Only One Rational Choice:

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Texas Should Participate in Medicaid Expansion Under the Affordable Care Act

Provided as a Public Service by

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Introduction and Overview

Medicaid Expansion Dilemma Facing Texas

- **States can decide whether to expand Medicaid coverage.** The Affordable Care Act (ACA or "the Act") was originally signed into law in March 2010 but was subsequently challenged by the attorneys general of 26 states. On June 28, 2012, the U.S. Supreme Court ruled key segments of the ACA were, in fact, constitutional. However, one key aspect of ACA, expanding Medicaid to include individuals and families with incomes of up to 133% of the federal poverty level (FPL) or less, was determined to be optional for states.
- **Texas Governor Rick Perry has indicated that Texas will decline to expand coverage.** In a July 9, 2012 letter to the Secretary of the U.S. Department of Health and Human Services, Governor Perry called the ACA an intrusion into the sovereignty of the state and noted that it was enlarging a "broken system that is already financially unsustainable."
- **However, declining to expand Medicaid involves substantial losses.** These losses include foregone economic activity, lower federal matching funds, higher costs for uncompensated care, and continuing the ongoing economic losses that accrue from inadequate mechanisms to provide for the medical needs of about 1.5 million indigent Texans. In addition, while (1) an overhaul of the entire Medicaid system to make it more efficient and sustainable may well be warranted and (2) the ACA itself has some structural problems that likely will necessitate modifications at some point in the future, the Medicaid expansion within the ACA represents a key aspect of the current health care environment in which Texas must function. Thus, the relevant question at present is not philosophical, but practical. It is not an issue of whether Medicaid and ACA are perfect – they are not! The issue is simply one of, given the current framework, **what is the best choice for Texas?** As the present analysis will illustrate, **it is beyond question that, from an economic perspective, Texas should participate in the Medicaid expansion under the Affordable Care Act.**

ACA Effect on Texans

- **As of September 2012, more than 3.3 million Texans were enrolled in Medicaid.**[1] Of those, 2.5 million were children under the age of 19. According to recent Census data, another 5.8 million Texans were uninsured, representing the highest percentage of any state in the country.
- **ACA provisions will affect Medicaid and other state health care spending, even without the Medicaid expansion.** The Act requires individuals to obtain health care coverage (the

[1] Texas Health and Human Services Commission; http://www.hhsc.state.tx.us/research/MedicaidEnrollment/PIT-Monthly.asp.

"individual mandate") which will likely work to increase enrollment in Medicaid. Other provisions will also affect the state and are not optional. (It should be noted that the mandate will probably not apply to the lowest income groups in states that choose not to adopt the Medicaid expansion.)

If Texas Expands Medicaid Coverage

- **The largest numbers of newly eligible Texans would be adults without children.** Currently, these individuals are not eligible for coverage under Medicaid.
- **In addition, parents will now be eligible who have incomes at or below 133% of the FPL, up from 12% previously.** Aged and disabled persons will also now be eligible up to 133% of the FPL, up from 74% previously.
- **Expanding Medicaid under ACA provisions would directly add almost 1.5 million Texans to the insured population by 2017**, according to recent Texas Health and Human Services Commission (HHSC) estimates.
- **The cost to Texas in terms of general revenue for the newly eligible adults is estimated to be $1.3 billion through fiscal year 2017, while federal funding for that purpose is expected to be $24 billion.**[2] There is a 100% federal match for three years (2014-2016), with reimbursement ramping down before staying at a 90% level as of 2020.
- **With a 90% federal reimbursement rate going forward, for every $10 of health care services obtained under the program, the State pays $1 and the federal funds pay the other $9. Over the first 10 years of the program** (including both the increased coverage in the current program and the expansion), it is estimated **that the State would contribute about $15.6 billion, while the federal government would increase its payments into the Texas health care system by $89.9 billion.**

[2] Texas Health and Human Services Commission; "Presentation to the Senate Health & Human Services and Senate State Affairs Committees on the Affordable Care Act" by Thomas Seuhs; August 1, 2012.

Economic Implications of the Expansion Decision

Not Expanding Medicaid Coverage Involves Significant Economic Fallout

- **If Texas doesn't expand Medicaid coverage under the ACA, there is a significant economic downside which must be weighed against potential savings in direct State outlays.** The health care needs of Texans do not simply go away because individuals do not have insurance coverage. When people are uninsured and cannot pay their bills, it leads to higher private insurance premiums and local taxes to cover the cost of providing uncompensated care. In addition, spending for health care generates an economic stimulus. Finally, when people have health insurance, morbidity and mortality are reduced, thereby increasing productivity.

