

The Social and Economic Contribution of LifeBridge Health to the Maryland and Baltimore Regional Economy

Richard Clinch
DIRECTOR, THE JACOB FRANCE INSTITUTE

Executive Summary

LifeBridge Health is not-for-profit, regional health care system serving the greater Baltimore region consisting of four hospitals, Sinai Hospital of Baltimore, Northwest Hospital, Carroll Hospital, Levindale Hebrew Geriatric Center and Hospital, as well as numerous subsidiaries and affiliated units, including LifeBridge Health & Fitness and the LifeBridge Medical Care Centers in Eldersburg, Mays Chapel and Reisterstown. LifeBridge Health's mission is to maintain and improve the health and well-being of all people in greater Baltimore, with a special emphasis on northwest Baltimore City and Baltimore and Carroll counties. LifeBridge Health is both an important provider of health care services and a major source of economic activity. With FY2015 revenues of \$1.2 billion and more than 10,000 employees, LifeBridge Health system is an important source of economic activity in the State, in the region and in the communities it serves. Most importantly, with 39,106 in-patient, 1,270 subacute, and 70 nursing home admissions in FY2015, LifeBridge plays an important role in the region's healthcare delivery system.¹

While LifeBridge Health's core mission is to provide top quality medical and health related services, it also provides many other benefits to the region's population and economy. LifeBridge Health retained the Jacob France Institute of the University of Baltimore to assess and describe the health system's contribution to the State and regional economy, its economic importance to the core neighborhoods in Baltimore City and Baltimore County in which it operates, and its broader impact on the community through the delivery of healthcare and related community, educational and economic development services. This report is the second of two reports and assesses the economic contribution made by LifeBridge Health to: the State of Maryland; to the City/Counties; and to the eight Baltimore City/County neighborhoods² in which its core operations are located. This report also describes the broader social impacts of the health system.

An overview of the State and City/County economic and fiscal benefits generated by LifeBridge Health are as follows:

- LifeBridge Health generates widespread economic impacts through its purchases of goods, services, and labor and generated \$2.6 billion in economic activity in the Maryland economy, supported 18,372 jobs earning \$1.2 billion in labor income, and generated \$109.0 million in State and local government revenues (Table ES-1);³ and
- LifeBridge Health makes significant contributions to City/County economies across the state. In FY2015 12,981 persons worked for the hospital system earning over \$650 million in salaries, wages and benefits, with 94 percent of workers residing in and 93 percent of wages paid to residents of Maryland. In FY2015, LifeBridge Health spent \$573 million on purchases of goods and services, with half of suppliers located in and 39 percent of purchases made in Maryland.

¹ Revenue and operational data are for Fiscal 2015, which runs from July 1, 2015 through June 30th, 2015. LifeBridge Health sold its 151-bed Courtland Gardens Nursing & Rehabilitation Center in November of 2014 and on April 1, 2015 Carroll Hospital became a subsidiary of LifeBridge Health. As a result the admissions data include data for April through June of 2014 data for Courtland Gardens Nursing & Rehabilitation Center and for July through September of 2015 for Carroll Hospital.

² For the purposes of this analysis – neighborhoods are defined as the zip codes neighboring and in which Levindale, Northwest and Sinai Hospitals are located because this is the lowest level of geography for which the IMPLAN input-output model (described below) is available.

³ For the purposes of the economic impact analysis the goal was to measure the economic activity associated with LifeBridge Health System as it exists today. Thus, the impacts associated with Courtland Gardens Nursing & Rehabilitation Center were not included since LifeBridge has sold that operation and the estimated annual revenue and spending associated with Carroll County Hospital were included for the entire fiscal year. This was estimated based on the one quarter of data available for this analysis. Thus, these figures are higher than the actual revenue figures presented above. LifeBridge Health system's revenues, employment and wages not associated with a specific hospital were allocated to each hospital based on their share of revenues.

Table ES-1: Economic Impact of LifeBridge Health System^{1,2} on Maryland - Fiscal 2015³

| | Direct Impact | | Total Economic Activity | | State/Local Tax Revenue (Mil. \$s) |
|---------------------------------------|-------------------------|-------------------------|-------------------------|----------------------|------------------------------------|
| | Revenues (Mil. \$s) | Output (Mil. \$s) | Labor Income (Mil. \$s) | Employment (Jobs) | |
| Total LifeBridge Health System | <u>\$1,404.5</u> | <u>\$2,624.0</u> | <u>\$1,193.3</u> | <u>18,372</u> | <u>\$109.0</u> |
| Sinai Hospital | \$797.5 | \$1,485.3 | \$670.9 | 9,906 | \$61.3 |
| Northwest Hospital | \$255.9 | \$481.7 | \$223.8 | 3,340 | \$20.3 |
| Carroll Hospital ¹ | \$263.9 | \$483.7 | \$208.7 | 3,577 | \$19.4 |
| Levindale | \$81.4 | \$160.9 | \$84.3 | 1,368 | \$7.4 |
| LifeBridge Health and Fitness | \$5.9 | \$12.3 | \$5.6 | 181 | \$0.7 |

(1) Carroll County Hospital was only Part of LifeBridge for the fourth quarter of FY 2015. No data were available for the full fiscal year - so data were estimated based on one quarter's operating information.

(2) LifeBridge System revenues, employment and wages not associated with a specific hospital were allocated to each hospital based on their share of revenues.

(3) FY2015 is July 1, 2014 to June 30th 2015

- Individual analyses were conducted for each of LifeBridge Health’s four hospitals as well as for LifeBridge Health and Fitness to assess the impact of each on the City/County in which they operate. These analyses found that:
 - Sinai Hospital directly generates \$797.5 million in revenues and employs 5,229 workers. When multiplier effects are included, Sinai Hospital generated \$1.2 billion in economic activity in the Baltimore City economy, supported 7,864 jobs earning \$590.6 million in labor income, and generated \$36.4 million in State and City government revenues;
 - Northwest Hospital directly generates \$255.9 million in revenues and employs 1,804 workers. When multiplier effects are included, Northwest Hospital generated \$438.4 million in economic activity in the Baltimore County economy, supported 3,218 jobs earning \$209.0 million in labor income, and generated \$18.2 million in State and County government revenues;
 - Carroll Hospital directly generates \$263.9 million in revenues and employs 2,084 workers. When multiplier effects are included, Carroll Hospital generated \$389.3 million in economic activity in the Carroll County economy, supported 3,233 jobs earning \$170.0 million in labor income, and generated \$15.6 million in State and County government revenues;
 - Levindale Hospital directly generates \$81.4 million in revenues and employs 825 workers. When multiplier effects are included, Levindale Hospital generated \$128.3 million in economic activity in the Baltimore City economy, supported 1,126 jobs earning \$74.7 million in labor income, and generated \$4.3 million in State and City government revenues; and
 - LifeBridge Health and Fitness directly generates \$5.9 million in revenues and employs 140 workers. When multiplier effects are included, LifeBridge Health and Fitness generated \$11.2 million in economic activity in the Baltimore County economy, supported 178 jobs earning \$5.2 million in labor income, and generated \$0.6 million in State and City/County government revenues.
- An overall analysis was conducted for LifeBridge Health system’s total spending as well as individual analyses for Levindale, Northwest, and Sinai Hospitals on the eight neighborhoods in which they are located. These analyses found that:
 - Not only does LifeBridge Health make important contributions to the State and City/County economies in which it is located, it also makes critical contributions to the neighborhoods in

which it operates through both the payrolls paid to neighborhood residents as well as through the purchases made from suppliers located in each neighborhood. Overall, LifeBridge Health employs 3,454 persons earning \$159.3 million in salaries and wages and makes \$22.4 million in purchases in the eight targeted Baltimore City and County neighborhoods analyzed. These payrolls and purchases make LifeBridge Health a key economic driver as well as the major source of health care services in these communities; and

- Overall, the \$181.7 million in payrolls and purchases supports \$168.6 million in economic activity in these eight Baltimore City/County neighborhoods and supports 1,134 jobs earning \$57.4 million in labor income in these communities. These activities generate a total of \$10.2 million in aggregate State and Local Government revenues with an estimated \$5.6 million in State of Maryland revenues and \$4.6 million in City/County government revenues.⁴

In addition to the economic and fiscal impact analyses conducted at the State, City/County, and neighborhood levels, the Jacob France Institute also prepared an analysis of the various social benefits accruing to the communities served by LifeBridge Health, with a focus on health care, community service, educational and economic development programs. Some of the key findings of this analysis are as follows:

- LifeBridge Health plays its greatest role in the communities served through its provision of top quality health care services. As a nationally ranked medical system, LifeBridge Health's core mission is to maintain and improve the health and well-being of all people in greater Baltimore through the delivery of high quality health and medical care. With 40,446 admissions, 242,749 patient days, 65,789 nursing home patient days and 135,960 outpatient visits, LifeBridge Health is a core component of the region's health care system. The quality of these services are evident in the fact that Sinai Hospital is ranked as the 9th best hospital in Maryland by U.S. News and World Report and that two of LifeBridge Health's four component hospitals (Sinai and Carroll) are among the top twelve hospitals in Maryland that received the highest patient approval ratings in the Maryland Health Care Quality Report System;
- LifeBridge Health reports \$82.0 million in community benefits, including \$33.9 million in Mission Driven Health Care Services; \$24.1 million in Health Professions Education and \$9.6 million in Charity Care;
- All of LifeBridge Health's hospitals offer a variety of community health and community service programs that contribute to the health and wellbeing of the communities served;
- LifeBridge Health supports economic development in Maryland and the Baltimore region through the \$1.3 million in research it conducts, through the 77 active clinical trials underway, and through the operation of the LifeBridge BioIncubator, Maryland's only hospital-based incubator; and
- LifeBridge Health, with the region's third largest teaching hospital, plays an important role in training healthcare professionals. In the area of Graduate Medical Education, LifeBridge hosts 136 medical residents and 17 fellows and the health system plays an active role in nursing training.

Conclusion -- LifeBridge Health makes important contributions to the economic health and community wellbeing of the State of Maryland and the communities it serves

⁴ The IMPLAN model used estimates total **combined** state and local revenues from a variety of major revenue sources, including income, property and sales taxes and other revenues. The Jacob France Institute distributed these IMPLAN estimated combined state and local revenues into their separate state and local revenue components based on the distribution of state versus local revenues derived by each major revenue source from the U.S. Bureau of the Census *State and Local Government Finances Summary: 2013* report. Because several of the zip codes cross the City/County boundary – it is not possible to break these out into their estimated City/County portions.

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Introduction

LifeBridge Health's Operations

LifeBridge Health consists of Sinai Hospital of Baltimore, Northwest Hospital, Levindale Hebrew Geriatric Center and Hospital, Carroll Hospital, LifeBridge Health and Fitness, and other subsidiaries and affiliates. As one of the largest, most comprehensive and most highly respected providers of health-related services in the Baltimore region, LifeBridge Health has the technology, skills and expertise of an academic system while still providing care that is warm and personal. Involving patients and their family members as partners in care, LifeBridge Health offers comprehensive treatment, preventive and wellness services. In addition, LifeBridge Health provides programs to educate and support the communities it serves.

With operations across the Baltimore Metropolitan Area, LifeBridge Health is one of the region's largest employers with Fiscal Year 2015 (FY2015) revenues of \$1.2 billion and 2,706 affiliated physicians and 10,120 employees. In FY2015, LifeBridge expanded its operations by formally affiliating with Carroll Hospital Center, increasing both its service area and operational base. While LifeBridge's mission is to maintain and improve the health and well-being of all people in greater Baltimore through the delivery of high quality health and medical care, it also provides numerous other societal benefits. Economically, LifeBridge Health is a major employer, providing jobs for 10,120 persons across a broad range of healthcare, research, and educational positions. LifeBridge Health has a broad and significant impact on the regional economy, generating widespread economic impact through its purchases of goods, services, and labor. Selected operational characteristics of LifeBridge Health are presented in Table 1, and include the following:

- In FY2015, LifeBridge Health had \$1.2 billion in revenues and employed 10,120 workers;
- In FY2015 LifeBridge Health had 39,106 in-patient, 1,270 subacute, and 70 nursing home admissions; and
- In FY2015 LifeBridge Health had 215,565 in-patient days, 27,184 subacute patient days, 65,789 nursing home patient days and 135,960 out-patient visits.⁵

In order to quantify and describe the important economic and societal roles played by LifeBridge Health in Maryland and in the Baltimore region it serves, it retained the Jacob France Institute to prepare this economic and social impact analysis report. The Jacob France Institute is the sponsored research program of the Merrick School of Business at the University of Baltimore and has considerable experience in evaluating the impact of health care, education, and research institutions in Maryland and across the nation. In this evaluation of the economic contributions made by LifeBridge Health on the State, City/County and neighborhood economies it serves, the Jacob France Institute employed input/output (I/O) analysis to measure the direct, indirect, and induced economic impacts of the operations of LifeBridge Health on the State of Maryland, on each of the three City/Counties and eight Baltimore City/County neighborhoods in which its core operations are located. For a more detailed description of the methodology and terms used in this analysis, please reference the Methodology Section in Appendix A.

⁵ Data for FY2015 include only partial data for Carroll Hospital, which joined the system for the year, and also for Courtland Gardens Nursing & Rehabilitation Center, which the system sold during the fiscal year.

