

# HeartBeat

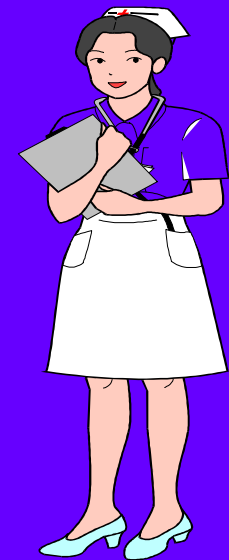
## Improving Heart Attack Care in Ireland



(Case study 2)

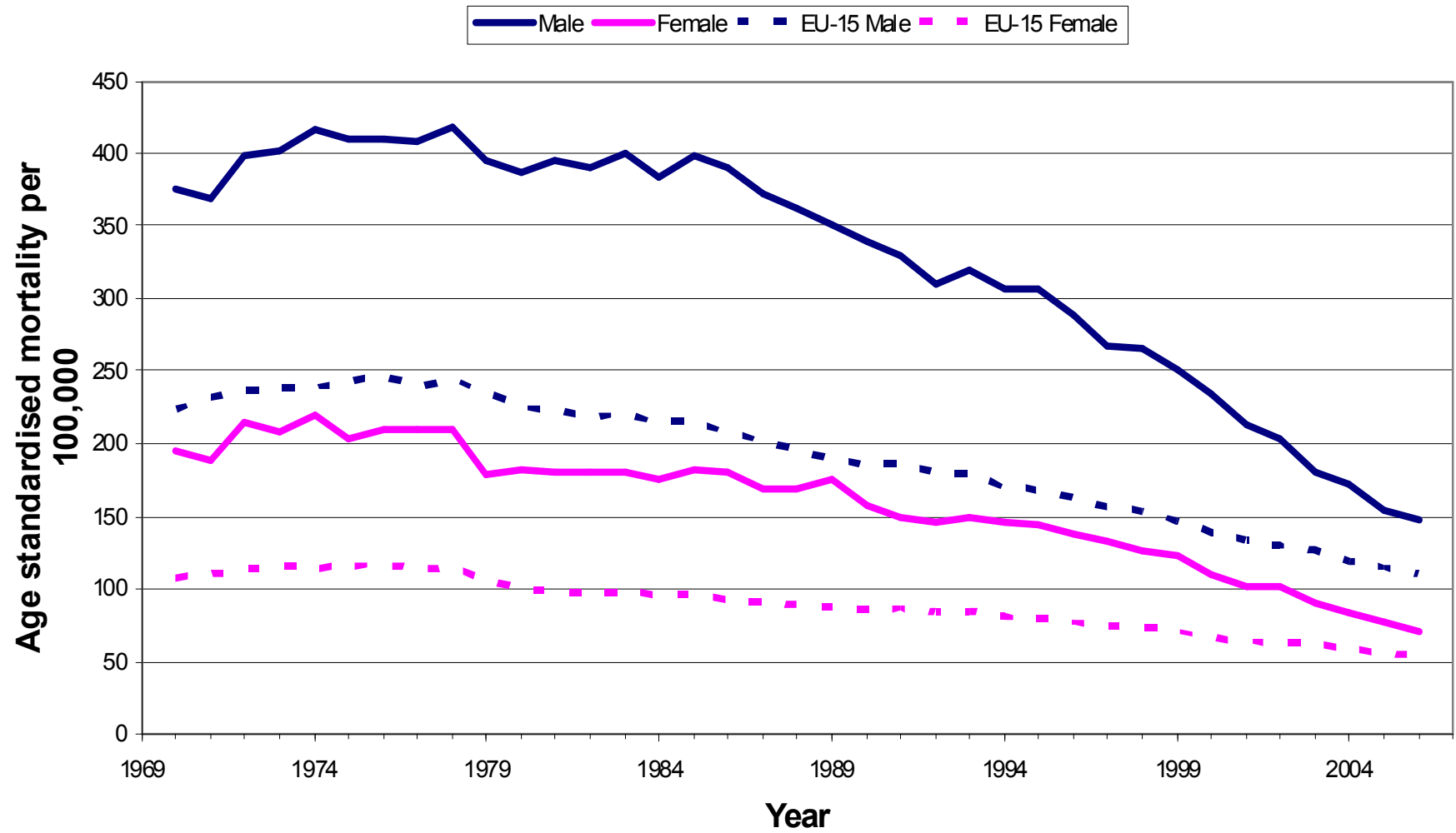
Dr Siobhan Jennings,

Consultant in Public Health Medicine



# Age standardised CHD mortality rates per 100,000 for Males and Females in Ireland and EU-15

(Source WHO HFA database)



