

The Impact of Mary Washington Healthcare on the Economy Of the Fredericksburg Region in 2010

Prepared for

**Mary Washington Healthcare
Fredericksburg, Virginia**

By

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August 2011

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June 2011**

Executive Summary

Mary Washington Healthcare (MWHC) is a major source of employment, payroll, and business investment that benefits the economies of Fredericksburg and the Counties of Spotsylvania, Stafford, Caroline, King George, and Westmoreland, and portions of Orange and Prince William, defined as the MWHC's primary service area. These economic impacts are summarized in Table 1. The magnitude of these combined economic impacts establish MWHC as a one of the principal sources of total output in the Fredericksburg region, accounting for 3.9 percent of its \$18.1 billion economy. Given the increasing size and complexity of the Fredericksburg regional economy, this magnitude of economic contribution originating from MWHC is significant and will help position the region's economy for accelerating growth as it emerges from the longest and deepest recession in seventy years.

In 2010, Mary Washington Healthcare employed 4,385 workers within the Commonwealth of Virginia, an increase of 17 percent from 2005, with 3,994 or 91.1 percent of these employees residing within MWHC's primary service area. This resident job base increased 23 percent from its number in 2005. These local jobs supported a total payroll outlay of \$219.4 million with an average annual wage of \$46,534, up 17 percent from 2005.

The operating outlays of Mary Washington Healthcare generate important local economic benefits that recur annually. Additional one-time economic benefits result from capital outlays. Annual operating outlays by Mary Washington Healthcare, exclusive of regular payroll, totaled \$384.7 million in 2010 with vendors located within MWHC primary service area capturing \$64.0 million or 16.6 percent of these annual outlays.

Beyond these direct operating and capital outlays, MWHC's economic impacts extend to a range of related activities within its primary service area illustrated by its Urgent Care Centers, its affiliated physicians with hospital privileges, and its Auxiliary. These activities had direct expenses totaling \$36.5 million in 2010 and contributed a total of \$42.5 million to the Fredericksburg regional economy with this spending supporting a total of 352 jobs of which 220 of these jobs employed workers residing within the local area earning a total of \$9.9 million.

This analysis demonstrates the magnitude of economic impacts that flow from the operating outlays of Mary Washington Healthcare and its subsidiaries to the benefit of the City of Fredericksburg and the Counties of Spotsylvania, Stafford, Caroline, King George, Westmoreland, Orange and Prince William as well as the expanded impacts of this spending as it circulates through these local economies. While the direct employment effects and annual spending outlays are great and have important direct benefits to the regional economy, it is their multiplier effects that provide the full measure of the importance of these outlays in stimulating additional job and income growth that determine their full contribution of this spending to each respective economy as measured by their total added value to their gross city and county products.

The total economic impacts captured within MWHC's primary service area are summarized in Table 1. In addition to MWHC's direct employment of 3,994 residents of its primary service area with a payroll of \$219.4 million and payments to local vendors totaling \$64.0 million, the re-spending of the payroll and vendor income within the area economy increased the regional economy's total output to \$328.2 million, supporting 2,800 total jobs of which an estimated 1,651 or 59 percent were held by local residents spanning all sectors of the economy generating new personal income within the regional economy totaling \$74.3 million.

During 2010, MWHC spent a total of \$21.96 million for capital goods of which \$1.12 million or 5 percent was captured by suppliers located within the primary service area. This local capital spending generated additional economic benefits during the year; capital outlays differ from operating outlays as the latter recur annually where capital outlays vary from year-to-year reflecting the long life span of capital purchases. This \$1.12 million capital outlay added a total of \$1.90 million to the Fredericksburg regional economy reflecting a composite multiplier of 1.70. This capital spending supported 13 full-time equivalent jobs of which 10 are estimated to have been held by local residents. These local jobs generated new personal earnings totaling \$457,000 in 2010.

MWHC is a part-owner of six Urgent Care Centers serving the Fredericksburg Region that had an operating budget of \$6.8 million (excluding employee benefits) supporting 69 jobs in 2010. As these expenditures for payroll and operations were recycled within the regional economy they generated a total of \$8.8 million within the regional economy, supporting an additional 75 jobs of which an estimated 47 were held by local residents with personal earnings totaling \$2.1 million.

In addition to MWHC's full-time employed physicians, there were 153 physicians requiring the use of MWHC's facilities to provide medical services to their patients. The estimated economic impacts generated by these physicians added \$32 million additional spending within the regional economy, supported 262 total job of which 164 were locally based generating \$7.4 million in new personal earnings.

The direct spending by MWHC's Auxiliary gift and thrift shops added \$964,200 to the local economy in 2010, including \$203,716 for wages and salaries. This spending contributed a total of \$1.6 million to the area's gross regional product supporting 15 jobs

beyond those employed by the Auxiliary of which 9 are estimated to be held by area residents with personal earnings totaling \$386,355.

