

Evaluating the Cost Effectiveness of the THOMAS Study for Early Detection and Treatment of Chronic Kidney Disease

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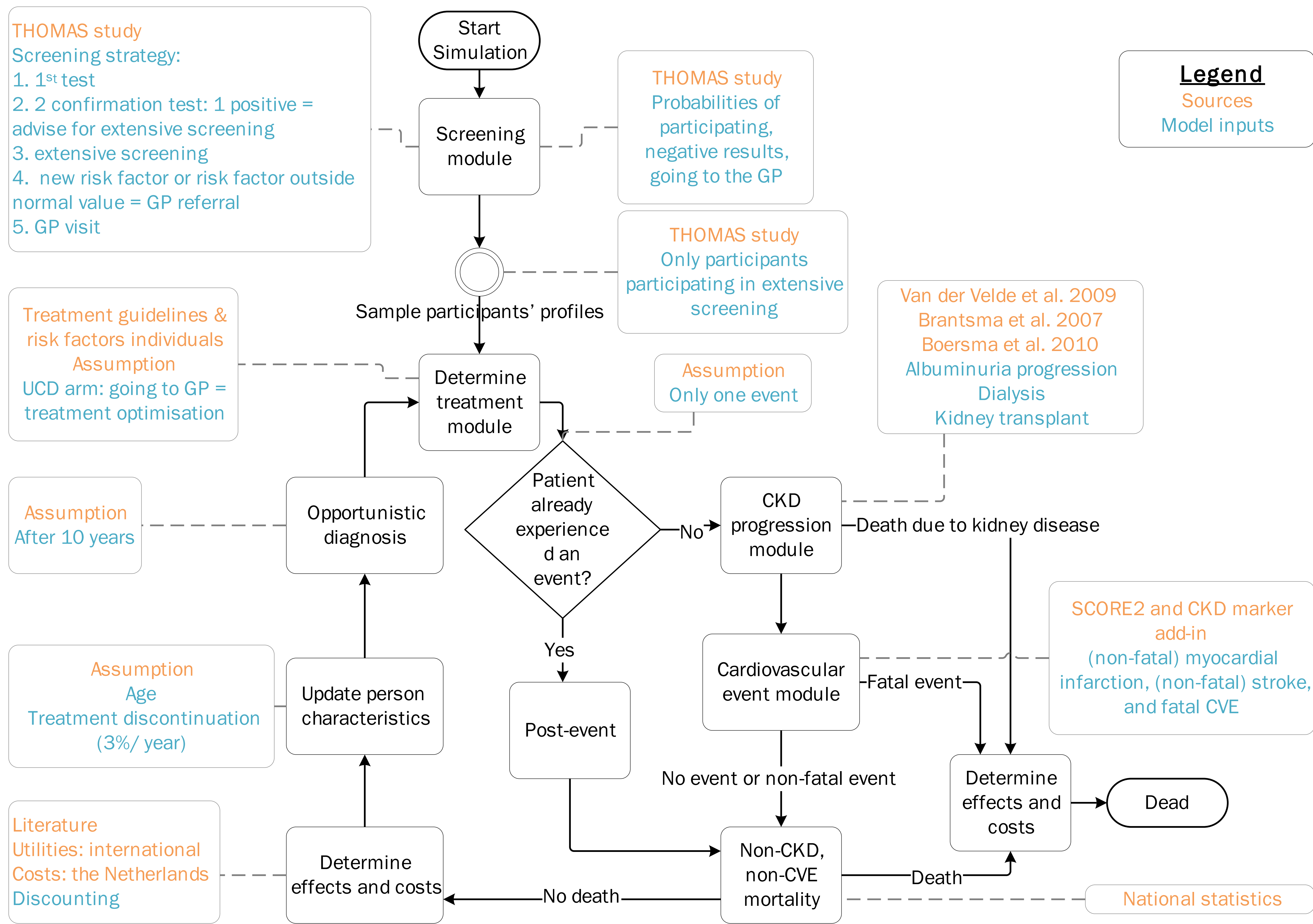
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INTRODUCTION

Screening for albuminuria has been suggested not to be effective. This claim rested on evidence concerning screening in a general practitioner setting which considered only prevention of kidney failure but not prevention of cardiovascular disease. Given these considerations, we performed a cost-effectiveness analysis of a **home-based general population screening** for increased albuminuria in the Netherlands considering treatment to prevent progression of kidney and cardiovascular disease.

METHODS

A *de novo* **microsimulation** model was developed to compare screening using a **urine collection device (UCD)** with usual care (**no screening**). Model outcomes were the number of **CKD-related events**, and **total costs** and **quality-adjusted life-years (QALYs)** per strategy. The incremental cost-effectiveness ratios (**ICERs**) of **UCD versus usual care** was calculated. Scenario analyses were conducted to assess the impact of model assumptions on the results.



RESULTS

UCD screening **reduced** the number of **cardiovascular events** leading to QALY gains for **limited** additional **costs** of screening.

Analysis	Totals				Incrementals		ICER QALY
	QALY UC	QALY UCD	Costs UC	Costs UCD	QALY	Costs	
Base-case	8.181	8.281	€ 15,240	€ 16,826	0.1	€ 1,587	€ 15,916
Scenario analyses							
Full treatment effect for all poorly controlled individuals	8.227	8.303	€ 14,693	€ 16,613	0.08	€ 1,920	€ 25,352
Individuals visit GP upon referral	8.181	8.428	€ 15,240	€ 17,338	0.25	€ 2,098	€ 8,502
Subgroup analyses							
Subgroup 45-64 years	13.181	13.356	€ 19,194	€ 21,467	0.18	€ 2,273	€ 12,997
Subgroup 65-80 years	6.222	6.292	€ 13,689	€ 15,013	0.07	€ 1,325	€ 18,872

CONCLUSIONS

The UCD strategy seems cost effective compared with usual care for screening for albuminuria in the Dutch general population. The cost effectiveness of UCD can be **improved** by focusing on **younger individuals** and by ensuring individuals with newly-diagnosed risk factors go to the GP and receive the most optimal treatment.

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