

**The Patient Protection and Affordable Care Act's Effects on Patterns of Coverage in a Ryan White Funded HIV Clinic: What are the Implications for the Bluegrass Care Clinic?**

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## Executive Summary

The Ryan White CARE Act of 1991 implemented a federal grant program to help individuals in the US with HIV/AIDS get access to healthcare and diminish barriers to care. Since its enactment, there have been many changes in the environment of HIV/AIDS, including a demographic shift in those most affected by the disease and a growing number of new infections, the introduction of Antiretroviral therapy, and most recently, the implementation of the Patient Protection and Affordable Care Act (PPACA).

The PPACA is expected to have a positive effect on patients with HIV in the US by increasing access to care, however it brings into question the future of the Ryan White grant, and the clinics, which have relied on Ryan White funds to provide comprehensive HIV care. Clinics are faced with the challenges of providing care and meeting public health goals in the middle of a changing healthcare system. The following paper asks and answers how the Ryan White funded Bluegrass Care Clinic is affected by changes in the US healthcare system and how its administrators must plan for an uncertain future while meeting national and local public health goals.

The known effects of healthcare reform on the Bluegrass Care Clinic include a significant change in coverage patterns. This change includes a decrease in uninsured patients, and an increase in insured patients through the PPACA's exchange, and more patients enrolled in state Medicaid. Many other effects are yet to be fully realized, but projections exist. All of these known and projected effects warrant some planning by the clinic to respond to the changes, while continuing to fulfill its mission and striving to meet public health goals, such as lowering rates of transmission.

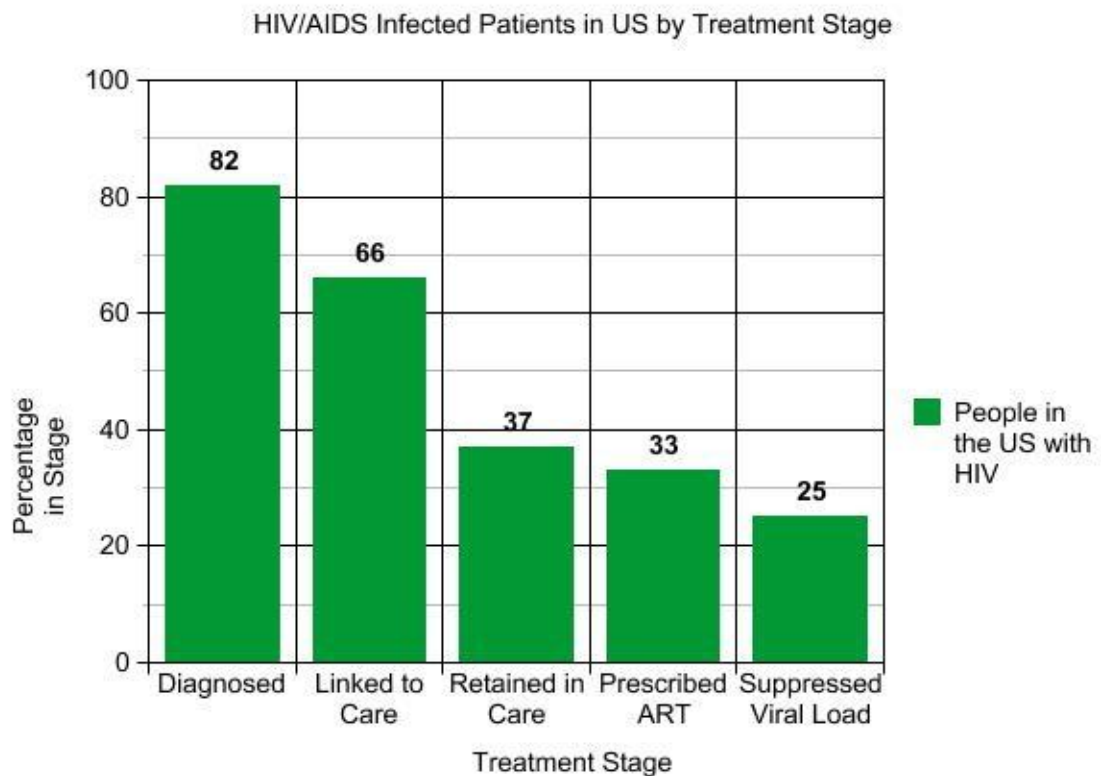
## Introduction

Strides have been made in HIV/AIDS care over the last twenty years, including improved health outcomes, longer life expectancies, and a decreased rate of transmission. What once was considered a terminal illness is now a chronic, manageable condition, like that of diabetes or hypertension. However, public health officials still acknowledge that HIV care and management remain a challenge. Based on evidence, it is concluded that only 25 percent of patients in the US living with HIV are virally suppressed. Ultimately, viral suppression is what leads to better health outcomes and a lower rate of transmission (Gallant & Adimora, 2011). The continuum illustrated in Figure A shows that of the patients, estimated to be infected with HIV in the US, 82 percent are diagnosed, while only 66 percent are linked to care, and 37 percent are retained in care. There is a significant drop-off between diagnosis and linkage to care, and even steeper between linkage and retention. Two of the historical barriers to this linkage and subsequent retention are access to care and the affordability of care. Low-income patients are disproportionately affected by HIV and have not been insurable or able to afford insurance. The Ryan White federal grant program was enacted to diminish these barriers and increase access to care, but it is not insurance, and as such is subject to rules and regulations regarding the types of services it can cover. As a federal grant, it is also subject to the whims of politicians, policy makers, and budget cuts, and therefore is not necessarily guaranteed coverage.

Recent healthcare reform has changed the outlook for both HIV/AIDS patients and the Ryan White grant. Experts and researchers agree that enactment and implementation of the Patient Protection and Affordable Care Act (PPACA) will improve

access to and quality of care for patients with HIV/AIDS (Crowley & Kates, 2013; Martin & Schackman, 2012; Hargreaves et al, 2012). Literature also indicates that although the PPACA will greatly improve access to care, it does not diminish the need for the Ryan White grant, which involves a comprehensive care model that is essential to retention in care. In order for the PPACA to lead to improved health outcomes for people in the US living with HIV/AIDS, it is essential to understand the actual effects the PPACA has had or will have on patterns of healthcare coverage in HIV clinics and how it will affect Ryan White expenditures.

