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# TRANSITIONING FROM MEDICAID DISABILITY COVERAGE TO LONG-TERM MEDICARE COVERAGE: THE CASE OF PEOPLE LIVING WITH HIV/AIDS IN CALIFORNIA

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## Abstract

Medicaid can serve as a bridge to Medicare coverage for the long-term disabled with sufficient covered work experience. We perform multinomial logistic regression on 2007–2010 Medicare and Medicaid claims data to examine transitions to Medicare for people living with HIV/AIDS (PLWHA) in California who had Medicaid coverage in 2007. We find only 16% had obtained Medicare coverage by 2010. African-Americans, women, individuals with schizophrenia diagnoses, alcohol or substance abuse disorders, and any physical comorbidity were significantly less likely than others to obtain Medicare ($p < 0.001$). This study contributes new information on the impact of eligibility requirements for Medicare long-term disability insurance for PLWHA. About one-third of PLWHA under age 65 are covered by Medicaid. Many PLWHA get stuck in Medicaid because their disability prevents them from obtaining the additional employment experience needed to qualify for Medicare.

Due to their inability to work, most disabled individuals lack access to employer-based insurance, which covers 60% of non-elderly Americans (Robert Wood Johnson Foundation & State Health Access Data Assistance Center, 2013). However, a patchwork of public insurance plans provides coverage for the disabled. Many disabled individuals can qualify for Medicaid if they receive Supplemental Security Income (SSI), which provides cash

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benefits to people who are disabled and have low income and limited savings (Schneider, Elias, & Garfield, 2013). In some states Medicaid also covers some low-income parents and individuals with higher incomes but very high medical or long-term care expenses that cause them to spend down their income to meet eligibility thresholds.

Disability is defined by the Social Security Act as a condition that renders an individual "unable to engage in any substantial gainful activity … by reason of any medically determinable physical or mental impairment(s) which can be expected to result in death or which has lasted or can be expected to last for a continuous period of not less than 12 months" (U.S. Social Security Administration, 2016a).

Disabled individuals with sufficient quarters of work history can qualify for Social Security Disability Insurance (SSDI), which has higher cash benefits than SSI and enables individuals to enroll in Medicare. Individuals may become eligible for Medicare after receiving SSDI for 24 months (or immediately, if they have end stage renal disease or amyotrophic lateral sclerosis). SSDI limits on income are less stringent than those for SSI, and there are no asset limitations.

Eligibility for SSDI benefits generally requires 40 quarters of contributions to the Social Security system, but the required number of quarters of covered employment is lower for people who become disabled at earlier ages (U.S. Social Security Administration, 2016b). Additionally, unmarried individuals over age 18 who become disabled before age 22 are eligible if their parents are eligible for Social Security retirement, disability, or death benefits. Medicaid will pay the premiums to "buy in" to the Medicare program for disabled individuals covered by Medicaid who lack sufficient quarters of work history to qualify at age 65, the usual retirement age. Undocumented individuals are ineligible for Social Security benefits.

This study examines public insurance coverage for a group that often experiences disability early in the life course—people living with HIV/AIDS (PLWHA). Most of the PLWHA who are enrolled in California's Medicaid program (Medi-Cal) are disabled (97%). This study also examines how effectively Medi-Cal serves as a bridge to Medicare coverage for the long-term disabled by tracking transitions made by Californians with HIV/AIDS out of the Medi-Cal program to Medicare over a 4-year period.

While there is a substantial literature on transitions between disability benefit receipt and employment, little attention has been paid to the transitions in health insurance coverage for disabled individuals in the United States, who face a complicated environment of public and private insurance systems. The purpose of this study is to examine how the two major public health insurance programs for the disabled functioned for individuals living with HIV/AIDS: a serious, disabling disease for which there is an effective, but costly, treatment. The Medicare and Medicaid programs play an important role in supporting this treatment, covering 20.7% and 33.5%, respectively, of all PLWHA (Yehia et al., 2014). This study also examines the demographic and clinical factors that relate to the transition of PLWHA from the Medicaid to the Medicare program.

This paper also discusses the likely impact on PLWHA of the Affordable Care Act (ACA), which provided for the expansion of Medicaid coverage to all low income individuals, whether or not they met disability or other categorical eligibility criteria. In the states that have adopted these Medicaid expansions, the elimination of the disability requirement and the extension of the income eligibility level to 138% of the Federal Poverty Line have greatly increased access to Medicaid insurance (Bui & Sanger-Katz, 2015). This change has been especially important for PLWHA, who formerly were caught in a Catch-22—most became eligible for Medicaid only after receiving an AIDS diagnosis, experiencing an opportunistic infection, or other disabling condition. Thus, they had to become disabled before becoming eligible for insurance to pay for costly treatment, such as antiretroviral therapy, that could have averted the disability. Nearly half (46%) of all individuals in treatment for HIV/AIDS in 2009 reported that disability benefits represented their main source of income (Huang et al., 2015).

