Association of changes in clinical characteristics and management with improvement in survival among patients with ST-elevation myocardial infarction

Disclosures

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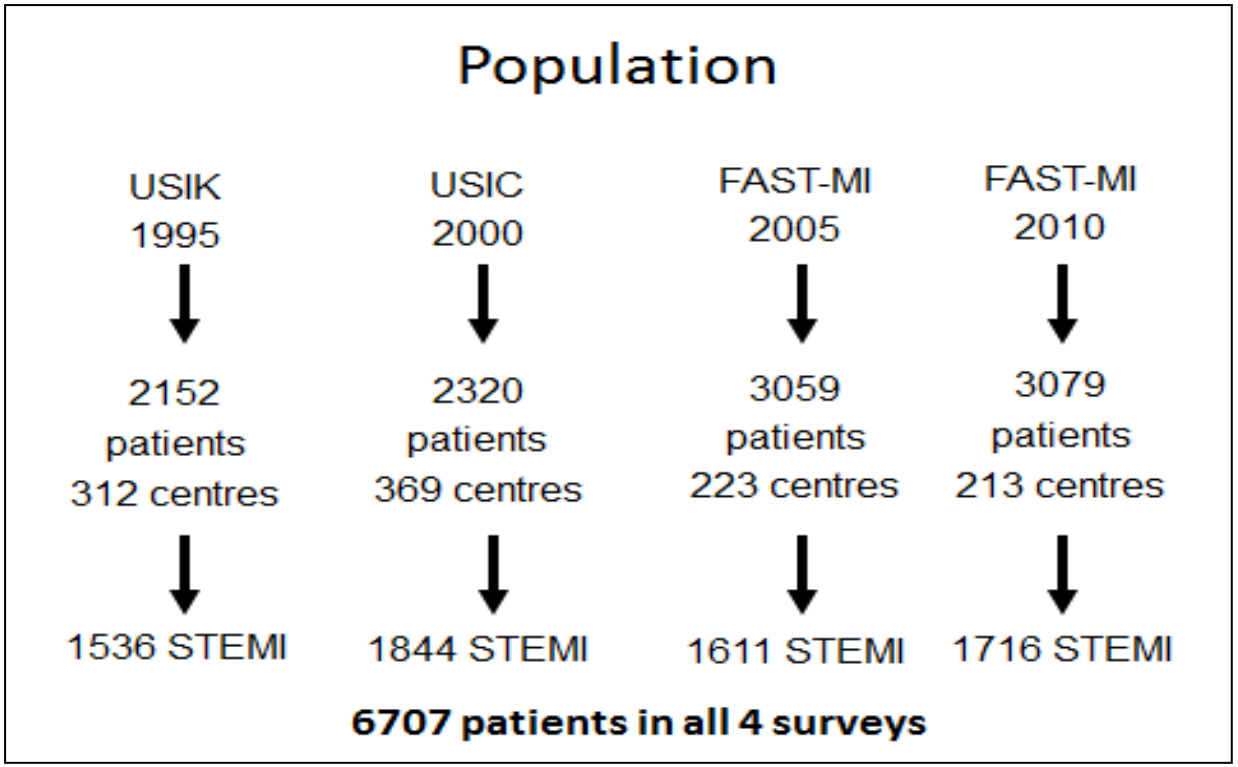
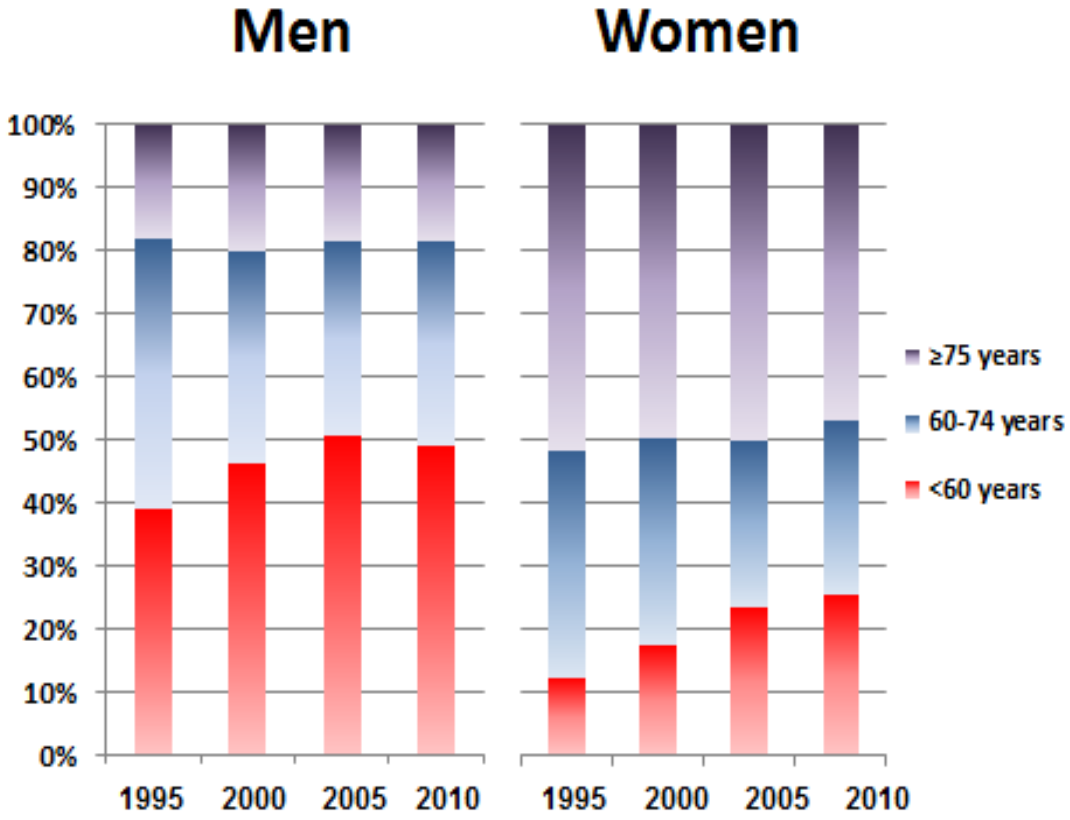
Background

