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**Polk County
Healthcare Study:
An Economic
Analysis of Polk
County's Indigent
Health Care Tax
and Safety Net
Program**

Prepared by
**Hector H. Sandoval
Steven Rowe
Anita Walsh
Colleen K. Porter**

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1. Executive Summary

Polk County, Florida's Indigent Health Care program guarantees the provision of quality health care to the indigent and medically poor residents of the county. For the past 11 years, a one-half cent sales surtax approved by voters in Polk County in 2004 has provided funding for medical and dental services to hundreds of thousands of Polk's most vulnerable people.

The University of Florida's Bureau of Economic and Business Research (BEER) conducted a study to determine the economic impact associated with the Indigent Health Care program. Qualitative research included semi-structured interviews with key stakeholders, including physicians and administrators of hospitals and clinics. Participants stated that because of the Indigent Health Care program:

- Emphasis on primary care in the current system means that most patients are being treated in the lowest-cost venue.
- Availability of preventive care catches malignancies and other problems at an earlier stage, with lower cost treatment, improved outcomes and less pain.
- Patients were able to stay employed or return to work once their health care needs were met, particularly those with chronic conditions.
- Dollars provided for indigent healthcare are leveraged through the efforts of volunteers.

Consistently positive effects are found on labor market outcomes, access to healthcare services, primary care providers and emergency room visits. The main results show:

- By 2019, Polk County's total direct property tax rate would need to be increased an estimated 1.3391 mils, from 6.7815 to 8.2642 mils, if the Indigent Health Care program is to continue operating with the level of revenue provided through the one-half cent sales surtax.
- Currently, Polk County is ranked 36th in the State of Florida in health factors published by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. Without the Indigent Health Care program guaranteeing care for the indigent and medically poor, Polk's ranking would fall to 43, due to an increase from 23.2 to 32 percent of uninsured under the age of 65.
 - Since 2010 when the publication of rankings began, health outcomes have been steadily improving each year
- Approximately 177 jobs are associated with the Indigent Health Care program. Statistics show that even during the Great Recession, healthcare and social assistance employment in Polk County grew at 2.33 percent.
 - Wages in this sector are 15.5 percent higher than average Polk County wages
 - Nearly \$270,000 of every \$1 million spent from the Fund is for wages and salaries
- For every \$1 million spent from the Fund, on average 6.1 new jobs are created.

- Increased access to primary care through the Indigent Health Care program has reduced emergency room visits.
 - With every \$1 million spent from the Trust Fund, congestion in emergency departments declines indirectly by two emergency room visits.
- The growth rate of preventable hospitalizations is remarkably lower after the implementation of the Fund. Between 1990 and 2004, preventable hospitalizations grew 5.34 percent; after 2004, the growth rate fell to 0.9 percent.
- There are 211 more licensed primary care physicians in Polk County than in 2005 when the Indigent Health Care program began. For every \$1 million spent, there is on average, 0.5 new licensed primary care providers.
- Each year, one out of three low-income residents has access to dental care due to the Indigent Health Care Fund.

2. Overview of the Indigent Healthcare Sales Tax and the Safety Net Program

In the year 2004, Polk County passed a referendum to adopt a countywide one-half cent indigent healthcare sales surtax to guarantee the provision of quality health care to indigent persons and the medically poor. Since then, indigent healthcare has been provided through the Indigent Health Care Trust Fund, which receives, maintains, and disburses monies received as a result of the tax imposed. Before the imposition of the surtax, the existing revenue sources were inadequate to fund the increasing demand for healthcare services. The fund has served to support Polk County's Safety Net Program, as well as the following four healthcare mandates: 1) Polk County's mandatory Medicaid contributions, 2) Alcohol and drug abuse, and mental health services and programs, 3) the Polk County Department of Health, and 4) Health Care Responsibility Act (HCRA).

The Safety Net Program is administered by Polk County's Indigent Healthcare Division with the aim of improving Polk County residents' quality of life through better health and well-being. To do so, the division manages two different programs, 1) the Polk HealthCare Plan (PHP) and 2) public/private partnerships (non-Polk HealthCare Plan).

The Polk HealthCare Plan is a comprehensive program that serves county residents with incomes up to 100 percent of the Federal Poverty Level (FPL). It funds a broad range of healthcare services for indigent persons and the medically poor. The non-Polk HealthCare Plan, on the other hand, serves individuals with incomes up to 200 percent of the FPL who do not qualify for the Polk HealthCare Plan, but it offers a reduced amount of services.

In year 2015, around 43,000 people were served and more than 648,000 services were provided by Polk County HealthCare Plan and the community partners through the one-half cent indigent healthcare tax fund.

According to the Ordinance 03-89, the surtax "shall be levied and imposed ... during the period January 1, 2005 through December 31, 2019." A referendum will be on the county ballot on November 2016 to continue the tax after sunset. The purpose of this report is to assess quantitatively the economic impact of (not having) the one-half cent indigent healthcare sales surtax to fund healthcare services for the residents of Polk County.

Our analyses found that the absence of the sales surtax as a direct source of funding for healthcare in Polk County has economic implications. The fund is associated with consistently positive labor market outcomes, as well as a positive impact on access to healthcare services, primary care providers, and emergency room visits.

3. Quantitative Analyses

The data used for this project come from different sources.

- First, the section about the impact on the budget uses Polk County's Comprehensive Annual Financial Report, from 2002 to 2014, available at the Polk County local government website.

- Second, to measure the impact on employment and wages, the data come mainly from the Quarterly Census of Employment and Wages available at the Department of Economic Opportunity in Florida.
- Third, this project also uses the data available from the County Health Rankings published by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute.
- Fourth, the data for the analysis on access to dental care, primary care and preventive care come from Florida Department of Health, Florida Charts.
- The last section on the impact on the emergency department uses the data from the Agency for Health Care Administration (AHCA).
- Finally, this report also benefits greatly from the Florida Statistical Abstract Online maintained by the Bureau of Economic and Business Research (BEBR). Most of the data are time series that spans over the period before and after the implementation of the indigent healthcare sales surtax. The one exception is the data on emergency rooms, which are only available for years 2012, 2013, and 2014.

The expenditure of the Indigent Health Care Trust Fund is the channel that can potentially give rise to significant economic impacts. As a consequence, the main focus of the analysis is on the effect of the expenditures on several dimensions. To estimate each impact, several linear regression models were considered and tested separately for the following dimensions: employment, access to health care, primary care, and preventive care. Each of these models controls for other important contextual variables to account for the prevailing economic environment in Polk County and Florida, in particular, to account for the conspicuous effect of the Great Recession, which occurred in 2008 and 2009.

As part of the analysis on access to healthcare, a simulation was carried out using the data and methodology from the *County Health Ranking* published by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. This simulation considers the scenario where there are no beneficiaries (people served) by the Polk and non-Polk HealthCare Plans.

The section on emergency services uses data from the AHCA to construct a panel dataset using the 67 counties in Florida to link the impact of the Indigent Health Care Trust Fund on primary and preventive care to emergency room visits. The main reason behind this was that the information for emergency room services was only available for years 2012, 2013, and 2014.

3.1. Impact on Polk County's budget

The analysis of property value trends suggests that if the board were to consider increasing the millage to match the revenue provided by the one-half cent sales surtax, the total direct property tax rate would need to be increased by an estimated 1.3391 mils by 2019.

The distorted property values of the years leading up to the recession caused by the housing bubble seem to have been largely corrected for by the end of 2013, and as of 2014, property values look to be on the rise across Florida at around their yearly pace prior to the housing crisis. The average growth rate in the taxable property value in Polk County in the years from 1993 to 2014 was 4.3

percent.¹ Assuming this growth rate continues, then the one-half cent sales surtax would be expected to raise nearly \$40 million by 2019. In the absence of the half-cent surtax, the direct property tax rate would need to be increased by 1.3391 mils to replace those funds.

The taxable property values used to calculate the additional direct property tax rate were taken from the Polk County Comprehensive Annual Financial Report and are compiled in Table 1 along with the simple annual growth rate for each year. The top section of the table also contains the 25th percentile of the annual growth rate which is used for the low growth forecast of 2.2 percent per year, and the 75th percentile shows the high growth forecast of 8.7 percent per year. These cases represent three possible average growth rates for the taxable property value in the county. The high growth forecast could represent another real estate boom similar to the years of 2001 to 2006, while the average growth forecast would represent a similar steady growth period to the years of 1994 to 2001. Although there is no multi-year period of low-growth close to 2 percent in Polk County, there is a possibility of either there being another property value correction or the unusually low growth rate in the national economy negatively affecting Florida's housing market.

The middle section of Table 1 contains the average yearly growth of property tax revenue for the purpose of showing the needed direct property tax rate for each year if it were to cover the revenue of the one-half cent sales tax. From 2005 to 2007, the needed property tax rate exceeds that which would be reasonable to levy on the citizens, however the remaining years show a need for a rate between 7.7 and 8.3 mils.

The bottom section of Table 1 shows that if the county were to decide to pay for the mandates with an increase in the direct property tax rate, the county would need to raise it from 6.7815 up to 7.3213, assuming there is a healthy growth of 4.3 percent per year in taxable property value. Around 85% of the additional projected \$15.9 million needed would go to the County Medicaid Share.

Figure 1 shows the needed property tax rate for each year between 2004 and 2020 to cover the revenue generated by the one-half cent sales tax using the growth rate of the property value and using the growth rate of the tax revenue.

The conclusion is that the additional direct property tax rate needed by the year 2019 is most likely to be between 7.8703 and 8.2642 mils, as shown in Figure 1. In other words, to replace the revenue from the projected one-half cent sales tax with property tax revenue, the direct property tax rate would need to rise from 6.7815 to 8.1206, but only up to 7.3213 to cover the mandates, if there is a healthy growth of 4.3 percent per year in taxable property value.

¹ The average growth rate for the period 2004 to 2014 was 3.44.

