Maryland Hospitals' Quality-Based Reimbursement Project - Monitoring Measures

Prepared: February 9, 2007

Two Questions to keep in Mind about Quality Measures

- Initially, performance with be based on the selected set of 20 HQA measures.
- Hospitals already have experience with these measures and have adapted to collecting them.
- The set of measures will be monitored periodically - some measures may be modified, others may be suspended and new ones may be introduced.
- Two questions to keep in mind:
  - Under what conditions should new measures be added to the program?
  - Under what conditions should existing measures be suspended from the program?

Criteria of Measures -

Measures used in Maryland performance program should be:

- **scientifically important**
- **evidence based**
- **not overly burdensome**
- **potential for improvement**
- **no unintended consequences**

When to add a new Measure

- may expand to consider new conditions and new sets of hospital patients
- may also involve patient safety, satisfaction, outcomes, or efficiency
- empirically tested
- linkable to improved outcomes
- acceptable effort to collect
- no unintended consequences

When to suspend a Measure

- difficulties in interpreting or carrying out the process defined (e.g., SIP-2),
- measure 'tops out' – no longer has potential for improvability,
- measure shows too notable differences across hospital categories, leading to a possibly biased distribution of rewards.
  - peer groups may allow use of measures that would otherwise be unsuitable.

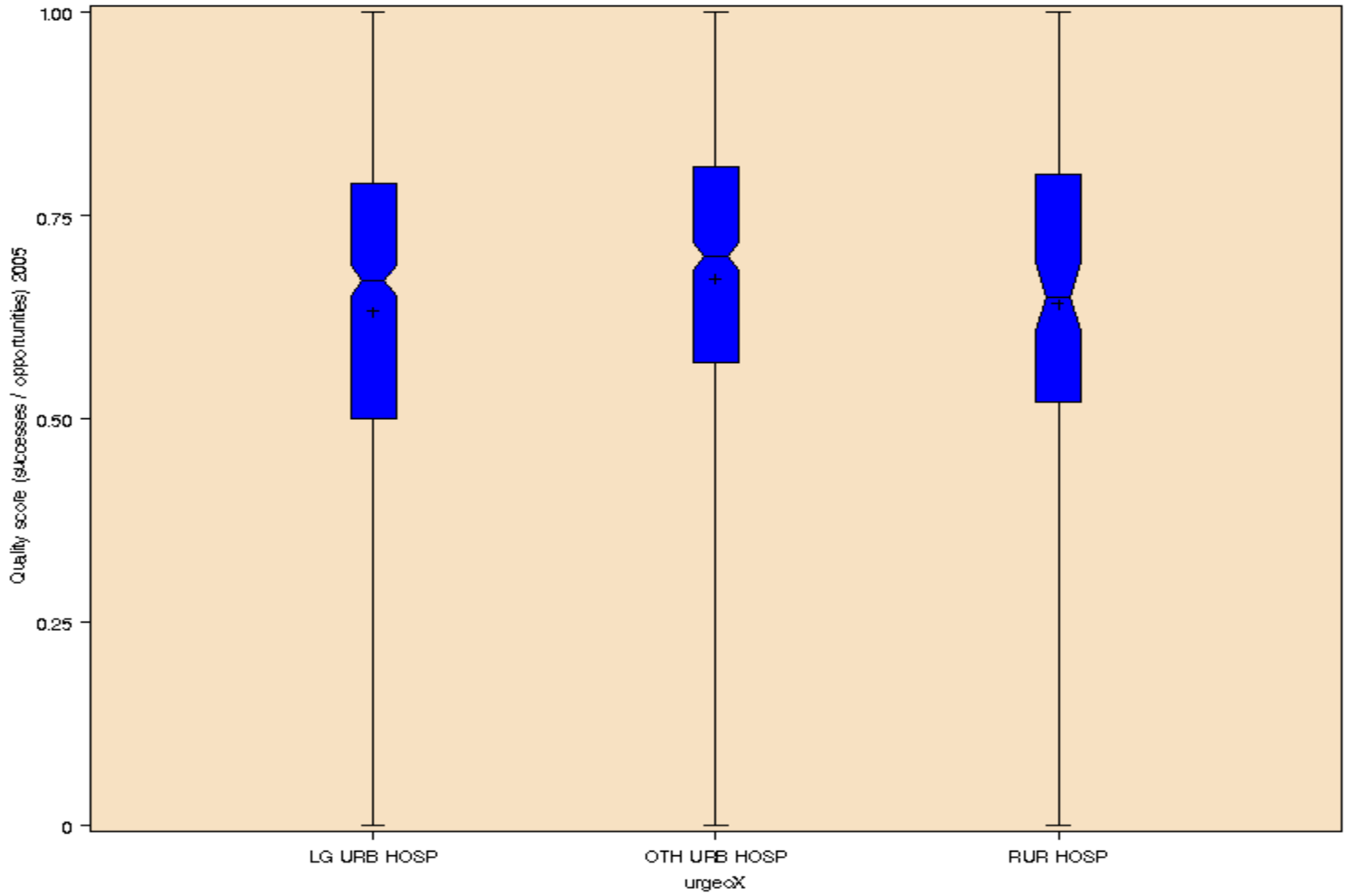
Monitoring measures in the 2005 Hospital Compare Dataset

