

HeartBeat

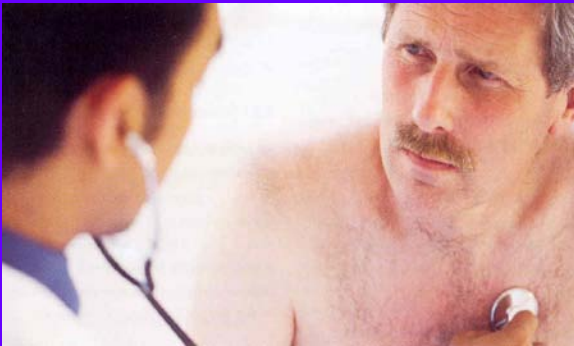
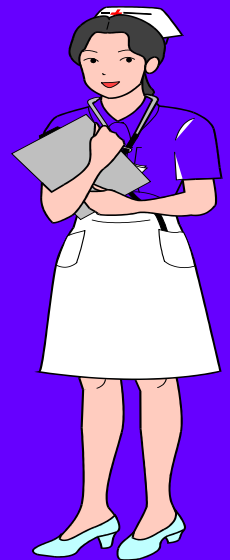
Improving Heart Attack Care in Ireland



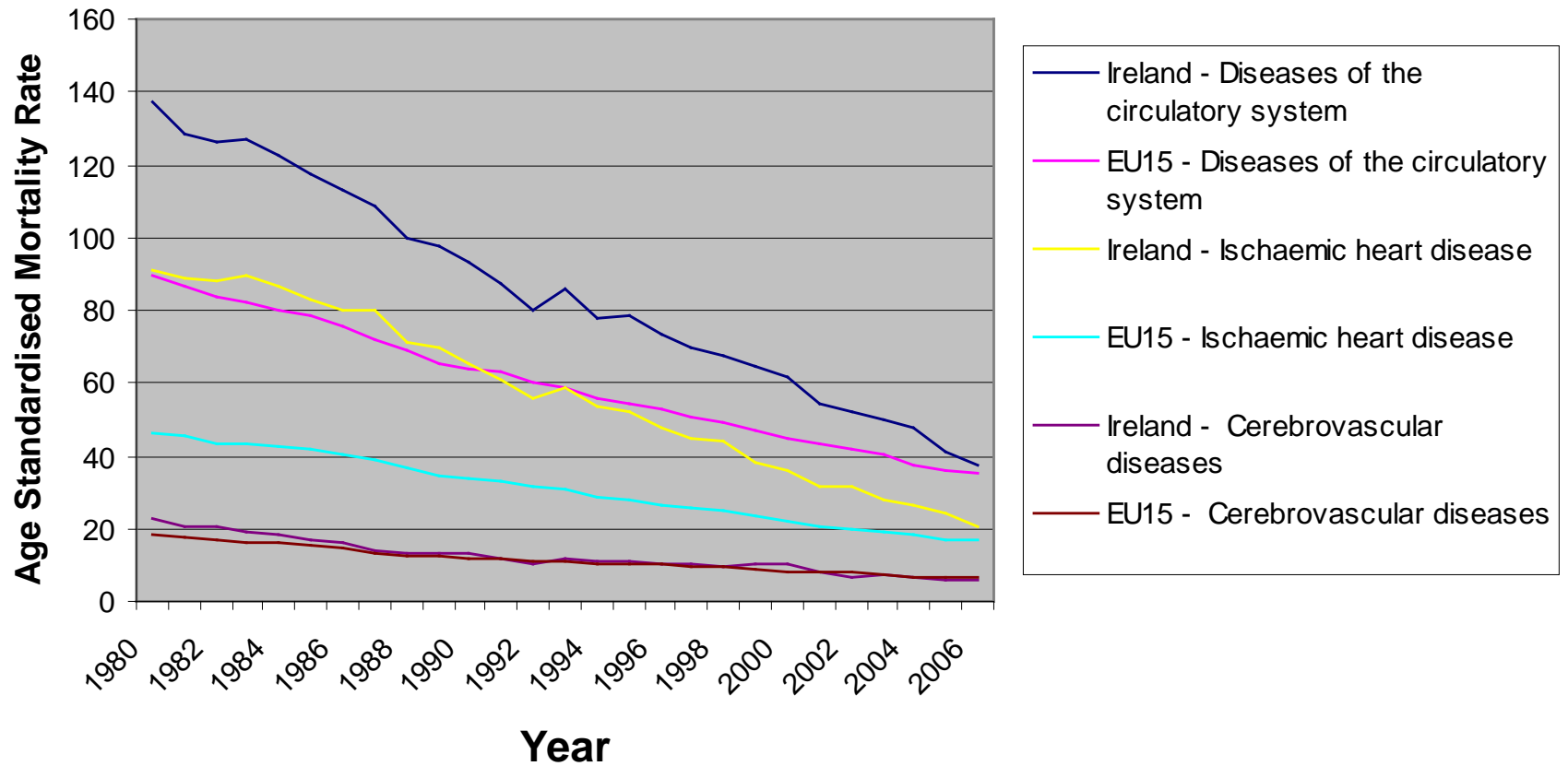
Past, present and future

Dr Siobhan Jennings,

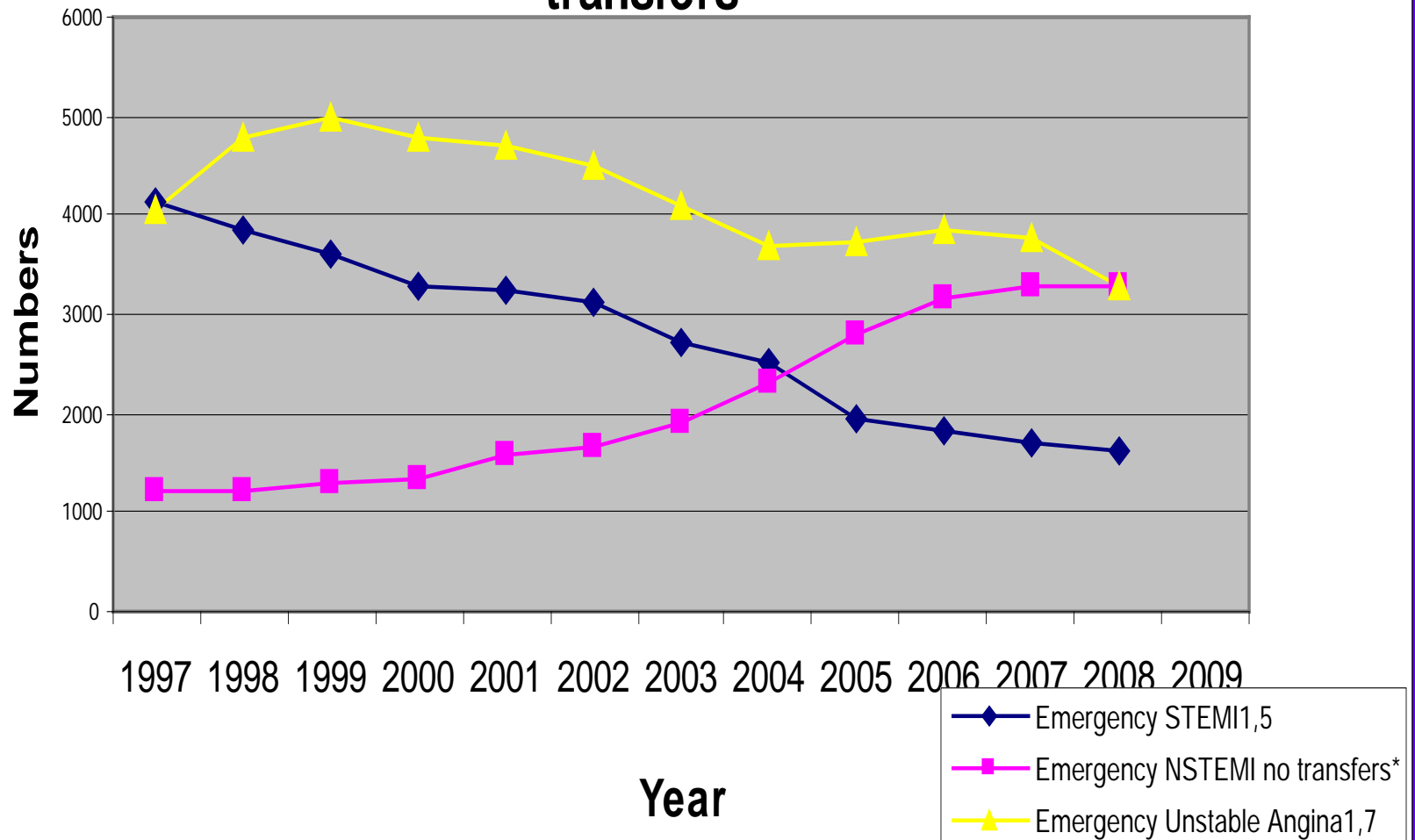
Consultant in Public Health Medicine



Age Standardised Mortality Rates per 100,000 population, 0-64 years



Trend in types of ACS 1997 - 2008 (HIPE) excluding transfers



Source: HIPE data, ESRI

Snapshot picture.....

INDICATOR	EuroHeart Survey (2002)	CCU 2003¹	EUROASPIRE 111, 2006 (Irish data)²
Aspirin on admission	93%	85%	
Aspirin on discharge	88.1%	81%	99%