## METHODS

### Data

Medicare and Medicaid claims data for HIV-positive Californians from 2007 to 2010 were acquired through a confidential data use agreement with the Centers for Medicare and Medicaid Services. We applied a case-identification algorithm to create an analysis file of adult beneficiaries with strong evidence of HIV infection (Leibowitz & Desmond, 2015). Analyses included enrollees who: (a) had fee-for-service Medicare or Medicaid coverage in 2007 because available data for managed care enrollees lack reliable diagnosis fields needed to confirm HIV status, and (2) were not residing outside of California from 2007 to 2010.

### Individual Characteristics

Medicare and Medicaid enrollment files provided data on age category (< 30, 30–39, 40–49, 50–64 and 65+), race/ethnicity (non-Hispanic White, African-American, Hispanic/Latino, and other), and gender of the enrollees. Diagnoses of adjustment or anxiety disorders, mood disorders, schizophrenia or other psychotic disorders, or other mental health disorders were identified using the Agency for Healthcare Research and Quality Mental Health and Substance Abuse Clinical Classifications Software (U.S. Agency for Healthcare Research and Quality, 2015). *International Statistical Classification of Diseases and Related Health Problems*, 9th edition (ICD-9) diagnoses codes reported in claims files were used to develop indicators for having 0, 1, 2, or 3 or more of 17 possible comorbidities in addition to HIV, defined by Charlson, Pompei, Ales, and MacKenzie, (1987; see also Quan et al., 2005). Analyses included an indicator for enrollment in Medicaid only versus Medicare only or dual Medicare-Medicaid enrollment. All covariates were taken at baseline in 2007.

### Empirical Methods

Analyses were carried out using SAS Software version 9.4 (SAS Institute Inc., Cary, NC). Chi-square ($\chi^2$) tests were conducted to compare categorical characteristics, such as demographic information, by enrollment status in January 2007: enrollment in California's Medicaid program (Medi-Cal) only versus coverage that included Medicare. Multinomial regressions were fit through the LOGISTIC procedure to determine the net impact of 2007

demographic and clinical factors on a Medi-Cal beneficiary's probability of moving from Medi-Cal only status in January 2007 to one of three alternate statuses by 2010 (Medicare or dual coverage; death; or not being enrolled). Regression analyses were limited to persons who would be less than 65 years old in 2010, since Medi-Cal paid to have all enrollees enter the Medicare program when they turned 65.

An initial regression model contained all demographic characteristics, an indicator variable for having Medicaid-paid long-term care, and an eligibility indicator variable, categorized as blind, disabled, or aged versus other reasons. In a stepwise fashion, covariates for mental health, substance use, and physical comorbidities as defined above were entered into the model, one at a time. For each of the sets of covariates that remained as statistically significant ($p < .05$) predictors of the transition to Medicare in the final regression model, the percentage of enrollees who transitioned to each status by 2010 (Medi-Cal only, Medicare, not enrolled, and death) are presented along with measures of significance derived from the regressions shown in Table A2 in the Appendix.

## RESULTS

In December 2010, Medi-Cal was the sole insurance source for 8,012 individuals living with HIV/AIDS, a net increase of 159 individuals from the 2007 level of 7,853. This relative stability was due to offsetting additions of new Medi-Cal enrollments and exits from the program due to movement to Medicare, death or disenrollment. Medicare enrollment increased by 1,087, rising from 11,032 in 2007 to 12,119 in 2010 (Appendix, Table A1).

Figure 1 tracks changes in insurance status between 2007 and 2010 for PLWHA insured under Medicare and under Medi-Cal in 2007. Most (86%) PLWHA with Medicare coverage in 2007 remained insured by Medicare in 2010. Thirteen percent had died, and only 1% were alive but not enrolled. In contrast, PLWHA covered solely by Medi-Cal in 2007 experienced many transitions, with only 62% of them ending the period with the same status —no insurance coverage other than Medi-Cal. Of that number, 7% had experienced a period of nonenrollment before returning to Medi-Cal coverage. Despite the fact that the Medicare program is designed to provide health insurance to the long-term disabled, only a minority (16%) of PLWHA covered only by Medi-Cal in January 2007 had acquired Medicare coverage by 2010; another 1% who subsequently died had also acquired Medicare coverage. Fourteen percent were not enrolled in either Medi-Cal or Medicare and 8% had died.