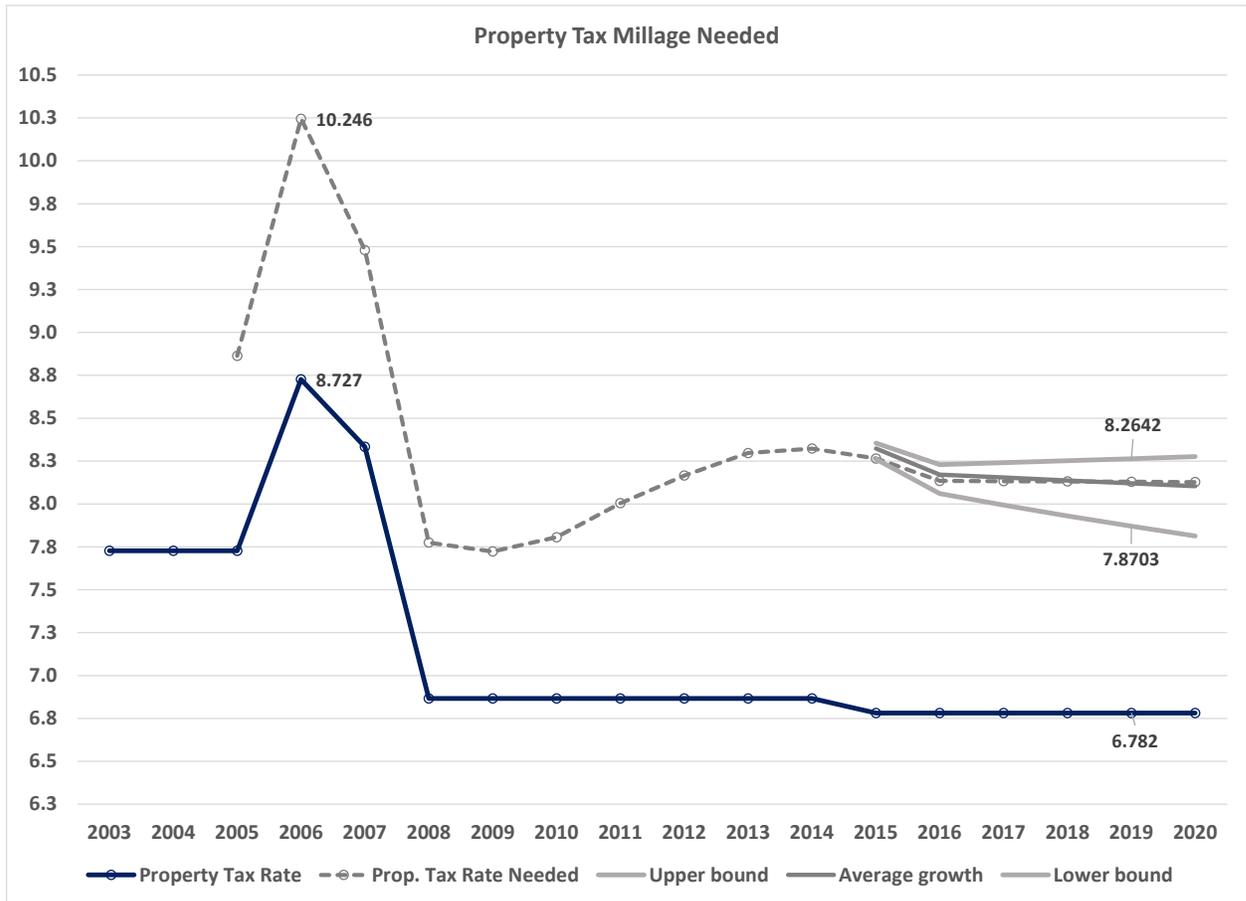
Table 1. Polk County IHF Sales Tax, Property Values, and Property Tax Revenue

Polk County Budget	2003	2004	2005	2006	2007	2008	2009	2010	2011
IHF Sales Tax Revenue		1,255,152	22,661,596	36,955,804	35,728,482	33,311,573	30,390,900	29,610,872	30,668,175
Taxable Property Values	17,920,439,412	18,945,532,820	20,593,847,972	23,802,764,583	30,319,158,885	35,647,269,320	34,381,008,089	30,298,428,060	25,976,154,776
Average Yearly% Growth		5.72	8.70	15.58	27.38	17.57	-3.55	-11.87	-14.27
Low growth forecast (2.2%)									
Needed Direct Tax Rate									
Average growth forecast (4.3%)									
Needed Direct Tax Rate									
Additional needed increase									
High growth forecast (8.7%)									
Needed Direct Tax Rate									
Property Tax Revenue	135,097,281	143,936,502	154,013,630	212,330,866	259,791,634	251,663,449	243,487,472	216,289,675	185,000,565
Average Yearly% Growth		6.54	7.00	37.86	22.35	-3.13	-3.25	-11.17	-14.47
Average growth forecast									
IHF Replaced by Property Tax Rev.									
Total Direct Tax Rate	7.7270	7.7270	7.7270	8.7270	8.3330	6.8665	6.8665	6.8665	6.8665
Needed Property Revenue	135,097,281	145,191,654	176,675,226	249,286,670	295,520,116	284,975,022	273,878,372	245,900,547	215,668,740
Needed Percent Increase			14.71	17.40	13.75	13.24	12.48	13.69	16.58
Needed Tot. Direct Tax Rate			8.8640	10.2459	9.4790	7.7754	7.7235	7.8065	8.0048
Cost of Mandates									
Low growth forecast (2.1%)									
Needed Direct Tax Rate									
Average growth forecast (4.0%)									
Needed Direct Tax Rate									
High growth forecast (6.0%)									
Needed Direct Tax Rate									

Polk County Budget	2012	2013	2014	2015	2016	2017	2018	2019	2020
IHF Sales Tax Revenue	32,787,556	34,270,806	36,325,315	38,640,913	36,346,362	37,436,753	38,559,856	39,716,652	40,908,152
Taxable Property Values	24,377,018,006	23,177,092,884	24,035,462,993						
Average Yearly% Growth	-6.16	-4.92	3.70						
Low growth forecast (2.2%)				24,561,993,654	25,100,058,711	25,649,910,841	26,211,808,256	26,786,014,824	27,372,800,197
Needed Direct Tax Rate				8.3547	8.2296	8.2410	8.2526	8.2642	8.2760
Average growth forecast (4.3%)				25,067,811,682	26,144,500,845	27,267,434,952	28,438,600,273	29,660,068,390	30,933,999,861
Needed Direct Tax Rate				8.3230	8.1717	8.1544	8.1374	8.1206	8.1039
Additional needed increase				1.5415	1.3902	1.3729	1.3559	1.3391	1.3224
High growth forecast (8.7%)				26,126,616,523	28,399,706,348	30,870,561,443	33,556,387,947	36,475,888,983	39,649,394,899
Needed Direct Tax Rate				8.2605	8.0613	7.9942	7.9306	7.8703	7.8132
Property Tax Revenue	173,286,436	164,522,102	171,248,724						
Average Yearly% Growth	-6.33	-5.06	4.09						
Average growth forecast				176,611,334	182,141,874	187,845,600	193,727,938	199,794,479	206,050,993
IHF Replaced by Property Tax Rev.									
Total Direct Tax Rate	6.8665	6.8665	6.8665	6.7815	6.7815	6.7815	6.7815	6.7815	6.7815
Needed Property Revenue	206,073,992	198,792,908	207,574,039	215,252,247	218,488,236	225,282,353	232,287,794	239,511,131	246,959,144
Needed Percent Increase	18.92	20.83	21.21	21.88	19.95	19.93	19.90	19.88	19.85
Needed Tot. Direct Tax Rate	8.1657	8.2968	8.3230	8.2652	8.1347	8.1330	8.1313	8.1296	8.1279
Cost of Mandates									
Low growth forecast (2.1%)	11,833,316	12,145,599	12,113,207	12,598,036					
Needed Direct Tax Rate					12,865,114	13,137,855	13,416,377	13,700,805	13,991,262
Average growth forecast (4.0%)					13,101,957	13,626,036	14,171,077	14,737,920	15,327,437
Needed Direct Tax Rate					7.2693	7.2734	7.2776	7.2817	7.2860
High growth forecast (6.0%)					13,353,918	14,155,153	15,004,462	15,904,730	16,859,014
Needed Direct Tax Rate					7.2787	7.2925	7.3067	7.3213	7.3364

Source: Polk County's Comprehensive Annual Financial Report, from 2002 to 2014.

Figure 1. Polk County Property Tax Millage Needed



Source: Polk County’s Comprehensive Annual Financial Report, from 2002 to 2014.

3.2. Impact on employment and wages

In the years prior to the Great Recession, Polk County had on average a 4.85 percent rate of unemployment, slightly higher than the 4.38 percent rate for Florida. Between 2007 and 2008 the unemployment rate raised sharply as a consequence of the Great Recession. Polk County’s unemployment rate went from 4.6 percent to 6.9 percent and peaked in 2010 at 12.1 percent, more than double the prerecession levels.

Figure 2 shows the employment growth rate for all the sectors and for the health care and social assistance sector in Polk County. This sector accounts for 12.5 percent of the total employment in the county, and it comprises services delivered by trained professionals in establishments providing health care and social assistance for individuals. This sector includes employments from ambulatory healthcare services, hospitals, nursing and residential care facilities, and social assistance. The numbers in Figure 2 and Table 2 correspond exclusively to local and private ownerships’ employments. Federal and state ownerships were removed from the analysis to concentrate on the employment that can be potentially affected by the indigent healthcare surtax.

Between 2002 and 2014, Polk County experienced average annual employment growth of 0.65 percent. The Great Recession brought about a sharp increase in unemployment in 2008 and 2009.