Beta-blocker on discharge	75.2%	66%	84%
Thrombolysis	55.8% <30 mins PPCI 21%	44% 45 mins (median)	
ACE inhibitor	64.5%	56%	53%
Lipid Lowering agents			91%
Mortality	7%	9-10%	

1. Doyle , De La Harpe D, McGee H, Shelley E, Conroy R. Nine year comparison of presentation and management of acute coronary syndromes in Ireland: a national cross-sectional survey. BMC Cardiovasc Disord. 2005;5:5.

2. Cooney MT, Storey S, Taylor L, Dudina A, Hall M, Hemeryck L, Feely, J Graham I. EUROASPIRE 111. A comparison of Irish and European results. IMJ 2009; 102 (4): 113-116

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

- Data / 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 IHI and PDSA approach.
- Hospital visits to all 5 hospitals

- **Outcome**

Hospitals in first phase (2006)

- Letterkenny General Hospital
- Our Lady of Lourdes, Drogheda
- Connolly Hospital, Blanchardstown
- Cork University Hospital
- Wexford General Hospital

Hospitals in next phase (2009 -)

- Cavan General Hospital
- St Columcilles Hospital,
- St Vincents University Hospital
- Sligo General Hospital
- Mater University Hospital
- Midland General, Portlaoise
- Our Lady of Lourdes, Navan
- St Lukes Hospital, Kilkenny
- Kerry General Hospital