Table 1

Summary of Local Economic Impacts from Mary Washington Healthcare:
2010 Payroll and Operating Outlays
(in millions of 2010 dollars)

Source of Impact	Direct Outlays	Total Output(1)	Personal Earnings(2)	Jobs Supported(3)
MWHC Outlays	\$283.46	\$328.25	\$74.29	2,800
Payroll	219.46	227.10	48.47	1,964
Local Vendors	64.00	101.15	25.82	838
Urgent Care	6.82	8.88	2.12	75
Physicians*	28.74	32.00	7.41	262
MWHC Auxiliary	.96	1.62	.39	15
Total Impacts**	\$603.44	\$699.00	\$158.50	5954
Capital Outlays***	\$1.12	\$1.90	\$0.46	13

Sources: Mary Washington Healthcare, GMU Center for Regional Analysis

Notes: (1) the total value of goods and services generated directly and indirectly as a result of the initial MWHC outlay; (2) the additional earnings generated within the service area from the new economic activities supported by the initial MWHC outlays; (3) the additional new local and non-local jobs supported by the spending and re-spending of the direct MWHC outlays.

*affiliated with but not employed by MWHC. **These economic impacts from payroll and procurement outlays, Urgent Care outlays and related-physician earnings and operating outlays recur annually. ***Economic impacts from capital outlays relate only to 2010 capital spending.

The economic benefits generated by Mary Washington Healthcare’s payroll and operating outlays, the one-time benefits flowing from capital expenditures, and the independent payroll spending and operating outlays of the physicians affiliated with MWHC, MWHC’s Urgent Care Centers and its Auxiliary constitute important sources of economic activity with the Fredericksburg Region with these benefits exceeding the direct dollar value of the initial expenditures. As payroll and operating outlays recur annually and have increased over time, these expanded economic benefits will continue to grow and stimulate the economies of the City of Fredericksburg and the Counties served by and benefiting from Mary Washington Healthcare: Spotsylvania, Stafford, Caroline, King George, Westmoreland, Orange and Prince William.

The Impact of Mary Washington Healthcare on the Economy Of the Fredericksburg Region in 2010

The total economic impacts of spending by Mary Washington Healthcare (MWHC) will reflect the combination of direct outlays (payroll, operating and capital) and their subsequent monetary effects as these funds are circulated through the economy; that is, the re-spending of these direct outlays will generate additional economic activity that otherwise would not have occurred.

The total value of these combined direct and indirect values can be estimated by the application of appropriate multipliers that have been calculated for Fredericksburg and Spotsylvania County and the Counties of Stafford, Caroline, King George, Westmoreland, Orange and Prince William by the Bureau of Economic Analysis of the U.S. Department of Commerce employing its Regional Input-Output Model (RIMS II).

The results of these calculations are estimates of: (1) output value—total contribution to the economy; (2) personal earnings—new earnings realized by residents of the jurisdiction; and (3) the local and non-local jobs supported by these outlays—full-time year-round jobs. The key variables governing the magnitude and significance of these economic impacts are their dollar value, the category of service or product purchased, and the direct employment and payroll associated with the direct spending. In addition, the size of the geographic unit of analysis and the complexity of its economy affect the magnitude of the multiplier by determining the extent to which the local economy can provide the inputs for and retain the outputs of the economic activities being analyzed.

The following analysis will examine the economic impacts of annual outlays associated with the operation of Mary Washington Healthcare (MWHC) in 2010 and the annual economic impact of capital outlays made by MWHC in 2010. In addition to the direct outlays made by MWHC, annual expenditures of directly related health care providers that would not have occurred in the absence of MWHC generate beneficial economic impacts within the regional economy. These outlays include: the operating expenditures by the six Urgent Care Centers in the primary service area in which MWHC has a major ownership, the physicians who are associated with MWHC but not on its payroll and operate their own professional offices within the region and operating outlays by MWHC's Auxiliary gift and thrift shops. While these operating outlays and their economic impacts recur annually, thereby magnifying their importance over time, their impacts identified herein reflect only a one-year slice of this on-going stream of benefits.

Operating outlays are divided into two categories: payroll and non-payroll outlays. These divisions reflect substantially different economic impact patterns: payroll is spent differently than outlays for operations and therefore has different effects on the local economies. Payroll outlays support consumer spending while operating outlays support other vendors and their day-to-day business activities including the wages and salaries paid to their employees as well as outlays for supplies, overhead, profits and new

business investment. These outlays and those reflecting payroll spending impact the broad base of the local economy.

Overview Of Mary Washington Healthcare

Mary Washington Healthcare (MWHC) and its subsidiaries provide a wide range of health services to the residents and workforce of Fredericksburg and its surrounding seven counties: Spotsylvania, Stafford, Caroline, King George, Westmoreland, Orange and Prince William (only portions of these last two counties are included in MWHC's primary service area). MWHC's primary service area (excluding PW County) had a total population of 403,733 in 2010 and a full-time job base of 131,350. The primary service area (the City and counties) had an economy that generated \$18.078 billion in goods and services (its gross regional product) in 2010.