## Snapshot picture.....

<b>INDICATOR</b>	<b>EuroHeart Survey (2002)</b>	<b>CCU 2003<sup>1</sup></b>	<b>EUROASPIRE 111, 2006 (Irish data)<sup>2</sup></b>
<b>Aspirin on admission</b>	<b>93%</b>	<b>85%</b>	
<b>Aspirin on discharge</b>	<b>88.1%</b>	<b>81%</b>	<b>99%</b>
<b>Beta-blocker on discharge</b>	<b>75.2%</b>	<b>66%</b>	<b>84%</b>
<b>Thrombolysis</b>	<b>55.8% &lt;30 mins PPCI 21%</b>	<b>44% 45 mins (median)</b>	
<b>ACE inhibitor</b>	<b>64.5%</b>	<b>56%</b>	<b>53%</b>
<b>Lipid Lowering agents</b>			<b>91%</b>
<b>Mortality</b>	<b>7%</b>	<b>9-10%</b>	

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# HeartBeat Programme

## AIM

To save lives from Acute Myocardial Infarction (AMI) by implementing and assuring best practice - using the IHI methodology

## OBJECTIVES

To help hospitals

- increase % patients receiving the 8 evidenced based components of AMI care (unless contraindicated )
- reduce in-hospital mortality

## FOCUS

- Information
- Techniques in managing change



# Initiative included :

- **Structure**

- Steering Group, Core team, 5 hosps to start,  
Agreement with IHF, ICS, ISQSH

- **Process**

- Clarifying objective, gelling of core team, considering barriers and their solutions
- Irish 'Kit, Data set and collection
- Feedback (Academic involvement, confidentiality)
- Getting ready Invited Dr N Devaney, IHI Fellow in Belfast to discuss approach.
- Hospital visits to all 5 hospitals

