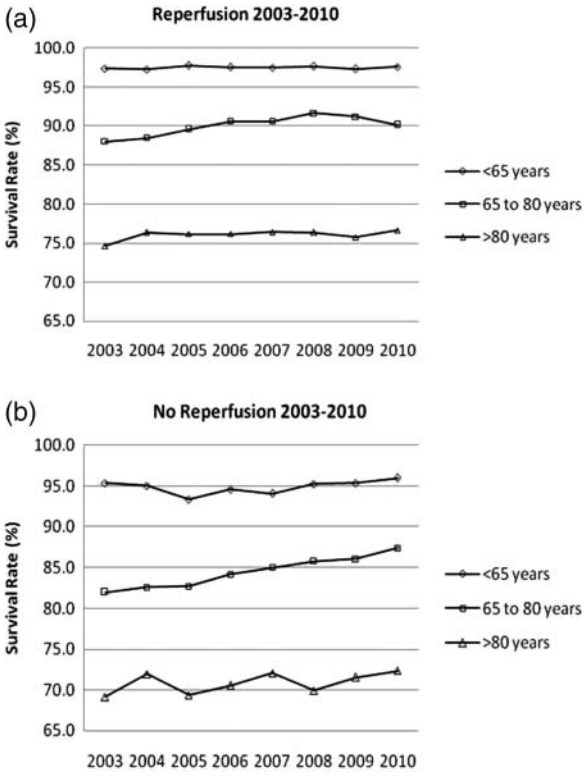

Figure 1 Temporal trends in adjusted 6-month survival estimates stratified by age group for (A) patients with STEMI who received emergency reperfusion therapy, (B) patients with STEMI who did not receive emergency reperfusion therapy, 2003–2010.

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TRENDS IN IN-HOSPITAL TREATMENTS, INCLUDING REVASCULARISATION, FOLLOWING ACUTE MYOCARDIAL INFARCTION, 2003–2010: A MULTI-LEVEL AND RELATIVE SURVIVAL ANALYSIS FOR THE NATIONAL INSTITUTE FOR CARDIOVASCULAR OUTCOMES RESEARCH (NICOR)

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Background It is not known how survival has changed over time for patients who do and do not receive an early invasive strategy for the management of AMI.

Methods Accelerated failure-time and relative survival analyses of 583 466 patients recorded in the Myocardial Ischaemia National

Table 1 Patient characteristics by STEMI and NSTEMI phenotype

Characteristic	STEMI	NSTEMI
Diabetes mellitus, %	11.9 (11.8 to 12.1)	21.0 (20.8 to 21.1)
Chronic heart failure, %	2.2 (2.1 to 2.2)	7.9 (7.8 to 7.9)
Chronic renal failure, %	2.1 (2.0 to 2.1)	6.0 (5.9 to 6.1)
Previous PCI, %	5.0 (4.9 to 5.1)	8.7 (8.6 to 8.8)
Previous AMI, %	14.3 (14.0 to 14.4)	30.2 (30.0 to 30.4)
Hypertension, %	36.1 (36.0 to 36.3)	4.8 (4.8 to 4.9)
Mean (SD) age, years	66.2 (13.6)	72.1 (13.1)
Mean (SD) systolic blood pressure, mm Hg	136.8 (29.3)	141.5 (29.2)
Means (SD) heart rate, bpm	78.8 (21.6)	84.5 (23.9)

PCI percutaneous coronary intervention, AMI acute myocardial infarction, STEMI ST-elevation myocardial infarction, NSTEMI non ST-elevation myocardial infarction.

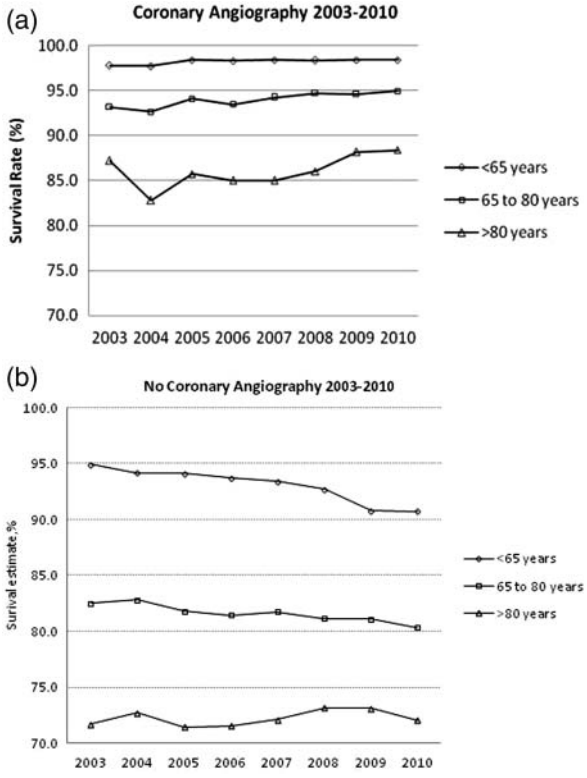

Figure 2 Temporal trends in adjusted 6-month survival estimates stratified by age group for (A) patients with NSTEMI who received coronary angiography and (B) patients with NSTEMI who did not receive coronary angiography, 2003–2010.

Audit Project (MINAP) with AMI stratified by acute reperfusion treatment (thrombolysis or primary percutaneous coronary intervention (PPCI)) for STEMI and coronary angiography for NSTEMI.

Results Table 1 shows the patient characteristics by STEMI and NSTEMI phenotype. Figure 1 shows that survival improved significantly over time for STEMI patients who received acute reperfusion therapy (Time Ratio (TR) 1.47, 95% CI 1.22 to 2.78), and was stable for those who did not (TR 1.02, 95% CI 0.85 to 1.22). Whilst there were significant improvements in survival for NSTEMI patients who underwent coronary angiography (TR 1.39, 95% CI 1.18 to 1.62), there was a significant decline for those who did not (TR 0.70, 95% CI 0.65 to 0.75) (figure 2). Patients without acute reperfusion therapy or coronary angiography had a greater number of co-morbidities, but the use of secondary prevention medications were comparable to patients who received emergency reperfusion therapy or coronary angiography. There was a highly significant hospital-level survival effect, with lower crude mortality rates within hospitals with higher use of coronary angiography and PPCI.

Conclusions Survival to 6-months after AMI is high, and has improved. Whilst survival estimates for STEMI patients who did not receive emergency reperfusion were stable, it worsened for NSTEMI patients not receiving coronary angiography. Hospital treatments (including revascularisation), and their variation in use, are associated with longer-term survival.