

Socioeconomic inequalities in the diffusion of high-technology health care: uptake of coronary procedures 1989–2003

INTRODUCTION: As a new technology diffuses in the population, there may be a lag in uptake by lower socioeconomic status (SES) individuals. The aim of this study is to estimate inequalities in the receipt of coronary procedures over time and explore whether patterns are consistent with a lag in diffusion hypothesis.

METHODS: Using linked hospital and mortality data, we followed patients admitted to Western Australian hospitals with a first admission for AMI between 1989 and 2003 (n=27,209). An outcome event was the receipt, within a year, of a coronary procedure - angiography, percutaneous transluminal coronary angioplasty (PTCA) and/or coronary artery bypass surgery (CABG). SES was assigned to each individual using the SEIFA Index of Disadvantage. Cox regression was used to model the association between SES and procedure rates in each time period, allowing for censoring and adjustment of multiple covariates.

RESULTS: Angiography showed a typical diffusion pattern, with increasing, then stabilising of, procedure rates over time, and with lower SES patients lagging in uptake. CABG procedure rates rose then fell over the period, with inequality patterns being consistent with the lag hypothesis, where rates peaked earlier in higher than lower SES patients. The evidence for a lag in diffusion for PTCA was weak, with some evidence in males, and no clear pattern in females.

CONCLUSIONS: Socioeconomic inequalities in the receipt of high-technology health care may be partly explained by a lag in diffusion.