Figure A



Adapted from US Department of Health and Human Services, CDC Fact Sheet

Kentucky's Bluegrass Care Clinic is an HIV clinic that has experienced some significant changes in the way its patients' care is funded due to the implementation of

the PPACA. These changes are likely going to lead to even more changes over the next few years, and will require some strategic thinking and planning on the part of the clinic administrators. They must react to the changes while not affecting quality of care, patient satisfaction, and the purpose the clinic is intended to serve.

The paper analyzes effects of the PPACA on the Bluegrass Care Clinic's patient coverage patterns, and the consequences thereof, using pre and post-PPACA data. Based on the analysis of this data and review of the literature, conclusions are drawn and recommendations are made for how the clinic must respond to the changes to continue to fulfill its mission and goals. The PPACA has altered the coverage patterns of the Bluegrass Care Clinic and has resulted in an increased demand for Ryan White grant funds. In order for the clinic to continue to provide quality, comprehensive care and meet important national and organization-specific goals, it must request more Ryan White funding, reallocate resources, and prepare for an uncertain future.

### **The Ryan White CARE Act and Federal Grant Program**

Care for HIV patients has been provided and financed differently from all other chronic health conditions since the enactment of the Ryan White CARE Act in 1990. The Ryan White CARE Act, which includes a grant program, was enacted to improve the availability of care to uninsured and underinsured HIV patients. The Ryan White federal grant is a payer of last resort for all qualifying HIV patients. It pays for care when all other possible sources of funding have been exhausted. The Ryan White grant is the third largest funder of HIV care in the US, next to Medicare and Medicaid (About the Ryan

White HIV/AIDS Program). When it comes to financing HIV care in the US, the Ryan White grant has been essential. Without its funding for the last two decades, many patients would have lost services resulting in worsening health outcomes, affecting HIV positive individuals and their families as well as the health of the general public (Gallant & Adimora, 2011).

The Ryan White grant consists of five parts for which eligible organizations competitively apply for. They are parts A, B, C, D, and F each cover a specific population or service for patients with HIV and their families (About the Ryan White HIV/AIDS Program). The first Ryan White disbursement in 1991 was around \$220 million. The greatest proportion of Ryan White funds go toward the AIDS Drug Assistance Program or ADAP. HIV drugs are very costly, and adherence to treatment plans is essential to positive health outcomes, including viral suppression and lower rates of transmission (Kaplan, Parham, Soto-Torres, van Dyck, & Greaves, 1999). The second largest portion of the grant pays for direct medical services for uninsured and underinsured patients. The current national annual disbursement is about \$2.1 billion (About the Ryan White HIV/AIDS Program). Clinics that receive Ryan White grant funds are mandated to use the different streams of money in specific ways to achieve certain goals. Clinics must report all grant activity to Health Resources and Services Administration (HRSA).

### **The Bluegrass Care Clinic**

The Bluegrass Care Clinic has been providing HIV care to individuals in Kentucky since 1990. The clinic serves HIV positive individuals from 63 of Kentucky's

120 counties. The clinic currently serves approximately 1,200 patients and has an annual Ryan White disbursement of about \$3 million out of the \$2.1 billion national program.

The clinic applied for Ryan White grant funds in 2000 and was awarded Part C only in 2001. The clinic was in a collaborative relationship with the Lexington Fayette County Health Department, which was awarded and managing Part B of the grant. At that time, the clinic had 420 patients total. Over the last two decades, the clinic's patient load has nearly tripled, and continues to net between 50 and 100 additional patients each year. The clinic now also manages parts B, C, D, and F of the grant and the Lexington Fayette County Health Department is no longer a recipient of any Ryan White funding.

The mission of the Bluegrass Care Clinic is to “provide a continuum of high quality, state-of-the-art, multi-disciplinary HIV primary care in a compassionate, culturally sensitive manner.” The vision or goal of the Bluegrass Care Clinic, since its inception, has been to achieve 100 percent access to HIV primary care with zero percent socioeconomic disparity in health outcomes.

### **The Patient Protection and Affordable Care Act (PPACA)**

Recent healthcare reform and implementation of the Patient Protection and Affordable Care Act (PPACA) have changed the insurance statuses of many patients with HIV. Through the ACA's expansion of Medicaid, eligibility requirements were broadened to include individuals who make within 133 percent of poverty (Martin, 2012). This includes many patients living with HIV/AIDS. Also, children of working parents with employer-sponsored insurance can remain on their parents' plans until the age of 26. New cases of HIV are most commonly found between the ages of 20 and 29, therefore



this ACA provision expands coverage for a significant sector of HIV positive patients (Martin, 2012). Another provision with a significant effect on HIV positive patients was the introduction of PCIPs or Pre-existing Condition Insurance Pools. PCIPs made health insurance available through the federal or state government for individuals who have been without insurance for at least six months and who have a pre-existing condition, which formerly made them uninsurable (About PCIP). Similarly, the mandate prohibiting insurers from denying coverage based on pre-existing conditions helped patients who were otherwise uninsurable (like many of those with HIV) to obtain health insurance in the private market or through their employers.

For those patients who are not under 26 years and not eligible for Medicaid nor employer-sponsored insurance plans, there are plans available through their states' exchanges. These plans range in net cost, as a result of tax subsidies and cost-sharing programs, according to the patient's income and household size (Manchikanti, 2011). Patients who are over-income for Medicaid but make under 400 percent of the Federal Poverty Level (FPL) are eligible to receive insurance premium assistance through their clinic's Ryan White program.

