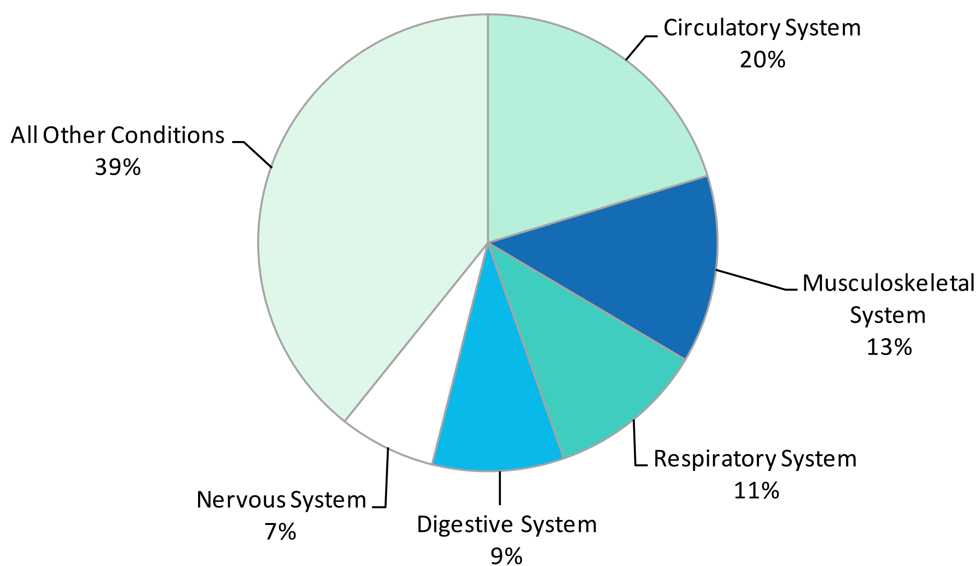
EXHIBIT 4.5 Cost by Diagnostic Category

Distribution of Aggregate Costs by Diagnostic Category,* 2009



Total Aggregate Costs: $361.5 Billion

* Based on principal diagnosis defined by Major Diagnostic Category (MDC).
Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2009.

- Circulatory conditions accounted for the largest share of hospital costs (20 percent) in 2009.
- Additional diagnostic categories responsible for large portions of hospital costs included:
  - Musculoskeletal conditions (13 percent),
  - Respiratory conditions (11 percent),
  - Digestive conditions (9 percent), and
  - Nervous system conditions (7 percent).

Aggregate Costs and Percent Distribution for Each Payer by Diagnostic Category,† 2009

MAJOR DIAGNOSTIC CATEGORY	MEDICARE	MEDICAID	PRIVATE INSURANCE	UNINSURED*	OTHER**
	COSTS IN BILLIONS (PERCENT)				
Total cost	$165.7 (100.0%)	$55.2 (100.0%)	$109.8 (100.0%)	$17.8 (100.0%)	$12.3 (100.0%)
Circulatory system	$43.6 (26.3%)	$6.2 (11.2%)	$18.5 (16.8%)	$3.2 (17.8%)	$1.8 (14.7%)
Musculoskeletal system	$23.3 (14.1%)	$3.2 (5.7%)	$17.1 (15.6%)	$1.3 (7.4%)	$2.8 (22.7%)
Respiratory system	$23.0 (13.9%)	$5.7 (10.3%)	$8.6 (7.9%)	$1.7 (9.5%)	$1.0 (8.3%)
Digestive system	$16.2 (9.8%)	$3.8 (6.9%)	$10.7 (9.8%)	$1.9 (10.4%)	$1.0 (7.8%)
Nervous system	$11.4 (6.9%)	$3.5 (6.4%)	$7.4 (6.7%)	$1.5 (8.3%)	$0.9 (7.2%)
All other conditions	$48.2 (29.1%)	$32.9 (59.6%)	$47.4 (43.2%)	$8.3 (46.5%)	$4.8 (39.3%)

† Based on principal diagnosis defined by Major Diagnostic Category (MDC).