Table 1: LifeBridge Health - Operational Characteristics

| | Sinai Hospital | Northwest Hospital | Carroll Hospital ¹ | Levindale | LifeBridge Health and Fitness | Courtland ² | Other Operations | Total LifeBridge System |
|---|----------------|--------------------|-------------------------------|-----------|-------------------------------|------------------------|------------------|-------------------------|
| <u>Revenues and Employment</u> | | | | | | | | |
| Revenues (Mil. \$) | \$728.0 | \$233.6 | \$64.4 | \$74.3 | \$5.4 | \$2.0 | \$105.6 | \$1,213.2 |
| Expenses (Mil. \$) | \$690.5 | \$217.2 | \$60.1 | \$72.5 | \$5.6 | \$2.8 | \$113.8 | \$1,162.5 |
| Employment (Total) | 4,645 | 1,616 | 2,032 | 765 | 136 | 38 | 888 | 10,120 |
| Salaries, Wages and Benefits (Mil. \$) | 312.1 | 107.0 | 29.7 | 44.5 | 2.7 | 1.6 | 164.7 | 662.3 |
| <u>Selected Operational Information</u> | | | | | | | | |
| In-Patient Admissions | 24,342 | 10,430 | 3,022 | 1,312 | | | | 39,106 |
| Sub-Acute Admissions | | 805 | | 465 | | | | 1,270 |
| Nursing Home Admissions | | | | 36 | | 34 | | 70 |
| In-Patient Days | 121,536 | 50,085 | 9,432 | 34,512 | | | | 215,565 |
| Sub-Acute-Patient Days | | 12,217 | | 14,967 | | | | 27,184 |
| Nursing Home-Patient Days | | | | 57,838 | | 7,951 | | 65,789 |
| Observation Cases | 2,872 | 3,549 | 951 | | | | | 7,372 |
| Out-Patient Visits (Clinic) | 98,973 | 30,738 | 6,249 | | | | | 135,960 |

(1) Three Months - April-June 2015

(2) Three Months - July- September 2014

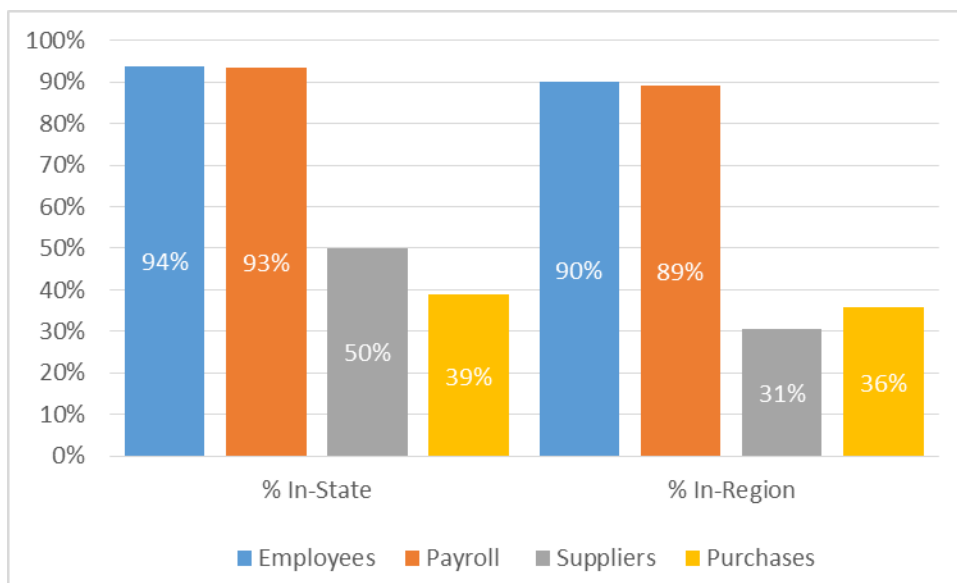
Source: LifeBridge Health

LifeBridge Health makes significant contributions across the State of Maryland. While LifeBridge Health’s core operations are concentrated in Baltimore City, Baltimore County, and Carroll County, the health system contributes to the economic health and vitality of jurisdictions across the State through payments made to workers and suppliers throughout the Baltimore region and State of Maryland.

As presented in Chart 1 and Table 2:

- In FY2015 12,981⁶ persons worked for the hospital earning over \$650 million in salaries, wages and benefits, with:
 - 94 percent of these workers residing in Maryland and 90 percent residing in the Baltimore region;
 - 93 percent of salaries and wages paid to Maryland residents and 89 percent paid to residents of the Baltimore Region;
- In FY2015, LifeBridge Health spent \$573 million on purchases of goods and services, with:
 - Half of suppliers located in Maryland and 31 percent located in the Baltimore Region; and
 - 39 percent of purchases made in Maryland and 36 percent made in the Baltimore region.

Chart 1: LifeBridge Health – In-State and In-Region Share of Employment, Wages, Suppliers and Purchases



Source: LifeBridge Health

In order to estimate the economic contribution of LifeBridge Health to the State of Maryland and the core counties and neighborhoods in which it operates, the Jacob France Institute used the IMPLAN input/output (I/O) model. I/O models measure the interrelationships among economic sectors to show the flow of commodities to industries between producers and consumers for any given region. The data also show consumption activities by workers, owners of capital, and imports from outside the region. These trade flows built into the model permit estimating the impacts of one sector or activity on other sectors and the economy as a whole. The Jacob France Institute used the IMPLAN model for the State of

⁶ This employment number is different from the employment levels in Table 1 because it includes persons who entered or exited employment at the Health System during the fiscal year.

Maryland, for the two counties and Baltimore City, and for the eight neighborhoods analyzed for the economic analysis presented below.⁷

Table 2: LifeBridge Health Employment and Procurement by County Fiscal 2015

| | <u>Employment and Wages</u> | | <u>Suppliers and Purchases</u> | |
|------------------------|-----------------------------|----------------------|--------------------------------|------------------------|
| | <u># of Employees</u> | <u>Wages \$s</u> | <u># of Suppliers</u> | <u>Purchases (\$s)</u> |
| Total | <u>12,981</u> | <u>\$651,593,022</u> | <u>9,126</u> | <u>\$573,398,035</u> |
| Anne Arundel County | 363 | \$16,930,605 | 190 | \$4,590,933 |
| Baltimore County | 5,020 | \$273,669,019 | 1,634 | \$96,428,146 |
| Carroll County | 2,221 | \$113,296,483 | 506 | \$8,415,728 |
| Cecil County | 13 | \$643,558 | 10 | \$110,970 |
| Frederick County | 195 | \$8,019,375 | 89 | \$5,807,250 |
| Harford County | 414 | \$24,080,815 | 113 | \$3,103,662 |
| Howard County | 595 | \$50,399,369 | 276 | \$8,296,726 |
| Montgomery County | 128 | \$10,046,120 | 1,527 | \$8,738,987 |
| Prince George's County | 106 | \$5,251,259 | 146 | \$2,974,501 |
| Baltimore City | 3,065 | \$103,247,051 | 69 | \$84,273,863 |
| Other Maryland | 52 | \$2,903,827 | 0 | \$0 |
| Out of State | 809 | \$43,105,540 | 4,566 | \$350,657,269 |

Source: LifeBridge Health

Economic Contribution of LifeBridge Health's Operations on the State of Maryland

LifeBridge Health had total estimated direct impacts (revenues) of \$1.4 billion⁸ in FY2015. As presented in Table 3, these revenues generated \$2.6 billion in economic activity in the Maryland economy, amounting to an output multiplier of 1.87, or \$1.87 in economic activity supported for each \$1 in revenue. LifeBridge's direct employment of 10,082 is supplemented with an additional 3,336 *Indirect Impact* jobs from the local purchases of goods and services to support LifeBridge's operations and 4,953 *Induced Impact* jobs attributable to the increase in local incomes from LifeBridge's operations for a total of 18,372 jobs directly or indirectly supported by LifeBridge Health. These 18,372 jobs account for 0.5 percent of the total Maryland employment. There is a total of \$1.2 billion in labor income associated with the jobs supported by LifeBridge's operations and estimated state and local government revenues of \$109.0 million.

⁷ This analysis does not assess the extent to which LifeBridge Health competes with or substitutes for other hospital and health care-related activity in Maryland or the Baltimore Metropolitan area and, as a result, this analysis measures the relationship between LifeBridge Health and the larger Maryland, City/County and neighborhood economies analyzed. This analysis employs a similar methodology to that used in *The Economic Impact of the Academic Medical Infrastructure on New York State and the New York City Metropolitan Region* report produced by the Greater New York Hospital Association in 1999. Thus, this report estimates the economic activity occurring in the areas studied, not the true economic impacts of these activities. Please note that throughout this report – totals may not sum due to rounding.

⁸ As described in Note 3 (above) the goal of this analysis was to measure the economic activity associated with LifeBridge Health System as it exists today. Thus, the estimated direct impacts of LifeBridge Health used are different than the revenue figure in Table 2 because they exclude Courtland Gardens Nursing & Rehabilitation Center and include the estimated annual revenue and spending associated with Carroll County Hospital for the fiscal year. LifeBridge System revenues, employment and wages not associated with a specific hospital were allocated to each hospital and the Fitness Center based on each unit's share of revenues.

Table 3: Economic Impact of LifeBridge Health System^{1,2} on Maryland - Fiscal 2015³

| | Output (Mil. \$s) | Labor Income (Mil. \$s) | Employment | State/Local Tax Revenue (Mil. \$s) |
|-------------------------|----------------------|----------------------------|---------------|---------------------------------------|
| Direct Effect | \$1,404.5 | \$750.5 | 10,082 | \$38.7 |
| Indirect Impacts | \$516.7 | \$202.6 | 3,336 | \$25.7 |
| Induced Impacts | \$702.8 | \$240.2 | 4,953 | \$44.5 |
| Total Impact | \$2,624.0 | \$1,193.3 | 18,372 | \$109.0 |
| State Impact Multiplier | 1.87 | 1.59 | 1.82 | |

(1) Carroll County Hospital was only Part of LifeBridge for the fourth quarter of FY 2015. No data were available for the full fiscal year - so data were estimated based on one quarter's operating information.

(2) LifeBridge System revenues, employment and wages not associated with a specific hospital were allocated to each hospital based on their share of revenues.

(3) FY2015 is July 1, 2014 to June 30th 2015

Source: JFI Calculations Using the IMPLAN Model for Maryland.

In addition to its operational impacts, LifeBridge Health also contributes to Maryland's economic vitality through its capital expenditures to improve and expand its core operations. In FY2015, LifeBridge Health had total approved capital spending of \$107.5 million, which increased Maryland economic activity by \$175.8 million, supported 938 jobs earning \$64.3 million in labor income, and generated \$6.8 million in combined State and local government revenues.

Table 4: Economic Impact of LifeBridge Health Capital Spending¹ on Maryland - Fiscal 2015²

| | Output (Mil. \$s) | Labor Income (Mil. \$s) | Employment | State/Local Tax Revenue (Mil. \$s) |
|-------------------------|----------------------|----------------------------|------------|---------------------------------------|
| Direct Effect | \$107.5 | \$40.3 | 494 | \$2.3 |
| Indirect Impacts | \$31.1 | \$11.1 | 181 | \$2.1 |
| Induced Impacts | \$37.2 | \$12.9 | 263 | \$2.4 |
| Total Impact | \$175.8 | \$64.3 | 938 | \$6.8 |
| State Impact Multiplier | 1.64 | 1.60 | 1.90 | |

(1) Board Approved Capital Spending

(2) FY2015 is July 1, 2014 to June 30th 2015

Source: JFI Calculations Using the IMPLAN Model for Maryland.

The Maryland economic activity associated with each of LifeBridge Health's core operations are presented in Table 5 through Table 9 below. A summary of the results of the state level economic activity analysis associated with each institution is as follows:

- Sinai Hospital directly generates \$797.5 million in revenues and employs 5,229 workers. These direct impacts are augmented with \$292.8 million in economic activity and 1,892 jobs in the form of *Indirect Impacts* from local purchases and \$395.1 million and 2,785 jobs in the form of *Induced Impacts* from the increase in household incomes associated with the hospital for a total State of Maryland impact of \$1.5 billion in economic activity, supporting 9,906 jobs earning \$670.9 million in labor income, and generating \$61.3 million in State and local government revenues (Table 5);

- Northwest Hospital directly generates \$255.9 million in revenues and employs 1,804 workers. These direct impacts are augmented with \$94.0 million in economic activity and 607 jobs in the form of *Indirect Impacts* from local purchases and \$131.8 million and 929 jobs in the form of *Induced Impacts* from the increase in household incomes associated with the hospital for a total State of Maryland impact of \$481.7 million in economic activity, supporting 3,340 jobs earning \$223.8 million in labor income, and generating \$20.3 million in State and local government revenues (Table 6);
- Carroll Hospital directly generates \$263.9 million in revenues and employs 2,084 workers. These direct impacts are augmented with \$96.9 million in economic activity and 626 jobs in the form of *Indirect Impacts* from local purchases and \$122.9 million and 866 jobs in the form of *Induced Impacts* from the increase in household incomes associated with the hospital for a total State of Maryland impact of \$483.7 million in economic activity, supporting 3,577 jobs earning \$208.7 million in labor income, and generating \$19.4 million in State and local government revenues (Table 7);
- Levindale Hospital directly generates \$81.4 million in revenues and employs 825 workers. These direct impacts are augmented with \$29.9 million in economic activity and 193 jobs in the form of *Indirect Impacts* from local purchases and \$49.6 million and 350 jobs in the form of *Induced Impacts* from the increase in household incomes associated with the hospital for a total State of Maryland impact of \$160.9 million in economic activity, supporting 1,368 jobs earning \$84.3 million in labor income, and generating \$7.4 million in State and local government revenues (Table 8); and
- LifeBridge Health and Fitness directly generates \$5.9 million in revenues and employs 140 workers. These direct impacts are augmented with \$3.2 million in economic activity and 17 jobs in the form of *Indirect Impacts* from local purchases and \$3.3 million and 23 jobs in the form of *Induced Impacts* from the increase in household incomes associated with the fitness center for a total State of Maryland impact of \$12.3 million in economic activity, supporting 181 jobs earning \$5.6 million in labor income, and generating \$0.7 million in State and local government revenues (Table 9).

Table 5: Economic Impact of Sinai Hospital on Maryland - Fiscal 2015¹

| | Output (Mil. \$s) | Labor Income (Mil. \$s) | Employment | State/Local Tax Revenue (Mil. \$s) |
|-------------------------|----------------------|----------------------------|--------------|---------------------------------------|
| Direct Effect | \$797.5 | \$420.9 | 5,229 | \$21.7 |
| Indirect Impacts | \$292.8 | \$115.0 | 1,892 | \$14.6 |
| Induced Impacts | \$395.1 | \$135.0 | 2,785 | \$25.0 |
| Total Impact | \$1,485.3 | \$670.9 | 9,906 | \$61.3 |
| State Impact Multiplier | 1.86 | 1.59 | 1.89 | |

(1) FY2015 is July 1, 2014 to June 30th 2015

Source: JFI Calculations Using the IMPLAN Model for Maryland.

