



Home of the A. Gary Anderson Graduate School of Management



# ECONOMIC AND SOCIAL IMPACTS ANALYSIS

2016

Riverside University Health System



This publication was prepared by:

University of California, Riverside  
Center for Economic Forecasting and Development



Home of the A. Gary Anderson Graduate School of Management

*Christopher Thornberg*  
Director  
Anderson Hall 0162  
951.827.2792  
chris.thornberg@ucr.edu

*Dustin Schrader*  
Public Policy Manager  
Anderson Hall 0162  
951.827.2792  
dustin.schrader@ucr.edu

*Alan Hooper*  
Senior Research Associate  
alan.hopper@ucr.edu

For further information about this publication  
please contact:



*Victoria Pike Bond*  
Director of Communications  
951.827.2792  
victoria.bond@ucr.edu

*Rick Smith*  
Director of Business Development  
951.827.2792  
rick.smith@ucr.edu

Or visit our website at:

<http://soba.ucr.edu/centers/forecasting>

Reproduction of this document or any portion therein is prohibited without the express written permission of University of California, Riverside Center for Economic Forecasting and Development.

Copyright (c) 2016 by UCR Center for Economic Forecasting and Development.

# TABLE OF CONTENTS

3	EXECUTIVE SUMMARY
5	ECONOMIC IMPACT ANALYSIS
13	SOCIAL IMPACT ANALYSIS
24	CONCLUSION
25	APPENDIX

Riverside University Health System (RUHS) has been the foundation of quality health care, community wellness and medical education in Riverside County, since the Board of Supervisors opened the County's first public hospital nearly 125 years ago. Today, a tradition of excellence and community service has positioned RUHS to thrive in a fast-paced health care economy. Health care leaders are responding to sweeping marketplace reforms with a contemporary, patient-centered network that integrates the services of the Medical Center, Care Clinics and departments of Behavioral and Public Health. RUHS is building a robust and sustainable organization to meet the health care needs of Riverside County's current 2.3 million residents and the demands of a population that is projected to double over the next 30 years.

RUHS is a significant economic pillar in the regional economy and one of Riverside County's largest employers. RUHS employs thousands of health care professionals and support staff, contributes billions of dollars annually to the region's economy and generates millions of dollars to the tax bases of the state and local governments. As Riverside County's public safety-net provider and leading academic health system, the outstanding professionals and services at RUHS are focused on improving the health of Riverside County's economically and demographically diverse communities.

#### MISSION

Improve the health and well-being of our patients and communities through our dedication to exceptional and compassionate care, education, and research.

#### VISION

Lead the transformation of healthcare and inspire wellness, in collaboration with our communities, through an integrated delivery network to bring hope and healing to those we serve.

#### VALUES

TRIED	Teamwork	TRUE – to our values
	Respect	
	Integrity	
	Excellence	
	Discovery	



[RUHealth.org](http://RUHealth.org)



# EXECUTIVE SUMMARY

This Economic and Social Impacts Analysis, conducted by the University of California, Riverside (UCR) Center for Economic Forecasting, demonstrates many of RUHS' economic and social contributions to Riverside County and the Greater Inland region. The analysis showcases RUHS' crucial role as the backbone of health care, behavioral health services and medical education in the region. Key findings include:

## ECONOMIC IMPACTS

- RUHS ongoing operations generate an estimated \$1.6 billion in economic output in Riverside County, including \$615.1 million in labor income for local workers.
- RUHS ongoing operations support an estimated 13,200 local jobs, with many of these jobs found in industries that are not normally associated with health care, such as Accounting or Food Services and Drinking Places.
- RUHS ongoing operations generate an estimated \$107.3 million in state and local tax revenue, primarily from two sources: \$39.8 million in sales taxes and \$35.1 million in commercial property taxes.
- RUHS proposed capital improvements, including new medical offices, a women's center, a cancer center and a behavioral health facility, are expected to generate at least \$431.7 million in economic output and \$151.1 million in labor income in Riverside County.
- Those proposed capital improvements will support an estimated 2,934 jobs in Riverside County during the construction period, and contribute an estimated \$14.7 million in state and local tax revenues.

## SOCIAL IMPACTS

- RUHS is Riverside County's primary and essential public safety-net provider.
- RUHS Medical Center is recognized for its delivery of high quality care: It received a "B" rating from The Leapfrog Group's Hospital Safety Score™ in recognition of its deep commitment to patient safety, and has been named a Top Performer on Key Quality Measures by The Joint Commission.
- RUHS Medical Center is accredited by the American College of Surgeons as a Level II Trauma Center. It is certified by The Joint Commission as a Primary Stroke Center, and has received the Get with the Guidelines® Stroke Gold-Plus Quality Achievement

award from the American Heart Association/American Stroke Association for three consecutive years.

- Designated as a Baby Friendly® Hospital, RUHS Medical Center is also home to the only Pediatric Intensive Care Unit (PICU) in Riverside County, and its Neonatal Intensive Care Unit (NICU) serves as a receiving center for vulnerable infants and premature babies across the Greater Inland region.
- RUHS Behavioral Health reaches more than 50,000 adults and adolescents each year, through its treatment programs for substance abuse and mental health issues, as well as youth community activity and service programs.
- RUHS Public Health provides critical health services to residents for whom health care may otherwise be unavailable, and is committed to educating and empowering Riverside County residents about important health issues through community health-oriented programs and services, such as nutrition services, immunization and public health nursing.
- RUHS has expanded its ability to provide access to quality health care throughout the region, with primary and specialty care hospital-based clinics in Moreno Valley, as well as 10 Federally Qualified Health Centers (FQHCs) located throughout Riverside County.
- Training new doctors, nurses and allied professionals has been a fundamental role of RUHS for over a century. This year alone, more than 1000 medical residents and students, upward of 200 nursing students and scores of allied health professionals and industry workers will receive state-of-the-art medical training and education at RUHS in preparation for a rewarding future in health care.
- Volunteers at RUHS have logged more than 78,000 hours of service in the past two years, overseeing programs providing children's services, mental health care services, family services and a range of other community needs.

In this report, we provide more detail on the economic and social contributions of RUHS as a critical source of economic development and community wellness in Riverside County.

# RIVERSIDE HEALTH SYSTEM

Riverside University Health System includes the 439-bed Medical Center and more than 60 hospital-based primary and specialty care clinics in Moreno Valley; 10 Federally Qualified Health Centers throughout Riverside County, plus the departments of Behavioral and Public Health. Employing about 6,000 team members, RUHS is committed to delivering exceptional care through an integrated network of skilled and compassionate health care professionals who inspire hope, healing and wellness. RUHS also is a teaching organization where generations of doctors, nurses and pharmacists, as well as public, behavioral and allied health professionals are trained. RUHS is committed to providing sensitive and culturally appropriate support for families and individuals facing behavioral health challenges and substance abuse issues, as well as trusted programs aimed at improving the lives and advancing the health of its communities.



RUHS is comprised of four key health care entities – Behavioral Health, Care Clinics, Medical Center and Public Health – all working together to provide high quality, patient-centered care, with a full array of coordinated services, to individuals at all stages of life.

**RUHS Behavioral Health** provides community-based wellness and recovery services as well as programs for seniors, adults and children with mental health needs and recovery services for individuals with substance use disorders. RUHS Behavioral Health builds partnerships with individuals and families that promote a recovery-focused, person-first approach that helps each person reach his or her fullest potential. The unique cultural and language needs of the consumers receiving services are embedded within each program. Each year, RUHS Behavioral Health reaches more than 50,000 people across Riverside County through its mental health care, substance use and wellness and recovery programs.



