutten-van Mölken, Jodie Simpson, Don D Sin, Yuanlin Song, Bela Suki, Thierry Troosters, George R Washko, Tobias Welte, Mark T Dransfield

Current



www.thelancet.com Published online September 5, 2022 https://doi.org/10.1016/S0140-6736(22)01273-9

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2. **Abordar la complejidad biológica de la EPOC en la práctica clínica**
   - Rasgos Tratables
   - Biomarcadores
   - Tratamientos biológicos

Received: 8 March 2022 | Accepted: 8 June 2022

DOI: 10.1111/resp.14325

ORIGINAL ARTICLE

Official Journal of the Asian Pacific Society of Respirology
Respirology
APSR
WILEY

Treatable traits in the NOVELTY study

Alvar Agustí[1,2,3,4] | Eleni Rapsomaniki[5] | Richard Beasley[6] | Rod Hughes[7] | Hana Müllerová[8] | Alberto Papi[9,10] | Ian D. Pavord[11] | Maarten van den Berge[12] | Rosa Faner[3,4] | for the NOVELTY Study Investigators

Respirology. 2022;1–12.

11,226 participants: real-life global study:

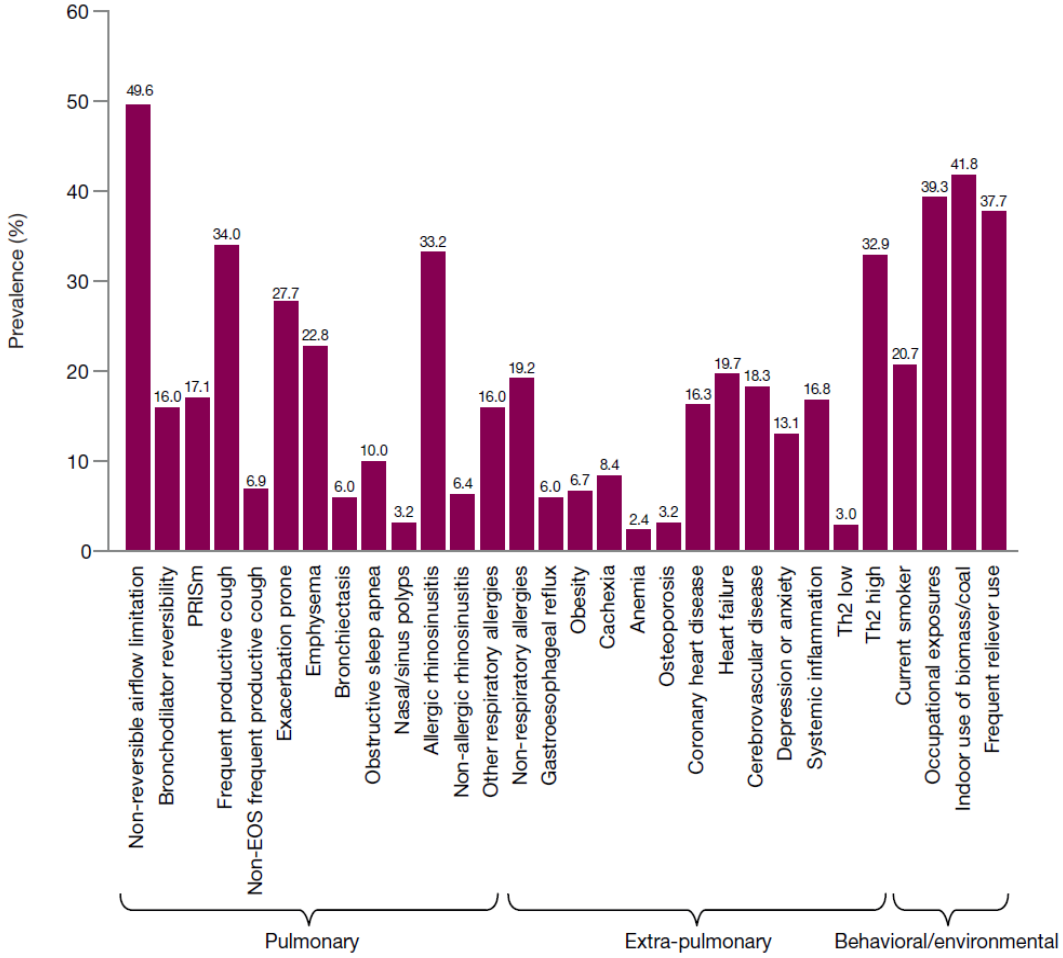
- “Asthma” (n=5.932, 52.7%)
- “COPD” (n=3.898, 34.6%)
- “asthma+COPD” (n=1.396, 12.4%)

