

Point-of-care troponin testing in Dutch primary care: preferences and referral decisions of general practitioners

Michelle M.A. Kip, MSc¹, Maran Noltes, MSc¹, Erik Koffijberg, PhD¹, Ron Kusters, PhD^{1,2}

¹University of Twente, Department of Health Technology and Services Research, MIRA, Enschede, The Netherlands

²Jeroen Bosch Hospital, Laboratory for Clinical Chemistry and Haematology, 's-Hertogenbosch, The Netherlands

Background

GPs express the desire to use a point-of-care troponin test, to enhance their ability to rule out acute coronary syndrome (ACS) in primary care.

- **However:** the majority of those tests are insufficiently sensitive, especially early after symptom onset.

Objective:

Investigate GPs' preferences and requirements regarding point-of-care troponin testing for patients presenting with (a)typical chest pain in primary care, and to estimate the effect on referral decisions.

Methods

Online questionnaire in LimeSurvey:

- 34 questions
- distributed among 837 Dutch general practitioners in June 2015

Data were analyzed using R. Results are based on multiple imputation. 126 respondents were included in the final analysis.

Table 1: characteristics of respondents	Complete cases	Imputation
Participating GPs, n (%)	115 (100.0)	126 (100.0)
Male, n (%)	74 (64.3)	80 (63.5)
Age in years, mean (SD)	49.0 (9.3)	48.4 (9.4)
Years of working experience as GP, mean (SD)	16.9 (9.7)	16.2 (9.7)
Independent GP (own practice), n (%)	98 (85.2)	107 (84.9)

Results

Expected added value:

- Reasonable to very high added value: 67%

Effect on troponin test use:

- Expected increase in troponin test use due to availability of point-of-care test (figure 1)

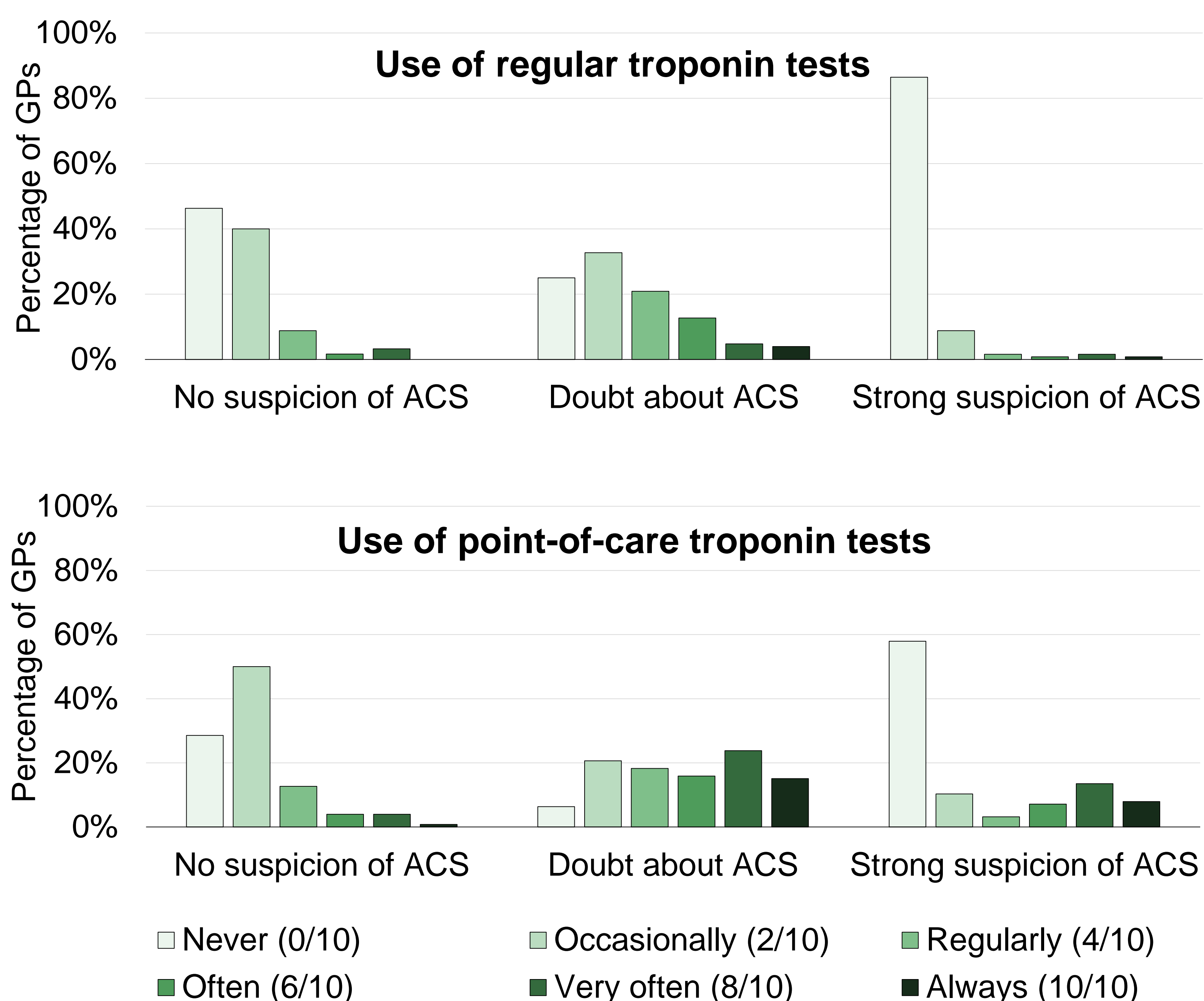


Figure 1a-b: Expected frequency of using regular troponin tests (a), and point-of-care troponin tests (b) in primary care, depending on the suspicion of ACS.