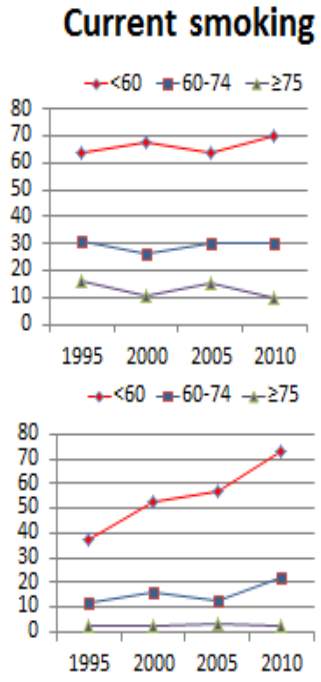
The mortality decline in STEMI is usually attributed to increased use of reperfusion therapy. We sought to determine, using four national French databases run 5 years apart, whether other factors, such as temporal changes in patients' characteristics, influenced changes in outcomes, beyond repefusion therapy .

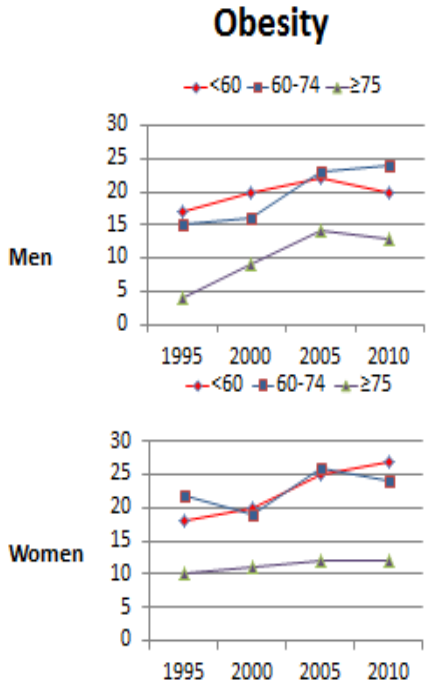


Change in patient profile

- Age decreased progressively from 66 to 63 years





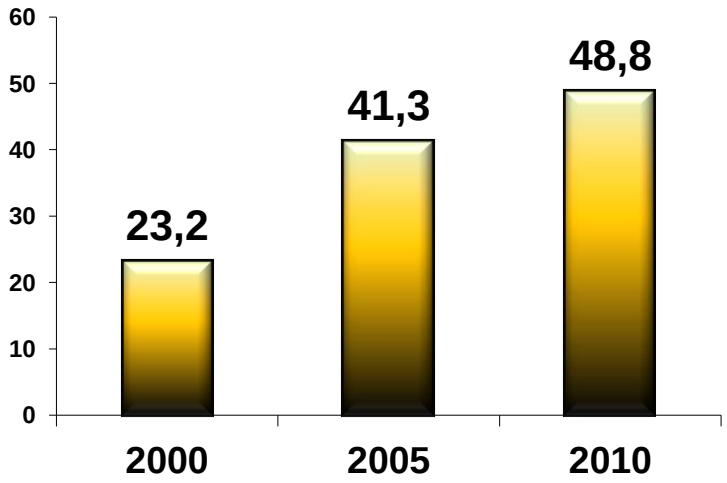


Changes in patient behaviour 2000-2010

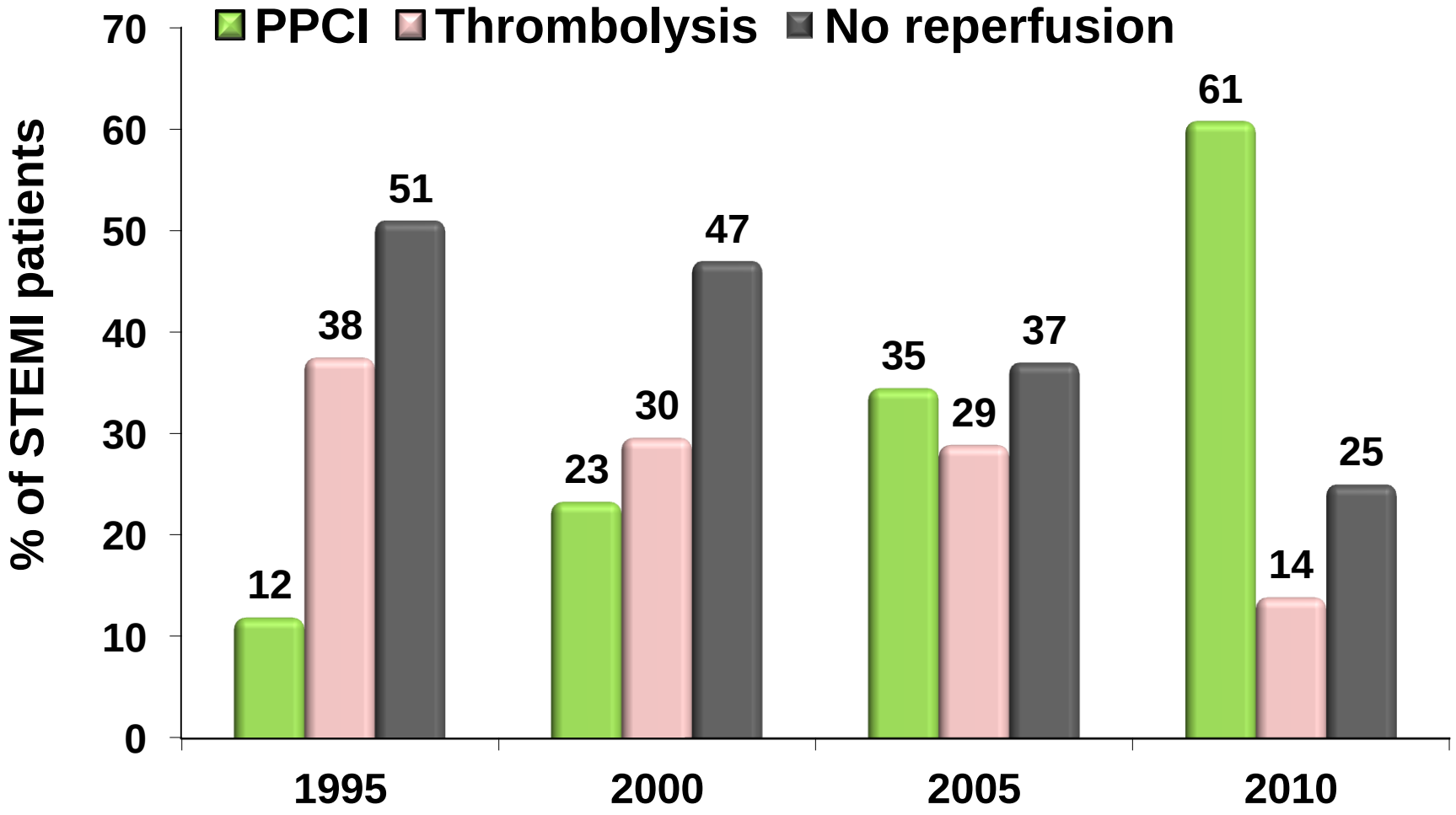
Less delay from onset to first call/contact

