

THE ECONOMIC AND COMMUNITY IMPACTS OF THE UNIVERSITY OF VERMONT HEALTH NETWORK

October 2016



TABLE OF CONTENTS

THE UNIVERSITY OF VERMONT HEALTH NETWORK IMPACT AT A GLANCE.....	3
THE UNIVERSITY OF VERMONT HEALTH NETWORK ECONOMIC IMPACT STUDY – EXECUTIVE SUMMARY.....	4
ECONOMIC IMPACT STUDY BACKGROUND	7
KEY IMPACT FINDINGS OF THE UNIVERSITY OF VERMONT HEALTH NETWORK	9
THE UNIVERSITY OF VERMONT HEALTH NETWORK – CENTRAL VERMONT MEDICAL CENTER KEY IMPACT FINDINGS.....	15
THE UNIVERSITY OF VERMONT HEALTH NETWORK – CHAMPLAIN VALLEY PHYSICIANS HOSPITAL KEY IMPACT FINDINGS	17
THE UNIVERSITY OF VERMONT HEALTH NETWORK – ELIZABETHTOWN COMMUNITY HOSPITAL KEY IMPACT FINDINGS.....	21
THE UNIVERSITY OF VERMONT MEDICAL CENTER – KEY IMPACT FINDINGS.....	23
ECONOMIC IMPACT STUDY CONCLUSIONS	27
APPENDIX A. DEFINITION OF TERMS	29
APPENDIX B. METHODOLOGY.....	31
APPENDIX C. FAQs REGARDING ECONOMIC IMPACT ASSESSMENT	33

THE UNIVERSITY OF VERMONT HEALTH NETWORK IMPACTS AT A GLANCE

The University of Vermont (UVM) Health Network is a non-profit integrated health delivery system that includes five hospitals in Vermont and northern New York and serves a population of approximately one million people. UVM Health Network's value is reflected not only in the care that its members provide in Vermont and northern New York, but through its economic and community impact in the region it serves. That impact includes spending in the region, the availability of high-level jobs for local residents, innovative research, taxes that go directly back to the state and local governments, and the community engagement of the UVM Health Network and its employees.

The UVM Health Network retained Tripp Umbach to quantify the economic, employment, government revenue, and community impacts of the Network. To produce its report, Tripp Umbach gathered and analyzed relevant data related to the operations and activity of the Network's members.

At the time of study, the UVM Health Network included the following four hospitals:

- The University of Vermont Health Network – Central Vermont Medical Center
- The University of Vermont Health Network – Champlain Valley Physicians Hospital
- The University of Vermont Health Network – Elizabethtown Community Hospital
- The University of Vermont Medical Center

ECONOMIC IMPACT FINDINGS – FY 2014

- **Economic Impact** — The UVM Health Network contributes more than **\$2.24 billion** in economic impact to the states of Vermont and New York.
- **Employment Impact** — The UVM Health Network's combined direct and indirect/induced employment impact for the states of Vermont and New York is **19,243 jobs**.
- **State and Local Government Revenue Impact** — The UVM Health Network generates more than **\$144.6 million** in state and local government revenue impacts by means of spending in the region. In addition, because Vermont assesses provider taxes to generate matching federal funds for the state's Medicaid program, Vermont collected an additional **\$90.7 million** in federal funding based on taxes paid by the UVM Medical Center and Central Vermont Medical Center.
- **Community Impact** — The UVM Health Network hospitals provided more than **\$199 million** in community benefits as measured by the IRS Form 990. In addition, employees of the UVM Health Network engage with the community on their own time, including through volunteering time and donating money to local causes. Across the UVM Health Network, Tripp Umbach estimates the value of that time and money as an additional **\$20.3 million** in impacts to the community.



THE UNIVERSITY OF VERMONT HEALTH NETWORK

ECONOMIC IMPACT STUDY – EXECUTIVE SUMMARY

The University of Vermont (UVM) Health Network is a non-profit integrated health delivery system that includes five hospitals in Vermont and northern New York and serves a population of approximately one million people. The UVM Health Network includes:¹

- The UVM Health Network – Central Vermont Medical Center, located in Berlin, Vermont. Central Vermont Medical Center is the primary health care provider for 66,000 people who live and work in central Vermont, and provides 24-hour emergency care, a full spectrum of inpatient services, and outpatient services. Its professional staff includes over 121 physicians and more than 60 associate providers. In addition to care provided at the hospital, Central Vermont Medical Center also operates 23 community-based medical group clinics and local physician practices.
- The UVM Health Network – Champlain Valley Physicians Hospital, located in Plattsburgh, New York. In addition to providing acute care at its hospital (215 staffed beds), the hospital offers a full spectrum of health care services to rural communities in northern New York. Those services include the FitzPatrick Cancer Center, a Joint Care Center and a Progressive Women & Children’s Center, two primary care clinics, more than 20 patient care sites and 10 outreach clinics, programs, and services throughout northern New York, a 54-bed skilled nursing facility, residency programs in family medicine, pharmacy, and nursing, and a School of Radiologic Technology.
- The UVM Health Network – Elizabethtown Community Hospital, located in Elizabethtown, New York, is a 23 staffed bed critical access hospital providing care to local residents. Services offered at Elizabethtown Community Hospital include primary care, specialty care, physical and occupational therapy, radiology, chemotherapy, cardiac rehabilitation, and emergency care.
- The University of Vermont Medical Center, based in Burlington, Vermont. The UVM Medical Center is the primary teaching hospital for The University of Vermont College of Medicine and College of Nursing and Health Sciences. Together, these institutions comprise Vermont’s only academic medical center. The UVM Medical Center employs approximately 600 physicians, who also teach and conduct research at The University of Vermont College of Medicine. The UVM Medical Center operates eleven primary care

¹ Alice Hyde Medical Center (located in Malone, New York) joined the UVM Health Network in 2016, after the timeframe analyzed in this report (FY 2014). As a result, all analysis in this report is at the four-hospital level.

practices in Chittenden County, five outpatient renal dialysis units in Vermont, and over 30 patient care sites and 100 outreach clinics, programs, and services throughout Vermont and northern New York.

The UVM Health Network's value is reflected not only in the care that its members provide in Vermont and northern New York, but through its economic and community impact in the region it serves. That impact includes spending in the region, the availability of high-level jobs for local residents, innovative research, taxes that go directly back to the state and local governments, and the community engagement of the UVM Health Network and its employees.

This report quantifies the impacts of The University of Vermont Health Network as well as its individual members on the states of Vermont and New York for FY 2014.

**OVERALL IMPACTS OF THE UNIVERSITY OF VERMONT
HEALTH NETWORK IN VERMONT AND NEW YORK, FY 2014**



Economic Impact

In FY 2014, the UVM Health Network contributed more than \$2.24 billion in economic impact to the states of Vermont and New York. Economic impact is generated when partners in the UVM Health Network spend funds on capital improvements and provide salaries to employees, who in turn spend their income on housing and services in their communities. Further economic impact to the communities is generated by patients and families of the UVM Health Network.