AMI Care : Key Components of Evidenced Based Care

Pre-hospital/Admission

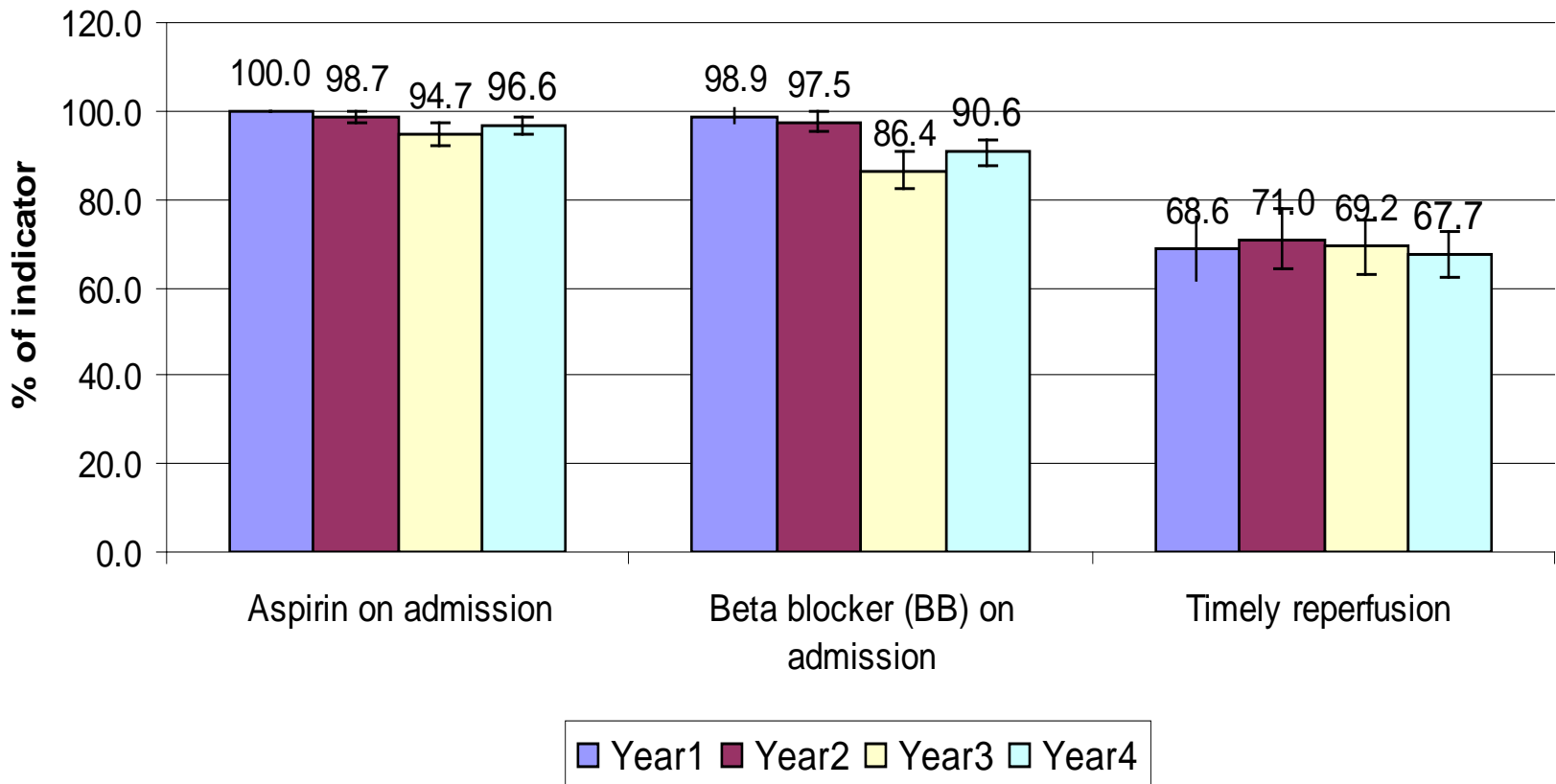
1. Early aspirin
2. Early beta-blocker
3. Timely initiation of reperfusion (thrombolysis or primary PCI)