The future of the benefit exchanges, and specifically, the insurance premium rates through the exchanges, are unknown at this time. There are projection models and research studies that estimate whether premiums will increase or decrease over time, but these studies also state that the near unprecedented nature of the PPACA makes these figures difficult to predict. Jonathan Gruber, in a working paper for the National Bureau of Economic Research outlines some important Congressional Budget Office projections based on Massachusetts' similar health reform. The premiums are estimated to decrease

by 7-10 percent because of a more diverse risk pool with the benefit exchanges. The premiums are expected to drop another 7-10 percent because of the increased market competition. Finally, the average cost of premiums are expected to rise 27-30 percent due to individuals purchasing so-called “Cadillac plans,” which are considered “luxurious” plans, because they offer very generous benefits (Gruber, 2011). In other words, overall, premiums of plans purchased through the exchanges are expected to rise, but only because individuals will purchase more premium plans than they might in the pre-PPACA non-group market.

Additionally, the Lewin Group estimates that the insurance premiums, on average, will likely rise over time. They also argue that the predominant reason average premiums will rise is because people will purchase ‘better’ plans, not always by choice however (Lewin Group, 2010). Part of the PPACA mandate is that these plans be Qualified Health Plans (QHP’s) and meet a certain set of minimum coverage requirements. Current individual plans do not have to meet these requirements and some are less expensive.

### **Research Design**

The data used for the primary analysis is from the Bluegrass Care Clinic’s database. The data obtained and analyzed include patient demographics, service data, and Ryan White grant expenditures. I use basic demographic statistics on the insurance statuses of the patients of the Bluegrass Care Clinic before and after implementation of the PPACA. The data include the proportion of Bluegrass Care Clinic patients with

Medicaid, Medicare, private health insurance, no insurance and insurance plans from the PPACA's exchange where applicable. This data is used to determine the PPACA's effect on the patterns of coverage for the Bluegrass Care Clinic's patients.

The data used to determine what impact coverage patterns and or insurance status has on the cost of care, service use patterns, and the clinic overall, is from a pre-PPACA database from 2012. This data includes a unique encrypted identifier for each patient, all of each patient's encounters that were billed to the Ryan White grant in 2012 listed by date of service, the amount billed to the grant for each service, the type of service rendered, and the insurance status of each patient. Using this data and some basic demographic data about the Bluegrass Care Clinic's patient population in 2012, I am able to determine how a patient's insurance status affects his or her number of encounters, types of services, and Ryan White grant cost per year per patient. I can also determine how different insurance types affect the clinic and its Ryan White expenditures overall. The data is used to determine the PPACA's effects on the Bluegrass Care Clinic and its Ryan White grant expenditures, based on changes in insurance status demographics. This and the preceding data are used to provide context in the development of recommendations for the clinic as it proceeds post-PPACA.

### **Review of the Literature: A National Perspective**

Nationally, HIV is one of the top public health priorities as evidenced by the US government's 2010 National HIV/AIDS Strategy. The mission of the strategy is to reduce the number of new HIV cases in the US by 25 percent. The strategy's goals include increasing access to care, improving health outcomes, and reducing disparities that exist

within HIV care (Vision for the National HIV/AIDS Strategy, 2010). Researchers and healthcare experts are optimistic that the PPACA will help the nation achieve some of these goals, foremost by reducing the disparities that exist within HIV care, specifically, access disparities. Access to and quality of care have improved since the PPACA was enacted (Crowley and Kates, 2012). However, the literature indicates that the PPACA will also introduce or exacerbate some challenges within HIV care that could make the Ryan White grant program more essential.

According to Jeff Crowley and Jen Kates in their report, *The Affordable Care Act, The Supreme Court, and HIV: What are the Implications?*, one of the challenges is making sure people with HIV know how to navigate the new insurance marketplace, can determine their eligibility, enroll in coverage that is appropriate for their situation, and most importantly, do all of this without having any lapses in coverage (Crowley and Kates, 2012). It is especially important for patients with HIV to have no delays or interruptions in care. This speaks to the importance of case management in HIV care, which insurance does not cover. In a Ryan White funded HIV clinic, there are social workers who are assigned patients and help them navigate such complicated processes. This indicates even more of a need for Ryan White funded social workers to help patients understand the new insurance marketplace, and do what is best for them and their specific care plans.

Crowley and Kates also address concerns with HIV-specific care. Although the PPACA, undoubtedly increases access to care, it does not necessarily ensure that the type of care is going to be adequate for the comprehensive needs of an HIV patient. Will it cover certain medications or procedures common to patients with HIV? Will plans be

consistent with the standard of HIV care that has led to such great strides in health outcomes? These are important questions, because if not, Ryan White grant funds must continue to exist to fill in gaps of care, and the gaps might prove to be bigger than originally predicted.

According to the report, *Potential Impact of the Affordable Care Act on the Ryan White HIV/AIDS Program*, patients enrolled in private health insurance plans post-PPACA might be faced with even more cost-sharing requirements than before. The after-insurance patient responsibility, such as copays and coinsurance, are additional costs for which patients will still need Ryan White assistance (Hargreaves et al, 2012).

Erika Martin and Bruce Schackman, in their article, *What Does U.S. Health Reform Mean for HIV Clinical Care?* warn against a false sense of security that the PPACA might give to policymakers regarding the ‘access problem’ for HIV patients. If policy makers perceive the problem to be fixed by the PPACA, they might not deem it necessary to continue to fund the Ryan White program, however Martin and Schackman argue that it will still be essential in filling gaps, and might be more important in other capacities, such as education and insurance navigation (Martin & Schackman, 2012).

The literature indicates concern for the future of the Ryan White grant program due to implementation of the PPACA and its impact on access to care. However, skepticism is also apparent as to how comprehensive PPACA coverage will be, how easily the system will be navigated by patients without Ryan White funded case managers and insurance experts, and whether or not the gaps post-PPACA are being underestimated. The general consensus is that the PPACA will certainly not nullify the essentiality of the Ryan White grant program.

