Poster #223

Measuring the Impact of the Affordable Care Act: A Ryan White Case Study

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Abstract

Objective: To measure the effects of insurance available through the Patient Protection and Affordable Care Act (ACA) on the Ryan White HIV/AIDS Program (RWHAP) at the Bluegrass Care Clinic (BCC).

Methods: 1) A cost-effectiveness analysis of total BCC RWHAP expenditures for 2013 and 2014. 2) A retrospective cohort study on HIV infected patients enrolled in the RWHAP at the BCC during January 2013 - December 2014. Data obtained through patient medical chart review was used to measure the effects of insurance on service utilization, retention, and viral load suppression.

Results: Of the 1,181 patients in 2013 and 1,214 patients in 2014 enrolled in the RWHAP at the BCC, only 688 met the criteria for this study. The mean age was 46 years (range 3 to 81 years). Sixty-five percent were White, 24% were Black, 10% were Hispanic, and 1% Asian. In 2013, 47% were uninsured compared to 14% uninsured in 2014. Further review shows patients with insurance were more likely to be virally suppressed pre-ACA implementation. However in 2014 (post-ACA), there was a significant increase in pharmaceutical utilization by insured patients.

Conclusions: The ACA has had an impact on a vulnerable patient population in terms of availability of insurance and a notable financial impact for the BCC. Further analysis will be conducted to try to determine the cause of the significant differences. Surprisingly, there was not a significant finding associated with office visit utilization and insurance status in relation to ACA; and similarly, there was not a significant difference found among other support services and insurance status.

Introduction

BCC at the University of Kentucky HealthCare receives both federal and state RWHAP funds (Parts B, C, D, and F). The BCC assisted in insurance enrollment for over 350 patients during ACA implementation. Kentucky adopted Medicaid expansion and implemented its own health insurance marketplace.

This study has the following aims pre (2013) and post-ACA (2014):

- Aim 1: Measure the total cost-effectiveness of purchasing insurance with RWHAP funds at the BCC.
- Aim 2: Compare viral load suppression rates of insured and uninsured patients.
- Aim 3: Compare the appointment retention rate of uninsured and insured patients.
- Aim 4: Compare the appointment service utilization of uninsured and insured patients.

Methods

A cost effectiveness analysis was used to examine overall expenditures during 2013 and 2014 (Table I) . Additionally, cross tabulation was performed to calculate Pearson chi-square used to determine statistical significance between insurance status and HIV viral load suppression and retention rate during pre and post-ACA. We used a nonparametric Mann-Whitney U test to determine if there were significant differences between service utilization and insurance status. A $p < 0.05$ was regarded as statistically significant.

Inclusion Criteria:

- HIV+, 2 years of age and older, and enrolled in BCC prior to January 1st, 2013
- Enrolled on the RWHAP Parts B, C, and/or D at the BCC in 2013 and 2014
- Attended at least one RWHAP funded medical care visit in 2013 and 2014

Exclusion Criteria:

- Enrolled in the BCC after January 1st, 2013

Measures:

- Viral load suppression was measured as HIV-1 viral load <200 copies/mL for the most recent value reported.
- Appointment retention rate is defined as attending at least two Ryan White funded medical care visits that were at least 90 days apart during a calendar year.
- Service utilization includes: HIV primary care office visits, pharmaceutical assistance, transportation assistance, and case management
- Per patient expenditure was determined by total program expenditures divided by the number of clients receiving services.

Data were abstracted from three databases: Allscripts Electronic Health Record (AEHR), CareWare and LabTracker, used to store patient insurance, health, and socioeconomic information.