Employment Impact

The UVM Health Network is more than just a community asset delivering high-quality and low-cost care locally; it also employs thousands of individuals in high-level jobs across the region. The UVM Health Network supports more than 12,000 direct jobs across multiple locations in Vermont and New York. In FY 2014, the combined direct and indirect employment impact of the UVM Health Network realized by the states of Vermont and New York **was a total of 19,243 jobs.**

State and Local Government Revenue Impact

It is a common misperception that non-profit health care providers do not generate tax income for the regions or states in which they operate. In fact, non-profits generate government revenues in the form of income taxes, sales taxes, real estate taxes and other taxes paid by the individuals and companies receiving revenue from hospitals. In FY 2014, **the UVM Health Network generated more than \$144.6 million in state and local tax revenue impacts** by means of spending in the region. In addition, because Vermont assesses provider taxes to generate matching federal funds for the state's Medicaid program, Vermont collected **an additional \$90.7 million in federal funding** based on taxes paid by the UVM Medical Center and Central Vermont Medical Center in FY 2014.

Community Impact

Non-profit hospitals provide numerous other supports and services to the communities they serve. Community benefits provided through the UVM Health Network include:

- Direct financial assistance to patients (free care)
- Subsidized programs (including the unreimbursed costs of educating health professionals, subsidizing needed services (like mental health), and covering the unreimbursed costs of care for government programs, like Medicaid, that typically do not cover their costs)
- Community programs (for example, health screenings and free clinics, in-kind donations to other non-profits, and community health improvement staff)
- Direct grants to other community organizations (for example, support for community housing organizations or health care organizations offering complementary services, like Federally Qualified Health Centers and designated mental health agencies)

In FY 2014, UVM Health Network hospitals provided more than \$199 million in community benefits.

In addition, employees of the UVM Health Network engage with the community on their own time and in their own personal ways, including through volunteering both time and money to local causes. Across the UVM Health Network, we estimate the value of that time and money as an additional \$20.3 million in impacts to the community in FY 2014.

All together, the community impacts of The University of Vermont Health Network totaled **\$219.3 million** in FY 2014.

Impacts of the UVM Health Network in Vermont

OVERALL IMPACTS OF THE UNIVERSITY OF VERMONT
HEALTH NETWORK IN VERMONT, FY 2014



Impacts of the UVM Health Network in New York

OVERALL IMPACTS OF THE UNIVERSITY OF VERMONT
HEALTH NETWORK IN NEW YORK, FY 2014



ECONOMIC IMPACT STUDY BACKGROUND

The UVM Health Network retained Tripp Umbach to quantify the economic, employment, government revenue, and community impacts of the Network. To produce its report, Tripp Umbach gathered and analyzed relevant data related to the operations and activity of the Network's members. That included quantitative data such as spending and employment values, as well as qualitative data gathered through interviews with key local stakeholders. The analysis sought to quantify the impacts of each of the four hospitals and the combined impacts of the UVM Health Network in the states of Vermont and New York. The overall economic and fiscal impact that the UVM Health Network has on the vitality of the regions and states in which it operates includes the following elements:

- Business volume impacts (capital expenditures, operational expenditures, salary data, and state and regional business volumes)
- Direct and indirect/induced employment impacts
- The government revenue impact of UVM Health Network at the local and state levels
- The impact of spending by employees and residents/students in the local economy on goods and services
- The impact of visitor spending on the economy (wage premiums, job creation, etc.)

Study Overview

Key Impact Findings provided for:

- The University of Vermont Health Network Overall
- Central Vermont Medical Center
- Champlain Valley Physicians Hospital
- Elizabethtown Community Hospital
- The University of Vermont Medical Center

Findings reported at the following geographies:

- Combined impacts on the states of Vermont and New York
- State of Vermont
- State of New York

Impact findings reported for Fiscal Year 2014 (FY 2014)

This report also quantifies additional community impacts on the region served by the Network, including:

- The value of the community benefits provided directly by UVM Health Network members to the region (charity care, health screening, free clinics, etc.)
- The impact that health network employees have on the community through donations and volunteer work

KEY IMPACT FINDINGS OF THE UNIVERSITY OF VERMONT HEALTH NETWORK

Introduction

The UVM Health Network plays an important role in the economies of Vermont and New York, providing impacts at the local level through community outreach programming and direct patient care as well as at the state level through economic, employment, and tax revenue generation.

Overall Economic Impact of UVM Health Network on Vermont and New York

The UVM Health Network directly or indirectly impacts residents throughout the region by means of organizational spending, employment opportunities, government revenue generated from spending, research activities, and visitor spending in the region (*e.g.*, retail, food services, cultural events, etc.). In FY 2014, the overall economic impact of UVM Health Network on the states of Vermont and New York amounted to **\$2.24 billion annually (\$1.09 billion in direct impact and \$1.15 billion in indirect and induced impact)**.

ECONOMIC IMPACT OF THE UNIVERSITY OF VERMONT HEALTH NETWORK ON VERMONT AND NEW YORK



Direct: \$1.09 B



Indirect and Induced: \$1.15 B



Total: \$2.24 B

Source: Tripp Umbach using IMPLAN results from data obtained through the University of Vermont Health Network

The UVM Health Network affects business volume in Vermont and New York in three ways:

1. Direct expenditures for goods and services by the Health Network's hospitals and its physicians, staff, patients, residents, students, and visitors. This spending supports local businesses, which in turn employ local individuals to sell the goods and provide the services that the local community needs.
2. Indirect spending within the states of Vermont and New York. The businesses that receive direct payments re-spend this money within the region, thus creating the need for even more jobs.
3. Induced spending by households either directly employed by UVM Health Network or its suppliers creates a third tier of impact.

Industries impacted by the UVM Health Network's spending range from the real estate market to insurance companies, financial institutions, legal services, and the hospitality industry. With locations in Vermont and New York, the economic impact analysis of the UVM Health Network focused on the combined impacts across both states as well as the impacts within each state.²

➤ ***Economic Impact of the UVM Health Network on Vermont***

In FY 2014, the UVM Health Network contributed a total of \$1.74 billion in economic impact (\$882.8 million in direct economic impact and \$861.7 in indirect/induced economic impact) within the state of Vermont.

➤ ***Economic Impact of the UVM Health Network on New York***

The economic impact of the UVM Health Network in New York in FY 2014 amounted to \$497.6 million (\$244.7 million in direct impacts and \$252.9 million in indirect/induced impacts).

² Please note that due to the nature of spending patterns across state lines and by out-of-state visitors, the economic, employment and government revenue impacts generated by the UVM Health Network in Vermont cannot simply be added to those generated in New York to calculate the combined impact, as that would include some double-counting and inflated visitor spending. That is also true for the economic, employment and government revenue impact analyses for both Champlain Valley Physicians Hospital and the UVM Medical Center below.