**RUHS Care Clinics** include primary and specialty care hospital-based clinics in Moreno Valley, as well as 10 FQHCs throughout Riverside County. The FQHCs provide comprehensive outpatient primary care services regardless of a patient's ability to pay. Individuals from all walks of life can visit the clinics to receive preventive and wellness services, including cancer screenings, immunizations, flu shots, nutrition management, pregnancy care and counseling, child health services and other integrated health services.



**RUHS Medical Center** has long provided exceptional and compassionate care in specialties such as Pediatrics, Obstetrics and Psychiatry, as well as in the treatment of diabetes and the treatment and cure of hepatitis C. RUHS Medical Center offers specialized services that include a designated Level II Trauma Center, Primary Stroke Center and the only Pediatric ICU in Riverside County. Located in Moreno Valley, it is the region's primary academic medical center for health care professionals – training hundreds of medical residents, nursing students and allied health professionals every year in its own residency programs and in affiliation with several universities and community colleges

**RUHS Public Health** promotes and protects the health of all Riverside County residents and visitors through its innumerable community-focused programs and initiatives. Its mandate to educate and empower those it serves about community health issues is demonstrated through activities, such as The Immunization Program; Women, Infants and Children (WIC) Program and home-visit programs operated by public health nurses, social workers and paraprofessionals. Through programs like the Healthy Riverside County Initiative, RUHS Public Health also works with other area agencies and community partners to promote a healthier lifestyle and inspire healthy communities.

Now united in name, each of these RUHS entities provides community-based, patient-centered health care services through an integrated delivery network that can support patients throughout their continuum of care.

# ECONOMIC IMPACT ANALYSIS

## INTRODUCTION

The Affordable Care Act has created a volatile and rapidly changing health care economy in which safety-net providers, like RUHS, operate. To remain competitive and continue to attract patients, the Health System has adopted a new business model (the integration of the Medical Center, Care Clinics and the departments of Behavioral and Public Health) and is investing in capital needs and infrastructure. This effort has allowed RUHS to continue to play a critical role as a vibrant health system and economic driver in the region.

RUHS is one of Riverside County's largest employers, employing about 6,000 health care professionals and support staff – many of whom are local residents. **As highly-skilled workers in the health care sector, RUHS employees generate a substantial amount of labor income that makes its way to the community through local spending.** To that end, RUHS provides a substantial quantity of job opportunities, and the quality of those jobs generates revenue that helps to fuel the local economy.

**The ongoing operations of RUHS also contribute a boon among area businesses.** Over the course of a year, RUHS and its staff purchase supplies, such as linens or uniforms from local companies, furnishings from local retailers and landscaping from nearby nurseries. RUHS construction-related expenditures, in connection to its proposed capital projects, are also expected to require purchases of local materials.

RUHS contributes substantially to the public coffers of state and local governments, despite its tax-exempt status. Not only does it pay Federal, state and local taxes related to the cost of doing business, such as employment taxes, but it also generates tax revenue as the dollars connected to RUHS operations and capital projects pass from business to business or worker to business into the regional economy.

In this section of the analysis, we demonstrate how RUHS operations and capital improvements have a direct effect on, and ripple through, the local economy:

- Creating jobs
- Boosting wages
- Increasing Federal, state and local tax revenues and
- Generating economic output throughout Riverside County

## DIRECT SPENDING BY RUHS

**Altogether, expenditures by RUHS in fiscal year 2015/2016 across all departments total \$1.1 billion.** These expenditures exclude items such as permits/fees or other capital transfers that do not generate output. These expenditures also exclude the roughly \$22 million in expenditures RUHS is expected to integrate into the finalized fiscal year 2015/2016 budget, as those expenditures are still awaiting final approval. The table below lists expenditures in connection with RUHS' operations in major categories.

Spending related to the work of RUHS' entities is higher than any other category (14.6%), with financial-related spending also representing more than 10% of all expenditures. Indeed, expenditures are concentrated largely in categories related to the day-to-day operations of most types of businesses or institutions (insurance, for instance), rather than expenditures unique to health care. There are exceptions, however: Medical equipment manufacturing receives 3.0% of all RUHS operations spending.



## RUHS DIRECT SPENDING BY CATEGORY

Industry	Spending (\$ Millions)	Share of Total (%)
Offices of Physicians, Other Health Practitioners	166.9	14.6
Funds/Trusts	150.5	13.2
Real Estate	112.6	9.9
Office Administrative Services	94.4	8.3
Insurance	66.3	5.8
Retail - Motor Vehicle and Parts	59.2	5.2
Management, Scientific, Technical Consulting Services	45.7	4.0
Utilities	39.8	3.5
Retail - Food and Beverage	36.2	3.2
Surgical, Medical, Laboratory Instrument Manufacturing	34.6	3.0
Other	334.4	29.3
<b>Total</b>	<b>1140.7</b>	<b>100.0</b>

### IMPACT OF RUHS ON RIVERSIDE COUNTY ECONOMIC OUTPUT

RUHS operations generate an estimated \$1.6 billion in economic output in Riverside County from \$1.1 billion in direct spending. The remaining \$0.5 billion represents \$241.3 million in indirect economic output (or, the output generated by businesses down the supply chain) and \$264.6 million in induced economic output (or, the output generated by workers spending the money they earned as a result of RUHS operations).

Many of the industries that generate the greatest economic impact as a result of RUHS operations are those that receive the most direct spending from RUHS, such as Funds/Trusts or Office Administrative Services. Some sectors generate as much or more of their economic

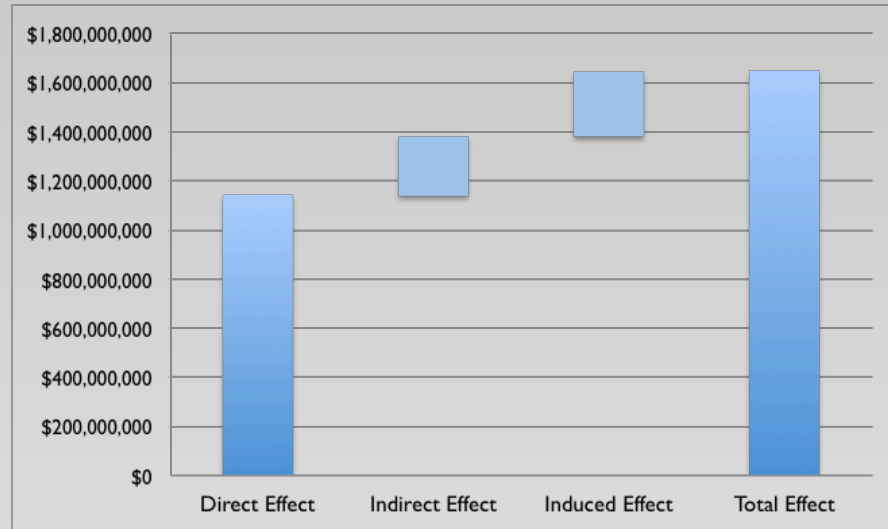
impact from secondary spending effects (indirect and induced spending) as from RUHS' direct spending. For example, Insurance Agencies/Brokerages category generates \$20.7 million through RUHS' direct spending and \$39.9 million through indirect spending alone. Telecommunications generates \$5.8 million from direct RUHS spending and \$7.5 million from indirect and induced spending. Legal Services generates just \$900,000 through direct spending but \$7.3 million from indirect and induced spending.

Notably, RUHS has an effect on various industries that are not often perceived as connected to health care. For Riverside County, this means that RUHS operations are supporting businesses across the whole economy, in high- and low-skill industries, from large businesses like manufacturers to small businesses like retail stores.