### **The PPACA and the Bluegrass Care Clinic: Findings**

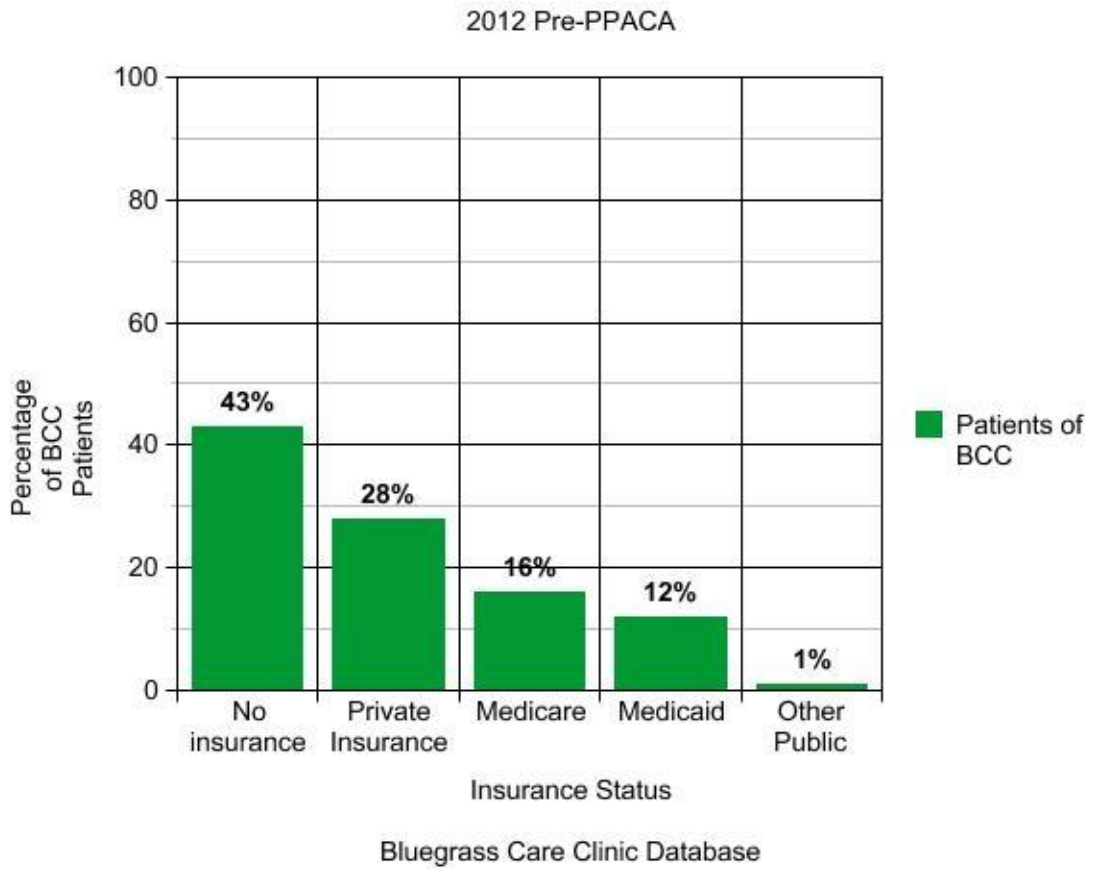
Since the full implementation of the PPACA in January 2014, the insurance statuses of nearly 50 percent of the Bluegrass Care Clinic's patients have changed. By comparing the insurance premium demographics from 2012 to current demographics, the impact of the PPACA on insurance statuses is known. Alone, this means very little unless we can also determine what effects changes in insurance status have on patients and the clinic. These effects are determined by comparing the insurance types to each other in the same year (2012), pre-PPACA. For example, when determining what effects expanded Medicaid coverage is going to have on the clinic, one must know what effects a single patient with Medicaid has on the number of patient encounters per year, Ryan White cost per year, and the types of services more likely to be used. Analysis of this data can help determine what it *means* to the clinic to have 24 percent more patients enrolled in Medicaid.

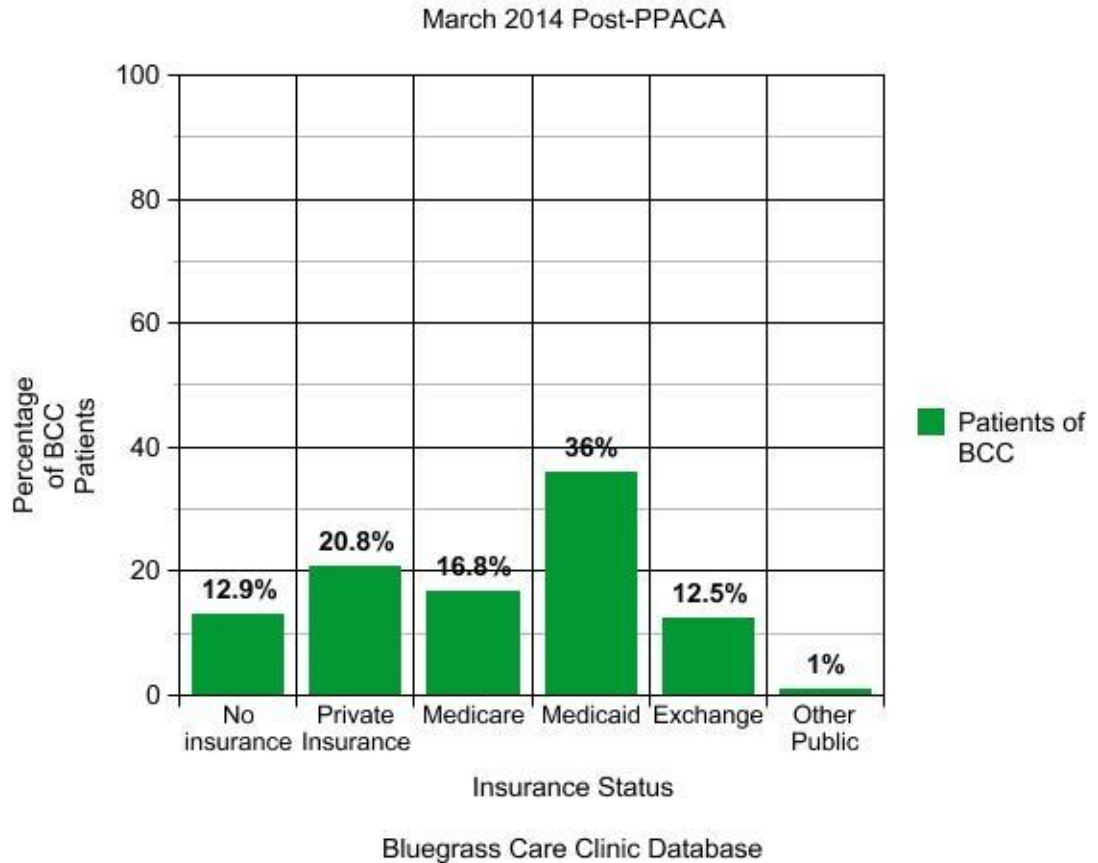
Before the PPACA's Medicaid expansion and health benefit exchange went into effect at the beginning of this year, 43 percent of patients at the Bluegrass Care Clinic were uninsured. With pre-existing conditions, the patients were either uninsurable, or found premiums to be prohibitively expensive. Those that were able to obtain insurance, but made less than 400 percent of the FPL, could qualify for a program where the Ryan White grant would cover their insurance premiums. Medicaid accounts for 70 percent of the new coverage, while 24 percent of the newly insured have enrolled in the new insurance plans offered through the exchange. The remaining 6 percent were able to be