Expenditures by MWHC and its subsidiaries, as reported in its 2010 Consolidated Financial Statements, are presented in Table 2.

Table 2

Mary Washington Healthcare and Subsidiaries
Consolidated Statements of Operation, 2010
(in millions of 2010 dollars)

Source	Expenses
Salaries and wages	\$244.568
Employee Benefits	60.074
Contract Personnel	13.505
Professional Fees	42.076
General and Administrative	15,911
Depreciation/Amortization	35.164
Interest	14.054
Pharmacy and Other Costs	4.806
Contract Services	38.037
Supplies	110.278
Utilities	5.350
Insurance	4.907
Rent	12.669
Provision for Bad Debts	95.190
Other	5.279
Total Expenses	\$701.868

Source: Mary Washington Healthcare, Consolidated Financial Statements, Year Ending December 31, 2010, p.4.

Mary Washington Healthcare reported total expenses in 2010 of \$701.9 million, up 2.3 percent from 2009. Personnel costs (wages and salaries) accounted for 34.8 percent of these outlays. In 2010, MWHC had 4,385 employees with a payroll of \$244.568 million (excluding employee benefits) and made payments to vendors for the purchase of goods and services totaling \$384.7 million.

In 2010, Stafford Hospital and Mary Washington Hospital served a total of 377,050 patients with 345,653 or 91.7 percent of these being treated as outpatients. While MWHC's principal source of patients is from within its primary service area, it also serves patients from beyond its service area's borders. In 2010, 26,011 or 6.9 percent of all patients were non-local residents. These patients and the associated expenditures relating to the health services they received reflect the export dimension of MWHC's economic activities.

Employment Impacts of Mary Washington Healthcare

The economic contribution of any organization is commonly judged by the number of jobs and the value of the payroll it generates. Mary Washington Healthcare is a major source of jobs within its primary service area with a workforce totaling 4,385 exclusive of attending physicians (not directly employed by MWHC) and contract employees. The payroll associated with these workers totaled \$244.5 million in 2010. The residential distribution of these workers and associated payroll outlays are shown in Table 3.

In 2010, 63.8 percent of all employees of Mary Washington Healthcare were classified as full-time with the average annual income per worker (both full- and part-time) totaling \$46,534 (excluding fringe benefits) for those workers residing within the primary service area.

While direct job generation is important, the impacts of this payroll (as it is re-spent within the local economy) generate significant additional economic benefits. The salary multipliers underlying the calculations in Table 4 illustrate the cumulative impacts associated with MWHC's employment base. For example, in Fredericksburg and Spotsylvania County, for each dollar in MWHC's payroll paid to workers living in the County, the County's economy realizes a total benefit of \$1.58. Additionally, Spotsylvania County residents capture an additional \$348,860 in new personal income (wages and salaries) for each \$1,000,000 of the payroll earned by MWHC workers living in Spotsylvania County. This re-spending of MWHC's payroll within the local economy also supported jobs other than those workers employed directly by MWHC. In the City of Fredericksburg and Spotsylvania County 13.9 jobs are supported (these include local or non-local jobs) for each \$1 million in payroll spending by MWHC for its workers residing in the County. Each county has its own unique multipliers based on the size and complexity of its respective economy as this affects the degree to which resident spending is retained within the county of residence of MWHC's workforce.

Table 3

Mary Washington Healthcare Employment Profile, 2010
(dollars in millions)

Place of Residence	Number of Jobs	Percent Of total	Total Payroll*
Fredericksburg	388	8.8	\$19.970
Spotsylvania County	1,687	38.5	95.360
Stafford County	1,068	24.3	61.192
Caroline County	276	6.3	12.836
King George County	192	4.4	9.041
Westmoreland County	40	0.9	1.889
Orange County	156	3.6	8.770
Prince William County	187	4.3	10.397
Primary Service Area	3,994	91.1	\$219.455
Beyond PSA	391	8.9	25.056
Totals	4,385	100.0	\$244.511

Source: Mary Washington Healthcare

*excludes fringe benefits

The calculation of the local economic impacts for MWHC's payroll outlays by place of its workers' residence requires that a composite multiplier be developed that reflects the budget (types of household spending) that typifies the allocation of income for retail, housing, health, personal services, transportation and local government (taxes). As federal and state taxes remove a portion of these earnings from the local economy, it has been assumed for the purpose of this analysis that 70 percent of payroll is available for local spending after adjustments for federal and state taxes. To calculate the economic impact of MWHC's local payroll spending shown in Table 3, payroll outlays have been reduced to 70 percent and the respective county multipliers applied. The results of these calculations of the economic impact generated by MWHC's payroll outlays are presented in Table 4.