	2000	2005	2010
Median	**120**	**90**	**74**
25th; 75th percentiles	**41; 360**	**30; 295**	**30; 240**

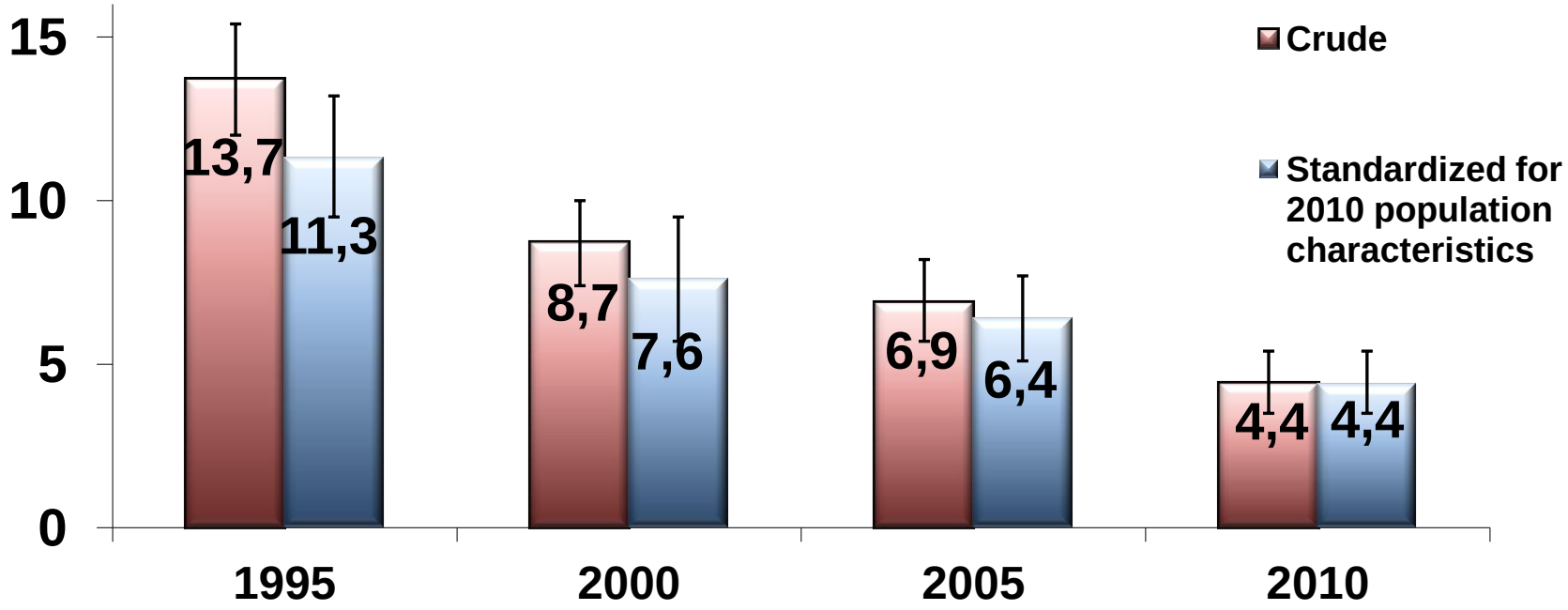
Direct MICU call and transportation

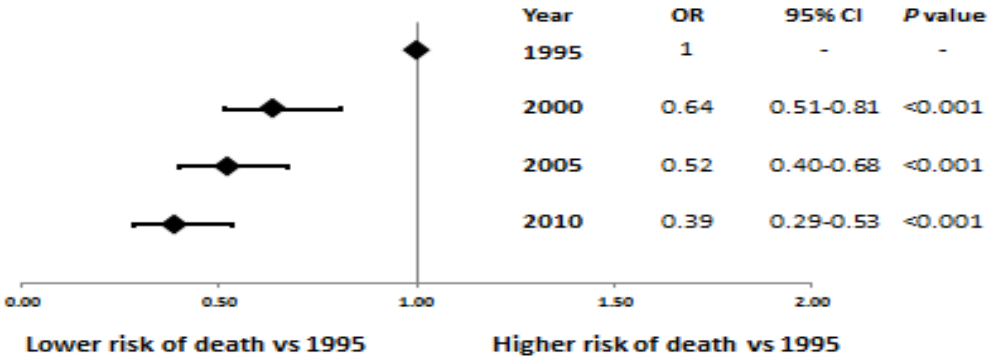


Change in management: Reperfusion therapy in STEMI patients



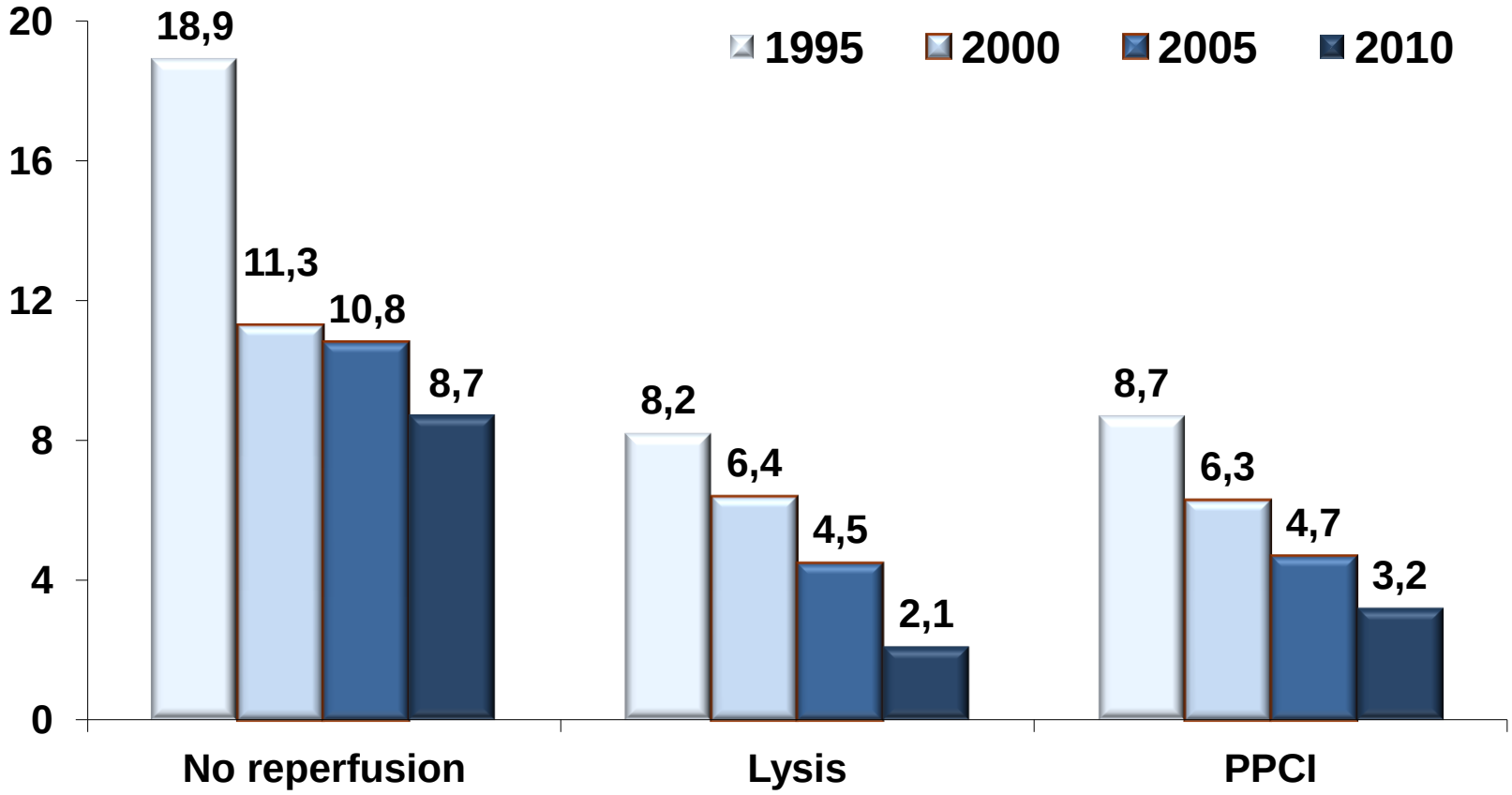
Evolution of 30-day mortality





Adjusted for age, sex, BMI, risk factors, previous history, and use and type of reperfusion therapy

Evolution of 30-day mortality according to use and type of reperfusion therapy



Adj. OR (2010 vs 1995)
0.47
95% CI, 0.32-0.70

Adj. OR (2010 vs 1995)
0.29
95% CI, 0.11-0.76

Adj. OR (2010 vs 1995)
0.29
95% CI, 0.15-0.58

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Association of Changes in Clinical Characteristics and Management With Improvement in Survival Among Patients With ST-Elevation Myocardial Infarction

