

A Return on Investment Tool for Tobacco Control in Spain: Populating the Model

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Background

- The European-study on Quantifying Utility of Investment in Protection from Tobacco (EQUIPT) aims to provide a practical tool with bespoke information about returns from investing in evidence-based tobacco control interventions in the EU (ROI Tool).
- The EQUIPT ROI Tool consists a Markov transition model aiming to estimate the Return on Investment of tobacco control interventions in five European countries (UK, Germany, Hungary, The Netherlands and Spain) and transfer the evidence among these countries to inform the decision making.

Aim

- The objective of this study is to list, collate and validate all the parameters required to populate the Spanish version of the model.

Methodology

Country-specific parameters used to inform the model were:

- Population details
- Characteristics of economic evaluations
- Prevalence of related diseases
- Disease costs
- Exposure to second-hand smoke and its effects
- Productivity losses

A template to collect parameters for every country was created

Methodology

- **Main characteristics of population**

Regional population details

Data by age, gender and Autonomous Community

Mortality rates

Data by age and gender

Smoking prevalence

Grouped by: “Current smokers”, “Former smokers”; “Never smokers”

Methodology

- **Discount rates and threshold**

Discount rates

For costs and utilities

Inflation

Annual inflation rates from 2002 to 2014.

Threshold value for a QALY

-

Methodology

- **Smoking-related diseases**

Lung cancer	162 ICD-9 code
CHD	410-414 ICD-9 code
COPD	490-492, 494, 496 ICD-9 codes
Stroke	430-438 ICD-9 codes
Costs	Direct costs, inflated to €2014

Methodology

- **Motivation of smokers to quit**

Motivated smokers (will try to quit smoking over the following 12 months)

Fraction of individuals who declared to have made a quit attempt, either successful or unsuccessful, from the stock of smokers 12 months ago.

Methodology

- **Exposure to second-hand smoking in children**

Acute Otitis Media	Children 0-4 years old. 381-382 ICD-9 codes
Asthma	Children 0-16 years old. 493 ICD-9 code
LRT infections	Children 0-4 years old. 466, 480-482 ICD-9

- **Exposure to second-hand smoking in adults (16+)**

Lung cancer + CHD	162 ICD-9 code (Lung cancer) and 410-414 ICD-9 code (CHD)
Asthma	493 ICD-9 code

Methodology

- e) Productivity losses

Average hourly wage	€ 2014
Employment among smokers	Employment status: Employed, unemployed, retired and other situations

Results

Population

Population figures, INE 2013

	Total	Women	Men
15+	39,6M	20.3M	19.4M
35+	28.4M	14.8M	13.7M

Mortality rate

(deaths per 100,000 population)

Demographic Indicators -
Mortality, INE 2013.

	Women	Men
	805.5	871.4

Smoking prevalence

Tobacco use - Spanish National
Health Survey (SNHS), INE 2011-
2012.

	%
Current	26.96%
Former	19.58%
Never	53.46%

Results

Discount rates		Value	Alternative
	Costs	3%	0% and 5%
	Utilities	3%	0% and 5%

Threshold (€/QALY) €30,000 for base calculations with €45,000 as alternative.

A proposed guideline for economic evaluation of health technologies. López-Bastida et al, 2010

Results

**Prevalence (%)
Male, age: 65-75**

Lung cancer	CHD	COPD	Stroke
0,49%	3,07%	3,52%	4,73%

**Hospital costs
(€2014)**

Minimum Basic Data Set
(CMDB), 2012

Costs			
5475,93€	6932,29€	3855,14€	6631,85€

Results

Motivation to quit Percent of smokers who made a quit attempt in the previous 12 months: **36.49%**

Cost of passive smoking per patient (€2014)	Children		Adults	
	AOM	2547,62€	Lung cancer	5475,93€
LRT Inf	3313,53€	CHD	6932,29€	
Asthma*	749,76€	Asthma*	1733,71€	

Minimum Basic Data Set (CMDB), 2012

*Asthma cost were obtained from the literature (Blasco Bravo AJ 2011 and Martinez-Moragon E 2009). Costs included were: Visits (primary care and specialists care), Emergency health services, Hospitalization costs, Diagnostic tests and medication prescribed for asthma

Results

Days lost per smoker 6 working days lost per year. As alternative values 2 and 10 will be considered.

Average hourly wage (€2014)

Wage Structure Survey
2012

Women	Men
13.25€	16.02€

Employment among smokers

Spanish National Health Survey (SNHS), INE
2011-2012

Employed	53.52%
Unemployed	22.53%
Retired	10.86%
Others	13.08%

Conclusions

- Given the results of this data gathering, tobacco smoking still represents a significant problem. Affects both smokers and the NHS itself.
- There are important tools for healthcare research in Spain, but with some limitations (specific definitions, primary care costs and prevalence data).

Conclusions

- All these parameters have been collected by the five countries involved using an standardised methodology.
- To have these data gathered in a technical guide may provide health economics researchers with the key parameters needed when conducting economic evaluations on new smoking cessation interventions.

Thank you for your attention!

For further info on the EQUIPT Project:

equipt.eu

