Demographic, Insurance, and Health Characteristics of Newly Enrolled HIV-Positive Patients After Implementation of the Affordable Care Act in California

Derek D. Satre, PhD, Sujaya Parthasarathy, PhD, Andrea Altschuler, PhD, Michael J. Silverberg, PhD, Erik Storholm, PhD, and Cynthia I. Campbell, PhD

Objectives. To examine changes in HIV-positive patient enrollment in a large health care delivery system before and after key Affordable Care Act (ACA) provisions went into effect in 2014.

Methods. Analyses compared HIV-positive patients newly enrolled in Kaiser Permanente Northern California between January and June 2012 (n = 339) to those newly enrolled between January and June 2014 through the California insurance exchange or via other mechanisms (n = 549).

Results. After the ACA, the HIV-positive patient enrollment increased. These new enrollees were more likely to be male (93.6% vs 89.1%; $P = .01$), to be enrolled in high-deductible benefit plans (≥ $1000; 18.8% vs 5.5%; $P = .01$), and to have better HIV viral control (HIV RNA levels below limits of quantification 79.5% vs 73.6%; $P = .05$) compared with pre-ACA new enrollees. Among post-ACA new enrollees, there were more patients in the lowest and highest age groups. Post-ACA exchange enrollees (22%) were more likely to be male and to have high-deductible plans than those enrolled through other mechanisms.

Conclusions. More men, higher deductibles, and better HIV viral control characterize newly enrolled HIV-positive patients after the ACA in California.

Public health implications. Evolving characteristics of HIV-positive enrollees may affect HIV policy, patient care needs, and service utilization. (*Am J Public Health.* 2016;106:1211–1213. doi:10.2105/AJPH.2016.303126)

The Patient Protection and Affordable Care Act (ACA)[1] has potential to improve access to health care for people with HIV. National data collected before passage of the ACA indicated that many people living with HIV lacked health insurance[2] or were not fully insured.[3] The ACA addressed access barriers by eliminating exclusions for preexisting conditions, expanding Medicaid eligibility, providing assistance for insurance premiums and out-of-pocket expenses,[4] and establishing exchanges starting in 2014 with insurance products at varying costs and coverage levels. These ACA mandates are likely to change the demographic and clinical health plan composition of newly enrolling HIV-positive patients, including patient complexity. The resulting impact on shifting clinical care needs and resource allocation (e.g., staffing and program development) could have significant implications for services use and health policy.[5,6]

We investigated these potential changes in the context of a large health care system whose integrated approach to patient care is becoming increasingly common in the evolving health care landscape. We examined new enrollees, anticipating that differences in membership composition between the post-ACA and the pre-ACA period would be more clearly visible among first-time enrollees than in the overall HIV-positive membership during the same periods, which would have substantial overlap. Newly enrolled HIV-positive members would also potentially be more likely to have different service use patterns (e.g., because of lack of familiarity with the health care system, or pent-up demand) than the overall HIV-positive membership in the early postenrollment period.

We hypothesized that the post-ACA cohort would be larger, younger, and more ethnically diverse, and have poorer HIV control than the pre-ACA cohort. We also anticipated that the post-ACA newly enrolled HIV cohort would be more likely to have high-deductible health plans, because high deductibles are key features of the plans available on the state health exchanges rolled out in January 2014. These hypotheses were consistent with general expectations across health care systems before 2014 ACA enrollment began.[7] From the perspective of the behavioral health model,[8] demographic factors, clinical need, and insurance coverage are likely to influence use. This initial study's findings could inform HIV treatment

ABOUT THE AUTHORS

All of the authors are affiliated with the Division of Research, Kaiser Permanente Northern California Region, Oakland. Derek D. Satre is also with the Department of Psychiatry, University of California, San Francisco.

Correspondence should be sent to Derek D. Satre, PhD, University of California, San Francisco, 401 Parnassus Ave, Box 0984, San Francisco, CA 94143 (e-mail: dereks@lppi.ucsf.edu). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

This article was accepted February 9, 2016.

doi: 10.2105/AJPH.2016.303126

planning, prevention strategies, and policy development in the broader health care environment as ACA implementation continues to unfold.

METHODS

Kaiser Permanente Northern California (KPNC) is a private not-for-profit integrated health system of 3.8 million members, covering 45% of the region's commercially insured population. Individuals were identified from the HIV registry of KPNC, which includes an up-to-date list of all patients with HIV, with clinical HIV data and demographics. We compared patients with HIV newly enrolled in KPNC between January and June 2012 (n = 339) with those newly enrolled between January and June 2014 (n = 549). We examined post-ACA enrollees based on enrollment through the exchange versus enrollment via other mechanisms. Eligible participants were confirmed HIV-positive from KPNC's HIV registry up to 6 months after enrollment.