- **Next slide summarizes quality measure distributions among non-Critical Access hospitals in 2005 Hospital Compare data,**
- **Potential for improvability can be quantified by coefficient of variation (CV), as provided in 3 right-most columns, first overall - then, as an example, by urban/rural status.**
- **A higher coefficient of variation indicates a higher potential for improvability. Sometimes CV is higher within a category – e.g. rural.**

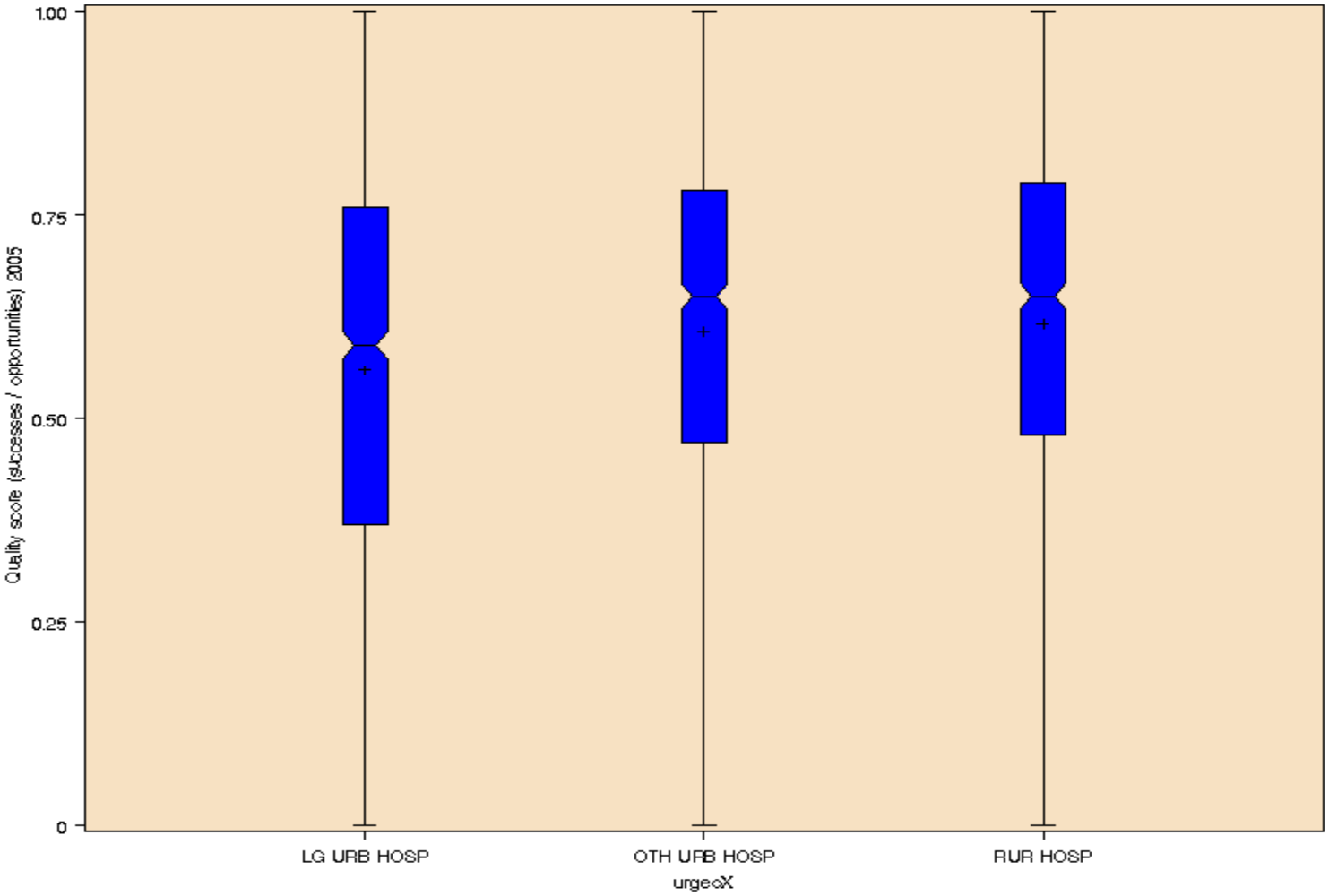
Quality Measures for non-Critical Access Hospitals - Hospital Compare (2005)