Table 6: Economic Impact of Northwest Hospital on Maryland - Fiscal 2015¹

| | Output (Mil. \$s) | Labor Income (Mil. \$s) | Employment | State/Local Tax Revenue (Mil. \$s) |
|-------------------------|----------------------|----------------------------|--------------|---------------------------------------|
| Direct Effect | \$255.9 | \$141.9 | 1,804 | \$7.2 |
| Indirect Impacts | \$94.0 | \$36.9 | 607 | \$4.7 |
| Induced Impacts | \$131.8 | \$45.1 | 929 | \$8.3 |
| Total Impact | \$481.7 | \$223.8 | 3,340 | \$20.3 |
| State Impact Multiplier | 1.88 | 1.58 | 1.85 | |

(1) FY2015 is July 1, 2014 to June 30th 2015

Source: JFI Calculations Using the IMPLAN Model for Maryland.

Table 7: Economic Impact of Carroll Hospital¹ on Maryland - Fiscal 2015²

| | Output (Mil. \$s) | Labor Income (Mil. \$s) | Employment | State/Local Tax Revenue (Mil. \$s) |
|-------------------------|----------------------|----------------------------|--------------|---------------------------------------|
| Direct Effect | \$263.9 | \$128.7 | 2,084 | \$6.8 |
| Indirect Impacts | \$96.9 | \$38.0 | 626 | \$4.8 |
| Induced Impacts | \$122.9 | \$42.0 | 866 | \$7.8 |
| Total Impact | \$483.7 | \$208.7 | 3,577 | \$19.4 |
| State Impact Multiplier | 1.83 | 1.62 | 1.72 | |

(1) Carroll County Hospital was only Part of LifeBridge for the fourth quarter of FY 2105. No data were available for the full fiscal year - so data were estimated based on one quarter's operating information.

(2) FY2015 is July 1, 2014 to June 30th 2015

Source: JFI Calculations Using the IMPLAN Model for Maryland.

Table 8: Economic Impact of Levindale Hospital on Maryland - Fiscal 2015¹

| | Output (Mil. \$s) | Labor Income (Mil. \$s) | Employment | State/Local Tax Revenue (Mil. \$s) |
|-------------------------|----------------------|----------------------------|--------------|---------------------------------------|
| Direct Effect | \$81.4 | \$55.6 | 825 | \$2.7 |
| Indirect Impacts | \$29.9 | \$11.7 | 193 | \$1.5 |
| Induced Impacts | \$49.6 | \$17.0 | 350 | \$3.1 |
| Total Impact | \$160.9 | \$84.3 | 1,368 | \$7.4 |
| State Impact Multiplier | 1.98 | 1.52 | 1.66 | |

Source: JFI Calculations Using the IMPLAN Model for Maryland.

Table 9: Economic Impact of LifeBridge Health and Fitness on Maryland - Fiscal 2015¹

| | Output (Mil. \$s) | Labor Income (Mil. \$s) | Employment | State/Local Tax Revenue (Mil. \$s) |
|-------------------------|----------------------|----------------------------|------------|---------------------------------------|
| Direct Effect | \$5.9 | \$3.5 | 140 | \$0.3 |
| Indirect Impacts | \$3.2 | \$0.9 | 17 | \$0.1 |
| Induced Impacts | \$3.3 | \$1.1 | 23 | \$0.2 |
| Total Impact | \$12.3 | \$5.6 | 181 | \$0.7 |
| State Impact Multiplier | 2.10 | 1.58 | 1.29 | |

Source: JFI Calculations Using the IMPLAN Model for Maryland.

Economic Contribution of LifeBridge Health’s Operations to Baltimore City, Baltimore County, and Carroll County

While the state level economic activity associated with LifeBridge Health is impressive, it is also important to understand the impact of each of the health system’s operating units on the City/County in which they are located. In order to estimate this, the Jacob France Institute also analyzed the economic contribution of each operating unit on the City or County in which they are located using the IMPLAN model for each jurisdiction. It is important to note that these economic contribution analyses are for each of the four hospitals and the fitness center alone. Because of cross-border commuting and purchases, for example employees commuting from one jurisdiction to a LifeBridge Health location in another jurisdiction or member hospitals making purchases from suppliers located in other jurisdictions, the impact of the overall LifeBridge Health system on each City/County is likely to be higher. The economic contribution analyses presented below represents the impact of each operating unit on the jurisdiction in which each is located. A description of each of LifeBridge Health’s four hospitals and of LifeBridge Health and Fitness and their economic contribution to each of the jurisdictions in which they are located are described below. Individual one page summary impact analyses are presented for each hospital in Appendix B.

Sinai Hospital

Sinai Hospital of Baltimore features renowned centers of excellence – some with national and international acclaim. As the largest community hospital and the third largest teaching hospital in Maryland; Sinai Hospital’s mission is to provide quality patient care, educate medical students and residents, and engage in research to improve the lives of people all over the world. Sinai Hospital is a 534 bed facility with 24,342 in-patient admissions, 121,536 in-patient days and 98,973 outpatient visits in FY2015.

In terms of the hospital’s impact on Baltimore City, Sinai Hospital directly generates \$797.5 million in revenues and employs 5,229 workers. These direct impacts are augmented with \$215.5 million in economic activity and 1,326 jobs in the form of *Indirect Impacts* from in-City purchases and \$197.7 million and 1,309 jobs in the form of *Induced Impacts* from the increase in household incomes associated with the hospital for a total Baltimore City impact of \$1.2 billion in economic activity, supporting 7,864 jobs earning \$590.6 million in labor income, and generating \$36.4 million in State and Baltimore City government revenues, including an estimated \$15.3 million in Baltimore City government revenues.

Table 10: Economic Impact of Sinai Hospital on Baltimore City - Fiscal 2015¹

| | Output (Mil. \$s) | Labor Income (Mil. \$s) | Employment | State/Local Tax Revenue (Mil. \$s) |
|-------------------------|----------------------|----------------------------|--------------|---------------------------------------|
| Direct Effect | \$797.5 | \$420.8 | 5,229 | \$16.2 |
| Indirect Impacts | \$215.5 | \$96.3 | 1,326 | \$9.4 |
| Induced Impacts | \$197.7 | \$73.5 | 1,309 | \$10.7 |
| Total Impact | \$1,210.6 | \$590.6 | 7,864 | \$36.4 |
| State Impact Multiplier | 1.52 | 1.40 | 1.50 | |

Source: JFI Calculations Using the IMPLAN Model for Maryland.

Northwest Hospital

Northwest Hospital, located in Randallstown, Maryland, carries out its vision to be the recognized leader in clinical quality and customer care in the northwest Baltimore metropolitan region. Northwest Hospital’s strong philosophy of patient-centered care is evident from its friendly employee culture to its facility design. The hospital leads in surgical innovation, has outpatient services that are highly acclaimed by patients and is home to a competent emergency department that expertly handles heavy volumes. Northwest Hospital is a 272 bed facility with 10,430 in-patient admissions, 50,085 in-patient days and 30,738 outpatient visits in FY2015.

In terms of the hospital’s impact on Baltimore County, Northwest Hospital directly generates \$255.9 million in revenues and employs 1,804 workers. These direct impacts are augmented with \$77.8 million in economic activity and 582 jobs in the form of *Indirect Impacts* from in-County purchases and \$104.7 million and 832 jobs in the form of *Induced Impacts* from the increase in household incomes associated with the hospital for a total Baltimore County impact of \$438.4 million in economic activity, supporting 3,218 jobs earning \$209.0 million in labor income, and generating \$18.2 million in State and Baltimore County government revenues, including an estimated \$7.8 million in Baltimore County government revenues.

Table 11: Economic Impact of Northwest Hospital on Baltimore County - Fiscal 2015¹

| | Output (Mil. \$s) | Labor Income (Mil. \$s) | Employment | State/Local Tax Revenue (Mil. \$s) |
|-------------------------|----------------------|----------------------------|--------------|---------------------------------------|
| Direct Effect | \$255.9 | \$141.9 | 1,804 | \$7.2 |
| Indirect Impacts | \$77.8 | \$30.3 | 582 | \$4.0 |
| Induced Impacts | \$104.7 | \$36.7 | 832 | \$7.0 |
| Total Impact | \$438.4 | \$209.0 | 3,218 | \$18.2 |
| State Impact Multiplier | 1.71 | 1.47 | 1.78 | |

Source: JFI Calculations Using the IMPLAN Model for Maryland.

Carroll Hospital

Carroll Hospital is a 193 bed nonprofit, acute care facility offering the latest in medical technology, experienced medical professionals in a variety of specialties, and a continuum of programs and services to meet the needs of the community. Over the past five decades, Carroll Hospital has evolved significantly from a community hospital to become a true medical center on par with larger urban hospitals. However, the hospital is still a tight-knit community where doctors, nurses and staff members treat their friends, neighbors and families.

In terms of the hospital’s impact on Carroll County, Carroll Hospital directly generates \$263.9 million in revenues and employs 2,084 workers. These direct impacts are augmented with \$53.4 million in economic activity and 510 jobs in the form of *Indirect Impacts* from in-County purchases and \$72.0 million and 640 jobs in the form of *Induced Impacts* from the increase in household incomes associated with the hospital for a total Carroll County impact of \$389.3 million in economic activity, supporting 3,233 jobs earning \$170.0 million in labor income, and generating \$15.6 million in State and Carroll County government revenues, with an estimated \$6.8 million in Carroll County government revenues.

Table 12: Economic Impact of Carroll Hospital¹ on Carroll County - Fiscal 2015²

| | Output (Mil. \$s) | Labor Income (Mil. \$s) | Employment | State/Local Tax Revenue (Mil. \$s) |
|-------------------------|----------------------|----------------------------|--------------|---------------------------------------|
| Direct Effect | \$263.9 | \$128.8 | 2,084 | \$6.6 |
| Indirect Impacts | \$53.4 | \$18.9 | 510 | \$3.3 |
| Induced Impacts | \$72.0 | \$22.4 | 640 | \$5.6 |
| Total Impact | \$389.3 | \$170.0 | 3,233 | \$15.6 |
| State Impact Multiplier | 1.48 | 1.32 | 1.55 | |

(1) Carroll County Hospital was only Part of LifeBridge for the fourth quarter of FY 2105. No data were available for the full fiscal year - so data were estimated based on one quarter's operating information.

(2) FY2015 is July 1, 2014 to June 30th 2015

Source: JFI Calculations Using the IMPLAN Model for Maryland.

Levindale

Levindale Hebrew Geriatric Center and Hospital has been carrying out its vision for nearly 125 years to provide quality health care and forward looking programs for people who are elderly and disabled. It was the first facility in Maryland to implement the Eden Alternative program for elder care. This philosophy adds friendship, freedom and fun to the lives of residents and patients. Levindale Hebrew Geriatric Center and Hospital is a 330 bed facility with 210 nursing home beds and 120 specialty hospital beds. In FT2015, the hospital had 1,777 in-patient admissions and 36 nursing home admissions, 49,479 patient days and 57,838 nursing home patient days.

In terms of the hospital's impact on Baltimore City, Levindale Hospital directly generates \$81.4 million in revenues and employs 825 workers. These direct impacts are augmented with \$22.0 million in economic activity and 135 jobs in the form of *Indirect Impacts* from local purchases and \$25.0 million and 165 jobs in the form of *Induced Impacts* from the increase in household incomes associated with the hospital for a total Baltimore City impact of \$128.3 million in economic activity, supporting 1,126 jobs earning \$74.7 million in labor income, and generating \$4.3 million in State and Baltimore City government revenues, including an estimated \$1.8 million in City government revenues.

Table 13: Economic Impact of Levindale Hospital on Baltimore City - Fiscal 2015¹

| | Output (Mil. \$s) | Labor Income (Mil. \$s) | Employment | State/Local Tax Revenue (Mil. \$s) |
|-------------------------|----------------------|----------------------------|--------------|---------------------------------------|
| Direct Effect | \$81.4 | \$55.6 | 825 | \$2.0 |
| Indirect Impacts | \$22.0 | \$9.8 | 135 | \$1.0 |
| Induced Impacts | \$25.0 | \$9.3 | 165 | \$1.4 |
| Total Impact | \$128.3 | \$74.7 | 1,126 | \$4.3 |
| State Impact Multiplier | 1.58 | 1.34 | 1.36 | |

(1) FY2015 is July 1, 2014 to June 30th 2015

Source: JFI Calculations Using the IMPLAN Model for Maryland.

LifeBridge Health and Fitness

LifeBridge Health and Fitness (LBHF) is a health and fitness center located in Pikesville, Maryland. LifeBridge Health and Fitness has won numerous awards including being named a Top 100 Club in the US, Baltimore’s Best Place for Yoga and Pilates, and ranked in the top 1% of all Health Clubs in America. Connected to the LifeBridge Regional Health System, LifeBridge Health & Fitness offers services, products, programs, equipment, and amenities with hospital-quality delivery and results. The facility offers access to state-of-the-art equipment and programs and its fitness professionals guide members and guests of all fitness levels in their journey to a healthy way of life. At almost 70,000 square feet, LBHF boasts a vast collection of only the best in state-of-the-art fitness services and equipment and programs in personal training, group exercise, Pilates, aquatics, cycling, yoga and other fitness areas.

In terms of the Fitness Center’s impact on Baltimore County, LifeBridge Health and Fitness directly generates \$5.9 million in revenues and employs 140 workers. These direct impacts are augmented with \$2.8 million in economic activity and 17 jobs in the form of *Indirect Impacts* from local purchases and \$2.6 million and 21 jobs in the form of *Induced Impacts* from the increase in household incomes associated with the fitness center for a total Baltimore County impact of \$11.2 million in economic activity, supporting 178 jobs earning \$5.2 million in labor income, and generating \$0.6 million in State and Baltimore County government revenues, including about \$267,000 in County government revenues.

Table 14: Economic Impact of LifeBridge Health and Fitness on Baltimore County - Fiscal 2015¹

| | Output (Mil. \$s) | Labor Income (Mil. \$s) | Employment | State/Local Tax Revenue (Mil. \$s) |
|-------------------------|----------------------|----------------------------|------------|---------------------------------------|
| Direct Effect | \$5.9 | \$3.5 | 140 | \$0.3 |
| Indirect Impacts | \$2.8 | \$0.8 | 17 | \$0.1 |
| Induced Impacts | \$2.6 | \$0.9 | 21 | \$0.2 |
| Total Impact | \$11.2 | \$5.2 | 178 | \$0.6 |
| State Impact Multiplier | 1.92 | 1.49 | 1.27 | |

(1) FY2015 is July 1, 2014 to June 30th 2015

Source: JFI Calculations Using the IMPLAN Model for Baltimore County.

