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ECONOMIC ENGINE FOR INDIANA

An Economic Impact Analysis



Indiana University Health

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Chapter 1: Executive Report

Introduction

Founded in 1820, Indiana University (IU) is a major multi-campus public research institution, grounded in the liberal arts and sciences and a world leader in professional, medical and technological education. For nearly 200 years, Indiana University has delivered broad access to undergraduate, graduate and continuing education for students throughout Indiana, the United States and the world, as well as outstanding academic and cultural programs and student services. Indiana University seeks to create dynamic partnerships with state and local communities in economic, social and cultural development, and to offer leadership in creative solutions for 21st century problems.

Though its primary missions are education, research and community service, an institution as vast as IU is also central to the fiscal health and well-being of the state of Indiana. Indiana University's daily operations provide ongoing financial benefits to the state's economy. The University significantly impacts the statewide economy through expenditures, government revenues and the employment and personal income of residents. Beyond these financial benefits, IU is preparing the workforce of the future and creating a stronger Indiana.

Among Indiana University's many strengths is its School of Medicine (IUSM), the nation's second largest medical school and a global leader in medical education and research. IUSM has forged a dynamic relationship with Indiana University Health (IUH). This partnership coupled with long-standing strong research and educational affiliations with Wishard Health Services (soon to be renamed Eskenazi Health), Richard L. Roudebush VA Medical Center and LaRue D. Carter Memorial Hospital form Indiana's most comprehensive health network.

As one of the largest healthcare systems in the United States, IU Health provides leading-edge care and world-class clinical teams, giving patients access to innovative treatments and

“If we look across the country, the economic regions making the progress – even in times of challenge such as these we face today – are those regions that include a major research university or cluster of universities. The relationship between universities and regional growth is no coincidence in a knowledge-based economy.”

IU President Michael A. McRobbie

therapies. In this capacity, IU Health and its extensive network of hospitals, physicians and allied services deliver significant economic impact throughout the state of Indiana.

As the state's largest public research institution of higher learning, IU recognizes its inherent responsibility to serve Indiana's citizens and businesses by increasing the accessibility and application of its resources for their benefit. Created by President Michael McRobbie, the **Innovate Indiana** initiative coordinates and connects Indiana University's vast intellectual and creative resources through strategic partnerships and collaborations that foster Indiana's economic growth and improve the quality of life of all Hoosiers. **Innovate Indiana** plays a key role in investing in and coordinating IU's statewide economic development efforts; transforming the innovations of IU faculty into new products and services; and connecting IU to the business community in Indiana, the nation and the world.

Eighty percent (80%) of Hoosiers reside within an hour's drive of an IU campus. Each IU campus plays a central role in contributing to the economic vitality of the regional community in which it is located. To more effectively interconnect all IU campuses with the communities they serve, IU has established the Council for Regional Engagement and Economic Development (CREED) under the Innovate Indiana umbrella, effectively creating a statewide network and forum of IU resources and expertise in which regional economic concerns can be addressed.

The results presented in Indiana University's economic impact study are generated on an **annual** basis. Unless otherwise noted, the results presented represent the combined economic impact of both Indiana University and Indiana University Health. The economic impact in future years can either be higher or lower, based on the number of students, capital expansion, increases in external research and the level of state appropriations. It is important to note that the economic and employment impacts stated in this report represent the "fresh dollar" impact of IU. **The operations of IU and IU Health leverage \$11.5 billion in economic impact and sustain more than 100,000 jobs throughout Indiana.**

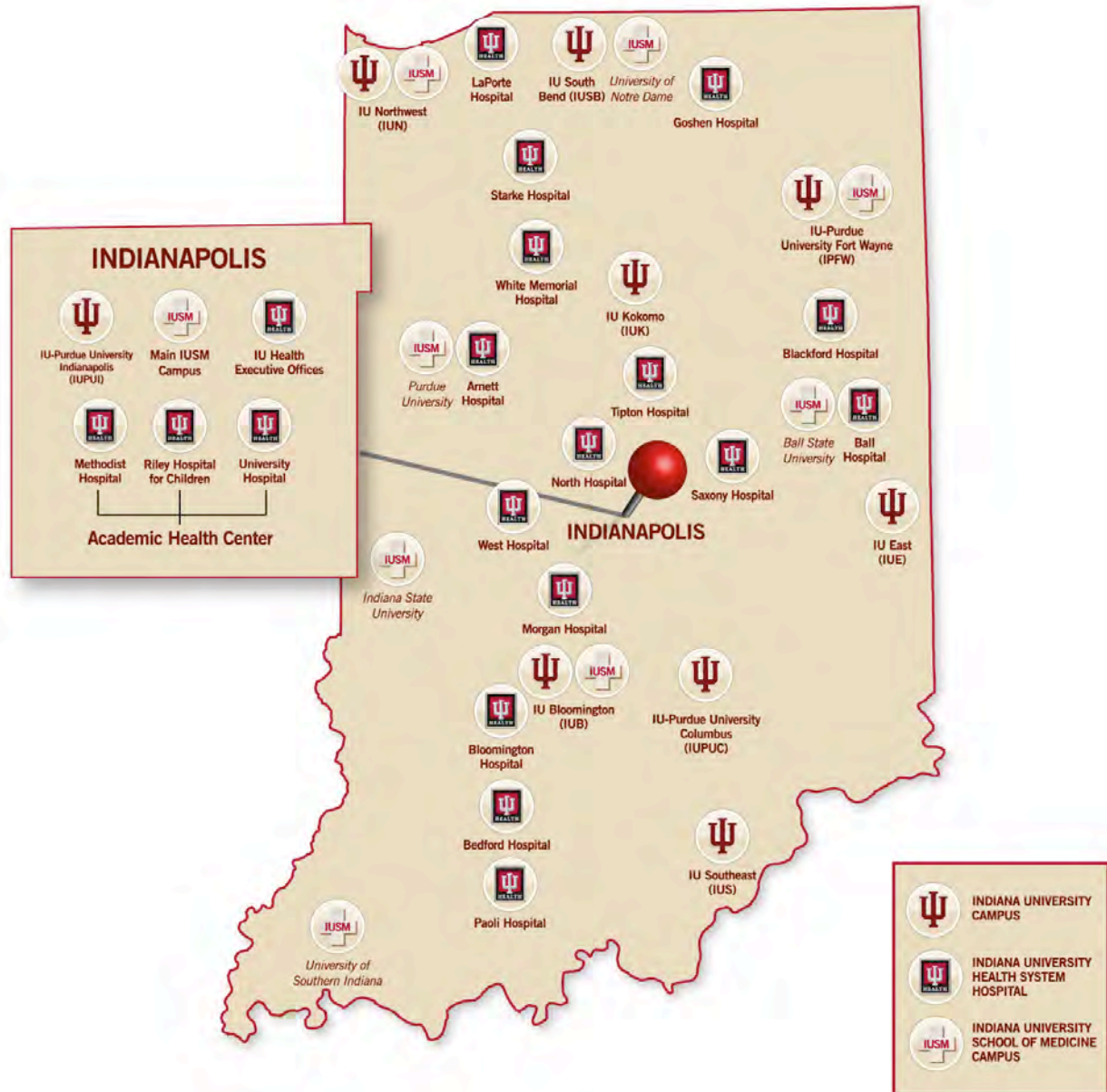
Project Overview

In July 2011, Tripp Umbach was retained by Indiana University to measure the economic, employment and government revenue impacts of operations and research of all of its campuses and affiliates, including IU Health. The goals of Indiana University's economic impact study included the following:

- To quantify the economic and employment impacts of IU on the state of Indiana.
- To better articulate the benefits of a major research institution and its partnership with the community, citizens and the state.

The following map highlights the statewide presence of IU and IU Health.

INDIANA UNIVERSITY AND INDIANA UNIVERSITY HEALTH STATEWIDE COVERAGE



Methodology Employed in the Economic Impact Study

This economic impact analysis measures the effect of direct and indirect/induced business volume and government revenue impacts for all of IU and IU Health's operations throughout the state of Indiana. The methodology employed in the calculation of these impacts is IMPLAN.¹ Primary data utilized to conduct the analysis were collected from IU and IU Health. Data included: capital expenditures, operational expenditures, jobs, payroll and benefits, and taxes. The approach taken on this study was decidedly conservative. However, the impact findings compare favorably to other top research universities in the country as shown in Appendix B.

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. Economic impact has nothing to do with dollars collected by institutions.

Total economic impact measures the dollars that are generated within Indiana due to the presence of Indiana University. This includes not only spending on goods and services with a variety of vendors within the state and the spending of its staff and visitors, but also the business volume generated by businesses within Indiana that benefit from IU's spending.

It is important to remember that not all dollars spent by a university remain in its home state. Dollars that "leak" out of the state in the form of purchases from out-of-state vendors are not included in the university's economic impact on the state. The multipliers utilized in this study are derived from the IMPLAN software.

¹ 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

Indiana Study Overview

Study Period: Fiscal Year 2010 – 2011 (FY 10-11), unless otherwise indicated

This Study Includes:

- All Indiana University – managed campuses: IU Bloomington, IUPUI, IUPUC, IU East, IU Kokomo, IU Northwest, IU South Bend and IU Southeast
- IPFW
- Indiana University Health

Study Geography: State of Indiana

Key economic impact findings presented within the summary include the total current (FY 10-11) economic and employment for the state, and the state and local government revenue impact of IU's operations.²

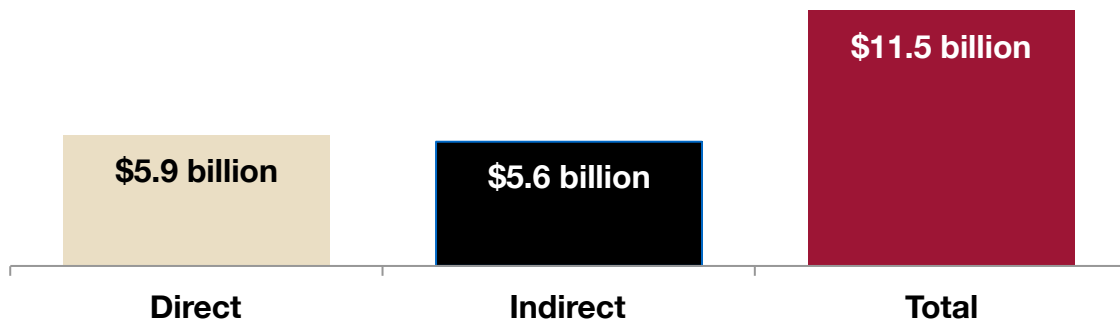
IU and IU Health are Integral to the State's Economic Success

IU and IU Health are integral to the state's economic vitality; operations of IU and IU Health directly or indirectly impact nearly every resident of Indiana, **generating \$11.5 billion annually** in overall economic impact. IU and IU Health affect business volume in Indiana in two ways:

1. Direct expenditures for goods and services by IU/IUH, its staff, faculty, students and visitors. This spending supports local businesses, which in turn employ local individuals to sell the goods and provide the services that University and hospital constituencies need.
2. Indirect or induced spending within the state of Indiana. The businesses and individuals that receive direct payments re-spend this money within the state, thus creating the need for even more jobs.