Condition	Measure Name	N	n	5th pcntl	25th pcntl	Median	75th pcntl	95th pcntl	Coef. Of Variation	Rural Coef. Of Var.	Urban Coef Of Var.
Heart Attack	Patients Given ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction (LVSD)	3518	2962	0.44	0.73	0.85	0.97	1.00	26.04	38.03	21.03
	Patients Given Adult Smoking Cessation Advice/Counseling	3518	2594	0.05	0.79	0.94	1.00	1.00	30.26	45.17	24.76
	Patients Given Aspirin at Arrival	3518	3250	0.75	0.91	0.96	0.98	1.00	11.81	16.75	8.85
	Patients Given Aspirin at Discharge	3518	3200	0.61	0.87	0.95	0.99	1.00	16.69	23.53	12.95
	Patients Given Beta Blocker at Arrival	3518	3239	0.57	0.84	0.92	0.97	1.00	18.00	24.91	14.01
	Patients Given Beta Blocker at Discharge	3518	3204	0.58	0.86	0.94	0.98	1.00	17.60	23.61	14.40
	Patients Given PCI Within 120 Minutes Of Arrival	3518	1297	0.25	0.55	0.68	0.80	0.93	32.07	37.43	31.57
	Patients Given Thrombolytic Medication Within 30 Minutes Of Arrival	3518	1580	0.00	0.00	0.25	0.50	1.00	104.86	105.81	104.37
Heart Failure	Patients Given ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction (LVSD)	3518	3280	0.57	0.75	0.83	0.91	1.00	17.77	22.58	15.44
	Patients Given Adult Smoking Cessation Advice/Counseling	3518	2935	0.36	0.69	0.86	0.96	1.00	26.71	31.84	24.44
	Patients Given Assessment of Left Ventricular Function (LVF)	3518	3333	0.49	0.81	0.90	0.96	0.99	20.06	28.68	14.18
	Patients Given Discharge Instructions	3518	2952	0.09	0.38	0.59	0.76	0.95	45.74	50.49	43.86
Pneumonia	Patients Assessed and Given Pneumococcal Vaccination	3518	3342	0.12	0.44	0.63	0.78	0.93	40.97	38.10	42.12
	Patients Given Adult Smoking Cessation Advice/Counseling	3518	2950	0.33	0.64	0.82	0.93	1.00	27.98	31.35	26.53
	Patients Given Initial Antibiotic(s) within 4 Hours After Arrival	3518	3345	0.53	0.69	0.77	0.85	0.93	16.69	13.30	17.51
	Patients Given Oxygenation Assessment	3518	3356	0.95	0.99	1.00	1.00	1.00	3.16	3.77	2.85
	Patients Given the Most Appropriate Initial Antibiotic(s)	3518	2962	0.59	0.75	0.81	0.86	0.92	13.86	14.95	13.33
	Patients Having a Blood Culture Performed Prior to First Antibiotic Received in Hospital	3518	2972	0.66	0.78	0.84	0.89	0.94	11.41	11.16	11.51
SIP	Surgery Patients Who Received Preventative Antibiotic(s) One Hour Before Incision	3518	1378	0.40	0.69	0.82	0.89	0.96	22.62	26.82	20.82
	Surgery Patients Whose Preventative Antibiotic(s) are Stopped Within 24 hours After Surgery	3518	1368	0.28	0.54	0.70	0.84	0.96	30.68	31.17	30.41