SUMMARY OF FINDINGS FROM THE PERRYMAN GROUP'S ANALYSIS:

State Spending on Medicaid More than Pays for Itself

Medicaid expenditures lead to substantial economic activity, federal funds inflow, reduction in costs for uncompensated care and insurance, and enhanced productivity from a healthier population. When these outcomes and the related multiplier effects are considered, every $1 spent by the State returns $1.29 in dynamic State government revenue over the first 10 years of the expansion. In other words, the State actually makes money by participating in the Medicaid expansion.

NET ECONOMIC IMPACT OF EACH ADDITIONAL DOLLAR OF DIRECT STATE GOVERNMENT EXPENDITURES USED TO PARTICIPATE IN THE MEDICAID EXPANSION WITHIN THE AFFORDABLE CARE ACT: 2014-2023	
Total Expenditures* in Texas	**$43.50**
Gross State Product*	**$21.72**
Personal Income* in Texas	**$14.34**
Retail Sales in Texas	**$6.13**
Federal Medicaid Funding in Texas	**$6.78**
Reduced Local Taxes for Uncompensated Care	**($1.21)**
Reduced Insurance Premiums for Uncompensated Care	**($0.30)**
Increased Dynamic* State Government Revenue	**$1.29**
Increased Dynamic* Local Government Revenue	**$0.51**
Income for Previously Uninsured Population	**$1.54**
***For definitions of these measures of business activity and terms, as well as an overview of methods used, see page 5.**	

Source: The Perryman Group

- **In addition to these economic considerations, of course, is the enormous human cost of leaving millions of Texans with no way to pay for health care, as well as the immeasurable quality-of-life gains from a healthier and more stable citizenry.**

Economic Benefits of Expanding Medicaid Stem from Multiple Sources

- **The Perryman Group identified three major sources of economic gains from expanding Medicaid coverage under the ACA.** Total economic benefits were quantified over the first 10 years after implementation (2014-2023). Additional information related to assumptions and methods used may be found in the box below, with further detail in the Appendices to this report.
- **First, health spending expands, generating gains in business activity.** The Perryman Group quantified these likely increases by evaluating the total direct and spinoff activity resulting from the increases discussed above. This segment of the analysis is considered on a "gross" and "net" basis, with the latter reflecting the fact that the State portion of the funding will displace other public or private spending and associated multiplier effects. (Note that no adjustment is made for federal outlays in that the taxes are not tied to specific programs and all incremental spending is supported by borrowed funds; stated differently, the amount of federal taxes paid by Texas citizens and firms is not impacted by whether or not Texas participates in the Medicaid expansion.)
- **Second, uncompensated care is reduced, freeing up private funds to be used for other purposes.** As noted, the cost of uncompensated care is currently borne by local governments (and, thus, local taxpayers) and privately insured persons (through higher premiums). Reducing uncompensated care would thus leave more resources in the hands of the private sector (both individuals and companies) to be used in other ways. The Perryman Group estimated the magnitude of these effects based on a major study by the Institute of Medicine, with all estimates fully adjusted to reflect current costs and the specific characteristics of the Texas uninsured population. [3]
- **Third, having health insurance reduces morbidity and mortality, thus increasing productivity.** When individuals lack health insurance and their access to care is constrained, empirical evidence indicates they have worse health care outcomes and, hence, lower productivity. The Perryman Group utilized a major study of these effects by

[3] "Hidden Costs, Value Lost: Uninsurance in America;" Committee on the Consequences of Uninsurance, Board on Health Care Services, Institute of Medicine of the National Academies; 2003.

the Institute of Medicine as a basis for determining the effects of these losses,[4] fully adjusting the findings to the characteristics of the Texas population, the typical income patterns of the uninsured population, and the non-pecuniary benefits of insurance. The resulting estimates reflect a lower bound of the adverse economic consequences and, hence, a conservative assessment of the gains from providing coverage.

Measuring Economic Impacts

Any economic stimulus (such as direct spending, investments, or corporate activity) generates multiplier effects throughout the economy. In this instance, economic benefits of expanding Medicaid under the ACA include increased health-related spending, additional private outlays associated with reducing uncompensated care, and higher productivity stemming from better health outcomes. (These channels of benefits were briefly described above.) Once the direct stimulus was quantified, the associated multiplier effects were measured.

The Perryman Group's input-output assessment model (the US Multi-Regional Impact System, which is described in further detail in the Appendices to this report) was developed by The Perryman Group some 30 years ago and has been consistently maintained and updated since that time; it has been used in hundreds of analyses for clients ranging from major corporations to government agencies. The system uses a variety of data (from surveys, industry information, and other sources) to describe the various goods and services (known as resources or inputs) required to produce another good/service. This process allows for estimation of the total economic impact (including multiplier effects) of expanding Medicaid under the ACA. An associated fiscal model allows for estimation of tax receipts to state and local entities. The submodel used in the current analysis reflects the specific industrial composition and characteristics of the Texas economy.

