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COMPOSITE QUALITY SCORES FOR CARE OF ACUTE MYOCARDIAL INFARCTION PATIENTS AT DISCHARGE FROM HOSPITAL: A STUDY OF 136 392 PATIENTS FROM THE MYOCARDIAL ISCHAEMIA NATIONAL AUDIT PROJECT (MINAP)

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Background Hospital cardiovascular care is increasingly evaluated using composite quality scores. We investigated the influence of three aggregation methods for an acute myocardial infarction (AMI) indicator on early and late mortality, and hospital rank.

Methods We studied 136 392 patients discharged alive from hospital with AMI between 1 January 2008 and 31 December 2009 from 199 hospitals participating in the Myocardial Ischaemia National Audit Project (MINAP). A composite of prescription of aspirin, thienopyridine inhibitor, α -blocker, ACE inhibitor, HMG CoA reductase enzyme inhibitor and enrolment in cardiac rehabilitation at discharge was aggregated as opportunity based (OBCS), weighted opportunity-based (WOBCS) and all-or-nothing (ANCS) scores. We quantified adjusted 30-day and 6-month mortality rates and hospital rank.

Results The median (IQR) scores were; OBCS 95.0% (3.5), WOBCS 94.7% (0.8) and ANCS 80.9% (11.8). The three methods influenced the proportion of hospitals with special-cause variation (OBCS 52.2%, WOBCS 64.3% and ANCS 37.7%) and hospital rank. Each 1% increase in OBCS, WOBCS and ANCS was highly significantly associated with, on average, a 3%, 3% and 1% reduction in the risk of 6-month mortality, respectively (figure 1). However, the ANCS made available fewer cases, was not significantly associated with 30-day mortality and had a greater affect on hospital ranking.

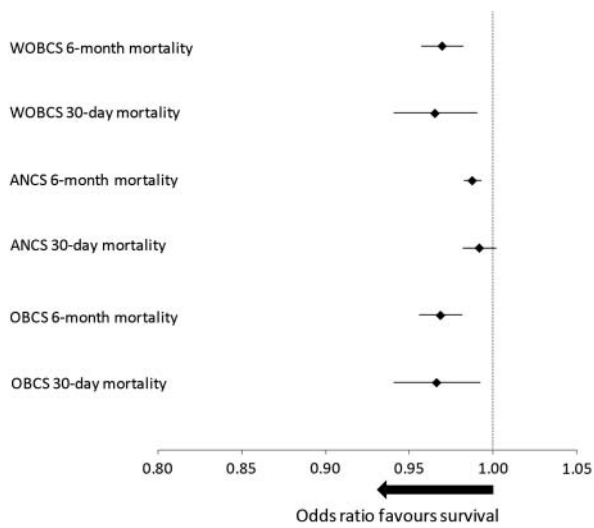


Figure 1 Forrest plot of the association between hospital composite quality score and all-cause mortality at 30-days and 6-months for OBCS, WOBCS and ANCS. Diamonds represent the estimated OR and the surrounding lines the 95% CIs.

Conclusions Across three aggregation methods, hospital scores for a composite AMI indicator of NHS hospital care in England and Wales are high and associated with mortality. Compared with the OBCS and WOBCS, the ANCS included fewer cases, had a greater influence on hospital rank and a weaker association with mortality.