

**Long-term cost-effectiveness of the initial medication adherence intervention:
population-based economic model (the IMA-cRCT study)**

*Alba Sánchez-Viñas^{1,2,3}, Borislava Mihaylova^{4,5}, Runguo Wu⁴, Ignacio Aznar-Lou^{1,2},
Maria Rubio-Valera^{2,6}*

- 1. Health Technology Assessment in Primary Care and Mental Health (PRISMA)
Research Group, Institut de Recerca Sant Joan de Déu, Santa Rosa 39-57, 08950
Esplugues de Llobregat, Spain*
- 2. Centro de Investigación Biomédica en Red de Epidemiología y Salud Pública
(CIBERESP), Madrid, Spain*
- 3. Facultat de Medicina i Ciències de la Salut, Universitat de Barcelona, c. Casanova
143, 08036 Barcelona, Spain.*
- 4. Health Economics and Policy Research Unit, Wolfson Institute of Population Health,
Queen Mary University of London*
- 5. Health Economics Research Centre, Nuffield Department of Population Health,
University of Oxford*
- 6. Parc Sanitari Sant Joan de Déu, Doctor Antoni Pujadas 42, 08830 Sant Boi de
Llobregat, Spain*

Abstract

Objectives: Non-adherence to cardiovascular disease (CVD) treatments is widespread and leads to suboptimal clinical outcomes and increased healthcare and societal costs. The Initial Medication Adherence (IMA) intervention aims to improve adherence to CVD and diabetes treatments through shared decision-making. We aim to assess lifetime health outcomes, healthcare and societal costs with the IMA intervention. An approach integrating a long-term model informed by a comprehensive population cohort with clinical trial data is presented.

Methods: We developed a Markov cohort simulation model using routine individual participant data from the SIDIAP database from 2012 to 2021. It included age, sex, socioeconomic deprivation, clinical characteristics (comorbidities, smoking history, medication adherence) and cardiovascular events of 152,117 adults who received a new prescription of antihypertensive, lipid-lowering, oral glucose-lowering or/and antiplatelet treatments in primary care in Catalonia from 01/2012 to 12/2013. Costs and treatment effects were obtained from the literature and quality of life utilities were estimated using national population-based surveys (ESCA 2019 to 2022). The model simulated LYs and QALYs gained, extra healthcare and societal costs without treatments (untreated) and at different levels of medication adherence for control- and intervention trial-allocated participants (IMA-cRCT).

Results: Improving medication adherence to CVD treatments is projected to lower the incidence of cardiovascular events and delay mortality, resulting in more QALYs and lower societal costs over a longer term. ICERs will be presented in the conference stratified by perspective and patient characteristics.

Conclusions: Improving adherence to CVD treatments in Spain with the IMA intervention is expected to cost-effectively improve population health.