Comparing the costs of three prostate cancer follow-up strategies: A cost minimisation analysis

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- No disclosures

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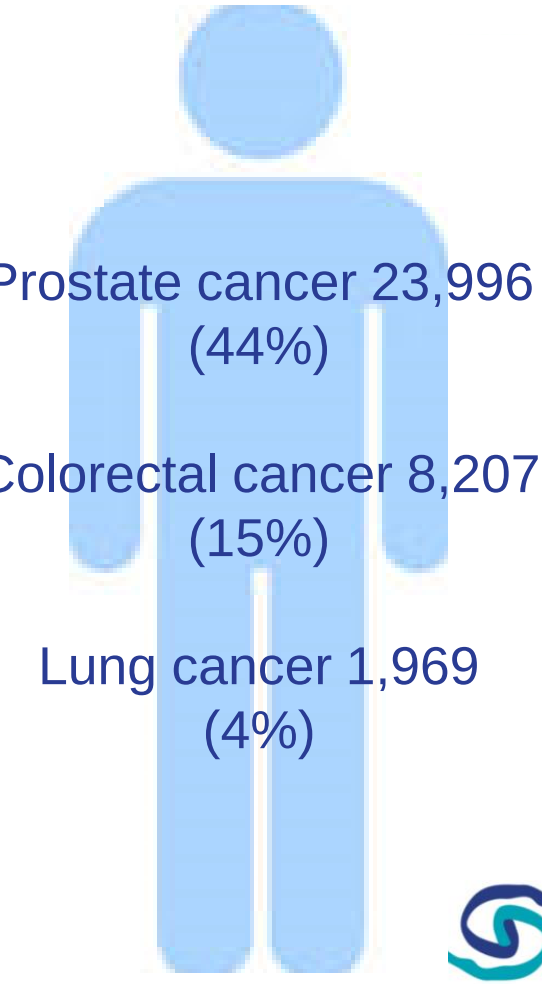
More men are living with prostate cancer than any other form of cancer

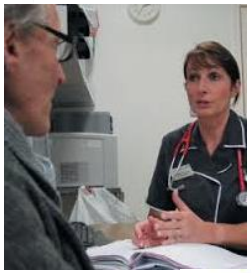


- population 4.6 million
- 793,000 men aged 45+

Sharp et al. BMC Cancer 2014; 14: 767

Prostate cancer follow-up

- Traditionally provided in hospital by clinicians



- May not be sustainable – especially in countries with publically-funded healthcare

- Alternative models of follow-up
  - appear to have equivalent clinical efficacy and quality-of-life outcomes to tradition follow-up
  - starting to be recommended in guidelines
  - BUT limited evidence on cost implications

Shared Care

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Lewis et al. Br J Gen Pract 2009; 59: 234-47; Lewis et al. J Adv Nurs 2009; 65: 706-23; McIntosh HM et al. Br J Cancer 2009; 100: 1852-60; Howells et al. J Cancer Surviv 2012; 6: 359-71

Objective

To develop an economic model to compare the costs of three alternative strategies for prostate cancer follow-up in Ireland:

- European Association of Urology (EAU) guidelines
- National Institute of Health & Clinical Excellence (NICE) guidelines
- current practice