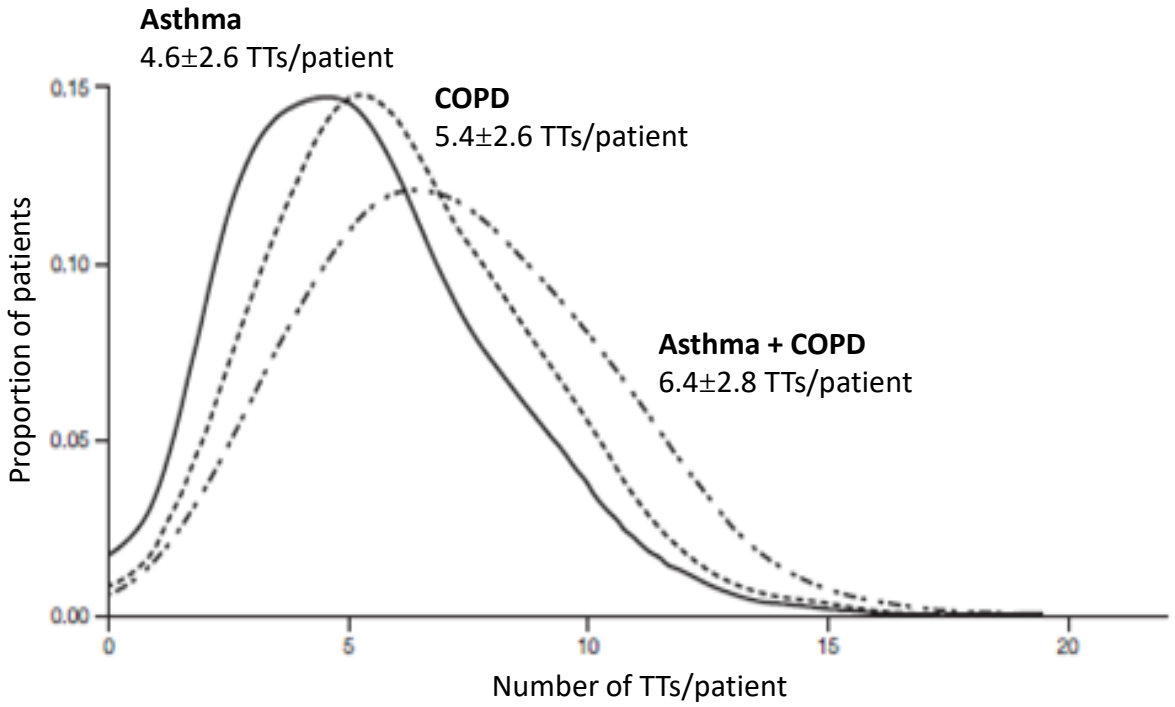
THE NOVELTY STUDY

Agusti A *et al. Respirology* 2022; 1-12

THE NOVELTY STUDY

Prevalence of the 30 studied TTs in the NOVELTY COHORT





Agusti A *et al. Respirology* 2022; 1-12

Received: 13 February 2022 | Accepted: 13 February 2022

DOI: 10.1111/resp.14233

Official Journal of the Asian Pacific Society of Respirology
Respirology
APSR
WILEY

EDITORIAL

CT in COPD: To be or not to be

Alvar Agusti MD, PhD[1,2,3,4]
Rosa Faner PhD[2,3,4]