### TOP 8 INDUSTRIES IMPACTED BY RUHS OPERATIONS (\$ MILLIONS)

Industry	Direct	Indirect	Induced	Total
Offices of Physicians, Other Health Practitioners	166.9	0.1	15.8	182.8
Real Estate	112.6	30.5	20.7	163.8
Funds/Trusts	150.5	0.1	0.5	151.1
Office Administrative Services	94.4	4.3	0.5	99.3
Insurance Carriers	66.3	0.5	0.7	67.5
Retail - Motor Vehicle and Parts	59.2	0.3	6.9	66.5
Insurance Agencies/Brokerages	20.7	39.9	0.8	61.4
Food Service and Drinking Places	31.8	8.3	21.0	61.2

## IMPACT OF RUHS OPERATIONS ON RIVERSIDE COUNTY ECONOMIC OUTPUT



Capital improvements represent an important component of the total economic impact of RUHS, independent of the impact RUHS generates through its day-to-day operations each year. RUHS has several new facilities planned, including four new medical offices, a cancer center, women's center and behavioral health facility. Each of these projects will require new hiring of contractors and purchases of building materials, which will generate revenue for local businesses and bolster the local labor supply during the construction period. The values of these projects are detailed above, in 2015 dollars.

These capital improvements are expected to generate a substantial amount of economic output on their own. The roughly \$286.5 million in expenditures for capital improvements will generate an estimated \$431.7 million in economic output (in 2015 dollars). Of this total, \$71.4 million represents indirect output and \$65.0 million represents induced output.

The sectors generating the largest economic impact from the capital spending include Construction of Other New Nonresidential Structures at \$286.5 million (representing the direct spending on the construction of the facilities); Architectural, Engineering and Related Services at \$15.0 million, with all but \$90,000 of that total generated through indirect effects; Real Estate at \$8.2 million, with \$5.0 million of that total generated through induced effects; and Food Services and Drinking Places, at \$6.3 million, with \$5.2 million of that total coming through induced effects.

Induced spending is a key component of the economic impacts from large-scale construction projects. This is because construction is relatively labor-intensive. Much of the spending related to construction goes to pay the wages of workers involved in the construction. These workers, in turn, spend their wages at local establishments like restaurants or retail stores, or to purchase new homes.

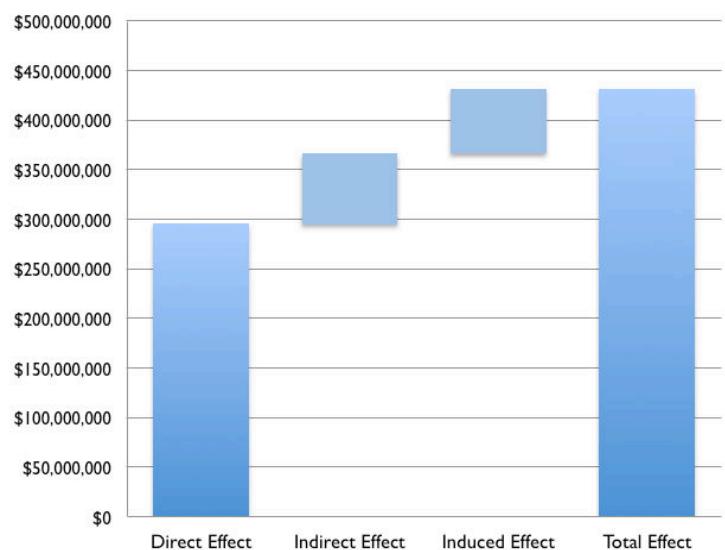
Combined, RUHS' day-to-day operations and its proposed capital improvements generate a substantial amount of labor income for local workers. RUHS spending in connection with its operations (\$1.1 billion) generates an estimated \$615.1 million in labor income, of which \$164.4 million comes through indirect and induced spending. Businesses down the RUHS supply chain receive revenue from RUHS spending, and some of that revenue goes toward hiring workers or wages for existing workers. Workers that receive wages in connection with RUHS operations, in turn, spend that money at local businesses, who then contribute some of that money toward worker income. As RUHS spending works its way through the Riverside County economy, it contributes a substantial amount of income for local workers.

RUHS' spending on its proposed capital improvements is expected to generate an estimated \$151.1 million in labor income for Riverside County workers on its own. Roughly \$25.6 million of this total will come through indirect spending, \$20.5 million will come through induced spending, and an estimated \$105.0 million will come in the form of wages for workers directly related to the construction projects. Unlike labor income generated as a result of RUHS' ongoing operations, the labor income in connection to its proposed capital projects is temporary. It will end when the projects are complete. However, those worker wages nonetheless contribute to an increase in economic activity in Riverside County, leading to an uptick in revenues at local businesses and new jobs for local residents.

## RUNS PROPOSED CAPITAL IMPROVEMENTS

Proposed Facility	Value (\$ Millions)
Behavioral Health Facility	42.9
Medical Office Building One	42.9
Skilled Nursing Facility	36.9
Retail and Hotel Space	33.4
New Hospital Tower	21.4
Medical Office Building Two	17.1
Medical Office Building Three	17.1
Medical Office Building Four	17.1
Women's Center	17.1
Cancer Center	17.1
Wellness Center	17.1
Children's Assessment Center	6.4
<b>Total</b>	<b>286.5</b>

## IMPACT OF RUHS PROPOSED CAPITAL IMPROVEMENTS ON RIVERSIDE COUNTY ECONOMIC OUTPUT





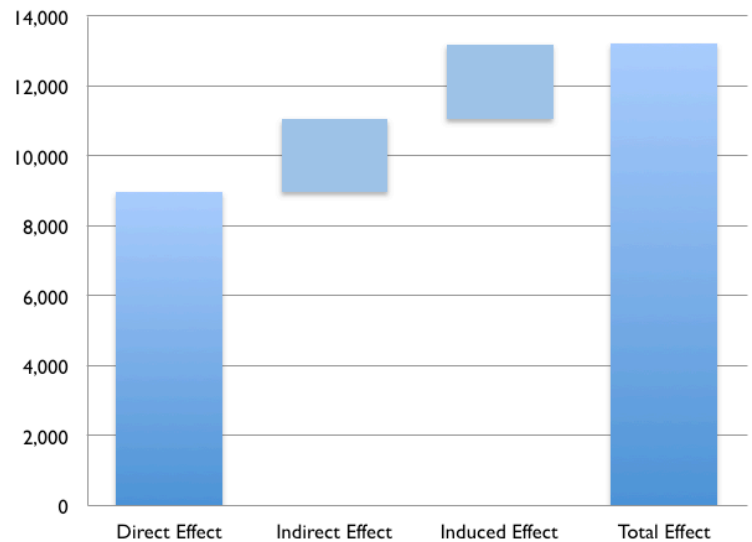
## IMPACT OF RUHS ON RIVERSIDE COUNTY EMPLOYMENT

RUHS ongoing operations support thousands of jobs in the economy of Riverside County each year. In fiscal year 2015/2016, the \$1.1 billion in expenditures connected to RUHS operations support an estimated 13,200 local jobs. Of this total, an estimated 8,524 jobs are directly connected to RUHS' spending, the largest of which include 3,489 jobs in the Medical Center; 1,572 jobs in Behavioral Health; 561 jobs in Public Health and 379 in the Care Clinics. Roughly 6,000 workers are employed directly within RUHS, with thousands of additional workers employed in industries that receive RUHS spending.

RUHS operations support an estimated 4,224 jobs in the Riverside County economy through secondary spending effects, with 2,090 jobs supported as a result of spending at businesses down the supply chain (indirect spending) and 2,134 jobs supported as a result of spending by workers directly or indirectly connected to RUHS operations (induced spending). These secondary effects are spread across a broad range of industries. RUHS operations generate the largest secondary job impact in Food Services and Drinking Places, with 130 workers supported through indirect spending and 329 workers supported through induced spending. The uptick in consumer spending in Riverside County as a result of RUHS operations benefits workers in leisure and hospitality substantially. High-wage industries like Accounting, Tax Preparation, Bookkeeping and Payroll Services (112 jobs through secondary effects) also employ a significant number of workers as a result of the indirect and induced spending generated by RUHS operations.