2005 Hospital Compare Quality Measure for AMI: PCI within 120 minutes of Arrival – by Urban/Rural Status



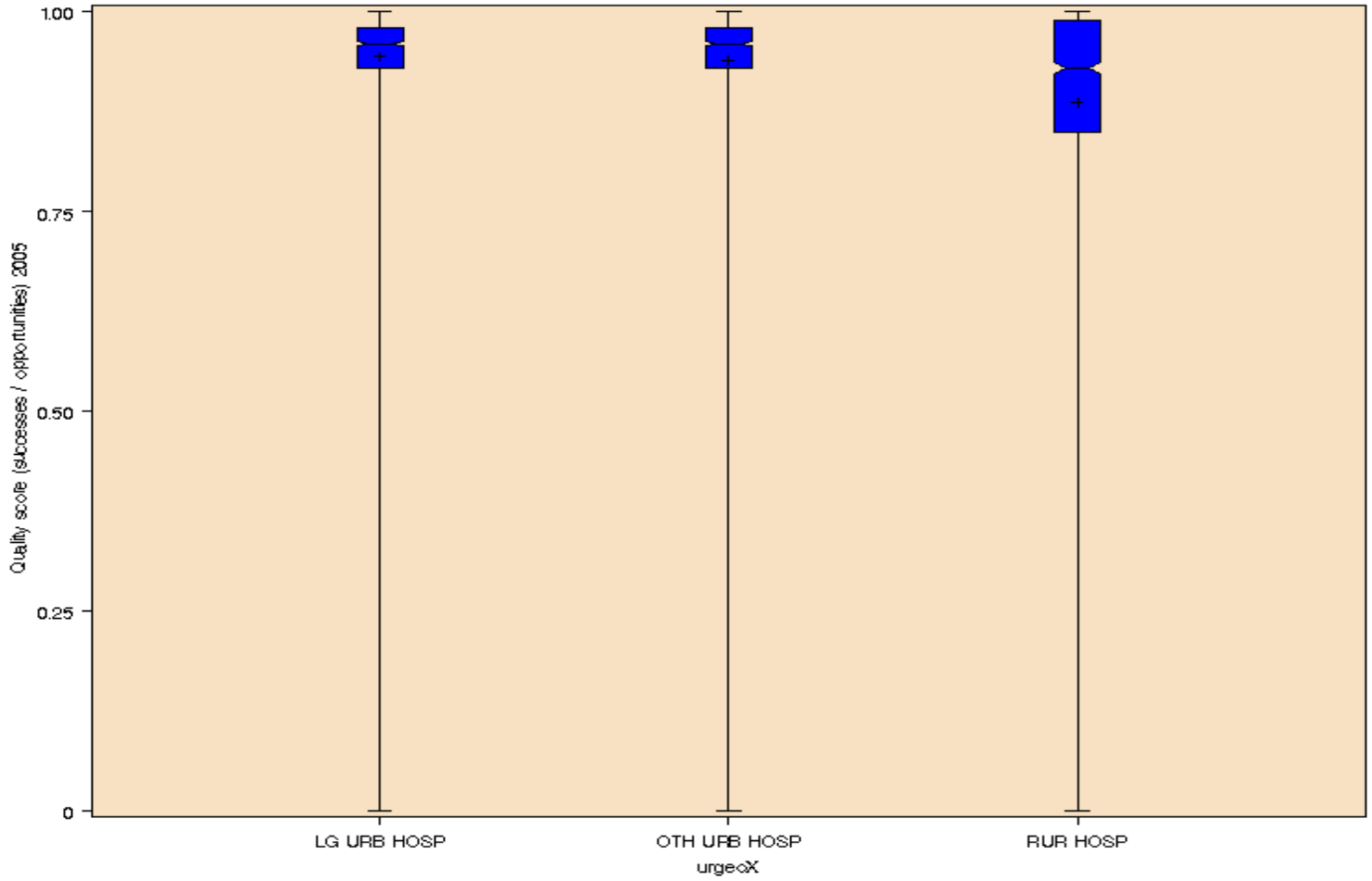
2005 Hospital Compare Quality Measure for PN: Patient Assessed and Given Pneumococcal Vaccination – by Urban/Rural Status