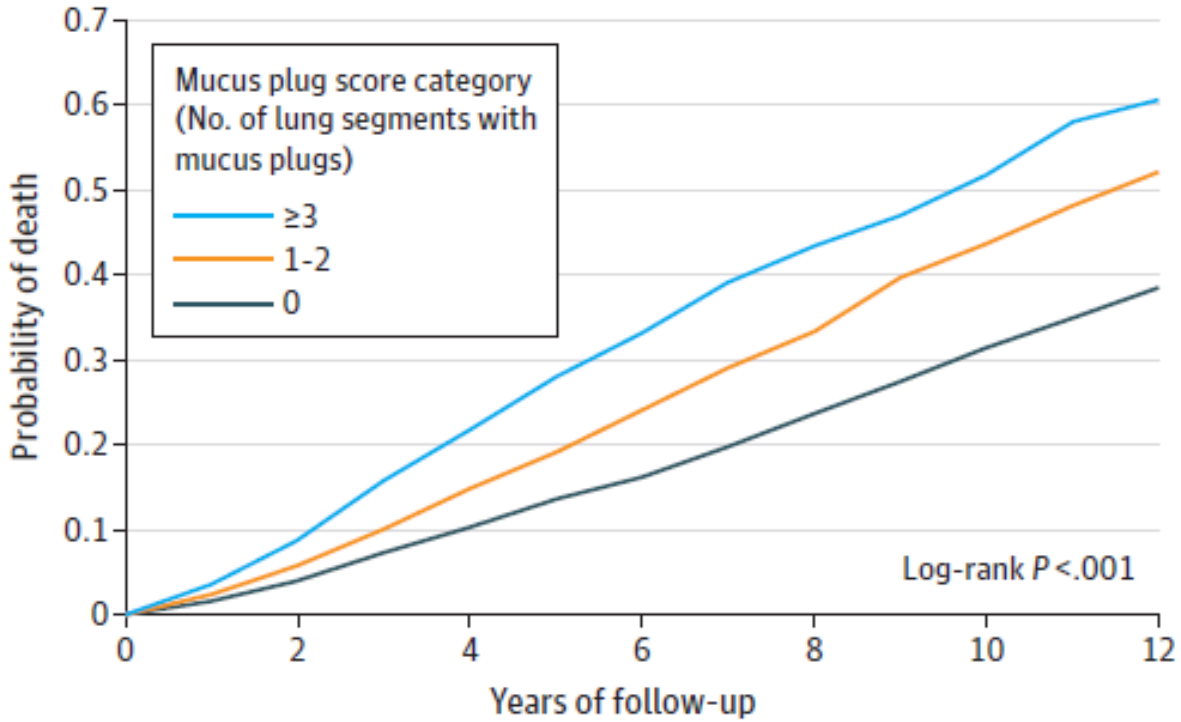
Respirology. 2022;27:258–259.

JAMA | Original Investigation

Airway-Occluding Mucus Plugs and Mortality in Patients With Chronic Obstructive Pulmonary Disease