RUHS makes a meaningful and broad-based imprint on the economy of Riverside County, generating jobs for high-skilled and low-skilled workers alike, in a substantial number of industries beyond health care.

IMPACT OF RUHS OPERATIONS ON RIVERSIDE COUNTY EMPLOYMENT (TOTAL JOBS)

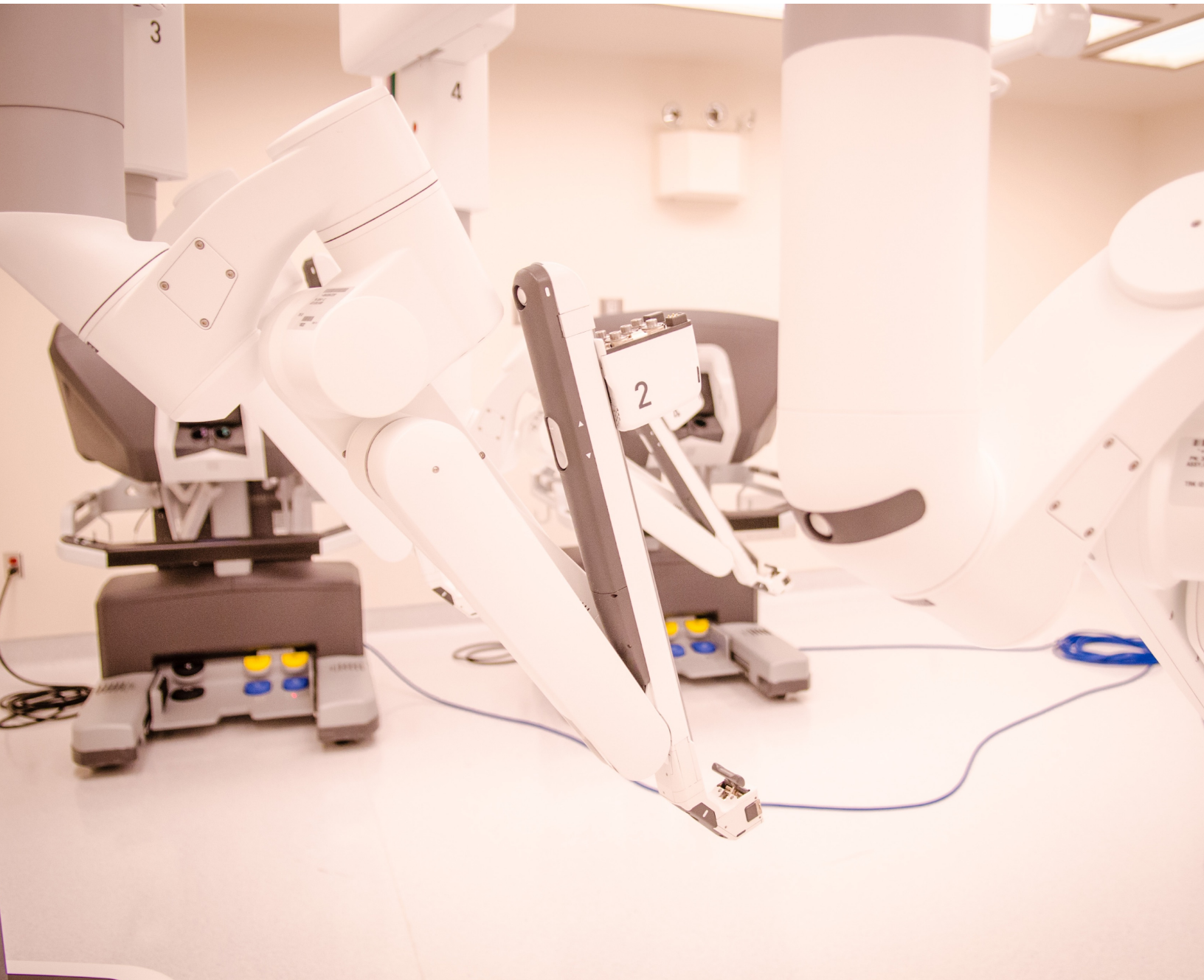




## DIRECT EMPLOYMENT SUPPORTED BY RUHS OPERATIONS

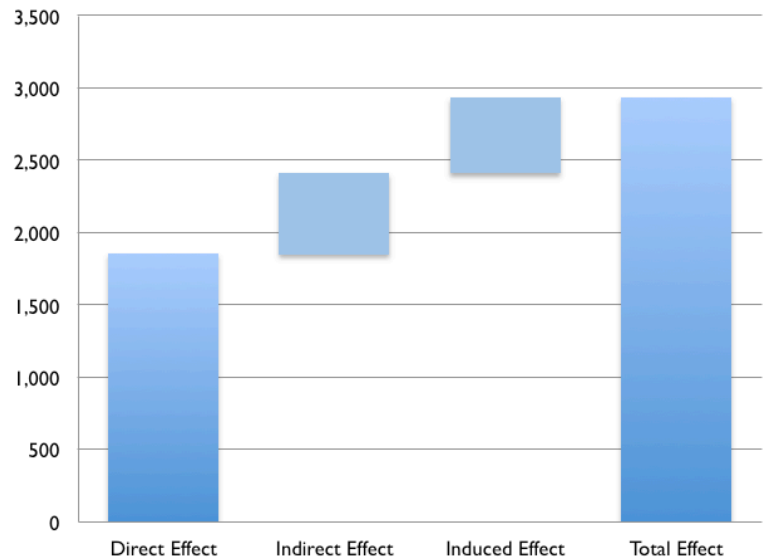
Department	Employment
Medical Center	3,489
Behavioral Health	1,572
Public Health	561
Care Clinics	379
Correctional Health Services	226
Medically Indigent Services Program	39
Other Businesses/Programs Connected to RUHS Operations	2,258
<b>Total*</b>	<b>8,524</b>

\* The total employment number is inclusive of the approximately 6,000 direct hires by RUHS, plus those employed at jobs supported by spending in connection with RUHS.





### IMPACT OF RUHS PROPOSED CAPITAL IMPROVEMENTS ON RIVERSIDE COUNTY EMPLOYMENT (TOTAL JOBS)



Construction of RUHS' proposed new facilities will do the same. Spending in connection with those capital improvements will support an estimated 2,934 jobs in Riverside County, with 1,849 of those jobs directly connected to the construction. Of the 1,085 jobs supported through secondary effects, 561 will be supported through spending by businesses down the supply chain (indirect spending) and 525 will be supported through spending by workers connected to the construction (induced spending).

The construction of the facilities is expected to support an estimated 150 jobs in the high-skilled, high-wage Architectural, Engineering and Related Services Sector. Consumer spending at retail stores should increase significantly, supporting an estimated 35 jobs at general merchandise stores and 32 jobs at food and beverage stores. Spending at restaurants and bars will support an estimated 99 jobs over the course of construction of the facilities. Construction work at the scale RUHS has proposed is expected to provide a boost in employment across much of the Riverside County economy.