- **Outcome**

# AMI Care : Key Components of Evidenced Based Care

## Pre-hospital/Admission

1. Early aspirin
2. Early beta-blocker
3. Timely initiation of reperfusion (thrombolysis or primary PCI)

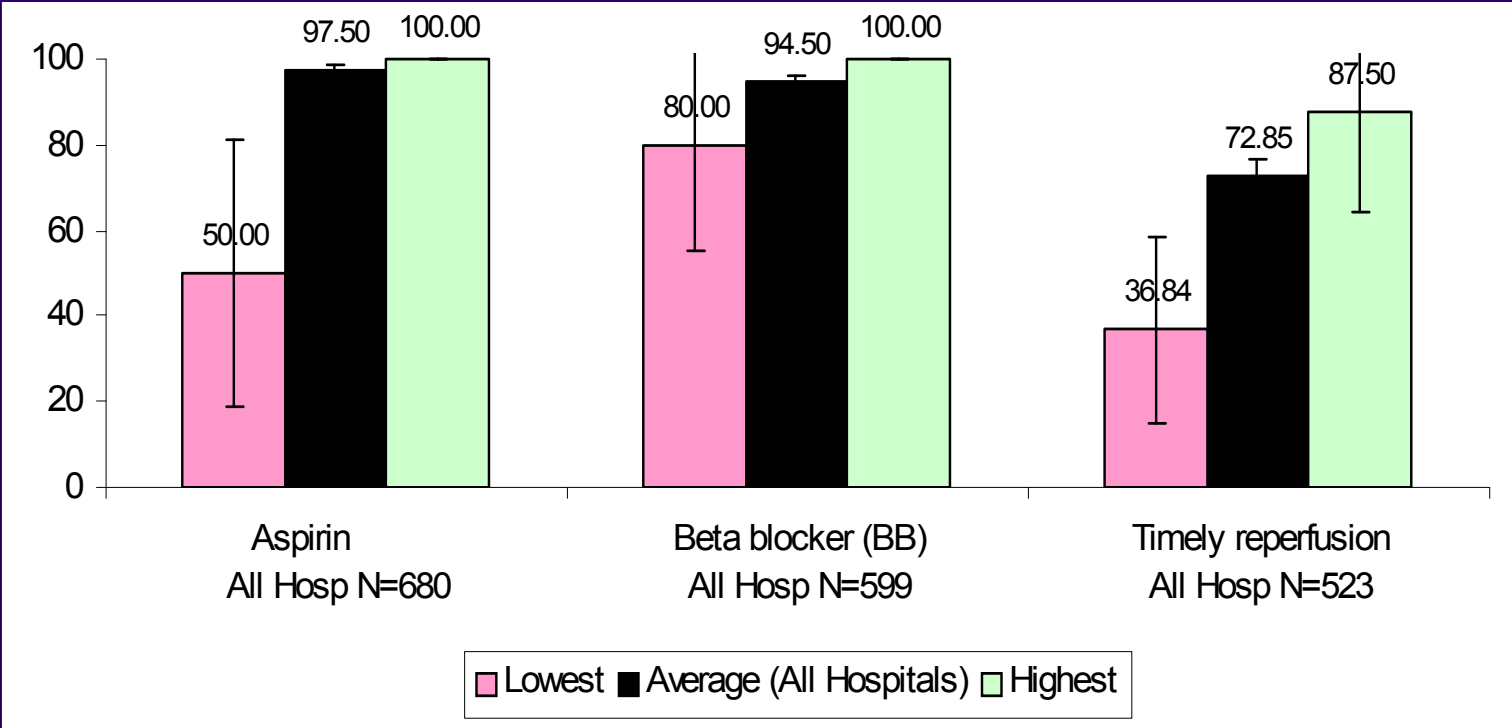
## On Discharge

4. Aspirin
5. Beta-blocker
6. ACE-inhibitor or ARB for patients with systolic dysfunction
7. Smoking cessation counselling
8. Lipid lowering agent

# HeartBeat Bulletin

## Care on admission (% eligible received)

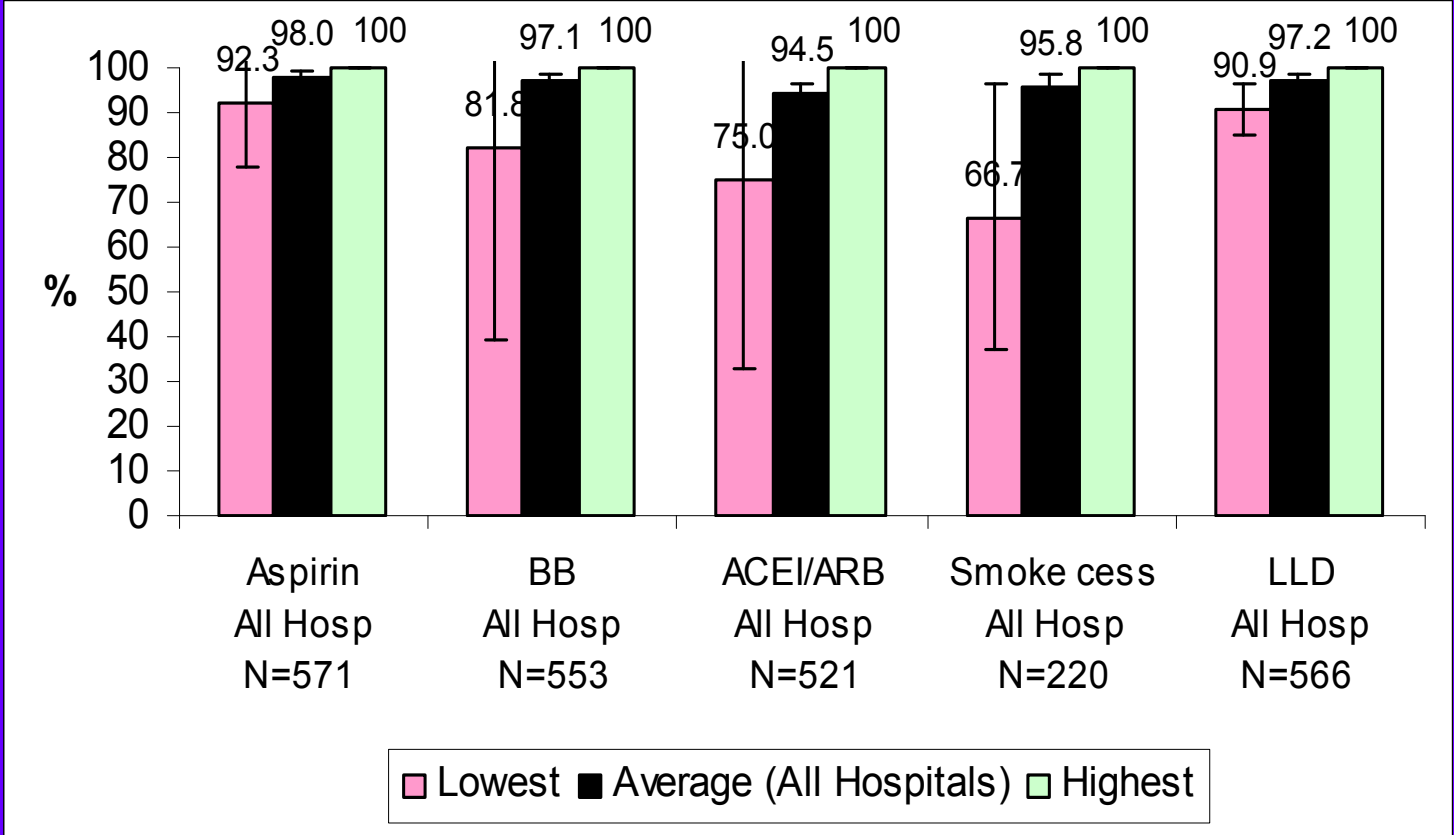
### Oct 06 – Sept 09 (3 years)