Although both Medi-Cal and Medicare enrollees with HIV qualified for the programs predominately due to being disabled, the demographic and clinical characteristics of the two groups differ markedly (Table 1).

As expected, at the start of our observation period in 2007, nearly all (97%) of the PLWHA with only Medi-Cal insurance were eligible for the program due to disability. An additional 3% were eligible as a parent under welfare-related programs or other reason. Disability was also the initial reason for coverage for 91% of the Medicare group; the remaining 9% qualified due to age. Men predominated in both the Medi-Cal (73%) and Medicare (90%) groups. The majority of individuals were aged 31–61 in both the Medi-Cal (91%) and

Medicare (84%) programs, with Medicare having a larger share of persons 62 and older (15% vs. 4% for Medi-Cal), who would have turned 65 and become eligible for Medicare over the 2007–2010 period. Medi-Cal had a larger share of persons under 30 (5% vs. 0.9%). African-Americans accounted for 35% of the Medi-Cal group and 18% of the Medicare group, while Whites accounted for 38% of the Medi-Cal cohort and 60% of the Medicare cohort. Latinos were nearly equally represented in Medi-Cal and Medicare (19% and 18.5%, respectively).

Mental health and substance use conditions were more common in the Medi-Cal cohort than in Medicare. Fifteen percent of the Medi-Cal enrollees had diagnoses of mood disorders (compared to 3% among Medicare enrollees) and 15% had diagnoses of alcohol or substance use disorders (compared to 3% of Medicare enrollees). Physical comorbidities were also more common in the Medi-Cal cohort than in the Medicare cohort. Thirty percent of the Medi-Cal cohort had at least one physical comorbidity, compared to 8% of the Medicare cohort. Many of these comorbidities related to health habits: 10% of the Medi-Cal sample had a COPD diagnosis and 11% had a diagnosis for liver disease (prevalence of comorbidities are available from the authors).

Figure 2 shows how patterns of transition out of Medi-Cal vary over the life course. Among the 2007 Medi-Cal enrollees, the annual probability of gaining Medicare coverage gradually falls from over 20% per year for PLWHA in their 20s, to a low of 10% annually for people in their 50’s. The probability then rises precipitously when the individual reaches the standard Medicare eligibility age of 65. This pattern is also reflected in the solid line depicting enrollment in Medi-Cal only, which begins to rise for people in their mid-20s and then falls sharply at age 65. The probability of becoming unenrolled in public programs initially falls and then remains steady at less than 20% per year.

The relationship between insurance status in 2010 of PLWHA enrolled in Medi-Cal-only in 2007 and demographic factors is shown in the top half of Table 2. Statistically significant factors are indicated in bold, based on the regression analysis shown in Appendix Table 2. Men were less likely to remain in Medi-Cal (62.2%) than women (70.5%); they were twice as likely (16%) as women to enroll in Medicare (8%). PLWHA aged 30 or less were twice as likely as those aged 46–61 to transition to Medicare over the 4-year period and were more likely to not be enrolled in either public program in 2010. African-Americans were significantly less likely than Whites to obtain Medicare coverage (10.8% vs. 15.8%) and consequently were more likely to remain in Medi-Cal (66.2%) than Whites (62.5%).

Table 2 also shows the relationship between comorbid conditions and 2010 public insurance status. PLWHA who had a diagnosis of schizophrenia were less likely to transition to Medicare (5.4%) than people without this diagnosis (14.6%). A higher percentage of people with schizophrenia remained on Medi-Cal (70.7%) than those without that diagnosis (63.9%). People with alcohol and substance use disorders were as likely to remain on Medi-Cal as individuals without these disorders, largely because their lower rate of transitions to Medicare (5.9% vs. 15.4% for those without these diagnoses) was offset by higher death rates (9.8% vs. 6.7%) and higher rates of not being enrolled in publicly funded health insurance (19.3% vs. 13.7%).

Surprisingly, Medicare was the final status for a higher proportion PLWHA with no physical comorbidity (16.0%) than those with one (9.8%) or two or more (7.3%) physical comorbidities. The fact that more than a quarter of PLWHA who had 2 or more additional comorbidities died in the 4-year period (26.3%) may partially account for this, since only 4.1% of those with no comorbidities had died by 2010.