These total economic effects are quantified for key measures of business activity:

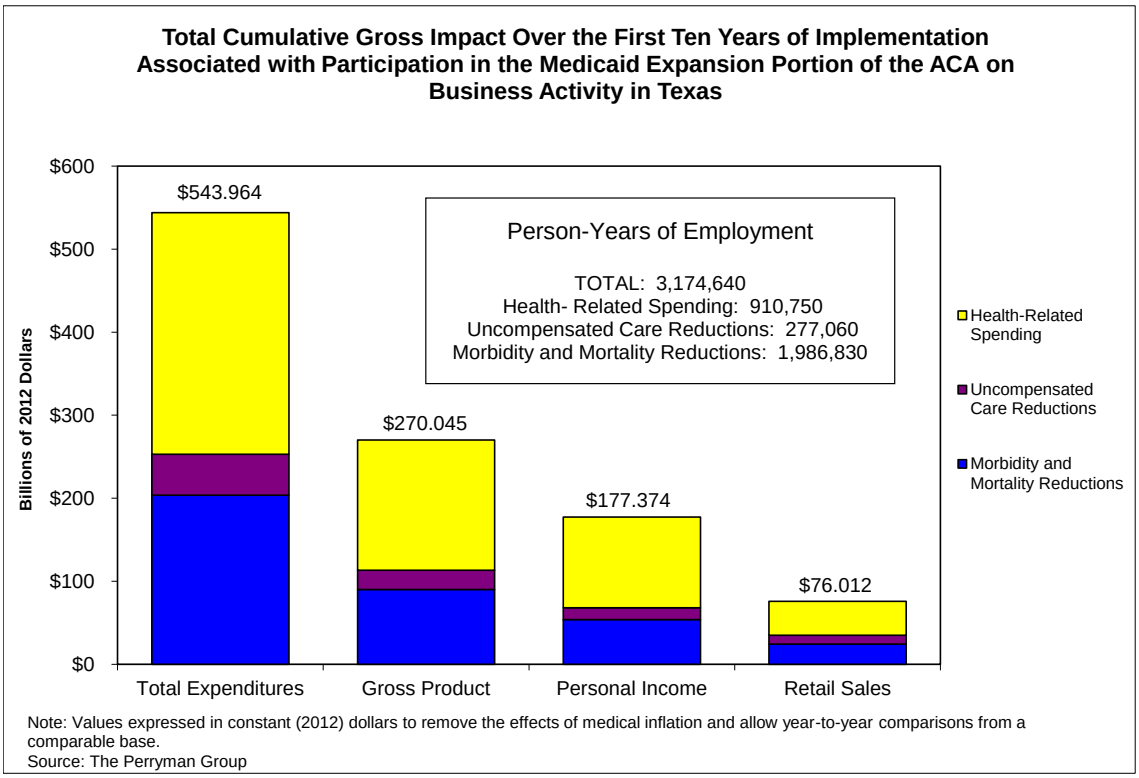
- **Total expenditures** (or total spending) measure the dollars changing hands as a result of the economic stimulus.
- **Gross product** (or output) is production of goods and services that will come about in each area as a result of the activity. This measure is parallel to the gross domestic product numbers commonly reported by various media outlets and is a subset of total expenditures.
- **Personal income** is dollars that end up in the hands of people in the area; the vast majority of this aggregate derives from the earnings of employees, but payments such as interest and rents are also included.
- **Job gains** are expressed as (1) person-years of employment (one person working for one year) for temporary projects (such as construction of a facility) or cumulative assessments over time or (2) permanent jobs when evaluating ongoing annual effects.

Monetary values were quantified on both a current dollar basis (meaning that they allow for medical inflation and reflect the size of outlays at the time they are expended) and a constant (2012) basis, which eliminates inflationary effects and allows comparison across various time periods. See the Appendices to this report for additional information regarding the methods and assumptions used in this analysis.

[4] "Hidden Costs, Value Lost: Uninsurance in America;" Committee on the Consequences of Uninsurance, Board on Health Care Services, Institute of Medicine of the National Academies; 2003.