Methods 1: Follow-up policies

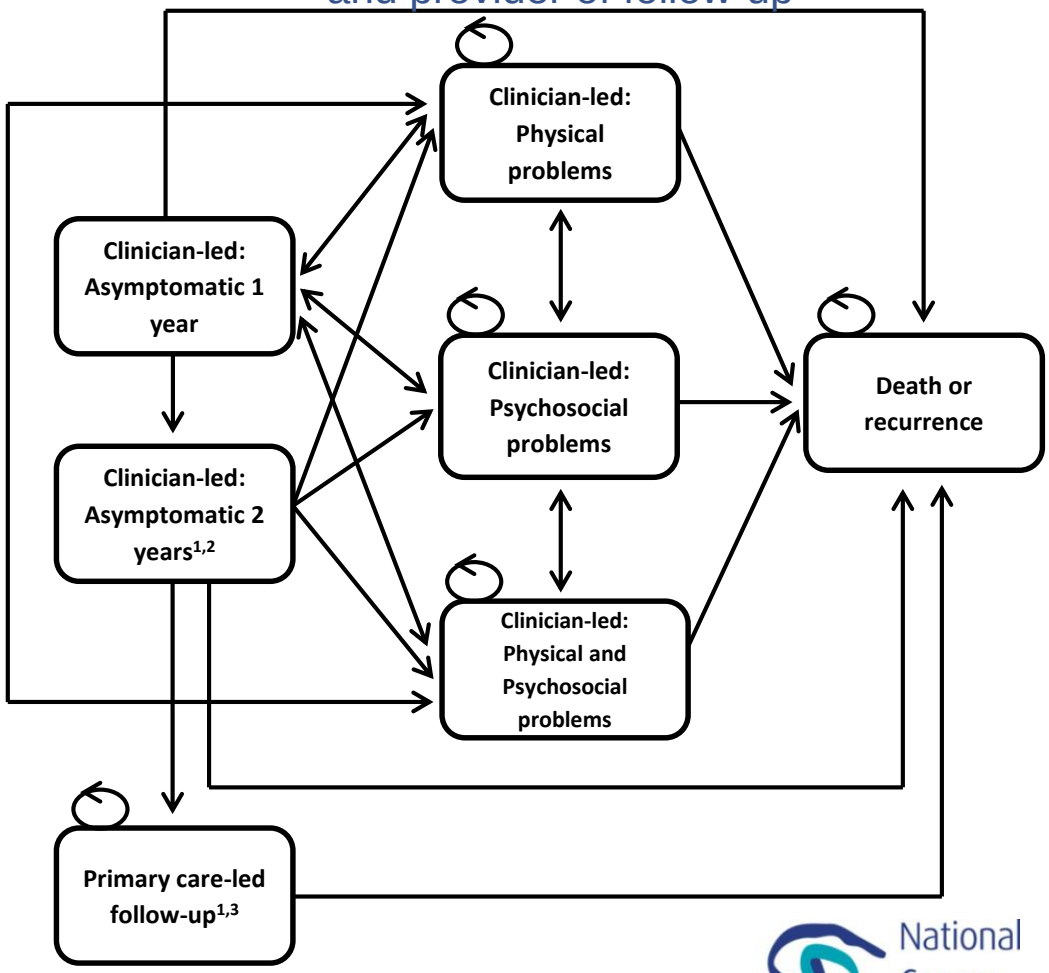
Policy	PSA testing	Setting
EUA guidelines	Year 1: 3, 6, 12 months Years 2 & 3: every 6 months Year 4 onwards: every 12 months	Hospital-based clinician
NICE guidelines	Years 1 & 2: every 6 months Year 3 onwards: every 12 months	Hospital-based clinician initially. If stable PSA and no physical or psychosocial complications after 2 years, follow-up in primary care (GP/nurse).
Current practice*	Year 1: every 4 months Year 2: every 6 months Year 3 onwards: every 12 months	PSA performed by GP and results provided by hospital-based clinician initially. If stable PSA after 5 years, follow-up in primary care (GP).

- Mottet N et al. European Association of Urology, 2014
- NICE Clinical Guideline 175, 2014
- Survey of urologists and radiotherapists

Methods 1

- Markov model
  - follow cohort of 1000 men aged 66 treated with curative intent over 10 years, through range of “states” accruing costs in each state
  - done for each of 3 arms
- Healthcare payer perspective
- Cost minimisation analysis
  - assume health outcomes in model arms are not significantly different
- Probabilities of physical or psychosocial problems
  - large surveys of prostate cancer survivors in Ireland (EQ-5D-5L)
- Costs
  - UK reference costs
  - discounted at 5%
- Sensitivity analyses
  - one-way and probabilistic