Economic Contribution of LifeBridge Health’s Operations on Eight Targeted Baltimore City and Baltimore County Neighborhoods

It is clear from the State and County/City level analyses above that LifeBridge Health makes important economic contributions to the State of Maryland and each of the three core County/City jurisdictions in which it operates. LifeBridge Health is also a key economic driver of the Baltimore City and County neighborhoods surrounding Levindale, Northwest and Sinai Hospitals. Because of the important role played by each of these institutions in the neighborhoods in which they are located, LifeBridge requested that the Jacob France Institute prepare an analysis of the economic contribution made by the overall health system and each of these three core institutions on eight targeted Baltimore City and County neighborhoods.⁹ Sinai and Levindale Hospitals are especially important to the Northwest Baltimore City communities in which they are located as these neighborhoods have a higher level of poverty, at 26.3 percent, and lower median household income, at \$34,968, than the City as a whole, with the overall City poverty rate being 24.2 percent and median City household income being \$41,819.¹⁰ While the community in which Northwest Hospital is located is not similarly distressed, the hospital is a core driver of employment and economic activity in that community. Each of these three institutions serve as “anchor institutions” for their communities, which the Initiative for a Competitive Inner City defines as “institutions, universities, medical centers and cultural facilities, which spend billions on goods and services. As engines of local economic growth, anchors play several distinct roles within their communities, including purchaser, workforce developer and community infrastructure builder.”¹¹ Because these three anchor institutions form a cluster of related health care services in these communities, the Jacob France Institute prepared an analysis of the contribution of the overall health system and of these three hospitals to an eight neighborhood area in Baltimore City and County.

This neighborhood level analysis estimates the economic contribution of the local purchases made by LifeBridge Health system and Levindale, Northwest and Sinai Hospitals from suppliers located in and wages and salaries paid to residents of the eight zip code area in Baltimore City and County. The numbers presented below represent the share of the economic impacts described in the above analyses attributable to LifeBridge Health, Levindale, Northwest and Sinai Hospital’s spending in the eight zip code area. LifeBridge Health and the three hospitals’ payroll and procurement spending are presented in Table 15 and the total economic activity in these City/County neighborhoods supported by the operations of LifeBridge Health System the three hospitals analyzed are presented in Table 16.¹² LifeBridge Health employs 3,454 persons and pays \$159.3 million to persons who reside in and purchases \$22.4 million in goods and services from suppliers located in the eight zip code area.

⁹ As described above in Note 2, for the purposes of this analysis – neighborhoods are defined as the zip codes adjacent to and in which Levindale, Northwest and Sinai Hospitals are located because this is the lowest level of geography for which the IMPLAN input-output model (described below) is available.

¹⁰ These data are from the five year, 2010-14 U.S. Bureau of the Census American Community Survey (ACS) data. These data represent the average level occurring for each measure over the five year data collection period because this is the only ACS data that is available at the zip code level.

¹¹ <http://www.icic.org/urban-economic-development/insights-and-strategies>.

¹² In order to evaluate the economic contribution of LifeBridge Health and the three individual hospitals on the eight zip code City/County region, this analysis used an estimated bill of goods approach to estimate total local spending and their associated impacts. LifeBridge Health provided data on total payroll paid to residents of and the total purchases made from suppliers located in the eight zip code area. The composition of local purchases was estimated based on the national average spending by hospitals and the composition of the local economy.

Table 15: LifeBridge Health Neighborhood Impacts - Employment, Payroll and Purchases by Zip code

| Employment and Payroll | Levindale | | Northwest | | Sinai | | Other ¹ | | Total LifeBridge Health | |
|-------------------------------|------------|--------------------|------------|--------------------|------------|--------------------|--------------------|------------------|-------------------------|---------------------|
| | Employment | Payroll (\$s) | Employment | Payroll (\$s) | Employment | Payroll (\$s) | Employment | Payroll (\$s) | Employment | Payroll (\$s) |
| 21117 - Baltimore County | 60 | \$2,483,627 | 200 | \$9,779,728 | 275 | \$20,445,333 | 83 | \$5,896,953 | 618 | \$38,605,640 |
| 21133 - Baltimore County | 37 | \$1,735,110 | 180 | \$7,034,280 | 130 | \$5,695,459 | 44 | \$896,419 | 391 | \$15,361,268 |
| 21207 - Both County and City | 54 | \$1,835,293 | 116 | \$3,563,949 | 213 | \$7,409,214 | 57 | \$1,379,308 | 440 | \$14,187,764 |
| 21208 - Baltimore County | 43 | \$1,316,751 | 96 | \$4,184,379 | 204 | \$14,161,913 | 64 | \$4,456,704 | 407 | \$24,119,748 |
| 21209 - Both County and City | 36 | \$1,663,614 | 49 | \$3,005,599 | 325 | \$22,489,254 | 47 | \$5,072,606 | 457 | \$32,231,074 |
| 21215 - Baltimore City | 115 | \$3,537,982 | 68 | \$1,529,488 | 377 | \$11,385,551 | 44 | \$1,623,256 | 604 | \$18,076,277 |
| 21216 - Baltimore City | 30 | \$950,521 | 29 | \$529,343 | 105 | \$2,773,806 | 17 | \$219,193 | 181 | \$4,472,863 |
| 21244 - Baltimore County | <u>40</u> | <u>\$1,396,377</u> | <u>122</u> | <u>\$3,781,328</u> | <u>160</u> | <u>\$6,123,254</u> | <u>34</u> | <u>\$921,445</u> | <u>356</u> | <u>\$12,222,404</u> |
| Total for Eight Zip Code Area | 415 | \$14,919,276 | 860 | \$33,408,093 | 1789 | \$90,483,785 | 390 | \$20,465,883 | 3,454 | \$159,277,037 |

| Purchases | Levindale | | Northwest | | Sinai | | Other ¹ | | Total LifeBridge Health | |
|-------------------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|--------------------|-------------------|-------------------------|-------------------|
| | # of Suppliers | Procurement (\$s) | # of Suppliers | Procurement (\$s) | # of Suppliers | Procurement (\$s) | # of Suppliers | Procurement (\$s) | # of Suppliers | Procurement (\$s) |
| 21117 - Baltimore County | 17 | \$416,498 | 42 | \$1,428,923 | 108 | \$3,142,276 | 5 | \$8,357 | n.a | \$4,996,054 |
| 21133 - Baltimore County | 2 | \$2,696 | 17 | \$282,035 | 36 | \$47,215 | 2 | \$2,696 | n.a | \$334,642 |
| 21207 - Both County and City | 5 | \$4,958 | 6 | \$16,070 | 38 | \$69,803 | 8 | \$142,403 | n.a | \$233,234 |
| 21208 - Baltimore County | 16 | \$60,407 | 25 | \$386,113 | 89 | \$8,948,830 | 16 | \$492,876 | n.a | \$9,888,226 |
| 21209 - Both County and City | 6 | \$89,999 | 7 | \$344,067 | 80 | \$2,529,332 | 8 | \$942,858 | n.a | \$3,906,256 |
| 21215 - Baltimore City | 12 | \$94,950 | 9 | \$201,983 | 152 | \$1,446,711 | 10 | \$188,358 | n.a | \$1,932,002 |
| 21216 - Baltimore City | 2 | \$1,282 | 1 | \$454 | 30 | \$169,766 | 0 | \$0 | n.a | \$171,502 |
| 21244 - Baltimore County | <u>5</u> | <u>\$17,793</u> | <u>8</u> | <u>\$151,752</u> | <u>42</u> | <u>\$760,633</u> | <u>1</u> | <u>\$150</u> | <u>n.a</u> | <u>\$930,328</u> |
| Total for Eight Zip Code Area | 65 | \$688,583 | 115 | \$2,811,397 | 575 | \$17,114,566 | 50 | \$1,777,698 | n.a | \$22,392,244 |

(1) Includes all LifeBridge Employees, Payroll and Purchases not allocated to an individual hospital.

Source: LifeBridge Health

LifeBridge Health system’s operations support \$168.6 million in activity in the eight zip code area analyzed; with an associated 1,134 jobs earning a total of \$57.4 million in salaries and wages; and generated an estimated \$10.2 in State and local government revenues, including \$4.6 million in City/County government revenues. These figures represent the estimated portion of the City/County indirect and induced impacts described in the Baltimore County/City impacts described above that occur in the target area.

Table 16: LifeBridge Health System Neighborhood (Zip Code) Level Spending and Associated Economic Activity

| Zip Code | Payroll and Procurement Spending (\$s) | Output (\$s) | Economic Activity | | |
|--|--|---------------------|-------------------|---------------------|-------------------------------------|
| | | | Employment (Jobs) | Labor Income (\$s) | State and Local Fiscal Impact (\$s) |
| Payroll and Procurement Spending and Associated Impacts | | | | | |
| 21117 - Baltimore County | \$43,601,694 | \$18,631,488 | 110 | \$6,025,934 | \$1,213,058 |
| 21133 - Baltimore County | \$15,695,910 | \$7,936,705 | 56 | \$2,661,695 | \$529,756 |
| 21207 - Both County and City | \$14,420,998 | \$6,909,973 | 48 | \$2,223,482 | \$423,337 |
| 21208 - Baltimore County | \$34,007,974 | \$27,093,858 | 212 | \$9,703,796 | \$1,616,351 |
| 21209 - Both County and City | \$36,137,330 | \$18,608,119 | 124 | \$7,478,054 | \$1,101,000 |
| 21215 - Baltimore City | \$20,008,279 | \$14,580,521 | 99 | \$5,344,063 | \$828,733 |
| 21216 - Baltimore City | \$4,644,365 | \$1,634,534 | 10 | \$503,652 | \$115,545 |
| 21244 - Baltimore County | \$13,152,732 | \$8,508,540 | 61 | \$2,646,910 | \$590,769 |
| Inter Zip Code Purchases | <u>n.m.</u> | <u>\$64,720,685</u> | <u>413</u> | <u>\$20,836,892</u> | <u>\$3,827,286</u> |
| Total Community Activity | \$181,669,281 | \$168,624,423 | 1,134 | \$57,424,478 | \$10,245,835 |

Source: JFI Calculations Using the IMPLAN Model for each zip code and the aggregated area.

As core anchor institutions, LifeBridge Health and its component hospitals play a critical role in each of these targeted neighborhoods. Including both the direct employment of each of these three institutions in addition to the impacts associated with local supplier purchases and resident payroll expenses, LifeBridge Health accounts for 7 percent of total jobs located within the eight zip code area. Looking at the zip codes in which each institution is located, LifeBridge Health generates 20 percent of all jobs occurring in zip code 21133 in Baltimore County and 24 percent of jobs located in zip code 21215 in Baltimore City (Table 17). Analyzing the place of residence for LifeBridge Health employees only,¹³ LifeBridge Health employees account for 2 percent of all employed workers in the eight zip code area (Table 18).

¹³ It is not possible to identify the place of residence for the workers whose jobs are supported by the purchases made by (indirect effects) or payrolls paid by (induced effects) LifeBridge Health.

Table 17: LifeBridge Health System Neighborhood (Zip Code) Direct and Neighborhood Impact Employment, by Place of Work

| Zip Code | Total Zip Code Employment ¹ | Direct LifeBridge Employment ² | Spending Impact Employment ³ | Total Employment | % of Total |
|------------------------------|--|---|---|------------------|-------------|
| Eight Target Zip Codes | <u>126,371</u> | <u>7,858</u> | <u>721</u> | <u>8,579</u> | <u>6.8%</u> |
| 21117 - Baltimore County | 8,621 | | 110 | 110 | 1.3% |
| 21133 - Baltimore County | 9,450 | 1,804 | 56 | 1,860 | 20% |
| 21207 - Both County and City | 11,962 | | 48 | 48 | 0.4% |
| 21208 - Baltimore County | 30,023 | | 212 | 212 | 0.7% |
| 21209 - Both County and City | 13,451 | | 124 | 124 | 0.9% |
| 21215 - Baltimore City | 25,688 | 6,054 | 99 | 6,153 | 24% |
| 21216 - Baltimore City | 2,769 | | 10 | 10 | 0.4% |
| 21244 - Baltimore County | 24,407 | | 61 | 61 | 0.2% |

(1) From IMPLAN

(2) Sinai and Levindale in Zip code and Northwest Hospital in Zip codes

(3) From Neighborhood impact analysis - Table 16 – estimated impacts in each zip code only.

Source: JFI Calculations Using the IMPLAN Model for each zip code and the aggregated area.

Table 18: LifeBridge Health System Neighborhood (Zip Code) Employment by Place of Residence

| Zip Code | Total Zip Code Employment ¹ | Direct LifeBridge Employment ² | % of Total |
|------------------------------|--|---|-------------|
| Eight Target Zip Codes | <u>151,138</u> | <u>3,454</u> | <u>2.3%</u> |
| 21117 - Baltimore County | 31,481 | 618 | 2.0% |
| 21133 - Baltimore County | 16,192 | 391 | 2.4% |
| 21207 - Both County and City | 22,119 | 440 | 2.0% |
| 21208 - Baltimore County | 15,837 | 407 | 2.6% |
| 21209 - Both County and City | 14,306 | 457 | 3.2% |
| 21215 - Baltimore City | 22,780 | 604 | 2.7% |
| 21216 - Baltimore City | 9,896 | 181 | 1.8% |
| 21244 - Baltimore County | 18,527 | 356 | 1.9% |

(1) Five Year Average 2009-2014 from the U.S. Bureau of the Census - American Community Survey

(2) From Table 15.

Source: JFI Calculations Using the IMPLAN Model for each zip code and the aggregated area.

Separate analyses were prepared for the individual economic activity generated by each of the three hospitals in the eight zip code area. These analyses found that:

- Levindale Hospital spends \$15.6 million on payroll and purchases in the eight zip code area and these expenditures support \$13.7 million in economic activity, with an associated 93 jobs earning a total of \$4.6 million in salaries and wages and generated an estimated \$0.9 million in State and City government revenues;
- Northwest Hospital spends \$36.2 million on payroll and purchases in the eight zip code area and these expenditures support \$32.5 million in economic activity, with an associated 220 jobs earning a total of \$11.0 million in salaries and wages and generated an estimated \$2.0 million in State and County government revenues; and

- Sinai Hospital spends \$107.6 million on payroll and purchases in the eight zip code area and these expenditures support \$102.4 million in economic activity, with an associated 685 jobs earning a total of \$35.0 million in salaries and wages and generated an estimated \$6.2 million in State and City government revenues.