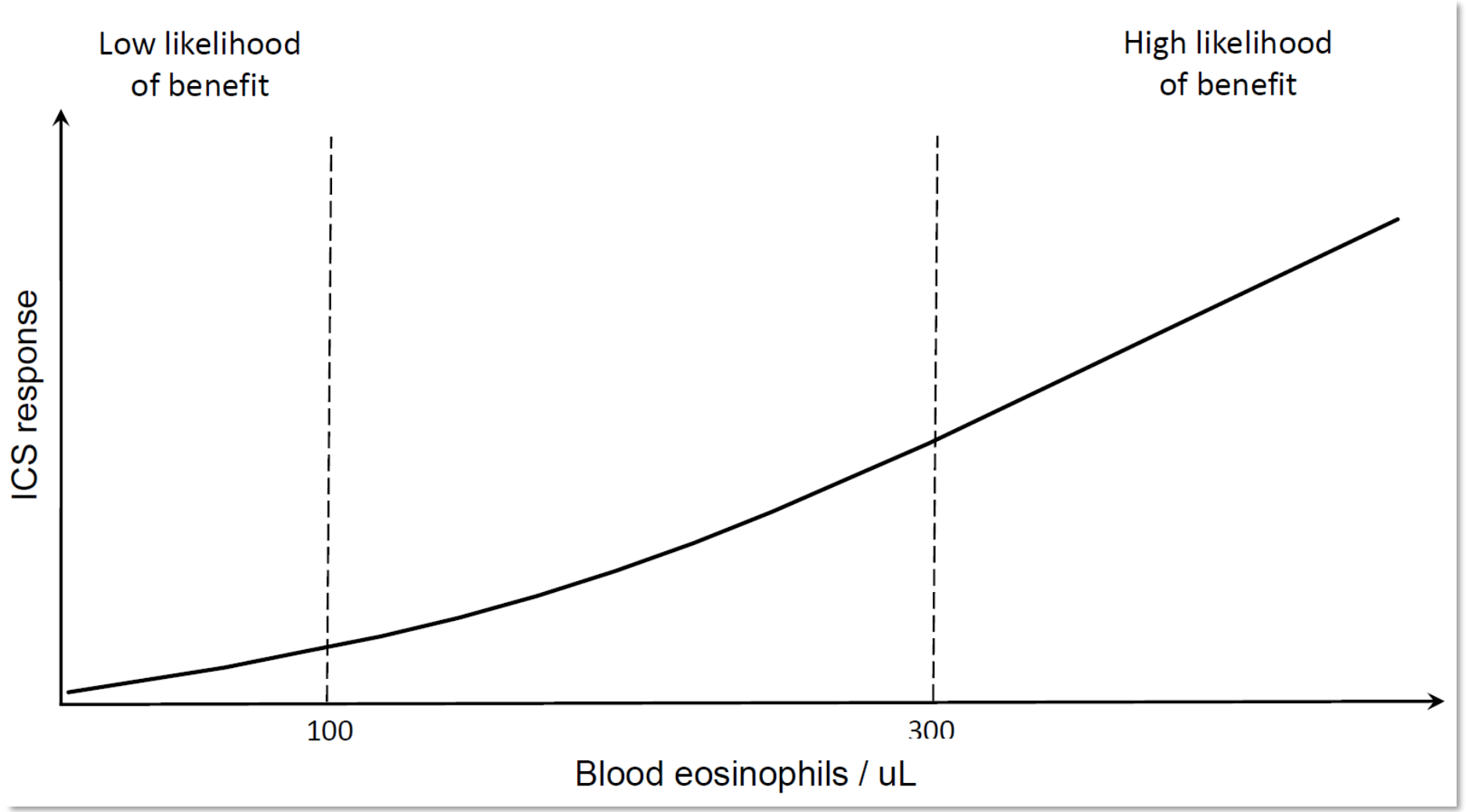
Alejandro A. Diaz, MD, MPH; José L. Orejas, MD; Scott Grumley, MD; Hrudaya P. Nath, MD; Wei Wang, PhD; Wojciech R. Dolliver, MD; Andrew Yen, MD; Seth J. Kligerman, MD; Kathleen Jacobs, MD; Padma P. Manapragada, MD; Mostafa Abozeed, MD, MSc, PhD; Muhammad Usman Aziz, MD; Mohd Zahid, MD; Asmaa N. Ahmed, MD, MBBCh, MSc; Nina L. Terry, MD; Ruben San José Estépar, MSc; Victor Kim, MD; Barry J. Make, MD; MeiLan K. Han, MD; Sushilkumar Sonavane, MD; George R. Washko, MD, MSc; Michael Cho, MD, MPH; Raúl San José Estépar, PhD

A Unadjusted probability of death by mucus plug score



JAMA 2023; 329 (21): 1832-9

Relationship between blood eosinophils and the efficacy of ICS in preventing exacerbations