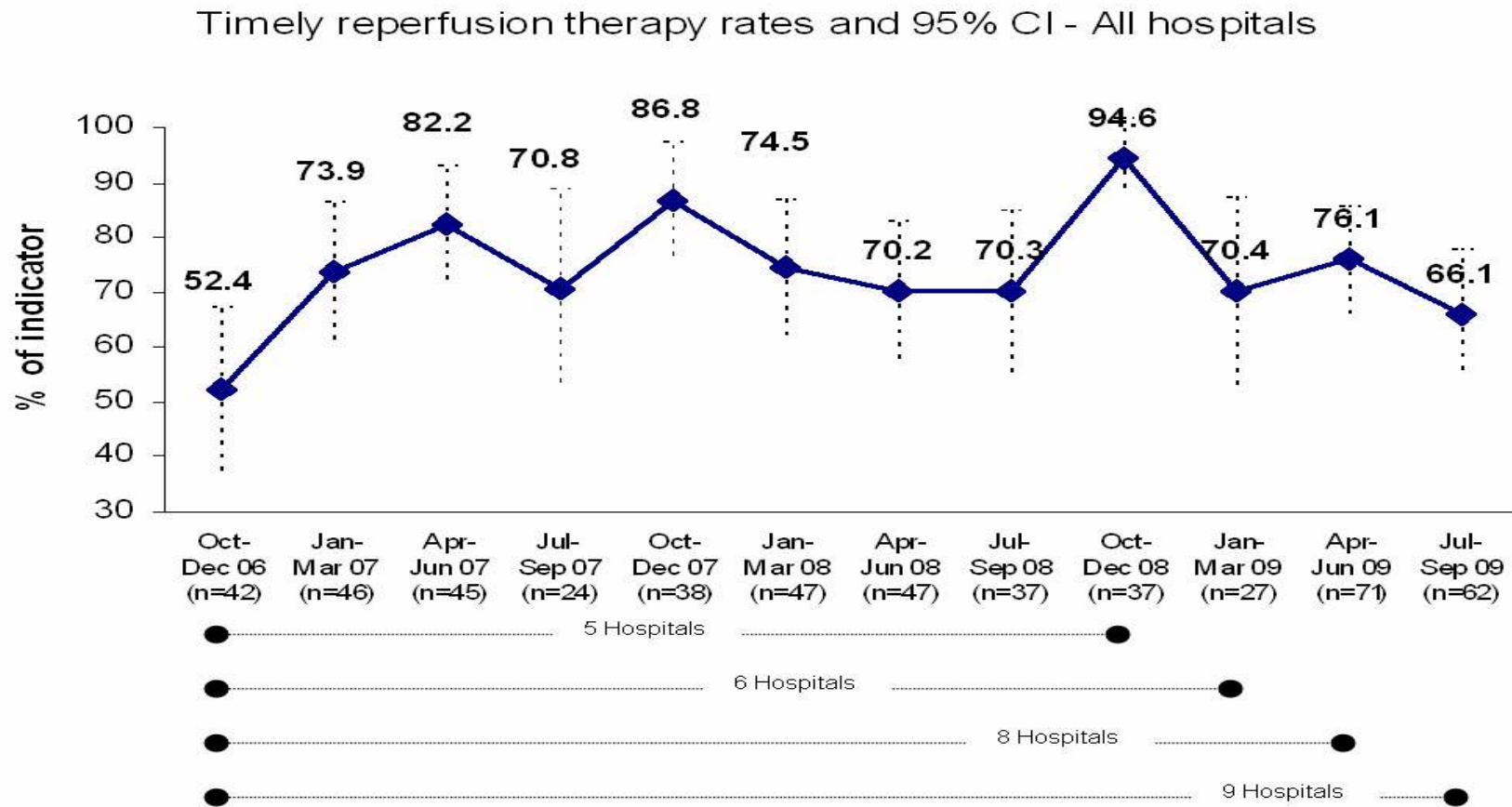
# HeartBeat Bulletin

## Care on discharge (% eligible received)

### Oct 06 – Sept 09 (3 years)



## Three monthly trend in % eligible patients receiving timely reperfusion



This chart excludes 11 hypertensive patients who were given reperfusion therapy after blood pressure was treated.