Table 19: Levindale Hospital Neighborhood (Zip Code) Level Spending and Associated Economic Activity

| Zip Code | Payroll and Procurement Spending (\$s) | Output (\$s) | Economic Activity | | |
|--|--|--------------------|-------------------|--------------------|-------------------------------------|
| | | | Employment (Jobs) | Labor Income (\$s) | State and Local Fiscal Impact (\$s) |
| Payroll and Procurement Spending and Associated Impacts | | | | | |
| 21117 - Baltimore County | \$2,900,125 | \$1,311,202 | 8 | \$430,487 | \$84,302 |
| 21133 - Baltimore County | \$1,737,806 | \$852,545 | 6 | \$282,977 | \$57,375 |
| 21207 - Both County and City | \$1,840,251 | \$860,206 | 6 | \$275,445 | \$53,019 |
| 21208 - Baltimore County | \$1,377,158 | \$823,145 | 7 | \$281,862 | \$53,548 |
| 21209 - Both County and City | \$1,753,613 | \$815,024 | 6 | \$321,413 | \$48,989 |
| 21215 - Baltimore City | \$3,632,932 | \$2,484,303 | 17 | \$898,813 | \$143,745 |
| 21216 - Baltimore City | \$951,803 | \$307,766 | 2 | \$94,749 | \$22,037 |
| 21244 - Baltimore County | \$1,414,170 | \$852,365 | 6 | \$260,170 | \$60,912 |
| Inter Zip Code Purchases | <u>n.m.</u> | <u>\$5,370,127</u> | <u>36</u> | <u>\$1,783,867</u> | <u>\$327,375</u> |
| Total Community Activity | \$15,607,859 | \$13,676,683 | 93 | \$4,629,783 | \$851,302 |

Source: JFI Calculations Using the IMPLAN Model for each zip code and the aggregated area.

Table 20: Northwest Hospital Neighborhood (Zip Code) Level Spending and Associated Economic Activity

| Zip Code | Payroll and Procurement Spending (\$s) | Output (\$s) | Economic Activity | | |
|--|--|---------------------|-------------------|--------------------|-------------------------------------|
| | | | Employment (Jobs) | Labor Income (\$s) | State and Local Fiscal Impact (\$s) |
| Payroll and Procurement Spending and Associated Impacts | | | | | |
| 21117 - Baltimore County | \$11,208,651 | \$4,913,144 | 29 | \$1,600,051 | \$318,051 |
| 21133 - Baltimore County | \$7,316,315 | \$3,795,598 | 27 | \$1,283,688 | \$251,626 |
| 21207 - Both County and City | \$3,580,019 | \$1,679,030 | 12 | \$537,997 | \$103,400 |
| 21208 - Baltimore County | \$4,570,492 | \$2,881,446 | 23 | \$996,092 | \$184,215 |
| 21209 - Both County and City | \$3,349,666 | \$1,708,920 | 11 | \$685,657 | \$101,252 |
| 21215 - Baltimore City | \$1,731,471 | \$1,283,945 | 9 | \$472,188 | \$72,633 |
| 21216 - Baltimore City | \$529,797 | \$171,101 | 1 | \$52,675 | \$12,254 |
| 21244 - Baltimore County | \$3,933,080 | \$2,448,274 | 17 | \$753,956 | \$172,652 |
| Inter Zip Code Purchases | <u>n.m.</u> | <u>\$13,652,741</u> | <u>90</u> | <u>\$4,659,952</u> | <u>\$787,887</u> |
| Total Community Activity | \$36,219,490 | \$32,534,199 | 220 | \$11,042,256 | \$2,003,970 |

Source: JFI Calculations Using the IMPLAN Model for each zip code and the aggregated area.

Table 21: Sinai Hospital Neighborhood (Zip Code) Level Spending and Associated Economic Activity

| Zip Code | Payroll and Procurement Spending (\$s) | Output (\$s) | Economic Activity | | |
|--|--|---------------------|-------------------|---------------------|-------------------------------------|
| | | | Employment (Jobs) | Labor Income (\$s) | State and Local Fiscal Impact (\$s) |
| Payroll and Procurement Spending and Associated Impacts | | | | | |
| 21117 - Baltimore County | \$23,587,609 | \$10,454,843 | 62 | \$3,414,836 | \$675,119 |
| 21133 - Baltimore County | \$5,742,674 | \$2,846,476 | 20 | \$948,178 | \$191,021 |
| 21207 - Both County and City | \$7,479,017 | \$3,539,166 | 25 | \$1,136,041 | \$217,481 |
| 21208 - Baltimore County | \$23,110,743 | \$20,208,595 | 156 | \$7,322,713 | \$1,176,476 |
| 21209 - Both County and City | \$25,018,586 | \$12,728,112 | 85 | \$5,104,290 | \$754,442 |
| 21215 - Baltimore City | \$12,832,262 | \$9,483,545 | 64 | \$3,485,440 | \$536,967 |
| 21216 - Baltimore City | \$2,943,572 | \$1,085,028 | 7 | \$334,481 | \$76,192 |
| 21244 - Baltimore County | \$6,883,887 | \$4,661,120 | 33 | \$1,466,634 | \$317,872 |
| Inter Zip Code Purchases | <u>n.m.</u> | <u>\$37,392,788</u> | <u>233</u> | <u>\$11,745,841</u> | <u>\$2,213,090</u> |
| Total Community Activity | \$107,598,351 | \$102,399,673 | 685 | \$34,958,454 | \$6,158,660 |

Source: JFI Calculations Using the IMPLAN Model for each zip code and the aggregated area.

Social and Community Impacts of LifeBridge Health System

While it is evident from the analysis above that LifeBridge makes important economic contributions to the communities it serves, the Health System has its most important impact on the communities it serves through its provision of high quality health care services to the region's residents as well as through its community service, research and educational missions. According to the American Hospital Association, the nation's hospitals not only provide the health care services needed by the public, they work to strengthen the communities they serve. Hospitals provide more than patient care, they are:

1. **Economic Contributors** and employ more than 5 million people, making them America's second-largest source of private-sector jobs;
2. **Gateways to Care** and serve every type of community: urban, rural, large and small. They are constantly working to improve access to care for all patients from newborns to seniors;
3. **Centers of Innovation** and bring the latest medical innovation and technology to patients, providing highly specialized health care; and
4. **Improving Community Health** by going beyond treating illness to strengthen communities by working not just to mend bodies, but to make people and communities healthier.¹⁴

According to the Community Connections Initiative of the American Hospital Association, "Hospitals are a vital part of their communities and the services they provide extend well beyond the four walls of the hospital. Hospitals are working not just to mend bodies, but also to make their patients and communities healthier. This work extends far beyond the hospital building – bringing free clinics, job training, smoking cessation classes, back-to-school immunizations, literacy programs and so many other resources, often with little fanfare, directly to the people of the community."¹⁵ This section of the report will describe the ways that LifeBridge Health contributes to the general and social wellbeing of the communities it serves in the following areas:

- Providing top quality health care services;
- Caring for those who cannot afford to pay;
- Providing community health services;
- Supporting research to advance medical knowledge and promote economic development; and
- Assisting in training the next generation of health care professionals.

Health Care Service Delivery

As one of the largest and most respected health care systems in the region, LifeBridge Health is committed to providing the highest quality of medical services to meet the needs of the region's population. This focus on health care service delivery is evident in the system's Mission Statement,

LifeBridge Health is dedicated to maintaining and improving the health and well-being of all people in greater Baltimore, with special emphasis on northwest Baltimore City and Baltimore and Carroll counties. In so doing, LifeBridge is committed to being the best,

¹⁴ <http://www.aha.org/advocacy-issues/initiatives/hosp-story-index.shtml>.

¹⁵ <http://www.ahacommunityconnections.org/about-us/index.shtml>.

most respected health care system serving the northwest region, favored by the greatest number of patients and physicians in that area.

LifeBridge Health values, above all else, the delivery of compassionate, high quality health and health-related services to the community, regardless of age, race, ethnicity or financial circumstances of its patients or customers. In delivering these services, LifeBridge Health honors the heritage of its constituent institutions, preserving their traditions and asserting their values boldly for the benefit of all.

LifeBridge Health is a \$1.2 billion health care system whose four hospitals have a total of 1,119 hospital beds and 210 nursing home beds. In FY2015, LifeBridge Health:

- Admitted 39,106 patients, had 1,270 sub-acute admissions and 70 nursing home admissions;
- Provided 215,565 patient days, 27,184 sub-acute patient days and 65,789 nursing home patient days; and
- Provided 135,960 outpatient visits.

The key driver of LifeBridge Health's success is the quality of the health care services it delivers. According to the U.S. News and World Report Hospital Rankings, Sinai Hospital is ranked 9th best in Maryland.¹⁶ Two of LifeBridge Health's four component hospitals (Sinai and Carroll) are among the top twelve hospitals in Maryland that received the highest patient approval ratings in the Maryland Health Care Quality Reports system.¹⁷

While LifeBridge Health's four core hospitals offer a full range of medical services, several of the health system's key medical specialty areas that stand out include:

- The ***Sandra and Malcolm Berman Brain & Spine Institute***, operating at Sinai and Northwest hospitals, is the only comprehensive, integrated inpatient and outpatient program in Maryland dedicated to improving outcomes in patients with diseases of the nervous system and spine. The Institute brings together multidisciplinary teams of neurologic, neurosurgical, neuropsychological and rehabilitation physicians with other medical specialists to work together to provide the advanced resources, expertise and comprehensive care necessary to treat patients living with specific neurologic disorders;
- The ***LifeBridge Health Bariatric and Minimally Invasive Surgery Center*** offers both surgical and nonsurgical treatment options for weight loss, such as laparoscopic gastric bypass surgery, laparoscopic sleeve gastrectomy surgery and laparoscopic adjustable gastric band at three locations in the region;
- The ***Alvin & Lois Lapidus Cancer Institute*** at LifeBridge Health offers advanced diagnosis and treatment for a wide range of cancers. The Institute also provides advanced treatment options for various cancers by conducting clinical trials and case studies. The Institute's team of experts are committed to developing and deploying new treatment methods to help patients in need. Using a team approach that is focused on patient-centered care, its specialists offer a wide variety of treatment options and supportive care in pain management and survivorship. In

¹⁶ <http://health.usnews.com/best-hospitals/area/md>.

¹⁷ JFI analysis of the raw data from <https://healthcarequality.mhcc.maryland.gov/MarylandHospitalCompare/index.html#/quality-ratings/condition?topic=2&subtopic=6>.

2014, the Institute was named a top 100 Hospital with a Great Oncology Program by Becker's Hospital Review;

- The **William E. Kahlert Regional Cancer Center** at Carroll Hospital provides patients with a full spectrum of cancer care services including diagnosis, a full range of treatment therapies and procedures including, chemotherapy, radiation therapy, advanced surgical procedures, and support services and resources. The Center focusses on ovarian, breast, colon, uterine, lung, prostate, and skin cancers and leukemia;
- The **LifeBridge Health Cardiovascular Institute** located at Sinai and Northwest hospitals is the most comprehensive, integrated inpatient and outpatient program dedicated to preventing, treating and improving outcomes in heart disease, vascular disease and stroke in its service area. Through a variety of specialized centers, including the Ben and Zelda Cohen Heart Rhythm Center, Benjamin and Margaret Schapiro Cardiac Diagnostic Center, Beverly and Jerome Fine Cardiac Valve Center, the Cardiac Prevention Center, the Cardiac Rehabilitation Center, the Emergency Chest Pain Center and the Heart Failure Center, the Institute provides state-of-the-art, patient-centered care and conducts groundbreaking cardiovascular research that exemplifies excellence and compassion;
- The **ER-7 Centers** at Sinai and Northwest hospitals feature expert emergency care physicians, nurses and staff who use state-of-the-art medical technology to provide the highest quality patient care. The Centers were built from the ground up to set new standards of emergency care and customer service. The ER-7 provides treatment for every health concern, from major emergent illnesses and injuries to more minor health-related problems. These include stroke symptoms and chest pain; ear, eye, nose and throat emergencies; broken, sprained or fractured bones; profuse bleeding; loss of consciousness; trauma; and specialized pediatric care;
- The **Krieger Eye Institute** at Northwest Hospital, Sinai Hospital and at Quarry Lake, provides access to specialists, technologies and personalized care in the areas of glaucoma, diabetic retinopathy, macular degeneration, retinal services, cataracts, cornea transplant and care, neuro-ophthalmology, and pediatric ophthalmology;
- The **Herman & Walter Samuelson Children's Hospital** at Sinai delivers individualized care focused on the family and patient in specialties such as cancer, neurologic disorders, bowel disease and diabetes;
- The **Rubin Institute for Advanced Orthopedics**, located at Sinai Hospital and Northwest Hospital and with eight regional offices, is home to some of the world's most renowned orthopedic surgeons who provide state-of-the-art orthopedic services for children and adults. Its programs include the International Center for Limb Lengthening, the Center for Joint Preservation and Replacement, the Center for Diabetic Limb Preservation and the Center for Hand and Upper Extremity Surgery, among others;
- LifeBridge Health's **Vascular Institute** provides treatment for inpatient and outpatient vascular care. Consultations, diagnostic services and surgical care are performed at Northwest Hospital and Sinai Hospital;
- Northwest Hospital's **Herman & Walter Samuelson Breast Care Center** is a comprehensive center that offers screening, diagnosis and treatment for breast cancer. The Center provides

some of the most advanced technologies for the evaluation and treatment of breast disease, along with a highly trained team that includes a dedicated breast-specialized radiologist, a fellowship-trained breast surgeon, registered nurses and registered mammography technologists;

- Northwest Psychiatric Services opened its new and 23 bed expanded ***Inpatient Behavioral Health Unit*** in 2013. The inpatient unit provides 24-hour skilled psychiatric nursing care and interventions, daily assessment and treatment oversight by a psychiatrist, and a coordinated, goal-driven plan of care delivered by a multidisciplinary team of mental health professionals. The focus is on rapid stabilization of acute psychiatric symptoms;
- In 2014, Carroll Hospital opened the ***Tevis Center for Wellness***, which is located on the hospital's campus in Westminster, but also provides satellite services in other parts of the county, including Eldersburg and Taneytown. The wellness center also has grown its community health navigation services, free programs to help individuals better manage their health;
- The ***Sinai Center for Geriatric Surgery*** is the first comprehensive, systematic and multidisciplinary center in the nation that is fully dedicated to geriatric surgery; and
- The ***Women's Wellness Center*** at Northwest Hospital offers a holistic approach to health that includes annual gynecologic exams and the development of comprehensive wellness plans based on individual needs.