As a result of expenditures on goods and services by IU/IUH, its employees, its staff, faculty, students and its visitors, the overall economic impact of all IU/IUH's operations on the state of Indiana in FY 10-11 was **\$11.5 billion** (\$5.9 billion direct impact and \$5.6 billion indirect and induced). (See Figure 1.)

Figure 1: IU / IUH Economic Impact (in billions)



² Fiscal Year 2010 – 2011 represents the period of time from July 1, 2010 to June 30, 2011.

In analyzing the economic impact further, the operations of the University represent roughly 42.3% of the overall impact and IU Health represents approximately 57.7% of the impact.³

The economic impact of IU/IUH represents 4.6% of the total Indiana economy. The representation below breaks down the total economic impact by operational entity.



In FY 10-11, Indiana University received \$461.9 million in appropriations from the State of Indiana. As a result of the University's expenditures and operations throughout Indiana, the State realizes a significant return on its investment. Given IU's ability to effectively leverage this state appropriation beyond its fundamental education and research missions through strategic partnerships and relationships with the broader IU Health enterprise, the return on the State's investment is much greater.⁴ Based upon its operations and strategic partnership with IU Health, Tripp Umbach calculates that **for every \$1.00 the State invests in IU, \$24.91 is generated in the state's economy.** (For additional information on how Indiana University compares to its peers in terms of return on investment, see Appendix B.)

What is IU's Return on Investment to the State of Indiana?



³ Indiana University Health includes Indiana's most comprehensive academic health center and is one of the largest health systems in the United States. Through its partnership with Indiana University School of Medicine (IUSM)—the nation's second largest medical school and a global leader in medical education and research—IU Health provides leading-edge care and the most skilled clinical teams. IU Health, as a corporate entity, receives no direct state appropriation.

⁴ Based solely upon the operations of the University, IU generates a return on investment of \$10.54 to the State for each dollar of its appropriation.

IU and IU Health Strengthen State and Local Government

It is a common misperception that public universities and non-profit hospitals do not generate tax revenue. State and local government revenues attributable to the presence of IU/IUH totaled nearly **\$511.7 million** in FY 10-11. Through its local spending, as well as direct and indirect support of jobs, the presence of the University stabilizes and strengthens the local and statewide tax base. IU/IUH is an integral part of the of state’s economy – generating revenue, jobs and spending.

IU and IU Health Generate and Sustain Jobs

IU and IU Health support **100,031 jobs** in the state of Indiana. **One out of every 35 jobs in the state is attributable to IU/IUH.** These jobs (both full-time and part-time) include not only direct employment by IU/IUH, but also indirect and induced jobs created for supply and equipment vendors, contractors and laborers for the construction and renovation of university and hospital facilities, and jobs created in the community at hotels, restaurants and retail stores in support of IU/IUH’s workforce and its visitors.

IU and IU Health directly employed **48,147 people** during FY 10-11. Indiana University supports thousands of jobs annually statewide in virtually every sector of the Indiana economy, such as construction, business and professional services, restaurants and hotels, information technology, security and temporary employment companies. These indirect/induced jobs (51,884 jobs) support the 48,147 jobs held by Indiana residents directly employed by IU/IUH. (See Figure 2.)

Figure 2: IU / IUH Employment Impact (in jobs)



To put this in perspective, IU and IU Health combined are the largest employers in the state of Indiana.⁵



⁵ Source: Indianapolis Business Journal Book of Lists, 2012.

IU Research

IU achieved \$488.2 million in grants and awards for research and other sponsored programs during FY 10-11. These research dollars enter the Indiana economy from a wide variety of agencies, including the National Science Foundation (\$48 million) and the National Institutes of Health (\$196 million). The amount of sponsored research funding received by the IU is impressive and compares favorably to its peers (See Appendix C). This research funding is received by a wide variety of departments and colleges throughout the IU system. IU's research expenditures, an indicator of activity and growth, totaled a record \$509 million during FY 10-11. Notably, awards from the National Institutes of Health and the National Science Foundation increased 37.8% over the previous year. The table below shows expenditures by Unit in FY 10-11 (including university internal funding).

1. Medicine	\$238,629,518
2. Arts & Sciences	\$80,216,843
3. VP Research	\$18,090,548
4. VP IT	\$17,293,929
5. Engineering & Technology	\$12,921,138
6. Education	\$9,046,632
7. Science	\$8,880,229
8. Informatics	\$6,145,907
9. Business	\$6,042,884
10. Nursing	\$3,785,676

“A university cannot render distinguished service to its constituency without a distinguished faculty.”

~ Herman B Wells, IU President (1938-1962)
and University Chancellor (1962-2000)

The work of IU faculty is reshaping fields ranging from music and literature to the new frontiers of genetics. Current IU research encompassing multiple genetics-related fields continues the university's long tradition of cutting-edge interdisciplinary biomedical and genomic research. IU's expertise in genetics has deep historical roots with internationally recognized faculty playing a pivotal role in the discovery of the biochemical basis of genetic codes.

IU's faculty tradition of excellence includes the University's eighth Nobel Laureate, Distinguished Professor Elinor Ostrom who was awarded a 2009 Nobel Prize in economic sciences, representing the first woman to win the honor in this field. In addition, IU's faculty recognitions include 21 members of the National Academies, 65 Fellows of the American

Association for the Advancement of Science, eight Pulitzer Prize winners and four recipients of the MacArthur Fellowship, among many other prestigious honors.

IU has many prominent research strengths in areas as diverse as biochemistry, neurosciences, fine arts, informatics, social sciences and the humanities. IU faculty members are transforming their fields and having a local, national and international impact.

The Indiana University School of Medicine conducts an array of basic, translational and clinical research. IUSM possesses a National Cancer Institute-designated Clinical Cancer Center, the only NIH-funded viral vector production facility for clinical grade therapeutics and one of three Centers of Excellence in Molecular Hematopoiesis in the nation. The range of research institutes and centers within IUSM is extensive as well. Recently, researchers at IUSM have received national and international attention for their studies and discoveries related to genes linked to Alzheimer's, the link between mind and body health, the development of neuronal stem cells and tautomycetin as a potentially new anti-cancer drug.

The IUSM is also renowned for establishing a curative therapy for testicular cancer. Patients from around the world have traveled to the Melvin and Bren Simon Cancer Center for this therapy and comprehensive care. Also in the field of cancer, IUSM has been a pioneer in establishing a cure for Fanconi Anemia (a pre-cancerous condition in children), specific radiation therapy techniques, techniques in a type of nerve-sparing surgery for urologic cancers, the development of drugs to stimulate blood cell production and novel drug therapies for breast cancer. Researchers at the medical school also discovered the cancer-fighting agent in Tamoxifen. In 2011, IUSM announced plans for the establishment of an institute specializing in personalized medicine, which would pursue an individualized and genomics-based approach to treating conditions such as cancer and pediatric and obstetric diseases.

The IUSM is a driving force behind the Indianapolis-based Indiana Clinical and Translational Sciences Institute (CTSI). Created through a \$25 million NIH award and \$60 million collectively contributed by a robust public/private network of state partners (including Purdue University and University of Notre Dame), Indiana CTSI harnesses the resources of academic, commercial and community groups to accelerate the translation of scientific discoveries into clinical trials and new patient treatments, ultimately improving health outcomes in Indiana and beyond.

The impact of research spending is already included in the \$11.5 billion economic impact of IU. It is critical to note that the majority of the research dollars that IU brings into the state are

“fresh” dollars for Indiana – meaning that because of the quality of its faculty and strength of its programs, IU is attracting out-of-state dollars to Indiana. IU competes nationally for these dollars against its peer institutions to fund the research enterprise. Indiana University received a record amount of \$603.9 million in research funds in FY 09-10, a tribute to the exceptional quality of its diverse and innovative faculty, students, staff and the power of the IU intellectual community.

IU’s \$509 million in research expenditures in FY 10-11 translates into a significant economic impact for Indiana. As a result of its strong research programs and expenditures on research, the economic impact of IU research enterprise is \$843.9 million (\$447.3 million direct impact and \$396.6 million indirect/induced impact). As IU’s research expenditures grow as a result of increased research funding, the impact of research spending will also continue to grow. (See Figure 3.)

Figure 3: Indiana University Research Impact (in millions)



IU’s research operations make tangible and quantifiable economic contributions. Along with creating jobs for research staff and support personnel, IU scientists are contributing to new product development and technology commercialization. Knowledge and technology transfers have helped to start commercial ventures that promote entrepreneurship, economic development and job creation.

IU Research Creates High-Quality Jobs

In FY 10-11, IU's operational and capital expenditures for sponsored research and other sponsored programs supported 6,537 jobs. These research employment numbers represent 6.5% of the IU's total employment impact of 100,031 jobs.

These jobs include not only IU's direct employment of research professionals, but also indirect jobs created for supply and equipment vendors, contractors and laborers for the construction and renovation of laboratory facilities, administrators and managers who support the research infrastructure and jobs created in the community by the disposable income of the scientific workforce.

If IU can maintain and grow its strong faculty base, it will continue to attract, and consequently spend, increasingly higher levels of research dollars, and the number of jobs supported will continue to grow. With continued high levels of research funding and consequent expenditures, IU will remain a source of support for thousands of local jobs based on its research funding alone.

The **IU Research and Technology Corporation (IURTC)**, which manages IU's intellectual property portfolio, also generates economic impact through a wide range of commercialization activities, including patent generation, licensing, royalties and business incubation of spin-off companies. The IURTC operates Innovation Centers in both Bloomington and Indianapolis, and oversees development of the new IU Technology Park in Bloomington, positioned to become another catalyst for future economic growth.

Transforming Research into Reality

IURTC's Office of Technology Commercialization (OTC) facilitates the transformation of IU's research discoveries and innovations into commercially viable products that will improve the lives of residents in Indiana and around the world. Its goal is to protect both the investors' and the University's rights via patents, copyrights and/or trademarks, meet the university's intellectual property obligations to research sponsors, and assist entrepreneurs in creating start-up companies. In addition, OTC develops and negotiates licensing agreements to generate revenue and forge close ties with industry. IURTC in FY 10-11 received \$11.1 million in royalties and fees as a result of its commercialization activities, 302 patent applications were filed, 28 patents were issued and 175 invention disclosures were received.

Table 2: Technology Commercialization				
	FY 08	FY 09	FY 10	FY 11
Invention disclosures received	144	131	154	175
Licenses executed	35	34	27	39
Patent applications filed	170	210	244	302
Patents issued	16	8	15	28
Royalties, fees, milestones (in millions of dollars)	\$4.9	\$5.9	\$14.1	\$11.1

IU research commercialization highlights include:

- **Bringing diabetes discoveries to patients:** In 2010, Roche, the world’s largest biotech company, acquired Marcadia Biotech for what could amount to more than \$500 million. Marcadia, founded in 2005, focuses on treatments for diabetes and obesity. Much of the company’s success is based on the research of co-founder Richard DiMarchi, Cox Professor of Biochemistry and Gill Chair in Biomolecular Sciences in the College of Arts and Sciences at Indiana University Bloomington. The novel technologies developed in DiMarchi’s lab have received sizable interest from leading pharmaceutical companies. Roche is providing \$287 million initially, with the potential for an additional \$250 million dependent on developmental milestones.
- In the 2010 report *Sparking Economic Growth: How Federally Funded University Research Creates Innovation, New Companies and Jobs* traced the origins of 100 companies through breakthrough research conducted at a university and sponsored by a federal agency. Compiled by the Science Coalition, a non-profit organization of 45 leading public and private research universities, the report highlighted six Indiana University start-up companies. The following three companies were included among the report’s 100 “success stories” fueled by federally funded research.
 1. **FAST Diagnostics Inc.**, Indianapolis, a medical-technology company developing a reusable optical device and a single-use injectable fluorescent compound to provide cost-effective, rapid and accurate measure of kidney function.
 2. **ImmuneWorks Inc.**, Indianapolis, a biotechnology company developing safe and effective immune tolerance treatments for autoimmune diseases, including idiopathic pulmonary fibrosis of the lung.