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

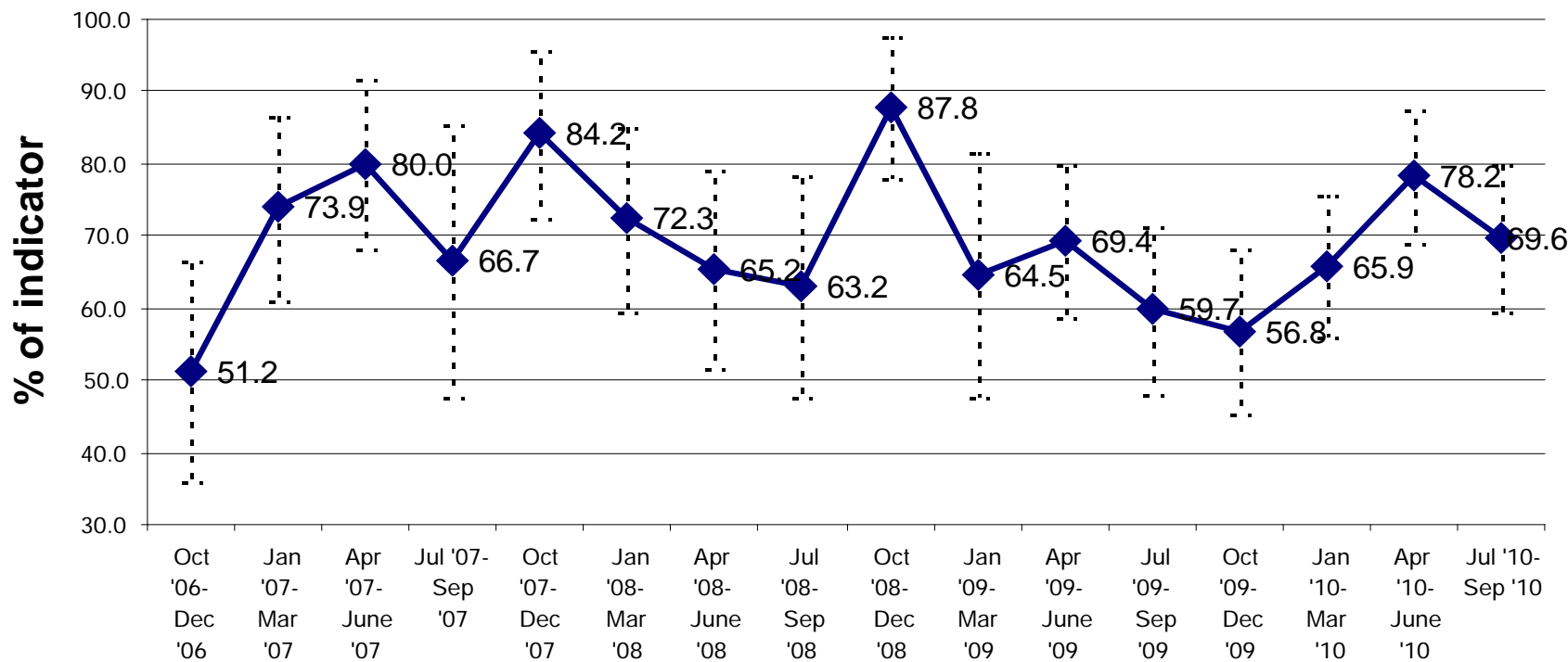
HeartBeat

Care on admission (% eligible)
Oct 06 – Sept 09 (4 years, 12 hosps)