Employment Impact

The UVM Health Network employs individuals in a variety of fields, from the health care professionals providing care, teaching, and conducting research to those in supportive roles (administrators and staff). In FY 2014, UVM Health Network hospitals supported a total of 12,044 direct jobs.³ The direct employment of the UVM Health Network in turn generated another 7,199 indirect and induced jobs in virtually every sector of the economy, including the service industry (equipment vendors, construction workers, contractors, and hotel and restaurant

employees, to name only a few), as well as information technology, physicians' offices, and employment companies. Altogether, the total employment impact of the UVM Health Network in Vermont and New York was **19,243 jobs** in FY 2014.

Economic impact follows employees where they live by way of spending on residences, goods, and services. Employees of the UVM Health Network live throughout Vermont and in seven counties of northern New York.

➤ *Employment Impact of UVM Health Network on Vermont*

UVM Health Network's employment impact in FY 2014 amounted to 16,429 jobs (9,486 direct jobs and 6,943 indirect/induced jobs).

➤ *Employment Impact of UVM Health Network on New York*

The UVM Health Network's employment impact in New York in FY 2014 was 4,695 jobs (3,125 direct jobs and 1,570 indirect/induced jobs).

EMPLOYMENT IMPACT OF THE UNIVERSITY OF VERMONT HEALTH NETWORK ON VERMONT AND NEW YORK



Direct: 12,044 Jobs



Indirect and Induced: 7,199 Jobs



Total: 19,243 Jobs

Source: Tripp Umbach using IMPLAN results from data obtained through the University of Vermont Health Network

³ For purposes of an IMPLAN analysis, a job can be a full-time or part-time position. References to "jobs" in this report reflect the number of individuals who receive a paycheck from the institution being discussed, not the number of full-time equivalent (FTE) positions.

State and Local Government Revenue Impact of UVM Health Network on Vermont and New York

It is a common misperception that non-profit health care providers do not generate tax revenue. On the contrary, non-profits generate government revenue in the form of income taxes, sales taxes, real estate taxes, and other types of taxes paid by the individuals and companies receiving revenue from them. In FY 2014, state and local government revenues attributable to the presence of the UVM Health Network totaled more than **\$144.6 million** for Vermont and New York.

STATE AND LOCAL GOVERNMENT REVENUE IMPACT OF THE UNIVERSITY OF VERMONT HEALTH NETWORK ON VERMONT AND NEW YORK

Total: \$144.6 M

Source: Tripp Umbach using IMPLAN results from data obtained through the University of Vermont Health Network

The table below outlines the specific categories of tax revenue generation that UVM Health Network's economic activities generate for the states of Vermont and New York.

THE UNIVERSITY OF VERMONT HEALTH NETWORK STATE AND LOCAL TAX REVENUE IMPACT, FY 2014

Description	Employee Compensation	Tax on Production and Imports	Households	Corporations
Dividends				\$306,698
Social Ins Tax- Employee Contribution	\$634,430			
Social Ins Tax- Employer Contribution	\$1,226,565			
Tax on Production and Imports: Sales Tax		\$31,909,010		
Tax on Production and Imports: Property Tax		\$38,030,563		
Tax on Production and Imports: Motor Vehicle Lic		\$513,285		
Tax on Production and Imports: Other Taxes		\$4,210,159		
Tax on Production and Imports: S/L NonTaxes		\$115,484		
Corporate Profits Tax				\$8,947,428
Personal Tax: Income Tax			\$49,949,479	
Personal Tax: NonTaxes (Fines- Fees			\$6,479,285	
Personal Tax: Motor Vehicle License			\$1,151,577	
Personal Tax: Property Taxes			\$799,405	
Personal Tax: Other Tax (Fish/Hunt)			\$345,051	
Total State and Local Tax	\$1,860,995	\$74,778,500	\$58,724,797	\$9,254,126
TOTAL: \$144,618,418				

In addition, Vermont imposes a “provider tax” on hospitals and hospital-employed physicians that is used to generate matching funds to support the state’s Medicaid program. The UVM Medical Center and Central Vermont Medical Center paid \$67.5 million in provider taxes in FY 2014, which brought another \$90.7 million in federal funding into Vermont.

➤ ***State and Local Government Revenue Impact of the UVM Health Network on Vermont***

State and local tax generated by the UVM Health Network in Vermont (excluding federal matching dollars on the provider tax paid) amounted to \$86.9 million in FY 2014.

➤ ***State and Local Government Revenue Impact of the UVM Health Network on New York***

The UVM Health Network generated \$32.8 million in government revenue for the state of New York in FY 2014.

Community Impact of the UVM Health Network on Vermont and New York

Non-profit hospitals provide numerous other supports and services to the communities they serve. Those community benefits include:

- Direct financial assistance to patients (free care)
- Subsidized programs (including the unreimbursed costs of educating health professionals, subsidizing needed services (like mental health), and covering the unreimbursed costs of care for government programs, like Medicaid, that typically do not cover their costs)
- Community programs (for example, health screenings and free clinics, in-kind donations to other non-profits, and community health improvement staff)
- Direct grants to other community organizations (for example, support for community housing organizations or health care organizations offering complementary services, like Federally-Qualified Health Centers and designated mental health agencies)

While non-profit hospitals have always engaged some or all of these kinds of community benefit activities, in recent years they have been required to quantify and report on those benefits as part of their annual Form 990 filings to the Internal Revenue Service.

In FY 2014, UVM Health Network hospitals provided more than \$199 million in community benefits.

In addition, employees of the UVM Health Network engage with the community on their own time and in their own personal ways, including through volunteering both time and money to local causes. Across the UVM Health Network, Tripp Umbach estimates the value of the time

and money donated by employees as an additional \$20.3 million in impacts to the community in FY 2014.⁴

All together, the community impacts of The University of Vermont Health Network totaled **\$219.3 million** in FY 2014.

⁴ The Points of Light Foundation estimates the value of a volunteer hour at \$22.14 per individual employee. The community impact of those activities described here and elsewhere in this report reflect an estimate of the hours and dollars donated by employees based on Tripp Umbach's extensive experience in economic impact analysis.

THE UNIVERSITY OF VERMONT HEALTH NETWORK –

CENTRAL VERMONT MEDICAL CENTER KEY IMPACT FINDINGS

Central Vermont Medical Center is located in Berlin, Vermont. It is the primary health care provider for 66,000 people who live and work in central Vermont. Its professional staff includes over 121 physicians and more than 60 associate providers. The hospital (78 staffed beds) provides a full spectrum of inpatient and outpatient services including:

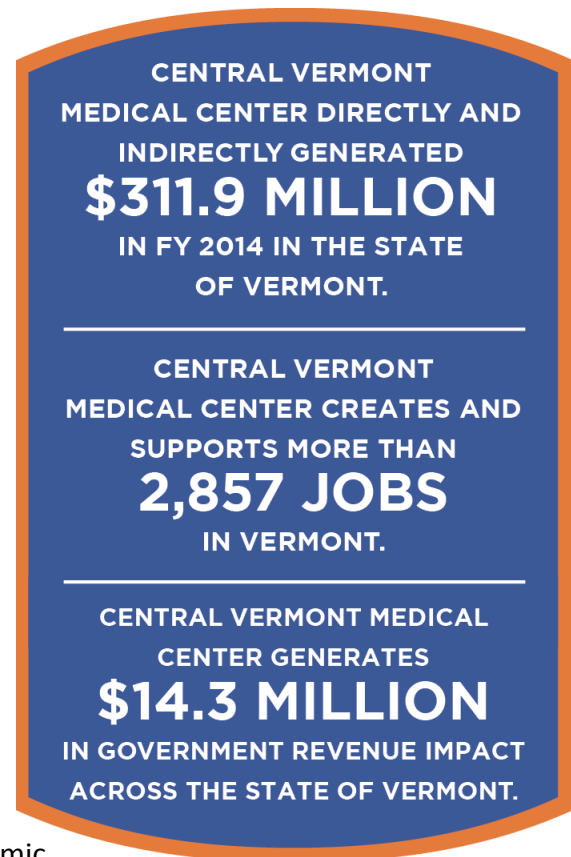
- 24-Hour emergency care
- 23 medical group clinics and local physician practices
- On-site laboratory
- Rehabilitation and occupational therapy
- Complete radiology department
- Specialty care services
- Pediatric primary care
- Cancer care
- 153-bed skilled nursing facility

Economic Impact of Central Vermont Medical Center on Vermont

In FY 2014, Central Vermont Medical Center produced a total of **\$311.9 million** in economic impact for the State of Vermont. The total economic impact of Central Vermont Medical Center includes the direct spending of the organization in the region (\$158.4 million), as well as the indirect/induced spending that occurs in the region as a result of Central Vermont Medical Center's presence (\$153.5 million).

Employment Impact of Central Vermont Medical Center on Vermont

In FY 2014, Central Vermont Medical Center directly supported approximately 1,400 jobs (both full-time and part-time) in Vermont. By means of this direct employment, Central Vermont Medical Center has a larger footprint in the total employment impact that it brings to the state. These directly employed individuals spend dollars in the region and, therefore, support additional employment. Also, spending on capital projects, development and planning projects,



and spending on suppliers all support additional jobs. After all of these avenues of employment are realized, Central Vermont Medical Center directly and indirectly supported a total of **2,857 jobs** in the state of Vermont.

Economic impact follows employees where they live by way of spending on residences, goods, and services. Employees of Central Vermont Medical Center live in 11 of Vermont's 14 counties and one county of northern New York.

State and Local Government Revenue Impact of Central Vermont Medical Center on Vermont

As a result of spending in the region by the hospital, spending by employees living in the region, and patients and visitors coming to the region, Central Vermont Medical Center generates state and local tax revenue that goes directly back to the state. In FY 2014, Central Vermont Medical Center generated a total of **\$14.3 million** in direct and indirect/induced tax payments for the state and local governments.

In addition, because Vermont assesses provider taxes to generate matching federal funds for the state's Medicaid program, Vermont collected an additional **\$11.2 million** in federal funding based on taxes paid by Central Vermont Medical Center in FY 2014.

The state and local tax impacts of Central Vermont Medical Center are in addition to the total economic impact of the hospital on the region.

Community Impact of Central Vermont Medical Center on Vermont

Central Vermont Medical Center provides impact to the region via economic, employment, and government revenue impacts; however, Central Vermont Medical Center also provides important and substantial impacts through their community outreach as measured in their Form 990 filings to the IRS. For FY 2014, the total dollar amount provided to the community through the multitude of community outreach activities of Central Vermont Medical Center totaled more than \$16.8 million.

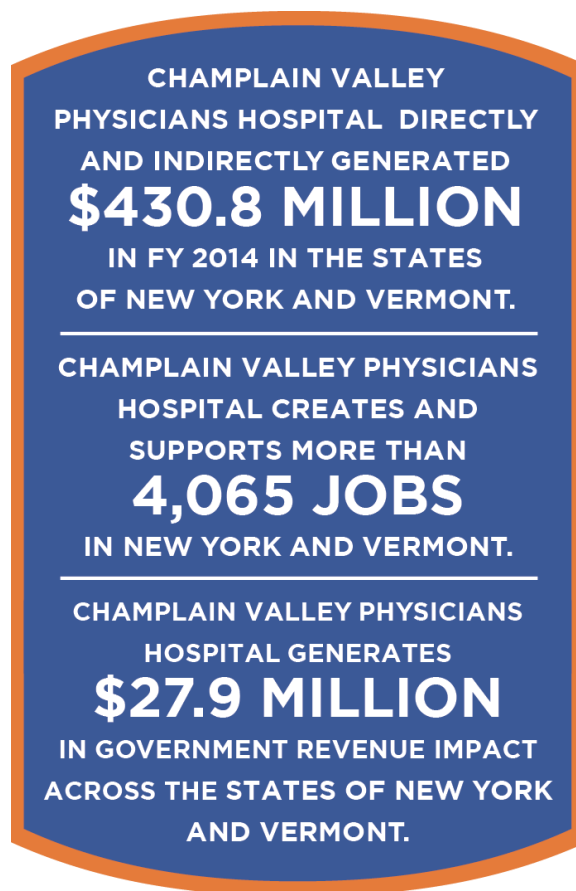
Occurring in tandem with the organizational community outreach, the employees of Central Vermont Medical Center engage with the community on their own time and in their own personal ways. For FY 2014, Central Vermont Medical Center employees contributed an additional \$2.7 million in impacts to the community through volunteer hours donated as well as gifts made to non-profit organizations.

All together, the community impacts of Central Vermont Medical Center totaled **\$19.5 million** in FY 2014.

THE UNIVERSITY OF VERMONT HEALTH NETWORK – CHAMPLAIN VALLEY PHYSICIANS HOSPITAL KEY IMPACT FINDINGS

Champlain Valley Physicians Hospital is located in Plattsburgh, New York. In addition to providing acute care at its hospital (215 staffed beds), it offers a full spectrum of health care services to rural communities in northern New York, including:

- 24-Hour Emergency Care Center
- Comprehensive cardiovascular services
- FitzPatrick Cancer Center
- Joint Care Center
- Progressive Women & Children's Center
- Integrative therapy for their employees and patients
- Two primary care clinics including Family Medicine Center
- More than 20 patient care sites and more than 10 outreach clinics, programs and services throughout northern New York
- A 54-bed skilled nursing facility
- Residency programs in family medicine, pharmacy, and nursing
- School of Radiologic Technology



Economic Impact of Champlain Valley Physicians Hospital on New York and Vermont

In FY 2014, Champlain Valley Physicians Hospital produced a total of **\$430.8 million** in economic impact for the states of New York and Vermont. The total economic impact of Champlain Valley Physicians Hospital includes the direct spending of the organization in the region (\$208.5 million), as well as the indirect/induced spending that occurs in the region as a result of Champlain Valley Physicians Hospital's presence (\$222.3 million).

➤ ***Economic Impact of Champlain Valley Physicians Hospital in New York***

Due to its location, Champlain Valley Physicians Hospital generates impacts across state borders. In FY 2014, Champlain Valley Physicians Hospital generated a total of \$422.9 million in direct and indirect/induced economic impact for the state of New York. Of this economic impact, \$193.6 million is attributable to direct spending of the organization and its people with an additional \$229.3 million generated through indirect and induced spending across the state of New York.