## HeartBeat      First 5 hospitals performance annually (Oct 2006 – Sept 2009)

	Year 1 (n=215)	Year 2 (n=233)	Year 3 (n=187)	p-value
% Thrombolysed ≤30mins	70.9%	78.1%	83.3%	NS
% getting PPCI < 90mins	54.6%	36.0%	65.1%	NS
% Patients getting timely RT	68.2%	70.4%	77.1%	NS
Median 'door to needle' (IQR)	25	20	19	0.025
Median 'door to balloon' (IQR)	84	102	85	0.224

RT Reperfusion therapy

## Annual in-hospital mortality (STEMI) for the first 3 years of Heartbeat

<b>Year</b>	<b>Deaths</b>	<b>Death rate</b> (95% Conf Intervals)
<b>Year 1</b> (Oct 06-Sept 07)	<b>24</b> (193 patients)	<b>12.44%</b> (10.9 - 14)
<b>Year 2</b> (Oct 07-Sept 08)	<b>15</b> (205 patients)	<b>7.32%</b> (6.4 - 8.2)
<b>Year 3</b> (Oct 08-Sept 09)	<b>12</b> (223 patients)	<b>5.38%</b> (4.7 – 6.05)

# What changed within Hospitals?

- **Speedier communication**
  - between ED and Medical/cardiology SpR
  - between Cath Lab and ED
- **Promoted action**
  - Consultant in ED studied data and discussed with colleagues
  - Audit showed contributing factors in each step of the care pathway in 1 hosp
  - Inclusion of HeartBeat in regular meetings
- **Education of SpRs and protocols adjusted**
- **Otherwise** Synchronising ED clocks!

<b>Indicator</b>	<b>HeartBeat 36 months Oct 2006 - Sept 2009</b>	<b>MINAP- England Apr 2008 – Mar 2009</b>	<b>Improving US Hospitals Jan – Dec 2007</b>
<b>Early ASA</b>	97.5%	NA	97.4%
<b>Early Beta Blockers</b>	94.5%	NA	94.7%
<b>Timely Reperfusion</b>	Throm 75.9% PPCI 70.2%	Throm 83% PPCI 84%	Throm 51% PPCI 72.3%
<b>ASA on discharge</b>	98.0%	98%	97.2%
<b>Beta Blockers on discharge</b>	97.1%	93%	97.2%
<b>ACEI/ARB for LVF</b>	94.5%	92%	91.5%
<b>Smoke cess. advice</b>	95.8%	NA	98.2%
<b>Lipid lowering meds</b>	97.2%	97%	96%

# Summary points

- AMI death rates are dropping but **Ireland could do better** - evidence is that improved process of care could save *even* more lives
- We have initiated a **quality improvement programme**
  - We are clear on care carried out to high degree in these hospitals
  - Timely reperfusion has improved since inception of Heartbeat
  - In-hospital mortality has improved
- **Issues now** involve
  - **expansion of programme** to all hospitals (and to NSTEMI)
  - addressing primary PCI, pre-hospital triage and thrombolysis
  - Addressing patient delay in seeking help

# Questions/comments/observations

- Challenge of set-up, buy-in
- Hosp.variation – in interest, commitment
- Sustainability and growth factors??
  - Corporate
  - At hospital level
  - ACS programme
  - IT environment
  - Spreading change management experience