Economic Effect of Expanding Medicaid under ACA is Clearly Positive

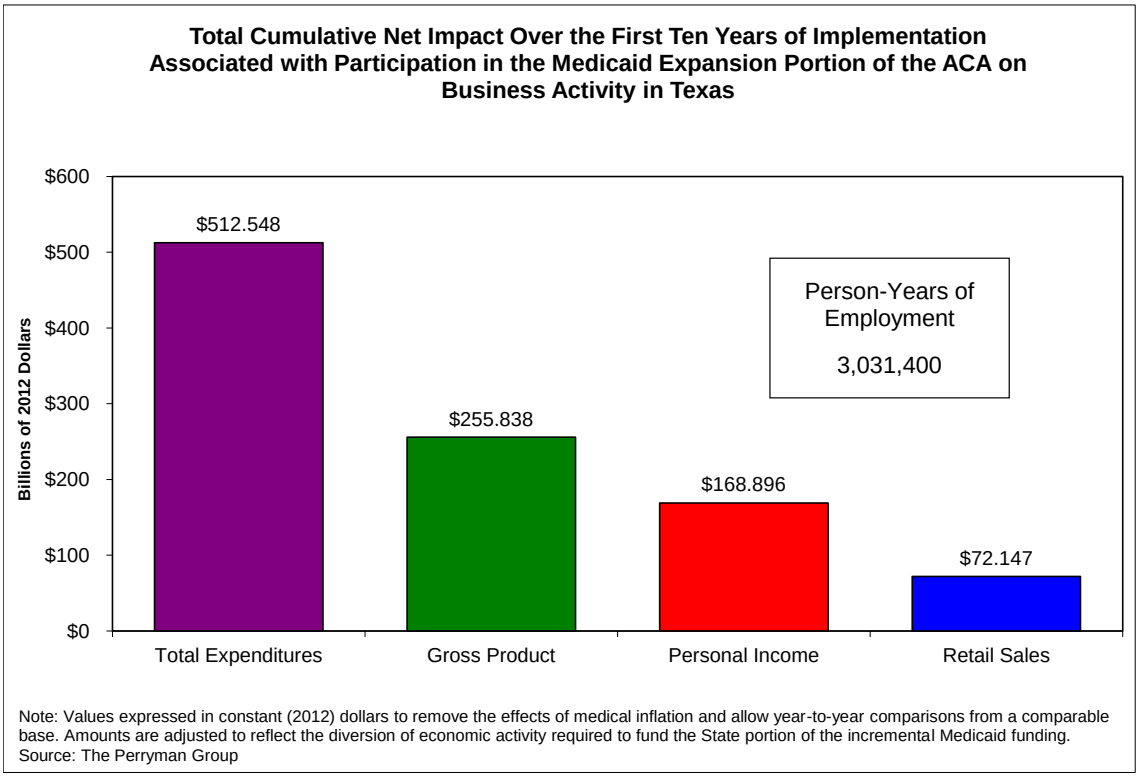
- **During the first 10 years after implementation, The Perryman Group estimates that the total cumulative gross benefits to the state economy include $270.0 billion (in 2012 dollars) in output (real gross product) and 3,174,640 person-years of employment.** These overall gains stem from the following major sources:
    - Spending for health care which would be provided through the expansion would generate sizable economic gains including $156.6 billion (in 2012 dollars) in output (real gross product) and 1,986,830 person-years of employment over the first 10 years of implementation.
    - Reducing uncompensated care (and, thus, the local government and private funds needed to pay for it) would lead to gains of another $23.2 billion (in 2012 dollars) in output (real gross product) and 277,060 person-years of employment over the 10-year period.
    - Improving outcomes through better care (reducing morbidity and mortality and thus increasing productivity) would lead to gains of $90.2 billion (2012 dollars) in output (real gross product) and 910,750 person-years of employment over the period.



Note: Values expressed in constant (2012) dollars to remove the effects of medical inflation and allow year-to-year comparisons from a comparable base.
Source: The Perryman Group

Gains Remain Substantial When Adjusted for Diversion of State Funds

- **State revenues required to implement the Medicaid expansion will of necessity be diverted from other potential uses, either in terms of the fiscal resources funding other public goods and services, lower taxes allowing for greater private sector activity, or some combination of spending increases and tax reductions.** The Perryman Group adjusted for the diversion of State spending assuming that all of the State dollars required for the Medicaid expansion would otherwise have been used in the private sector in a manner typical of the existing and projected patterns in business and personal outlays in Texas. Because private sector multipliers are generally higher than those in the public sector, this approach likely overstates the magnitude of the diversion (and, thus, understates the benefits of the Medicaid reforms). During the first 10 years after implementation, estimated total cumulative net benefits to the state include $255.8 billion (in 2012 dollars) in output (real gross product) and 3,031,400 person-years of employment (see graph below).



Note: Values expressed in constant (2012) dollars to remove the effects of medical inflation and allow year-to-year comparisons from a comparable base. Amounts are adjusted to reflect the diversion of economic activity required to fund the State portion of the incremental Medicaid funding.
Source: The Perryman Group

- **These gains rise over time with population growth and aging and the resulting increase in the need for health care. Moreover, benefits are spread across all major industry sectors** (see tables below)**.**

TIMING OF ECONOMIC BENEFITS OF EXPANDING MEDICAID: 2014-2023

THE TOTAL CUMULATIVE NET IMPACT OVER THE FIRST TEN YEARS OF IMPLEMENTATION (HEALTH-RELATED SPENDING, UNCOMPENSATED CARE REDUCTIONS, AND MORBIDITY AND MORTALITY REDUCTIONS) ASSOCIATED WITH PARTICIPATION IN THE MEDICAID EXPANSION PORTION OF THE AFFORDABLE CARE ACT (ACA) ON BUSINESS ACTIVITY IN TEXAS