➤ ***Economic Impact of Champlain Valley Physicians Hospital in Vermont***

In FY 2014, Champlain Valley Physicians Hospital generated a total of \$15.6 million in direct and indirect/induced economic impact for the state of Vermont (\$8.6 million directly and \$7.0 million indirectly).

Employment Impact of Champlain Valley Physicians Hospital on New York and Vermont

In FY 2014, Champlain Valley Physicians Hospital directly supported more than 2,300 jobs (both full-time and part-time) in New York and Vermont. By means of this direct employment, Champlain Valley Physicians Hospital has a larger footprint in the total employment impact that it brings to the area. These directly employed individuals spend dollars in the region and, therefore, support additional employment. Also, spending on capital projects, development and planning projects, and spending on suppliers all support additional jobs. After all of these avenues of employment are realized, Champlain Valley Physicians Hospital supported a total of **4,065 jobs** directly and indirectly in the states of New York and Vermont.

Economic impact follows employees where they live by way of spending on residences, goods, and services. Employees of Champlain Valley Physicians Hospital live in six counties of northern New York and six of Vermont's 14 counties.

➤ ***Employment Impact of Champlain Valley Physicians Hospital in New York***

In FY 2014, Champlain Valley Physicians Hospital supported a total of 2,580 direct jobs (full-time and part-time) in the state of New York. Through the spending of Champlain Valley Physicians Hospital, its employees, students, patients, and visitors an additional 1,471 jobs were indirectly supported throughout the state of New York. In FY 2014, Champlain Valley Physicians Hospital directly and indirectly supported a total of 4,051 jobs in New York.

➤ ***Employment Impact of Champlain Valley Physicians Hospital in Vermont***

In FY 2014, Champlain Valley Physicians Hospital supported a total of 89 jobs in the state of Vermont, 32 directly⁵ and 57 indirectly as a result of spending.

State and Local Government Revenue Impact of Champlain Valley Physicians Hospital on New York and Vermont

As a result of spending in the region by the hospital, spending by employees living in the region, and patients and visitors coming to the region, Champlain Valley Physicians Hospital generates a significant amount of state and local tax revenue that goes directly back to the states in which it operates. In FY 2014, Champlain Valley Physicians Hospital generated a total of **\$27.9 million** in direct and indirect/induced tax payments for the state and local governments. The state and local tax impacts of Champlain Valley Physicians Hospital are in addition to the total economic impact of the hospital on the region.

➤ ***State and Local Government Revenue Impact of Champlain Valley Physicians Hospital in New York***

The direct and indirect/induced state and local tax revenue impact of Champlain Valley Physicians Hospital on New York amounted to a total of \$28.2 million in FY 2014. These dollars go directly back to the state as a result of spending by the hospital, employees, patients, and visitors on goods and services throughout the state.

➤ ***State and Local Government Revenue Impact of Champlain Valley Physicians Hospital in Vermont***

The direct and indirect/induced state and local tax revenue impact of Champlain Valley Physicians Hospital on Vermont amounted to a total of \$645,430 in FY 2014.

Community Impact of Champlain Valley Physicians Hospital on New York and Vermont

Champlain Valley Physicians Hospital provides impact to the region via economic, employment, and government revenue impacts; however, Champlain Valley Physicians Hospital also provides important and substantial impacts through their community outreach as measured in their Form 990 filings to the IRS. For FY 2014, the total dollar amount provided to the community through the multitude of community outreach activities of Champlain Valley Physicians Hospital totaled more than \$28.6 million.

⁵ Those receiving a paycheck from Champlain Valley Physicians Hospital who live in Vermont.

Occurring in tandem with the organizational community outreach, the employees of Champlain Valley Physicians Hospital engage with the community on their own time and in their own personal ways. For FY 2014, Champlain Valley Physicians Hospital employees contributed an additional \$4.6 million in impacts to the community through volunteer hours donated as well as gifts made to non-profit organizations.

All together, the community impacts of Champlain Valley Physicians Hospital totaled **\$33.2 million** in FY 2014.

THE UNIVERSITY OF VERMONT HEALTH NETWORK – ELIZABETHTOWN COMMUNITY HOSPITAL KEY IMPACT FINDINGS

Elizabethtown Community Hospital is located in Elizabethtown, New York, and is a 23 staffed bed critical access hospital providing care to the rural eastern Adirondack region of New York. It is one of 18 hospitals in New York designated as a critical access hospital (CAH) by the federal government. In addition to operating five primary care centers in the region, services offered at Elizabethtown Community Hospital include:

- 24-Hour Emergency Care Center serving 5,500 patients annually
- Complete physical and occupational therapy
- All-digital radiology department
- On-site laboratory
- Chemotherapy
- Cardiac rehabilitation

Economic Impact of Elizabethtown Community Hospital on New York

In FY 2014, Elizabethtown Community Hospital produced a total of **\$44.5 million** in economic impact for the state of New York. The total economic impact of Elizabethtown Community Hospital includes the direct spending of the organization in the region (\$21.7 million), as well as the indirect/induced spending that occurs in the region as a result of Elizabethtown Community Hospital's presence (\$22.8 million).

ELIZABETHTOWN COMMUNITY
HOSPITAL DIRECTLY AND
INDIRECTLY GENERATED
\$44.5 MILLION
IN FY 2014 IN THE STATE
OF NEW YORK.

ELIZABETHTOWN COMMUNITY
HOSPITAL CREATES AND
SUPPORTS MORE THAN
412 JOBS
IN NEW YORK.

ELIZABETHTOWN COMMUNITY
HOSPITAL GENERATES
\$2.7 MILLION
IN GOVERNMENT REVENUE IMPACT
ACROSS THE STATE OF NEW YORK.

Employment Impact of Elizabethtown Community Hospital on New York

In FY 2014, Elizabethtown Community Hospital directly supported approximately 200 jobs (both full-time and part-time) in New York. By means of this direct employment, Elizabethtown Community Hospital has a larger footprint in the total employment impact that it brings to the state. These directly employed individuals spend dollars in the region and, therefore, support additional employment. Also, spending on capital projects, development and planning projects, and spending on suppliers all support additional jobs. After all of these avenues of employment are realized, Elizabethtown Community Hospital directly and indirectly supported a total of **412 jobs** in the state of New York.

Economic impact follows employees where they live by way of spending on residences, goods, and services. Employees of Elizabethtown Community Hospital live in eight counties of New York and one of Vermont's 14 counties.

State and Local Government Revenue Impact of Elizabethtown Community Hospital on New York

As a result of spending in the region by the hospital, spending by employees living in the region, and patients and visitors coming to the region, Elizabethtown Community Hospital generates a significant amount of state and local tax revenue that goes directly back to the state. In FY 2014, Elizabethtown Community Hospital generated a total of **\$2.7 million** in direct and indirect/induced tax payments for the state and local governments. The state and local tax impacts of Elizabethtown Community Hospital are in addition to the total economic impact of the hospital on the region.

