

Letter to the editor

Flaws and weaknesses in estimating the budget impact of lung cancer screening in Spain**Defectos y debilidades en la estimación del impacto presupuestario de la detección del cáncer de pulmón en España**

To the Editor:

We strongly object to the estimates of lung cancer screening costs in Spain published recently by Hernández-Yumar et al.¹ Their conclusion contrasts with previous economic assessments of lung cancer screening programs conducted in Spain and other countries² as well as with the real world evidence from existing lung cancer screening programs and pilot projects.³

The study contains inaccuracies and flawed assumptions. It assumes the entire Spanish population within a specific age range will have to be invited rather than focusing exclusively on high-risk current or former smokers. Additionally, the analysis relies on data from over ten years ago, including lung cancer incidence rates and tobacco consumption, which may no longer reflect current epidemiological trends. For example, Spain has experienced a dramatic decline in tobacco use, from 23.95% in 2011 to 16.64% in 2023, based on the latest data. The former leads to an overestimation of the high-risk population and, consequently, screening costs. Furthermore, the analysis doubles down on questionable assumptions made previously,⁴ including the unjustified need to purchase all computerized tomography (CT) scanners dedicated to screening which has not proven necessary elsewhere,² but also the number of CT performed per day and read by a trained radiologist per shift. It includes only a 5-year time frame which is insufficient to capture all relevant health outcomes and costs, especially in the context of cancer screening with benefits accruing over time, and cites outdated clinical guidelines for diagnosis, treatment, and follow-up of the disease. The article also lacks a description of the modeling choices and validation strategies used and refers to public taxes instead of actual costs. These limitations are also reflected in the stage shift distribution attributable to screening, which is underestimated compared to data from national and pilot programs, where approximately 70% of detected lung cancers were early-stage tumors.³ For example, in the United Kingdom, 75% of detected lung cancers were stage I/II tumors and cost per quality-adjusted life year based on real world data has been reported less than €10,000.

Lastly, applying a budget impact analysis, the authors also ignore the impact of screening on health outcomes. Evidence supports a reduction in lung cancer-related mortality through low-dose CT screening in high-risk populations.³ Long-term follow-up studies, including Spanish centers, demonstrate impressive survival benefits which make it the most cost-effective cancer screening strategy. A recent study from Catalonia reveals that cost savings due to screening compensate for a substantial part of program costs.⁵

Indeed, lung cancer screening is characterized by a compelling benefit-to-harm ratio, playing a crucial role as a public health intervention to reduce cancer mortality.³ Arguably, real world data, cost-effectiveness and cost-utility analyses are better approaches to this important health policy debate than flawed budget estimates.

Spain is already lagging behind in its efforts to implement lung cancer screening, despite European Union wide recommendations, and existing pilots in our country are underfunded. Publishing flawed estimates of cost can only make matters worse.

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