Community Benefits, Charitable and Uncompensated Care

In addition to their vital role in providing health care services to a region's population, hospitals play a critical role in improving the health and wellbeing of the communities served through their community service programs and by providing charitable and uncompensated care to citizens in need. According to the American Hospital Association's 2015 *Ernst & Young Schedule H Benchmark Report for the American Hospital Association Tax Year 2012* report,

Hospitals provide benefits to the communities they serve in a multitude of ways. They not only provide financial assistance and make up for underpayments by Medicaid and other means tested government programs, but also cover losses due to unreimbursed Medicare and bad debt expense attributable to financial assistance. In addition, they offer programs and activities to improve community health, underwrite medical research and health professions education, and subsidize high-cost health services.¹⁸

Hospitals and health systems are increasingly focusing their community benefits efforts on broader community service and health programs in addition to their traditional focus on charity care and health education. According to a 2015 Modern Healthcare article, hospitals are broadening the scope of their community engagement efforts and that, "While health system leaders cite their not-for-profit and/or religious missions to help their communities as the reason for their public health push, they also recognize that their systems face growing pressure to justify their tax-exempt status as their charity-care burden shrinks under the Affordable Care Act, particularly in states that have expanded Medicaid under the law."¹⁹ In 2014, U.S. hospitals

¹⁸ <http://www.aha.org/content/15/2012schedhreport.pdf> - page 10.

¹⁹ <http://www.modernhealthcare.com/article/20151121/MAGAZINE/311219988>.

spent a total of \$42.8 billion on uncompensated care alone,²⁰ and in 2012 participating hospitals and systems reported an average of 12.3 percent of their total annual expense on providing benefits to the community.²¹ According to the Maryland Hospital Association, Maryland's hospitals provided approximately \$1.5 billion in community benefits in 2014 or almost 11 percent of all hospital operating expenses statewide, up from \$586.4 million and 6.9 percent of revenues in 2004.²²

As presented in Table 22, based on its community benefits reporting system, LifeBridge Health System provided nearly \$82 million in support of community benefits to its Baltimore Metropolitan Area service area. LifeBridge has its major community impact through the \$33.9 million in expenditures it makes on **Mission Driven Health Care Services** or services provided to the community that were never expected to result in cash inflows but: 1) which the hospital undertakes as a direct result of its community or mission driven initiatives; or 2) would otherwise not be provided in the community if the hospital did not perform these services. The second major area of LifeBridge community benefits is the \$24.1 million it spends on **Health Professions Education**, which includes expenditures on physician/medical resident training, nursing students training, and other health care training related expenditures. This will be described in more detail below. Other key community benefits related activities include:

- LifeBridge Health spends \$9.6 million **Charity Care** or free or discounted health and health-related services provided to persons who cannot afford to pay;
- \$6.6 million in **Community Health Services** which include activities carried out to improve community health;
- \$3.7 million in **Medicaid Assessments**- since FY 2013, Maryland hospitals are required to provide a Deficit Assessment Fee to the Maryland Medicaid Program;
- \$1.3 million in expenditures on **Research** include clinical and community health research, as well as studies on health care delivery;
- \$1.0 million in expenditures on **Community Building Activities** which include cash, in-kind donations, and budgeted expenditures for the development of community health programs and partnerships;
- \$1.0 million in expenditures on **Community Benefit Operations** include costs associated with dedicated staff, community health needs and/or assets assessment, and other costs associated with community benefit strategy and operations; and
- \$0.8 million on **Financial Contributions** in the form of grants or other support for not-for-profit community organizations, projects, and initiatives.

²⁰ <http://www.aha.org/content/16/uncompensatedcarefactsheet.pdf>.

²¹ <http://www.aha.org/content/15/2012schedhreport.pdf> - page 5.

²² <http://www.mhaonline.org/docs/default-source/Resources/community-benefits/maryland-39-s-hospitals-2013-community-benefits-report.pdf?sfvrsn=3>.

Table 22: LifeBridge Reported Community Benefits

| Community Benefit Area | Levindale | Northwest | Sinai | Carroll | Total |
|-------------------------------------|---------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Total | <u>\$2,842,192</u> | <u>\$15,826,911</u> | <u>\$50,421,644</u> | <u>\$12,871,669</u> | <u>\$81,962,417</u> |
| Community Health Services | \$70,389 | \$1,673,569 | \$2,841,475 | \$1,995,254 | \$6,580,687 |
| Health Professions Education | \$78,300 | \$732,793 | \$22,776,979 | \$531,839 | \$24,119,911 |
| Mission Driven Health Care Services | \$1,434,939 | \$8,839,299 | \$15,490,185 | \$8,151,077 | \$33,915,500 |
| Research | \$0 | \$69,748 | \$1,018,548 | \$198,904 | \$1,287,199 |
| Financial Contributions | \$18,193 | \$130,746 | \$412,421 | \$233,194 | \$794,555 |
| Community Building Activities | \$34,498 | \$233,411 | \$387,453 | \$388,390 | \$1,043,752 |
| Community Benefit Operations | \$58,697 | \$39,899 | \$760,740 | \$144,215 | \$1,003,550 |
| Charity Care | \$930,520 | \$3,226,996 | \$4,172,967 | \$1,228,796 | \$9,559,279 |
| Medicaid Assessments ¹ | \$216,657 | \$880,451 | \$2,560,877 | \$0 | \$3,657,985 |

(1) No data on Medicaid Assessments were available for Carroll Hospital.

Source: LifeBridge Community Benefits Reporting System

There is a strong need for the community services and charitable/uncompensated care provided by LifeBridge Health and its four component hospitals, especially in Baltimore City.

- Levindale and Sinai Hospitals are located in Baltimore City, Maryland which has a higher poverty rate than the nation as a whole, 24 percent, compared to 16 percent nationally. Nine percent of Baltimore City residents are uninsured, lower than the 12 percent rate nationally; however, six percent of Baltimore City’s residents receive their health insurance through Medicare alone and 25 percent through Medicaid alone, higher than five percent and 14 percent respectively nationally;
- Northwest Hospital serves Baltimore County, which has a lower poverty rate and share of uninsured population than the nation and State, but 7 percent of County residents are uninsured, 4 percent rely on Medicare-alone and 12 percent rely on Medicaid alone, demonstrating a continuing need for community services and charitable/uncompensated care; and
- Carroll Hospital is the only hospital serving Carroll County, which has an even lower poverty rate and share of uninsured population than the nation, state and region, but still must provide care for the 4 percent of County population lacking health insurance, 3 percent relying on Medicare-alone and 7 percent relying on Medicaid alone.

Table 23: Poverty and Health Insurance Status – LifeBridge Health Service Area

| | Percentage Below Poverty | Percentage Uninsured | Percentage Medicare-Only ¹ | Percentage Medicaid Other Means Tested-Only ¹ |
|----------------------|--------------------------|----------------------|---------------------------------------|--|
| United States | 15.5% | 11.7% | 4.7% | 14.3% |
| Maryland | 10.1% | 7.9% | 3.5% | 13.2% |
| Baltimore Metro Area | 11.1% | 6.3% | 3.8% | 13.1% |
| Baltimore County | 9.7% | 7.4% | 4.2% | 12.4% |
| Carroll County | 5.3% | 3.6% | 3.2% | 7.4% |
| Baltimore City | 23.6% | 8.5% | 5.7% | 24.6% |

(1) Persons with a single source of insurance receiving Medicare or Medicaid only as a percentage of the total population.

Source: U.S. Bureau of the Census - American Community Survey

All of LifeBridge Health’s component hospitals have performed Community Health Needs Assessments to identify and meet the health needs of their respective service areas. Sinai Hospital performed its community health needs assessment in 2011, Carroll Hospital in 2012, Northwest in 2013, and Levindale in 2015. Each of LifeBridge Health’s four component hospitals have developed and are implementing specific plans to meet their service area’s community health needs identified in each assessment through a systematic plan and delivery system:

- Overall, LifeBridge Health has a board committee for the oversight and guidance for all community services and programming. The **Community Mission Committee** members include Sinai, Northwest, and Levindale Board Members and Executives, President of LifeBridge Health, Inc., and Vice Presidents. The Community Mission Committee is responsible for reviewing, reporting, and advising community benefit activities;
- LifeBridge Health also created the **Office of Community Health Improvement** to implement community health improvement projects. This department replaced the Community Health Education Department that was responsible for health promotion and prevention efforts at Northwest Hospital. Although the department provides services to individuals living in or around Northwest, Sinai and Levindale Hospitals' surrounding communities, the department is physically located at Northwest Hospital and its health promotion focus continues to provide meaningful community benefit services to Northwest Hospital's community residents;
- The **Sinai Hospital Community Benefit Council**, was formed in early fiscal year 2012 in order to respond to the growing need for oversight of community benefit programming. The Council continues to meet quarterly to review new Community Benefit guidelines and reporting instructions, discuss hospital programming, and finalize annual reports;
- At Carroll Hospital, the **Community Benefit Planning and Evaluation Team** reviews and audits progress towards achieving the CHNA’s community service goals; and
- The **Community Benefit Council, Northwest Hospital** was formed in 2012 in order to respond to the growing need for oversight of community benefit programming. The

council meets biannually to review new Community Benefit guidelines and reporting instructions, discuss hospital programming and finalize annual reports.

Selected examples of LifeBridge Health's community service activities include:

- The Sinai Community Health Improvement Project (CHIP) - **Changing Hearts** – is a cost free initiative to its patients designed to improve the cardiovascular health of individuals in the surrounding community. The program is designed to: 1) help individuals understand their identified risks for heart disease; 2) demonstrate how to minimize/modify those risk factors; and 3) provide education on how to maintain a healthy lifestyle to prevent heart disease. The Changing Hearts Program includes:
 - Live Heart health risk assessment;
 - Cholesterol, glucose, etc. screenings work;
 - Blood pressure reading;
 - Body composition analysis;
 - Health education counseling with a registered nurse;
 - Educational material to help facilitate lifestyle change;
 - Follow-up calls;
 - Lifestyle classes to help maintain a long-term lifestyle change; and
 - Web-based links to resources to improve cardiac health.

In FY 2015, the Changing Hearts program interacted with 1,147 individuals, has 23 active participants, conducted 73 home visits and had 29 workshop participants;

- Not all of the community service activities provided by Sinai Hospital are health related. Because the Park Heights community served by Sinai has a high overall and violent crime rate, the hospital supports the Park Heights Renaissance community organization which manages crime reduction and other community programs. As part of this interaction, Sinai developed a pilot program in the hospital to identify those who came to Sinai's ER as a result of an injury resulting from violence. It provided a male mentor to meet young men in the hospital and to follow them after discharge, offering them alternatives to violence. We learned from that pilot that Park Heights lacked a community-based violence prevention program that could provide viable alternatives to violence. Because of this experience, Sinai Hospital now funds the **Kujichagulia Youth Center** to address the issue of crime identified in the CHNA. The Kujichagulia Center (self-determination in Swahili) provides youth development and violence prevention services to residents of zip code 21215 who are between 19 and 24-years of age. It also provides Mentoring for Middle Schools students at Pimlico and KIPP Elementary-Middle schools and a YouthWorks Summer jobs program for 14 to 21-year olds. In addition, violence intervention services are available to local youth 16 to 25 years old, who are admitted to Sinai's Trauma Unit after suffering injuries due to street violence. Sinai provides case management services that can help the young person escape the cycle of violence and engage in needed educational or vocational programming. The program has:
 - Provided Workforce Readiness/Life Skills training to 31 residents;
 - The Post Violence Intervention Program has had 12 participants;
 - The Sinai Vocational Services Program provided 9 internships; and

- Assisted 4 students to get their GED;
- Sinai Hospital provides several assistance programs to meet the communities health care needs including:
 - Sinai Hospital partners with the Family League of Baltimore to provide the **Healthy Families America** perinatal home visiting service. HFA services begin prenatally or right after the birth of a baby and are offered for 3 to 5 years after the birth of the baby. It provides home visiting services with the goal of effectively connecting families with health and social services that will enhance the lives of the entire family;
 - **HIV Care for the Uninsured** provides Primary Medical Care and Medical and Non-Medical Case Management for uninsured or underinsured HIV-positive persons and the Hospital's emergency room provides **Rapid HIV Testing** to patients with follow-up appointments in the Hospital's infectious Disease Ambulatory Care Clinic. The Hospital's **HIV Primary Care Services Department** provides medical care for HIV+ individuals without insurance or without adequate insurance;
 - **The Medical Home Extender for Diabetes Management Program** provides diabetes chronic care to a medically underserved community; and
 - The **Sinai Community Care** clinic provides primary care services to the uninsured and Medicaid recipients in the community;
- As the only hospital in Carroll County, Carroll Hospital plays a significant role in designing, delivering and supporting community health and services programs. In 1999 the Hospital and Carroll County Health Department formed the **Partnership for a Healthier Carroll County** to better meet community health care needs. The hospital has continued to invest in the Partnership and its work in bringing organizations together for community health initiatives has been an asset to the community. The hospital worked with the Partnership for a Healthier Carroll County to create **Access Carroll**, a patient-centered and integrated health care home for low-income residents of Carroll County. Primary medical care is provided by volunteer physicians, nurses and other medical professionals. By removing traditional barriers to quality health care, Access Carroll strives to help patients maintain good health and learn to manage any acute or chronic illnesses. Carroll Hospital contributed \$259,245 to Access Carroll in FY15 to cover salary and benefit expenses for the executive director, one full-time RN case manager and two part-time positions (an aide and development specialist). The hospital also provides laboratory and diagnostic imaging services to Access Carroll. In 2015, Access Carroll served 3,766 low income individuals;
- In order to address the issue of breast cancer in Carroll County, Carroll Hospital created the **One-on-One Breast Health Consultation** and **Clinical Breast Exam and Breast Health Awareness Community Education** programs to provide screening, facilitate treatment and promote breast cancer awareness programs. These programs served 1,589 women in FY 2015;

- Carroll Hospital provides ***Stroke Community Education & Screenings*** to educate the community about stroke warning signs. This education is targeted not only to people who may be at risk for stroke but potential caregivers and children who may be able to recognize the signs and call 9-1-1 as soon as possible. This was accomplished through articles, newspaper ads, magnets, community presentations/ education and social media posts. These efforts reached 4,981 individuals since 2012;
- Levindale Hospital offers the ***Stop Abuse of Elders (SAFE)*** program to support the prevention and treatment of elder abuse. The SAFE program provides a comprehensive approach that includes: crisis intervention, shelter, psychotherapy, advocacy, service coordination and community education and reached 235 seniors through workshops at Senior Centers and with 80 clergy members and 8,000 community members through webinars, presentations and other outreach efforts;
- The ***Freedom to Screen*** program at Northwest Hospital provides community outreach, breast cancer education, screenings and exams, mammograms, and follow-up diagnostic procedures for lower-income, uninsured and under-insured women in Baltimore County and City. The goal of the program is to provide women with the resources they need to increase breast cancer awareness and prevention. Additional assistance is offered to women who need help with patient navigation services. Patient navigators help women who have received a breast cancer diagnosis deal with their medical fears and develop a road to recovery; and
- Northwest Hospital - ***Domestic Violence (DOVE) Program*** provides 24/7 crisis intervention to victims of domestic violence in the emergency department, complete documentation of physical and psychological injuries, referrals to community and legal resources, as well as follow-up case management, support groups and counseling. Staff includes crisis interventionists, a forensic nurse, case managers and a psychotherapist.

