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Leapfrog Hospital Rewards Program™ Selecting Clinical Areas and Performance Measures

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LFHRP Pre-Conference Sessions

- Clinical areas & performance measures (9:00 am)
- Data collection & scoring methodology (9:30 am)
- Program Implementation: Data and Program Licensing (10:15 am)
- Rewards Principles and Efficiency Process (10:30 am)
- LFHRP Implementation (11:00-Noon)
  - Case Study I: Memphis Business Group on Health
  - Case Study II: Capital District (General Electric Verizon and Hannaford Bros.)

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Selecting Clinical Areas and Performance Measures

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Selecting Clinical Areas: Criteria

- Relevance to commercial population
- Opportunity for quality improvement
- Potential dollar savings as quality improves
- Availability of nationally endorsed and collected performance measures

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Actuarial Analysis

Top 10 Clinical Focus Groups Ranked by Potential Opportunity for Savings	Total Potential Opportunity [1]	Total Payments [2]	NQF-approved measures?
CORONARY ARTERY BYPASS GRAFT	**$62,666,869**	**$691,772,784**	**Yes**
PERCUTANEOUS CORONARY INTERVENTION	**$58,157,873**	**$717,954,275**	**Yes**
ACUTE MYOCARDIAL INFARCTION	**$53,616,015**	**$607,227,166**	**Yes**
COLON SURGERY	$38,389,673	$396,004,245	
HEART FAILURE	$34,983,226	$224,919,006	
COMMUNITY ACQUIRED PNEUMONIA	**$29,536,322**	**$355,686,956**	**Yes**
OTHER CARDIAC SURGERY	$25,767,191	$211,578,764	
PREGNANCY AND NEWBORNS	**$23,368,721**	**$1,781,273,763**	**Yes**
VASCULAR SURGERY	$16,412,194	$133,287,531	
SPINE - OTHER	$12,925,843	$422,595,301	

[1] Total Payments x Readmission Rate

[2] Premier Commercial Payment data (10/2001 - 9/2002)

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Measure selection criteria

- Capacity for rapid adoption
- Nationally endorsed
- Leverages actuarial/clinical research
  - Actuarial impact for commercial market sufficient to exceed cost of implementation
  - Consistent with clinical research findings
- Available data collection mechanism
- Consistent with current Leapfrog patient safety measures
- Meaningful to purchasers

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Quality measures consistent with current Leapfrog hospital measures

- Leapfrog Hospital Quality and Safety Survey data must contribute to the program
- When available, use Leapfrog process measures versus JCAHO measures
  - Some LF measures had a higher standard; and,
  - Ongoing process of alignment between Leapfrog measures and the NQF endorsed measure sets, CMS and JCAHO measures

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CABG measures by source

Metric	*Source*
Prophylactic antibiotic received within 1 hour prior to surgical incision	JCAHO (3Q04 SIP)
Prophylactic antibiotics discontinued within 24 hours after surgery end time	JCAHO (3Q04 SIP)
CABG mortality	Leapfrog Survey
CABG volume	Leapfrog Survey
Prophylactic antibiotic selection for surgical patients	JCAHO (3Q04)
Computer Physician Order Entry	Leapfrog Survey
ICU Physician Staffing (IPS)	Leapfrog Survey
Leapfrog Safety Index (NQF Safe Practices)	Leapfrog Survey
CABG using internal mammary artery	Leapfrog Survey
Use of beta-blockers within 24 hours after surgery	Leapfrog Survey
Beta-blockers prescribed at discharge	Leapfrog Survey
Lipid lowering therapy at discharge	Leapfrog Survey
Aspirin prescribed at discharge	Leapfrog Survey
Early extubation for certain populations	Leapfrog Survey

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AMI measures by source

Metric	Source
Aspirin at arrival for AMI	**JCAHO**
Aspirin prescribed at discharge for AMI	**JCAHO**
Beta Blocker at arrival for AMI	**JCAHO**
Beta Blocker prescribed at discharge for AMI	**JCAHO**
AMI Inpatient Mortality	**JCAHO**
Angiotensin converting enzyme inhibitor (ACEI) for left ventricular systolic dysfunction	**JCAHO**
Time to Thombolysis	**JCAHO**
First balloon inflation within 90 minutes of hospital arrival	**Leapfrog Survey**
Smoking Cessation Counseling	**JCAHO**
Computerized Physician Order Entry	**Leapfrog Survey**
ICU Physician Staffing (IPS)	**Leapfrog Survey**
Leapfrog Safety Index (NQF Safe Practices)	**Leapfrog Survey**

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PCI measures by source

Metric	*Source*
PCI mortality	**Leapfrog Survey**
PCI volume	**Leapfrog Survey**
Aspirin for PCI patients	**Leapfrog Survey**
First balloon inflation within 90 minutes of hospital arrival	**Leapfrog Survey**
Computer Physician Order Entry	**Leapfrog Survey**
ICU Physician Staffing (IPS)	**Leapfrog Survey**
Leapfrog Safety Index (NQF Safe Practices)	**Leapfrog Survey**