Model states: based on patient health status and provider of follow-up

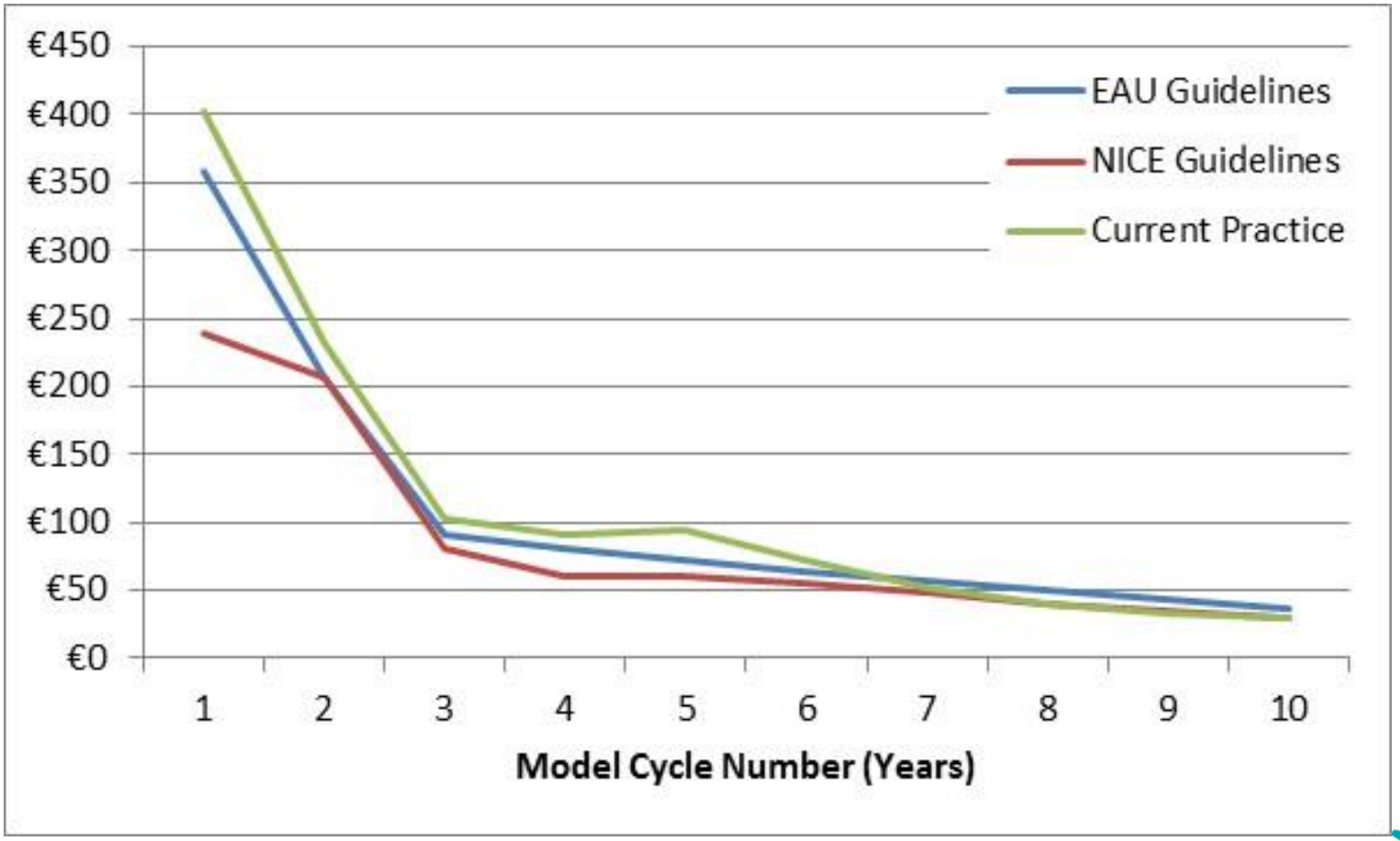


Results 1: Cost per policy

Policy	Cost of follow-up per survivor	% of current practice costs
EUA guidelines	€1057	92%
NICE guidelines	€853	74%
Current practice	€1150	-