added to the plans of their parents and or significant others or they obtained insurance through employers. Figure B below shows the insurance statuses of the Bluegrass Care Clinic’s patients pre and post-PPACA.

**Figure B**

*Insurance Demographics Pre and Post-PPACA*





The number of uninsured patients has dropped from 43 to 12.9 percent as of March 15, 2014. Of this 12.9 percent, approximately 9 percent are not eligible for any government programs or subsidies due to citizenship or visa status, while the other almost 3 percent either were unable to be contacted to enroll into new coverage, elected not to enroll in any insurance programs, or simply moved away from the clinic's service area but did not inform the clinic they were doing so. Overall, there was a 30 percentage point reduction in the number of uninsured patients for the Bluegrass Care Clinic, a 24



percentage point increase in the number of patients eligible for and enrolled in Kentucky Medicaid plans, and the implementation of the exchanges, providing patients with private-like insurance. The exchange plans most resemble those of the private market, with the addition of group rates and subsidized premiums. What does all this mean? What effect does insurance status have on cost or type of care and the Bluegrass Care Clinic?

Prior to analysis, I hypothesized that with fewer uninsured patients, overall, the Bluegrass Care Clinic would realize a reduction in the total amount of expenditures from the Ryan White grant program. I also hypothesized that more patients eligible for and enrolled in Medicaid would decrease the burden on Ryan White funds for core medical services and overall, because Medicaid is a fairly comprehensive form of coverage with few additional costs. I surmised that the expenditures for insurance premiums would increase, because more patients would be insured and enrolled in private and exchange plans, but that the per-patient premium cost would decrease due to ‘affordable’ plans with subsidies and cost-sharing programs. Overall, I assumed the demand for Ryan White grant funded services would decrease as more patients enrolled in plans that covered most of their medical costs. Analysis proved some of these things to be true, while others were not what I expected. Below is proper analysis of the data and findings.

Figure C, below, breaks down the primary types of insurance for the Bluegrass Care Clinic before implementation of the PPACA. The chart depicts the total number of patient encounters in 2012 by insurance type, the number of encounters per service type, and the percentage of the total encounters each service type comprises. The chart also depicts the total amount of Ryan White expenditures in 2012 by insurance type, the expenditures per service type, and the percentage of total expenditures each service type

constitutes. The chart was created using a spreadsheet with all patient encounters in 2012 that were billed to the Ryan White grant as well as two service types (medical case management and non-medical case-management), which are not directly billed to the grant and, in 2012, had no standard cost associated with them. This is why in the chart, one will notice that these services account for around 60% of total encounters for each insurance type, yet 0 percent of the Ryan White expenditures. These two service types are paid for with Ryan White grant funds in the form of personnel salaries but are difficult to quantify, because of their various natures. The information is used to determine what patterns of use associated with each insurance type has on the total number of patient encounters, predominance of certain encounter or service types over others, and the Ryan White expenditures associated with each insurance type. It is then assumed, that these same insurance types post-PPACA, will have similar patterns of use, however their changes in prevalence will alter the overall effects.

**Figure C**

*Number of Patient Encounters and Amount of Ryan White Expenditures by Service Type and Patient Insurance Status*

	<b>Medicaid</b>	<b>Medicare</b>	<b>No Insurance</b>	<b>Private Insurance</b>
<b>Total Encounters</b>	3,219	4,182	8,903	2,828
Pharmacy Assistance	572 (17.8%)	671 (16%)	1,563 (17.6%)	521 (18.4%)
Ambulatory Services	68 (2%)	261 (6.2%)	465 (5.2%)	88 (3.1%)
Emergency Assistance	87 (2.7%)	18 (.4%)	98 (1.1%)	5 (.2%)
Transportation Assistance	413 (12.8%)	601 (14.4%)	789 (8.9%)	22 (.8%)
Mental Health Services	25 (0.7%)	69 (1.6%)	91 (1%)	36 (1.3%)
Nutrition Services	37 (1.2%)	44 (1.1%)	41 (.5%)	0 (0%)
Medical Case Management	1787 (55.5%)	2,091 (50%)	4,770 (53.6%)	1,487 (52.6%)
Non-medical Case Management	193 (5.9%)	342 (8.2%)	522 (5.9%)	175 (6.2%)
Insurance Premiums	0	49 (1.2%)	0	335 (11.8%)
Other	45 (1.4%)	38 (.9%)	552 (6.2%)	158 (5.6%)
<b>Total Amount Paid with Ryan White</b>	<b>\$82,684</b>	<b>\$104,452</b>	<b>\$222,856</b>	<b>\$316,455</b>
Pharmacy Assistance	\$54,639(66%)	\$46,545 (44.6%)	\$39,304 (17.6%)	\$34,793 (11%)
Ambulatory Services	\$9,246 (11.2%)	\$14,652 (14%)	\$107,870 (48.4%)	\$14,978 (4.7%)
Emergency Assistance	\$785 (.9%)	\$104 (.1%)	\$735 (.3%)	\$50 (0%)
Transportation Assistance	\$7,737 (9.3%)	\$13,894 (13.3%)	\$19,483 (8.7%)	\$1,973 (.6%)
Mental Health Services	\$1,860 (2.2%)	\$6,800 (6.5%)	\$11,030 (4.9%)	\$3,520 (1.1%)
Nutrition Services	\$4,829 (5.8%)	\$5,488 (5.3%)	\$4,790 (2.1%)	\$0 (0%)
Medical Case Management	\$0	\$0	\$0	\$0
Non-medical Case Management	\$0	\$0	\$0	\$0
Insurance Premiums	\$0	\$16,595 (15.9%)	\$0	\$256,990 (81%)
Other	\$3,803 (4.6%)	\$313 (0.3%)	\$40,114 (18%)	\$5,380 (1.7%)
<b>Total Number of Patients</b>	<b>131</b>	<b>174</b>	<b>469</b>	<b>306</b>