Research Discovery, Innovation, and Commercialization

The health care and life sciences sectors have emerged as key drivers of the national and regional economies. This is especially true in urban areas, like the Baltimore Metropolitan area, where healthcare and life sciences have provided a stable a growing base of employment growth and economic development activity. The 2016 *Best is the Standard: A Strategic Plan for Accelerating Economic Development in Maryland* strategic plan identifies Biohealth and Life Sciences as one of ten targeted industry growth clusters for the state.²³ The Economic Alliance of Greater Baltimore (EAGB) has identified BioHealth and Health Care as two of the thirteen core industry clusters that are driving the regional economy. The EAGB reports that:

- Greater Baltimore is a global center for health care services. The region is home to world class institutions and practitioners, has a high concentration of employment in the health care industry and is experiencing rapid expansion and investment in critical infrastructure. The sector employs over 189,000 workers and that the region is home to the third highest concentration of health care services employees in the country. The Health Care sector is not

²³ <http://commerce.maryland.gov/Documents/ProgramReport/StrategicPlan2016.pdf>.

just a major employment and growth sector for the regional economy, it supports the growth and development of the region's IT, cyber, biosciences, and finance (health care plans) sectors as well;²⁴ and

- The Baltimore-Washington region is among the top 5 BioHealth hubs in the US, based on employment, number of firms and venture capital investment. The region is ranked first nationally in life sciences research, making the region the world's largest hub for medical research and discovery.²⁵

Each of the three jurisdictions in which LifeBridge Health's core operations are located explicitly recognize the important role played by hospitals and the health care sector in each County/City's economic base:

- In Baltimore City, where Sinai and Levindale Hospitals are located, the City's Comprehensive Economic Development Strategy identifies the Health and Bioscience Technology industry as one of the City's six core industry clusters and reports that "With world-class medical facilities and research institutions, Baltimore already has the foundation for an even stronger health and bioscience technology industry." In terms of the City's economic development strategy the City CEDS reports that, "Bolstering this sector offers the opportunity for major rewards for Baltimore in terms of well-paying jobs and increased prominence in the field;"²⁶
- In Baltimore County, home to Northwest Hospital, the County's economic development strategy identifies Healthcare as one of the six core industry clusters driving the County economy and that "Baltimore County is home to five major hospitals and the healthcare industry accounts for many jobs and significant investment. New models are being applied to the provision of healthcare nationally and Baltimore County stands to benefit from the decentralization of medical services;"²⁷ and
- The Carroll County Department of Economic Development reports that "Local Biotechnology and Biomedical industry leaders are conducting cutting-edge research for national and international pharmaceutical companies," and that Carroll Hospital is a key contributor to the County's employment base and quality of life advantages.²⁸

The State, regional and County/City economic development strategies in place all explicitly recognize the important role played by the healthcare and life sciences sector to the State and regional economies. The strength and reputation of the region's healthcare sector is a core determinant of Maryland's economic development success. Health systems, including Johns Hopkins, University of Maryland Medical System, MedStar and LifeBridge all play a major role in this sector by conducting cutting edge research, as originators of new technologies, and performers of clinical trials. LifeBridge Health contributes to the growth and development of the region's healthcare and life sciences sector through the research it conducts, through the diffusion of new medical techniques and other discoveries, and through its support for new medical research discoveries through clinical trials.

²⁴ See http://www.greaterbaltimore.org/portals/_default/publications/Industry%20Profiles/healthcare.pdf.

²⁵ See http://www.greaterbaltimore.org/portals/_default/publications/Industry%20Profiles/BioHealth.pdf.

²⁶ See <http://baltimoredevelopment.com/resources/ceds/>.

²⁷ See <http://baltimorecountybusiness.com/FinalStrategicPlan2012.pdf>.

²⁸ See <http://carrollbiz.org/tech> <http://carrollbiz.org/technology/development.php>.

The **LifeBridge Health Department of Research** provides cutting-edge medical research to help treat a variety of health concerns in the surrounding community. Its expert researchers conduct clinical trials to help in the advancement of new medical devices and drugs that can improve and save lives. The Department of Research is charged with the oversight, facilitation and support of all research activity occurring within LifeBridge Health. The department serves as a resource for faculty, physicians, residents, fellows and administrators, providing support services and guidance in fulfilling the obligation to plan and conduct all experimental procedures with the highest scientific, humane and ethical principles. LifeBridge Health was involved in \$1.3 million in research activities in FY2015. LifeBridge Health is engaged in the following research activities:

- 125 cooperative research agreements, mostly oncology clinical trials;
- 22 Federal and State funded research projects;
- 76 Industry funded research projects, which mainly consist of contracts to do research of interest to different pharmaceutical or medical device companies, with much of this activity is currently based at the Rubin Institute;
- 9 nonprofit funded research projects; and
- The LifeBridge Health Department of Research website lists 77 active clinical trials underway, with most in the areas of cancer treatment;

The Alvin & Lois Lapidus Cancer Institute Translational Research Laboratory, located at Sinai Hospital is one of the major research centers in LifeBridge Health. The aim of translational research is to rapidly move scientific discoveries from the bench to the bedside to ultimately improve patient care. Michael A. Tangrea, Ph.D., leads the research effort with interests in molecular diagnostics, tissue microdissection and genomic medicine. Working with clinicians and residents, the Translational Research Laboratory is engaged in research studies of triple negative breast cancer, lung cancer, chronic lymphocytic leukemia and melanoma. The Translational Research Laboratory also trains undergraduate students and currently has students from Loyola University Maryland, Towson University and Stevenson University;

The Central Research Laboratory (CRL) at Sinai Hospital is a 2,800 square foot laboratory facility focusing on research on physiology, cell biology, cellular metabolism, microenvironments, and bioenergetics. The CRL is designed to assist in the development and performance of investigator-initiated research projects, collaborate with staff and physicians on fundable/funded research opportunities, and mentor department-sponsored resident research activity. An on-site animal housing facility and surgical suites support CRL projects; and

The **LifeBridge BiIncubator at Sinai Hospital** is Maryland's only hospital-based bioincubator. The facility offers:

- 11 wet lab spaces ranging from 90 to 320 square feet;
- Prebuilt lab space to facilitate rapid move-in; each lab equipped with backup power and Internet access;
- Rooms available with biosafety level 2 containment hoods and CO₂ incubators to accommodate mammalian, stem cell or microbial cultures;
- A common equipment room with Type 1 ultrapure water, autoclave, dishwasher, gel imager -80 freezer and ice machine; and

- Access to conference rooms with video conferencing capabilities.

The LifeBridge BioIncubator at Sinai Hospital’s mission is to improve human health by bringing together emerging businesses, innovative technologies and leading physicians. The incubator offers direct access to patients, biological samples and investigators; a USDA-regulated research animal facility on site with access to large and small animals, and including a surgical theater; and streamlined IRB and administrative oversight. The incubator targets medical device and diagnostic start-up companies.

In addition to its support for broad based economic development through research, clinical trials and the Bioincubator, LifeBridge Health supports community redevelopment efforts occurring in its service area through grants, staff and volunteer support. Some examples of community redevelopment activities supported by LifeBridge Health include:

- Park Heights Renaissance, \$50,000 in grant support for housing redevelopment/public safety programming;
- Cylburn Combined Community Associations, \$25,000 in grant support for Community-Building Events/Public Safety/Scholarships;
- Aging in Place, \$80,000 in grant support for housing rehab/community stabilization efforts; and
- Mt. Washington School, \$5,000 in grant support for the School/Community Partnership.

Workforce Development and Graduate Medical Education

The presence of a skilled and educated workforce is among the chief determinants of success in state and regional economic development. In addition to its role in supporting health and life sciences research and commercialization, LifeBridge Health contributes to the education and training of healthcare professionals in the region. According to the American Hospital Association, Teaching Hospitals, such as LifeBridge’s Sinai hospital which is the third largest teaching hospital in Maryland, play a critical role in medical education and that, “teaching hospitals serve as centers for training future health care professionals, while also supporting an environment in which biomedical and clinical research can flourish, offering specialized services and providing patient care, often in the most disadvantaged communities.”²⁹ All of LifeBridge’s component hospitals play an important role in Graduate Medical Education (GME) as well as in supporting the training of nurses, lab technicians, as well as other medical professionals. The Workforce Development and Graduate Medical Education impacts of LifeBridge Health include:

- In the area of **Graduate Medical Education**, Sinai Hospital offers 6 ACGME approved residency programs and 8 non-accredited fellowship programs. Sinai currently hosts 136 medical residents and 17 fellows as part of its GME program. In addition Sinai hosts approximately 350 to 400 medical students, residents, Physician’s Assistants and Nurse Practitioner students from outside institutions for training rotations at Sinai;
- **The Sinai Center for Nursing Advancement** is dedicated to the pursuit of nursing scholarship and professional development for nurses at all levels across the Sinai Hospital organization. Under the leadership of Chief Nursing Officer Diane Johnson, the Center was created to provide

²⁹ See <http://www.aha.org/research/reports/tw/15june-tw-teachinghosp.pdf>.

ongoing education and development through a variety of processes and partnerships with schools and organizations across the Baltimore-Washington region;

- Northwest Hospital **Nursing Residency Program: PROJECT CONNECT**, offers nursing graduates a residency program. The residency program is available throughout the hospital specifically in the following areas: Emergency Department; ICU; IMC; Heart Care Unit; Medical Oncology; Geriatric Respiratory Care; and Surgical/Orthopedics. The RN Residency Program is a comprehensive 12 week program that focuses on classroom, as well as, hands-on training. Eligible participants include recent nursing graduates and those who will have passed the nursing boards;
- Carroll Hospital offers externships to qualified nursing students actively enrolled in an accredited program. Students must first serve an externship before advancing to an internship, which is available to senior level nursing students within six months of graduation;
- Carroll Hospital also offers a 1-year **Pharmacy Residency Program** that provides a concentrated learning experience equivalent to approximately 3 to 5 years of professional experience in the field;
- Levindale Hospital is a training site for health care professions students who seek the skills necessary to care for an aging population. Training programs include:
 - Geriatric nurse practitioner program;
 - Geriatric training for pharmacy students;
 - Geriatric training for dental students;
 - Geriatric training for registered nurses and licensed practical nurses;
 - Inpatient geriatric clinical experience for nursing students;
 - Training experience for physical therapy, speech therapy, occupational therapy and respiratory therapy students and baccalaureate nursing students;
 - Graduate social work internship program;
 - Supervised clinical education experience for medical records students;
 - Supervised clinical education experience for physician assistant students;
 - Fellowship program in continence and urology; and
 - Rehabilitation medicine residency program.
- The LifeBridge Health **Workforce Development Initiative**, which was launched in 2007 and includes the School at Work® program, a pre-allied health bridge course, job training and life skills coaching was awarded one of 9 “Frontline Healthcare Worker Champions” in the nation in 2014. The program provides: Life-skills coaching and Career and educational coaching with a focus on retention and advancement. The goal of the program is to assist front line workers with job retention and advancement opportunities. Each year, our program sponsors a variety of free classes for employees that aim to enhance their academic and life management skills. Additionally, when the business need arises, it can offer job training programs that train and place our incumbent employees in higher paying jobs. Two Life Skills/Career Coaches are a part of the WFD team and work closely with front line staff to address many workplace and personal issues. Last year, approximately 300 employees took advantage of WFD services.

In Conclusion

LifeBridge Health makes important contributions to the economic and overall wellbeing of the State of Maryland and the Baltimore Region. Consisting of four hospitals and a host of affiliated institutions, including Sinai, Carroll Levindale, and Northwest Hospitals, and LifeBridge Health and Fitness, LifeBridge Health, makes its most important contribution by providing top quality health care services that improve the health and quality of life for residents of Baltimore City, Baltimore County and Carroll County. In fulfilling its health care mission, LifeBridge Health also makes important contributions to the economic and social vitality of the State, region, and communities it serves.