## DISCUSSION

The transition from Medi-Cal-only insurance coverage to Medicare coverage has many advantages for disabled PLWHA. Medicare's higher reimbursement rates make it easier for patients with a chronic condition to find a physician to treat a complex disease, such as HIV/AIDS (Decker, 2012; Geissler, Lubin, & Ericson, 2016). There is evidence that the transition from Medicaid-only to dual coverage with Medicare was associated with increased use of care (Burns, Huskamp, Smith, Madden, & Soumerai, 2016).

Nationally, nearly one third (31%) of physicians were not accepting new Medicaid patients in 2011–2013 and the rate was even lower in states with lower Medicaid to Medicare fee ratios (Decker, 2012; Rhodes et al., 2014). This is a particular concern in California, where Medi-Cal reimbursements average only 51% of the Medicare levels for all services and 43% of the Medicare levels for primary care (Zuckerman & Goin, 2012).

Although a pathway exists for qualified disabled Medicaid recipients to transition after 2 years to long-term disability coverage under Medicare, our analyses showed that, despite high levels of physical and mental comorbidities, only a small minority (16%) of all PLWHA in our sample were able to move from Medi-Cal to Medicare coverage in 4 years between 2007 and 2010.

Not all Medi-Cal enrollees were equally likely to gain Medicare coverage—women and African-Americans were less likely to obtain Medicare coverage, even after controlling for other factors. PLWHA who had a diagnosis of schizophrenia or who had alcohol or substance use disorders were also less likely to transition. People with physical comorbidities were less likely to be enrolled in Medicare in 2010, partly attributable to the competing risk of death.

The eligibility criteria for the SSDI long-term disability program, and thereby for Medicare coverage, mean that individuals whose eligibility for Medi-Cal was not linked to disability were unlikely to transition to Medicare before reaching age 65. Even many disabled Medi-Cal recipients with HIV can remain "stuck" in Medi-Cal because they lack the requisite work history and contributions to the Social Security system needed to qualify for SSDI coverage, and therefore for Medicare. The impact of the work requirement can be clearly seen in the significantly higher rates of transition to Medicare among younger individuals, who face lower work experience requirements. Women, who have lower labor force participation than men, are also less likely to have the required number of quarters of employment to qualify for SSDI. Similarly, African American men have lower employment rates than White men (U.S. Bureau of Labor Statistics, 2016). Hispanics are currently

employed at rates similar to White non-Hispanics, but may have fewer years of covered employment (U.S. Bureau of Labor Statistics, 2016).

Disabled individuals without qualifying work history are unlikely to be able to gain it because of their inability to engage in substantial work, particularly for persons with mental and physical comorbidities. There are state (e.g., see California Department of Rehabilitation, 2016), and federal (e.g., see U.S. Social Security Administration, 2016c), programs that support disabled beneficiaries in efforts to become employed, by providing vocational rehabilitation services, help finding a job, or protections for cash and medical benefits while beneficiaries attempt to return to the workplace. Despite these programs, our findings indicate that there is a substantial proportion of disabled beneficiaries who are unable to work enough to either become disenrolled in Medi-Cal due to their increased earned income, or achieve enough quarters of employment to qualify for Medicare.

Despite a lack of sufficient quarters of covered employment, at age 65 it is possible to buy into Medicare through the Qualified Medicare Beneficiary program, resulting in the spike in Medicare enrollment seen in Figure 2 for PLWHA who turn 65.

Nationally, the share of the HIV population that has Medicaid insurance has risen from 31% in 1996–1997 (Goldman et al., 2003) to between 34% and 38% from 2006 to 2012 (Yehia et al., 2014). As a result of the ACA's Medicaid expansion, which has been implemented in all but 19 states, it is estimated that 55,000 low-income, previously uninsured individuals living with HIV will gain insurance coverage (Snider et al., 2014).

Our results show that even among the disabled Medi-Cal recipients with HIV, only a minority transitioned to the Medicare program. Neither this group nor low income, non-disabled PLWHA made newly eligible for Medi-Cal by the ACA is likely to transition to long-term disability coverage under Medicare. This suggests that the Medi-Cal program could reorient itself from an insurance program that serves a small minority of PLWHA as a bridge to Medicare's long-term disability coverage, to a program that supports improved health and employment for disabled and non-disabled PLWHA, also potentially over the long term. This transformation would require intensive efforts to meet the National HIV/AIDS Strategy's goal that 80% of individuals diagnosed with HIV be virally suppressed, meaning that the virus is controlled at a level that allows for a healthy and active life and dramatically reduces the risk of transmitting the virus to others (Cohen et al., 2011; U.S. Office of National AIDS Policy, 2015).