YEAR	TOTAL EXPENDITURES	REAL GROSS PRODUCT	PERSONAL INCOME	EMPLOYMENT
	(Billions of 2012 Dollars)	*(Billions of 2012 Dollars)*	*(Billions of 2012 Dollars)*	*(Person-Years)*
2014	$18.6	$9.2	$6.1	108,840
2015	$42.1	$20.9	$13.8	246,720
2016	$56.7	$28.2	$18.5	332,220
2017	$56.2	$28.0	$18.4	330,750
2018	$56.1	$28.0	$18.5	331,550
2019	$56.3	$28.1	$18.6	333,230
2020	$56.1	$28.0	$18.5	333,140
2021	$56.4	$28.2	$18.7	335,710
2022	$56.8	$28.4	$18.8	338,310
2023	$57.2	$28.6	$19.0	340,940
Total Cumulative Effect	**$512.5**	**$255.8**	**$168.9**	**3,031,400**

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Values expressed in constant (2012) dollars to remove the effects of medical inflation and allow year-to-year comparisons from a comparable base. Totals may not add due to rounding. Amounts are adjusted to reflect the diversion of economic activity required to fund the State portion of the incremental Medicaid funding.

TOTAL BENEFITS BY INDUSTRY SECTOR: 2014-2023

THE TOTAL CUMULATIVE NET IMPACT OVER THE FIRST TEN YEARS OF IMPLEMENTATION (HEALTH-RELATED SPENDING, UNCOMPENSATED CARE REDUCTIONS, AND MORBIDITY AND MORTALITY REDUCTIONS) ASSOCIATED WITH PARTICIPATION IN THE MEDICAID EXPANSION PORTION OF THE AFFORDABLE CARE ACT (ACA) ON BUSINESS ACTIVITY IN TEXAS

SECTOR	TOTAL EXPENDITURES	REAL GROSS PRODUCT	PERSONAL INCOME	EMPLOYMENT
	(Billions of 2012 Dollars)	*(Billions of 2012 Dollars)*	*(Billions of 2012 Dollars)*	*(Person-Years)*
Agriculture	$9.6	$2.6	$1.7	27,430
Mining	$24.5	$5.5	$2.7	14,550
Construction	$13.2	$6.7	$5.6	78,420
Nondurable Manufacturing	$60.4	$17.1	$8.9	138,480
Durable Manufacturing	$19.9	$7.9	$5.2	69,400
Transportation, Warehousing, and Utilities	$42.1	$16.1	$9.3	103,860
Information	$12.3	$7.6	$3.3	30,230
Wholesale Trade	$18.6	$12.6	$7.2	80,920
Retail Trade	$72.1	$54.2	$31.5	962,600
Finance, Insurance, and Real Estate	$84.4	$23.7	$8.6	87,790
Business Services	$24.5	$15.2	$12.4	151,000
Health Services	$100.5	$70.8	$59.8	988,420
Other Services	$30.5	$15.8	$12.6	298,310
Total Cumulative Effect	**$512.5**	**$255.8**	**$168.9**	**3,031,400**

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Values expressed in constant (2012) dollars to remove the effects of medical inflation and allow year-to-year comparisons from a comparable base. (Totals may not add due to rounding.) Amounts are adjusted to reflect the diversion of economic activity required to fund the State portion of the incremental Medicaid funding.

- As noted earlier, **the dynamic State revenue from the additional business activity that would be generated as a result of the Medicaid expansion far exceeds the associated outlays of State resources. More specifically, the State is projected to contribute $15.6 billion over a 10-year period, while receiving $20.0 billion in revenue from the overall stimulus.**
- Moreover, **each year beyond the initial period, the State continues to receive dynamic fiscal revenues which exceed the estimated budget outlays, thus making the program self-funding on an ongoing basis.**

Conclusion

Expanding Medicaid Coverage Drastically Reduces the Number of Uninsured

- **Currently, about 5.8 million Texans are uninsured.** The Texas Health and Human Services Commission estimates that expanding Medicaid coverage under the ACA would affect about 24% of these people, many of them adults without children who are not covered under the current program. Another 36% would be eligible for federal subsidies to purchase insurance.
- **Not having insurance leads to a number of problems, both individually and for society as a whole.** Without insurance, individuals are more likely to put off doctor visits, escalating problems and increasing emergency room visits. Providing for basic health care for all citizens is a worthy societal goal, and insurance can facilitate meeting this need.
- **The Medicaid expansion under the Affordable Care Act represents an excellent vehicle to provide coverage for many of the least fortunate Texans and, when viewed in a proper context, actually leads to a net gain in State government funding.**

