

# BCC Clinical Support Systems Program Feedback Newsletter #4 – All Hospitals **ACUTE CORONARY SYNDROMES**

Issued November 2002

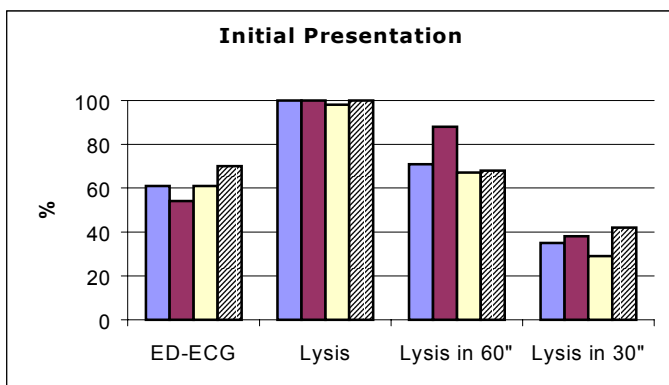


**Case definition:** Provisional diagnosis of AMI, unstable angina or acute coronary syndrome made by admitting/reviewing medical or cardiology registrar AND diagnostic ECG changes AND/OR elevated serum cardiac markers, either CPK (to more than twice upper reference range) or troponin (more than 1.5 times lowest detectable levels).

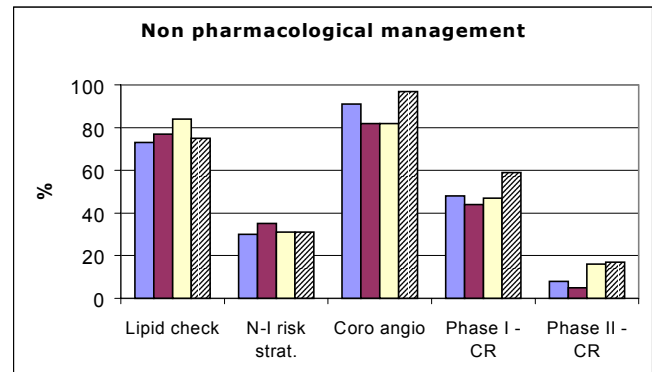
<b>Patient characteristics</b>	<b>Baseline (n=428) (1/10/00-17/4/01)</b>	<b>Measurement 1 (n=429) (18/4/01 - 22/9/01)</b>	<b>Measurement 2 (n=377) (23/9/01 - 22/3/02)</b>	<b>Measurement 3 (n=360) (23/3/02 - 22/9/02)</b>
<b>Age (mean +/- SD)</b>	67 +/- 13.9 years	69 +/- 13.9 years	67 +/- 13.9 years	68 +/- 14.4 years
<b>Sex</b>	Female 37%; male 63%	Female 36%; male 64%	Female 32%; male 68%	Female 32%; male 68%
<b>STEMI</b>	39%	31%	33%	36%
<b>Non STEMI</b>	48%	52%	44%	42%
<b>UAP with raised enzymes</b>	13%	17%	23%	22%

## Clinical Indicators\*

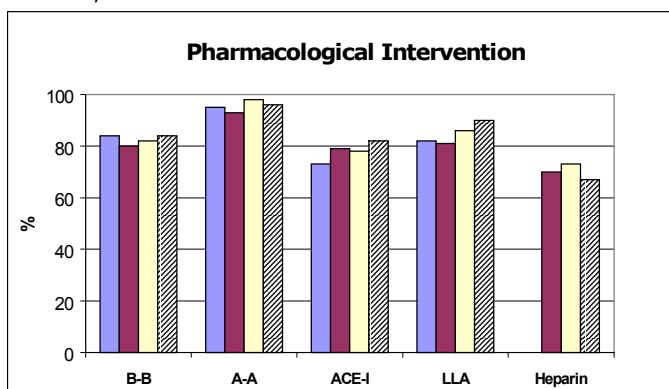
■ Baseline   
 ■ Measurement 1   
 ■ Measurement 2   
  Measurement 3