Community Impact of Elizabethtown Community Hospital on New York

Elizabethtown Community Hospital provides impact to the region via economic, employment, and government revenue impacts; however, Elizabethtown Community Hospital also provides important and substantial impacts through their community outreach as measured in their Form 990 filings to the IRS. For FY 2014, the total dollar amount provided to the community through the multitude of community outreach activities of Elizabethtown Community Hospital totaled more than \$4 million.

Occurring in tandem with the organizational community outreach, the employees of Elizabethtown Community Hospital engage with the community on their own time and in their own personal ways. For FY 2014, Elizabethtown Community Hospital employees contributed an additional \$500,000 in impacts to the community through volunteer hours donated as well as gifts made to non-profit organizations.

All together, the community impacts of Elizabethtown Community Hospital totaled more than **\$4.5 million** in FY 2014.

THE UNIVERSITY OF VERMONT MEDICAL CENTER –

KEY IMPACT FINDINGS

The UVM Medical Center, located in Burlington, Vermont, includes a tertiary care hospital with 447 staffed beds that serves as the community hospital for Chittenden and Grand Isle Counties in Vermont, as well as the regional referral center for approximately one million residents in Vermont and northern New York. In addition to eleven primary care clinics in Vermont, the UVM Medical Center offers a full range of specialty services across four campuses in the region, including:

- 24-Hour Emergency Care, the only Level 1 Trauma center in the region
- Approximately 30 primary care and sub-specialty sites across northwestern and central Vermont
- Level III neonatal intensive care unit
- Inpatient mental health
- The University of Vermont Cancer Center
- The University of Vermont Children's Hospital
- Comprehensive cardiovascular services and stroke treatment
- On-site laboratory
- Specialty care out-patient campuses
- Residency programs for medical, nursing and pharmacy

THE UNIVERSITY OF VERMONT
MEDICAL CENTER DIRECTLY AND
INDIRECTLY GENERATED
\$1.45 BILLION
IN FY 2014 IN THE STATES OF
VERMONT AND NEW YORK.

THE UNIVERSITY OF VERMONT
MEDICAL CENTER CREATES AND
SUPPORTS MORE THAN
12,194 JOBS
IN VERMONT AND NEW YORK.

THE UNIVERSITY OF VERMONT
MEDICAL CENTER GENERATES
\$95.1 MILLION
IN GOVERNMENT REVENUE IMPACT
IN THE STATES OF VERMONT
AND NEW YORK.

The majority of physician services are provided through the approximately 600 physicians in The University of Vermont Medical Group, who also teach and conduct research at the UVM College of Medicine and UVM College of Nursing and Health Sciences.

Together with the UVM College of Medicine and College of Nursing and Health Sciences, the UVM Medical Center forms the state's only academic medical center, one of approximately 140 in the country.

Overall Economic Impact of the UVM Medical Center on Vermont and New York

In FY 2014, the UVM Medical Center produced a total of **\$1.45 billion** in economic impact for the states of Vermont and New York. The total economic impact of the UVM Medical Center includes the direct spending of the organization in the region (\$694.1 million), as well as the indirect/induced spending that occurs in the region as a result of the presence of the UVM Medical Center (\$755.3 million).

➤ Economic Impact of the UVM Medical Center in Vermont

Due to its location, the UVM Medical Center generates impacts across state borders. In FY 2014, the UVM Medical Center generated a total of \$1.42 billion in direct and indirect/induced economic impact for the state of Vermont. Of this economic impact, \$657.9 million is attributable to direct spending of the organization and its people, with an additional \$759.2 million generated through indirect and induced spending across the state of Vermont.

➤ Economic Impact of the UVM Medical Center in New York

In FY 2014, the UVM Medical Center generated a total of \$30.1 million in direct and indirect/induced economic impact for the state of New York (\$14.8 million directly and \$15.3 million indirectly).

Employment Impact of the UVM Medical Center on Vermont and New York

In FY 2014, the UVM Medical Center directly supported more than 7,000 jobs (both full-time and part-time) in Vermont and New York. By means of this direct employment, the UVM Medical Center has a larger footprint in the total employment impact that it brings to the area. These directly employed individuals spend dollars in the region and, therefore, support additional employment across both Vermont and New York. Also, spending on capital projects, development and planning projects, and spending on suppliers all support additional jobs. After all of these avenues of employment are realized, the UVM Medical Center supported a total of **12,194 jobs** in the states of Vermont and New York.

Economic impact follows employees where they live by way of spending on residences, goods, and services. Employees of the UVM Medical Center live throughout Vermont and in five counties of northern New York.

➤ Employment Impact of the UVM Medical Center in Vermont

In FY 2014, the UVM Medical Center supported a total of 7,123 jobs in the state of Vermont. Through the spending of the UVM Medical Center, its employees, students,

patients, and visitors, an additional 6,360 jobs were indirectly supported throughout Vermont. In FY 2014, the UVM Medical Center directly and indirectly supported a total of 13,483 jobs in the state of Vermont.

➤ ***Employment Impact of the UVM Medical Center in New York***

In FY 2014, the UVM Medical Center supported a total of 232 jobs in the state of New York; 135 directly⁶ and 97 indirectly as a result of organizational, employee, patient, and visitor spending.

State and Local Government Revenue Impact of the UVM Medical Center on Vermont and New York

The UVM Medical Center generates a significant amount of state and local tax revenue that goes directly back to the states in which it operates. In FY 2014, the UVM Medical Center generated a total of **\$95.1 million** in direct and indirect/induced tax payments for the state and local governments. The state and local tax impacts of the UVM Medical Center are in addition to the total economic impact of the hospital on the region.

➤ ***State and Local Government Revenue Impact of the UVM Medical Center in Vermont***

The direct and indirect/induced state and local tax revenue impact of the UVM Medical Center on Vermont amounted to a total of \$71.9 million in FY 2014. These dollars go directly back to the state as a result of spending by the hospital, employees, patients, and visitors on goods and services.

In addition, because Vermont assesses provider taxes to generate matching federal funds for the state's Medicaid program, Vermont collected an additional **\$78.5 million** in federal funding based on taxes paid by the UVM Medical Center in FY 2014.

➤ ***State and Local Government Revenue Impact of the UVM Medical Center in New York***

The direct and indirect/induced state and local tax revenue impact of the UVM Medical Center on New York amounted to a total of \$1.8 million in FY 2014.

⁶ Those receiving a paycheck from the UVM Medical Center who live in New York.

Community Impact of the UVM Medical Center on Vermont and New York

The UVM Medical Center provides impact to the region via economic, employment, and government revenue impacts; however, the UVM Medical Center also provides important and substantial impacts through their community outreach as measured in their Form 990 filings to the IRS. For FY 2014, the total dollar amount provided to the community through the multitude of community outreach activities of the UVM Medical Center totaled more than \$149.6 million.

Occurring in tandem with the organizational community outreach, the employees of the UVM Medical Center engage with the community on their own time and in their own personal ways. For FY 2014, the UVM Medical Center employees contributed an additional \$12.6 million in impacts to the community through volunteer hours donated as well as gifts made to non-profit organizations.