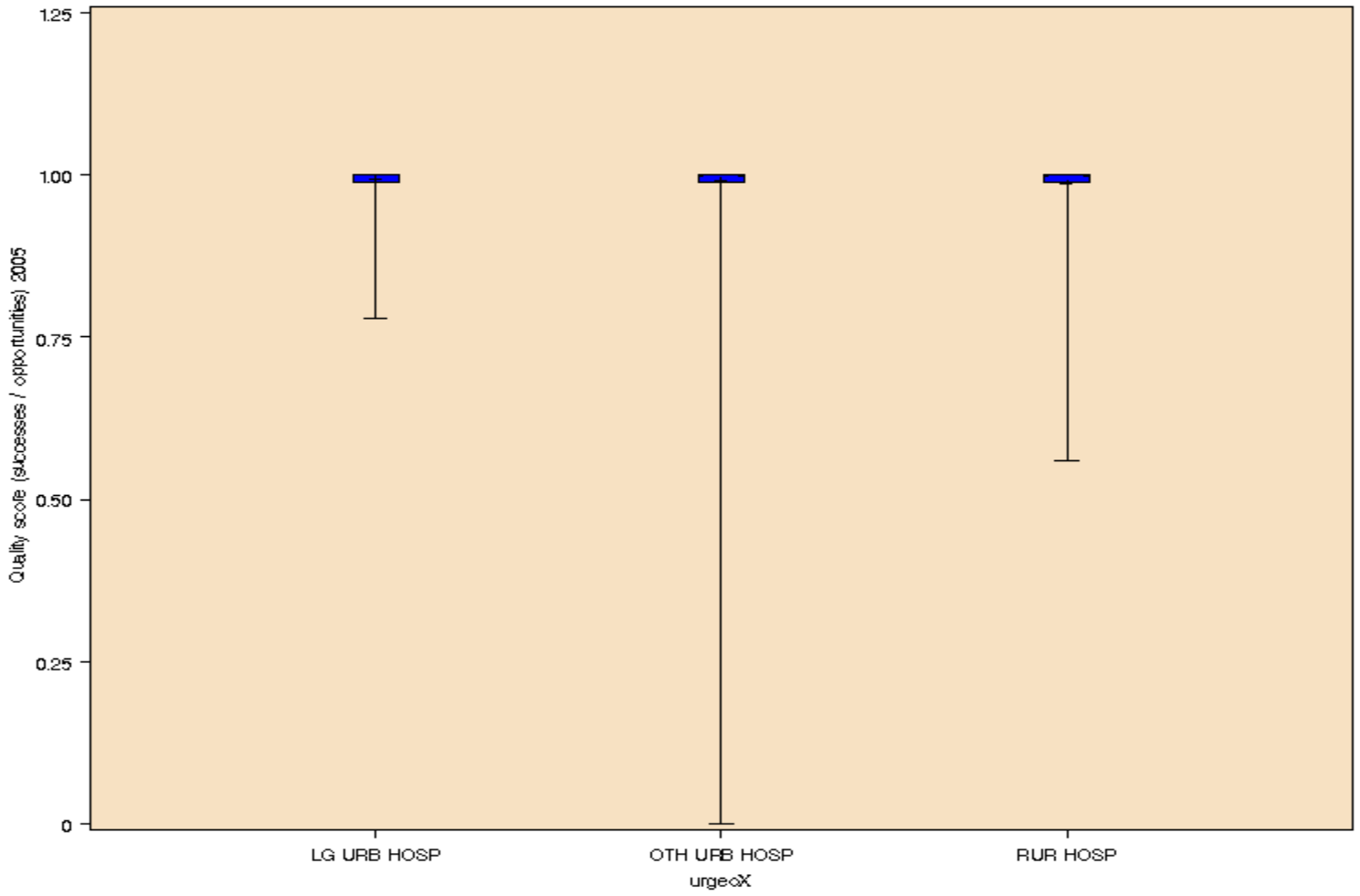
Potential for Improvement

- **The whisker-box plot for the two measures with high CV's, PCI within 120 minutes and pneumococcal vaccination, show sizeable variation and indicate useful measures.**
- **The whisker box plots for the two quality measures with low CV's show little variation.**
  - **'Aspirin at discharge' is probably near the end of usefulness. Perhaps some improvement is possible among rural hospitals.**
  - **'Oxygen assessment' is even closer to its end of usefulness – no further improvement possible.**