Results

Table I. demonstrates RWHAP grant expenditures for all BCC patients enrolled in pre/post-ACA

Table I
Overall BCC RWHAP Expenditures Pre/Post-ACA

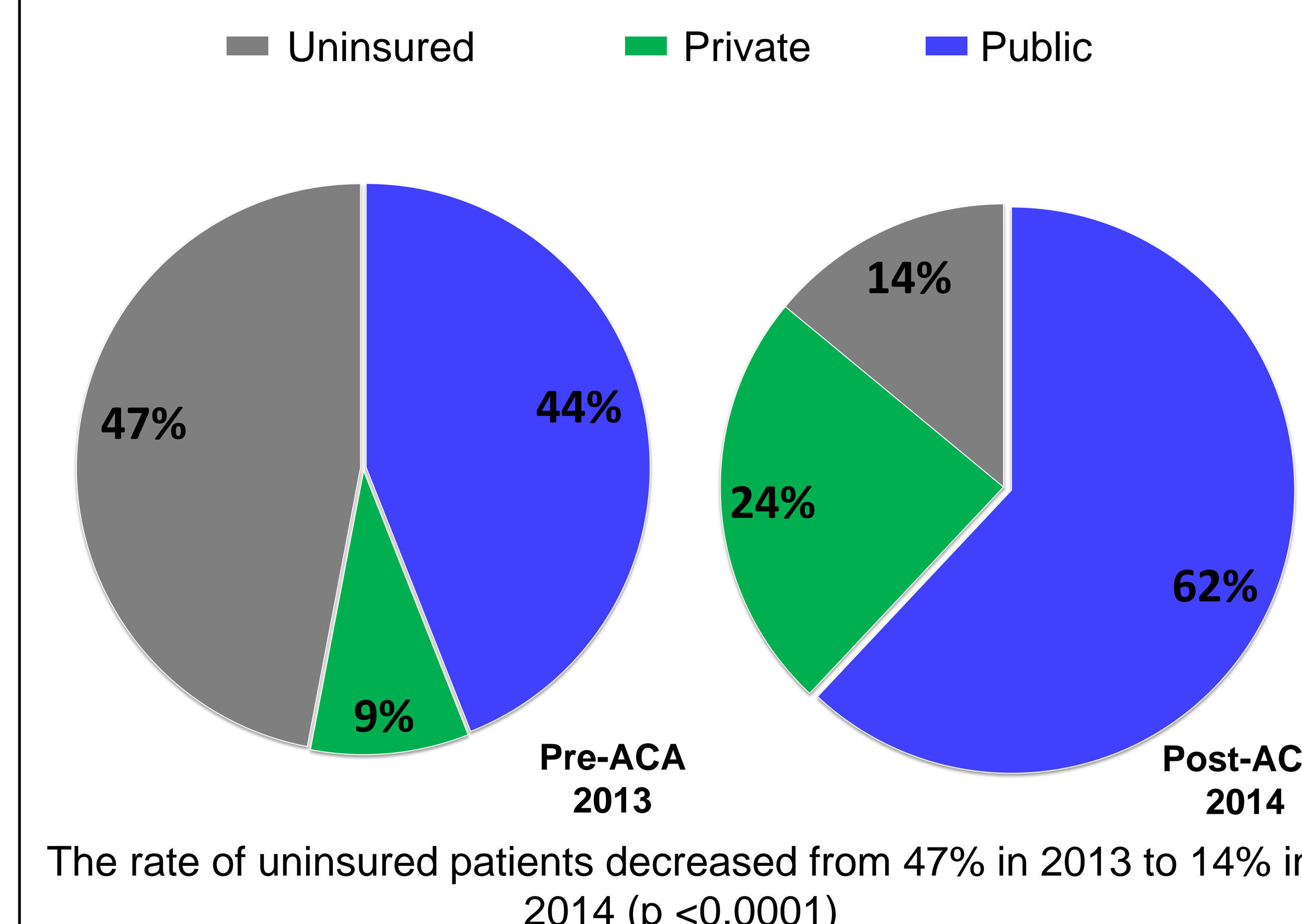
	2013	2014
Number of Patients	1181	1214
FEE FOR SERVICE		
Specialty Care	$ 114,173.81	$ 117,317.58
Medication Assistance	$ 109,028.05	$ 108,996.01
Insurance	$ 190,076.17	$ 317,603.25
Labs, Radiology, Diagnostic Testing	$ 322,717.78	$ 180,853.44
Outpatient Substance Abuse	$ 220.00	$ 480.00
TOTAL FEE FOR SERVICE	**$ 845,243.86**	**$ 834,246.29**
FTE SUPPORT		
Infectious Disease	$ 244,809.17	$ 271,827.44
Primary Care	$ 106,158.65	$ 96,446.53
Mental Health	$ 98,134.98	$ 95,524.73
TOTAL FTE SUPPORT	**$ 449,102.80**	**$ 463,798.70**
TOTAL EXPENDITURES	**$ 1,294,346.66**	**$1,298,044.99**
INCOME		
Program Income	$ 207,785.29	$ 285,910.70
Total Expenditures - Program Income Off Set	$ 1,086,561.37	$ 1,012,134.29
Expenditure Per Patient	$ 920.04	$ 833.72