<b>Per Patient Ryan White Cost</b>	\$631	\$600	\$475	\$1,034
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*Fewer Uninsured Patients*

As shown above in Figure B, the PPACA will decrease the number of uninsured patients from 43 percent in 2012 to 12.9 percent in 2014. The per patient Ryan White cost for an uninsured patient in 2012 was determined by dividing the total amount billed to the Ryan White grant for uninsured patients by the total number of uninsured patients. Using this formula, an uninsured patient costs the Ryan White grant an average of \$475 per year. This amount is significantly less than the calculated average per patient Ryan White cost of those with Medicaid and Medicare and less than half of what Ryan White pays on average per year for a patient with private insurance. This is counter to my initial hypothesis that uninsured patients would account for the largest burden on the Ryan White grant. By examining the data in Figure B further, one can determine why this might be.

One observation from the data in Figure B is that although the uninsured patients have more than two times as many encounters for pharmacy assistance than any of the other insurance types, the total amount billed to the grant for the service is less than that of Medicare and Medicaid patients and only slightly more than that of those with private insurance, who have a mere third of the number of pharmacy assistance encounters compared to the uninsured. Based on my experience and discussions with clinic and grant administrators, I have deduced the following probable reasons for the discrepancy. First of all, uninsured patients are eligible for a number of financial assistance programs outside of the Ryan White grant program, and because the grant is a payer of last resort, it only pays what the other assistance programs do not cover. These assistance programs include pharmaceutical company discount programs and pharmacy-specific discounts.

Also, patients with insurance have standard copays and formularies associated with their insurance, and must pay accordingly. Those without insurance have more flexibility in the types of medications they are 'allowed' to be prescribed and therefore can price-shop, or choose generic medications where appropriate. Another reason for a heightened number of pharmacy assistance encounters and a lower total cost is that physicians will often prescribe over-the-counter medications to uninsured patients if they know the patient will have a prescription payer source to assist them with the cost, such as the Ryan White grant. Over-the-counter drugs typically cost less than prescription ones, and therefore bring the total Ryan White cost down. If the per patient cost of pharmacy assistance for an uninsured patient were the same as that of a patient with Medicaid, the total cost of pharmacy assistance per year for all uninsured patients would be around \$650,000 versus the actual \$107,860 and the per-patient total cost would be significantly more. What this indicates is that post-PPACA, pharmacy assistance costs paid with Ryan White funds will increase significantly as fewer patients are uninsured.

Another observation from the data for uninsured patients is that nearly 50 percent of total expenditures are paid toward ambulatory or outpatient services (clinic visits), whereas Medicaid, Medicare and private insurance clinic visit costs are 11.2, 14, and 4.7 percent of total expenditures respectively. The reason for this is patients with insurance are only responsible for copays for clinic visits, while those without insurance are responsible for the total cost of the visit. What this means for post-PPACA are reduced Ryan White expenditures for clinical outpatient services, because fewer patients will be uninsured.

Another observation worth noting is the significantly higher Ryan White expenditure for the category ‘other’ for patients without insurance. For these patients, ‘other’ services account for 18 percent of total expenditures while the same category only accounts for 4.6, 0.3, and 1.7 percent for Medicaid, Medicare and private insurance respectively. This could be because uninsured patients require more ‘other’ services than their insured counterparts, but the exact reason is unknown. What can be deduced from this is that once 70 percent of these patients become insured, the demand for ‘other’ services will likely decrease, as will the Ryan White expenditures for those services.

By dividing the total Ryan White expenditures for privately insured patients by the total number of privately insured patients, the average Ryan White expenditure per patient with private health insurance is estimated. The figure is \$1,034 per patient per year, which is more than twice as much as the yearly expense for an uninsured patient and approximately \$400 more than for Medicare and Medicaid recipients. A significant 82 percent of Ryan White expenditures for patients with private insurance are used to pay for their insurance premiums to the tune of \$256,990 annually. This is more than the total Ryan White expenditures for uninsured patients in 2012, and the number of privately insured patients was only about 30 percent of that of uninsured patients. Fewer uninsured patients means more insured patients, which is significant, because 24 percent of the newly insured will be enrolled in private or private-like insurance plans, like those offered through Kentucky’s benefit exchange. An important question is, will the premiums of private insurance plans and those of the exchange be comparable?