Expansion Involves Costs, but Also Benefits

- **Though the expansion would raise Texas' direct spending for Medicaid, economic benefits would be realized through several channels.**
- **The Perryman Group estimates that the total economic benefits of expanding Medicaid coverage would include $270.0 billion (in 2012 dollars) in output (real gross product) and 3,174,640 person-years of employment in Texas during the 2014-2023 period.** For every dollar spent by the State for additional Medicaid coverage, total spending in the economy would go up by $43.50, output (real gross product) would rise by $21.72, personal income would grow by $14.34, and retail sales would expand by $6.13.
- **Federal Medicaid funding returned to the State would total $6.78 for every dollar of State funds spent.** The burden on local government entities is reduced (by $1.21 for every dollar of State funds for Medicaid expansion), while dynamic local government revenue rises by $0.51 per dollar of State money expended. Insurance premiums would be less due to a reduction in uncompensated care, and overall quality of life and productivity would be enhanced.

There is Only One Rational Choice for Texas

- **Neither the Affordable Care Act nor the Medicaid program is perfect, and there are many opportunities to provide needed health services in a more efficient and cost effective manner.**
- **However, by not expanding Medicaid coverage as envisioned under the Affordable Care Act, Texas loses an opportunity to enhance access to health care for about 1.5 million Texans and foregoes almost $90 billion in federal health care funds over the first 10 years.** Texas is currently plagued by the highest rate of uninsurance and underinsurance in the nation, leading to lower than optimal health care spending, excessive uncompensated care, excessive morbidity and mortality, and lost productivity. All of these negative results decrease economic activity and, therefore, State and local tax receipts.
- **The economic benefits of improving access to care far more than outweigh the costs.** The Perryman Group found that **for every dollar the State spends for Medicaid expansion under the ACA, $1.29 is returned in dynamic State government revenue.** Over the first 10 years of implementation, economic gains (even when fully adjusted for the diversion of State funding for other purposes) include an estimated $255.8 billion (2012 dollars) in output (real gross product) and 3,031,400 person-years of employment (an average of over 300,000 per year).
- **Although expanding Medicaid coverage is difficult to contemplate in the current budget environment, it is an investment that improves the quality of life of many Texans, while simultaneously enhancing the economy, and providing a positive return to the State government on the dollars expended.**

Texas Should Participate in Medicaid Expansion Under the Affordable Care Act

- **Contrary to popular belief, expanding Medicaid under the Affordable Care Act does not cost the State money; on the contrary, it makes the State money.** By not expanding coverage, Texas leaves almost $90 billion in much needed federal matching funds "on the table" during the first 10 years of implementation. Moreover, such a decision in no way reduces the need for health care, leaving local governments (and, hence, taxpayers), employers, and health care providers to make up the difference while still offering inferior access and outcomes. In addition, there is a significant negative effect on morbidity and mortality, which reduces productivity.
- **Given the available options, expanding Medicaid coverage is the only rational choice.**

APPENDICES

About The Perryman Group

- The Perryman Group (TPG) is an economic research and analysis firm based in Waco, Texas. The firm has more than 30 years of experience in assessing the economic impact of corporate expansions, regulatory changes, real estate developments, public policy initiatives, and myriad other factors affecting business activity. TPG has conducted hundreds of impact analyses for local areas, regions, and states throughout the U.S. Impact studies have been performed for hundreds of clients including many of the largest corporations in the world, governmental entities at all levels, educational institutions, major health care systems, utilities, and economic development organizations.

- Dr. M. Ray Perryman, founder and President of the firm, developed the US Multi-Regional Impact Assessment System (used in this study) in the early 1980s and has consistently maintained, expanded, and updated it since that time. The model has been used in hundreds of diverse applications and has an excellent reputation for reliability. Dr. Perryman has been asked to testify before the State legislature, Congress, and other major legislative and regulatory bodies on more than one hundred occasions, including invited testimony related to public-sector funding for health insurance.

- The firm has conducted numerous investigations related to health care including previous studies of health care funding. The Perryman Group has also measured the comprehensive cost of cancer (including treatment as well as lost productivity and premature mortality) on multiple occasions. The firm is also engaged in the ongoing evaluation of the economic effects of the Cancer Prevention and Research Institute of Texas (CPRIT). In addition, the firm measured economic aspects of obesity including associated morbidity, mortality, and productivity. The Perryman Group has performed assessments of scores of major medical facilities, teaching institutions, and research programs. Representative clients include The Methodist Hospital, Parkland (on multiple occasions), Scott & White, M. D. Anderson (including a comprehensive assessment of the benefits of its research and superior outcomes), Citizens Medical Center, the University of Kansas Cancer Center (including an investigation of the benefits of achieving the status of a Comprehensive Cancer Center), the Menninger Clinic, the University of Texas Medical Branch, Baylor College of Medicine, Texas Tech University Health Science Center, Texas Health Resources, the University of Texas Health Science Center at San Antonio, Texas A&M University School of Medicine, the Texas Institute for Genomic Medicine, and others. As noted, TPG has developed numerous public policy studies related to health care issues. Representative efforts include analyses of Medicaid and Children's Health Insurance Program (CHIP) funding, wellness initiatives, more extensive use of Advanced Practice Registered Nurses, and mental health programs. Moreover, a major study developed using the relevant model was recently published in *The Journal of Medical Economics*.