2005 Hospital Compare Quality Measure for AMI: Aspirin at Discharge – by Urban/Rural Status



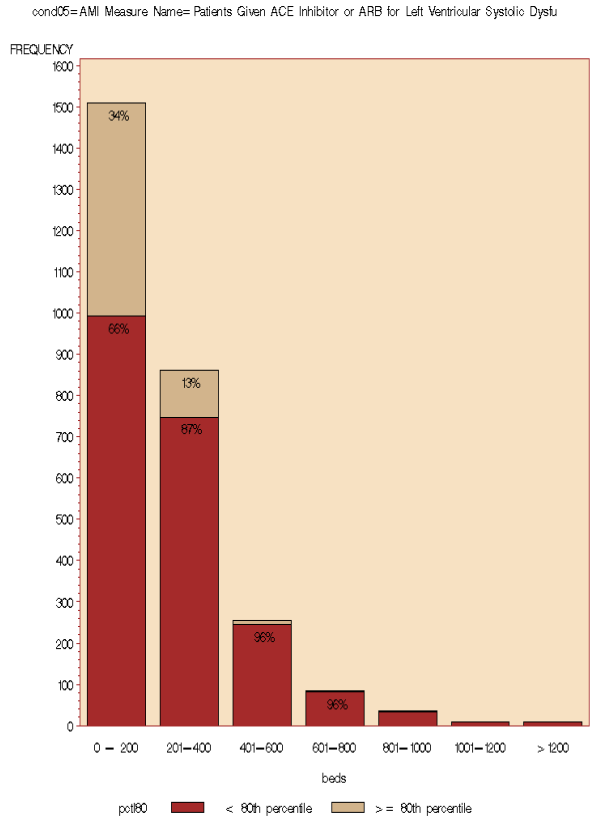
2005 Hospital Compare Quality Measure for PN: Oxygen Assessment – by Urban/Rural Status

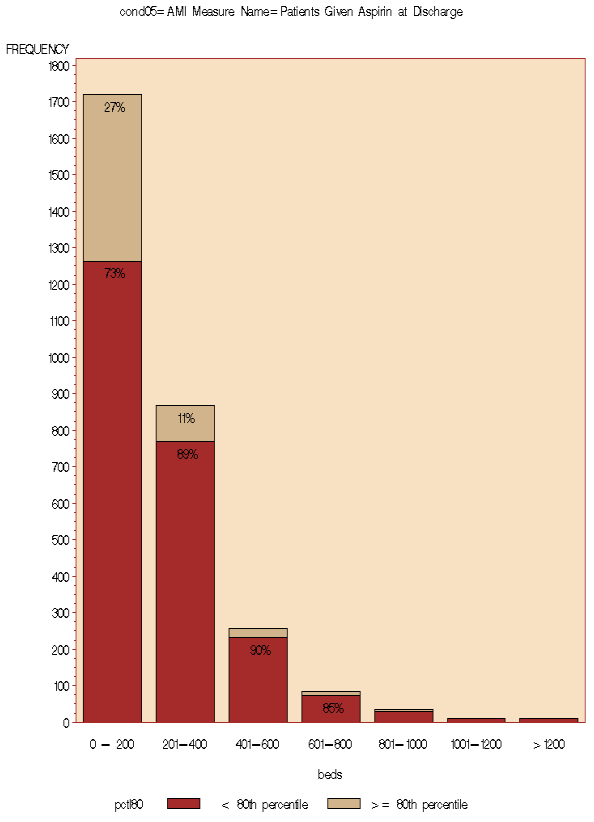


Distribution of Rewards

- The following are 'by category' bar charts of hospitals above some specific performance threshold (in this case the 80th percentile, as with the Premier demonstration).
- Case of all upper bars approximately 20% represents an even distribution of rewards across the categories.
- Upper bars that vary significantly (4% in one group, 34% in another) indicate uneven distribution of rewards.

2005 Hospital Compare AMI Quality Measures: Proportion above 80th Percentile- by Number of Beds





2005 Hospital Compare HF Quality Measures: Proportion above 80th Percentile- by Number of Beds