Quarterly trend in % eligible patients receiving timely reperfusion

HeartBeat Timely reperfusion for all hospitals (95% CIs)
Oct 2006 - Sept 2010



Heartbeat Reperfusion annually for first four years

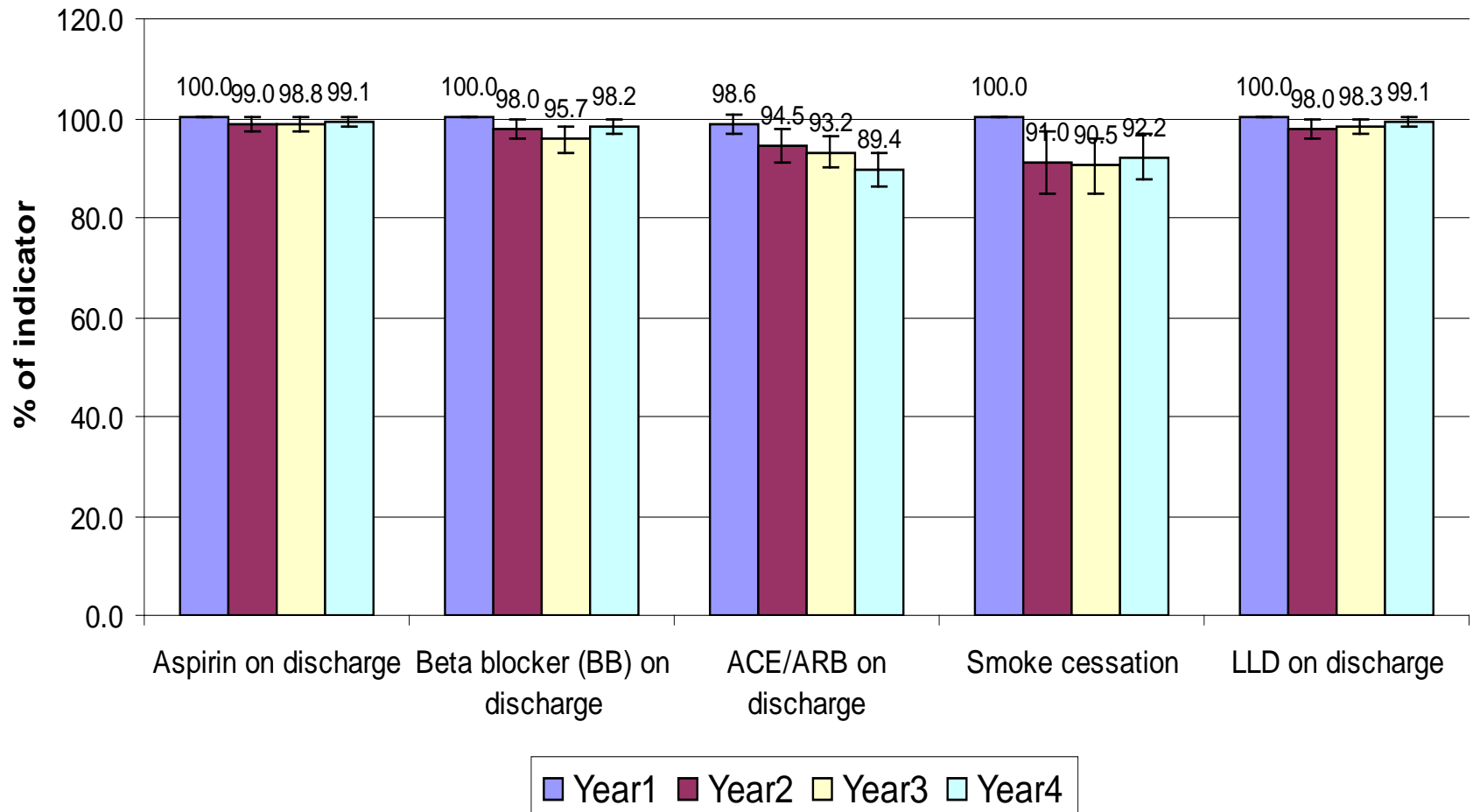
	Year 1 n = 216	Year 2 n = 237	Year 3 n = 265	Year 4 n = 388	P-value*
% Patients thrombolysed	85%	84%	68%	55%	<0.001
% Patients receiving PPCI*	15%	16%	28%	45%	
% Thrombolysed (<=30mins)	71%	77%	74%	71%	NS
% PPCI (<= 90 mins)	55%	39%	58%	63%	NS
% Patients getting Timely RT	69%	71%	69%	68%	NS
Median 'door to needle' (IQR)	25 (16, 37)	20 (13, 30)	20 (14, 32)	23 (15,37)	NS
Median 'door to balloon'(IQR)	84 (53, 135)	100 (66, 120)	88 (63, 127)	80 (55, 116)	NS

*p=0.001 for difference in %PPCI vs %thrombolysis over time; NS=not significant

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Care on discharge (% eligible)

Oct 06 – Sept 10 (4 years)



Last year performance in Heartbeat hospitals showed....variation

- **97% patients got aspirin on admission**
 - 80% - 100% across hospitals
- **17% did not receive Reperfusion Tx (contraindicated/not)**
 - 3% – 30% variation
- **68% patients got timely Reperfusion Tx**
 - 26% - 84% is range across hospitals
- **89% patients got ACE/ARBs**
 - 57% - 100% variation

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

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

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Year 4 (Oct 09-Sept 10)	28 (372 patients)	7.53% (5.3 - 10.7)

