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P2.100: Impact of lung cancer screening eligibility criteria on participants' characteristics and healthcare resources

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INTRODUCTION

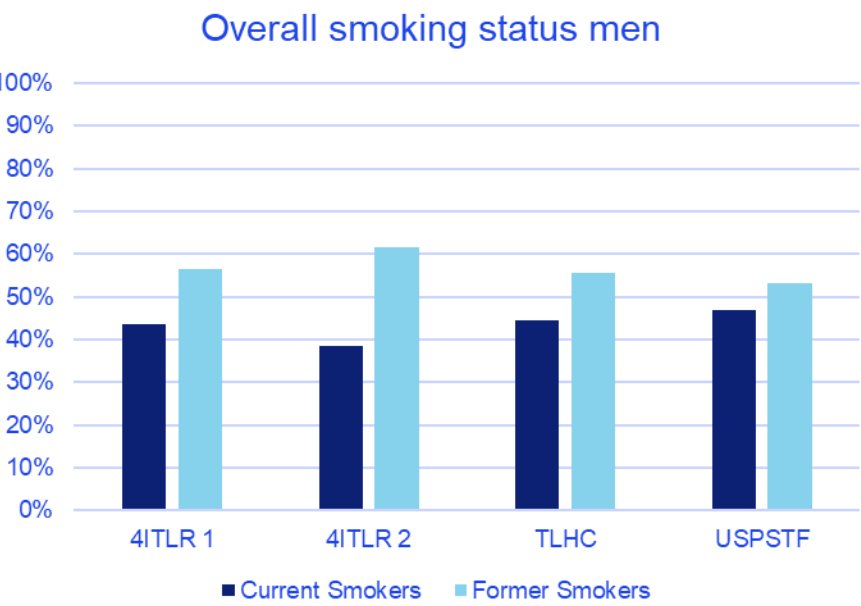
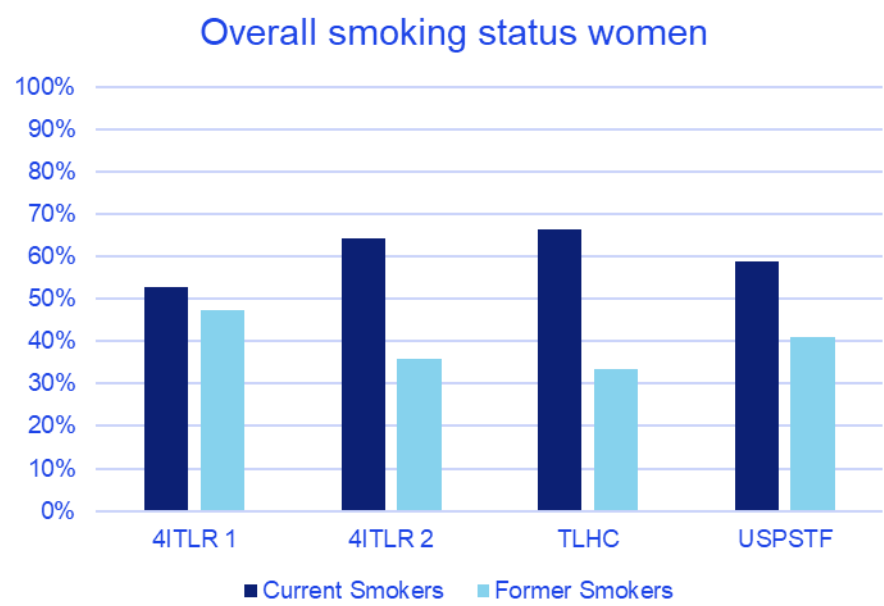
- Lung cancer was responsible for over 18.7% of all cancer deaths worldwide and 20.2% in Spain^{1,2}
- The U.S. National Lung Screening Trial (NLST) and the Dutch Belgian lung cancer screening trial (NELSON) have shown that low-dose CT (LDCT) screening effectively reduces lung cancer mortality^{3,4}
- National LCS programs: three in Europe (Czech Republic, Poland and Croatia),⁵⁻⁷ one in the United States (U.S)⁸, one in Oceania (Australia)⁹ and three in Asia (China, Taiwan and South Korea).¹⁰⁻¹² Moreover, the United Kingdom (UK) has a targeted lung health check (TLHC) program solely implemented in some parts of the country.¹³
- Different eligibility criteria: pack-years and risk-based approach
- Risk-based: validated risk prediction models to estimate the personal lung cancer risk^{14,15} such as PLCOm2012, that can be used to select participants to benefit from LDCT screening.¹⁶