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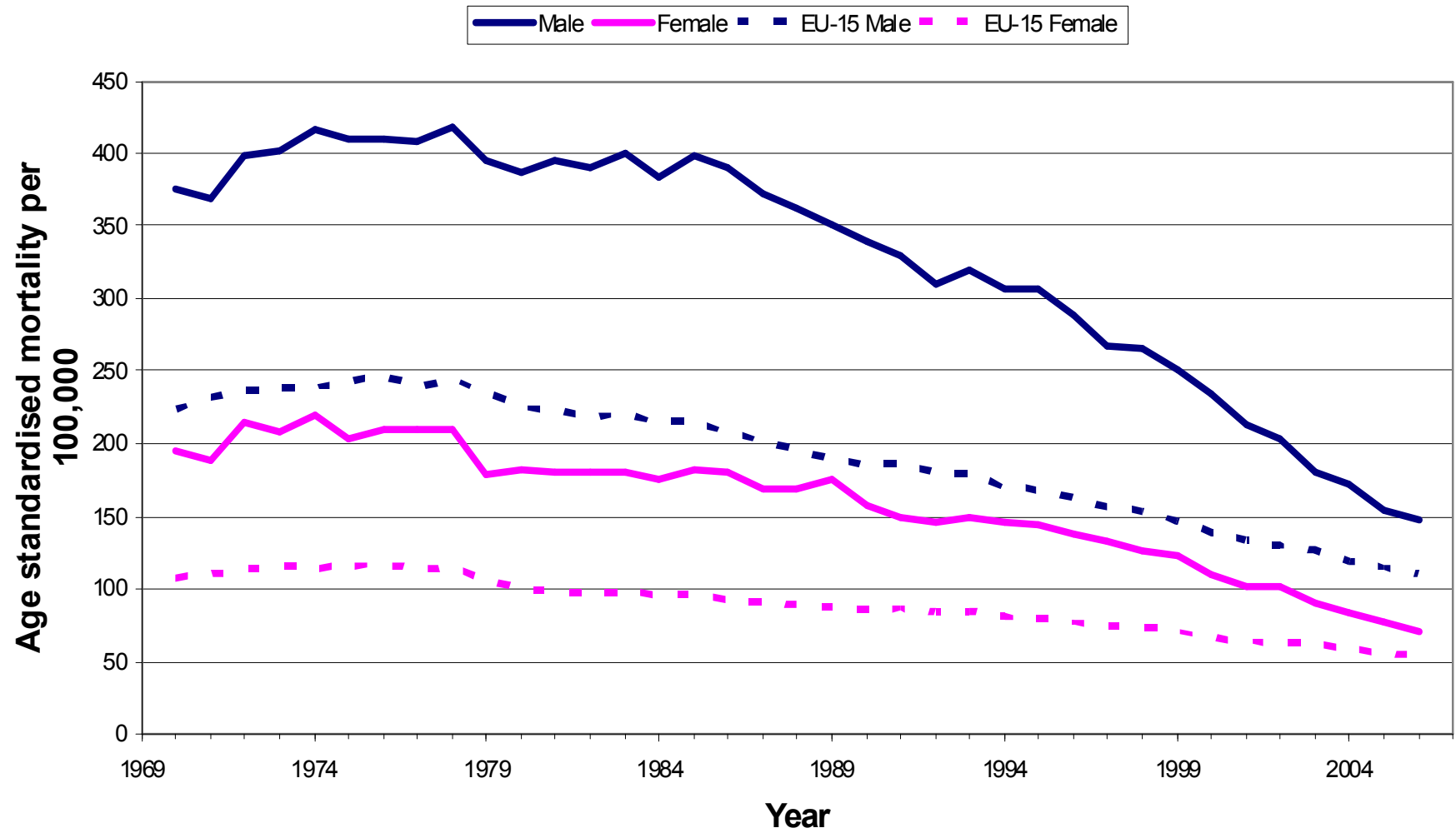
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