International comparison

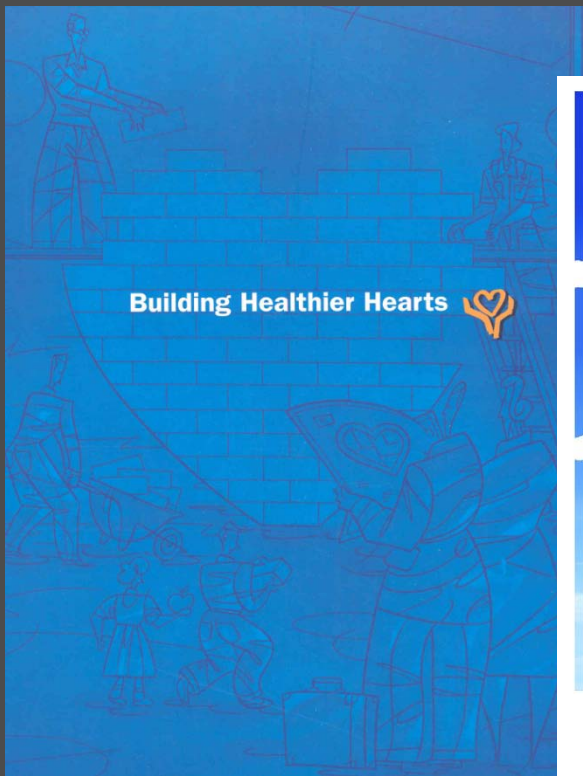
Indicator	HeartBeat Oct 2009 - Sept 2010	MINAP- England Apr 2009 – Mar 2010	Improving US Hospitals Jan – Dec 2009
Early ASA	96.6%	NA	98.4%
Early Beta Blockers	90.6%	NA	NA
Timely Reperfusion	Throm 71.4% PPCI 63.2%	Throm 79% PPCI 89%	Throm 55.2% PPCI 87.4%
ASA on discharge	99.1%	98%	98.4%
Beta Blockers on discharge	98.2%	94%	98.3%
ACEI/ARB for LVF	89.4%	93%	95.5%
Smoke cess. advice	92.3%	NA	99.4%
Lipid lowering meds	99.1%	97%	NA

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!

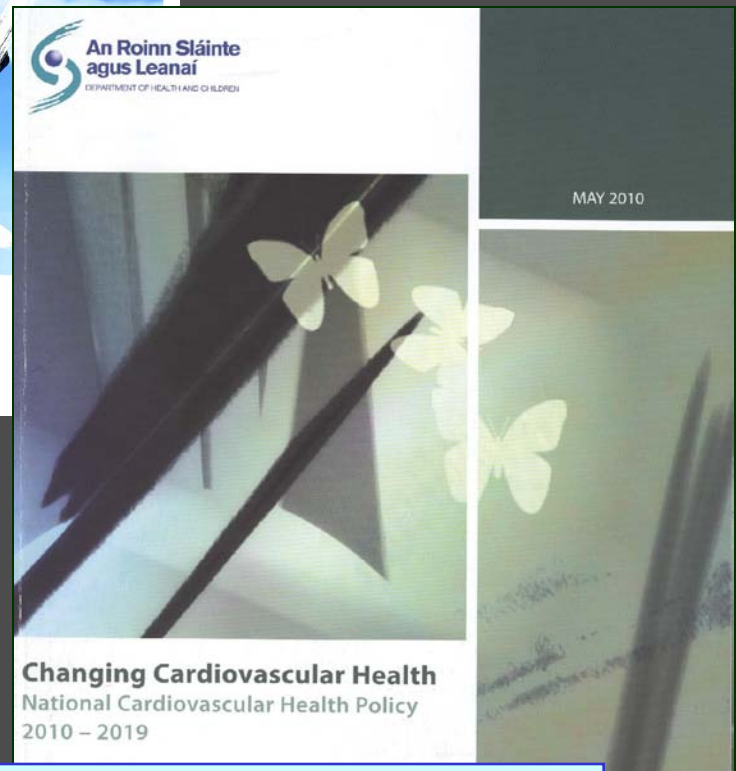
Summary

- CHD and AMI **death rates have declined** in Ireland
- We have initiated a **Heartbeat - a quality improvement programme**
 - Areas of high achievement
 - Type of reperfusion therapy changed
 - Timely reperfusion improved and disimproved
 - In-hospital mortality has improved but..
.. **Sustainability** ..
- Heartbeat - **we need to further (continually) improve process of care to save lives**



Ireland: Take Heart

Audit of Progress on the Implementation of Building Healthier Hearts 1999 - 2005



Thank You