All together, the community impacts of the UVM Medical Center totaled more than **\$162.2 million** in FY 2014.

ECONOMIC IMPACT STUDY CONCLUSIONS

The University of Vermont Health Network is a substantial producer of economic, employment, and government revenue impacts to the states of Vermont and New York. The hospitals of The University of Vermont Health Network offer high-quality employment opportunities to residents living throughout Vermont and northern New York. This direct employment helps to support further employment throughout the states as employees spend their paychecks at local establishments that in turn employ individuals. In addition, patients, families, and visitors come to the hospitals and also spend in the area, generating more economic, employment, and tax revenue impacts for the regions and states in which they operate. Finally, UVM Health Network provides impacts to the area and state by means of community benefits, volunteer work, and donations.

The combined impact of UVM Health Network on the states of Vermont and New York in FY 2014 amounted to:

- The University of Vermont Health Network generated more than **\$2.24 billion** in economic impact, supported **19,243 jobs**, and affected more than **\$144.6 million** in government revenue impact to the states of Vermont and New York in FY 2014. The University of Vermont Health Network also provided more than \$199 million in community benefits from the hospital and an additional \$20.3 million in volunteer time and dollars donated.

The UVM Health Network hospitals, specifically, generated the following impacts:

- Central Vermont Medical Center generated more than **\$311.9 million** in economic impact, supported **2,857 jobs**, and affected more than **\$14.3 million** in government revenue impact to the state of Vermont in FY 2014. Central Vermont Medical Center also provided a total of \$16.8 million in community benefits from the hospital and an additional \$2.7 million in volunteer time and dollars donated.
- Champlain Valley Physicians Hospital generated more than **\$430.8 million** in economic impact, supported **4,065 jobs**, and affected more than **\$27.9 million** in government revenue impact to the states of New York and Vermont in FY 2014. Champlain Valley Physicians Hospital also provided a total of \$28.6 million in community benefits from the hospital and an additional \$4.6 million in volunteer time and dollars donated.
- Elizabethtown Community Hospital generated more than **\$44.5 million** in economic impact, supported **412 jobs**, and affected more than **\$2.7 million** in government revenue impact to the state of New York in FY 2014. Elizabethtown Community Hospital

also provided a total of \$4.5 million in community benefits from the hospital and an additional \$50,000 in volunteer time and dollars donated.

- The University of Vermont Medical Center generated more than **\$1.45 billion** in economic impact, supported **12,194 jobs**, and affected more than **\$95.1 million** in government revenue impact to the states of Vermont and New York in FY 2014. The University of Vermont Medical Center also provided a total of \$149.6 million in community benefits from the hospital and an additional \$12.6 million in volunteer time and dollars donated.

APPENDIX A. DEFINITION OF TERMS

Study Year	Fiscal year was defined as FY 2014 for each hospital. For Central Vermont Medical Center and the UVM Medical Center, FY 2014 was defined as 10/01/2013 – 09/30/2014. For Champlain Valley Physicians Hospital and Elizabethtown Community Hospital, FY 2014 is defined as 01/01/2014 – 12/31/2014.
Total Economic Impact	The total impact of an organization is a compilation of the direct impact, the indirect impact, and the induced impact generated in the economy as a result of the organization.
Direct Economic Impact	Direct impact includes all direct effects the organization has on the region due to the organization's operations. These include direct employees, organizational spending, employee spending, and spending by patients and visitors to the organization.
Indirect Economic Impact	The indirect impact includes the impact of local industries buying goods and services from other local industries. The cycle of spending works its way backward through the supply chain until all money is spent outside of the local economy, either through imports or by payments to value added.
Induced Economic Impact	The response by an economy to an initial change (direct effect) that occurs through re-spending of income received by a component of value added. IMPLAN's default multiplier recognizes that labor income (employee compensation and proprietor income components of value added) is not lost to the regional economy. This money is recirculated through the household spending patterns causing further local economic activity.

Multiplier Effect	The multiplier effect is the additional economic impact created as a result of the organization's direct economic impact. Local companies that provide goods and services to an organization increase their purchasing by creating a multiplier.
Government Revenue	Government revenue that is collected by governmental units in addition to those paid directly by an organization, including taxes paid directly by employees of the organization, visitors to the organization, and vendors who sell products to the organization.
Jobs	A job can be a full-time or part-time position; therefore, a job, in IMPLAN analysis, is not equivalent to a full-time equivalent (FTE) job.
Direct Employment	Total number of employees, both full-time and part-time, at the organization based, on total jobs. Total headcount of individuals that receive a paycheck from the organization.
Indirect Employment	Indirect employment is the additional jobs created as a result of the organization's economic impact. Local companies that provide goods and services to an organization increase their number of employees as purchasing increases, thus creating an employment multiplier.

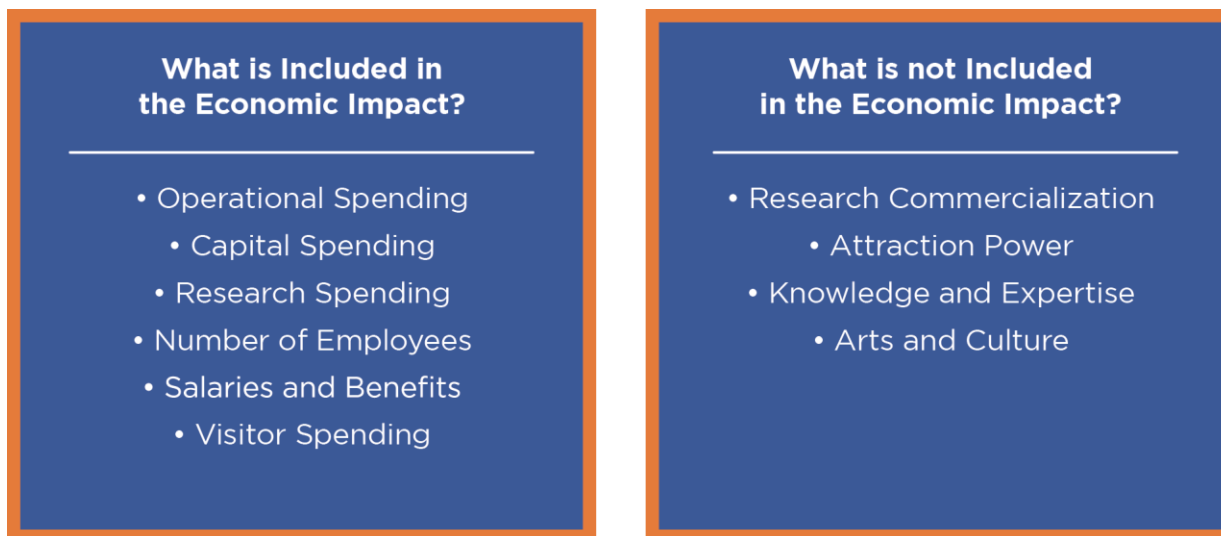
APPENDIX B. METHODOLOGY

To produce its report, Tripp Umbach gathered and analyzed relevant data related to the operations and activity of the Network's members. That included quantitative data such as spending and employment values, as well as qualitative data gathered through interviews with key local stakeholders. The analysis sought to quantify the impacts of each of the four hospitals and the combined impacts of the UVM Health Network in the states of Vermont and New York.