### STATE AND LOCAL TAX REVENUES GENERATED BY RUHS OPERATIONS

Tax	Revenue (\$)
Sales Tax	39,756,832
Commercial Property Tax	35,103,276
Personal Income Tax	14,219,681
Other Commercial Taxes	6,476,064
Corporate Profits Tax	4,644,236
Social Insurance Tax - Employer Contribution	2,028,670
Personal Fines/Fees	1,997,645
Social Insurance Tax - Employee Contribution	1,031,823
Commercial Motor Vehicle Licenses	868,867
Personal Motor Vehicle Licenses	600,615
Personal Property Taxes	225,274
Dividends	221,255
Other Personal Taxes	137,082
Severance Tax	25,225
<b>Total State and Local Tax</b>	<b>107,336,545</b>

### STATE AND LOCAL TAX REVENUES GENERATED BY RUHS CAPITAL IMPROVEMENTS

Tax	Revenue (\$)
Sales Tax	4,390,901
Commercial Property Tax	3,876,944
Personal Income Tax	3,509,529
Other Commercial Taxes	715,242
Corporate Profits Tax	623,055
Personal Fines/Fees	493,034
Social Insurance Tax - Employer Contribution	466,881
Social Insurance Tax - Employee Contribution	237,465
Personal Motor Vehicle Licenses	148,237
Commercial Motor Vehicle Licenses	95,961
Personal Property Taxes	55,599
Other Personal Taxes	33,833
Dividends	29,683
Severance Tax	2,786
<b>Total State and Local Tax</b>	<b>14,679,150</b>

### IMPACT OF RUHS ON TAX REVENUES

Although RUHS operates with tax-exempt status, it still pays a substantial amount in payroll taxes: \$14.4 million in the form of Social Security and Medicare taxes, and \$0.5 million in the form of employee insurance taxes to the State of California for fiscal year 2015/2016. RUHS operations also generate state and local tax revenues through induced spending, as businesses and workers in Riverside County spend the money they earn in connection to RUHS operations.

The spending connected to RUHS operations generates more than \$107.3 million in tax revenues at the state and local level, in the form of sales taxes (\$39.8 million), commercial property taxes (\$35.1 million), personal income taxes (\$14.2 million) and a range of other taxes such as motor vehicle licenses and severance taxes. These are annual figures: RUHS' substantial amount of yearly spending generates

these tax revenues on an ongoing basis. This demonstrates the impact that RUHS is having, particularly at the local level, in supporting social programs. The property taxes resulting from RUHS operations alone provide a large benefit to county government revenues.

Likewise, the capital improvements that RUHS has proposed are expected to generate an estimated \$14.7 million on their own. State-level taxes, including sales tax (\$4.4 million) and personal income tax (\$3.5 million), and local taxes, like commercial property tax (\$3.9 million), are sizeable. These are short-term revenues for state and local government (tax revenues that will cease upon completion of the new facilities); nonetheless, they provide a short-run boost to state and local coffers simply through the proposed construction.

Together, the tax payments and tax revenues generated by RUHS' operations and proposed capital improvements provide an important source of public revenue, especially at the regional level.



# SOCIAL IMPACT ANALYSIS

## INTRODUCTION

RUHS health care professionals have welcomed and cared for generations of patients from Riverside County and the Greater Inland area, since 1893 when the Board of Supervisors opened the doors to the first public hospital. As the region's primary public safety net provider and oldest academic health system, RUHS is dedicated to the provision of high quality and compassionate care to all patients, regardless of their income level or ability to pay. Based on this commitment, the social impact that RUHS has on the community, while often difficult to quantify, is meaningful and far-reaching.



RUHS operates in an ever-changing landscape in the face of health care reform. Among California's 58 counties, Riverside County ranks next-to-last in health care realignment funding, despite being the fourth most populous county in the state. New primary care physicians encumbered by big student loans are enticed to higher-earning opportunities in competing counties, creating a vacuum of frontline health care providers in the Inland communities. Recruiting primary care physicians to underserved and under-reimbursed areas is such a great challenge that many of Riverside County's communities are far below World Health Organization (WHO) standards in physician-to-population ratios.

The decades of scraping by and doing more with less have also given rise to innovation and ingenuity among RUHS physicians and clinicians. Today, health care professionals from counties across California are being trained at RUHS, where practitioners have devised and deployed virtual telephone visits, health coaching programs and texting platforms to help successfully manage patients with complex issues such as diabetes, substance abuse and socioeconomic challenges. Physicians and residents are training young health coaches to help patients with diet and other lifestyle modifications that result in improved health and quality of life. RUHS is a committed steward of taxpayer dollars and a committed provider of services that recognize the transformational role mainstream technologies can play.

Importantly, RUHS Medical Center serves as the county's oldest academic health system, educating and training generations of physicians, nurses, pharmacists and allied health professionals in health care and imparting a spirit of service for those in need. RUHS is committed to medical education and maintaining a robust pipeline of health care professionals who continue to serve and meet the needs of Riverside County's growing population.

In the second part of this analysis, we provide details on the social benefits derived from RUHS' presence in the region.



## HEALTHY BODIES, SOUND MINDS AND SAFE COMMUNITIES

Through its extensive range of programs and services throughout Riverside County, RUHS serves as an anchor for the region's diverse residents to access quality, affordable health care.

RUHS Medical Center, for one, has a strong reputation for the delivery of high quality care. In 2015 alone, it was recognized as:

- Among the safest hospitals in the U.S., receiving a “B” rating from **The Leapfrog Group’s Hospital Safety Score™**. The Leapfrog Group uses publicly available data on patient injuries, medical errors and infections to letter grade the safety performance of more than 2,600 hospitals nationwide.
- A **Top Performer on Key Quality Measures by The Joint Commission**, the nation’s leading independent accreditor of hospitals and health care organizations. The Top Performer program recognizes Joint-Commission accredited hospitals that attain and sustain excellence in accountability measures, including stroke, heart attack and children’s asthma.
- **Patient-Centered Medical Homes by the National Committee for Quality Assurance**, for the use of evidence-based, patient-centered processes in the hospital-based clinics, which result in highly coordinated care and long-term engagement between patients and health care providers.

Day to day, the Medical Center offers a 24-hour Emergency Department, where comprehensive critical and urgent care is provided to approximately 80,000 patients each year. It also serves as the first responder in the case of natural disaster for Riverside County. Fortunately, the Medical Center is well-equipped to handle the medical emergencies faced by the diverse population that it serves. As a designated Level II Trauma Center for adult and pediatric care, the Medical Center treats nearly half of all trauma patients in the County. In addition, the California Association of Public Hospitals recognizes the Emergency Department for its Rapid Medical Evaluation program. The medical facility is equipped with a helipad and an on-site decontamination unit, enhancing the hospital’s capacity to handle any type of health care crisis.

## RUHS: RIVERSIDE COUNTY’S PRIMARY SAFETY-NET PROVIDER

Riverside University Health System’s role as Riverside County’s primary and essential safety net provider guides every program and service it has to offer. Every entity within the Health System offers its services across the continuum of care to all patients, from all walks of life. RUHS has taken great lengths to ensure that the economically and demographically diverse populations it serves throughout the County have access to high-quality, affordable health care.

RUHS offers several programs and services targeting underrepresented populations, including low-income individuals and families. Though the implementation of the Affordable Care Act (ACA) has significantly increased the number of patients with insurance or Federal and state support, RUHS continues to provide accessible health care services for all low-income patients as well as those who still do not have health insurance coverage.

Riverside County was also one of the first to get a jump on providing health care for the uninsured prior to the implementation of the ACA. Riverside County HealthCare was launched in January 2012, offering free programs to people whose income is well below the federal poverty level. This program automatically provided Medi-Cal coverage for tens of thousands of residents who had previously been ineligible. Because of this transfer, many patients who had not seen a doctor in years were finally able to receive the health care and medical attention they needed.

This shift towards Medi-Cal coverage throughout the County had a great impact on RUHS Behavioral Health. About 72% of Behavioral Health’s clients had Medi-Cal coverage as of the 2013/2014 fiscal year, which further illuminates the emphasis RUHS has placed on serving those who face significant barriers to obtaining health care.