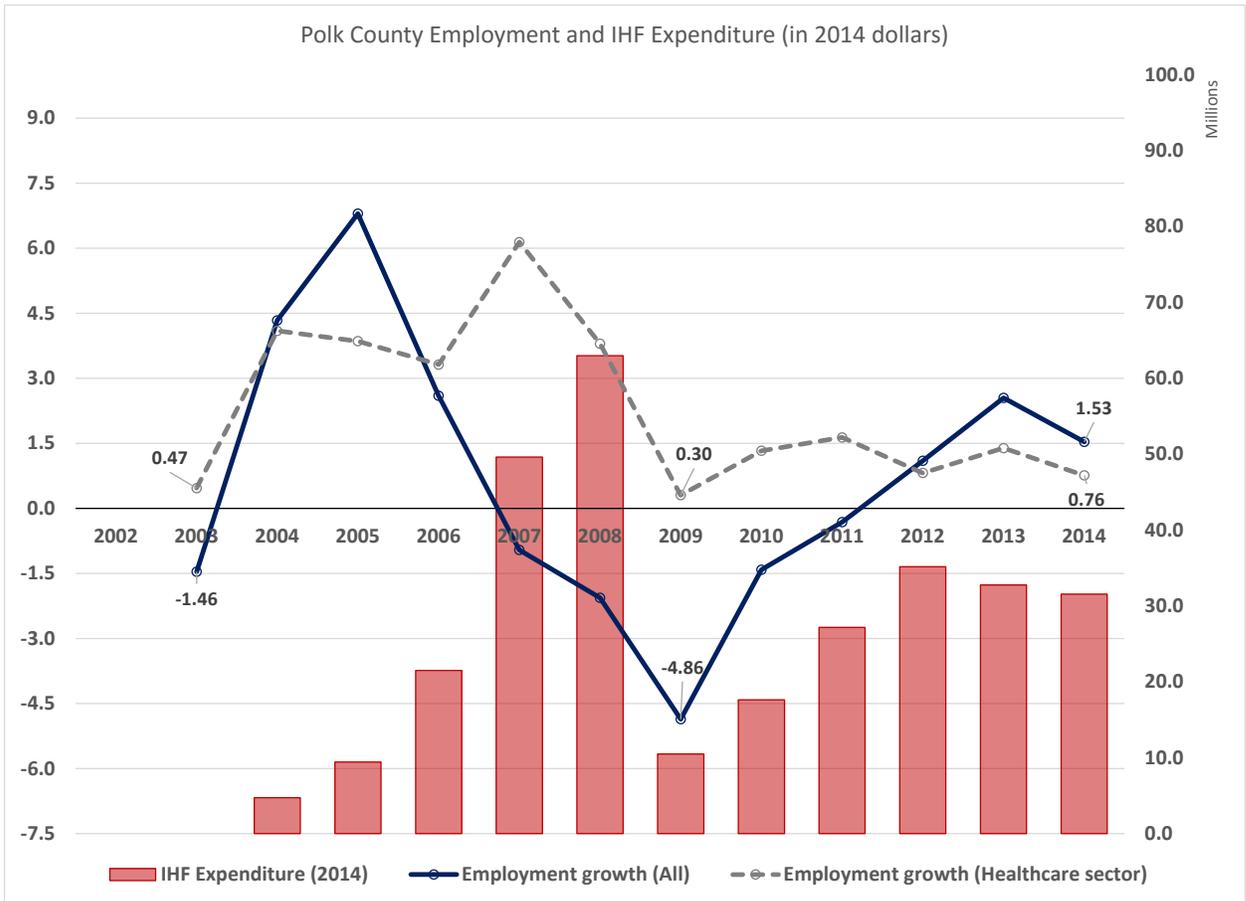
As a consequence, Polk County's overall employment growth levels were negative between 2007 and 2011. However, despite the general unfavorable economic situation, the healthcare and social assistance sector experienced an average annual employment growth rate of 2.33 percent between 2002 and 2014, and remarkably it didn't experience any negative growth rate at all during the same period. Figure 2 also includes the expenditure associated with the indigent healthcare fund, which suggest a relation with the employment levels in the sector.

According to the analysis, the expenditure is associated with the creation of approximately 177 jobs per year in the health care and social assistance sector. To set this in context, between 2004 and 2014, there were 5,373 jobs created in the sector. If resources from the fund weren't available, it might have been likely to observe negative growth rates during the recession, as it was observed for the total employment growth rates. Moreover, it is found that for every \$1 million spent from the fund, on average 6.1 new jobs are associated to it over the last decade.

Table 2 contains the real average annual wages for Polk County in the last 15 years. Wages in the health care and social assistance sector are 15.5 percent higher than the average employment wage in the county, \$44,204 compared to \$38,250. Considering the impact on job creation, there would be \$7.8 million in wages and salaries that won't spillover to the community without the Indigent Healthcare Fund.² In other words, for every \$1 million spent from the Indigent Health Care Fund, about \$269,643 would be paid in wages and salaries in the health care and social assistance sector.

² The \$7.8 million figure comes from multiplying the 177 jobs in the health care and social assistance sector associated to the Indigent Healthcare Trust Fund by the \$44,204 average annual wage for that sector.

Figure 2. Polk County Employment growth rate and IHF Expenditure



Source: Polk County’s Comprehensive Annual Financial Report, from 2002 to 2014 and Quarterly Census of Employment and Wages, 2002 to 2014.

Table 2. Polk County Employment and Wages and IHF Expenditure in 2014 dollars

Polk County Employment and wages	2002	2003	2004	2005	2006	2007	2008
IHF Expenditure (\$2014)	0	0	5,938,014	11,446,427	25,255,971	56,670,790	69,249,483
All industries							
Total Employment	179,671	177,049	184,722	197,277	202,401	200,466	196,333
Employment growth rate		-1.46	4.33	6.80	2.60	-0.96	-2.06
Real annual wages	38,144	38,670	38,778	38,785	39,161	39,052	38,496
Healthcare and Social Assist.							
Total Employment	19,939	20,032	20,852	21,656	22,374	23,748	24,649
Employment growth rate		0.47	4.09	3.86	3.32	6.14	3.79
Real annual wages	42,927	44,937	43,920	44,226	44,271	44,794	43,786
Share of all industries	11.10	11.31	11.29	10.98	11.05	11.85	12.55
Unemployment rate							
Polk County	5.9	5.7	5.1	4.1	3.7	4.6	6.9
Florida	5.6	5.2	4.6	3.7	3.2	4.0	6.3

Polk County Employment and wages	2009	2010	2011	2012	2013	2014	Average
IHF Expenditure (\$2014)	11,592,767	19,157,020	28,615,371	36,259,245	33,299,619	31,567,484	
All industries							
Total Employment	186,787	184,142	183,557	185,570	190,295	193,214	
Employment growth rate	-4.86	-1.42	-0.32	1.10	2.55	1.53	-0.24
Real annual wages	38,902	38,550	37,889	37,903	37,915	38,340	38,250
Healthcare and Social Assist.							
Total Employment	24,724	25,052	25,462	25,670	26,027	26,225	
Employment growth rate	0.30	1.33	1.64	0.82	1.39	0.76	1.04
Real annual wages	45,672	45,138	43,942	43,698	43,035	43,738	44,204
Share of all industries	13.24	13.60	13.87	13.83	13.68	13.57	
Unemployment rate							
Polk County	11.3	12.1	11.3	9.7	8.3	7.1	2015 6.1
Florida	10.4	11.1	10.0	8.5	7.3	6.3	5.4

Source: Polk County's Comprehensive Annual Financial Report, from 2002 to 2014 and Quarterly Census of Employment and Wages, 2002 to 2014.

3.3 Impact on access to healthcare

3.3.1. Access to healthcare

The Polk HealthCare Plan has provided healthcare for thousands of Polk County residents each year since its implementation in 2004. The Indigent HealthCare Division which administers the county's "safety net" program funded by the indigent sales tax manages a delivery system with two different methods of care³:

- 1) Polk HealthCare Plan, a comprehensive program that serves county residents with incomes up to 100 percent of the Federal Poverty Level through contracts with local medical community providers, and
- 2) Other public/private partnerships serving individuals with incomes up to 200 percent of the FPL who do not qualify for the Plan (non-Polk HealthCare Plan).

The potential removal of this safety net will leave many residents without healthcare leading to a decrease in the overall health of the county. To quantify this effect, the results for Florida from the *County Health Rankings* published by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute were used to simulate the effect of the Indigent HealthCare on the health rankings for Polk County in 2015.

The *County Health Rankings & Roadmaps* program compiles health and socioeconomic data to create an annual *County Health Rankings* report. These *Rankings* provides a snapshot of the health within counties, and allows for a reliable and comprehensive comparison of counties across the United States. The *Rankings* are assembled using county-level measures from a variety of national data sources. These measures are standardized and combined using scientifically-informed weights to construct two summary measures; one for how healthy a county is now, known as *health outcomes*; and the second to measure how healthy a county will be in the future, known as *health factors*. The content of each summary measure is as follows,⁴

- 1) ***Health outcomes*** are reflective of "current health", and include length of life (premature death) and quality of life (self-reported physical and mental health, low birthweight).
- 2) ***Health factors*** impact "future health" and consider the following factors:
 - a. ***Health Behaviors*** – includes percentage of adults reporting smoking, obesity, and physical inactivity, a food environment index, number of cases of sexually transmitted disease, and number of teen births
 - b. ***Clinical Care*** – focuses on citizens "access to care" and "quality of care". Clinical care data measures include percentage of population that is uninsured, ratio of population to primary care physicians, dentists, and mental health providers, number of preventable hospital stays, percentage of population receiving diabetic monitoring, and percentage of population receiving mammography screening.
 - c. ***Social and Economic Factors*** – includes graduation rates, percent of adults with some college education, child poverty rate, income inequality, and crime rates
 - d. ***Physical Environment*** – includes air and water quality, severe housing problems, and commute trends

³ Polk HealthCare Plan: Polk County Florida's Safety Net Program

⁴ See Figure 6 in Appendix B

After constructing each summary measure, each county is then ranked relative to other counties within a state where those with lower ranks are considered “healthier”.

The *County Health Rankings* provides access to the county-level data used to generate the rankings. This data was used to simulate the effect of the discontinuation of the Polk HealthCare Plan and other public/private healthcare partnerships by the cessation of the current Indigent HealthCare Sales Surtax on Polk County’s health rankings.

In 2015, the Indigent HealthCare Division served 6,304 Polk County residents via the Polk HealthCare Plan and an additional 36,563 residents were served by Community Partners.⁵ According to the Small Area Health Insurance Estimates (SAHIE) program, 113,588 Polk County residents under the age of 65 were uninsured in 2012.⁶ This means that in the absence of the Indigent Health Care network, the number of residents without healthcare would have risen at least to 156,455.

Table 3 shows that the rankings for both county health outcomes and health factors have been steadily improving each year since the start of the publication of the rankings in 2010. Within the variables measured by the *County Health Rankings*, the Polk County Healthcare Plan has a direct impact on the ‘clinical care’ health factor, through the ‘access to care’ which contributes 10 percent to the overall health factors rankings (see Figure 6 in the Appendix B). Specifically, the measure directly impacted would be the percentage of uninsured residents in Polk County.

The removal of the Indigent HealthCare program would have caused the percentage of the population under age 65 without health care to increase. Consequently, the health factors ranking for Polk County would have suffered as the county’s rank would have fallen to 43rd in the state rather than improve to 36th from the previous year.^{7,8}

⁵ Community Partners are comprised of the community agencies and healthcare providers for medical services to Polk County residents with incomes up to 200 percent of the FPL but do not qualify for the Polk HealthCare Plan. Services and facilities provided by the Community Partners include primary care at several free clinics, behavioral and mental health centers, dental services, pharmacy assistance programs, health and nutrition education, a teen pregnancy prevention program, and a specialty medical services referrals program.

⁶ The uninsured measure used by the health factor ranking for 2015 uses 2012 data. In 2015, the Polk County Healthcare program served 42,867. For the simulation it was assumed that the program served 39,533 in 2012, 75 percent of the uninsured population in that year.

⁷ Recall that these ranks are based on the 67 Florida counties where lower rankings equate to better health performance within the county.

⁸ For the purpose of the simulation and technical consistency, the percentage of the population under age 65 without insurance increased from 23.2 to 32 percent as result of the removal of the Indigent Health Care program.