This economic impact analysis measures the effect of direct and indirect/induced business volume and government revenue impacts for all of UVM Health Network's operations throughout the states of Vermont and New York. The methodology employed in the calculation of these impacts is IMPLAN.⁷ Primary data used to conduct the analysis were collected from each of the four hospitals in the network. Data included five-year average of capital expenditures, operational expenditures, employment headcounts, payroll and benefits, and taxes. The multipliers used in this study were derived from the IMPLAN software. Tripp Umbach's approach to economic impact analysis is conservative by way of utilizing the industry standard software, IMPLAN, to conduct the impact analysis as well as using conservative assumptions for individual spending patterns. Tripp Umbach bases assumptions of spending on federal per diem rates.

Economic impact begins when an organization spends money. Studies measuring economic impact capture the direct economic impact of an organization's spending, plus additional indirect and induced spending in the economy as a result of direct spending. Visitor spending in the region is also a substantial component of the economic impact of an organization; visitors spend on retail, hotels/motels, restaurants, and other goods and services, all of which filter through the economy and support local jobs.

⁷ Minnesota IMPLAN Group Inc. (MIG) is the corporation that is responsible for the production of IMPLAN (IMpact analysis for PLANning) data and software. IMPLAN is a micro-computer-based, input-output modeling system. With IMPLAN, one can estimate input-output models of up to 528 sectors for any region consisting of one or more counties. IMPLAN includes procedures for generating multipliers and estimating impacts by applying final demand changes to the model.



Total economic impact measures the dollars generated within Vermont and New York due to the presence of the UVM Health Network. This includes not only the member hospitals' spending on goods and services with a variety of vendors and the spending of its physicians, staff, patients, and visitors, but also the business volume generated by businesses within Vermont and New York that benefit from UVM Health Network's spending. While not all dollars spent by a hospital remain in its immediate locale, the economic impacts described in this report include only those that are spent in the region in the form of purchases from in-area vendors, employees, and the hospitals.

The economic impact analysis conducted for this study gathered and modeled FY 2014 data for each of the four UVM Health Network hospitals. The analysis looked at impacts of UVM Health Network through three lenses: impacts on Vermont, on New York, and on the combined Vermont and New York service area.

APPENDIX C. FAQs REGARDING ECONOMIC IMPACT ASSESSMENT

What is economic impact?

Economic impact begins when an organization spends money. Economic impact studies measure the direct economic impact of an organization's spending, plus additional indirect and induced spending in the economy as a result of direct spending. Direct economic impact measures the dollars that are generated within Vermont and New York due to the presence of the UVM Health Network. This includes not only spending on goods and services with a variety of vendors across the states, and the spending of its employees, patients, and visitors; but also the business volume generated by businesses within Vermont and New York that benefit from spending by the UVM Health Network. It is important to remember that not all dollars spent by the UVM Health Network stay in Vermont or New York. Dollars that go out of the state in the form of purchases from out-of-state vendors are not included in the economic impact that the UVM Health Network has on the states of Vermont and New York.

The total economic impact includes the "multiplier" of spending from companies that do business with the UVM Health Network. Support businesses may include lodging establishments, restaurants, construction firms, vendors, temporary agencies, etc. Spending multipliers attempt to estimate the ripple effect in the state economy where the spending occurs. For example, spending by the UVM Health Network with local vendors provides these vendors with additional dollars that they re-spend in the local economy, causing a multiplier effect.

What is the multiplier effect?

Multipliers are a numeric way of describing the secondary impacts stemming from the operations of an organization. For example, an employment multiplier of 1.8 would suggest that for every 10 employees hired in the given industry, eight additional jobs would be created in other industries, such that 18 total jobs would be added to the given economic region. The multipliers used in this study range from 1.8 to 2.0.

The Multiplier Model is derived mathematically using the input-output model and Social Accounting formats. The Social Accounting System provides the framework for the predictive Multiplier Model used in economic impact studies. Purchases for final use drive the model. Industries that produce goods and services for consumer consumption must purchase products, raw materials and services from other companies to create their products. These vendors must also procure goods and services. This cycle continues until all the money is spent outside of the

specified region's economy. There are three types of effects measured with a multiplier: the direct, the indirect and the induced effects. The direct effect is the known or predicted change in the local economy that is to be studied. The indirect effect is the business-to-business transactions required to satisfy the direct effect. Finally, the induced effect is derived from local spending on goods and services by people working to satisfy the direct and indirect effects.

- **Direct effects** take place only in the industry immediately being studied.
- **Indirect effects** concern inter-industry transactions. Because the UVM Health Network is in business, it has a demand for locally produced materials needed to operate.
- **Induced effects** measure the effects of the changes in household income. Employees of the UVM Health Network and suppliers purchase from local retailers and restaurants.
- **Total Economic Impacts** are the total changes to the original economy as a result of the operations of the UVM Health Network (i.e., Direct effects + Indirect effects + Induced effects = Total Economic Impacts).

What methodology was used in this study?

IMPLAN (Impact analysis for PLANning) data and software were used. Using classic input-output analysis in combination with regional specific Social Accounting Matrices and Multiplier Models, IMPLAN provides a highly accurate and adaptable model for its users. The IMPLAN database contains county, state, zip code, and federal economic statistics, which are specialized by region, not estimated from national averages, and can be used to measure the effect on a regional or local economy of a given change or event in the economy's activity.

What is employment impact?

Employment impact measures the direct employment (employees, staff, physicians, administration) plus additional employment created in the economy as a result of the operations of the UVM Health Network.

Indirect and induced employment impact refers to other employees throughout the region that exist because of the university's economic impact. In other words, these are jobs related to the population – city services (police, fire, EMS, etc.), employees at local hotels and restaurants, clerks at local retail establishments, or residents employed by vendors used by the UVM Health Network.

What is the difference between direct and indirect taxes?

Direct tax dollars include sales taxes and net corporate income taxes paid directly by the institution to the state, while indirect taxes include taxes paid to the state by vendors that do business with the UVM Health Network and individuals (employees, patients, and visitors).

Is this a one-time impact, or does the impact repeat each year?

The results presented in the UVM Health Network economic impact study are generated on an annual basis. The economic impact in future years can either be higher or lower based on number of employees, patients, visitors, capital expansion, increases in external research, and state appropriations.

What are Tripp Umbach's qualifications to perform an Economic Impact Study for the UVM Health Network?

Tripp Umbach is the national leader in providing economic impact analysis to leading health care organizations, universities and academic medical centers. We have completed more than 150 economic impact studies over the past 20 years for clients such as The Pennsylvania State University, The Ohio State University, The University of Washington, The University of Iowa, The University of Alabama at Birmingham, the Cleveland Clinic, The University of Florida Health Shands Hospital, The University of North Carolina Hospitals, The University of Pennsylvania Health System, The University of Pittsburgh Medical Center, and The Ohio State University Medical Center.