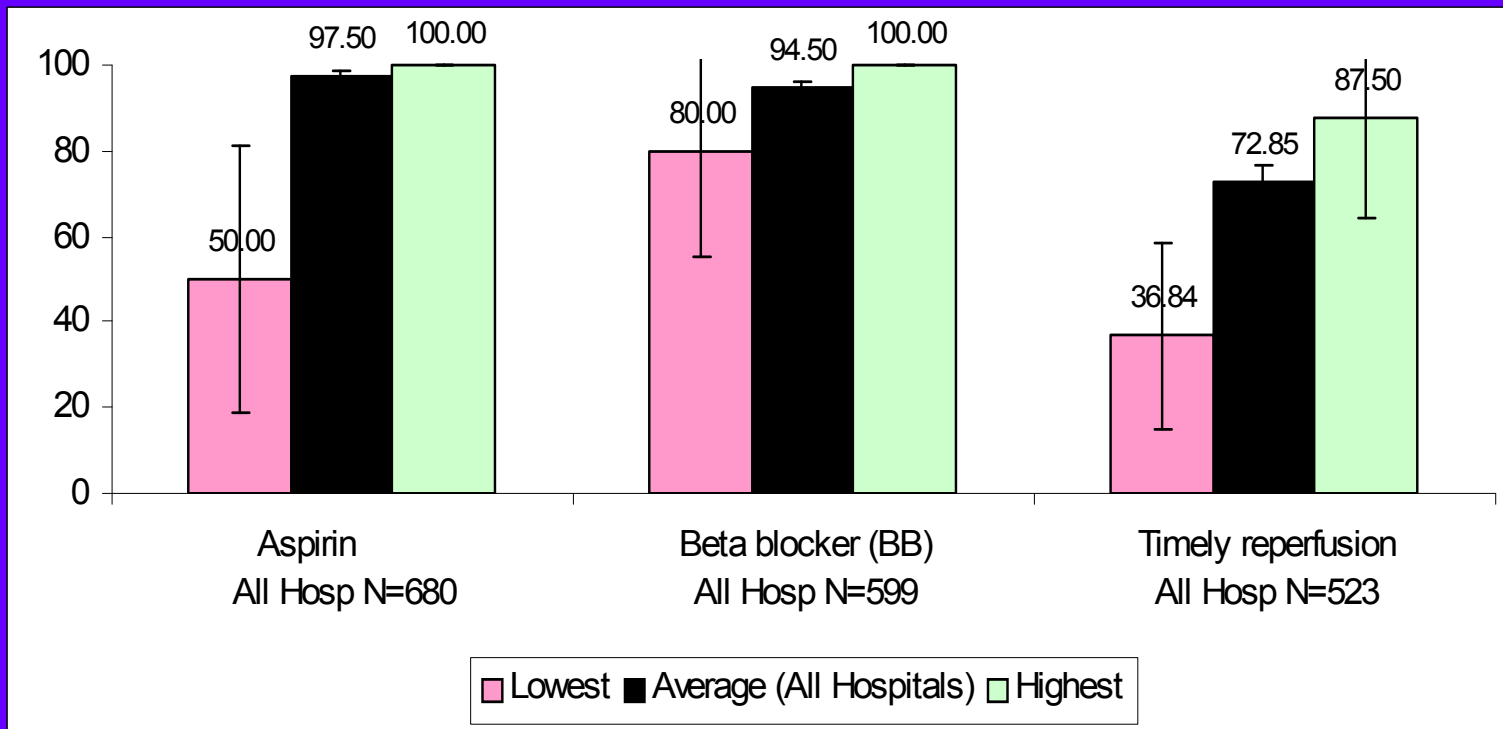
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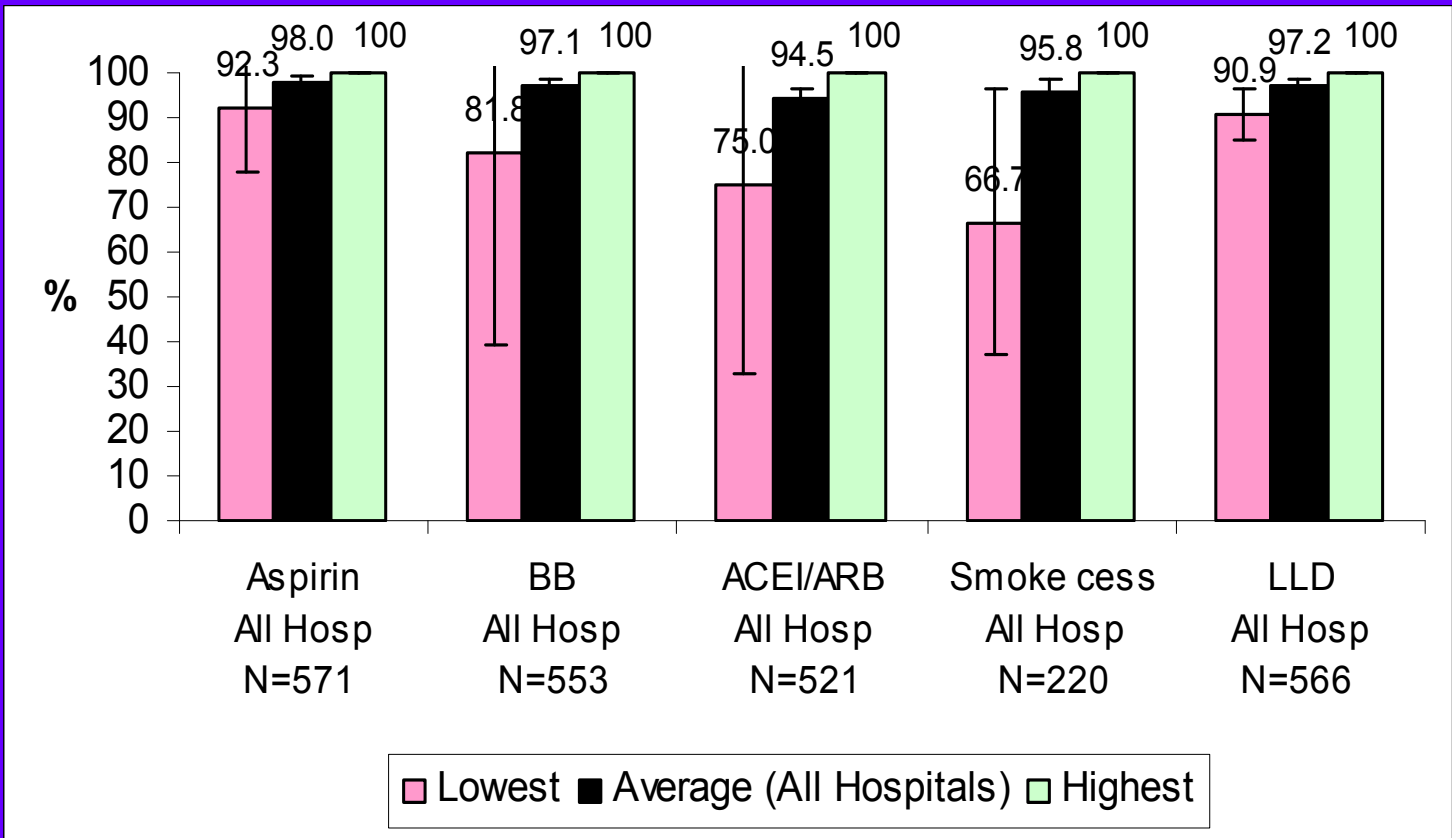