3. **Therametric Technologies Inc.**, Noblesville, a dental technology company developing innovative devices and methodology to enhance detection and prevention of dental caries and other dental maladies.

Each of these three companies leveraged federal funding received from the National Institutes of Health to secure additional funding instrumental to the development of their core technologies. The IU companies are highlighted alongside successful companies such as Google, Genentech, Cisco Systems and iRobot.

- **Innovate Indiana Fund:** The Innovate Indiana Fund is designed to invest in emerging-technology start-ups that propel IU discoveries toward the marketplace, stimulating Indiana's economy by creating new jobs, products and therapies. The \$10 million fund, announced in December 2009 by IU President Michael McRobbie, is unique in that it invests in IU-affiliated technologies and companies, not other funds. The Fund's portfolio includes the following Indianapolis-based companies:
 1. **Aarden Pharmaceuticals**, located in the IU Innovation Center – Indianapolis, is a small molecule drug discovery and development company using technologies developed in the labs of IUSM researchers, including co-founder Zhong-Yin Zhang, the Robert A. Harris professor and chair of the Department of Biochemistry and Molecular Biology at IUSM. Its initial programs are focused on infectious disease, cancer, metabolic and autoimmune conditions.
 2. **ApeX Therapeutics**, is a biotechnology company focused on the discovery and development of novel pharmaceuticals for the treatment of pancreatic and brain cancers, as well as age-related macular degeneration. ApeX's chief scientific founder is Mark Kelley, the Betty and Earl Herr Chair in pediatric oncology research and professor in the Department of Biochemistry at IUSM.
 3. **Courseload**, was co-founded by Alan R. Dennis, professor and the John T. Chambers Chair of Internet systems in the IU Kelley School of Business in Bloomington. Located in the IU Innovation Center - Indianapolis, this electronic media delivery company specializes in providing higher educational learning resources through collaborative web and stand-alone software platforms.

IU Benefits the State Beyond Operations

IU's total impact on the state of Indiana goes beyond its annual operational impacts. Economic impact studies often capture only the impact that can be assigned a quantitative number, but the qualitative value and impact of IU goes far beyond its annual multi-billion dollar economic impact. IU educates citizens, scholars, future employees, leaders and innovators. IU provides access to expert faculty, arts and cultural activities, top-tier medical care and education, research libraries and a highly skilled future workforce. It is challenging to assign a dollar amount to the outreach and community activities of a major research university such as IU, but on a daily basis, the lives of Hoosiers are significantly enhanced by its presence in a multitude of ways.⁶

IU Educates the Future Workforce of Indiana

IU educates the workforce that Indiana needs to succeed in the 21st Century. Approximately 19,000 students graduate every year from IU and are essential to the state's human capital and workforce needs. In FY 10-11, Indiana University conferred 19,017 degrees. About 50% of graduates will stay in Indiana and contribute to the state economy. IU's record 19,017 degrees awarded is *roughly equal to the number of degrees awarded at Purdue and Ivy Tech Community College combined in a given year.*

The contributions of IU graduates are critically important to the economic vitality of the state. There are more than 558,000 IU alumni living in 151 countries—the third largest alumni base behind the University of Illinois and Penn State University. More than half of these alumni live in Indiana—including more than 50% of Indiana's physicians, 35% of its teachers, 75% of its attorneys and 90% of its dentists.

IU is a global talent magnet, attracting top students in a wide range of disciplines—many of whom stay in Indiana upon graduation.

IU Alumni Play a Vital Role in the Indiana Economy

By educating students, IU adds to the talent pool of human capital in the state of Indiana. An IU degree increases a graduate's value, productivity and earning potential in the job market. Based on data on median annual earnings for university graduates in 2008 from the U.S. Department of Commerce's Bureau of Economic Analysis, a bachelor's degree earned at a university increases a graduate's salary by an average of \$20,748 a year compared with a high school graduate's salary (from \$32,552 to \$53,300), while a graduate degree earned at a university increases a graduate's salary, when compared to a bachelor's degree, by an

⁶ This analysis will be further developed in a subsequent study.

average of \$15,756 a year (from \$53,300 to \$69,056). Considering the average individual's work life is roughly 40 years, the benefit of earning a college degree provides about \$829,920 more in total lifetime wages over someone receiving a high school diploma.

Figure 4: Salary Comparisons by Degree Type



The 13,003 undergraduate degrees IU awarded in academic year 2010-2011 equates to the creation of \$10.8 billion of future value over 40 years (only counting the graduates from a single year). Even if the total is adjusted by 80% to allow for the forgone income while attending the University, future periods of unemployment, time out of the labor force for child rearing and other life events, the value created for each graduating class is still nearly \$8.6 billion every year. A similar analysis applied to the 6,014 advanced degrees awarded in academic year 2010-2011 equates to another \$8.8 billion of value created. IU, therefore, each year creates \$17.4 billion (\$8.6 billion + \$8.8 billion) of incremental lifetime earnings for members of each graduating class. This impact is above and beyond the impact of the University's operations. (See Figure 5.)

To calculate the economic impact of the University's alumni on a continuing basis in the state of Indiana, Tripp Umbach assembled figures on the distribution of the alumni for whom the IU has current address information and used this distribution for the body of nearly 200,000 alumni who have graduated in the past 30 years and are living in the state of Indiana. Based on an average of \$8,532⁷ in additional salary earned each year as a graduate of Indiana University, it is estimated that IU alumni in the workforce, collectively dating back to 1980, support \$1.2 billion in additional income in the state's economy annually (assuming that 70%

⁷ This number is the average amount of additional income that a graduate of a school with a similar profile to Indiana University earns over the average college graduate. It is based upon an average of the studies that Tripp Umbach has completed for peer universities in which primary survey analysis was conducted.

are in the workforce). Extra earning power from IU alumni since 1980, who are currently working in the state, earn \$1 of every \$222.50 in the state's economy.

**Figure 5: Economic Impact of Earnings of IU Alumni
(in billions)**



IU and IU Health Provide Support to the Community

Tripp Umbach estimates that IU and IU Health employees and students generate more than **\$328.2 million** annually in charitable donations, volunteer services and provision of charitable care.⁸ These benefits (in addition to the \$11.4 billion annual impact) include the following:

- **\$122.2 million** in charity care provided by IU Health for nearly 60,000 patients.
- **\$17.0 million** in research to improve health outcomes in Indiana communities provided by IU Health.
- **\$51.8 million** donated to local charitable organizations by IU and IU Health employees and students.
- Nearly **\$137.2 million** in value of volunteer time provided to area communities by IU and IU Health employees and students.
- Community organizations benefitting from IU/IUH support include:
 - United Way
 - Rotary International
 - Riley Memorial Foundation
 - Susan G. Komen Race for the Cure
 - IU-Kenya Partnership/AMPATH

⁸ Source: Tripp Umbach has conducted survey research where students (primary), staff and faculty (primary) provide estimates on spending patterns, including information on the number of volunteer hours and charitable donations in which they provide. Tripp Umbach used a conservative assumption of \$20.10 per hour to calculate the value of volunteer services. This amount was originally calculated independently by the Points of Light Foundation.

- American Cancer Society / American Heart Association / American Lung Association
 - State and local Chambers of Commerce
 - BioCrossroads
 - Numerous Board of Directors positions for Indiana nonprofits by IU leadership
- Community outreach that benefits Hoosiers and the world include the Susan G. Komen for the Cure Tissue Bank at IU Simon Cancer Center, home to the world's only known tissue bank of healthy breast tissue for cancer study and research, partnered with the 2012 Indianapolis Super Bowl Host Committee to develop *Indy's Super Cure*, a major Super Bowl community outreach initiative garnering national attention by enabling over 1,000 women to date to donate breast tissue critical to research efforts in the ongoing fight against breast cancer.

Generating Impact Throughout the State

IU and IU Health have a significant economic impact across Indiana. Economic impact analysis was completed for IU and IU Health entities throughout the state. (See Table 3.)

Table 3: Economic Impact by Entity and Campus			
	Economic Impact	Employment Impact	Government Revenue Impact
Indiana University	\$4.9 billion	46,908 jobs	\$259.7 million
<i>IU Bloomington</i> ⁹	\$2.3 billion	20,362 jobs	\$114.1 million
<i>IUPUI</i>	\$2.0 billion	18,763 jobs	\$112.6 million
<i>IUPUC</i>	\$27.2 million	418 jobs	\$1.4 million
<i>IPFW</i> ¹⁰	\$164.0 million	1,979 jobs	\$8.0 million
<i>IU East</i>	\$52.9 million	702 jobs	\$2.8 million
<i>IU Kokomo</i>	\$52.1 million	626 jobs	\$2.7 million
<i>IU Northwest</i>	\$105.7 million	1,277 jobs	\$5.6 million
<i>IU South Bend</i>	\$141.8 million	1,723 jobs	\$7.5 million
<i>IU Southeast</i>	\$124.4 million	1,476 jobs	\$6.5 million
IU Health	\$6.6 billion	53,123 jobs	\$252.0 million
Total	\$11.5 billion	100,031 jobs	\$511.7 million

⁹ The IU Bloomington numbers include the University Administration (UA) data.

¹⁰ The economic impact of IPFW was derived based upon the percentage of IU degrees granted at IPFW which was 55% of all total degrees. The true impact of IPFW is higher than the number represented in this economic impact study. Due to the fact that IPFW is a Purdue University managed campus, the impact represented herein only captures the IU portion of the campus. The economic impact of IPFW is actually \$298.2 million, 3,598 jobs and \$14.5 million in government revenue.

Chapter 2: IU Campus Economic Impact Findings

IU Bloomington

Introduction

In 1820, Indiana University was founded in Bloomington, home to the first of IU's eight campuses located statewide. Commitment to innovation, creativity, emerging technologies and academic excellence, along with its world-class contributions in research and the arts, are all hallmarks of IU Bloomington (IUB). IUB attracts leading students from around the globe who want the ideal college experience—rich traditions, international culture, Big Ten athletics and robust academic climate.



Perennially ranked as one of the country's premier public universities on one of the country's most beautiful college campuses, IUB offers more than 520 undergraduate and graduate degree programs, with 180 majors through 13 schools— together offering more than 4,000 courses each semester. Twenty-five (25) general subject and 44 specialty graduate programs were recognized in *U.S. News & World Report's* Best Graduate Schools rankings for 2012. Thirteen (13) general subject programs were ranked among the top 25 in the country with three ranked in the top 10. Twenty-five (25) specialty programs were ranked in the top 10 of their respective fields as well.