Using the 2012 database, I estimate the average cost of health insurance premiums for patients who qualify for premium assistance pre-PPACA by dividing the

total of all premiums paid using Ryan White funds, \$256,990, by the 66 patients who qualify for premium assistance. The average premium cost for those qualifying for premium assistance in 2012 is just under \$3,900 per year or \$324 per month. Using a recent list of premiums paid post-PPACA, including private insurance and those purchased through the exchange, I estimate the average cost of premiums paid for with Ryan White funds after implementation of the PPACA. I divide the recent total expenditures on premium assistance by the new number of people who are currently enrolled in insurance and qualify for premium assistance (111 patients) and get \$1,085 per patient for January, February and March of 2014. I multiply the amount by four, and come up with a yearly per patient premium amount of \$4,341 or a monthly \$362. So far, this indicates that since the implementation of Kentucky's benefit exchange, average premium amounts have increased by approximately \$40 per patient per month, a 12 percent increase. The total number of patients qualifying for premium assistance has increased, as have the total expenditures for privately insured and exchange patients. As discussed above in the section on the PPACA, premiums are predicted to increase over time, because people will elect, or be required, to purchase premium plans with more comprehensive coverage. The overall Ryan White expenditures for privately insured and exchange patients are expected to increase over time due to an increase in people being insured through such plans, and the predicted premium increases over time.

#### *More Patients Enrolled in Kentucky Medicaid*

Of the formerly uninsured patients, 70 percent are now enrolled in Kentucky Medicaid. Medicaid now accounts for 36 percent of the Bluegrass Care Clinic's patient



coverage, where it previously accounted for only 12 percent. According to my data analysis, the per-patient Ryan White cost of a Medicaid recipient is \$631, which is \$156 more than the per-patient cost of an uninsured patient pre-PPACA. This is counter to my hypothesis that more Medicaid recipients would mean less Ryan White expenditures. The majority of the expenditures are pharmacy assistance encounters, but Medicaid is not expected to change its coverage post-PPACA, only its eligibility requirements, therefore the per-patient cost should remain relatively stable. If the Bluegrass Care Clinic has 24 percent more patients enrolled in Medicaid than before, and those patients were previously uninsured, the Ryan White expenditures can be expected to increase overall, by approximately \$156 per new Medicaid patient, per year, holding all else equal.

The higher per-patient cost for Medicaid recipients could be explained by the higher per-patient number of encounters in a year. Out of the four insurance types, Medicaid has the most encounters per patient per year, at an average of 25. Medicare is a close second with 24 encounters per patient, while the uninsured and those with private insurance have 19 and 9 respectively. Based on my experience with and knowledge about Medicaid recipients, I surmise that the reason they have, on average, more encounters is they are low-income patients. They must earn 133 percent of the FPL or less to qualify for Medicaid. Low-income patients are more likely to need help in the form of support services, such as transportation assistance, mental health or nutrition counseling, and other psychosocial services.

### *Projections*

Figure D below is the based on Figure B, but changes have been made using the above analysis and predictions of the changes in coverage patterns because of the

PPACA. Figure D is a projection of the encounter and expenditure patterns based on the new insurance demographics of the Bluegrass Care Clinic post-PPACA. Although the total number of patients has increased since 2012, I base the predictions on the same number of patients as in 2012, so that I can exclude the increase in number of patients as a reason for increased encounters and expenditures. I also base the projections on the assumption that patterns of service use, per-patient Ryan White cost (except for that of the privately insured to be discussed shortly), and the cost of services remain the same for each insurance status as they were in 2012. This is also done to single out changes in coverage patterns due to the PPACA as the reason for changes in encounters and expenditures. I calculated the number of patients per insurance category by multiplying post-PPACA percentages by the total number of patients in 2012. From there, I projected the new number of encounters per insurance type by multiplying the post-PPACA number of patients by the average number of encounters in 2012. The per-service encounters were calculated by using the same percentages as in 2012. The expenditures were calculated using the same method. I simply multiplied the per-patient expenditure by the new number of patients. Using the total number of expenditures and the percentages per service for the 2012 data, I calculated the new projected service data.

There was one instance where I did not use 2012 data as a basis, and that was with the Private Insurance/Exchange category. I wanted to account for the increase in premiums and the addition of patients insured through the exchange. I added the percentages of patients who are currently insured privately and through the exchange, multiplied the combined percentage by the 2012 total number of patients and came up with an estimate of how many patients that would have been in 2012. I also added a 12

percent increase (as projected earlier) in premium rates when calculating those expenditures. As a result of these changes to the data, there was an \$80 decrease in the per-patient cost for a privately insured patient. This is because of the 58 new patients in the privately insured category, statistically, only 12 are eligible for premium assistance, which is the majority of the cost for privately insured patients.

**Figure D**

*Number of Patient Encounters and Amount of Ryan White Expenditures by Service Type and Patient Insurance Status (Post-PPACA Prediction)*

	<b>Medicaid</b>	<b>Medicare</b>	<b>No Insurance</b>	<b>Private Insurance/Exchange</b>
<b>Total Encounters</b>	<b>9,850</b>	4,416	<b>2,679</b>	<b>3,276</b>
Pharmacy Assistance	1,753 (17.8%)	707 (16%)	472 (17.6%)	603 (18.4%)
Ambulatory Services	197 (2%)	274 (6.2%)	139 (5.2%)	102 (3.1%)
Emergency Assistance	266 (2.7%)	18 (.4%)	29 (1.1%)	6 (.2%)
Transportation Assistance	1,261 (12.8%)	636 (14.4%)	238 (8.9%)	26 (.8%)
Mental Health Services	69 (0.7%)	71 (1.6%)	27 (1%)	43 (1.3%)
Nutrition Services	118 (1.2%)	49 (1.1%)	13 (.5%)	0 (0%)
Medical Case Management	5467 (55.5%)	2,208 (50%)	1,435 (53.6%)	1,723 (52.6%)
Non-medical Case Management	581 (5.9%)	362 (8.2%)	158 (5.9%)	203 (6.2%)
Insurance Premiums	0	53 (1.2%)	0	387 (11.8%)
Other	138 (1.4%)	40 (.9%)	166 (6.2%)	183 (5.6%)
<b>Total Amount Paid with Ryan White</b>	<b>\$248,614</b>	<b>\$110,400</b>	<b>\$66,975</b>	<b>\$399,526</b>
Pharmacy Assistance	\$164,085 (66%)	\$49,238 (44.6%)	\$11,788 (17.6%)	\$43,948 (11%)
Ambulatory Services	\$27,844 (11.2%)	\$15,456 (14%)	\$32,416 (48.4%)	\$18,778 (4.7%)
Emergency Assistance	\$2,238 (.9%)	\$110 (.1%)	\$201 (.3%)	\$50 (0%)
Transportation Assistance	\$23,121 (9.3%)	\$14,683 (13.3%)	\$5,827 (8.7%)	\$2,397 (.6%)
Mental Health Services	\$5,470 (2.2%)	\$7,176 (6.5%)	\$3,282 (4.9%)	\$4,395 (1.1%)
Nutrition Services	\$14,420 (5.8%)	\$5,851 (5.3%)	\$1,406 (2.1%)	\$0 (0%)
Medical Case Management	\$0	\$0	\$0	\$0