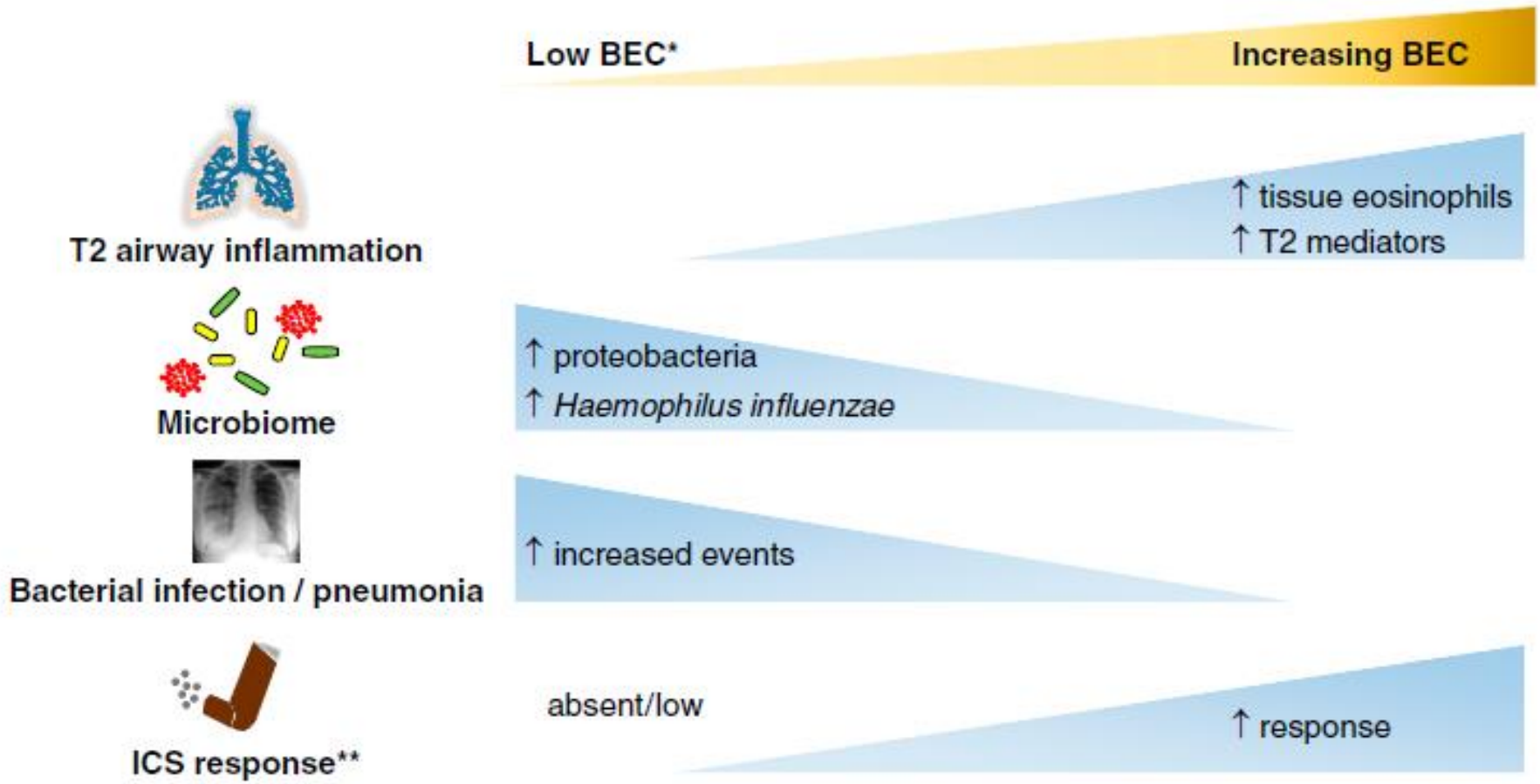


D Singh et al Eur Respir J 2019;53:1900164.

Blood Eosinophils and Chronic Obstructive Pulmonary Disease

A Global Initiative for Chronic Obstructive Lung Disease Science Committee 2022 Review

Dave Singh[1], Alvar Agusti[2], Fernando J. Martinez[3], Alberto Papi[4], Ian D. Pavord[5], Jadwiga A. Wedzicha[6], Claus F. Vogelmeier[7], and David M. G. Halpin[8]



Am J Respir Crit Care Med Vol 206, Iss 1, pp 17–24, Jul 1, 2022

The NEW ENGLAND JOURNAL of MEDICINE

EDITORIALS

Biologics for COPD — Finally Here

Alvar Agusti, M.D., Ph.D.

N ENGL J MED 389;3 NEJM.ORG JULY 20, 2023

Muchas gracias por su atención

aagusti@clinic.cat