METHODOLOGY

- Data were drawn from the 2012 Spanish National Health Survey (ENSE)
- N= 21,007
- Sociodemographic and smoking-related variables were calculated, including the PLCOm2012 no race model
- Four different selection criteria: 4-IN-THE-LUNG-RUN (4ITLR1, 4ITLR2), Targeted Lung Health Check (TLHC), United States Preventive Services Task Force (USPSTF)

Table 1. Overview of the different lung cancer screening (LCS) strategies and their inclusion criteria				
	Inclusion criteria			
LCS strategies	Age	Smoking status	Smoking history	Risk score
4-IN-THE-LUNG-RUN (4ITLR) ¹⁷	60-79	Current smokers or quit less than 10 years ago	≥35 pack-year	PLCOm 2012 no race ≥2·60%
Targeted Lung Health Check (TLHC) ¹³	55-74	Current or former	-	PLCOm 2012 ≥1·51%
United States Preventive Services Task Force (USPSTF) ¹⁸	50-80	Current smokers or quit less than 15 years ago	≥20 pack-year	-

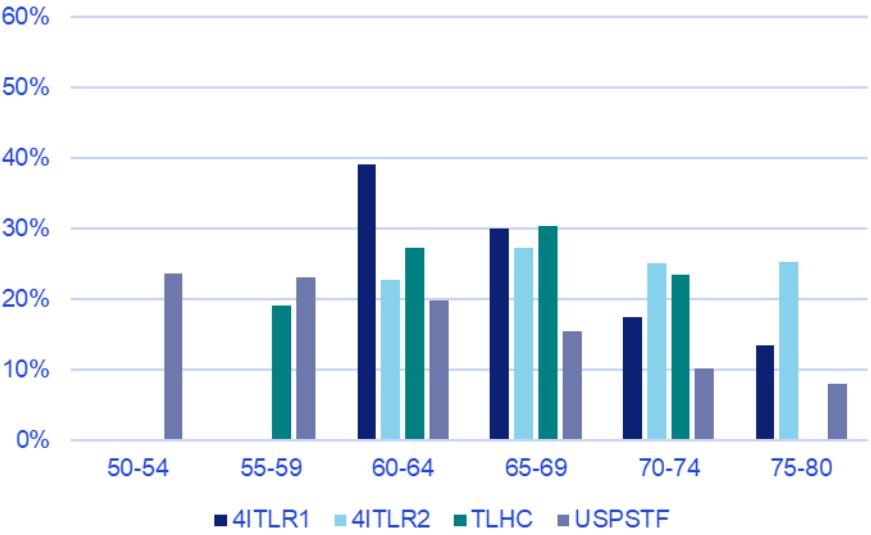
RESULTS



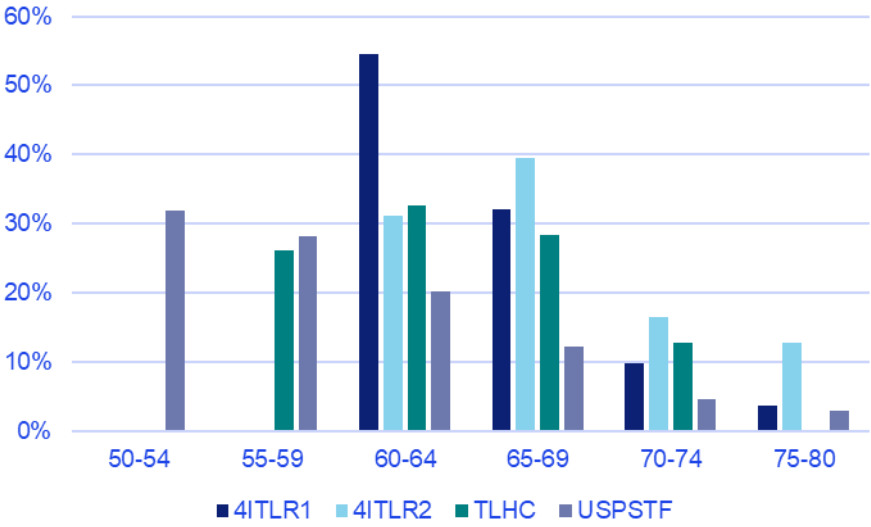
- Eligible men were more often former smokers compared to women (men: 53.2-61.5%, women: 33.4-47.3%) while eligible women were more often current smokers across all criteria (men: 38.5-46.8%, women: 52.7-66.5%).