As a Joint-Commission certified Primary Stroke Center, RUHS has also received the Get with the Guidelines® Stroke Gold-Plus Quality Achievement award from the American Heart Association/American Stroke Association for three consecutive years. RUHS Medical Center staff have made timely and appropriate stroke recognition, management and intervention top priorities in the fight against this deadly, yet preventable, condition. Stroke program educators are a constant presence at community health education events. Additionally, stroke program coordinators identified a need for, and created, a stroke collaborative among California's hospitals and other health care organizations to help promote best treatment and intervention practices for stroke care across the region.

RUHS Medical Center is home to the only Pediatric Intensive Care Unit (PICU) in Riverside County, and its Neonatal Intensive Care Unit (NICU) serves as a receiving center for vulnerable infants and premature babies across the Greater Inland region. The highly skilled PICU and NICU staff care for the most fragile patients – young children, and premature and ill babies, respectively – providing individualized and loving attention of their tiny patients. Additionally, RUHS Medical Center is the only hospital in Riverside County to have two full-time Child Life Specialists on staff, who are specially trained to assist young patients and their families understand and cope with their health care and hospitalization experience.

The Medical Center is also a designated Baby Friendly® Hospital, a designation from the WHO and the United Nations Children's Fund that has been granted to fewer than 300 hospitals and birthing centers across

the nation. A culturally sensitive, maternal-infant program at RUHS delivers the optimal level of education and care for infant feeding and mother-baby bonding.

As part of the integrated care provided by RUHS, Behavioral Health generates a significant societal impact of its own by reaching more than 50,000 people each year through its wellness, mental health care and prevention programs. Its programs and services are available to residents of all ages and address a variety of behavioral and mental health conditions. Many of these programs benefit low income individuals, such as those on Medi-Cal.

Behavioral Health also provides accessible, high-quality treatment services for alcohol and other substance use disorders. In addition to providing a safe and healthy environment for adults, Behavioral Health operates several adolescent programs that provide individual counseling, peer support activities and education to help young adults remain drug and alcohol free.

Notably, RUHS Behavioral Health operates the largest Friday Night Live Program in all of California. This program builds partnerships for positive and healthy youth development. It engages youths through programming and activities and creates opportunities for young people to be engaged in their communities through service, social action and the establishment of a positive model of behavior. The impact of these types of programs reverberate through the community and provide a strong foundation and a safe environment for the region's youths to grow into healthy, productive members of society.





Hand in hand with the Medical Center, Behavioral Health and the rest of the integrated Health System, **RUHS Public Health** is charged with promoting the health and safety of the community at large. In this role, Public Health serves three core functions:

- The assessment and identification of health problems and needs of certain communities and populations at risk for disease, illness or disability
- The creation of public policies that are designed to solve identified health problems and issues
- The implementation of solutions that provide all of the county's populations with access to appropriate and cost-effective health care

A key aspect of Public Health's operations is its mandate to educate and empower the people it serves about community health issues. For example, Public Health offers nutritional services to 57,000 families each month through its Women, Infants and Children (WIC) Program; this program teaches participants about the benefits of healthy eating, while boosting the local economy by providing \$5.5 million in food vouchers that are used at local grocery stores.

Another example is the home-visits programs, which are operated by public health nurses, social workers and paraprofessionals who see more than 1,300 clients – making more than 8,000 home visits – and provide assistance to mothers, including information on parenting skills, nutrition advice and home safety. This effort has led to healthier babies and reductions in hospitalizations, and child abuse and neglect. Additionally, the Immunization Program distributes about 20,000 doses of flu vaccine to its community partners, who in turn provide the service free to clients, saving the county tens of thousands of dollars in medical costs annually.

The impact of RUHS' health care services on the community is undeniable: Its delivery of exceptional medical care, mental health care programs and public safety initiatives continues to support the region's residents when they need it most.

## ACCESS TO HEALTH CARE FOR THE WHOLE COMMUNITY

Within the more than 7,300 square miles that make up Riverside County, RUHS has undertaken several initiatives to expand patient access to affordable, high quality care. It boasts a strong network of primary and specialty care clinics across the region: **More than 60 hospital-based primary and specialty care clinics currently operate on the Moreno Valley campus, and 10 FQHCs are spread across the County, providing community-based services to underserved communities.** These Care Clinics operate with a mission to provide quality health care and clinical services that promote the health and safety of the local community – regardless of income or ability to pay.

RUHS Care Clinics offer an array of services to patients, ranging from cancer screening and HIV testing, to the administration of immunizations. Additionally, the Care Clinics offer family planning and exams; this program provides basic contraceptive services, including physical exams, laboratory testing, education, access to birth control and counseling. The clinics also operate special services just for teens; this program, which is offered at no cost to participating teens, offers confidential counseling, information and education to help prevent pregnancy and prevent sexually transmitted diseases.

RUHS also delivers primary care services to some of the poorest and most medically underserved populations in the region. These centers of poverty persist on the fringes of urbanized development and in the remote rural deserts and mountains of Riverside County. To help ensure that the health care and medical needs of these vulnerable populations are met, the Medical Center Foundation operates a LifeLine Mobile Health Clinic. The unit is equipped to handle drop-in care for non-emergency medical conditions, as well as follow-up care and basic laboratory tests for purposes of completing medical screening examinations. The mobile clinic has the added benefit of expanding access to children and adults living in Riverside County who are uninsured, or who have recently lost their health insurance coverage.



### TRAINING TODAY'S PROFESSIONALS FOR A HEALTHY TOMORROW

RUHS is the primary academic health system in Riverside County. It fills a vital role in the nation's health care industry, providing education and training to resident physicians and medical students, as well as nurses and allied health professionals.<sup>1</sup>The role that RUHS plays in training the next generation of health care professionals is crucial, as the supply of well trained health care professionals decreases and the demand for health care increases, particularly from the swells of seniors and baby boomers. Closer to home, the increased demand for health care services is a challenge Riverside County must prepare for, as the population here is expected to increase by 44.3% over the next 30 years.

To help address this shortage of health care professionals, RUHS supports several residency training programs on its own in the Medical Center, Care Clinics and Behavioral Health, as well as through academic affiliations with Loma Linda University School of Medicine, Loma Linda University Health, UCR School of Medicine, Arrowhead Regional Medical Center (ARMC) and Western University of Health Sciences. **Currently RUHS and its affiliates are training more than 500 medical residents across 25 diverse fields.**

<sup>1</sup>P.A. Pugno, Gillanders W.R., and Kozakowski S.M, "The Direct, Indirect, and Intangible Benefits of Graduate Medical Education Programs to Their Sponsoring Institutions and Communities." Journal of Graduate Medical Education, June 2010.



## *PROGRAM IN FOCUS: GRADUATE INTERNSHIP, FIELD & TRAINEESHIP (GIFT) PROGRAM*

The GIFT program is a prime example of the connection RUHS Behavioral Health has with the academic community. This program helps students develop into competent, effective and ethical clinicians within the public mental health system.

Through the GIFT program students gain practical, hands-on training and clinical experience from an agency that provides direct services to consumers. This clinical experience will occur at clinics throughout the county that participate in student training. Some of these clinics serve children and families, some serve adults, and some serve older adults.

Typical clinical training activities may include mental health screenings, psychological assessments, diagnosis, treatment planning, individual, group or family therapy, case management and crisis interventions. Student caseloads are kept small so that they can focus on developing their clinical skills.

The GIFT program also has a Cultural Immersion Program, a two-day special training activity designed to enhance students' cultural competency by helping to increase knowledge and clinical skills when working with diverse populations. Day 1 of the program involves classroom training focused on learning about customs, values, traditions and beliefs of a selected culture. Day 2 consists of immersion at a culture-specific service agency outside their field placement. During this day of immersion, students may observe and participate in various applications of culture-specific engagement, interventions strategies and techniques.