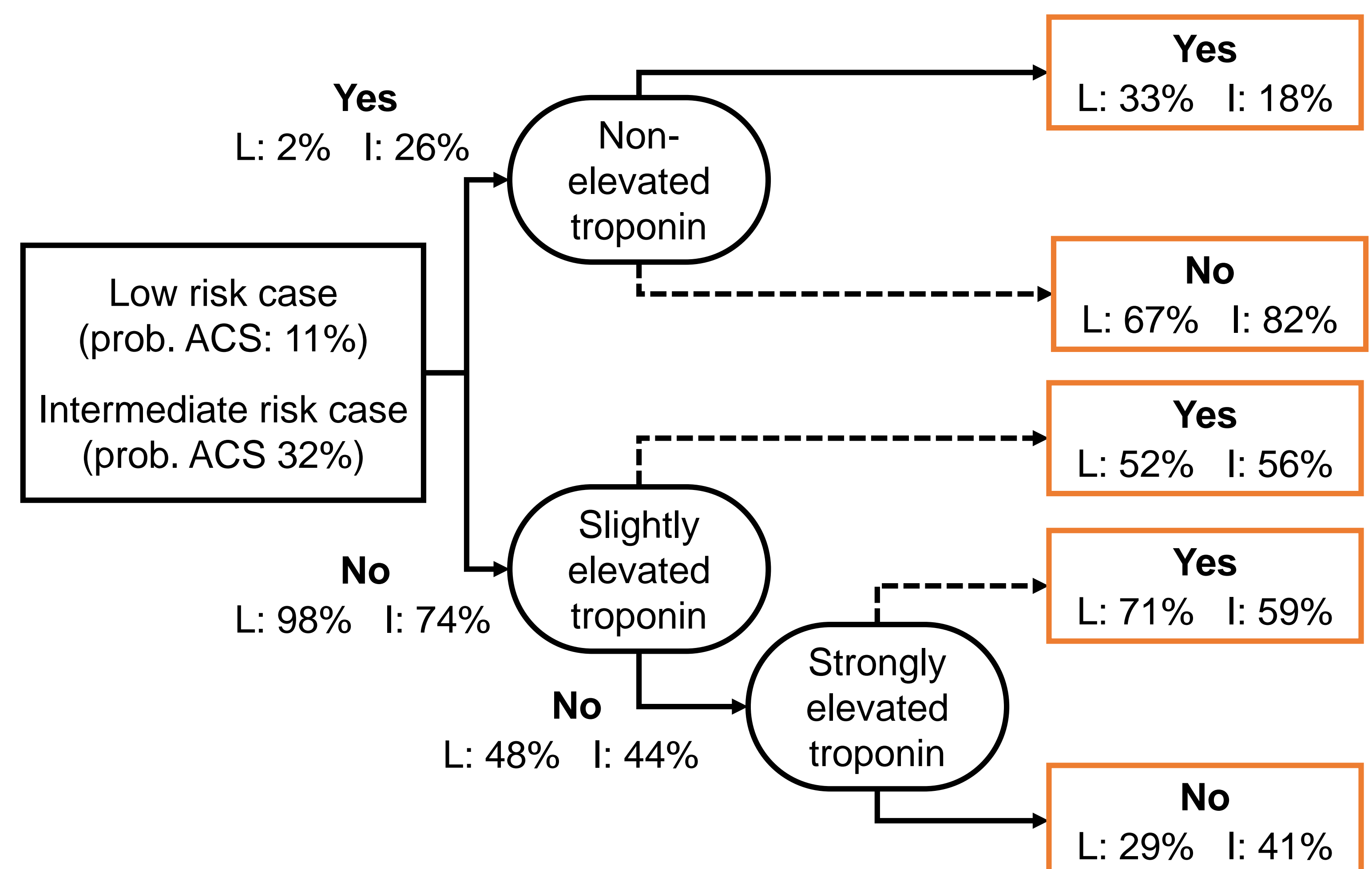


Figure 2: Estimated effect of point-of-care troponin test on immediate referral rates in two hypothetical patient cases. L = low, I = intermediate

Expected effect on referral decisions:

- Decrease in immediate referrals (figure 2)
- **However, possible increase in:**
 - Referrals to outpatient cardiology clinics
 - Consultations with cardiologists
 - Other examinations (other laboratory tests, ECG)

Requirements:

- 78% - test result available within 10 minutes
- 78% - funding of the test device
- 69% - perform test with finger prick blood sample

Conclusion and Discussion

- According to GPs, the point-of-care troponin test can be of added value in excluding ACS.
- Actual test implementation will depend on test characteristics, including test duration, type of blood sample required, and funding of the analyzer.