The economic impacts of MWHC's payroll spending within its primary service area totaled \$227.1 million in 2010. This value is based on the total local payroll outlay of \$219.4 million adjusted for state and federal taxes to \$153.6 million in disposable income resulting from MWHC's payroll outlays. The aggregate multiplier for all eight jurisdictions is 1.478; that is, for each payroll dollar of disposable local earnings, an additional \$0.48 in economic activity is generated. In total, this payroll spending added \$227.1 million to the local economy, generated \$48.5 million in new personal earnings for residents in MWHC's primary service area and supported 1,964 local and non-local jobs, of which 1,077 or 55 percent were held by local resident workers; that is, 1,077 jobs in other sectors spanning the local economy in addition to the 4,716 locally filled jobs generated directly by Mary Washington Healthcare within its primary service area.

Table 4

Economic Impact of Payroll Spending
By Mary Washington Healthcare's Workforce*
(in millions of 2010 dollars)

Jurisdiction of Residence	Payroll Outlay (1)	Total Output (2)	Personal Earnings (3)	Jobs Supported (4)
Fredericksburg	\$19.970	\$21.542	\$4.767	190
Spotsylvania County	95.360	105.134	22.936	928
Stafford County	61.192	60.139	10.803	464
Caroline County	12.836	12.040	3.411	142
King George County	9.041	7.595	1.290	55
Westmoreland County	1.889	1.672	0.610	22
Orange County	8.770	7.785	2.138	85
Prince William County	10.397	11.196	2.518	78
Totals	\$219.455	\$227.103	\$48.473	1,964

Sources: Mary Washington Healthcare, GMU Center for Regional Analysis

Notes: (1) includes only wages and salaries of MWHC employees of listed jurisdiction; (2) the total value of goods and services generated directly and indirectly as a result of the initial payroll outlay within the jurisdiction; this calculation is based on 70 percent of payroll being available for local spending; (3) the additional earnings occurring within the respective jurisdiction from the new economic activities supported by payroll outlays; (4) the additional local and non-local jobs supported by the spending and re-spending of the new payroll dollars. *These economic impacts recur annually.

The Economic Impacts of MWHC's Operating Outlays

While payroll outlays by Mary Washington Healthcare (MWHC) have been shown to have important and recurring benefits to the economies of the City of Fredericksburg and Counties of Spotsylvania, Stafford, Caroline, King George, Westmoreland, Orange and Prince William, MWHC's spending for the purchase of goods and services from local vendors generates additional economic impacts that have broad-based benefits to the local and regional economies.

Annual spending by Mary Washington Healthcare to operate its facilities across its primary service area involves both payroll (as discussed previously) and a wide range of supporting non-payroll expenditures. Non-payroll spending includes: service contracts and contract labor, professional and business services, outlays for regular maintenance and repairs, utilities, taxes, leases, and office equipment and supplies. Total operating outlays reflect a different pattern of expenditures than direct payroll. Where almost 90

percent of MWH's payroll outlays were captured by workers residing in its primary service area, only 16.6 percent of its non-payroll outlays are captured by local vendors.

This procurement pattern reflects differences in the mix of goods and services provided by local and non-local firms. Typically, major equipment purchases (MRI and CT machines) and medical supplies are by national firms and consequently the payments accruing to local vendors represent a smaller share of the total. In 2010, vendors located within the MWHC's primary service received \$64.0 million in contract awards while 500 vendors located elsewhere in the Commonwealth captured \$33.7 million in contract awards, and 2,305 vendors nationally and internationally received awards totaling \$288.0 million. The pattern of the local suppliers is shown in Table 5.

Table 5
MWHC Vendor Payments by Jurisdiction, 2010
(in millions of 2010 dollars)

Jurisdiction Of Vendor	Vendors	Vendor Payments	Percent of Total
Fredericksburg	327	\$36.752	57.4
Spotsylvania County	231	13.608	21.3
Stafford County	188	11.924	18.6
Caroline County	24	0.722	1.1
King George County	22	0.292	0.4
Westmoreland County	18	0.244	0.4
Orange County	20	0.434	0.7
Prince William County	7	0.023	0.1
Primary Service Area	837	\$63.999	100.0
Other Virginia	500	\$33.716	
Outside State	2,305	\$287.979	
Grand Totals*	3,642	\$384.695	

Source: Mary Washington Healthcare. *column entries may not add up to column totals due to rounding.

The economic importance of MWHC's operating outlays, beyond their dollar value, is that they recur (and likely increase) each year. Therefore, the economic impacts they generate, as reported in Table 6, are not one-time benefits such as those that flow from capital outlays, but continue to support job and income growth in the local economy year after year.

