

**A comprehensive secondary prevention benchmark (2PBM) score
identifying differences in secondary prevention care in patients
after acute coronary syndromes (ACS)**

Matthias Haegele, MD*¹, Yu-Ching Liu*¹, Simon Frey¹, Ivo Strebel¹, Fabian Jordan¹,
Rupprecht Lange, MD¹, Thilo Burkard, MD¹, Olivier Clerc, MD¹ Otmar Pfister, MD¹

¹ Department of Cardiology and Cardiovascular Research Institute Basel (CRIB), University
Hospital Basel, University of Basel, Basel, Switzerland

* Equal contribution as shared first authors

Address for correspondence:

Professor Otmar Pfister, Department of Cardiology, University Hospital Basel, Petersgraben
4, CH-4031 Basel, Switzerland. Phone Number: +41 61 328 55 65806; Fax Number: +41 61
265 45 98; E-mail: otmar.pfister@usb.ch

Aim: To determine the degree of secondary prevention care by using a secondary prevention benchmark score (2PBM) in patients undergoing ambulatory cardiac rehabilitation (CR) after an acute coronary syndrome (ACS).

Methods: In this observational cohort study, 472 consecutive ACS patients who completed the local ambulatory CR programme between 2017-2019 were included. Benchmarks for secondary prevention medication, clinical and lifestyle targets were predefined and combined in the comprehensive 2PBM. The association of patient characteristics and achievement rates of individual components and the composite of the 2PBM were assessed using multivariable logistic regression analysis.

Results: Patients were on average 62 ± 11 years old and predominantly male (n=406; 86%). Type of ACS was ST-elevation myocardial infarction (STEMI) in 241 patients (51%) and non-ST-elevation myocardial infarction in 216 patients (46%). Achievement rates for individual components of the 2PBM were 71% for medication, 35% for clinical and 61% for lifestyle benchmarks. Achievement of medication benchmark was associated with younger age (OR: 0.979, 95% CI 0.959-0.996, $p=0.021$) and history of STEMI (OR: 2.05, 95% CI 1.35-3.12, $p=0.001$). Achievement of clinical benchmark was associated with medication benchmark (OR: 1.66, 95% CI 1.03-2.71, $p=0.042$). The composite 2PBM was achieved by 74 patients (16%) and was independently associated with a history of STEMI (OR: 1.79, 95 CI 1.06-3.08 $p=0.032$).

Conclusion: Benchmarking with 2PBM identifies gaps and achievements in secondary prevention care. A history of STEMI was associated with the highest 2PBM scores, suggesting best secondary prevention care in patients after STEMI.

Word count abstract: 241