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Pneumonia measures by source

Metric	*Source*
Oxygenation assessment	**JCAHO**
Antibiotic timing	**JCAHO**
Blood culture collected prior to first antibiotic administration	**JCAHO**
Influenza screen or vaccination	**JCAHO (3Q04)**
Pneumonia screen or pneumococcal vaccination	**JCAHO**
Adult smoking cessation advice/counseling	**JCAHO**
Computer Physician Order Entry	**Leapfrog Survey**
ICU Physician Staffing (IPS)	**Leapfrog Survey**
Leapfrog Safety Index (NQF Safe Practices)	**Leapfrog Survey**

Deliveries/Complicated Newborns measures by source

Metric	*Source*
Third or fourth degree laceration	**JCAHO**
Neonatal mortality	**JCAHO**
Antenatal steroids for certain high-risk deliveries	**Leapfrog Survey**
NICU daily census	**Leapfrog Survey**
Computer Physician Order Entry	**Leapfrog Survey**
Leapfrog Safety Index (NQF Safe Practices)	**Leapfrog Survey**

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Effectiveness Measure Assignment and Weighting within Condition

- First stage of weighting*—outcomes within a condition assigned as follows:

  46% for mortality
  29% for serious morbidity
  25% for complications

- Second stage—measures within an outcome weighted according to impact (when evidence available)

*Pauly, M.V., Brailer, D.J., Kroch, E., and O. Even-Shoshan. "Measuring Hospital Outcomes from a Buyer's Perspective." *American Journal of Medical Quality*, Vol. 11(8):112-122, Fall 1996.

Efficiency Measure

- Average severity-adjusted LOS, by clinical area
  - Average actual LOS / case
    - Commercial health plan enrollees only
    - Latest 6 months experience, updated semi-annually
    - Specify different bed-types (e.g. ICU)
  - Adjustments applied by aggregator:
    - Severity based on risk-adjustment data from vendor
    - Re-admission
      - » For each clinical area: readmission rate within 14 days to same hospital,
- Efficiency measure for this program meets guidelines established by "Measuring Provider Longitudinal Efficiency" white paper
- Program Licensees will be required to marry this LFHRP resource-based measure of efficiency with their own financial-based measure of efficiency for their entire book of business

Efficiency and Quality Statistics

- Hospitals will be relatively ranked within condition based on their final weighted score for that condition
- The “bottom performer” in the top 25% on quality and efficiency will be used to determine placement in each of the remaining three cohorts.
- Hospitals in the top cohort are in the top quartile on both quality and efficiency (results in < than 25%)
- Hospitals in the bottom cohort will have efficiency and quality scores that are significantly worse by p=.05 than the bottom performer in the “top performing” cohort

Statistical Method

- Suggested by Tom Cook, Northwestern University
- Uses the bottom performer in the relatively ranked top quartile to serve as the benchmark for the remaining three cohorts
- Provides greater variation than is found in typical hospital public reporting; assures that cost savings will result in order for purchasers to recoup costs
- Assures that payments are made to top performers
  - Method results in 5% to 8% of hospitals in Top Performance cohort (Cohort 1) (see next slide)
    - **average payments 25% to 35% lower than average**
  - 25% to 30% of hospitals fall into **Cohort 4**
    - **average payments 20% to 25% above average**

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Model savings across conditions

	AMI				CABG				CAP			
	# hospitals	% of Total Hospitals	Avg Payment	% of Grand Mean	# hospitals	% of Total Hospitals	Avg Payment	% of Grand Mean	# hospitals	% of Total Hospitals	Avg Payment	% of Grand Mean
Cohort 1	9	8.2%	$13,631	65%	8	7.5%	$24,685	71%	9	4.4%	$4,851	76%
Cohort 2	56	50.9%	$18,699	90%	55	51.9%	$31,626	91%	115	56.1%	$5,809	90%
Cohort 3	14	12.7%	$23,372	112%	10	9.4%	$39,145	113%	31	15.1%	$6,723	105%
Cohort 4	31	28.2%	$25,700	123%	33	31.1%	$41,025	118%	50	24.4%	$7,918	123%
Grand Mean	**110**	**100.0%**	**$20,852**	**100%**	**106**	**100.0%**	**$34,737**	**100%**	**205**	**100.0%**	**$6,420**	**100%**

Based on Premier data for AMI, CABG and CAP:

- 5% to 8% of hospitals fall into Top Performance cohort (Cohort 1)
  - **average payments 25% to 35% lower than average**
- 25% to 30% of hospitals fall into **Cohort 4**
  - Efficiency AND Effectiveness scores statistically worse than Cohort 1 bottom performer at p = .05
  - **average payments 20% to 25% above average**

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Summary

- Cost savings related to both conditions selected and statistical approach
- Measures selected and weighted based on evidence of reductions in mortality and morbidity
- Effectiveness and Efficiency measured and contribute equally to performance incentive
- Methods vetted with many stakeholders

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