The \$64.0 million in direct operating outlays that Mary Washington Healthcare spent in its primary service area in 2010 added a total of \$101.2 million to the Fredericksburg Region's gross regional product that year reflecting a multiplier of approximately 1.58;

that is, for each additional \$1 of spending by MWHC for its annual operations, the primary service area’s economy realized a total benefit of \$1.58. Additionally, this local spending generated new annual personal earnings for local residents of \$25.8 million and supported a total of 838 jobs of which an estimated 574 or 68 percent were held by local residents in addition to the jobs supported by MWHC’s direct payroll disbursements. The economic impacts of these operating outlays are presented in Table 6 by the jurisdiction in which the vendors were located.

Table 6

The Economic Impact of Annual Operations Outlays by MWHC*
(in millions of 2010 dollars)

Jurisdiction of Vendor	Operating Outlays (1)	Total Output (2)	Personal Earnings (3)	Jobs Supported (4)
Fredericksburg	\$36.752	\$59.681	\$15.645	504
Spotsylvania County	13.608	22.099	5.793	186
Stafford County	11.924	16.734	3.377	114
Caroline County	0.722	1.068	0.469	16
King George County	0.292	0.343	0.051	2
Westmoreland County	0.244	0.606	0.269	9
Orange County	0.434	0.584	0.208	7
Prince William County	0.023	0.036	0.009	0
Primary Service Area	\$63.999	\$101.151	\$25.821	838

Sources: Mary Washington Healthcare, GMU Center for Regional Analysis
Notes: (1) reported by location of vendor; (2) the total value of goods and services generated directly and indirectly as a result of the initial operating outlays within the jurisdiction; (3) the additional earnings generated within the respective jurisdiction from the new economic activities supported by the operating outlays; (4) the additional new local and non-local jobs supported by the spending and re-spending of the new operating expenditures.

*These economic impacts recur annually.

Mary Washington Healthcare’s hospitals, clinics and other services act as a catalyst for the attraction of complementary businesses that have contributed to the development of Fredericksburg and Spotsylvania County and Stafford County as emerging employment centers within its region. In addition to its vendors, other retail, professional, and service activities find location in proximity to MWHC beneficial to their businesses as they serve overlapping markets and benefit from the enlargement of their customer base through co-location with complementary as well as competing activities.

Summary of Economic Benefits from Annual Spending
By Mary Washington Healthcare

The annual spending by Mary Washington Healthcare (MWHC) for its operations makes it a major force in the local and regional economies. While MWHC provides essential health care services to the more than 400,000 residents (2010) of its primary service area, MWHC is also a major local economic force as an employer with 3,994 jobs held by local residents with a payroll of \$219.4 million and is an important source of business for local suppliers and contractors. In 2010, local vendors payments from MWHC totaled \$64.0 million. The distribution of MWHC’s annual operating outlays and their economic impacts—their contribution to the region’s economy, generation of new personal earnings, and the jobs supported by the spending and re-spending of these MWHC outlays—are presented in Table 7.

Table 7

Summary of Economic Impacts from MWHC Payroll
and Vendor Payments By Jurisdiction, 2010
(in millions of 2010 dollars)

Jurisdiction Of Impact	MWHC Outlays (1)	Total Output (2)	Personal Earnings (3)	Jobs Supported (4)
Fredericksburg	\$56.7	\$81.2	\$20.4	694
Spotsylvania County	109.0	127.2	28.7	1115
Stafford County	73.1	76.9	14.2	578
Caroline County	13.6	13.1	3.9	157
King George County	9.3	7.9	1.3	56
Westmoreland County	2.1	2.3	0.9	31
Orange County	9.2	8.4	2.3	92
Prince William County	10.4	11.2	2.5	78
Primary Service Area*	\$283.4	\$328.2	\$74.3	2,800

Sources: Table 4 and 6. *columns entries may not equal totals due to rounding

While the distribution of this spending reflects the residential and business location patterns in the primary service area that concentrate their impacts in the City of Fredericksburg and Spotsylvania County and with the opening of Stafford Hospital these benefits are increasingly accruing to Stafford County, all jurisdictions in MWHC’s primary service area benefitted economically from the \$283.4 million spent locally by MWHC to carry out its health and wellness activities. Additionally, the concentration of MWHC’s activities has generated agglomeration benefits that have contributed to the Fredericksburg Region’s increasing attractiveness to complementary and other businesses and organizations seeking locations central to a growing employment and market base.

The full contribution of this direct spending by MWHC (\$283.4 million) to the primary service area's overall economy totaled \$328.2 million in 2010. The direct and indirect effects of this direct spending resulted in generating \$74.3 million in new personal earnings that accrued to residents of MWHC's primary service area and supported 2,800 local and non-local jobs with an estimated 1,651 or almost 60 percent of these being held by workers residing within the primary service area.