By working with the academic community, the GIFT program helps provide students with the clinical competencies and social awareness needed to join the ranks of successful and compassionate health care professionals.

In conjunction with the schools of medicine at Loma Linda and UCR, the Internal Medicine Residency at RUHS offers medical training and education for residents seeking to become competent and compassionate practitioners in the core knowledge and skills of internal medicine. Similarly, the two accredited General Surgery residencies emphasize a combination of strong clinical experiences augmented by weekly teaching and basic science conferences, monthly journal clubs and an innovative skills lab.

In addition to the physician residency programs, RUHS offers programs to train individuals for other careers in health care. **For instance, 200 nursing students from five local universities are currently training at RUHS.**

RESIDENT COUNT BY PROGRAM AND SPONSOR,  
FY2015-2016

Sponsor	Residency Program	# of Residents in Program
ARMC	Neurosurgery	21
	Ob-Gyn	16
Loma Linda University Health	Cardiology	9
	Dermatology	6
	Emergency Medicine	39
	Family Medicine / Preventative Medicine	12
	Gastroenterology	9
	General Surgery	45
	Head, Neck & Otolaryngology	13
	Internal Medicine	97
	Neonatal / Perinatal Medicine	9
	Neurology	12
	Ophthalmology	12
	Oral Maxiofacial Surgery	14
	Otolaryngology	13
	Pediatrics	8
	Plastic Surgery	12
	Pulmonary Diseases / Critical Care Medicine	7
	Rheumatology	3
	Urology	8
RUHS	Anesthesiology	20
	Ob-Gyn	16
	Orthopaedic Surgery	15
	Traditional Rotating Internship	4
UCR	Family Medicine	36
	General Surgery	24
	Internal Medicine	36
	Psychiatry	8
Total		524



## PROGRAM IN FOCUS: HEALTHY EATING AND LIFESTYLE PROMOTION (HELP)

The benefits of RUHS impact the broader fabric of Riverside County through its community leadership and social contributions to the health care needs of the area.

The HELP program is a prime example of the role RUHS has taken as a community leader. Through the HELP program, RUHS deploys its resident doctors to various locations throughout the region to provide an array of services that include:

- Educating underserved communities on healthy lifestyle choices
- Developing high school students to become community health workers
- Engaging students as partners for healthy lifestyle changes locally
- Improving overall health outcomes through outreach and education

An important facet of the HELP program is its critical role in encouraging and mentoring high school students toward a career in health care through its Health Career Academies (HCAs). Currently, the program includes three senior resident doctors working with more than 150 students throughout the region, but it is set for expansion in coming years – broadening its scope to three local high schools, involving 12 resident physicians and reaching more than 400 adolescents.

RUHS resident doctors who participate in the HELP program learn skills that go beyond the traditional medical residency program. They gain a broader perspective of the community, getting a first-hand view of its challenges and barriers and gaining experience creating partnerships to develop solutions. This experience can translate into more meaningful encounters with patients as they continue their practice.

Similarly, the local youth who participate in the HELP have the opportunity to become exposed to the activities of primary health care professionals. Notably, the majority of the students reached by the HCAs are either low-income, women (75%) or minorities (87%), and exposing them to this important field may peak their interest in joining the ranks of exceptional and compassionate health care professionals. This will become increasingly critical as the supply of skilled labor for various health care practitioner occupations continues to tighten.

By engaging with the region's youth early in their academic life, the HELP program not only provides a critical health care service to underserved populations, but it also has much broader social impacts that will be critical to keeping the local economy thriving for generations.



Besides contributing to the pipeline of highly skilled health professionals, RUHS' training programs:

- Take advantage of “one of the primary opportunities to instill in health professionals a social conscience and dedication to care for disadvantaged populations”<sup>2</sup>
- Offer “specialty services not otherwise available in the community through the creation of teaching-specialty clinics, procedure clinics, and the inclusion of teaching consultants”<sup>3</sup>
- Augment the delivery of both inpatient and outpatient care throughout Riverside County, providing patients with greater access to high quality care near where they live, play and work

Ultimately, the goal of RUHS' Graduate Medical Education programs is to produce highly qualified and skilled health care professionals, who also are dedicated to the compassionate care of vulnerable populations like those served at public safety net hospitals. Notably, RUHS' has been able to retain in the region the exceptional professionals it trains; in fact, 103 residents who trained at the Medical Center between 2010 and 2014 now practice in Riverside County. This not only helps to reduce recruitment costs, but also takes the Health System's commitment to continuity of care a step further: Retention of physician, nurse or other allied professional trained at RUHS provides it “with an individual of known quality who is already familiar with the local Health System's procedures, resources and facilities.”<sup>4</sup>

### LENDING A HELPING HAND

Another way that RUHS is able to extend its mission throughout Riverside County is through its extensive volunteer services. **RUHS Behavioral Health, Medical Center and Public Health each operate their own platform for volunteers, with volunteers logging more than 78,000 hours over the last two fiscal years.** These programs instill in their participants a firm understanding of the importance of

health care, as well as the significance of giving back to the local community.

Volunteers are a vital part of the operations at RUHS:

- As part of the Medical Center's Volunteer Services Program, volunteers contribute to the quality of care, working with patients, hospital staff and the public in both patient and non-patient areas. The extra services provided by the volunteers contribute to the comfort, care and well-being of both patients and guests.
- Volunteers at RUHS Behavioral Health support its mission to help clients achieve and maintain their optimal level of wellness and healthy living. They help raise awareness about community mental health needs by hosting informational sessions and providing peer mentorship. Volunteers also provide valuable support to the department's Children's Services and Parent Support Program, Cultural Competency Program, Family Advocate Program and other programs.
- Notably, the department's Peer Support Specialist Program, now totaling more than 200 people, presents an opportunity for individuals with experience living with mental illness to contribute their knowledge and insight to the recovery experience of others. These volunteers and professionals are a welcoming presence for those visiting the clinic and engaging in programs. Peer Support Specialists provide personalized guidance and mentorship, advocacy, links to resources and other mental health support.

In 2015, 448 volunteers dedicated more than 31,000 hours for RUHS Public Health, serving in a wide capacity of roles from assisting with free tax services and supporting outreach to the community at health fairs, to assisting public health nurses at community events.

Volunteers help to improve the overall quality of care in the entity they serve, and can foster close links between RUHS and the local community. The volunteers benefit, as well: These programs cultivate an interest in a variety of



<sup>2</sup>P.A. Pugno, Gillanders W.R., and Kozakowski S.M, “The Direct, Indirect, and Intangible Benefits of Graduate Medical Education Programs to Their Sponsoring Institutions and Communities.” Journal of Graduate Medical Education, June 2010.

<sup>3</sup>Ibid.

<sup>4</sup>Ibid.



# CONCLUSION

Riverside University Health System is the foundation of quality health care, community wellness and medical education in Riverside County. It creates a sizeable imprint on both the economy in Riverside County and the community's overall quality of life.

Contributing to a vibrant regional health care economy, RUHS generates on an ongoing basis:

- An estimated \$1.6 billion in economic output, including \$615.1 million in labor income for Riverside County workers
- 13,200 local jobs across a range of industries far beyond health care
- \$107.3 million in state and local tax revenue, in the form of sales taxes, property taxes, income taxes, and many other state and local taxes and fees

In addition, RUHS' proposed capital improvements – a total of roughly \$286.5 million in construction – will generate a significant economic impact of their own:

- An estimated \$431.7 million in economic output, including \$151.1 million in labor income for Riverside County workers
- 2,934 jobs during the construction period
- \$14.7 million in state and local tax revenues, primarily from sales tax, commercial property tax and personal income tax

Beyond the financials, RUHS' unwavering commitment to compassionate and exceptional care for everyone it serves makes it a reliable and essential pillar of the community. The vast breadth of services RUHS provides helps to ensure that residents from all walks of life have access to high quality, affordable health care and education.

