The cost-effectiveness of universal HCV screening strategies in Poland

AGENCY FOR HEALTH TECHNOLOGY ASSESSMENT AND TARIFF SYSTEM

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Introduction

Successful screening criteria

- significant health problem
  HCV → slow progression, hidden symptoms, late diagnosis, lack of vaccination
- significant impact on the population
  Poland → up to 230,000 patients needing treatment, only up to 6,000 treated annually
- easy and affordable testing
  → safe, reliable, high specificity and sensitivity, and quick
- effective, accessible and reimbursed treatment
  → new generation DAAs fully reimbursed (no co-payment)
- follow-up protocol
  → diagnostic (positive and negative results, confirmatory testing), treatment and monitoring
- equity and accessibility
  → targeting a well-defined population that would benefit from screening

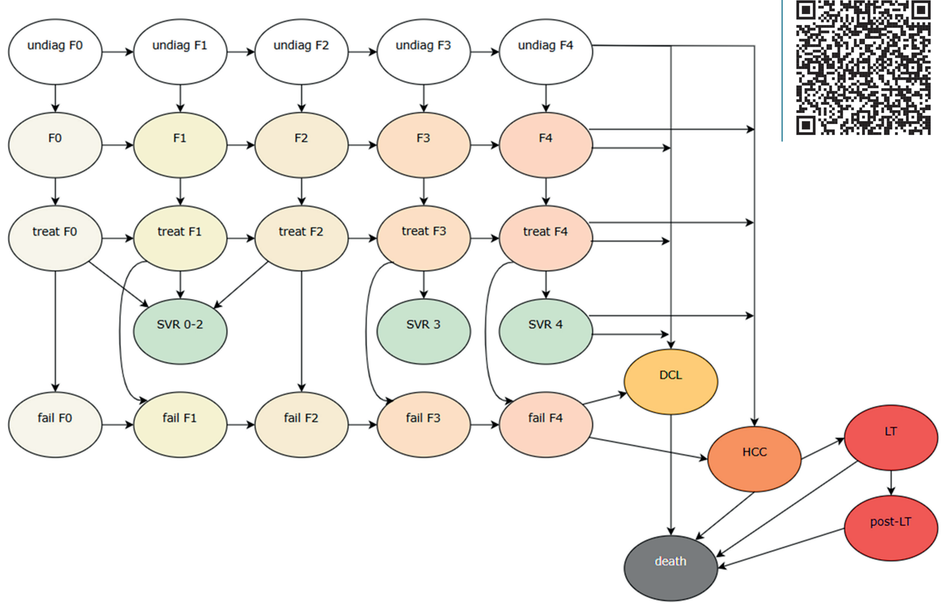
? Cost-effectiveness of universal HCV screening strategies in Poland

Methods

Cost utility analysis (EUR/QALY)

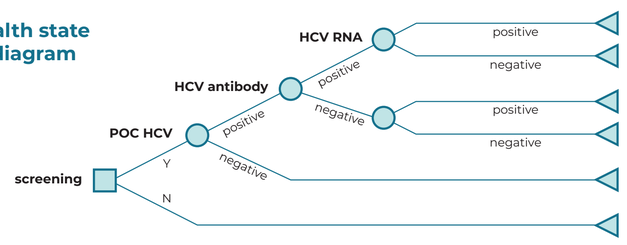
- **HCV screening:**
  POC & laboratory testing (HCV antibody, HCV RNA)
- **Scenarios:**
  HCV screening as add-on to the existing health check-ups for: secondary school, first job, driving licence, regular health check-ups at school (16-17 y.o., and 18-19 y.o.) and at work (25-29 y.o., 30-39 y.o., and 40-49 y.o.).
- **Model:**
  decision tree for diagnostic process & Markov chain for disease progression and patient survival
- **Perspective & Time Horizon:**
  public payer, life-time (20 years)
- **Sensivity analyses:**
  deterministic & probabilistic
- **Willingness To Pay (WTP) threshold in Poland:**
  44 274 EUR

Figure 1.
Decision tree for HCV testing



QR CODE
Live view

Figure 2.
Markov health state transition diagram



Results

Cost-effectiveness

Table 1.
Cost-effectiveness of HCV screening strategies

Scenario health check-ups	**Incremental cost** [EUR] per 1000	**QALYG** per 1000	**ICUR** [QALY/EUR]
employees 40-49 y.o.	-34465.7	25.6	dominant
employees 30-39 y.o.	-21073.1	18.9	dominant
employees 25-29 y.o.	-1127.2	14.1	dominant
driving licence test takers	254.0	07.1	35
1st job check-up	281.0	07.2	39
students 16-17 y.o.	76.8	0.1	794
students 18-19 y.o.	63.0	0.1	815
secondary school check-up	1892.1	0.2	11 934

Sensitivity analysis for the 1st job health check-up (average 23 y.o.)

Figure 3.
PSA for the 1st job health check-up

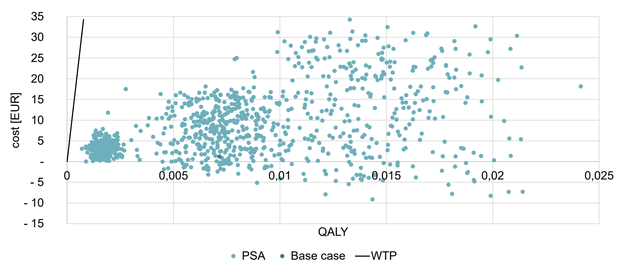
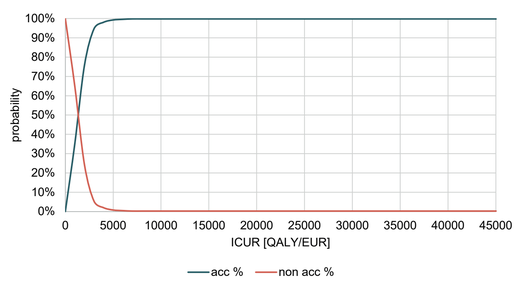


Figure 4.
Acceptability curve for the 1st job health check-up



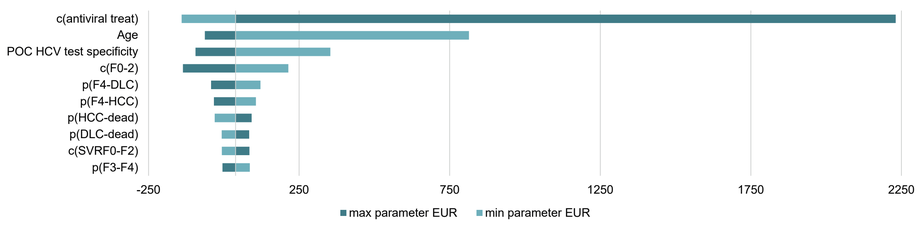


Figure 5.
Tornado diagram for the 1st job health check-up (main parameters)

Conclusions

- Universal HCV screening is a cost-effective strategy to minimise the impact of HCV infection in Poland.
- Adding HCV testing to the mandatory health check-ups for employees was a dominant strategy amongst all age groups (from 25 to 49 y.o.).
- Other testing strategies were less favourable, but still cost-effective considering the WTP in Poland.
- Sensitivity analyses confirmed the results of base case scenarios.

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