The Economic Impacts Of Capital Spending **By Mary Washington Healthcare, 2010**

Beyond these annual outlays for payroll and operations, Mary Washington Healthcare's spending for capital items (buildings, vehicles, major equipment) is another source of local economic impact. These capital outlays and their re-spending within the local economy support vendor jobs and a broad base of jobs across the local economy as this spending is recycled through the economy. These impacts are one-time benefits restricted to the year of the capital purchase.

While major capital improvements are not as regular a flow of spending by MWHC as are its annual operating outlays, when a capital project is undertaken its economic impacts will be significant and relatively concentrated in its economic effects as illustrated by the construction impacts of the Stafford Hospital during its construction 2006-2009 period. These were estimated to have contributed \$237.1 million to Stafford County's economy based on total construction outlays of \$155.0 million, and supported a total of 1,364 jobs of which 1,125 were held by local workers with \$50.6 million in new personal earnings that accrued to local residents over the three-year construction period.

In 2010, MWHC's capital purchases totaled \$21.96 million with \$1.1 million or 5 percent of this capital spending being captured by suppliers located within MWHC's primary service area. As these monies were re-cycled through the regional economy they generated additional impacts in a similar manner to payroll and non-payroll expenditures. The local impacts of MWHC's capital outlays in 2010 are presented in Table 8.

The economic impacts that flow from capital outlays are different from those that result from outlays for payroll and operations. The economic impacts from capital projects are not recurring. They occur over the period during which the capital funds are dispersed and then they cease while payroll and operating expenditures recur and have been shown to increase annually thereby providing a continuing and accumulating source of local economic impacts.

Table 8

The Economic Impacts of Capital Outlays
By Mary Washington Healthcare In Its Primary Service Area
(in thousands of 2010 dollars)

Jurisdiction*	Capital Outlay(1)	Total Output(2)	Personal Earnings(3)	Jobs Supported(4)
Fredericksburg	\$333.012	\$575.9	\$139.2	4
Spotsylvania County	693.849	1,199.9	290.0	8
Stafford County	88.531	135.8	27.5	1
King George County	1.950	2.4	0.3	---
Orange County	0.148	2.2	0.7	---
Primary Service Area	\$1,117.490	\$1,896.5	\$457.7	13

Sources: Mary Washington Healthcare; GMU Center for Regional Analysis

Notes: (1) capital outlay; (2) the total value of goods and services generated directly and indirectly as a result of the capital outlays in vendor's county; (3) the additional earnings generated by the new economic activities supported by the capital outlays; (4) the additional new local and non-local jobs supported by the spending and re-spending of the new capital outlays. *only jurisdictions with vendors providing capital goods are listed.

The Economic Impact of MWHC-Affiliated Physician Spending

In addition to the 443 physicians on the MWHC staff, there were 153 physicians on the staff in 2010 relying on MWHC facilities to provide their patient services but were not compensated directly by MWHC. These physicians reflected a wide range of specialties including Anesthesiology, Emergency Medicine, Hospitalists, Pathology, Psychiatry, Radiation-Oncology, Diagnostic Radiology, and Vascular and Interventional Radiology.

It is estimated that these physicians' total annual earnings in 2010 amounted to \$47.8 million. These earnings included payments totaling \$19.1 million from MWHC (the economic impacts of MWHC's payments were included in its operating outlays discussed previously) leaving a total of \$28.7 million in additional physician earnings that could be spent within the regional economy in support of their medical practice or as ordinary income. The personal earnings effects of these physicians' income (after expenditures for office operations and adjusted for federal and state taxes) totaled \$17.0 million and contributed a total of \$25.1 million to the Fredericksburg regional economy. This direct spending, as it was recycled through the economy, supported a total of 217 jobs of which 119 are estimated to have been held by local residents generating personal earnings totaling \$5.4 million in 2010.

In addition to the economic impacts generated by the direct personal spending by physicians affiliated with MWHC, these physicians paid salaries and wages to their private staffs and some incurred costs for office operations and the purchases of goods and services to support their office functions. It is estimated that the operating outlays to support these physicians' private offices including staff totaled \$4.5 million in 2010. These operating outlays generated indirect impacts within the regional economy reflecting a multiplier of 1.5394 for a total impact of \$6.9 million supporting 45 additional jobs with local personal earnings of \$2.1 million.

In total, the direct payroll spending of these 153 physicians and their estimated local outlays for office operations added an additional \$28.7 million to the local economy and the indirect impacts of these spending as it cycled through the local economy increased the total impact of this spending to \$32.0 million. In total, this spending supported 262 jobs of which an estimated 164 job were held by residents of the local area generating \$7.4 million in new personal earnings. These impacts are presented in Table 9.