Some PLWHA, particularly those who were younger, who were covered by Medi-Cal in 2007 received neither Medi-Cal nor Medicare in 2010. Restored health may cause a PLWHA to lose disability status and/or rising income may render them no longer eligible for Medicaid. The Ryan White program, which provides services to uninsured and underinsured PLWHA in California with incomes up to four times the federal poverty level, may continue to provide services to them.

Providing insurance is only a first step to restoring health and full functioning to PLWHA. Even though 91% of Californians living with HIV know their diagnosis, it is estimated that in 2014, only 64% of Californians with HIV were in regular treatment and only 51% of

PLWHA in California were virally suppressed, protecting their own health and reducing the likelihood of transmitting the virus to others (California Office of AIDS, 2016). In order to achieve the goals of the National HIV/AIDS Strategy, it is important to address a series of barriers to engaging in care and maintaining antiretroviral therapy. Our analyses document that mental health and substance use disorders are prevalent among disabled PLWHA who had Medi-Cal insurance prior to the enactment of the ACA. It is important to address these conditions, which are major barriers to remaining in treatment for HIV, achieving viral suppression, and returning to employment (Arns, Martin, & Chernoff, 2004; Gonzalez, Batchelder, Psaros, & Safren, 2011; Holtzman et al., 2015; Huynh, Kinsler, Cunningham, & Sayles, 2013; Lucas, 2011; Magidson, Blashill, Safren, & Wagner, 2015; Turan et al., 2016).

The fact that many Medi-Cal enrollees with HIV, particularly individuals with mental health or substance use issues, get “stuck” in the Medi-Cal program points to a need to move beyond the medical model of disability and address the needs for mental health and substance use treatment for this population (Drum, Krahn, & Bersani, 2009). The addition of many formerly uninsured PLWHA to the Medi-Cal rolls reinforces the need for mental health and substance use services. Many PLWHA who obtained care at Ryan White sites prior to ACA implementation were required to move either to Medicaid or to Insurance Exchange plans. These plans provide more limited access to mental health and substance use treatment than the Ryan White program, which provides to uninsured and underinsured PLWHA a comprehensive range of services that are not provided by any other source (Cahill, Mayer, & Boswell, 2015; Leibowitz et al., 2013). Thus, PLWHA may need to depend on either community providers or wrap-around services from the Ryan White program to support continued engagement in care with the goal of viral suppression (Arns et al., 2004; Cahill et al., 2015; Gonzalez et al., 2011; Holtzman et al., 2015; Huynh et al., 2013; Lucas, 2011; Magidson et al., 2015; Turan et al., 2016). Indeed, a recent study found that post-ACA enrollees in Kaiser Permanente Northern California were more likely to be virally suppressed than a similar group enrolled prior to the ACA (Satre et al., 2016). Enhanced treatment would provide two major benefits: improving the health and functioning of individuals living with HIV and also contributing to National HIV/AIDS Strategy’s goal of reducing community viral load, and therefore, new HIV infections.

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# APPENDIX

**TABLE A1**

Changes in Coverage for PLWHA in California 2007–2010

| Year | Medi-Cal only | | Medicare | | Total | |
|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % |
| 2007 | 7,853 | 41.6 | 11,032 | 58.4 | 18,885 | 100 |
| 2010 | 8,012 | 39.8 | 12,119 | 60.2 | 20,131 | 100 |

**TABLE A2**

Odds Ratios (OR; With 95% Confidence Intervals [CI]) for Determinants of Transitions from Medi-Cal Only in 2007 to Any Medicare, Not Being Enrolled, or Death in 2010 Estimated by Multivariable Multinomial Logistic Regression ($N$ = 7,562)