Subject Demographics

- 688 patients were eligible for the utilization study
- Mean age was 46 years (Standard Deviation 11.717)
- 78% (n = 535) of patients were male
- Racial demographics:
  - 448 (65%) White
  - 164 (24%) Black
  - 74 (10%) Hispanic
  - 2 (1%) Asian

  **This is representative of the BCC HIV population.*

Insurance Status



The rate of uninsured patients decreased from 47% in 2013 to 14% in 2014 ($p < 0.0001$)

Viral Load Suppression vs Insurance Status

	Pre-ACA n=687 P=0.049			Post-ACA n=686 P=0.67		
	Uninsured n (%)	Insured n (%)	Total n (%)	Uninsured n (%)	Insured n (%)	Total n (%)
VL >200/mL	43 (13)	31 (9)	74 (11)	16 (17)	109 (18)	125 (18)
VL <200/mL	282 (87)	331 (91)	613 (89)	80 (83)	481 (82)	561 (82)
Total	325	362	687	96	590	686

- Total RWHAP expenditures decreased by $74,427.08 post-ACA
- Expenditures per patient decreased by $86.32 post-ACA.
- As a result a redistribution of RWHAP funds were observed post-ACA:
  - Total cost of providing insurance increased by $127,527.08
  - Total costs of providing labs, radiology, and diagnostics decreased by $141,864.34.
- Regardless of ACA implementation, the retention rate was not significantly changed for either insurance group (88% vs 89% respectively).
- No significant findings were found among transportation utilization or office visits.
- Although not statistically significant, uninsured patients had slightly higher case management utilization than insured patients post-ACA.
- Insured subjects were more likely to have a suppressed HIV-1 RNA viral load pre-ACA compared to uninsured subjects (p=0.049).
- There was a significant increase in mean pharmaceutical assistance utilization in insured patients post-ACA (p=0.009).

Conclusions

As a result of ACA in KY, the overall RWHAP costs associated with providing services decreased slightly. RWHAP services such as office visits, transportation assistance, and case management continued to be utilized although our insured patient population increased. Further analysis of pharmaceutical utilization and viral load suppression should be conducted to determine the cause of the significant differences.

Limitations:

- Short study time-frame
- Generalization – Expand site locations in KY

Future Considerations:

The relatively small impact on viral suppression and retention made by the availability of insurance demonstrates the strong infrastructure of the RWHAP programs. Despite insurance status patients continue to receive many beneficial support services that supplement quality medical care. RWHAP funded supportive services such as medical case management and transportation assistance continue to be crucial to the success of this patient population. The redistribution of RWHAP funds for medical services to supportive services, which are not routinely covered by insurance plans, will need to be further explored. Future studies could also include comparisons among patients receiving RWHAP assisted insurance vs non RWHAP assisted insurance.

This preliminary study leads to the importance of providing insurance through the RWHAP. BCC costs did not decrease exponentially but providing insurance allows costs to be redistributed to other areas that may improve barriers to care. Although patients are now insured the RWHAP is a major contributor to patients remaining in care.

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This study was approved by UK IRB # 15-0739-P6H.
The BCC receives HRSA funding H76HA00719 14 00 and H12HA24828 04 00 state of Kentucky funding H30481648.