Table 3. Polk County Health Rankings Yearly Changes

Polk County County Health Rankings	2011	2012	2013	2014	(Original) 2015	(No IHF) 2015
Health outcomes ranks	33	33	30	28	29	29
Health factors ranks	42	43	43	37	36	43

Source: County Health Rankings, 2010 to 2015.

Removing the Indigent Health Care Fund has no impact on Polk County’s overall health outcomes ranks, but adversely impacts its health factors ranks. This would imply five years of progress erased in terms of the health factors measured by the rankings, if the indigent healthcare fund were not in place.

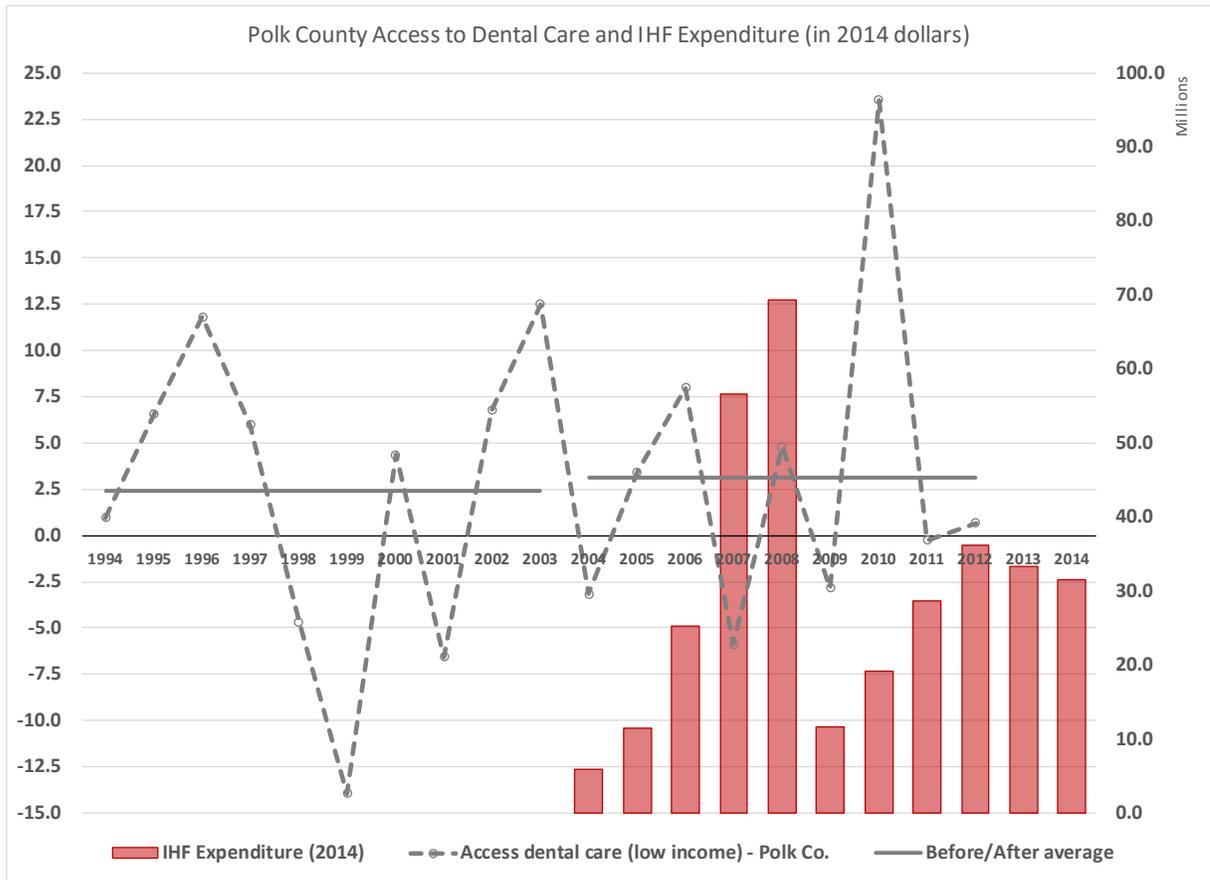
3.3.2. Access to dental care

The percentage of low income Polk County residents getting access to dental care has decreased over the last two decades, from 30.8 in the 1990s, to 27.7 in the 2000s, and to 23.7 in the early 2010s. It is important to notice that the number of persons identified as poor increased as a consequence of the last recession; however, the number of low income Polk County residents getting access to dental care has increased from 16,130 to 25,396 from 1993 to 2012. The increase can be attributed to the implementation of the indigent healthcare surtax. Table 4 contains this information along with the corresponding growth rates.

Figure 3 displays the growth rate for access to dental care for low income Polk County residents, as well as the average before and after the levy of the healthcare surtax. The average growth rate before was 1.87 percent. After the implementation of the indigent healthcare surtax, the average growth rate increased to 3.93 percent, representing a 2.06 percentage-point difference. The figure also includes the expenditure of the Indigent Healthcare Fund. Based on the analysis, the expenditure is associated with an annual average increase of 241 more people with low income having access to dental care. That is, the expenditure of the fund is associated with 241 out of 783 low income persons getting access, which represents a 30.7 percent of the total. In other words, one out of three low income residents get access to dental care through the Indigent Healthcare Fund.⁹

⁹ Between 2004 and 2012, there were 6,266 low income persons getting access to dental care, that is, around 783 persons per year, on average.

Figure 3. Polk County Access to Dental Care and IHF Expenditure in 2014 dollars



Source: Polk County’s Comprehensive Annual Financial Report, from 2002 to 2014 and Florida Department of Health, Florida Charts.

Table 4. Access to Dental Care (low income persons)

Access to Dental Care (low income persons)									
Year	Polk County					Florida			
	#	Growth	Average	%	Growth	#	Growth	%	Growth
1993	16,130			29.0		394,979		22.9	
1994	16,286	0.97		28.8	-0.69	411,062	4.07	23.4	2.18
1995	17,357	6.58		30.3	5.21	428,005	4.12	23.9	2.14
1996	19,406	11.81		33.1	9.24	457,173	6.81	25	4.60
1997	20,565	5.97		34.6	4.53	447,212	-2.18	24	-4.00
1998	19,603	-4.68		32.5	-6.07	448,439	0.27	23.6	-1.67
1999	16,867	-13.96		27.5	-15.38	397,165	-11.43	20.5	-13.14
2000	17,604	4.37		28.1	2.18	438,341	10.37	21.7	5.85
2001	16,446	-6.58		25.5	-9.25	475,812	8.55	23.2	6.91
2002	17,558	6.76		26.9	5.49	519,908	9.27	24.8	6.90
2003	19,754	12.51		29.7	10.41	530,964	2.13	24.7	-0.40
2004	19,130	-3.16	1.87	27.8	-6.40	561,529	5.76	25.5	3.24
2005	19,783	3.41	3.93	28.1	1.08	568,055	1.16	25.2	-1.18
2006	21,362	7.98		29.0	3.20	561,878	-1.09	24.4	-3.17
2007	20,106	-5.88		26.6	-8.28	599,086	6.62	25.6	4.92
2008	21,069	4.79		27.8	4.51	675,574	12.77	28.7	12.11
2009	20,473	-2.83		27.1	-2.52	689,062	2.00	29.3	2.09
2010	25,291	23.53		25.8	-4.80	855,658	24.18	30.4	3.75
2011	25,222	-0.27		22.0	-14.73	742,484	-13.23	23.4	-23.03
2012	25,396	0.69		23.3	5.91	808,489	8.89	24.9	6.41
2013	n.d.	n.d.		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2014	n.d.	n.d.		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.

Source: Florida Department of Health, Florida Charts.

3.4. Impact on health services

3.4.1. Preventive care and early intervention

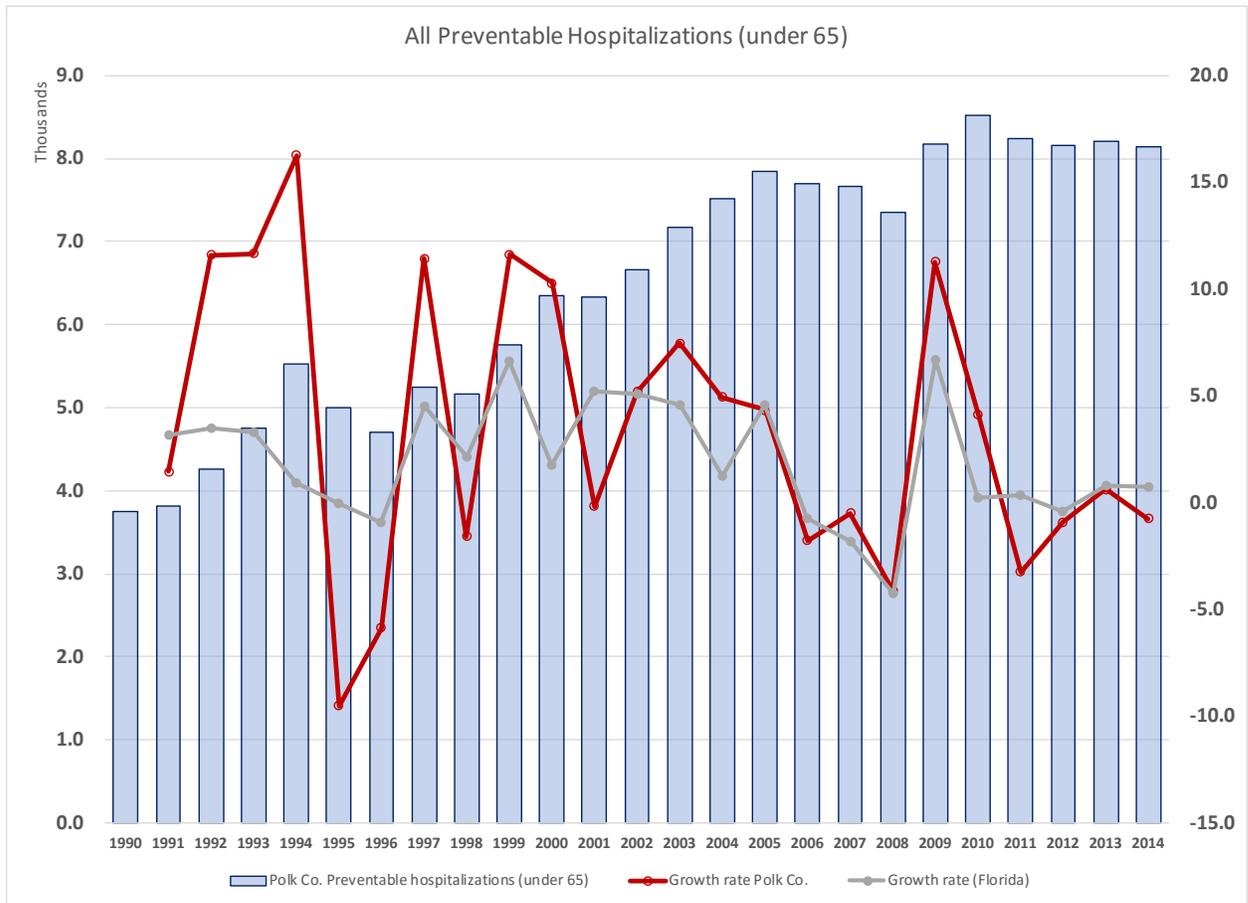
Access to preventive healthcare should lower the rates of preventable hospitalizations. Thus, an increase in preventive care through the Indigent Health Care Fund is expected to have a negative effect on the number of preventable hospitals in Polk County. Figure 4 contains the number of all preventable hospitalizations (under 65 years) for Polk County, as well as its growth rate and the growth rate for Florida for the period covering 1990 to 2014.¹⁰ Since 1990, a positive trend is observed until 2005 when the trend flattens.

