OBJECTIVES: To analyse the efficiency of the use of a percutaneous transluminal coronary angioplasty (PTCA), a coronary artery bypass graft (CABG), a conventional Stent or a sirolimus-eluting Stent (Cypher) in the treatment of Ischaemic Heart Disease (IHD) by means of a cost-effectiveness analysis.

METHODS: An international decision analytical model was adapted to the Spanish National Health System perspective in a time horizon of 1 year for 4 different populations of general patients with IHD according to the type of vessel or lesion (one or multiple, small vessel—less than 3 mm diameter, or long lesion—more than 18 mm long). The primary outcome of the model was the cost per revascularisation avoided with each technique when compared to a conventional Stent (in the multiple lesions model the PTCA has not been considered as a relevant option). Incidence rates of revascularisation for each subgroup were obtained from published clinical trials and epidemiological studies. Resource use data was determined by an expert panel. Unit costs of the resources were extracted from local databases and were expressed in Euros of 2002. RESULTS: The PTCA has the lowest efficacy with revascularisation rates ranging from 19% to 28%) whilst the sirolimus eluting-Stent is the most efficacious option (rates ranging from 1% to 4%). The less costly option is PTCA and the most expensive in all types of patients is the CABG. Cost per revascularisation avoided ranges between €1,042 of a cost-effective option in patients with normal vessels and long lesions and becomes dominant in the multiple lesions model. CONCLUSIONS: Drug eluting Stents have proven efficacy rates that have no precedents in the history of IHD, reducing the incidence of revascularisation induced by restenosis and thus resulting in efficient options in most types of patients.