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## QUALITY OF CARE AND OUTCOMES ASSESSMENT

**ABCS OF DOOR TO BALLOON (D2B) TIME: A NOVEL PROCESS OF CARE MODEL FOR IMPROVED OUTCOMES**

ACC Poster Contributions

Ernest N. Morial Convention Center, Hall F

Monday, April 04, 2011, 3:30 p.m.-4:45 p.m.

Session Title: Innovative Models for Practice, Education or Research

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**Background:** Prompt and complete myocardial reperfusion or “door-to-balloon” (D2B) time, is increasingly used as a quality care metric for ST-segment elevation myocardial infarction (STEMI) patients treated with percutaneous coronary intervention (PCI). Delayed D2B times are consistently linked to poor outcomes and increased mortality in STEMI patients treated with primary PCI. Healthcare delay has been implicated as one area where improvement in D2B can decrease mortality.

**Methods:** A comprehensive program was initiated to improve D2B performance in patients presenting with STEMI, streamline our approach to STEMI care, and reduce D2B times. The D2B process was split into 3 discrete, sequential care segments: D2A (Door to Activation), A2C (Activation to Cath lab), and C2B (Cath lab to Balloon inflation). Each care segment for each STEMI patient was evaluated on a regular basis to determine where delays occurred so they could be corrected. A STEMI nurse was employed to effectively mobilize the STEMI team and transfer patients through each care segment for revascularization.

**Results:** Overall D2B times have been reduced from 85.5 minutes in 2005 to 66 minutes in 2009, and the proportion of STEMI patients with D2B times <90 minutes has increased from 54% in 2005 to 85% in 2009.

**Conclusion:** Reducing D2B times is manageable when divided into care segments, which highlight individual and departmental responsibilities and allow for analysis of data where delays or lengthy response for treatment time intervals exist.

Time for D2B care components

	2005	2006	2007	2008	2009	P-Value
D2B (min)	85.5 (70.5-99.0) (n=24)	87 (66.0-106.0) (n=43)	70.0 (63.0-84.0) (n=34)	64.0 (52.0-76.0) (n=43)	66.0 (56.0-77.0) (n=111)	<0.001
<90 min (%)	54.2 (n=24)	53.5 (n=43)	85.3 (n=34)	83.7 (n=43)	84.7 (n=111)	<0.001
D2A (min)	16.0 (10.5-24.5) (n=28)	11.0 (8.0-26.0) (n=46)	12.0 (7.0-17.0) (n=43)	10.0 (5.0-25.0) (n=53)	6.0 (4.0-12.0) (n=111)	0.30
A2C (min)	47.5 (28.0-55.5) (n=28)	43.0 (31.0-51.0) (n=45)	39.0 (27.0-46.0) (n=43)	31.0 (22.0-41.0) (n=53)	39.0 (25.0-48.0) (n=111)	<0.001
C2B (min)	27.0 (18.5-34.0) (n=24)	24.5 (20.0-29.0) (n=42)	20.5 (14.0-27.0) (n=34)	20.0 (15.0-24.0) (n=43)	17.0 (12.0-24.0) (n=111)	0.001

Data are median (IQR)

D2B = door-to-balloon time; D2A = door-to-activation time; A2C = activation-to-catheterization time; C2B = catheterization-to-balloon inflation