Results 2: Costs by year

Cost of follow-up care per survivor per year



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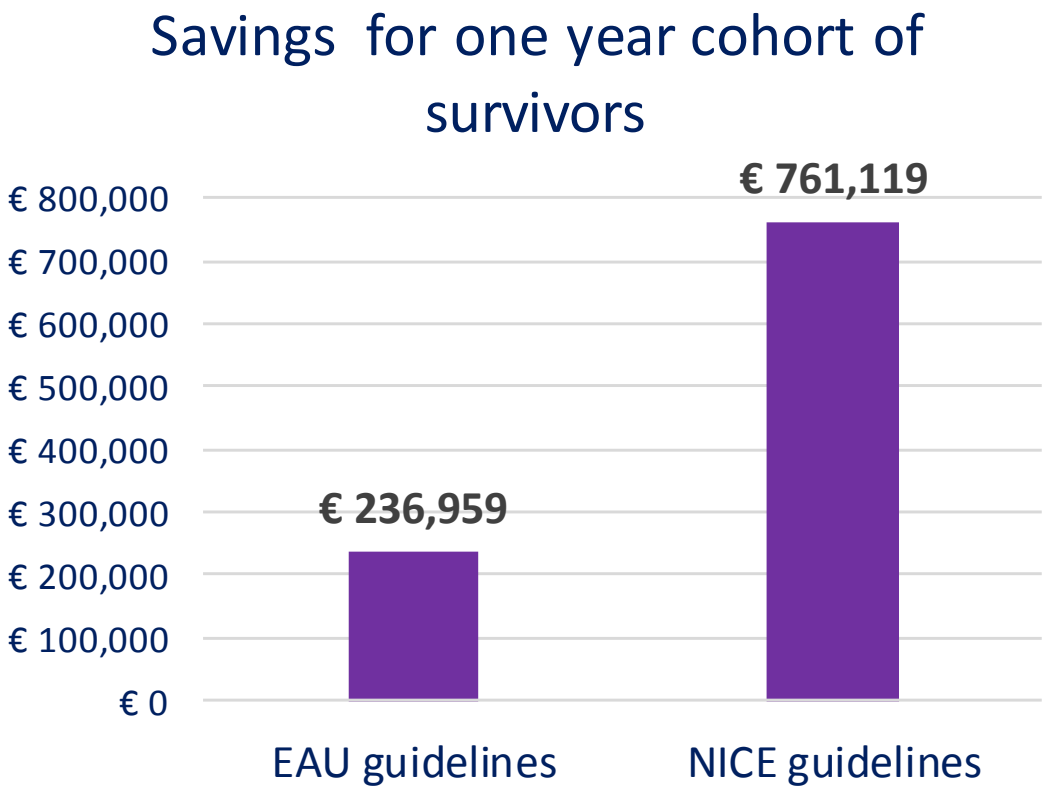
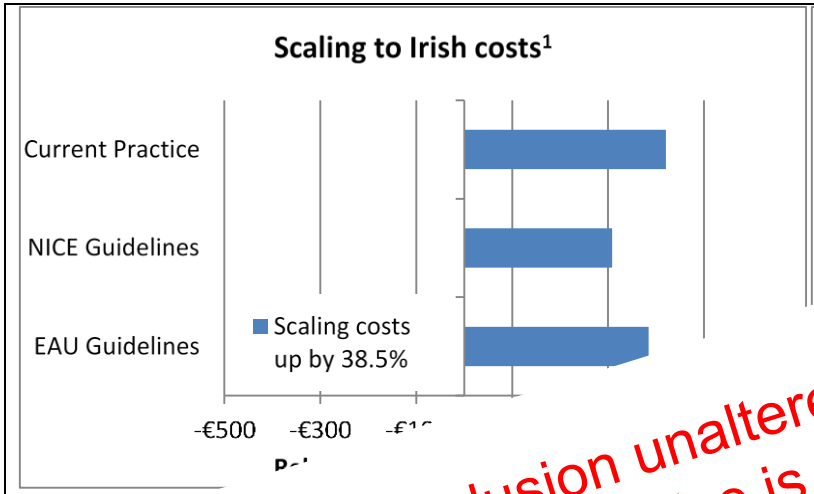
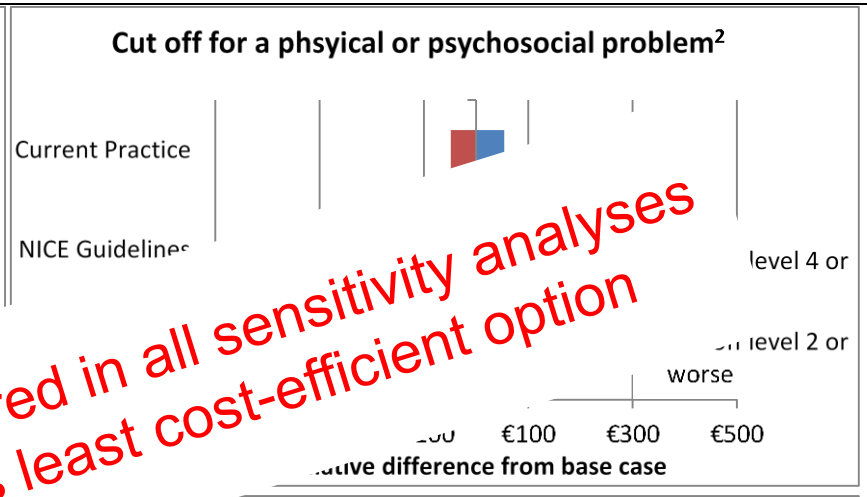
Results 3: Cost savings