Despite more variation in the growth rates for Polk County compared to Florida, Polk County’s average growth rate is 3.49 percent, while Florida’s is 1.96 percent. This is not surprising since between 1990 and 2014 the number of preventable hospitalizations doubled. Even by taking into account the population growth in the county, the rate of preventable hospitalizations per 1000 went from 1,131 in 1990 to 1,602 in 2014, a 41.6 percent increase.

¹⁰ All preventable hospitalizations include acute, avoidable, and chronic conditions, such as asthma, diabetes, dehydration, and iron and nutritional deficiencies. For a complete list, see <http://www.floridacharts.com/charts/ASCProfile.aspx?county=53&profileyear=2014&tn=328>

Based on the analysis, the expenditure of the Indigent Health Care Fund is almost insignificantly correlated with preventable hospitalizations. Most of the increase in this indicator took place in the 1990s for both Polk County and Florida. However, the growth rate of preventable hospitalizations is remarkably lower after the implementation of the indigent healthcare tax. Between 1990 and 2004 the preventable hospitalizations growth rate was 5.34 percent, after 2004, the preventable hospitalization growth rate fell by 4.4 percentage points to 0.90 percent.

Figure 4. Polk County Preventable Hospitalizations (under 65)



Source: Florida Department of Health, Florida Charts.

Table 5. Polk County Preventable Hospitalizations (under 65)

All preventable hospitalizations (under 65 years)								
Year	#	Polk County			#	Florida		
		Growth	Rate	Growth		Growth	Rate	Growth
1990	3,756		1,131.4		121,514		1,140.4	
1991	3,811	1.46	1,135.9	0.40	125,388	3.19	1,151.3	0.96
1992	4,253	11.60	1,254.9	10.48	129,773	3.50	1,172.1	1.81
1993	4,748	11.64	1,379.6	9.94	134,008	3.26	1,189.7	1.50
1994	5,520	16.26	1,574.4	14.12	135,222	0.91	1,173.3	-1.38
1995	4,995	-9.51	1,400.8	-11.03	135,213	-0.01	1,149.6	-2.02
1996	4,702	-5.87	1,300.7	-7.15	133,923	-0.95	1,115.4	-2.97
1997	5,239	11.42	1,421.6	9.29	139,922	4.48	1,138.9	2.11
1998	5,156	-1.58	1,369.3	-3.68	142,900	2.13	1,137.8	-0.10
1999	5,756	11.64	1,486.3	8.54	152,313	6.59	1,180.3	3.74
2000	6,347	10.27	1,595.3	7.33	154,966	1.74	1,169.0	-0.96
2001	6,336	-0.17	1,574.7	-1.29	163,075	5.23	1,205.0	3.08
2002	6,666	5.21	1,633.7	3.75	171,326	5.06	1,243.3	3.18
2003	7,164	7.47	1,714.2	4.93	179,167	4.58	1,271.7	2.28
2004	7,517	4.93	1,721.5	0.43	181,455	1.28	1,247.1	-1.93
2005	7,842	4.32	1,744.3	1.32	189,738	4.56	1,276.5	2.36
2006	7,702	-1.79	1,652.3	-5.27	188,352	-0.73	1,243.9	-2.55
2007	7,664	-0.49	1,595.7	-3.43	184,924	-1.82	1,204.5	-3.17
2008	7,348	-4.12	1,507.2	-5.55	177,081	-4.24	1,147.4	-4.74
2009	8,176	11.27	1,664.6	10.44	188,891	6.67	1,220.6	6.38
2010	8,512	4.11	1,729.2	3.88	189,282	0.21	1,220.7	0.01
2011	8,235	-3.25	1,667.0	-3.60	189,967	0.36	1,221.0	0.02
2012	8,161	-0.90	1,640.7	-1.58	189,237	-0.38	1,211.2	-0.80
2013	8,211	0.61	1,642.4	0.10	190,690	0.77	1,206.4	-0.40
2014	8,148	-0.77	1,602.1	-2.45	192,066	0.72	1,203.7	-0.22

Source: Florida Department of Health, Florida Charts.

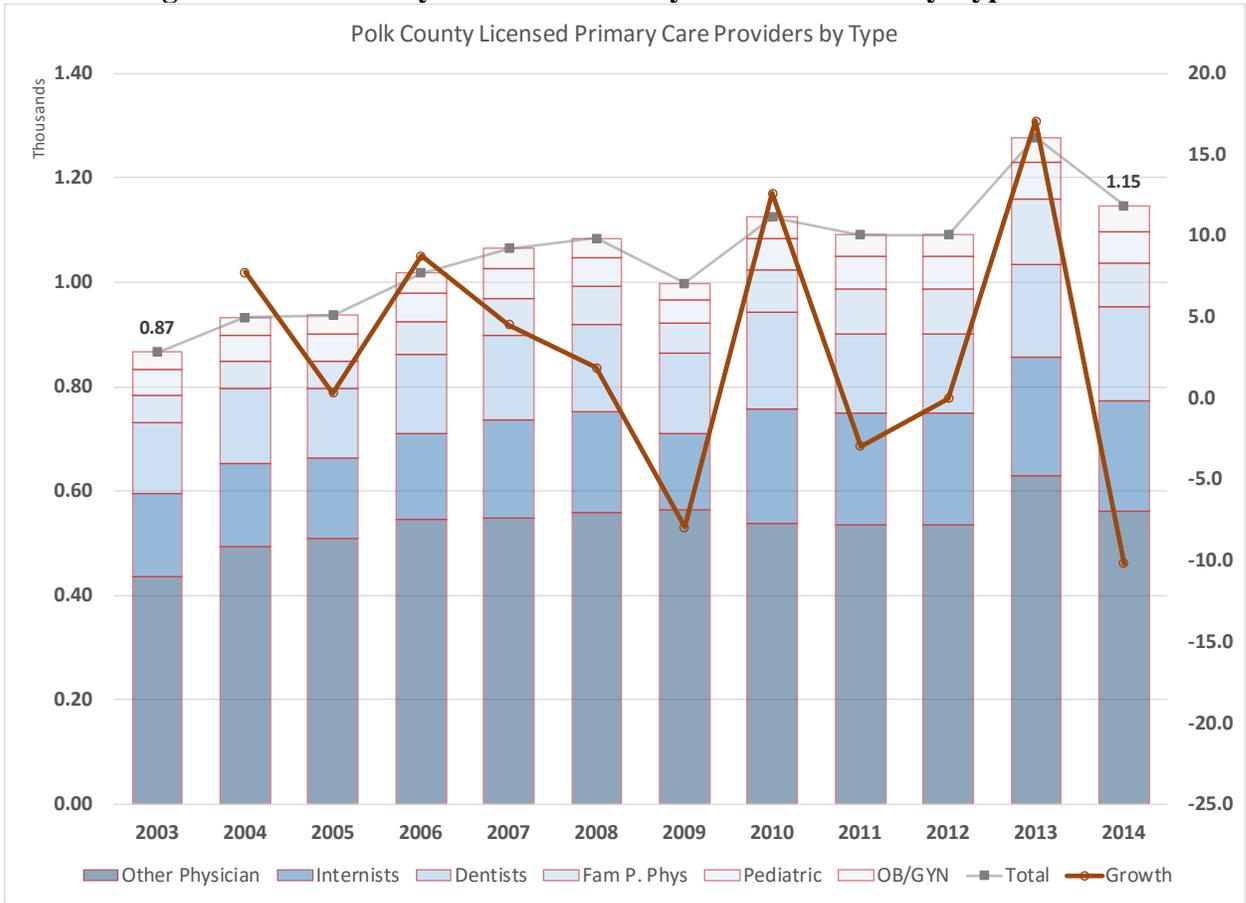
3.4.2. Impact on primary care providers

Figure 5 displays the total licensed primary care providers and the share by internists, dentists, family practice physicians, pediatricians, obstetrician/gynecologists, and other physicians in Polk County.¹¹ The highest share corresponds to other physicians with 51 percent, followed by internists and dentists with 18 and 15 percent, respectively. The figure also shows the annual growth rate of primary care providers from 2003 and 2014. After the recession, there was a sharp decline in the total number of licensed primary care providers, mainly from internists and family practitioners. Overall, between 2003 and 2014 the number of licensed primary care providers went up by 281.

Based on the analysis, the expenditure of the Indigent Health Care Fund is associated with a quite small, but significant effect on the increase of primary care providers. For every \$1 million spent from the Indigent Healthcare Fund, there is on average 0.5 new licensed primary care providers in Polk County.

¹¹ Primary care licenses are considered an appropriate proxy for determining the primary care providers. Physicians does not include Physicians Assistants and Advanced Registered Nurse Practitioners. The column ‘other physicians’ in Table 6 excludes the following specialties: internists, OB/GYN, pediatricians, and family practice physicians.

Figure 5. Polk County Licensed Primary Care Providers by Type



Source: Florida Department of Health, Florida Charts.

Table 6. Polk County Total Licensed Primary Care Providers

Polk County year	Total licensed						Total	Growth
	OB/GYN	Pediatric	Fam P. Phys.	Dentists	Internists	Other Physicians		
2003	34	50	51	137	158	436	866	
2004	34	51	53	142	160	493	933	7.74
2005	36	52	52	133	155	508	936	0.32
2006	38	55	64	150	166	545	1,018	8.76
2007	38	57	72	162	187	548	1,064	4.52
2008	37	54	75	167	193	558	1,084	1.88
2009	32	44	58	155	145	564	998	-7.93
2010	40	60	82	186	219	537	1,124	12.63
2011	42	63	84	153	213	536	1,091	-2.94
2012	42	63	84	153	213	536	1,091	0.00
2013	47	71	125	177	228	629	1,277	17.05
2014	51	59	85	178	213	561	1,147	-10.18

Source: Florida Department of Health, Florida Charts.