IUB continues to build on national recognition garnered over the past decade:

- Ranked as one of the top five wired universities in America according to *Princeton Review* and *PC Magazine* in 2007.
- Ranked 30th on *Kiplinger's Personal Finance's* 2011 list of the "Best Values in Public Colleges."
- Named "Hottest Big State School" in the Nation by *Newsweek* in 2005.
- Named 2001 College of the Year among major research universities by *Time* magazine.
- Named Bloomington as one of the top 10 student-friendly college towns with a population of less than 1 million by *USA Today*.

IUB's notable schools include:

College of Arts and Sciences

- Largest of the University's academic divisions with more than 50 academic departments and home to more than 40% of IUB's undergraduates.
- Encompasses a broad range of disciplines from the traditional (e.g., biology, chemistry, biochemistry, English, economics, mathematics and physics) to more modern and specialized areas, including Jewish Studies, History and Philosophy of Science and International Studies (which is scheduled to become a separate school within the coming years).
- Offers instruction in over 80 foreign languages, one of the largest language study offerings at any American university.
- Parent division for 15 individual research institutes.
- A number of first- and second-year students from the IU School of Medicine complete their preclinical education through IUB's Medical Science Program.

Jacobs School of Music

- Founded in 1921; focusing today on voice, opera, orchestral conducting and jazz studies.
- Has been ranked 1st in the country, tied with Juilliard and Eastman School of Music by *U.S. News & World Report*.
- With more than 1,600 students, among the largest schools of its kind in the U.S. and the world.

Kelley School of Business

- One of the top business schools in the United States; one of only three business schools in the nation for whom all undergraduate and graduate programs rank in the top 25 of the *U.S. News & World Report* college rankings.
- In 2010, *U.S. News & World Report* ranked the undergraduate program 10th in the nation (6th among public schools) and ranked the MBA program 23rd in the nation (7th among public schools).
- The *Wall Street Journal* ranked the MBA program 5th in the nation among regional programs in 2007.
- *Business Week* ranked the undergraduate program 16th in 2008 (6th among public schools) and ranked the graduate program 15th in the nation in 2008 (4th among public schools).

Maurer School of Law

- One of the oldest schools on the Bloomington campus; founded in 1842, becoming the first state university law school in the Midwest and the ninth law school in the nation.
- Ranked 23rd in the nation in the 2012 *U.S. News & World Report* rankings.

School of Education

- One of the largest schools of education in the country.
- Consistently placed among the top 25 graduate schools of education in the country by *U.S. News & World Report*.

School of Informatics and Computing

- Since 1971, the Department of Computer Science has graduated thousands of students who have gone on to become leaders and innovators in technology development.
- School of Informatics founded in 2000 as the first IT school of its kind, offering a new dimension to technology programs through an innovative, interdisciplinary approach where applied technology fuels discoveries in fields as diverse as music and microbiology.
- In 2005, the Department of Computer Science and the School of Informatics joined forces to offer a new kind of computing education; students learn both how technology works and what it can accomplish.
- Named one of *Computerworld* magazine's 10 "IT Schools to Watch" in 2008.

School of Public and Environmental Affairs (SPEA)

- Founded in 1972, the largest school of its kind in the U.S.
- Known for its distinctive interdisciplinary approach, bringing together the social, natural, behavioral and administrative sciences in one faculty.
- Ranked second just behind Syracuse and tied with Harvard in 2009 *U.S. News & World Report* rankings.
- Nation's highest-ranked undergraduate and graduate programs in public affairs at a public institution with six specialty programs ranked in the top 10 and four others placed in the top 20.

Since 1899, athletic teams of the Indiana Hoosiers have competed in the Big Ten, the nation's premier athletic conference, and have won 23 NCAA team championships — including seven in men's soccer, six straight in men's swimming and diving, and five in men's basketball — along with 139 NCAA individual titles, establishing a rich tradition of excellence.

Economic Impact

The overall economic impact of all IU Bloomington’s operations on the state of Indiana in 2011 was **\$2.3 billion** (\$1.1 billion direct impact and \$1.2 billion indirect and induced). (See Figure 6.)

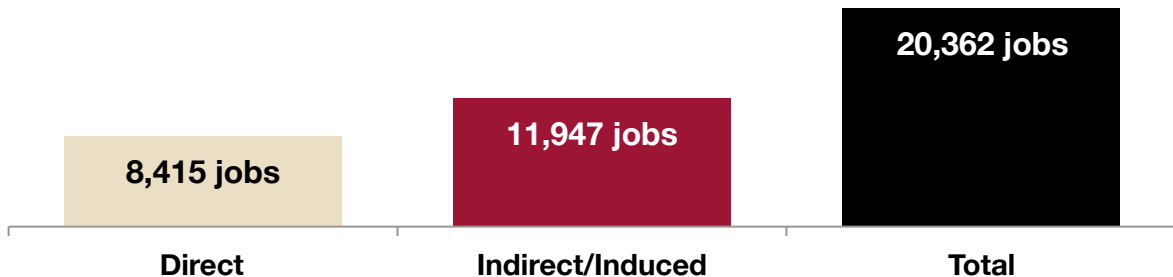
Figure 6: IU Bloomington Economic Impact (in billions)



Employment Impact

The total employment impact of IU Bloomington in the state of Indiana is **20,362 jobs** (8,415 direct jobs). As a result of IU Bloomington’s operations, 11,947 indirect and induced jobs are created in Indiana. (See Figure 7).

Figure 7: IU Bloomington Employment Impact (in jobs)



Government Revenue Impact

IU Bloomington's operations in Indiana generate **\$114.1 million** per year in state and local tax revenue.

Community Benefits

Tripp Umbach estimates that IU Bloomington, faculty, staff and students generate more than **\$54.8 million** annually in charitable donations and volunteer services. These benefits (in addition to the \$2.3 billion annual impact) include the following:

- \$13.5 million donated to local charitable organizations by IU Bloomington faculty, staff and students.
- Nearly \$41.3 million in value of volunteer time provided to area communities by IU Bloomington students, faculty and staff.

IUPUI

Introduction

Indiana University-Purdue University Indianapolis (IUPUI) is Indiana's premier urban university and one of the leading urban public research universities in the country. Capitalizing on its central location in the heart of Indianapolis just blocks from the Indiana Government Center and Fortune 500 companies, IUPUI facilitates advancement of research and teaching, and presents unique opportunities for internships, partnerships and community and business engagement. The IUPUI campus also overlaps with the three hospitals of IU Health's Academic Health Center to create a dynamic healthcare and life sciences cluster in Central Indiana for research and clinical practice.



Over 30,000 students, representing all 50 states and 122 countries, are enrolled in IUPUI's 21 schools and academic units. Together, Indiana University, which also provides management and administrative services for the campus, and Purdue University grant more than 250 different degrees at IUPUI. IUPUI faculty conduct world-class research from the life sciences to the liberal arts; in the professions of medicine, dentistry, law, nursing, education, journalism and social work; and in interdisciplinary collaborations on studies in philanthropy, urban policy, the environment, biomedical engineering, cancer research, informatics and more. The campus is home to 100 research centers, including 27 Signature Centers which are units distinctly identifiable with IUPUI.

A spirit of community spirit greatly contributes to student life at IUPUI; abounding opportunities for civic engagement and service learning, both IUPUI hallmarks, permeate all facets of the campus' offerings. Each year, more than 2,800 IUPUI students and staff volunteer at nearly 300 different community agencies and schools, donating more than 53,000 hours of service as neighborhood cleanup crews, tutors, mentors, home-building teams and other workers.

IUPUI's impressive record of growth, advancement and civic commitment continues to earn national acclaim:

- Ranked 5th in *U.S. News & World Report's* 2011 list of "Up-and-Coming National Universities."
- Ranked 7th in *U.S. News & World Report's* 2009 list of "Universities to Watch."
- Ranked 8th best public university in the Midwest by *Forbes* magazine, 2009.
- Named to President's Higher Education Community Service Honor Roll, 2008, 2009.
- Received Heiskell Award for Innovation in International Partnerships, 2009.
- Received President's Higher Education Community Service Award for Excellence in General Community Service, 2006.

Notable IU schools based at IUPUI include:

School of Medicine

- The nation's second largest medical school and a global leader in medical education and research.
- Nationally ranked 15th for Rural Medicine, 19th for Geriatrics and 24th for Primary Care by *U.S. News & World Report*, 2012.
- Complementing IUPUI's focus on civic engagement, IUSM's AMPATH (Academic Model Providing Access to Healthcare) program is actively improving healthcare for AIDS patients in Kenya.
- Researchers from IUSM and IUPUI collectively garnered over \$400 million in grants and awards for research funding in 2009-2010.

School of Nursing

- Largest nursing school in the nation with undergraduate to PhD and DNP programs.
- The IU School of Nursing ranks ninth out of 80 schools and colleges of nursing in funding received from the National Institutes of Health.
- Ranked 15th best overall nursing school in *U.S. News & World Report's* 2012 Graduate School rankings; ranked third for adult health Clinical Nurse Specialist (CNS).

School of Dentistry

- One of the oldest dental schools in the nation; founded as Indiana Dental College in 1879, merging with IU in 1925 and continuing today to serve as the state's only dental school.
- Comprised of nine academic departments and offers seven types of degree and/or certificate programs in dental assisting, dental hygiene, dentistry and graduate dentistry.
- Close proximity to IUSM enables strong collaborative ties with physicians and researchers.

McKinney School of Law

- Indiana’s largest law school with over 1,000 students and 100 faculty; offers the state’s only part-time program.
- Nationally ranked eighth for Legal Writing and 11th for Healthcare Law by *U.S. News & World Report*, 2012.
- Ranked as one of the 10 “Greenest Law schools” in 2010 by *Pre-Law Magazine*.

Economic Impact

The overall economic impact of all IUPUI’s operations on the state of Indiana in 2011 was nearly **\$2.0 billion** (\$.9 billion direct impact and \$1.0 billion indirect and induced). (See Figure 8.)

Figure 8: IUPUI Economic Impact (in billions)



Employment Impact

The total employment impact of IUPUI on the state of Indiana was **18,763 jobs** (8,640 direct jobs). As a result of its operations, IUPUI creates 10,123 indirect and induced jobs in the economy (see Figure 9).

Figure 9: IUPUI Employment Impact (in jobs)



Government Revenue Impact

IUPUI's operations in Indiana generate **\$112.6 million** per year in state and local tax revenue.

Community Benefits

Tripp Umbach estimates that IUPUI, faculty, staff and students generate more than **\$44.4 million annually** in charitable donations and volunteer services. These benefits (in addition to the \$1.9 billion annual impact) include the following:

- \$11.6 million donated to local charitable organizations by IUPUI faculty, staff and students.
- Nearly \$32.8 million in value of volunteer time provided to area communities by IUPUI students, faculty and staff.

IPFW

Introduction

Indiana University – Purdue University Fort Wayne (IPFW) is the largest university in northeast Indiana and the fifth largest campus in the state, offering more than 200 IU and Purdue University degree and certificate programs. Since 1968, IPFW has conferred nearly 8,800 master’s degrees, 27,000 bachelor’s degrees, more than 20,000 associate degrees and nearly 2,000 certificates.¹¹



Key IPFW highlights include:

- Managed and administrated by Purdue University.
- Degrees awarded on a program-by-program basis by either Purdue or IU.
- Academically composed of five colleges, one school and two divisions — each not identified specifically as an IU unit or as a Purdue unit:
 - ✓ College of Arts and Sciences
 - ✓ College of Engineering, Technology and Computer Science
 - ✓ College of Health and Human Services
 - ✓ College of Visual and Performing Arts
 - ✓ College of Education and Public Policy
 - ✓ Richard T. Doermer School of Business and Management Sciences
 - ✓ Division of Continuing Studies
 - ✓ Division of Labor Studies
- More than 46,000 alumni.
- Created Office of University Engagement, providing regional businesses and entrepreneurs with direct access to IPFW, IU and Purdue research resources and technological expertise to stimulate economic development in northeast Indiana.