Methods Used

- The basic modeling technique employed in this study is known as dynamic input-output analysis. This methodology essentially uses extensive survey data, industry information, and a variety of corroborative source materials to create a matrix describing the various goods and services (known as resources or inputs) required to produce one unit (a dollar's worth) of output for a given sector. Once the base information is compiled, it can be mathematically simulated to generate evaluations of the magnitude of successive rounds of activity involved in the overall production process.

- There are two essential steps in conducting an input-output analysis once the system is operational. The first major endeavor is to accurately define the levels of direct activity to be evaluated. In the case of a prospective evaluation, it is necessary to first calculate reasonable estimates of the direct activity.

- In this instance, the Texas Health and Human Services Commission prepared information describing the effects of the Affordable Care Act. These measures include likely enrollment increases and costs to the state of expanding Medicaid coverage. This information was used as a starting point for assessing the economic benefits of extending Medicaid coverage to these individuals. After verifying their reasonableness, TPG used the recent HHSC projections for enrollment growth, health costs, administration fees, and other factors under both elements of the Medicaid expansion under the Affordable Care Act. The incremental health spending was allocated among various categories of providers based on current and projected usage patterns (all economic projections required for this analysis are obtained from the most recent simulations of the Texas Econometric Model, which was developed and is maintained by The Perryman Group).

- It was assumed that the offsetting funds necessary to provide the State contribution are withdrawn from the economy based on current spending and production patterns across more than 500 industrial categories based on current information from the Bureau of Economic Analysis of the US Department of Commerce.

- To quantify potential reductions in the value of uncompensated care, TPG used extensive research by the Institute of Medicine to estimate the reduction in uncompensated care (which is essentially funded by increased local taxes and higher private-sector insurance premiums) associated with each additional person obtaining insurance coverage. All information was updated from the original analysis to reflect current medical costs in Texas. This analysis was then combined with HHSC estimates regarding incremental insured individuals and incremental costs to determine the additional direct benefits (cost reductions) within the state economy.

This amount was then assumed to be available within the private or public sector for alternative uses based on the current composition of business activity.

- The annual value of the reduction in morbidity and mortality associated with higher insurance rates on an annual basis is based on estimates by the Institute of Medicine as part of a major research initiative, and has been fully updated to current price levels and relative income levels in Texas based on appropriate cost indices from the US Department of Labor and income data from the US Department of Commerce. The totals have also been adjusted to include only the portion of the value that reflects earned income and to eliminate various non-pecuniary, quality-of-life factors. While such considerations are obviously beneficial and important to the future of the state, they do not result in any net governmental revenue and, thus, are not appropriate to consider in an analysis focused on an economic and fiscal assessment.

- The second major phase of the analysis is the simulation of the input-output system to measure overall economic effects of these direct changes in health care spending and outcomes. The present study was conducted within the context of the US Multi-Regional Impact Assessment System (USMRIAS) which was developed and is maintained by The Perryman Group. This model has been used in hundreds of diverse applications across the country and has an excellent reputation for accuracy and credibility. The system used in the current simulations reflects the unique industrial structure and characteristics of the Texas economy.

- The USMRIAS is somewhat similar in format to the Input-Output Model of the United States and the Regional Input-Output Modeling System, both of which are maintained by the US Department of Commerce. The model developed by TPG, however, incorporates several important enhancements and refinements. Specifically, the expanded system includes (1) comprehensive 500-sector coverage for any county, multi-county, or urban region; (2) calculation of both total expenditures and value-added by industry and region; (3) direct estimation of expenditures for multiple basic input choices (expenditures, output, income, or employment); (4) extensive parameter localization; (5) price adjustments for real and nominal assessments by sectors and areas; (6) measurement of the induced impacts associated with payrolls and consumer spending; (7) embedded modules to estimate multi-sectoral direct spending effects; (8) estimation of retail spending activity by consumers; and (9) comprehensive linkage and integration capabilities with a wide variety of econometric, real estate, occupational, and fiscal impact models. Moreover, the model uses specific local taxing patterns to estimate the fiscal effects of activity on a detailed sectoral basis. The models used for the present investigation have been thoroughly tested for reasonableness and historical reliability.