| | Any Medicare | | | Not enrolled | | | Death | | |
|---|---|---|---|---|---|---|---|---|---|
| | OR | 95% CI | *p* | OR | 95% CI | *p* | OR | 95% CI | *p* |
| Male vs. female | 2.18 | (1.82, 2.62) | < .001 | 1.19 | (1.03, 1.38) | 0.02 | 1.37 | (1.11, 1.69) | .003 |
| Age (Ref: 46–61 years old) | | | | | | | | | |
| 18–30 years old | 2.73 | (2.07, 3.60) | < .001 | 2.01 | (1.52, 2.67) | < .001 | 0.96 | (0.56, 1.63) | .88 |
| 31–45 years old | 1.50 | (1.30, 1.73) | < .001 | 1.20 | (1.05, 1.38) | .009 | 0.97 | (0.80, 1.18) | .77 |
| Race/Ethnicity (Ref: White) | | | | | | | | | |
| African American | 0.73 | (0.62, 0.86) | < .001 | 0.98 | (0.84, 1.14) | .76 | 1.02 | (0.83, 1.27) | .83 |
| Hispanic/Latino | 1.08 | (0.91, 1.29) | .38 | 0.92 | (0.76, 1.11) | .40 | 0.96 | (0.73, 1.25) | .75 |
| Other | 0.41 | (0.30, 0.56) | < .001 | 0.80 | (0.62, 1.03) | .08 | 0.86 | (0.60, 1.23) | .40 |
| Schizophrenia (Y vs. N) | 0.40 | (0.27, 0.58) | < .001 | 0.90 | (0.70, 1.15) | .38 | 0.67 | (0.47, 0.96) | .03 |
| Alcohol/sub. disorder (Y vs. N) | 0.46 | (0.35, 0.60) | < .001 | 1.39 | (1.17, 1.65) | < .001 | 1.18 | (0.94, 1.50) | .16 |
| Physical comorbidities (Ref: None) | | | | | | | | | |
| One | 0.69 | (0.57, 0.83) | < .001 | 0.98 | (0.83, 1.16) | .84 | 2.25 | (1.81, 2.80) | < .001 |
| Two or more | 0.86 | (0.62, 1.19) | 0.36 | 1.72 | (1.36, 2.17) | < 0.01 | 8.82 | (6.94, 11.20) | < .01 |

*Note*. Remaining in Medi-Cal only is the reference category.

## References


Arns PG, Martin DJ, Chernoff RA. Psychosocial needs of HIV-positive individuals seeking workforce re-entry. AIDS Care. 2004; 16:377–386. [PubMed: 15203430]

Bui, Q., Sanger-Katz, M. We mapped the uninsured. You'll notice a pattern. New York Times. 2015 Oct 15. Retrieved March.1, 2016, from http://www.nytimes.com/interactive/2015/10/31/upshot/who-still-doesnt-have-health-insurance-obamacare.html

Burns ME, Huskamp HA, Smith JC, Madden JM, Soumerai SB. The effects of the transition from Medicaid to Medicare on health care use for adults with mental illness. Medical Care. 2016; 54:868–877. DOI: 10.1097/MLR.0000000000000572 [PubMed: 27261640]

Cahill SR, Mayer KH, Boswell SL. The Ryan White HIV/AIDS program in the age of health care reform. American Journal of Public Health. 2015; 105:1078–1085. [PubMed: 25880940]

California Department of Rehabilitation. What does the DOR do?. 2016. Retrieved November 17, 2016, from http://www.dor.ca.gov/What-Does-DOR-Do.html

California Office of AIDS. California's continuum of HIV care – 2014; Paper presented at Laying a Foundation for Getting to Zero: California's Integrated HIV Surveillance, Prevention and Care Plan, Community Meeting; Sacramento, CA. 2016 Apr 11.

Charlson ME, Pompei P, Ales KL, MacKenzie CR. A new method of classifying prognostic comorbidity in longitudinal studies: Development and validation. Journal of Chronic Diseases. 1987; 40:373–383. [PubMed: 3558716]

Cohen MS, Chen YQ, McCauley M, Gamble T, Hosseinipour MC, Kunarasamy N. HPTN 052 Study Team. Prevention of HIV-1 infection with early antiretroviral therapy. New England Journal of Medicine. 2011; 365:493–505. DOI: 10.1056/NEJMoa1105243 [PubMed: 21767103]

Decker SL. In 2011 nearly one-third of physicians said they would not accept new Medicaid patients, but rising fees may help. Health Affairs. 2012; 31:1673–1679. [PubMed: 22869644]

Drum, CE.Krahn, GL., Bersani, H., editors. Disability and public health. Washington, DC: American Public Health Association; 2009.

Geissler KH, Lubin B, Ericson KMM. Access is not enough. Characteristics of physicians who treat Medicaid patients. Medical Care. 2016; 54:350–358. [PubMed: 26759979]

Goldman DP, Leibowitz AA, Joyce GF, Fleishman JA, Bozzette SA, Duan N, Shapiro MF. Insurance status of HIV-infected adults in the post-HAART era: Evidence from the United States. Applied Health Economics and Health Policy. 2003; 2:85–91. [PubMed: 14619279]

Gonzalez JS, Batchelder AW, Psaros C, Safren SA. Depression and HIV/AIDS treatment nonadherence: A review and meta-analysis. Journal of Acquired Immune Deficiency Syndromes. 2011; 58:181–187. [PubMed: 21857529]