¹¹ This economic impact study includes the portion of IPFW’s economic impact directly attributable to Indiana University (55%). The total economic impact of IPFW, which includes both Purdue and IU inputs, is \$298.2 million, 3,598 jobs and \$14.5 million in local and state government revenue impact.

- Over past 17 years, Omnibus Lecture Series has brought over 100 leading national and global speakers to Fort Wayne, promoting discourse on diverse ideas and topics related to social, business, political, literary, entertainment and media issues.
- An NCAA Division I athletic program, the IPFW Mastodons compete as a member of The Summit League athletic conference.

Economic Impact

The overall economic impact of IPFW’s operations (IU’s portion only) on the state of Indiana in 2011 was **\$164.0 million** (\$83.3 million direct impact and \$80.7 million indirect and induced). (See Figure 10.)

Figure 10: IPFW Economic Impact (in millions)



Employment Impact

The total employment impact of IPFW’s operations (IU portion only) in the state of Indiana is 1,979 jobs (1,295 direct jobs and 684 indirect and induced jobs) (see Figure 11).

Figure 11: IPFW Employment Impact (in jobs)



Government Revenue Impact

IPFW’s operations in Indiana generate nearly **\$8.0 million** per year in state and local tax revenue.

Community Benefits

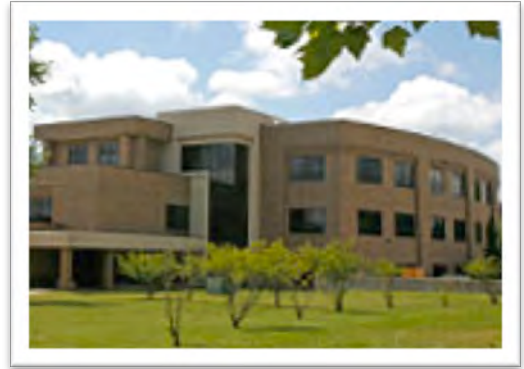
Tripp Umbach estimates that IPFW, faculty and staff generate **\$9.4 million** in charitable donations and volunteer services. These benefits (in addition to the \$164.0 million annual impact) include the following:

- Nearly \$2.2 million donated to local charitable organizations by IPFW faculty and staff.
- Over \$7.2 million in value of volunteer time provided to area communities by IPFW faculty and staff.

IU East

Introduction

Based in Richmond, Indiana University East (IU East) operates as the premier four-year and master's public institution serving eastern Indiana and western Ohio. Since awarding its first Bachelor's Degrees in 1977, IU East has expanded its academic portfolio to include over 50 program options at the Bachelor's Degree level and selected Master's Degrees. Today, IU East complements its traditional campus offerings with a burgeoning online program that extends its reach beyond Richmond to students all over the nation and the world.



Key IU East highlights include:

- Comprised of six schools: School of Business & Economics, School of Education, School of Humanities & Social Sciences, School of Natural Sciences & Mathematics, School of Nursing and School of Social Work.
- Offers 54 Bachelor's and Master's Degree programs; 48 conferred by IU and six conferred through Purdue University.
- Special programs include an Honors Program, IU East Online, a growing number of student organizations and numerous opportunities for internships, service-learning and overseas study.
- Over one-third of total campus credit hours are delivered through IU East Online, including seven Bachelor's Degree completion programs and one online graduate certificate, earning the campus accolades for its online proficiency.
- Ongoing partnership with Purdue University College of Technology located on campus.
- Plays a leading role as a vital community partner in enhancing the economic development and quality of life for east central Indiana and west central Ohio.
- Serves the citizens of nearby Henry County, Indiana through the IU East Henry County Danielson Learning Center in New Castle.
- Offers additional degree programs through its Connersville Center in nearby Fayette County, Indiana and the Ivy Tech Community College in Riverfront Campus in Lawrenceburg, Indiana.
- IU East Red Wolves field five men's and five women's athletic teams as a member of the NAIA and the Kentucky Intercollegiate Athletic Conference.

Economic Impact

The overall economic impact of IU East's operations on the state of Indiana in 2011 was \$52.9 million (\$25.9 million direct impact and \$27.0 million indirect and induced). (See Figure 12.)

Figure 12: IU East Economic Impact (in millions)



Employment Impact

The total employment impact of IU East on the state of Indiana is **702 jobs** (377 direct jobs). As a result of IU East's operations in the state, 325 indirect and induced jobs are created (see Figure 13).

Figure 13: IU East Employment Impact (in jobs)



Government Revenue Impact

IU East's operations in Indiana generate nearly **\$2.8 million** per year in state and local tax revenue.

Community Benefits

Tripp Umbach estimates that IU East, faculty, staff and students generate more than **\$3.7 million** annually in charitable donations and volunteer services. These benefits (in addition to the \$52.9 million annual impact) include the following:

- \$.82 million donated to local charitable organizations by IU East faculty, staff and students.
- Nearly \$2.9 million in value of volunteer time provided to area communities by IU East students, faculty and staff.

IU Kokomo

Introduction

The most predominant higher education resource in north central Indiana, Indiana University Kokomo (IU Kokomo) enhances the lives of the region's residents through its academic programs, activities and organizations and community engagement. IU Kokomo is committed to regional transformation of the 14-county area it serves.

By providing a common ground where educators, members of the business and industrial community and citizens can come together to share resources and ideas, IU Kokomo brings new energy to the region's revitalization efforts.



Key IU Kokomo highlights include:

- Offers more than 70 undergraduate and graduate degree programs.
- Bachelor's degrees in many arts and sciences disciplines, informatics, medical imaging technology, criminal justice, nursing, business, education and general studies.
- Master's degrees in public management, business, education, nursing and liberal studies.
- Comprised of the following schools and divisions: Division of Allied Health Sciences, Division of Continuing Studies, Division of Labor Studies, School of Education, School of Arts and Sciences, School of Business, School of Nursing, and School of Public and Environmental Affairs.
- Home to Purdue University College of Technology at Kokomo, representing a significant partnership for the campus, the community and the region since 1967.
- Special programs include an Honors Program, Internships, IU Seek and student publications, *The Correspondent* and *From the Well House*.
- Expanding capacities of Bachelor's and Master's degrees nursing programs offered in Kokomo to play a leadership role in meeting a critical statewide healthcare need.
- Offers numerous Overseas Study opportunities, including nursing programs in South Korea and Central America and the Innovation Symposium in Great Britain.
- Athletic teams of the IU Kokomo Cougars began competing as a member of the NAIA in 2011.

Economic Impact

The overall economic impact of all IU Kokomo's operations on the state of Indiana in 2011 was **\$52.1 million** (\$25.1 million direct impact and \$27.0 million indirect and induced). (See Figure 14.)

Figure 14: IU Kokomo Economic Impact (in millions)



Employment Impact

The total employment impact of IU Kokomo's operations in the state of Indiana is **626 jobs** (309 direct jobs and 317 indirect/induced) (see Figure 15).

Figure 15: IU Kokomo Employment Impact (in jobs)



Government Revenue Impact

IU Kokomo's operations in Indiana generate more than **\$2.7 million** per year in state and local tax revenue.

Community Benefits

Tripp Umbach estimates that IU Kokomo, faculty, staff and students generate more than **\$3.4 million** annually in charitable donations and volunteer services. These benefits (in addition to the \$52.1 million annual impact) include the following:

- \$735,981 donated to local charitable organizations by IU Kokomo faculty, staff and students.
- Nearly \$2.6 million in value of volunteer time provided to area communities by IU.

IU Northwest

Introduction

Indiana University Northwest (IU Northwest) provides an urban, comprehensive IU education to more than 6,000 students from the state's most diverse and industrialized region. Based in Gary, the campus has experienced 24% enrollment growth during the past three years and continues to add new undergraduate and graduate degree programs, to meet student and employer demand in highly sought-after disciplines.



Key IU Northwest highlights include:

- More than 70 undergraduate, graduate and pre-professional degrees in business, health and human services, arts and sciences, education, public and environmental affairs and continuing studies.
- Master's degrees include business administration, public affairs, liberal studies, elementary or secondary education, educational leadership, clinical counseling and social work.
- Evening and weekend classes, study-abroad options and off-campus learning sites in Portage and Merrillville serve IU's most diverse student body.
- Small class sizes (14:1 student-to-faculty ratio) ensure personal attention from a distinguished faculty of teaching scholars.
- Community-based engagement is central to the IU Northwest academic mission and to its relationship with Northwest Indiana's citizens and stakeholders.
- Offers numerous experiential learning opportunities that support regionally-focused research and service projects related to schools, economic development, child welfare, environmental sustainability and other critical issues.
- Synergistic relationship between the College of Health and Human Services and the IU School of Medicine – Northwest creates innovative Urban Health and Healthcare Disparities curriculum for third- and fourth-year medical students to work collaboratively in addressing underserved urban populations.
- Offers students and community members a socially and aesthetically vibrant campus atmosphere and dynamic environment for individualized learning.
- Student organizations, the sculpture garden, gallery exhibits, theatre performances and cultural programming contribute substantively to Northwest Indiana's quality of life.
- Athletic teams of the IU Northwest RedHawks compete as a member of the NAIA.

Economic Impact

The overall economic impact of all IU Northwest's operations on the state of Indiana in 2011 was **\$105.7 million** (\$50.4 million direct impact and \$55.3 million indirect and induced). (See Figure 16.)

Figure 16: IU Northwest Economic Impact (in millions)



Employment Impact

The total employment impact of IU Northwest's operations in the state of Indiana is **1,277 jobs** (638 direct jobs and 639 indirect and induced jobs) (see Figure 17).

Figure 17: IU Northwest Employment Impact (in jobs)



Government Revenue Impact

IU Northwest's operations in Indiana generate nearly **\$5.6 million** per year in state and local tax revenue.

Community Benefits

Tripp Umbach estimates that IU Northwest, faculty, staff and students generate more than **\$6.5 million** annually in charitable donations and volunteer services. These benefits (in addition to the \$55.3 million annual impact) include the following:

- \$1.4 million donated to local charitable organizations by IU Northwest faculty, staff and students.
- Nearly \$5.1 million in value of volunteer time provided to area communities by IU Northwest students, faculty and staff.

IU South Bend

Introduction

Indiana University South Bend (IU South Bend) is the only comprehensive public university in North Central Indiana and the third largest campus administered by Indiana University. IU South Bend offers more than 100 programs in which students can earn baccalaureate and master's degrees. These programs are taught by distinguished faculty who are dedicated to teaching and giving students the personal attention they need to be successful.