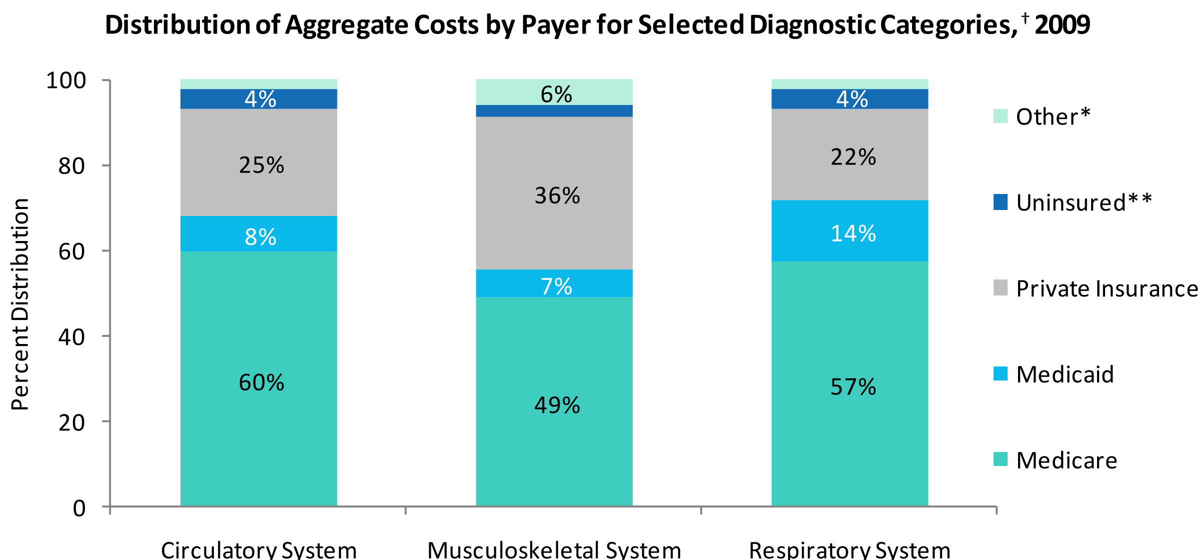
* Includes stays classified as self-pay or no charge.

** Includes other payers such as Workers' Compensation, TRICARE, CHAMPUS, CHAMPVA, Title V, and other government programs.

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2009.

Costs by diagnostic category varied by payer, as did the distribution of costs.

- Stays for circulatory conditions accounted for the largest share of hospital costs for Medicare (26.3 percent), private insurance (16.8 percent), and the uninsured (17.8 percent).
- Stays for musculoskeletal conditions accounted for larger shares of hospital costs for Medicare (14.1 percent) and private insurance (15.6 percent) than for Medicaid (5.7 percent) and the uninsured (7.4 percent).



† Based on principal diagnosis defined by Major Diagnostic Category (MDC).
* Includes other payers such as Workers' Compensation, TRICARE, CHAMPUS, CHAMPVA, Title V, and other government programs.
** Includes stays classified as self-pay or no charge.
Note: Each diagnostic category excludes a small percentage of stays (0.2 percent) with missing payer that have a small percentage of missing costs (0.2 percent).
Note: Bar segments representing 3 percent or less have not been labeled.
Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2009.

- The majority of costs for circulatory conditions (60 percent) were billed to Medicare. One-quarter of circulatory system costs (25 percent) were covered by private insurance. Medicaid was billed for 8 percent of the costs and 4 percent were for the uninsured.
- About half (49 percent) of the costs for musculoskeletal conditions were for stays with Medicare as primary expected payer. Stays covered by private insurance accounted for 36 percent of these costs while just 7 percent of the costs were for stays covered by Medicaid.
- The majority of costs for respiratory conditions (57 percent) were billed to Medicare. Private insurance and Medicaid were respectively billed for 22 percent and 14 percent of the aggregate costs.