3.4.3. Impact on emergency services

The available data for emergency room visits cover only the years 2012, 2013, and 2014. To measure the potential effect of the Indigent Health Care Fund on emergency room visits, a panel data was constructed. This dataset includes information for all 67 counties in Florida for the three years, and is used to estimate a model which links the effect of primary care and preventive care on the number of emergency room visits.

Table 7 contains the number of emergency rooms and total charges for all payers; state and local government payers are displayed separately. Emergency room charges are higher in Polk County compared with the Florida average for all three years. Moreover, charges covered by the state and local government are higher on average, suggesting that a more expensive, and perhaps more specialized service may have been provided at emergency room visits.

According to the model, primary care has a significant negative effect on the number of visits to the emergency department, as expected. That is, an increase in access to primary care reduces emergency room visits. There is no significant effect of preventive care, which might be a consequence of the measure chosen to evaluate preventive care.¹² It is important to mention that visits to the emergency room are likely to be the results of random (unexpected) health shocks on the individuals, thus a small impact is normal.

Using the results from the previous sections and the model used to explain emergency room visits, it is possible to link the potential effect of the Indigent Health Care Fund. Accordingly, it is found that for every \$1 million spent by the program, emergency room visits decline indirectly by 2. This result suggests that there are gains in reducing potential congestion in the emergency room by having the Indigent Healthcare Fund in place, as well as significant gains in terms of the money paid to cover the charges, which are typically more expensive.

Table 7. Emergency rooms visits and charges

Florida and Polk County Emergency Room	Total (all payers)			State/Local government payer		
	2012	2013	2014	2012	2013	2014
Emergency room visits						
Florida	7,358,100	7,548,503	8,057,141	61,490	56,727	57,238
Polk County	278,166	285,983	304,332	1,535	1,338	1,255
(Share)	3.78	3.79	3.78	2.50	2.36	2.19
Average charges						
Florida	\$3,717.50	\$4,092.74	\$4,545.68	\$4,385.09	\$4,559.86	\$4,935.06
Polk County	\$4,736.53	\$4,969.36	\$5,256.61	\$6,297.16	\$5,931.78	\$6,390.10

¹² The indicator used to measure preventive care was the number of preventable hospitalizations for people under 65.

4. References for quantitative analyses

[1] Bureau of Economic and Business Research, Florida Statistical Abstract Online

URL: <http://www.bibr.ufl.edu/data>

[2] Bureau of Labor Statistics, Local Area Unemployment Statistics

URL: <http://www.bls.gov/lau/>

[3] County Health Rankings and Roadmaps, Robert Wood Johnson Foundation & University of Wisconsin Population Health Institute Program

URL: <http://www.countyhealthrankings.org/florida>

[4] Florida Department of Economic Opportunity, Quarterly Census of Employment and Wages

URL: <http://floridajobs.org/labor-market-information/data-center/statistical-programs/quarterly-census-of-employment-and-wages>

[5] Florida Department of Health, Florida CHARTS

URL: <http://www.floridacharts.com/charts/default.aspx>

http://www.floridacharts.com/charts/documents/ACS_Conditions_Definition_UPDATE.pdf

[6] Florida Department of Health, Agency for Health Care Administration, Emergency Department Database

URL: <http://www.floridahealthfinder.gov/QueryTool/QTResults.aspx?T=E>

[7] Polk County, Florida, Polk County Indigent Care Ordinance 03-89, December 2003.

[8] Polk County, Florida, Polk HealthCare Plan, Polk County Florida's Safety Net Program.

[9] Polk County Clerk of Courts, Financial Statements

URL: <http://www.polkcountyclerk.net/cafr-pafr/>

[10] U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE)

URL: http://www.census.gov/did/www/saipe/data/interactive/saipe.html?s_appName=saipe&map_yearSelector=20

5. Qualitative Analyses

Semi-structured telephone interviews were conducted with nine professionals knowledgeable about healthcare in Polk County by trained staff interviewers between February 17 and March 7, 2016. Interviews were recorded and transcribed.

The length of interview ranged from 15 to 30 minutes, with an average of 20 minutes.

The potential interview subjects were identified by staff at the Polk County Board of County Commissioners. They were contacted by email and phone to arrange a mutually agreeable time to schedule the interview.

Prior to fieldwork, the study was reviewed by the University of Florida Institutional Review Board as protocol #2016-U-0116.

It should be noted that the findings reported here represent only the perceptions and opinions of the interviewees, and may or may not be totally objective.

5.1. Who Is Served?

A wide variety of patients receive healthcare services as a result of the half-cent sales tax, from prenatal care to the elderly. Many are working-aged people who are unemployed or work long hours at 2 or 3 part-time jobs, and thus do not have health coverage through any employer. Many of these are working poor, being paid only the minimum wage.

Some patients don't qualify for Medicaid yet lack the capacity to buy their own insurance. Some patients have Medicaid but the choices of providers are very limited, so it is difficult to find specialty doctors.

While at first glance there seem to be racial disparities, with African Americans being underserved, most interviewees thought that was really an issue of income disparity rather than race per se.

Respondents reported that there are still unmet needs in rural parts of the county, since most clinics currently operating are in the populous parts of the county.

Some comments:

- *There's one area of Lakeland that is sort of on North Lake Parker Avenue that is characterized by the 2010 census with a poverty rate of about 28.9% and unemployment rates is indexed at 1.61 times the national unemployment rate at 7.9 or 8%.*
- *In Polk County there's a population of around 640,000. About 10% of those are at 400% of the federal poverty level or lower.*

5.2. Urgent Risk

Common health risks identified in Polk County included smoking and sedentary lifestyle, which contribute to the high rates of obesity (more than a third of the population is grossly overweight by some measures) and related health issues such as heart disease and diabetes. For some programs, the most expensive part of the budget for pharmaceuticals is for diabetic medications and supplies, especially insulin, which has experienced recent price hikes.

Another major concern is behavioral health issues including mental health and substance abuse, both the misuse of prescription drugs and the use of illegal drugs.

Interpersonal violence is a cause of seeking treatment for trauma. Prenatal care is a high need, including teen pregnancies.

One aspect of risk-taking behavior is putting off seeking health care due to lack of access to primary care. This means patients are not having appropriate screenings or obtaining management of chronic diseases, including diabetes and hypertension.

Some quotes:

- *They don't have access to a primary care physician, so their diabetes, their hypertension is unmanaged. They're not getting mammograms, they're not getting colonoscopies, so then you have a variety of folks that come in with stage 2, 3 and 4 cancers that could've been prevented had there been some screening done initially through some type of primary care office.*
- *The largest public health risk is overweight and obesity which leads to chronic diseases. I still think lack of access to healthcare is a significant problem.*

5.3. Interest of Patients in Addressing Healthcare Needs

Interviewees thought that patients had high interest in addressing their healthcare needs, but also face competing demands on their limited time and attention.

Positive things about the programs enabled by the half-cent sales tax include publicity about the available healthcare so that people are empowered to seek care, extended office hours for those who cannot take time from paid employment, and availability of types of care that were not as available in the past, including dental care and behavioral health/substance abuse.

Some patients face barriers that make it hard for them to access the care they need, including marginal literacy that can hinder their ability to fill out a form or understand a flyer, and co-morbidity of mental health issues.

Some comments:

- *Nobody wants to be "poor". Nobody wants to be "unemployed". Nobody wants to live in poverty. It's just a matter of creating a path to get out of all those bad things. I think they have a significant interest.*
- *I think a lot of people are learning more about the importance of this half-cent sales tax, and as our population's becoming more educated then they're smarter and understand how it all works.*
- *Simply because of a number of challenges that they face, they don't have access to health care, economic issues, they're doing what they can just to take care of a family.*

5.4. Assets of Polk County in Meeting Healthcare Needs

The responses reflected a strong teamwork approach in which various governmental and private entities throughout the county are coordinating their efforts, meeting regularly, staying “in tune” with one another to provide the best care possible at the least cost, maximizing the quality of healthcare offered to both insured and uninsured residents.

Respondents pointed to the large number of good not-for-profit hospitals that are very interested in improving the health of all residents, as well as a variety of clinics that are supported by the community.

Various interviewees remarked on the planning and documentation of progress in meeting health needs, including the annual county health assessment plan and the United Way review of health needs in the community.

Some interviewees also pointed to county entities who, although not directly involved with healthcare nevertheless are in position to have a positive impact on community health. Of particular note are (1) “a very well informed” Sheriff’s Department that is committed and devoted to educating and training the deputies in awareness of and how to deal with mental illness and mental health issues as they’re dealing with law enforcement matters and (2) funding for the Polk School Board across the schools with the School Transformation Grant that’s been obtained from the federal government.

Some quotes:

- *Well they have Polk County HealthCare plan, which I think is a very strong tool, not only does it reimburse providers for uninsured care, but it certainly provides access [to] non-profits like the hospital and clinics.*
- *It's got a wonderful Polk Indigent Health Plan. It's got a wide range of community providers and interest groups that are focused on trying to meet their needs, which includes non-sectarian and religiously founded organizations that come together. There's a plethora of a big range of services and organizations that are focused on trying to meet these needs and to improve the situation.*
- *They're providing good work it's just the volume of people needing it is greater than the work that's being done.*

5.5. Suggested Resources From Outside the County

Respondents pointed to the need for more funding for low-income health care, which might come from state or federal sources. The end of the federal Low Income Pool funding is a loss that will be felt by the hospitals. Funding is crucial as it drives the programs that provide services.

Another concern is the shortage of physicians in the county, both primary care doctors and specialists.

Some comments:

- *We don't have enough healthcare for low-income families, period. It's a big donut hole in the affordable care act. As we start working with families, they find out they qualify for Medicaid a fair percentage of times but they weren't getting any care through Medicaid. Dental care is especially weak. Behavioral health, mental health and mental illness and substance abuse services are especially needy.*
- *The county's going to have to encourage the development of a Graduate Medical Education program in concert with some of the state universities. To train additional health professionals, the theory being if they spend a three-year residency in Polk County, some of them will establish roots, their children will begin school, their [spouses] will find homes that are appealing and they will stay.*

5.6. Emerging Needs

Emerging needs that are increasingly requiring resources include teen pregnancy, sexually transmitted diseases, and chronic disease management for conditions such as diabetes and heart disease.

While substance abuse has been an ongoing issue in the area, there have been recent shifts in the types of drugs being abused and the demographics of the people affected.