Key IU South Bend highlights include:

- Offers the full collegiate experience, grounded in academic excellence, including student housing, more than 100 degree programs and a full complement of activities for a complete college career.
- Major schools include College of Liberal Arts and Sciences, College of Health Sciences, Ernestine M. Raclin School of the Arts, School of Business and Economics, School of Education, School of Social Work, Labor Studies Program and Division of Continuing Education.
- Located near downtown South Bend and plays a vital leadership role in the region as a strong community partner with businesses, entrepreneurs, schools and government through numerous opportunities for civic engagement, research, internships and scholarships and economic development.
- Ongoing partnership with Purdue University College of Technology located on campus.
- Offers additional programming at the Elkhart Center and provides online programs and professional development.
- Global campus community with more than 200 international students and various overseas study programs.
- Facilitates inclusive forums to promote political discourse, discuss new ideas, preserve history, reach out to the underserved and increase access to the arts.
- Notable outreach activities include: Tough Stuff Recycling, The Civil Rights Heritage Center at the Natatorium, Wolfson Press, The Center for a Sustainable Future, Advance College Project and the Entrepreneurship Lecture Series.
- Men's and women's Athletic teams of the IU South Bend Titans compete in the NAIA.

Economic Impact

The overall economic impact of all IU South Bend's operations on the state of Indiana in 2011 was **\$141.8 million** (\$68.5 million direct impact and \$73.3 million indirect and induced). (See Figure 18.)

Figure 18: IU South Bend Economic Impact (in millions)



Employment Impact

The total employment impact of IU South Bend's operations in the state of Indiana is **1,723 jobs** (864 direct jobs and 859 indirect/induced jobs) (see Figure 19).

Figure 19: IU South Bend Employment Impact (in jobs)



Government Revenue Impact

IU South Bend's operations in Indiana generate **\$7.4 million** per year in state and local tax revenue.

Community Benefits

Tripp Umbach estimates that IU South Bend, faculty, staff and students generate more than **\$9.3 million** annually in charitable donations and volunteer services. These benefits (in addition to the \$141.8 million annual impact) include the following:

- \$2.0 million donated to local charitable organizations by IU South Bend faculty, staff and students.
- Nearly \$7.3 million in value of volunteer time provided to area communities by IU South Bend students, faculty and staff.

IU Southeast

Introduction

Indiana University Southeast (IU Southeast) serves Southern Indiana and the Greater Louisville metropolitan area through its New Albany campus. As a comprehensive public university, its mission is to provide high-quality educational programs and services that promote student learning and prepare students for productive citizenship in a diverse society, and to contribute to the intellectual, cultural and economic development of the region.



Key IU Southeast highlights include:

- Currently provides access to 50 degree programs: six Master's, 39 Bachelor's and five Associate's.
- Comprised of six schools – the School of Arts and Letters, School of Business, School of Education, School of Natural Sciences, School of Social Sciences and School of Nursing – as well as a Continuing Studies Division.
- Widely recognized for Bachelor's Degree programs in business, nursing and education.
- Committed to offering educational programs and services that support diversity in all its aspects, promote opportunities for applied learning and address the intellectual, cultural and economic development needs of the campus's service region.
- For each of the past five years, the School of Business has been rated as a best school by the *Princeton Review*.
- Ongoing partnership with Purdue University College of Technology offers technology-based courses at nearby Purdue Technology Center in New Albany.
- Directly supports economic development through unique, innovative partnership with State of Indiana, Purdue University and Ivy Tech Community College to co-sponsor the Southeast Indiana Small Business Development Center, providing the region's entrepreneurs with greater access to resources and expertise.
- Offers program in safety management through cooperative agreement with IUB's School of Health, Physical Education.
- Enhances the region's arts and cultural offerings through numerous concerts and theater productions from local and national talent at the campus' Paul W. Ogle Cultural and Community Center.
- IU Southeast Grenadiers field three men's and four women's athletic teams as a member of the NAIA and the Kentucky Intercollegiate Athletic Conference.

Economic Impact

The overall economic impact of IU Southeast's operations on the state of Indiana in 2011 was **\$124.4 million** (\$60.5 million direct impact and \$63.9 million indirect and induced). (See Figure 20.)

Figure 20: IU Southeast Economic Impact (in millions)



Employment Impact

The total employment impact of IU Southeast's operations in the state of Indiana is **1,476 jobs** (735 direct jobs and 741 indirect/induced jobs) (see Figure 21).

Figure 21: IU Southeast Employment Impact (in jobs)



Government Revenue Impact

IU Southeast's operations in Indiana generate nearly **\$6.5 million** per year in state and local tax revenue.

Community Benefits

Tripp Umbach estimates that IU Southeast, faculty, staff and students generate more than \$7.8 million annually in charitable donations and volunteer services. These benefits (in addition to the \$124.4 million annual impact) include the following:

- \$1.7 million donated to local charitable organizations by IU Southeast faculty, staff and students.
- Nearly \$6.1 million in value of volunteer time provided to area communities by IU Southeast students, faculty and staff.

IUPUC

Introduction

IUPUC originated in 1970 as IUPUI Columbus, a permanent extension center of IUPUI. Located one hour south of Indianapolis, Columbus is one of Indiana's leading economic cities and is home to Cummins, Inc., a Fortune 200 corporation. The campus resulted from the city's long-standing interest in post-secondary education; IU courses had been offered in Columbus since 1941. In 1994, IUPUI Columbus officially changed its name to IUPUC.



Key IUPUC highlights include:

- Served more than 1,700 undergraduate and graduate students in 2010-2011.
- Offers undergraduate degree programs in business, education, mechanical engineering, general studies, liberal arts, nursing and psychology.
- Offers two graduate degree programs: Master of Business Administration and Master of Arts in Mental Health Counseling.
- Affords students the opportunity to complete general education, elective and some major courses at IUPUC and then transfer to IUPUI to complete degrees in areas not available on the Columbus campus, including informatics, physical education, health sciences, tourism management, public and environmental affairs and social work.
- Closely collaborates with its educational partner, Ivy Tech Community College of Columbus, to develop articulation agreements that enable students holding Associate Degrees to apply those credits toward a Bachelor's Degree.
- Provides the region with integral source of highly skilled human capital and talent essential to perpetuate its economic vitality.
- Mutually benefits from a long-standing tradition of partnering with key businesses, including Cummins and civic leaders to develop educational solutions aligned with regional needs.
- Received a substantial grant from Duke Energy in 2011 for a regional outreach initiative to strengthen science, technology, engineering and math (STEM) teaching and learning in K-6 school districts throughout Southern Indiana.
- Most IUPUC graduates have deep roots in the region; the majority of its graduates have lived, worked and raised families in Southern Indiana for generations and remain in the region upon earning a degree.

Economic Impact

The overall economic impact of all IUPUC's operations on the state of Indiana in 2011 was **\$27.2 million** (\$13.1 million direct impact and \$14.1 million indirect and induced). (See Figure 22.)

Figure 22: IUPUC Economic Impact (in millions)



Employment Impact

The total employment impact of IUPUC's entities in the state of Indiana is **418 jobs** (250 direct jobs and 168 indirect and induced jobs). (See Figure 23.)

Figure 23: IUPUC Employment Impact (in jobs)



Government Revenue Impact

IUPUC's operations in Indiana generated **\$1.4 million** per year in state and local tax revenue.

Community Benefits

Tripp Umbach estimates that IUPUC, faculty, staff and students generate more than **\$1.9 million** annually in charitable donations and volunteer services. These benefits (in addition to the \$27.2 million annual impact) include the following:

- \$1.5 million donated to local charitable organizations by IUPUC faculty, staff and students.
- \$447,403 in value of volunteer time provided to area communities by IUPUC students, faculty and staff.

Chapter 3: IU Health and IUSM Economic Impact

Introduction

Indiana University Health is Indiana's most comprehensive healthcare system. In 1997 the Indiana Conference of the United Methodist Church and the Trustees of Indiana University agreed to establish Clarian Health Partners, the forerunner to Indiana University Health, by consolidating the governance and operations of Indianapolis' premier downtown hospitals-- Methodist Hospital, Indiana University Hospital and Riley Hospital for Children. Today, this



unique partnership which fully integrates the research and clinical expertise of the IU School of Medicine, one of the nation's leading medical schools, gives patients access to innovative treatments and therapies. IU Health is comprised of hospitals, physicians and allied services dedicated to providing preeminent care throughout Indiana and beyond. IU Health, its partnership with the IU School of Medicine, and clinical affiliates throughout the state increase the availability of high-quality, academic medicine to Indiana's citizens.

IU Health Clinical Expertise

Clinically, IU Health is nationally ranked in many fields and offers top-tier healthcare to residents of Indiana as well as attracting out-of-state visitors into the state for care.

- Eight clinical programs ranked among the top 50 national programs in *U.S. News & World Report's* 2011-12 edition of America's Best Hospitals.
- 10 specialty programs at Riley Hospital for Children at IU Health ranked among the top 30 children's hospitals in the nation.
- Six hospitals designated as Magnet[®] hospital systems by the American Nurses Credentialing Center recognizing excellence in nursing care.

IU Health offers a full range of specialty and primary care services for children and adults, including the following areas of clinical expertise:

- **Pediatrics:** The only Indiana hospital ranked among the top children's hospitals in the nation by *U.S. News & World Report*, Riley Hospital for Children at Indiana University Health offers comprehensive children's care — from the routine to the most complex.

- **Transplant:** IU Health Transplant is the only comprehensive transplant program in Indiana and the nation’s fourth-largest solid-organ transplant center.
- **Cancer:** With more than 200 physician researchers leading the way to new treatments, IU Simon Cancer Center is an exceptional treatment resource and Indiana’s only National Cancer Institute-designated Clinical Care Center.
- **Cardiovascular:** A nationally recognized heart and heart surgery program, IU Health Cardiovascular specialists treat some of the most complex cases, offer unequaled care, combine innovative technology with advanced procedures and have a strong reputation for patient safety.
- **Neuroscience:** One of the largest programs in the country, and the only one in Indiana recognized by *U.S.News & World Report*, IU Health Neuroscience provides a full range of neurological and neurosurgical services along with access to the latest research and treatment options.
- **Orthopedics:** As Indiana’s only orthopedics program ranked by *U.S.News & World Report*, IU Health Orthopedics provides comprehensive joint, spine, bone and muscle care for adults and children.

IU Health Physicians

A collaborative partnership between IU Health and IUSM, IU Health Physicians is comprised of more than 800 board-certified or board-eligible physicians located in 70 locations statewide and employing more than 1,000 staff, including 170 advanced practice providers.

Indiana University School of Medicine

Founded in 1903, IUSM has served as Indiana’s only school of medicine for 109 years. Today, IUSM offers medical education at nine campuses located across the state and educates the second largest medical student body in the U.S. The school’s wide-ranging medical expertise extends over more than 60 clinical departments and specialty divisions.



With a focus on service to all regions of the state, IUSM includes the main campus in Indianapolis and encompasses eight Centers of Medical Education located in cities throughout Indiana. These centers, listed in the table below, provide a significant economic contribution to their home cities and maintain close affiliations with local IU campuses, other Indiana universities and regional hospitals.