As Riverside County's primary public safety-net provider, RUHS can boast several contributions to the community:

- RUHS Medical Center has been recognized for its delivery of high quality care by a number of independent organizations
- RUHS Behavioral Health reaches thousands of adults, seniors and adolescents each year, through its wellness, mental health care, substance use, and wellness and recovery programs
- RUHS Public Health offers innumerable programs designed to educate and empower residents about important community health issues
- RUHS Care Clinics expands patient access to health care and medication across the region
- RUHS is an academic health system, educating and training the next generation of highly skilled and socially conscious health care professionals

RUHS is not just the foundation of quality health care, community wellness and medical education in Riverside County ... it is also the beginning of a healthy future.



# APPENDIX

## DATA COLLECTION

Representatives from RUHS provided expenditures to UCR Center for Economic Forecasting from fiscal year 2015/2016 for each of the departments and divisions that make up RUHS, which include:

- RUHS Behavioral Health
- RUHS Care Clinics, including the FQHCs
- RUHS Medical Center
- RUHS Public Health, which included California Children's Services.
- Other departments, including Correctional Health Services and the Medically Indigent Services Program (MISP)

Expenditures for each department were collapsed into several categories, each of which uniquely affects the economy of Riverside County. For example, the local economic activity generated by \$1 spent on linens will differ from \$1 spent on computers; this may be because one industry will have more local suppliers, thus allowing less of that \$1 to "leak out" to the economies of other counties, or because businesses in that industry may have different spending patterns. In essence, businesses in some industries may tend to spend more of every \$1 in revenue they earn from RUHS back into the local economy.

Representatives from RUHS also provided a list of proposed new facilities with their valuations, which reflect RUHS' expected spending on each of the projects. These valuations were categorized as construction expenditures for the purpose of modeling their impacts on the Riverside County economy.

Together, the impacts of the expenditures from RUHS fiscal year 2015/2016 (the "ongoing" impact of RUHS operations) and the proposed capital improvements are what were used to estimate the total economic impact of RUHS on Riverside County.

## METHODOLOGY

Using RUHS operations and capital improvement expenditures, we estimated the economic impact of those expenditures on Riverside County. This includes an analysis of the employment, wage and earnings, output and tax effects of those expenditures. To estimate those impacts, we employed the IMPLAN modeling system. The IMPLAN system is an input/output model that can be used to estimate the short-run impact of changes in the economy through the use of multipliers.

The IMPLAN system combines the U.S. Bureau of Economic Analysis' Input-Output Benchmarks with other data to construct quantitative models of trade flow relationships between businesses, and between businesses and final consumers. From this data, we can examine the effects of a change in one or several economic activities to predict its effect on a specific local economy (impact analysis). The IMPLAN input-output accounts capture all monetary market transactions for

consumption in a given time period. The IMPLAN input-output accounts are based on industry survey data collected periodically by the U.S. Bureau of Economic Analysis and follow a balanced account format recommended by the United Nations.

IMPLAN's Regional Economic Accounts and the Social Accounting Matrices are used to construct region-level multipliers that describe the response of the relevant regional economy to a change in demand or production as a result of the activities and expenditures of RUHS. Each industry that produces goods or services generates demand for other goods and services, and this demand is multiplied through a particular economy until it dissipates through "leakage" to economies outside the specified area. IMPLAN models discern and calculate leakage from local, regional and state economic areas based on workforce configuration, the inputs required by specific types of businesses and the availability of both inputs in the economic area. Consequently, economic impacts that accrue to other regions or states due to a change in demand are not counted as impacts within the economic area.

The model accounts for substitution and displacement effects by deflating industry-specific multipliers to levels well below those recommended by the U.S. Bureau of Economic Analysis. In addition, multipliers are applied only to personal disposable income to obtain a more realistic estimate of the multiplier effects from increased demand. Importantly, IMPLAN's Regional Economic Accounts exclude imports to an economic area so the calculation of economic impacts identifies only those impacts specific to the economic impact area, in this case the State of California. IMPLAN calculates this distinction by applying the area's economic characteristics described in terms of actual trade flows within the area.

Impact studies operate under the basic assumption that any increase in spending has three effects: First, there is a direct effect on that industry itself. For example, the construction, repair, refurbishment and expansion of facilities will require RUHS to commit its own labor and resources to the construction projects. Second, there is a chain of indirect effects on all the industries whose outputs are used by the industry under observation. For a construction project, indirect effects would include the demand and employment that is stimulated at firms that provide goods and services to this project, such as architectural/engineering services or suppliers of raw building materials. Third, there are induced effects that arise when employment increases and household spending patterns are expanded. These induced effects arise because both RUHS and its suppliers will pay out wages to their employees associated with the construction projects, and those wages will then be spent back into the local economy on household items such as food, gas, cars and housing. These generate additional demand/output and associated wages that will then be spent back into the local economy generating additional secondary effects.

Expenditures made at different types of businesses can lead to different multipliers. Similarly, expenditures made within the same industry in different regions can generate different economic impacts. Why do multiplier effects differ across industries? An industry can have a large multiplier if it induces economic activity in industries whose employees have a high propensity to spend from their take-home pay. Also, if the industry does not import many materials from abroad or from out of state, then its multiplier effect on the local economy will be high. In essence, some of the spending in the local economy may “leak out” into other states and countries.

This is why multipliers, even for the same industry, can fluctuate from region to region depending on the local availability of inputs to that production process. If a region needs to have these inputs more heavily imported due to the structure of that region's economy, then a similar expenditure in this industry would generate smaller overall economic impacts because a larger portion of the expenditures into the local industry will result in a greater degree of economic activity leaking outside the region. For instance, spending in the Manufacturing industry in Riverside County will likely generate a larger total impact than spending in the Manufacturing industry in Alpine County, because Riverside County has a larger base of businesses providing the raw materials that go into the manufacturing process than Alpine County. Alpine County's economy is primarily focused on agriculture.

Overall, the analysis by UCR Center for Economic Forecasting analysis using input-output accounts is based on three important assumptions. First, there are constant returns to scale. This means that a 10% cut in spending will be ten times as severe – across every industry in the economy – as a 1% cut. Second, there are no supply constraints. This means that any marginal increase in output can be produced without having to worry about bottlenecks in labor markets, commodity markets or necessary imports. This assumption is quite realistic in a free-market economy like California's where there is some unemployment. Third, the flow of commodities between industries is fixed. This means that it is not possible to substitute in the short-run the many different inputs that go into the target industry.

## UNDERSTANDING THE ECONOMIC IMPACT OF RUHS OPERATIONS AND CAPITAL IMPROVEMENTS

By analyzing spending data from the 2015/2016 fiscal year for every department at RUHS, UCR Center for Economic Forecasting were able to assess the amount of annual economic activity generated in the local economy from all RUHS activities. The findings detailed in this report do not represent a “net analysis.” In other words, it is not assumed that if the medical services provided by RUHS were not available, none of the associated spending would occur. Some share, even if a small share, of RUHS's services could be provided by another health system. Nonetheless, we assume that some of this spending would “leak out” of Riverside County, as some individuals would seek medical services in nearby counties.

The Economic Impact Analysis section does not propose to capture the level of this spending that would otherwise be “lost,” but rather to capture the total impact of all spending by RUHS and demonstrate the amount of local jobs and economic activity that are currently supported by these operations. Specifically, the Economic Impact Analysis section demonstrates the important linkages between RUHS and local businesses and workers.



Home of the A. Gary Anderson Graduate School of Management

<http://soba.ucr.edu/centers/forecasting>