Savings compared to current practice over a 10 year period

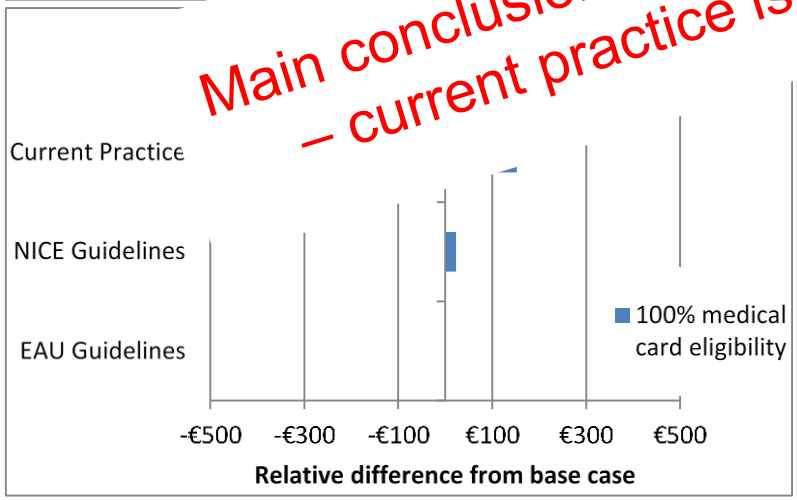


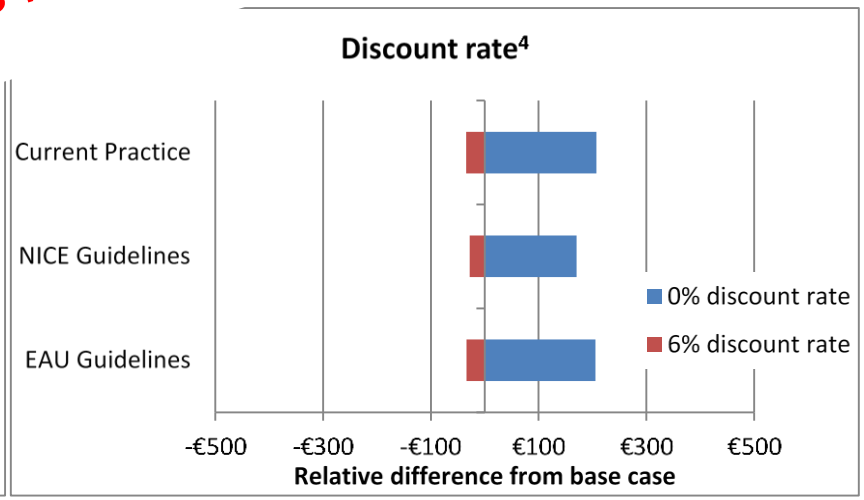
Results 4: Sensitivity analyses





Main conclusion unaltered in all sensitivity analyses – current practice is least cost-efficient option





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Summary & Conclusions

- First comparison of costs of alternative prostate cancer follow-up models
- Limitations: context specific; model simplifies reality; assumption of same clinical efficacy and quality-of-life outcomes with different policies; not all follow-up models considered
- Current practice least cost-efficient option
- Cost savings could be possible with follow-up strategies which offer less frequent PSA testing, greater involvement of primary care, and discharge from hospital follow-up for survivors without complications
  - (aspects) consistent with findings of economic evaluations of breast and colorectal cancer follow-up in Europe*
- Additional dimension on debate regarding the purpose and "structure"/organisation of cancer follow-up

Koinberg et al. Acta Oncol 2009; 48: 99-104; Lu et al. Br J Surg 2012; 99: 1227-33; Augestad et al. BMJ Open 2013; 3; 1-14

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