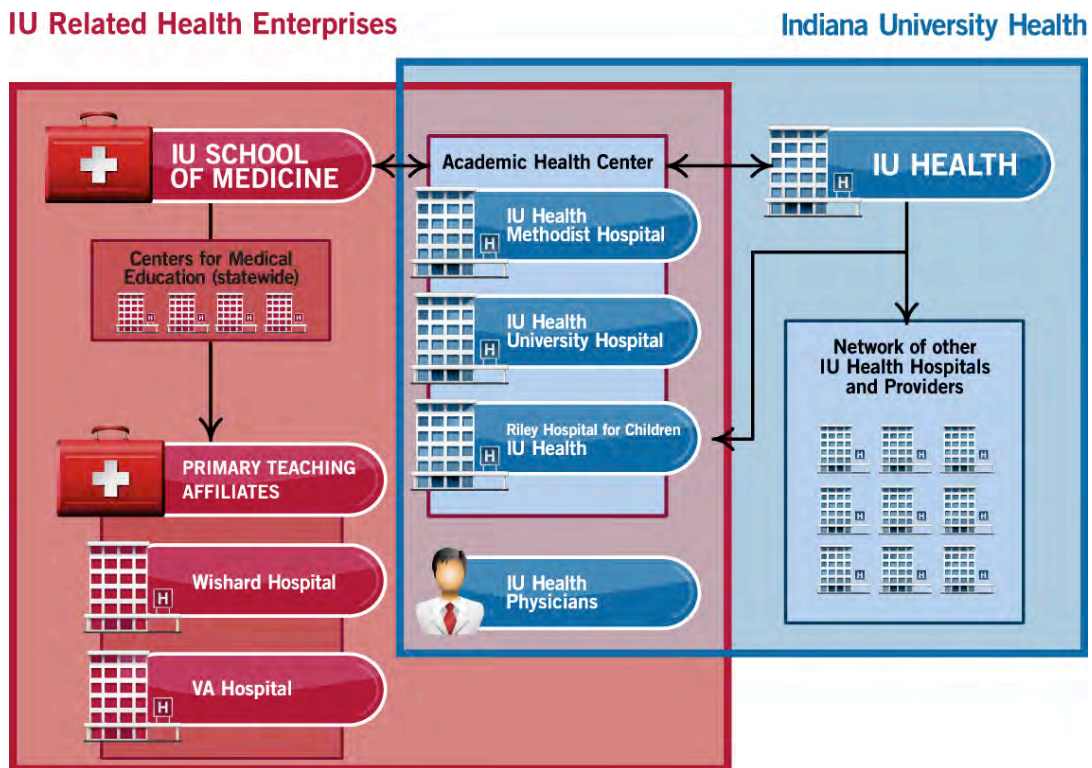
Table 4: IUSM Locations Throughout Indiana			
	City	Campus / Affiliated University	Years of Instruction
Home Campus	Indianapolis	IUPUI	4 years
Centers of Medical Education	Bloomington	IU Bloomington	First 2 years
	Evansville	University of Southern Indiana	First 2 years
	Fort Wayne	IPFW	4 years
	Gary	IU Northwest	4 years
	Muncie	Ball State University	First 2 years
	South Bend	University of Notre Dame	4 years
	Terre Haute	Indiana State University	4 years
	West Lafayette	Purdue University	First 2 years

In 2009, the IU medical school began expanding opportunities for third and fourth-year clinical rotations throughout the state. Within the next two to four years, clerkships plan to be offered at the centers currently providing the first two years of instruction.

- IUSM student body represents 54 of the 92 Indiana counties and 91 colleges and universities.
- IU faculty has performed many “firsts” in Indiana including transplants of the kidney, liver, cornea, bone marrow, pancreas and infant and newborn hearts.
- Approximately half of Indiana’s physicians received all or some of their education at the IUSM.
- Nearly half of IUSM graduates accept in-state residencies.
- Nearly 40% of IUSM graduates enter primary care specialties.

Research gives physicians and patients across the state access to the most cutting-edge and comprehensive treatment options. Nearly 1,400 research studies were conducted in FY 09-10. Total grant research funding (awarded for FY 09-10) was \$264.6 million.

Medical patients, faculty and students all benefit through training opportunities enabled by the IUSM's key affiliations maintained with Wishard Health and the VA Medical Center in Indianapolis. These long-standing relationships provide economic benefit to the state as well.



Wishard Health Services

Wishard Health Services is one of America's five largest safety-net health systems, providing care in nearly 1.4 million outpatient visits each year. Wishard is one of the leading providers of healthcare in Central Indiana, with physicians of the Indiana University School of Medicine providing a comprehensive range of primary and specialty care services within its 339-bed hospital and inpatient facilities, as well as 10 community health centers located throughout Indianapolis. Structural steel has been topped out for the new Sidney & Lois Eskenazi Hospital and Eskenazi Health facilities which are on schedule to open in late 2013.

Richard L. Roudebush Veteran's Affairs Medical Center

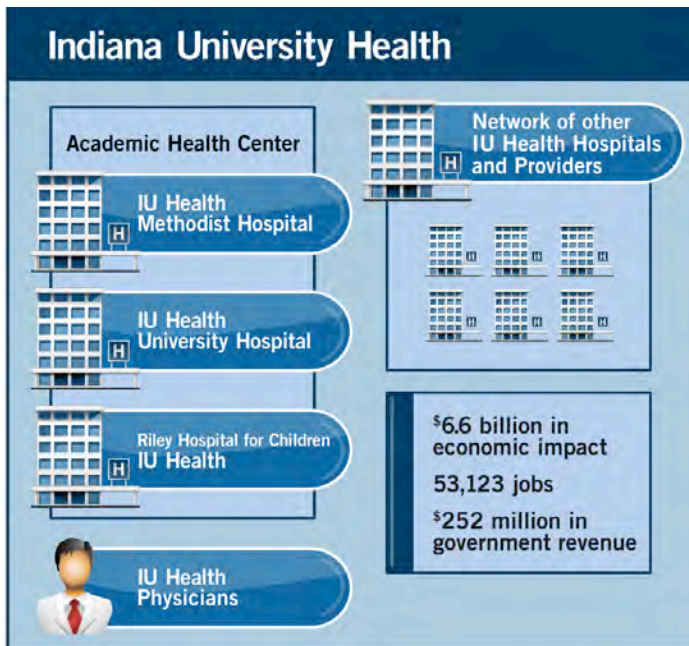
Since 1932, Richard L. Roudebush VA Medical Center has been providing healthcare to the veterans in the 45-county area of Indiana and Illinois. As a teaching hospital, Richard L. Roudebush VA Medical Center provides a full range of services, with state-of-the-art technology as well as education and research. The Indianapolis VA Medical Center has an

active affiliation with the IUSM. At any time, 100 post-graduate physician residents and fellows are pursuing clinical training in the Indianapolis VA Medical Center and delivering veteran care under the supervision of VA physicians who are concurrently faculty of the Indiana University School of Medicine. This supervised clinical experience for licensed physicians is offered in 22 accredited medical specialties. Nursing student affiliations with the Indiana University School of Nursing are offered as well.

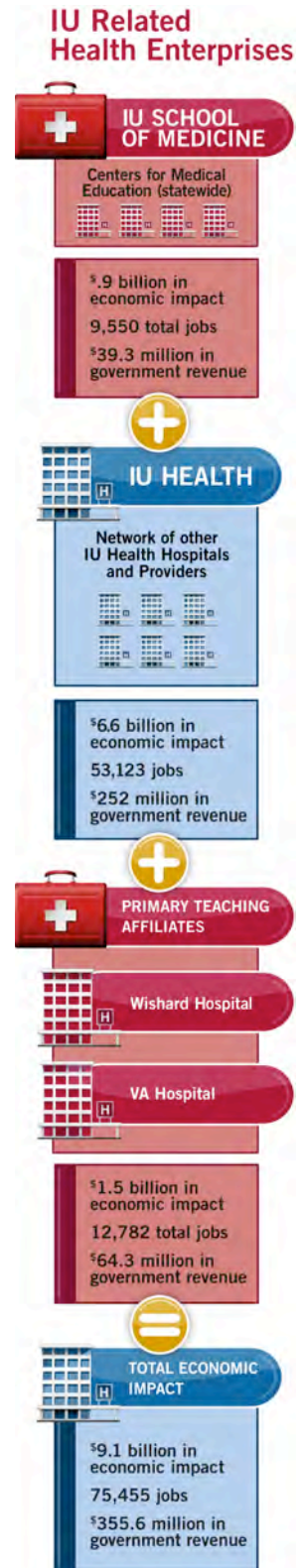
Overview of Analysis

The economic impact analysis completed for IU Health seeks to demonstrate the impact of IU Health (independent of IUSM) and All IU-Related Health Enterprises.¹² For the purposes of this study, the economic analysis presented below was analyzed as follows:

IU Health includes: Academic Health Center and IU Health’s network of hospitals and providers.



All IU-Related Health Enterprises includes: IU Health, IUSM and its affiliations with Wishard Hospital and the Veteran’s Administration Hospital.

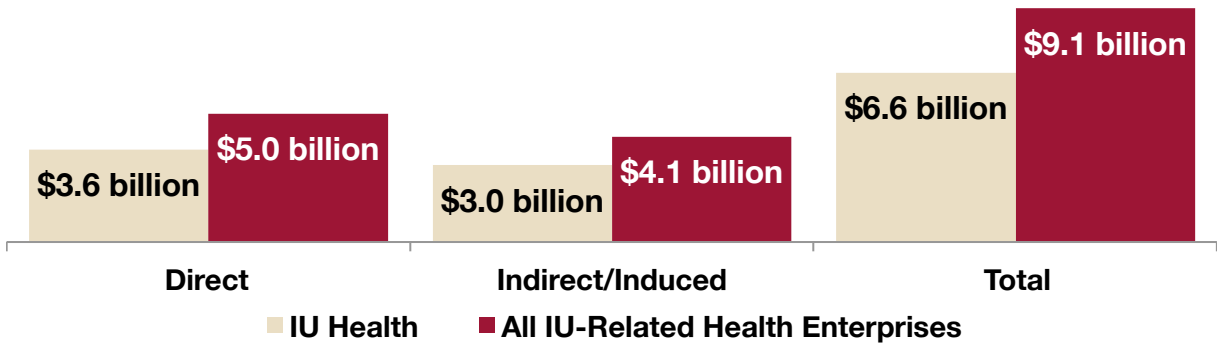


¹² Note: IU Health (\$6.6 billion) can be added to the total IU impact because IUSM is captured within the IU economic impact analysis and not in the IU Health data.

Economic Impact

The overall economic impact of IU Health’s operations on the state of Indiana in 2011 was **\$6.6 billion** (\$3.6 billion direct impact and \$3.0 billion indirect and induced). When analyzing the combined impact of All IU-Related Health Enterprises, which includes the entire IU Health system (its network of hospitals and providers and Academic Health Center) and IUSM and its affiliations with Wishard Hospital and the VA Hospital, the total economic impact is **\$9.1 billion** (\$5.0 billion direct). (See Figure 24.)