Holtzman CW, Shea JA, Glanz K, Jacobs LM, Gross R, Hines J, Yehia BR. Mapping patient-identified barriers and facilitators to retention in HIV care and antiretroviral therapy adherence to Andersen's Behavioral Model. AIDS Care. 2015; 27:817–28. DOI: 10.1080/09540121.2015.1009362 [PubMed: 25671515]

Huang Y-L, Frazier EL, Sansom SL, Farnham PG, Shrestha RK, Hutchinson AB, Skarbinski J. Nearly half of US adults living with HIV received federal disability benefits in 2009. Health Affairs. 2015; 34:1657–1665. DOI: 10.1377/hlthaff.2015.0249 [PubMed: 26438741]

Huynh AK, Kinsler JJ, Cunningham WE, Sayles JN. The role of mental health in mediating the relationship between social support and optimal ART adherence. AIDS Care. 2013; 25:1179–1184. [PubMed: 23320407]

Leibowitz AA, Desmond K. Identifying a sample of HIV-positive beneficiaries from Medicaid claims data and estimating their treatment costs. American Journal of Public Health. 2015; 105:567–574. [PubMed: 25602870]

Leibowitz AA, Lester R, Curtis PG, Farrell K, Fox A, Klipp LH, Wise J. Early evidence from California on transitions to a reformed health insurance system for persons living with HIV/AIDS. Journal of Acquired Immune Deficiency Syndromes. 2013; 64:S62–S67. DOI: 10.1097/01.qai.0000435254.49553.24 [PubMed: 24126449]

Lucas GM. Substance abuse, adherence with antiretroviral therapy, and clinical outcomes among HIV-infected individuals. Life Sciences. 2011; 88:948–952. DOI: 10.1016/j.lfs.2010.09.025 [PubMed: 20888839]

Magidson FJ, Blashill AJ, Safren SA, Wagner GJ. Depressive symptoms, lifestyle structure, and ART adherence among HIV-infected individuals: A longitudinal mediation analysis. AIDS and Behavior. 2015; 19:34–40. [PubMed: 24874725]

Quan H, Sundararajan V, Halfon P, Fong A, Burnand B, Luthi JC, Ghali WA. Coding algorithms for defining comorbidities in ICD-9-CM and ICD-10 administrative data. Medical Care. 2005; 43:1130–1139. [PubMed: 16224307]

Rhodes KV, Kenney GM, Friedman AB, Saloner B, Lawson CC, Chearo D, Polsky D. Primary care access for new patients on the eve of health care reform. JAMA Internal Medicine. 2014; 174:861–869. [PubMed: 24710808]

Robert Wood Johnson Foundation & State Health Access Data Assistance Center. State-level trends in employer-sponsored health insurance: A state-by-state analysis. 2013. Retrieved January 19, 2015, from http://www.rwjf.org/content/dam/farm/reports/reports/2013/rwjf405434

Satre DD, Parthasarathy S, Altschuler A, Silverberg MJ, Storholm E, Campbell CI. Demographic, insurance, and health characteristics of newly enrolled HIV-positive patients after implementation of the Affordable Care Act in California. American Journal of Public Health. 2016; 106:1211–1213. DOI: 10.2105/AJPH.2016.303126 [PubMed: 27077361]

Schneider, A., Elias, R., Garfield, R. Chapter 1: Medicaid eligibility. Kaiser Family Foundation, The Kaiser Commission on Medicaid and the Uninsured. 2013. Retrieved January 20, 2016, from https://kaiserfami-lyfoundation.files.wordpress.com/2013/05/mrbeligibility.pdf

Snider JT, Juday T, Romley JA, Seekins D, Rosenblatt L, Sanchez Y, Goldman DP. Nearly 60,000 uninsured and low-income people with HIV/AIDS live in states that are not expanding Medicaid. Health Affairs. 2014; 33:386–393. DOI: 10.1377/hlthaff.2013.1453 [PubMed: 24590935]

Turan B, Smith W, Cohen MH, Wilson TE, Adimora AA, Merenstein D, Turan JM. Mechanisms for the negative effects of internalized HIV-related stigma on ART adherence in women. Journal of Acquired Immune Defiency Syndromes. 2016; 72:198–205. DOI: 10.1097/QAI.0000000000000948

U.S. Agency for Healthcare Research and Quality. Clinical classifications software (CCS) for ICD-9-CM. 2015. Retrieved December 20, 2015, from http://www.hcup-us.ahrq.gov/toolssoftware/ccs/ccs.jsp