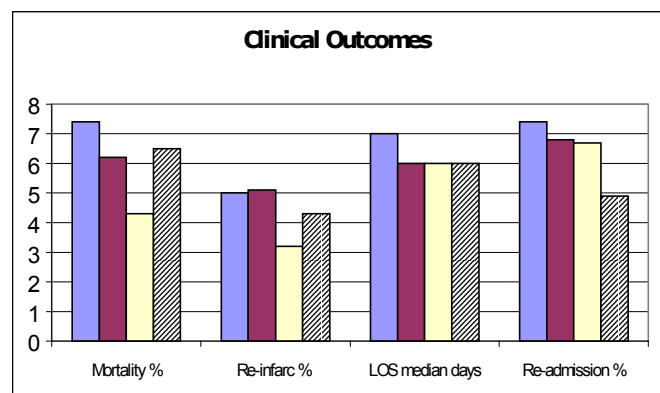
**ED-ECG:** % receiving ECG <10 mins of ED arrival  
**Lysis:** % eligible pts receiving lysis  
**Lysis in 60"/30":** % lysed pts receiving lysis <60"/30" of ED arrival



**Lipid check:** % with recorded lipid measurement  
**N-I risk strat:** % eligible pts undergoing non-invasive risk stratifi<sup>n</sup> (stress ECG, echo, thallium)  
**Coro angio:** % eligible pts undergoing coronary angiography  
**Phase I/II CR:** % pts undergoing (Phase I) or referred for (Phase II) cardiac rehabilitation



**B-B:** % eligible pts discharged on β-blockers  
**A-A:** % eligible pts discharged on anti-platelet agents  
**ACE-I:** % eligible pts discharged on ACE inhibitors  
**LLA:** % eligible pts discharged on lipid-lowering agents  
**Heparin:** % eligible pts receiving 48 hours heparin



**Mortality:** % in-hospital deaths  
**Re-infarct:** % in-hospital re-infarctions  
**LOS:** median length of hospital stay (days)  
**Re-admissions:** % readmissions at 30 days