Mental health issues also seem to be increasing, and the gap in those being treated grows as effective treatments are developed but not available to all who need it due to lack of access to care.

Age-related illnesses are also expected to rise as the post-World War II generation continues to age.

Some comments:

- *I think when you look at cancer, diabetes, behavioral health, those are areas that we're continuing to see a rise in the number of people that we serve. Then just from the standpoint of preventative health, screening and vaccinations there's a disparity of when you compare us to Tampa Bay or the whole state of Florida.*
- *With the baby boom generation retiring, already in retirement or soon to be retiring further and they're living longer. I think that, that segment of the community is going to have a greater need but we've already addressed that. Senior citizens or the elderly. I think there's going to be a lot more people than what we probably anticipate. Needing service in that demographic.*

5.7. Effect of Sales Tax: Your Program

Several respondents thought that the half-cent sales tax had expanded the patient base who could be served by their programs, both in numbers of individuals and visits provided.

The types of services offered has also expanded:

Dental health is an underappreciated component of overall health, and recent news stories about untreated dental issues leading to death have raised awareness about the integral role that oral health plays.

Chronic disease management programs have been added, including a diabetes program that stresses diet and exercise, with the idea of preventing the acute episodes so that people are empowered to manage a chronic condition rather than letting it go to an acute episode requiring hospital admission.

Respondents said that behavioral health and drug treatment programs have also been added and expanded, including a program for children with mental illness.

Health services for adults have been retained and improved because of this funding.

Some quotes:

- *There are services that we offer that only get the funding through the half-cent surtax, so we would end up having to stop those services or try to find alternative funding for them.*
- *We help to provide for prescription drugs, drug treatment programs*
- *Health services for people with obesity related illnesses. Last year we increased some funding for programs that had the behavioral health component. Children psych is one of our highest funded programs, got a major increase last year for young children with mental illness. The other one would be the clinic at Talbot House, for homeless residents that have health issues.*

5.8. Effect of Sales Tax: Access to Care

All respondents agreed that the half-cent sales tax had increased access to care by making more services available at more locations. For local residents, this has helped to reduce barriers around transportation and confusion about where to go.

With new clinics and programs, it is more likely that county residents now have a medical home, a place where they are confident they can get care in a manner that is respectful and helpful. Feedback from patients suggests that for many it is the first time in decades that they have such a relationship with a healthcare provider.

People are also learning to think of health care differently, reaching out for care before their condition becomes dire, receiving preventive care and screenings—for the “first time in 30 years” some have said.

Respondents noted that this is particularly important for those with chronic illnesses, who are working with a provider for ongoing management of a condition rather than a random series of visits to a hospital emergency room when symptoms escalate.

Some quotes:

- *Well, since the half-cent sales tax, a number of different clinics have opened up for the working uninsured, and that combination of providers being more willing to see the uninsured because they get some reimbursement from the county health plan.*
- *It's given these people an opportunity to have a provider. I don't know where they'd get the care if it weren't for the free clinics and the Polk HealthCare Plan. I don't know where else they'd get the services.*

5.9. Effect of Sales Tax: Controlling Health Care Costs

Interviewees concurred that with the new clinics and programs funded by the sales tax, patients are now being treated in more appropriate and less costly venues than before. They believe that hospital admissions and utilization of the emergency rooms in the community have gone down as a result of more widespread access to lower cost services.

There is a perception that the patient population is becoming healthier, and over time this may result in fewer office visits.

The dollars available to provide services are being leveraged by the efforts of volunteers who serve in local clinics and through the We Care program. The coordination of various groups working together minimizes duplication of efforts, enhancing the efficacy of service.

Several respondents commented on the effectiveness of the Family Care Center linked to Lakeland Regional Medical Center. It has addressed needs of people who probably don't belong in emergency rooms but that's the only place they know to access care. When someone goes to the hospital emergency room but don't have an emergent need, they are directed to the primary care clinic which is just across the street. This has resulted in more appropriate care and provides the patient with a place to return for future health needs. This reduces expenditures, since costs associated with care in the emergency department are higher.

Some quotes:

- *I guess the best example is if you don't have dental services available to a population that has dental problems, when they have to have that tooth removed rather than going to that free clinic and have it cost \$50 or \$60, they're going to go to the emergency room and it's going to cost \$2,000 or more to have it addressed.*
- *I think the program that the County has put in place, with the Polk County HealthCare Plan, they essentially run it like an insurance product so from an actuarial basis. I think they're doing a very good job of looking at, from a utilitarian standpoint what's the greatest number of people we can serve with this amount of money, understanding that's it's a finite amount of money, and that you could depending of what you offered through the Polk County Health Plan you could quickly run through that money. I think they've done a good job of really focusing in on physician care and using it in a way that brings high quality and low cost to its population.*

5.10. Effect of Sales Tax: Improved Quality of Life

Respondents told many stories of individuals who could return to employment or maintain their job because the healthcare that they now receive has their condition under control. Children are able to stay in school and even participate in sports, mothers who got their children back after successfully completing drug treatment.

Conditions are being treated at an earlier stage, with less radical treatment, with less painful and less costly care.

Those who have insurance also benefit, since some health-promotion programs are open to the public, and also local hospital emergency rooms can now offer a more optimal experience when they are not as crowded with those seeking help for issues that could be better addressed in a primary-care setting.

Some quotes:

- *Well when patients have access to health care, which they do because the half-cent sales tax, they're able to continue work, they're able to be productive and take care of their families, so on a number of fronts it has improved quality of life.*
- *Ongoing illnesses like diabetes and hypertension are being maintained, so that we're not having the extreme amputations, the loss of sight and strokes and heart attack kind of thing.*
- *We had a woman that was actually diagnosed with non-Hodgkin lymphoma at Lakeland Volunteers in Medicine and received her biopsy and care was referred to Moffitt Cancer Center where she continues to be followed. It's just been a wonderful partnership.*

5.11. Consequences of Non-Renewal: Your Program

Interviewees whose programs are funded in part by the sales tax predicted that they would be forced to reduce the number of patients they can see if the half-cent sales tax for indigent healthcare is not renewed. Some programs would also need to be cut, with dental services, adult health, and behavioral health mentioned as programs that would likely be trimmed.

Since some programs have mandates, those would be a priority for available funding, leaving other programs without the finances to operate.

The impacts of funding cuts in Polk County are particularly profound since the county has one of the state's highest rates of uninsured and lowest rates of employee health insurance. Some respondents reported that only 25% of patients have employer-based health coverage that pays the bills. Perhaps 20% have Medicaid, but that only pays 80% of the cost of care. Therefore, a large percentage of the population in Polk County relies on some type of subsidized healthcare.

Some quotes:

- *Yeah, if that doesn't pass there will be lots of services cut. To our program, we would get a major increase in demand for health related services. There would be inability to serve the patients they have been serving well for many years.*
- *Every one of the programs [...] would be devastated economically, and I think what would happen to the community at large is that people that have been avoiding the emergency room and hospital stays would go back to the emergency room and the cost of healthcare to the community would go up.*

5.12. Consequences of Non-Renewal: Community Impacts

Overall, interviewees thought that lack of renewal and the resulting cuts in services would result in “a sicker community.” Expectations are that people would be seeking more costly levels of care, with more acute illness, which would present a greater financial burden to the community.

The lack of ready availability to health care might eventually impact the economy of the county as a whole. Some respondents predicted that there will be more people not able to work and more children unable to attend school. Some small businesses might close as the proprietors are unable to function due to unmet health needs.

Some quotes:

- *I think that we would see a significant increase in missed days of work, less productivity, higher costs, higher wait times in emergency rooms. I definitely think [...] we would see a significant bump in not a good direction for the economy.*
- *I think they'll stop the learned behavior that we've been working on since it's been place to seek care at the most opportune moment when you first become ill, and they'll quickly switch to I'm going to go when I'm deathly ill, and it's going to cost much more and require more medical and more costly interventions.*
- *I think because of their medical problems that will develop more mental health problems that will be allowed to develop further, they will be forced out of jobs or they'll lose their jobs because they won't be able to show up, that they'll need to seek other benefits such as more food assistance or more unemployment, so the economic burden starts to grow very quickly.*

5.13. Consequences of Non-Renewal: ER Diversion

Prior to implementation of the clinics and programs that are funded by the half-cent sales tax, a hospital emergency room was the only source of care that many residents knew to turn to in times of dire health need. Without the emphasis on primary care enabled by the half-cent sales tax, people may return to a hospital emergency department as the first stop when they need care, and may wait to seek care until they have progressed to a more acute stage of illness.

This is expected to result in more ER visits—some estimated 10 to 20% increases at what are already some of the busiest emergency departments in the state. This would erode the quality of care for all who seek care.

Some quotes:

- *Just depending on any conditions that they might have. I think that some people will be frustrated if they have to go to the ER and wait longer because people are getting primary care there. I also think that for the populations that are at or below the poverty line it's more desperation and it's more, one more thing they have to worry about in addition to providing for their families. I think the overall quality of life will suffer.*
- *Well they would no longer try to access health care because they don't have access, so the behavior would be reverting back to using the Emergency Room for chronic disease management.*

5.14. Consequences of Non-Renewal: Cost of Care

If the half-cent sales tax is not renewed, most interviewees expected the cost of care to rise as patients lose access to primary care and seek care in more costly venues and with a health problem that has devolved to an acute stage that is more costly to treat. Some respondents thought that additional funding would have to come from increasing property taxes and from additional cost-shifting to insured patients.

Both of those would have negative impacts on the overall economy as it would discourage people from buying a house in Polk County and raise a red flag for potential employers who consider moving to the community, bringing good jobs that would provide health insurance. If the cost of their employees' coverage ends up being higher to pay for uncompensated care, it would be a disincentive to moving to the community.

- *If the hospital feels an impact, adverse impact of \$300 million, they're going to have to get it by either by cutting cost or by increasing charges, which the charges would be paid by the community, cost reduction could involve reduction in manpower.*
- *I think my understanding is it will fall on property taxes, an increase in that area. Whereas, this tax right now, it's supported by visitors, by people that are coming through, whether they go to Legoland or they live here part time, they pay towards the half-cent sales tax. If it's not done in that direction then it will probably hit property taxes, and then it's going to affect a smaller group of people that will have to pay for it.*
- *Right now it's a minimal tax that has been in place, people are accustom to it. It includes everybody that buys anything in this community, so it includes residence and our visitors. If that gets dropped then the residents are going to have to pick up these costs.*

6. Conclusions

In year 2015, around 43,000 people were served and more than 230,000 services were provided by the Polk County HealthCare Plan and the community partners due to the one-half cent indigent healthcare tax fund. The surtax sunset is in 2019, but a referendum will be on the county ballot in November 2016 to continue the tax.