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Context The contemporary decline in mortality reported in patients with ST-segment elevation myocardial infarction (STEMI) has been attributed mainly to improved use of reperfusion therapy.

Objective To determine potential factors—beyond reperfusion therapy—associated with improved survival in patients with STEMI over a 15-year period.

Design, Setting, and Patients Four 1-month French nationwide registries, conducted 5 years apart (between 1995, 2000, 2005, 2010), including a total of 6707 STEMI patients admitted to intensive care or coronary care units.

Main Outcome Measures Changes over time in crude 30-day mortality, and mortality standardized to the 2010 population characteristics.

Results Mean (SD) age decreased from 66.2 (14.0) to 63.3 (14.5) years, with a concomitant decline in history of cardiovascular events and comorbidities. The proportion of younger patients increased, particularly in women younger than 60 years (from 11.8% to 25.5%), in whom prevalence of current smoking (37.3% to 73.1%) and obesity (17.6% to 27.1%) increased. Time from symptom onset to hospital admission decreased, with a shorter time from onset to first call, and broader use of mobile intensive care units. Reperfusion therapy increased from 49.4% to 74.7%, driven by primary percutaneous coronary intervention (11.9% to 60.8%). Early use of recommended medications increased, particularly low-molecular-weight heparins and statins. Crude 30-day mortality decreased from 13.7% (95%