Non-medical Case Management	\$0	\$0	\$0	\$0
Insurance Premiums	\$0	\$17,554 (15.9%)	\$0	<b>\$338,832 (82.5%)</b>
Other	\$11,436 (4.6%)	\$331 (0.3%)	\$12,056 (18%)	\$6,792 (1.7%)
<b>Total Number of Patients</b>	394	184	141	364
<b>Per Patient Ryan White Cost</b>	\$631	\$600	\$475	<b>\$954</b>
<b>Average Number of Encounters Per Patient (Paid by Ryan White)</b>	25	24	19	9
<b>Number of patients who qualify for premium assistance</b>	0	9	0	<b>78</b>

### **Conclusions and Recommendations**

Based on my analysis of the data, the Bluegrass Care Clinic has realized some changes in the patterns of coverage for its patients, and subsequently, an increase in Ryan White grant expenditures since the implementation of the PPACA. While the expenditures for outpatient and 'other' services will decrease significantly due to more patients having primary insurance as a payer source, and fewer patients being uninsured, overall, expenditures are expected to rise based on the analysis. A predominant reason for this is the number of Medicaid-eligible and privately insured patients qualifying for premium assistance will increase, and these patients cost the Ryan White grant, on average, more than their uninsured counterparts. Figure E below consolidates the meaningful expenditure and encounter differences pre and post-PPACA. The only reductions in Ryan White expenditures are due to a decrease in uninsured patients, saving the grant \$155,881, however the total additional costs are \$99,068 above the amount saved by not having as many uninsured patients, resulting in a net increase in Ryan White costs for the Bluegrass Care Clinic.

**Figure E***Pre and Post-ACA Encounter and Expenditure Differences*

	<b>Pre-PPACA</b>	<b>Post-PPACA</b>	<b>Difference</b>
<b>Total Encounters</b>	<b>19,132</b>	<b>20,221</b>	<b>1,089</b>
<b>Total Expenditures</b>	<b>\$726,447</b>	<b>\$825,515</b>	<b>\$99,068</b>
Medicaid Encounters	3,219	9,850	<b>6631.00</b>
Uninsured Encounters	8,903	2,679	<b>-6224.00</b>
Private/(Exchange) Encounters	2,828	3,276	<b>448</b>
Medicaid Expenditures	\$82,684	\$248,614	<b>\$165,930</b>
Uninsured Expenditures	\$222,856	\$66,975	<b>(\$155,881)</b>
Private/(Exchange) Expenditures	\$316,455	\$399,526	<b>\$83,071</b>

The Bluegrass Care Clinic has surplus Ryan White funds that will cover this increase in net costs. If Ryan White costs continue to increase as the analysis indicates they will, the Bluegrass Care Clinic must request more funding when it reapplies for the grant to continue to meet the standard of care it has in previous years. This is primarily because the PPACA will increase Ryan White costs that are quantifiable, but also because of the compounding increase of both Ryan White expenditures and overall encounters and number of patients that will require more personnel hours, and therefore more hours/wages/salaries, to cover. The personnel that are strictly Ryan White funded, like the social workers, will be expected to do more with less, and it will be increasingly difficult. More Ryan White funding must be available to cover these additional costs.

Also, the Bluegrass Care Clinic should allocate its resources differently, based on the changing service patterns, and increased need for some services over others post-PPACA. Fewer resources will be needed for clinical services and ‘other’ services, but

more will be needed for pharmacy assistance, premium assistance, and insurance navigation services.

Based on the literature review, I would also recommend that the clinic be aware of the lack of a guarantee associated with the Ryan White funding and its subjectivity to political pressure and budget cuts, especially after comprehensive health reform like the PPACA. Although experts agree that the Ryan White grant is still an essential ingredient in successful HIV care, policy makers might see it differently.

### **Limitations**

An important limitation of my analysis and conclusions is that they are based on key assumptions. First, I am assuming that the patterns of expenditures and encounters will remain the same for a given insurance type pre and post-PPACA. I assume that a Medicaid patient in 2012 will have the same average number of encounters and will use the same types of services in 2014. It is possible that this is not the case, because a previously uninsured patient that now has Medicaid might be inherently different than one who has always had Medicaid. He or she might be more likely to follow the pattern of an uninsured patient. It is also quite possible that the formerly uninsured who are now insured through the exchange are inherently different from those who have always been privately insured, yet for the sake of analysis, I had to put those two groups together. This is a limitation I had to accept in order to single out the effects of the PPACA.

Another limitation involves the nearly unprecedented nature of the PPACA, and the largely unknown future of it as such. The entire act is a mere four years old and the most recent implementation of the ACA is only four months old. For this reason, my data



is limited and my analysis is limited. Only projections can be made as to the actual effects of the PPACA.

Also, by not being able to account for costs associated with medical and non-medical case management services, my analysis is limited, because in all insurance categories, these types of encounters were the majority. The Ryan White grant does fund these services through personnel salaries, but without actual billed encounters, they are impossible to include in the analysis. However, their importance in the outcome should not be underestimated. As encounters in general increase, so do personnel costs.

Until new cases of HIV are eradicated, the funding and management thereof will continue to be a public health challenge. It is in the interest of people living with HIV and AIDS, their families, and the general public, to institute healthcare policies that meet all care needs and, ultimately, reduce transmission. HIV care has been impacted by the PPACA, and the reactions by clinics, providers, patients, and policymakers are going to shape its future.

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