Table 9

Local Economic Impacts of Physicians Affiliated With
Mary Washington Healthcare*: 2010 Salary and Operating Outlays
(in millions of 2010 dollars)

Source of Impact	Direct Outlays	Total Output (1)	Personal Earnings (2)	Jobs Supported (3)
Salaries	\$24.251	\$25.097	\$5.356	217
Operations	4.485	6.904	2.050	45
Total Impacts**	\$28.736	\$32.001	\$7.406	262

Sources: Mary Washington Healthcare, Medical Group Management Association, GMU Center for Regional Analysis. *non-MWHC staff physicians using MWHC facilities to provide services to their patients. **These economic impacts from payroll and operations outlays recur annually. Notes: (1) the total value of goods and services generated directly and indirectly as a result of spending by physicians; (2) the additional earnings generated within the service area from the new economic activities supported by the physician spending; (3) the new jobs supported by the spending and re-spending of the physician spending.

Economic Impacts of MWHC’s Urgent Care Centers

There are six Urgent Care Centers operating within the Fredericksburg Region in which Mary Washington Healthcare has a major ownership interest. In 2010, these Urgent Care Centers registered 42,251 patient visits. These Centers had a total of 69 employees with a total payroll of \$3.81 million (exclusive of \$343,771 in employee benefits) and non-payroll expenditures of \$3.35 million. The economic impacts of these outlays within the regional economy are shown in Table 10. Overall, the direct spending by the six Urgent Care Centers serving the Fredericksburg Region contributed \$6.8 million to the region’s gross regional product, generated \$2.1 million in additional personal earnings to the benefit of local workers residing within the region and supported a total of 75 jobs of which 47 are estimated to have been held by local residents.

Table 10

The Economic Impacts of Outlays by the Six Urgent Care Centers
in MWHC’s Primary Service Area, 2010
(in millions of 2010 \$s)

Source of Impact	Direct Outlays	Total Output (1)	Personal Earnings (2)	Jobs Supported (3)
Payroll*	\$3.463	\$3.583	\$0.765	31
Operations	3.354	5.300	1.352	44
Total Impacts**	\$6.817	\$8.883	\$2.117	75

Sources: Mary Washington Healthcare, GMU Center for Regional Analysis.

*excludes employee benefits; assumes that 70% is available after taxes for local spending. **These economic impacts from payroll and operations outlays recur annually. Notes: (1) the total value of goods and services generated directly and indirectly as a result of spending by Urgent Care; (2) the additional earnings generated within the primary service area from the new economic activities supported by this spending; (3) total new jobs supported by the spending and re-spending of the Urgent Care’s direct outlays of which 47 jobs or 62.7% are local.

MWHC Auxiliary

The MWHC Auxiliary operates gifts and thrift shops in support of the MWHC hospital centers. In 2010, the expenses incurred to operate these shops totaled \$964,200 including \$203,716 in payroll disbursements. This annual spending contributes to the local economy beyond these direct expenses as these payments are respent in support of other local business activities. With a local multiplier of 1.6798, this type of spending would

have contributed a total of \$1.62 million to the regional economy and supported a total of 15 jobs of which 9 would have been held by local residents (beyond those workers directly employed by the Auxiliary) with annual personal earnings of \$386,355.

Summary of Economic Impacts

The economic impacts generated by Mary Washington Healthcare's annual operating and capital expenditures can be measured in terms of direct and total contribution to the Fredericksburg Region's economy, the added personal earnings that will accrue to local residents and the additional jobs supported by this spending beyond the direct workforce employed by Mary Washington Healthcare (MWHC). These impacts are generated both from MWHC's direct payroll and operating outlays for the day-to-day operation of its hospital, clinics, and supporting facilities and health care services within the City of Fredericksburg and surrounding seven counties comprising its primary service area and its capital purchases that vary in magnitude annually.

In 2010, Mary Washington Healthcare employed 4,385 workers, up 17 percent from 2005. Ninety-one percent of MWHC's employees resided within its primary service area with a total payroll of \$219.4 million. Additionally, MWHC's operating expenditures totaled \$384.7 million in 2010 of which \$64.0 million were captured by local vendors. These combined 2010 local outlays of \$283.4 million generated a total of \$328.2 million in total economic activity within MWHC's primary service area's economy reflecting the indirect and induced impacts of MWHC's initial spending as this was re-cycled through the local economy. These direct and indirect economic benefits supported a total of 2,800 jobs of which 1,651 were estimated to be held by workers residing within the Fredericksburg Region generating \$74.3 million in new personal earnings to the benefit of local residents.

MWHC's capital spending totaled \$21.96 million in 2010 of which \$1.1 million was captured by suppliers located within MWHC's primary service area. This additional local spending generated \$1.9 million in total economic impact, supported 10 additional local jobs with an annual payroll of \$457,700.

Additionally, 153 physicians not employed by MWHC had privileges to provide medical services to their patients at MWHC facilities. The estimated economic impacts generated by these physicians added \$32 million to the regional economy, supporting 262 additional jobs of which 164 were held by local residents with \$7.4 million in new personal earnings.