We obtained data from KPNC electronic health records. Measures included age, gender, race/ethnicity, HIV clinical parameters (HIV RNA levels, CD4+ T-cell counts, and AIDS-defining criteria [i.e., opportunistic infections or AIDS-defining cancers]), payer type (e.g., Medicaid), and deductible levels (none, $1–$999, and ≥ $1000).

TABLE 1—Characteristics of HIV-Positive Enrollees in Kaiser Permanente Northern California Before the Affordable Care Act (2012) vs After the Affordable Care Act (2014)

Characteristics	Pre-ACA (n = 339), No. (%)	Post-ACA (n = 549), No. (%)	*P*
Gender			
Female	37 (10.9)	35 (6.4)	.01
Male	302 (89.1)	514 (93.6)	
Race/ethnicity			
White	189 (55.8)	282 (51.4)	.07
Black	56 (16.5)	78 (14.2)	
Asian	20 (5.9)	46 (8.4)	
American Indian/Alaska Native	3 (0.9)	1 (0.2)	
Native Hawaiian/Pacific Islander	2 (0.6)	6 (1.1)	
Hispanic	58 (17.1)	97 (17.7)	
Unknown	11 (3.2)	39 (7.1)	
Age, y			
< 30	28 (8.3)	70 (12.8)	< .01
30–39	72 (21.2)	99 (18.0)	
40–49	132 (38.9)	164 (29.9)	
50–59	96 (28.3)	175 (31.9)	
≥ 60	11 (3.2)	41 (7.5)	
Deductible level[a]			
None	284 (92.5)	318 (67.9)	< .01
$1–$999	6 (2.0)	62 (13.2)	
≥ $1000	17 (5.5)	88 (18.8)	
Payer type[a]			
Commercial[b]	295 (96.1)	441 (94.2)	.06
Medicaid	7 (2.3)	24 (5.1)	
Other subsidized programs	5 (1.6)	3 (0.6)	
HIV clinical markers			
HIV RNA levels BLQ	243 (73.6)	415 (79.5)	.05
Clinical AIDS	134 (39.5)	209 (38.1)	.67
Exchange members	. . .	120 (21.9)	< .01

Note. ACA = Patient Protection and Affordable Care Act; BLQ = below limits of quantification. The pre-ACA cohort includes members enrolled between January 1, 2012, and June 30, 2012. The post-ACA cohort includes members enrolled between January 1, 2014, and June 30, 2014.

[a]Does not add up to full sample size because of missing values.

[b]Commercial includes large and small employer groups and individual plans.

RESULTS

Overall prevalence of HIV infection among new KPNC enrollees in the pre-ACA cohort was 0.12% (n = 339) and 0.14% (n = 549) in the 2014 post-ACA cohort (Table 1). The post-ACA cohort had a greater percentage of men ($P = .01$), a greater proportion of individuals in the youngest (< 30 years) and oldest (≥ 60 years) age groups ($P < .01$), and a greater proportion enrolled in high-deductible plans ($P < .01$). The post-ACA cohort had a mean CD4 count of 626.2 (SE = 12.5) versus 598.2 (SE = 17.1) in the pre-ACA cohort ($P = .18$). More than 70% of both cohorts had HIV RNA levels below limits of quantification with the post-ACA cohort more likely to be below limits of quantification ($P < .05$).

Twenty-two percent of the post-ACA cohort was enrolled through the California exchange. Exchange enrollees were more likely to be male (97.5% of exchange members were male vs 92.5% of nonexchange members; $P = .049$). Clinical markers of HIV were not significantly different; 53.3% of exchange enrollees had a deductible plan (20.0% $1–$999 and 33.3% ≥ $1000) compared with 24.7% of nonexchange enrollees (10.9% $1–$999 and 13.8% ≥ $1000; $P < .01$; not shown on table).

DISCUSSION

As anticipated, enrollment of patients with HIV in the KPNC health system after the ACA was higher than enrollment before the ACA. The increase was consistent with expectations for increased post-ACA health coverage for patients with HIV, as a result of the implementation of the health care exchanges

combined with the removal of preexisting condition exclusions for insurance coverage, and potentially broader HIV testing.[9]

The observed shifts in demographic composition between pre- and post-ACA cohorts have implications for understanding needs of the HIV-positive patient population, future service utilization, and patient care. Awareness of an influx of patients at both the lower and higher ends of the age spectrum and growth among male versus female enrollees may be useful in planning to address the needs of these demographic subgroups. For example, older HIV-positive adults have greater medical comorbidities, and younger adults and ethnic minorities may have worse antiretroviral therapy adherence (and thus present greater transmission risk).[10]

Even with a pre-ACA trend of increasing use of deductible plans at a range of expense levels in the United States, the finding that post-ACA new exchange members were more likely to have high-deductible plans compared with nonexchange enrollees likely reflects the reliance on deductibles in the ACA-established exchange plans. Although HIV-positive patients may anticipate spending their deductible each year and plan accordingly, higher patient cost-sharing among enrollees with high-deductible plans could have a negative impact on their service utilization, as demonstrated in previous studies.[11,12] Whether high cost sharing might force patients to delay or forego care, particularly for those with additional comorbid conditions, remains an important clinical and policy question.