- The impact assessment (input-output) process essentially estimates the amounts of all types of goods and services required to produce one unit (a dollar's worth) of a specific type of output. For purposes of illustrating the nature of the system, it is useful to think of inputs and outputs in dollar (rather than physical) terms. As an example, the construction of a new building will require specific dollar amounts of lumber, glass, concrete, hand tools, architectural services,

interior design services, paint, plumbing, and numerous other elements. Each of these suppliers must, in turn, purchase additional dollar amounts of inputs. This process continues through multiple rounds of production, thus generating subsequent increments to business activity. The initial process of building the facility is known as the *direct effect*. The ensuing transactions in the output chain constitute the *indirect effect*.

- Another pattern that arises in response to any direct economic activity comes from the payroll dollars received by employees at each stage of the production cycle. As workers are compensated, they use some of their income for taxes, savings, and purchases from external markets. A substantial portion, however, is spent locally on food, clothing, health care services, utilities, housing, recreation, and other items. Typical purchasing patterns in the relevant areas are obtained from the *ACCRA Cost of Living Index*, a privately compiled inter-regional measure which has been widely used for several decades, and the *Consumer Expenditure Survey* of the US Department of Labor. These initial outlays by area residents generate further secondary activity as local providers acquire inputs to meet this consumer demand. These consumer spending impacts are known as the *induced effect*. The USMRIAS is designed to provide realistic, yet conservative, estimates of these phenomena.

- Sources for information used in this process include the Bureau of the Census, the Bureau of Labor Statistics, the Regional Economic Information System of the US Department of Commerce, and other public and private sources. The pricing data are compiled from the US Department of Labor and the US Department of Commerce. The verification and testing procedures make use of extensive public and private sources.

- Impacts were measured both in terms of (1) current dollars, reflecting the actual amounts as they are expended over the 10-year timeframe, and (2) constant 2012 dollars to eliminate the effects of inflation and allow comparisons across years on a comparable basis.

- The USMRIAS generates estimates of the effect on several measures of business activity. The most comprehensive measure of economic activity used in this study is **Total Expenditures**. This measure incorporates every dollar that changes hands in any transaction. For example, suppose a farmer sells wheat to a miller for $0.50; the miller then sells flour to a baker for $0.75; the baker, in turn, sells bread to a customer for $1.25. The Total Expenditures recorded in this instance would be $2.50, that is, $0.50 + $0.75 + $1.25. This measure is quite broad, but is useful in that (1) it reflects the overall interplay of all industries in the economy, and (2) some key fiscal variables such as sales taxes are linked to aggregate spending.

- A second measure of business activity frequently employed in this analysis is that of **Gross Product**. This indicator represents the regional equivalent of Gross Domestic Product, the most commonly reported statistic regarding national economic performance. In other words, the Gross Product of Arkansas is the amount of US output that is produced in that state; it is defined as the value of all final goods produced in a given region for a specific period of time. Stated

differently, it captures the amount of value-added (gross area product) over intermediate goods and services at each stage of the production process, that is, it eliminates the double counting in the Total Expenditures concept. Using the example above, the Gross Product is $1.25 (the value of the bread) rather than $2.50. Alternatively, it may be viewed as the sum of the value-added by the farmer, $0.50; the miller, $0.25 ($0.75 - $0.50); and the baker, $0.50 ($1.25 - $0.75). The total value-added is, therefore, $1.25, which is equivalent to the final value of the bread. In many industries, the primary component of value-added is the wage and salary payments to employees.

- The third gauge of economic activity used in this evaluation is **Personal Income**. As the name implies, Personal Income is simply the income received by individuals, whether in the form of wages, salaries, interest, dividends, proprietors' profits, or other sources. It may thus be viewed as the segment of overall impacts which flows directly to the citizenry.

- The fourth measure, **Retail Sales**, represents the component of Total Expenditures which occurs in retail outlets (general merchandise stores, automobile dealers and service stations, building materials stores, food stores, drugstores, restaurants, and so forth). Retail Sales is a commonly used measure of consumer activity.

- The final aggregates used are **Permanent Jobs and Person-Years of Employment**. The Person-Years of Employment measure reveals the full-time equivalent jobs generated by an activity. It should be noted that, unlike the dollar values described above, Permanent Jobs is a "stock" rather than a "flow." In other words, if an area produces $1 million in output in 2010 and $1 million in 2011, it is appropriate to say that $2 million was achieved in the 2010-2011 period. If the same area has 100 people working in 2010 and 100 in 2011, it only has 100 Permanent Jobs. When a flow of jobs is measured, such as in a construction project or a cumulative assessment over multiple years, it is appropriate to measure employment in Person-Years (a person working for a year). This concept is distinct from Permanent Jobs, which anticipates that the relevant positions will be maintained on a continuing basis.

- Because any expenditure of State funds is an economic stimulus, The Perryman Group also calculated these economic benefits on a "net" basis by adjusting for the diversion of State funds that would have otherwise been spent for various other goods or services.