LifeBridge Health is a Critical Economic Driver - As a \$1.2 billion health care system employing over 10,000 workers, LifeBridge Health is an important source of economic activity:

- *LifeBridge Health generates widespread economic impacts through its purchases of goods, services, and labor and generated \$2.6 billion in economic activity in the Maryland economy, supported 18,372 jobs earning \$1.2 billion in labor income, and generated \$109.0 million in State and local government revenues;*
- *Sinai Hospital supports \$1.2 billion in economic activity and 7,864 jobs in Baltimore City;*
- *Northwest Hospital supports \$438.4 million in economic activity and 3,218 jobs in Baltimore County;*
- *Carroll Hospital supports \$389.3 million in economic activity and 3,233 jobs in Carroll County;*
- *Levindale Hospital supports \$438.4 million in economic activity and 3,218 jobs in Baltimore City; and*
- *LifeBridge Health and Fitness supports \$11.2 million in economic activity and 178 jobs in Baltimore County.*

LifeBridge Health system's Sinai, Levindale and Northwest Hospitals are anchor institutions that form an integrated cluster of health care activity in the Baltimore City and County neighborhoods in which these hospitals are located, and LifeBridge's operations support \$168.6 million in activity and 1,134 jobs in an eight zip code area community service area.

LifeBridge Health Provides Substantial Community Benefits – In addition to serving as a generator of economic activity, LifeBridge Health also improves the overall health and wellbeing of the communities it serves through the community service, educational and economic development programs it offers. The community benefits supported by LifeBridge Health include the following:

- *Provides \$82.0 million in community benefits, including \$33.9 million Mission Driven Health Care Services, \$24.1 million in Health Professions Education, and \$9.6 million in Charity Care;*
- *Supports economic development through its research, clinical trials and incubator program; and*
- *Educates health care professionals through Graduate Medical Education, nursing and related health care professions training programs.*

By the objective measures presented in this report, LifeBridge Health supports the overall health, economic and community wellbeing of the communities it serves and supports both Maryland and the Baltimore Region's nationally recognized excellence in the health care and life sciences sector.

Appendix A- Economic Activity Analysis Methodology and Terms

LifeBridge Health retained the Jacob France Institute to prepare an analysis of the economic contribution of the overall health system on the State of Maryland, on the three jurisdictions – Baltimore City, Baltimore County, and Carroll County, and eight neighborhoods -- in which its principal facilities are located. This economic contribution analysis used the IMPLAN input-output model for the State of Maryland and the three jurisdictions analyzed. IMPLAN is one of the most widely used models in the nation, and can be used to analyze the impacts of companies, projects, or of entire industries. An input-output analysis examines the relationships among businesses and among businesses and final consumers. Input-output analysis is based on the use of multipliers, which describe the response of an economy to a change in demand or production. Multipliers measure the effects on an economy from a source of economic activity, in this case the provision of health care, nursing home and fitness services.

The economic activity generated in a city, county, region or state is greater than the simple total of spending associated with the event or activity being studied. This is because as this money is earned it is, in turn, spent, earned and re-spent by other businesses and workers in the state economy through successive cycles of spending, earning and spending. However, the spending in each successive cycle is less than in the preceding cycle because a certain portion of spending “leaks” out of the economy in each round of spending. Leakages occur through purchases of goods or services from outside of the region and federal taxation. The IMPLAN multipliers used in this analysis capture the effects of these multiple rounds of spending. This analysis focuses on four measures of economic impact:

- **Output.** The total value of production or sales in all industries;
- **Employment.** The total number of full and part time jobs in all industries;
- **Labor Income.** The wages and salaries, including benefits, and other labor income earned by the workers holding the jobs created; and
- **State and Local Government Revenues.** The revenues accruing to the State of Maryland, county, City and municipal governments.

Four measures of the economic activity and impact of the jobs supported LifeBridge Health and its component units are included in this report:

- **Direct effects.** The change in economic activity being analyzed—in this case the provision of health care and fitness services;
- **Indirect effects.** The changes in inter-industry purchases, for example the purchase of medical supplies by a hospital, in response to the change in demand from the directly affected industries;
- **Induced effects.** The changes in spending from households as income and population increase due to changes in production; and
- **Total effects.** The combined total of direct, indirect and induced effects.

Appendix B- Hospital Economic Activity Summaries

Sinai Hospital

Sinai Hospital of Baltimore features renowned centers of excellence – some with national and international acclaim. As the largest community hospital and the third largest teaching hospital in Maryland; Sinai Hospital’s mission is to provide quality patient care, educate medical students and residents, and engage in research to improve the lives of people all over the world.

With 342 beds, revenues FY2015 revenues of \$728.0 million and 24,342 admissions, Sinai Hospital is the largest of LifeBridge Health’s four hospitals.



Maryland Economic Impact Summary: Sinai Hospital directly generates \$797.5 million in revenues and employs 5,229 workers. These direct impacts are augmented with \$292.8 million in economic activity and 1,892 jobs in the form of *Indirect Impacts* from local purchases and \$395.1 million and 2,785 jobs in the form of *Induced Impacts* from the increase in household incomes associated with the hospital for a total State of Maryland impact of \$1.5 billion in economic activity, supporting 9,906 jobs earning \$670.9 million in labor income, and generating \$61.3 million in State and local government revenues.

Appendix Table B-1: Economic Impact of Sinai Hospital on Maryland - Fiscal 2015¹

| | Output (Mil. \$s) | Labor Income (Mil. \$s) | Employment | State/Local Tax Revenue (Mil. \$s) |
|-------------------------|----------------------|----------------------------|--------------|---------------------------------------|
| Direct Effect | \$797.5 | \$420.9 | 5,229 | \$21.7 |
| Indirect Impacts | \$292.8 | \$115.0 | 1,892 | \$14.6 |
| Induced Impacts | \$395.1 | \$135.0 | 2,785 | \$25.0 |
| Total Impact | \$1,485.3 | \$670.9 | 9,906 | \$61.3 |
| State Impact Multiplier | 1.86 | 1.59 | 1.89 | |

(1) FY2015 is July 1, 2014 to June 30th 2015

Source: JFI Calculations Using the IMPLAN Model

Neighborhood Economic Impact Summary: Sinai Hospital spends \$107.6 million on payroll and purchases in its eight zip code Baltimore City/County neighborhood area and these expenditures support \$102.4 million in economic activity, with an associated 685 jobs earning a total of \$35.0 million in salaries and wages and generated an estimated \$6.2 million in State and City government revenues in the targeted communities.

Selected Social and Community Impacts: Sinai Hospital spent over \$50 million to provide community benefits to its Baltimore Metropolitan Area service area. As a teaching hospital, Sinai’s largest social and community impact is from the \$23 million it spends on Health Professions Education, which includes expenditures on physician/medical resident training, nursing students training, and other health care training related expenditures. The hospital’s second major area of social and community impact is through its \$15 million in expenditures on Mission Driven Health Care Services or free or reduced price services provided to the community as a direct result of its community service mission and the Hospital provided over \$4 million in Charity Care.

Northwest Hospital

Northwest Hospital, located in Randallstown, Maryland, carries out its vision to be the recognized leader in clinical quality and customer care in the northwest Baltimore metropolitan region. Northwest Hospital’s strong philosophy of patient-centered care is evident from its friendly employee culture to its facility design. The hospital leads in surgical innovation, has outpatient services that are highly acclaimed by patients and is home to a competent emergency department that expertly handles heavy volumes.



With 320 beds, FY2015 revenues of \$233.6 million and 10,430 admissions, Northwest Hospital is the third largest of LifeBridge Health’s four hospitals.

Maryland Economic Impact Summary: Northwest Hospital directly generates \$255.9 million in revenues and employs 1,804 workers. These direct impacts are augmented with \$94.0 million in economic activity and 607 jobs in the form of *Indirect Impacts* from local purchases and \$131.8 million and 929 jobs in the form of *Induced Impacts* from the increase in household incomes associated with the hospital for a total State of Maryland impact of \$481.7 million in economic activity, supporting 3,340 jobs earning \$223.8 million in labor income, and generating \$20.3 million in State and local government revenues.

Appendix Table B-2: Economic Impact of Northwest Hospital on Maryland - Fiscal 2015¹

| | Output (Mil. \$s) | Labor Income (Mil. \$s) | Employment | State/Local Tax Revenue (Mil. \$s) |
|-------------------------|----------------------|----------------------------|--------------|---------------------------------------|
| Direct Effect | \$255.9 | \$141.9 | 1,804 | \$7.2 |
| Indirect Impacts | \$94.0 | \$36.9 | 607 | \$4.7 |
| Induced Impacts | \$131.8 | \$45.1 | 929 | \$8.3 |
| Total Impact | \$481.7 | \$223.8 | 3,340 | \$20.3 |
| State Impact Multiplier | 1.88 | 1.58 | 1.85 | |

(1) FY2015 is July 1, 2014 to June 30th 2015

Source: JFI Calculations Using the IMPLAN Model for Maryland.

Neighborhood Economic Impact Summary: Northwest Hospital spends \$36.2 million on payroll and purchases in its eight zip code Baltimore City/County neighborhood area and these expenditures support \$32.5 million in economic activity, with an associated 220 jobs earning a total of \$11.0 million in salaries and wages and generated an estimated \$2.0 million in State and County government revenues.

Selected Social and Community Impacts: Northwest Hospital spent nearly \$16 million to provide community benefits to its Baltimore Metropolitan Area service area. Its main area of social and community benefits is \$9 million in expenditures on Mission Driven Health Care Services or free or reduced price services provided to the community as a direct result of its community service mission and the Hospital provided over \$3 million in Charity Care.

Carroll Hospital

Carroll Hospital is a nonprofit, acute care facility offering the latest in medical technology, experienced medical professionals in a variety of specialties, and a continuum of programs and services to meet the needs of the community. Over the past five decades, Carroll Hospital has evolved significantly from a community hospital to become a true medical center on par with larger urban hospitals. However, the hospital is still a tight-knit community where doctors, nurses and staff members treat their friends, neighbors and families.



With 139 beds, estimated FY2015 revenues of over \$250 million and 12,000 admissions,³⁰ Carroll Hospital is the second largest of LifeBridge Health’s four hospitals.

Maryland Economic Impact Summary: Carroll Hospital directly generates \$263.9 million in revenues and employs 2,084 workers. These direct impacts are augmented with \$96.9 million in economic activity and 626 jobs in the form of Indirect Impacts from local purchases and \$122.9 million and 866 jobs in the form of Induced Impacts from the increase in household incomes associated with the hospital for a total State of Maryland impact of \$483.7 million in economic activity, supporting 3,577 jobs earning \$208.7 million in labor income, and generating \$19.4 million in State and local government revenues.

Table B-3: Economic Impact of Carroll Hospital¹ on Maryland - Fiscal 2015²

| | Output (Mil. \$s) | Labor Income (Mil. \$s) | Employment | State/Local Tax Revenue (Mil. \$s) |
|-------------------------|----------------------|----------------------------|--------------|---------------------------------------|
| Direct Effect | \$263.9 | \$128.7 | 2,084 | \$6.8 |
| Indirect Impacts | \$96.9 | \$38.0 | 626 | \$4.8 |
| Induced Impacts | \$122.9 | \$42.0 | 866 | \$7.8 |
| Total Impact | \$483.7 | \$208.7 | 3,577 | \$19.4 |
| State Impact Multiplier | 1.83 | 1.62 | 1.72 | |

(1) Carroll County Hospital was only Part of LifeBridge for the fourth quarter of FY 2105. No data were available for the full fiscal year - so data were estimated based on one quarter's operating information.

(2) FY2015 is July 1, 2014 to June 30th 2015

Source: JFI Calculations Using the IMPLAN Model for Maryland.

Selected Social and Community Impacts: Carroll Hospital has a unique service mission as the County’s only hospital. The Hospital spent nearly \$13 million to provide community benefits to its Carroll County/Baltimore Metropolitan Area service area. Its main area of social and community benefits are: \$8 million in expenditures on Mission Driven Health Care Services or free or reduced price services provided to the community as a direct result of its community service mission; \$2 million Community Health Services; and the Hospital provided over \$1 million in Charity Care.

³⁰ Because Carroll Hospital joined LifeBridge in the final quarter of FY2015, total revenues and admissions for the year are estimated.

Levindale Hebrew Geriatric Center and Hospital

Levindale Hebrew Geriatric Center and Hospital has been carrying out its vision for nearly 125 years to provide quality health care and forward-looking programs for people who are elderly and disabled. It was the first facility in Maryland to implement the Eden Alternative program for elder care. This philosophy adds friendship, freedom and fun to the lives of residents and patients.



As a 210 nursing home bed and 120 hospital bed combined nursing home and specialty hospital and with FY2015 revenues of \$74.3 million Levindale Hebrew Geriatric Center and Hospital is the smallest of LifeBridge Health’s four hospitals.

Maryland Economic Impact Summary: Levindale Hospital directly generates \$81.4 million in revenues and employs 825 workers. These direct impacts are augmented with \$29.9 million in economic activity and 193 jobs in the form of *Indirect Impacts* from local purchases and \$49.6 million and 350 jobs in the form of *Induced Impacts* from the increase in household incomes associated with the hospital for a total State of Maryland impact of \$160.9 million in economic activity, supporting 1,368 jobs earning \$84.3 million in labor income, and generating \$7.4 million in State and local government revenues.

Table B-4: Economic Impact of Levindale Hospital on Maryland - Fiscal 2015¹

| | Output (Mil. \$s) | Labor Income (Mil. \$s) | Employment | State/Local Tax Revenue (Mil. \$s) |
|-------------------------|----------------------|----------------------------|--------------|---------------------------------------|
| Direct Effect | \$81.4 | \$55.6 | 825 | \$2.7 |
| Indirect Impacts | \$29.9 | \$11.7 | 193 | \$1.5 |
| Induced Impacts | \$49.6 | \$17.0 | 350 | \$3.1 |
| Total Impact | \$160.9 | \$84.3 | 1,368 | \$7.4 |
| State Impact Multiplier | 1.98 | 1.52 | 1.66 | |

Source: JFI Calculations Using the IMPLAN Model for Maryland.

Neighborhood Economic Impact Summary: Levindale Hospital spends \$15.6 million on payroll and purchases in its eight zip code Baltimore City/County neighborhood area and these expenditures support \$13.7 million in economic activity, with an associated 93 jobs earning a total of \$4.6 million in salaries and wages and generated an estimated \$0.9 million in State and City government revenues.

Selected Social and Community Impacts: Levindale Hospital spent nearly \$3 million to provide community benefits to its Baltimore Metropolitan Area service area. Its main area of social and community benefits is \$1.4 million in expenditures on Mission Driven Health Care Services or free or reduced price services provided to the community as a direct result of its community service mission and the Hospital provided nearly \$1 million in Charity Care.