Additional economic benefits flowed into the Fredericksburg regional economy from MWHC's Urgent Care Centers and its Auxiliary gift and thrift shops. These activities added \$8.88 million and \$1.62 million, respectively, to the regional economy inclusive of direct and indirect impacts supporting 90 full-time equivalent jobs of which 56 were held by local residents with personal earnings totaling \$2.5 million.

The magnitude of these combined economic impacts establishes MWHC as a major source of total economic activity within the Fredericksburg Region accounting for 3.9 percent of its \$18.1 billion gross regional product. Given the increasing size and complexity of the Fredericksburg regional economy, this magnitude and growth of direct economic contribution originating from a single organization is significant and is likely to help drive the region's continuing growth into the future.

These income and employment impacts are important regardless of whether they consist of recurring economic benefits generated by operating outlays or one-time benefits flowing from capital expenditures. They constitute important economic and fiscal resources for local governments within MWHC's primary service area far exceeding the direct dollar value of Mary Washington Healthcare's direct outlays. As MWHC's operating expenditures recur and have increased annually, their expanding economic benefits will help to underpin the Fredericksburg Region's economic growth. The economic importance of MWHC within its host jurisdictions has been shown to be significant as a major source of employment, income and business activities. The magnitude and breadth of these impacts both geographically and economically has made MWHC a catalyst for business investment and location that will contribute to the growth of the Fredericksburg Region as a major business and employment center.

Appendix I

Economic Multipliers

The total impacts of the Mary Washington Healthcare (MWHC) in 2010 on the Fredericksburg region (seven counties and the City of Fredericksburg) reflects the combination of direct outlays (capital or operating) and their subsequent monetary effects as these funds are circulated through the economy; that is, the re-spending of these direct outlays will generate additional economic activity that otherwise would not have occurred. The total value of these combined direct and indirect values can be estimated by the application of appropriate multipliers that have been calculated for each county by the Bureau of Economic Analysis of the U.S. Department of Commerce employing its Regional Input-Output Model (RIMS II).

The results of these calculations are estimates of (1) output value—total contribution to the local and regional economy, (2) personal earnings—new earnings realized by residents of the county in which MWHC spending occurs and (3) the local and non-local jobs supported by these outlays—full-time year-round jobs. The key variables governing the magnitude and significance of these economic impacts are their dollar value, the category of outlay (e.g., architectural and engineering services, building construction, hospital operations, retail sales, food services), the direct employment and payroll associated with the direct spending by MWHC, and the geographic area of analysis and the complexity of the local and regional economy. The size and complexity of the regional economy determine the extent to which the local or regional economies can provide the inputs (goods and services purchased by MWHC and its employees as they spend their wages) and retain the outputs of these economic activities; i.e., how self-sufficient the region and its individual counties are. In this analysis, the Fredericksburg Region is relatively independent of its adjacent metropolitan regions for certain levels of economic activities but in other cases it is significantly dependent. In these instances, MWHC spending leaks out of the region with little residual economic impact. These regional conditions are reflected in the local economic multipliers.

Appendix II

Definitions

Direct Outlays— all annual spending associated with the operations of Mary Washington Healthcare.

Economic Impact—the generation of new spending (\$s) within a jurisdiction as a result of payroll and operating outlays by Mary Washington Healthcare.

Gross Regional Product (GRP) and Gross County Product (GCP) - the value of goods and services produced within the economy of the respective geographic area (region/service area, county/city).

Indirect Benefit – the additional economic benefits—measured in dollars or jobs—resulting from the accumulated additional value generated by the direct outlays or expenditures, as these dollars are re-spent within the economy. Indirect effects are calculated using multipliers and include sales and purchases by businesses supplying goods and services in support of the activities of Mary Washington Healthcare as well as the re-spending of payroll by employees of Mary Washington Health care and the employees of its vendors.

Multiplier – a numerical factor that captures the total value of a direct outlay of or benefits produced by the outlays made by Mary Washington Healthcare on the economy as it is re-spent within that economy; an output multiplier measures the contribution (impact) of a direct outlay on the overall economy, an employment multiplier measures the total number of jobs that can be supported by a direct outlay; and a personal earnings multiplier measures the total personal earnings (wages and salaries) generated within the recipient jurisdiction as a result of MWHC’s direct outlay and the jobs its supports.

Operating Costs – Costs (expenditures) associated with the day-to-day operation of Mary Washington Healthcare including management, utilities, normal maintenance and repair, custodial services, security, staffing, and purchases of medical and retail supplies and equipment.

Total Output – the sum of the direct and indirect impacts (outlays) reflecting the combination of the initial expenditures and their subsequent accumulated value as it is cycled through the economy inclusive of benefits generated by the re-spending of personal earnings; contribution to GDP (gross domestic product), GSP (gross state product) or GCP (gross county product).

Unit of Analysis – the geographic unit of analysis, normally a political unit (county or state) for which economic information is reported.