**\*Detailed indicator definitions, patient eligibility criteria, and raw data tabulated overleaf**

## Acute Coronary Syndrome- Newsletter #3- All Hospitals November 2002

Initial Presentation	Baseline	Measurement 1	Measurement 2	Measurement 3
<b>ED-ECG:</b> All patients presenting directly to ED with ACS reason for presentation who receive an ECG in < 10 minutes.	145/238 <b>61%</b>	125/232 <b>54%</b>	136/223 <b>61%</b>	140/199 <b>70%</b>
<b>Lysis administration:</b> Patients presenting directly to ED with ACS as reason for presentation with chest pain>30mins AND ST segment elevation OR new left bundle branch block <b>Exclusions:</b> Primary angioplasty, and have no contra-indications to lysis	49/49 <b>100%</b>	24/24 <b>100%</b>	41/42 <b>98%</b>	31/31 <b>100%</b>
<b>Time to lysis:</b> <i>Lysis commenced within 60" ED presentation</i>	35/49 <b>71%</b>	21/24 <b>88%</b>	28/42 <b>67%</b>	21/31 <b>68%</b>
<i>Lysis commenced within 30" ED presentation</i>	17/49 <b>35%</b>	9/24 <b>38%</b>	12/42 <b>29%</b>	13/31 <b>42%</b>
<b>Non Pharmacological Management</b>				
<b>Lipid check:</b> Stated measurement of serum lipids during index admission	311/428 <b>73%</b>	330/429 <b>77%</b>	317/377 <b>84%</b>	271/360 <b>75%</b>
<b>Non-invasive (N-I) risk stratification:</b> Tests for assessing inducible ischaemia* performed during index admission or within 30 days of discharge *stress ECG, stress echo or stress thallium <b>Exclusions:</b> Primary or rescue angioplasty; coronary angiography – performed or scheduled; age >75 yrs; serum Cr >0.2 mmol/l, Severe COPD, CVA with Hemiplegia/deficit, Advanced Liver Disease, Advanced Cancer, Hostel Resident, Severe Aortic Stenosis	17/57 <b>30%</b>	26/74 <b>35%</b>	19/61 <b>31%</b>	12/39 <b>31%</b>
<b>Coronary angiography:</b> Patients admitted with either post infarction angina, re-infarction, inducible ischemia <b>Exclusions:</b> Primary or rescue angioplasty, age >=75 years, Cr ≥0.2mmol/l, major comorbidity, smoker	41/45 <b>91%</b>	36/44 <b>82%</b>	28/34 <b>82%</b>	36/37 <b>97%</b>
<b>Cardiac rehabilitation (Phase I– in-hospital)</b> Patients discharged alive and not transferred	168/351 <b>48%</b>	161/365 <b>44%</b>	156/330 <b>47%</b>	180/304 <b>59%</b>
<b>Cardiac rehabilitation (Phase II– post-hospital):</b> Patients discharged alive and not transferred who are referred to rehabilitation	28/351 <b>8%</b>	18/365 <b>5%</b>	53/330 <b>16%</b>	53/304 <b>17%</b>
<b>Pharmacological Interventions at discharge (patient discharged alive and not transferred)</b>				
<b>β-blocker (B-B):</b> Patient with pulse rate at discharge ≥60 bpm and systolic BP at discharge ≥90 mmHg. <b>Exclusions:</b> Asthma/severe chronic obstructive pulmonary disease (COPD); cardiogenic shock on presentation; adverse drug reaction	212/251 <b>84%</b>	192/239 <b>80%</b>	186/226 <b>82%</b>	162/192 <b>84%</b>
<b>Antiplatelet agents</b> <b>Exclusions:</b> Active peptic ulcer; concurrent warfarin, active GI Bleeding or Major Bleeding	301/318 <b>95%</b>	293/314 <b>93%</b>	288/293 <b>98%</b>	263/275 <b>96%</b>
<b>ACE inhibitors (ACE-I)</b> Patients with past history of CCF or in-hospital onset of heart failure; LVEF >0 and ≤40% or 'LV systolic dysfunction' on echo. <b>Exclusions:</b> K <sup>+</sup> >5.5mmol/l; Cr >0.3mmol/l; systolic BP <90mmHg; adverse drug reaction, severe aortic stenosis.	105/143 <b>73%</b>	95/120 <b>79%</b>	82/105 <b>78%</b>	98/120 <b>82%</b>
<b>Lipid-lowering agents (LLA)</b> Patients with random serum cholesterol >4.0 mmol/l. <b>Exclusions:</b> Adverse drug reaction	165/202 <b>82%</b>	173/213 <b>81%</b>	165/191 <b>86%</b>	170/189 <b>90%</b>
<b>Heparin:</b> Patients receiving intravenous or subcutaneous heparin for ≥48 hours. <b>Exclusions:</b> Active peptic ulcer, concurrent warfarin, active GI bleeding, major bleeding, tissue plasminogen activator (TPA)	N/A <b>N/A</b>	61/87 <b>70%</b>	87/119 <b>73%</b>	78/116 <b>67%</b>
<b>Clinical Outcomes</b>				
<b>In-hospital mortality.</b> <i>Patients not transferred</i>	28/379 <b>7.4%</b>	24/389 <b>6.2%</b>	15/345 <b>4.3%</b>	21/325 <b>6.5%</b>
<b>Re-admission.</b> <i>Patients not transferred.</i> 30 day same cause re-admission rate	26/351 <b>7.4%</b>	25/365 <b>6.8%</b>	22/330 <b>6.7%</b>	15/304 <b>4.9%</b>
<b>Re-infarction.</b> <i>Patients not transferred.</i> Documented re-infarction	19/379 <b>5.0%</b>	20/389 <b>5.1%</b>	11/345 <b>3.2%</b>	14/324 <b>4.3%</b>
<b>Length of stay.</b> <i>Median days.</i> Patients discharged alive and not transferred.	<b>7</b>	<b>6</b>	<b>6</b>	<b>6</b>