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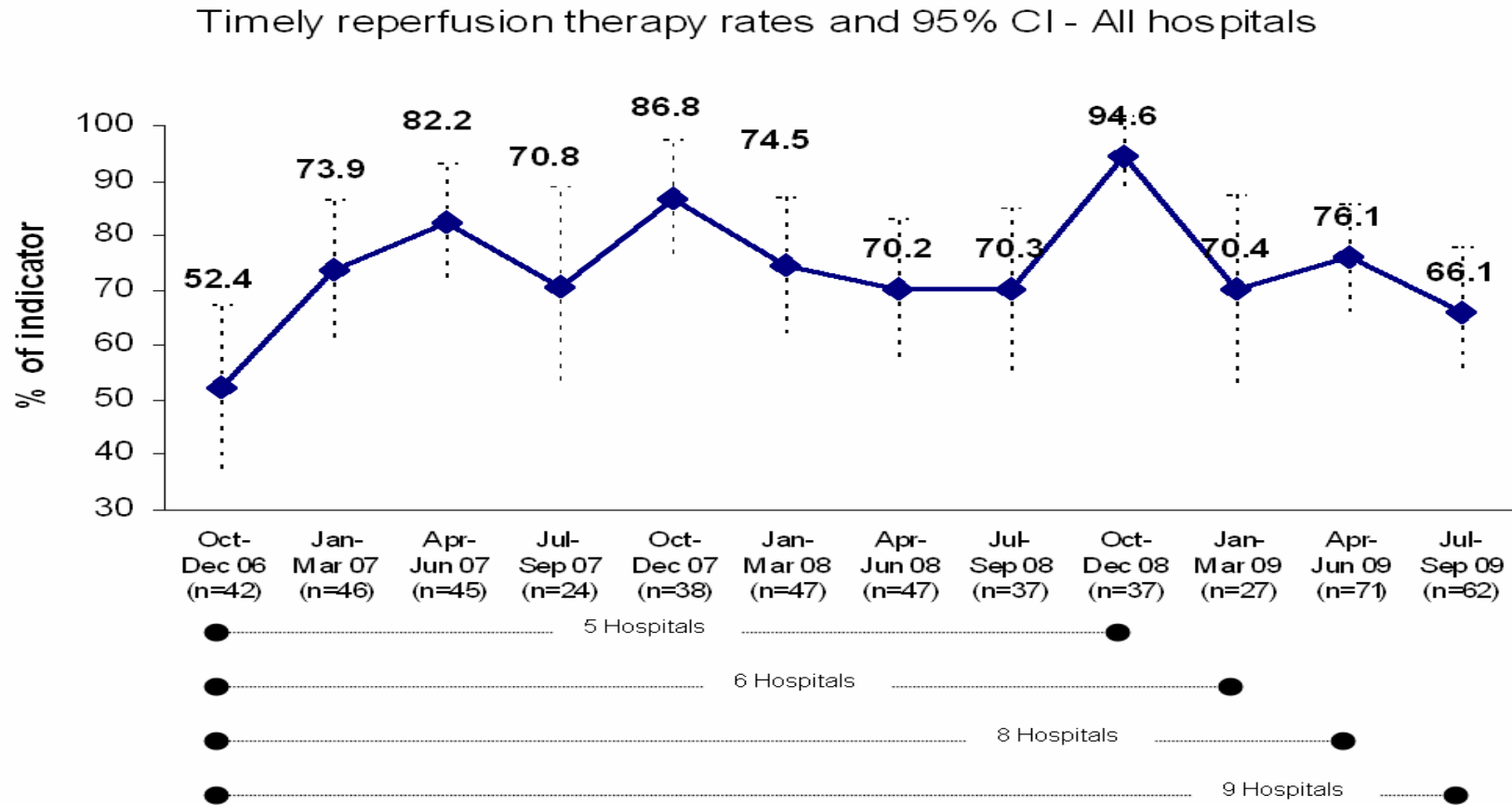
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