RESULTS

Eligibility distribution by age and criteria in men



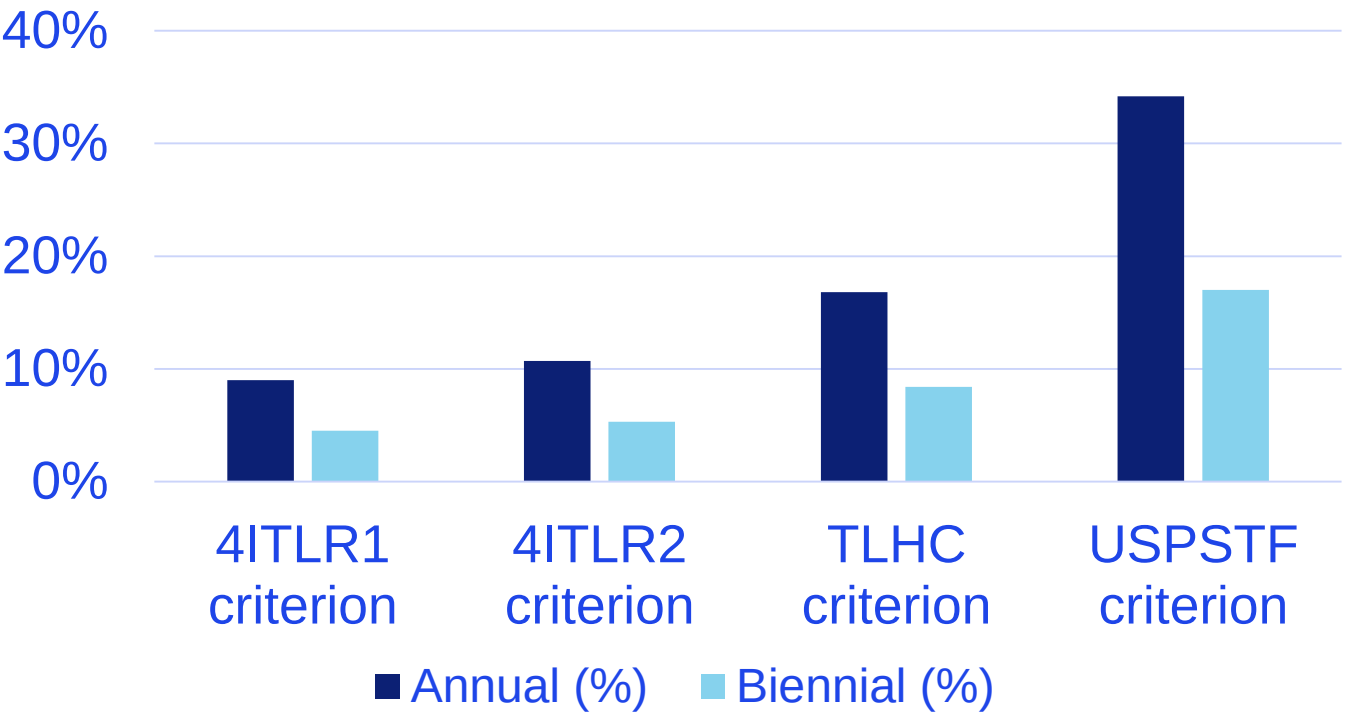
Eligibility distribution by age and criteria in women



Pack-year-based eligibility decreased with age while risk-based eligibility remained more stable.

RESULTS

Percentage of CT scan increase
per LCS criterion



- The most restrictive, 4ITLR1 (PY) resulted in a national radiological capacity increase of 9%.
- The least restrictive criterion, USPSTF (PY), resulted in a national radiological capacity increase of 34.1%



TAKE AWAY MESSAGES

- Different LCS inclusion criteria yield populations with highly varied characteristics
- **Risk-based criteria may provide more balanced eligibility across age-groups**
- When choosing selection criteria balance across sex, age groups and smoking behavior should be taken into consideration

Bibliography





Thank You



CONQUERING LUNG AND OTHER THORACIC CANCERS WORLDWIDE IN THE 21ST CENTURY