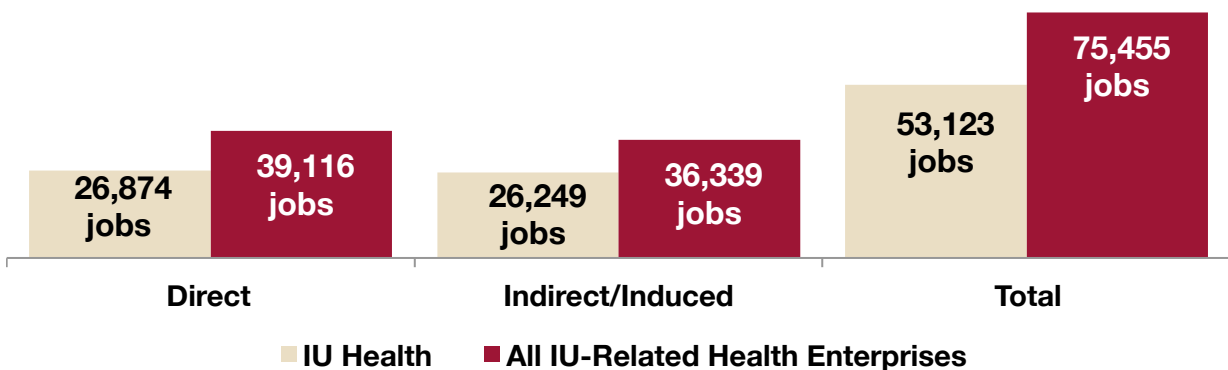
Figure 24: Economic Impact of IU Health (in billions)



Employment Impact

The total employment impact of IU Health’s operations in the state of Indiana is **53,213 jobs** (26,874 direct jobs). The total employment impact of all of IU-Related Health Enterprises in the state of Indiana is **75,455 jobs**. (See Figure 25.)

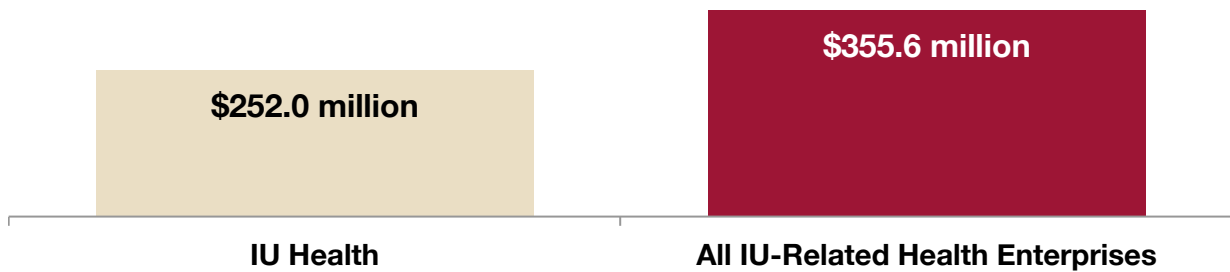
Figure 25: Employment Impact of IU Health (in jobs)



Government Revenue Impact

IU Health's operations in state of Indiana generate **\$252.0 million** per year in direct and indirect state and local tax revenue. All IU-Related Health Enterprises generate **\$355.6 million** in state and local government revenue. (See Figure 26.)

Figure 26: Government Revenue Impact of IU Health



Appendix A: Definition of Terms

Study Year	Fiscal Year 2010-2011 (FY 10-11), July 1, 2010 – June 30, 2011
Total Economic Impact	The total economic impact of an institution includes both the direct impact and the indirect impact generated in the economy as a result of the institution.
Direct Economic Impact	Direct impact includes items such as institutional spending, employee spending and spending by visitors to the institution.
Indirect Economic Impact	Indirect impact, also known as the multiplier effect, includes the re-spending of dollars within the local economy by vendors/suppliers and households.
Multiplier Effect	The multiplier effect is the additional economic impact created as a result of the institution’s direct economic impact. Local companies that provide goods and services to an institution increase their purchasing by creating a multiplier.
Direct Tax Payments	Direct tax payments made by an institution to a unit of government.
Indirect Tax Payments	Government revenue that is collected by governmental units in addition to those paid directly by an institution, including taxes paid directly by employees of the institution, visitors to the institution and vendors who sell products to the institution.
Direct Employment	Total number of employees at the institution based on total jobs.
Indirect Employment	Indirect employment is the additional jobs created as a result of the institution’s economic impact. Local companies that provide goods and services to an institution increase their number of employees as purchasing increases, thus creating an employment multiplier.

Appendix B: IU Peer Institution Comparisons

Indiana University Peer University Comparisons				
Peer University	State Investment (Year of Impact Study)	Economic Impact*	Statewide Economic Impact Activity Generated per Dollar of State Investment	Efficiency of Dollars
Indiana University – All Campuses**	\$461.9 M (FY 10-11)	\$11.5 B (2010, IMPLAN)	\$24.91	\$461.9 M in investment leads to \$11.5 B in impact
University of Minnesota – All Campuses**	\$651.3 M (FY 09-10)	\$8.6 B (2010, IMPLAN)	\$13.21	\$651.3 M in investment leads to \$8.6 B in impact
University of Washington – All Campuses**	\$401.7 M (FY08-09)	\$9.1 B (2009, ACE)	\$22.56	\$401.7 M in investment leads to \$9.1 B in impact
University of Iowa**	\$379.4 M (FY08-09)	\$6.0 B (2009, ACE)	\$15.81	\$379.4 M in investment leads to \$6.0 B in impact
University of California, Los Angeles**	\$589.8 M (FY 07-08)	\$9.3 B (2008, REMI)	\$15.92	\$589.8 M in investment leads to \$9.3 B in impact
University of Texas at Austin	\$308.8 M (FY 04-05)	\$7.4 B	\$23.96	\$308.8 M in investment leads to \$7.4 B in impact
Penn State University System**	\$334.2 M (FY 07-08)	\$8.5 B (2008, ACE)	\$25.06	\$334.2 M in investment leads to \$8.5 B in impact
University of Illinois**	\$940.9 M (FY 08-09)	\$13.1 B (2008, RIMS II)	\$13.79	\$940.9 M in investment leads to \$13.1 B in impact
University of Wisconsin – Madison**	\$457 M (FY 09-10)	\$12.4 B (2010, IMPLAN)	\$21.05	\$457 M in investment leads to \$12.4 B in impact
*Note: The methodologies utilized to complete the economic impact studies by the peer universities in the table vary by entity. Tripp Umbach was not the researcher for all studies.				
**Note: These universities included their health system operations in their economic impact.				

Appendix C: Peer University Research Comparisons

Peer Universities FY10 AUTM Survey Results

	Sponsored Research Expenditures	New Licenses & Options	Licenses to New Startups	Invention Disclosures	U.S. Patents Issued	All New Patent Apps.	License Income
University of California System	\$5,171,519,289	252	75	1565	297	1183	\$104,434,511
University of Texas System	\$2,346,099,522	175	33	713	150	704	\$38,309,487
University of Michigan	\$1,139,493,986	97	10	290	82	307	\$39,822,113
University of Wisconsin, Madison	\$1,029,000,000	62	5	356	133	216	\$54,300,000
University of Illinois, Chicago, Urbana	\$878,072,000	61	8	327	94	377	\$13,471,311
University of Colorado	\$847,000,000	232	9	232	28	257	\$2,366,000
Purdue University	\$572,866,000	99	11	257	52	290	\$3,931,628
University Iowa	\$444,034,000	21	3	70	32	61	\$26,991,145
Indiana University	\$432,026,862	27	4	154	8	156	\$14,126,964
University of Kansas	\$224,611,000	7	0	58	12	33	\$954,613
Virginia Commonwealth University	\$197,709,000	13	1	101	9	85	\$1,077,477
University of Oregon	\$115,609,376	30	1	30	7	18	\$7,496,766
University of Alabama	\$40,762,000	3	0	31	1	26	\$77,051

Note: most recent AUTM data available

Appendix D: Methodology

IMPACT ON STATE BUSINESS VOLUME AND GOVERNMENT REVENUE

IU is a major employer in the state and, as such, a major generator of personal income for state residents. Businesses operating within Indiana in the wholesale, retail, service and manufacturing sectors benefit from the direct expenditures of the institutions and their faculty, staff, students and visitors on goods and services. Additionally, many of these “direct” expenditures are re-circulated in the economy as recipients of the first-round of income re-spend a portion of this income with other businesses and individuals within Indiana.

METHODOLOGY AND DATA UTILIZED FOR THE ESTIMATION OF THE ECONOMIC IMPACT OF INDIANA UNIVERSITY SYSTEM

The economic impact of Indiana University system was estimated using IMPLAN (Impact Analysis for PLANing), an econometric modeling system developed by applied economists at the University of Minnesota and the U.S. Forest Service. The IMPLAN modeling system has been in use since 1979 and is currently used by over 500 private consulting firms, university research centers and government agencies. The IMPLAN modeling 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, one can examine the effects of a change in one or several economic activities to predict its effect on a specific state, regional or 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 BEA and follow a balanced account format recommended by the United Nations.

IMPLAN’s Regional Economic Accounts and the Social Accounting Matrices were used to construct state-level multipliers, which describe the response of the state economy to a change in demand or production as a result of the activities and expenditures of IU. 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 as a consequence of 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 Indiana. IMPLAN calculates this distinction by applying Regional Purchase Coefficients (RPC) to predict regional purchases based on an economic area's particular characteristics. The RPC represents the proportion of goods and services that will be purchased regionally under normal circumstances, based on the area's economic characteristics described in terms of actual trade flows within the area.

MODEL INPUTS AND DATA SOURCES

Model inputs included actual FY 10-11 expenditures provided by for each of the University Campuses and IU Health.

Appendix E: FAQ's 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 spending in the economy as a result of direct spending. Economic impact has nothing to do with dollars collected by institutions, their profitability or even their sustainability, since all operating organizations have a positive economic impact when they spend money and attract spending from outside sources.

Direct economic impact measures the dollars that are generated within the State of Indiana due to the presence of Indiana University and IU Health. This includes not only spending on goods and services with a variety of vendors within the state, and the spending of its employees and visitors, but also the business volume generated by businesses within Indiana that benefit from IU's spending. It is important to remember that not all dollars spent by IU and IU Health stay in Indiana. Dollars that "leak" out of the state in the form of purchases from out-of-state vendors are not included in IU's economic impact on the state.

The total economic impact includes the "multiplier" of spending from companies that do business with IU and IU Health. 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 an IU campus 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 product. These vendors must

also procure goods and services. This cycle continues until all the money is leaked from the 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 IU and IU Health are in business, they have a demand for locally produced materials needed to operate.
- **Induced effects** measure the effects of the changes in household income: employees of IU, IU Health and suppliers purchase from local retailers and restaurants.
- **Total Economic Impacts** the total changes to the original economy as the result of the IU and IU Health's operations. i.e., Direct effects + Indirect effects + Induced effects = Total Economic Impacts

What methodology was used in this study?

IMPLAN (**IM**port analysis for **PLAN**ning) data and software. 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, faculty, administration) plus additional employment created in the economy as a result of the operations of IU and IU Health.

Indirect and Induced employment impact refers to other employees throughout the region that exist because of IU's economic impact. In other words, jobs related to the population – city services (police, fire), employees at local hotels and restaurants, clerks at local retail establishments, residents employed by vendors used by IU.

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 Indiana University, IU Health and individuals.

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

The results presented in the IU 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, students, capital expansion, increases in external research and state appropriations.

What are Tripp Umbach's qualifications to perform an Economic Impact Study for Indiana University and IU Health?

Tripp Umbach is the national leader in providing economic impact analysis to leading healthcare 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, UAB, Cleveland Clinic, University of Florida Shands HealthCare, the University of North Carolina Hospitals, the University of Pennsylvania Medical Center, the University of Pittsburgh Medical Center and the Ohio State University Medical Center.