The study finding regarding improved HIV control was contrary to expectations that post-ACA enrollees potentially would be sicker. Findings may indicate that individuals in the post-ACA cohort were receiving HIV care before enrollment in KPNC. Alternatively, the results may also be attributable to advancements in HIV treatment, such as initiation of antiretroviral treatment of all newly diagnosed patients regardless of CD4 cell counts.

This study represents an initial, descriptive examination of demographic and clinical characteristics of newly enrolled health plan members with HIV in early 2012 and early 2014. Although this timing for cohort selection corresponds to pre- and post-ACA enrollment, other factors in health policy and HIV care could have also contributed to the observed results. Furthermore, information on previous non-KPNC insurance coverage was unavailable because this study relied on electronic health record data from within the health plan. The 6-month study time frame allowed us to measure initial enrollment patterns and HIV viral control, but analyses of longer time frames will be important to study as ACA implementation continues.

With the current study design, group differences cannot be directly attributed to the ACA. However, findings highlight the growth of HIV-positive patient enrollment, demographic shifts, and changes in deductible plan coverage that have important implications for anticipating the potential needs of the population and providing patient care. Further research examining health services use and its determinants, particularly high deductibles, will be of great interest in understanding whether the ACA's primary objective of improved access is realized in the longer term for HIV-positive patients. AJPH

CONTRIBUTORS

D. D. Satre and C. I. Campbell conceptualized the study. D. D. Satre led the writing. D. D. Satre and C. I. Campbell supervised data extraction and analyses, which were conducted by S. Parthasarathy. All authors assisted with interpretation of study findings, writing, and critical revision of the article.

ACKNOWLEDGMENTS

This study was supported by the National Institute on Drug Abuse (R21/R33 DA035645).

We thank Alison Truman for assistance in conducting the study, Leo Hurley for assistance in data extraction, and Agatha Hinman for assistance in preparing the article.

HUMAN PARTICIPANT PROTECTION

Study procedures were approved by the Kaiser Permanente Northern California and University of California San Francisco institutional review boards.

REFERENCES

1. Patient Protection and Affordable Care Act. 42 USC §18001(2010). Available at: http://www.gpo.gov/fdsys/pkg/PLAW-111publ148/pdf/PLAW-111publ148.pdf. Accessed December 14, 2015.

2. US Department of Health and Human Services. The Affordable Care Act and HIV/AIDS. 2013. Available at: https://www.aids.gov/federal-resources/policies/health-care-reform. Accessed December 14, 2015.

3. Brennan C. ACA and HIV: opportunities and challenges. *HIV Clin*. 2014;26(2):1, 4–6.

4. Aberg JA. Supreme Court decision on Affordable Care Act offers great promise in fight against AIDS. 2012. Available at: http://www.hivma.org/Supreme_Court_Decision. Accessed December 14, 2015.

5. Martin EG, Schackman BR. What does U.S. health reform mean for HIV clinical care? *J Acquir Immune Defic Syndr*. 2012;60(1):72–76.

6. Sharts-Hopko NC. Health care reform: what does it mean for people living with HIV infection? *J Assoc Nurses AIDS Care*. 2012;23(2):107–110.

7. Abraham JM. How might the Affordable Care Act's coverage expansion provisions influence demand for medical care? *Milbank Q*. 2014;92(1):63–87.

8. Andersen R, Newman JF. Societal and individual determinants of medical utilization in the United States. *Milbank Mem Fund Q Health Soc*. 1973;51(1):95–124.

9. Wagner Z, Wu Y, Sood N. The Affordable Care Act may increase the number of people getting tested for HIV by nearly 500,000 by 2017. *Health Aff (Millwood)*. 2014;33(3):378–385.

10. Silverberg MJ, Leyden W, Quesenberry CP II, Horberg MA. Race/ethnicity and risk of AIDS and death among HIV-infected patients with access to care. *J Gen Intern Med*. 2009;24(9):1065–1072.

11. Galbraith AA, Soumerai SB, Ross-Degnan D, Rosenthal MB, Gay C, Lieu TA. Delayed and forgone care for families with chronic conditions in high-deductible health plans. *J Gen Intern Med*. 2012;27(9):1105–1111.

12. Reddy SR, Degman RD, Zaslavsky MA, Soumerai BS, Wharam JF. Impact of a high deductible health plan on outpatient visits and associated diagnostic tests. *Med Care*. 2014;52(1):86–92.