This report assesses different effects associated with the expenditure of the Indigent Health Care Trust Fund. The fund guarantees the provision of quality health care to indigent persons and the medically poor in Polk County, Florida through the one-half indigent health care surtax. Consistently positive effects are found on labor market outcomes, access to healthcare services, primary care providers, and emergency room visits.

The absence of the sales surtax as a direct source of funding for healthcare in Polk County has important economic implications. The fund is associated with consistently positive labor market outcomes, as well as increased access to healthcare services, primary care providers, and emergency room visits.

In the qualitative semi-structured interviews, many participants thought that non-renewal of the half-cent sales surtax for indigent healthcare is likely to result not only in fewer people receiving medical care, but in higher cost care—costs that will likely be shouldered by the insured and care providers—for more severe medical conditions as time passes.

Appendices

Appendix A (Technical results)

To estimate each impact, several linear regression models were considered and tested separately for each different impact on employment, access to dental care, primary care providers, and preventive care. Each of these models controls for different contextual variables to account for the prevailing economic environment in Polk County and Florida, in particular, to account for the effect of the Great Recession. A fixed effects regression was used to estimate the model on emergency rooms. This regression also controls for other potential variables as well. The controls considered in each regression are part of a subset of the following variables: a dummy variable to account for the recession, the unemployment rate in Polk County and Florida, Florida real GDP growth rate, the poverty rate, the median household income, and Polk County’s population growth rate.

Table 8 contains the coefficients estimated for each regression. Each coefficient reflects the effect of the Indigent Health Care Fund on the corresponding dimensions. All the effects are found to be statistically significant using standard confidence levels.

Table 8. Estimated impacts

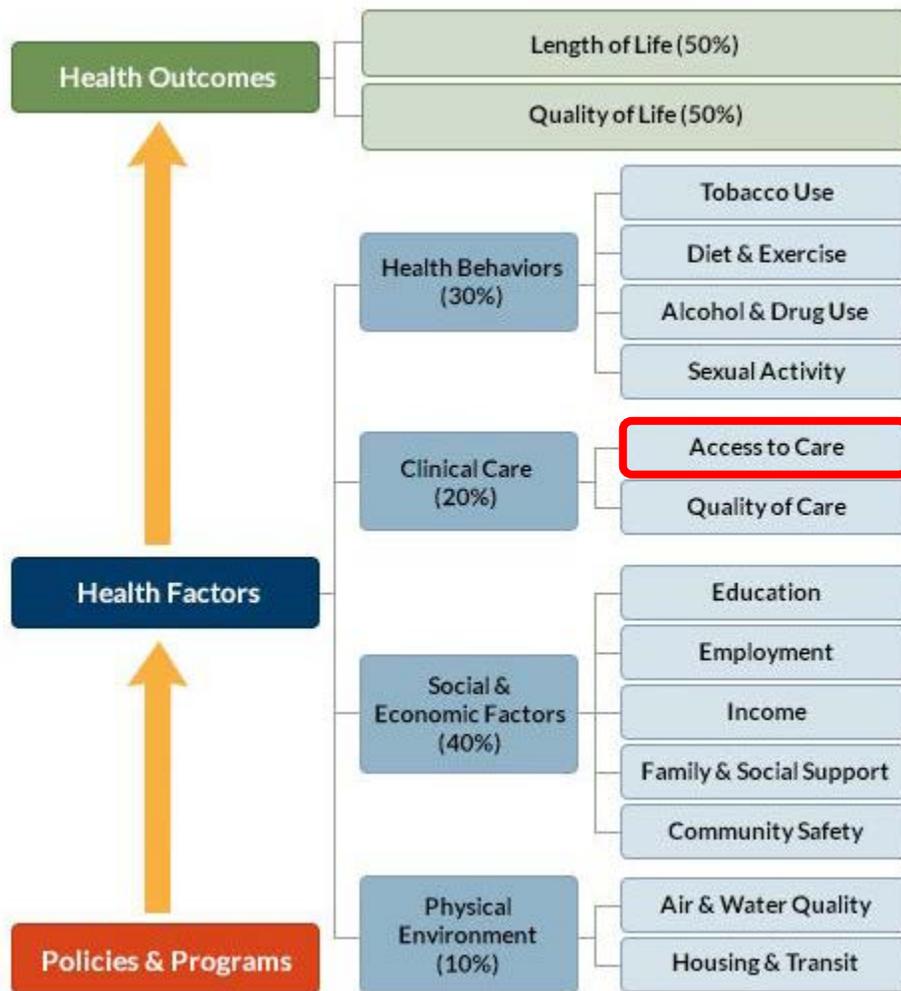
Polk County Impacts	coefficient	rob s.e.	t	P> t	[95% Conf. Interval]	
Employment						
IHCF Expenditure	0.0000734	0.0000173	4.24	0.005	0.0000311	0.0001157
Effect of \$1 million	6.12					
Dental care						
IHCF Expenditure	0.0000914	0.0000119	7.66	0.001	0.0000607	0.0001221
Effect of \$1 million	8.31					
Primary care providers						
IHCF Expenditure	0.0000057	0.0000022	2.59	0.049	0.0000000	0.0000113
Effect of \$1 million	0.52					
Preventable hosp.						
IHCF Expenditure	0.0000121	0.0000048	2.51	0.041	0.0000007	0.0000235
Effect before/after	-0.044406	0.0248584	-1.79	0.088	-0.0959594	0.0071468
E.R.						
Primary care	-4.7980920	2.3632670	-2.03	0.049	-9.5673580	-0.0288265
Preventable hosp.	0.6472772	0.5099175	1.27	0.211	-0.3817779	1.6763320
Effect of \$1 million	-1.87					

Appendix B (County Health Rankings)

The *County Health Rankings & Roadmaps* program is a partnership between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. The program seeks to help communities identify and create solutions designed to build a “Culture of Health” by engaging and informing local communities about opportunities to improve their health. “Ranking the health of nearly every county in the nation, the *County Health Rankings* illustrate what we know when it comes to what is making people sick or healthy. The *Roadmaps* show what we can do to create healthier places to live, learn, work, and play.”¹³

Figure 6 displays the indicators that compose up each of the two summary measure, the health outcomes and the health factors. It also shows the weights associated to each indicator. For example, health outcomes is made up of two indicators, length of life and quality of life, and each has a weight of 50 percent.

Figure 6. County Health Rankings Health Outcomes and Health Factors



¹³ <http://www.countyhealthrankings.org/app/florida/2016/overview>

Appendix C (List of Questions for Polk County Semi-Structured Interviews)

INTRODUCTORY SCRIPT:

Hello, my name is _____. I'm calling from the University of Florida. The University is conducting research about the impact of the half-cent sales tax on health care in Polk County and we would like your opinion.

Your name was suggested by staff at the Polk County Board of County Commissioners. Are you still (read job title)?

To ensure confidentiality, all findings will be reported anonymously. You do not have to answer any question you do not wish to answer and I want you to know this call will be recorded.

The interview may take 20 minutes, up to 30 minutes. Is this a good time to continue or is there a better time we can call back?

Issue Area	Stem Question	Follow-up items
Who is served	1. We are trying to identify groups of people who have unmet needs for health care. These groups might be defined by characteristics such as age, employment status, ethnicity, neighborhood. What groups do you see who have unmet health needs?	1b, c. Anyone else? (Keep in mind these groups of people might be defined These groups might be defined by characteristics such as age, employment status, ethnicity, neighborhood.) REPEAT MAXIMUM OF TWO MORE TIMES OR UNTIL NO MORE RESPONSE.
Urgent risks	2. Thinking about the health and safety of the population you serve, what are the most urgent risks or risk taking behaviors that you see?	2b, c. Anything else? REPEAT UNTIL NO MORE RESPONSE, MAXIMUM OF TWO MORE TIMES OR UNTIL NO MORE RESPONSE.
Interest of patients	3. What is your sense of this populations' interest in addressing these issues?	3b. Do you think that the population you serve have interest in addressing these urgent risks? 3c. How much of a priority are these issues from their point of view?
Assets of Polk County	4. What assets or strengths does Polk County have to address these issues?	4a. How can Polk County address these issues? 4b. What are some of the tools that the Polk County establishment has available?
Suggested Resources From Outside	5. What other resources are needed for Polk County to address these issues?	5a. Do you believe that there are regional resources that can be brought in to address these issues? 5b. What other resources do you suggest?
Emerging Needs	6. Do you see any emerging community health needs among uninsured people that have not yet been mentioned?	IF THEY ASK: Emerging community health needs are those that seem to be increasing in incidence, and so likely will be seen more often in the year ahead. 6a. Anything else?
Effect of sales tax: Your program	7. How has this half-cent sales tax affected the services that your program can provide?	7a. Are there services that you have been able to add? 7b. Are there services that your program would have to drop if the half-cent sales tax is NOT renewed?

Effect of sales tax: Access to care	8. How has the half-cent sales tax increased access to health care?	8b. What changes have you seen in your patient population? 8c. Are there groups of people who can now access health care, who could not before? 8d. Any specific stories of individuals who now have access to care.
Effect of sales tax: Controlling health care costs	9. How is the half-cent sales tax controlling health care costs ?	9a. Is preventive care more readily available now? 9b. Are patients being treated in a less costly venue (primary care office rather than Emergency Department)? 9c. Do patients with chronic conditions have few inpatient admissions?
Effect of sales tax: Improved quality of life	10. Has the half-cent sales tax improved quality of care and life ?	10a. Are some people able to keep working because their health care needs are met? 10b. Do patients with chronic conditions learn self-care strategies?
Consequences of non-renewal: Your program	11. If the Indigent Health Care half-cent surtax is NOT renewed, what do you think will be the economic impact to your program?	11a. Are there services that would need to be cut? 11b. Are there groups of people who would lose access to the care your program provides.
Consequences of non-renewal: Community impacts	12. If the Indigent Health Care half-cent surtax is NOT renewed, what do you think will be the impact on the community as a whole?	12a. How might the behavior of people change? 12b. Would it impact their ability to keep a job or run a business?
Consequences of non-renewal: ER diversion	13. How will this affect ER diversion?	IF THEY ASK: An ER diversion is when the patient is redirected from the Emergency Room to a Primary Care Clinic. 13a. How will this affect the volume of ER visits and the quality of care?
Consequences of non-renewal: Cost of care	14. What about the cost of services provided by your program? How does this affect Polk residents and the economy?	14a. Will the patients you serve be required to contribute a higher cost toward their care? 14b. Will those with insurance be expected to subsidize services for others who have lost coverage?
Closing	Is there anything else that you would like to tell us about health care in Polk County?	