U.S. Bureau of Labor Statistics. Table 3. Employment status of the civilian noninstitutional population by gender, age, race, and Hispanic or Latino ethnicity, 2015 annual averages; Labor force characteristics by race and ethnicity, 2015. 2016. p. 16-21.BLS Reports, September 2016. http://www.bls.gov/opub/reports/race-and-ethnicity/2015/pdf/home.pdf

U.S. Office of National AIDS Policy (ONAP). National HIV/AIDS Strategy for the United States: Updated to 2020. 2015. Retrieved May 6, 2016, from https://www.whitehouse.gov/sites/default/files/docs/national_hiv_aids_strategy_update_2020.pdf

U.S. Social Security Administration. Disability evaluation under Social Security. 2016a. Retrieved March 1, 2016, from https://www.ssa.gov/disability/professionals/bluebook/general-info.htm

U.S. Social Security Administration. Benefits planner: Social Security credits. 2016b. Retrieved January 20, 2016, from https://www.socialsecurity.gov/planners/credits.html#&a0=2

U.S. Social Security Administration. 2016 Red Book: A summary guide to employment supports for persons with disabilities under the Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI) programs. 2016c. Retrieved November 17, 2016, from https://www.ssa.gov/red-book/documents/TheRedBook2016.pdf

Yehia BR, Fleishman JA, Agwu AL, Metlay JP, Berry SA, Gebo KA. HIV Research Network. Health insurance coverage for persons in HIV care, 2006–2012. Journal of Acquired Immune Deficiency Syndromes. 2014; 67:10210–10216.

Zuckerman, S., Goin, D. How much will Medicaid physician fees for primary care rise in 2013? Evidence from a 2012 survey of Medicaid physician fees. Kaiser Commission on Medicaid and the Uninsured. 2012. Retrieved March 1, 2016, from https://kaiserfamilyfoundation.files.wordpress.com/2013/01/8398.pdf

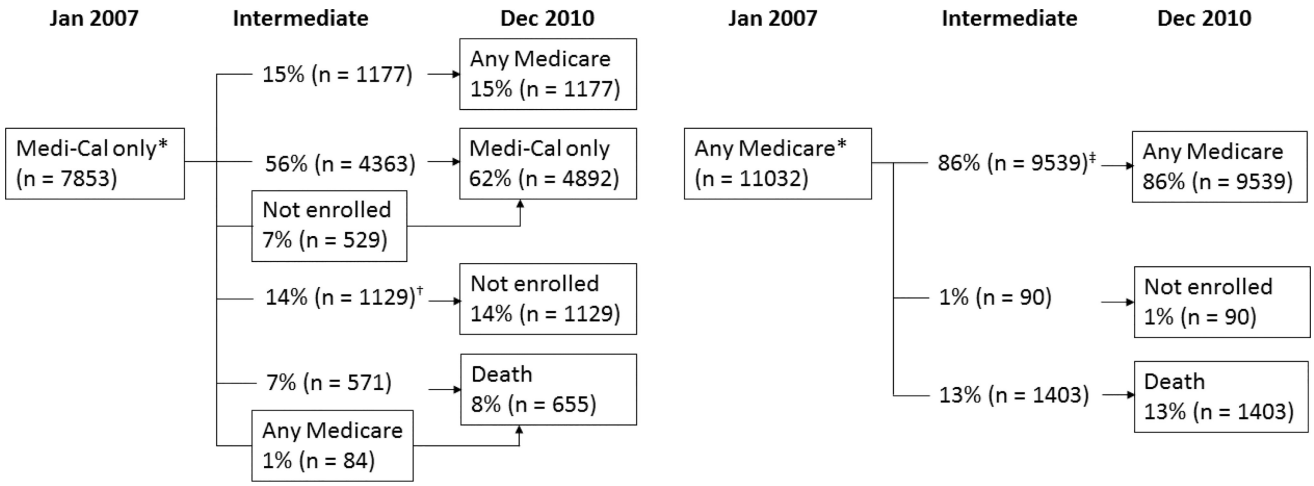


**FIGURE 1.**

Enrollment transitions for HIV-positive Medi-Cal and Medicare enrollees 2007–2010. Includes enrollment patterns for individuals first observed in Medi-Cal only or with any Medicare coverage, including Medicare only and dual coverage, in January 2007 and last observed in December 2010. Column for intermediate period shows transition into different coverage anytime from February 2007 to November 2010. *Data on individuals with Medi-Cal only in January 2007 exclude 8 individuals and data on individuals with any Medicare coverage in January 2007 exclude 72 individuals due to probable coding error in claims data; †Includes a small number of individuals with any Medicare coverage ($n < 11$); ‡Includes a small number of individuals who are not enrolled ($n < 11$).

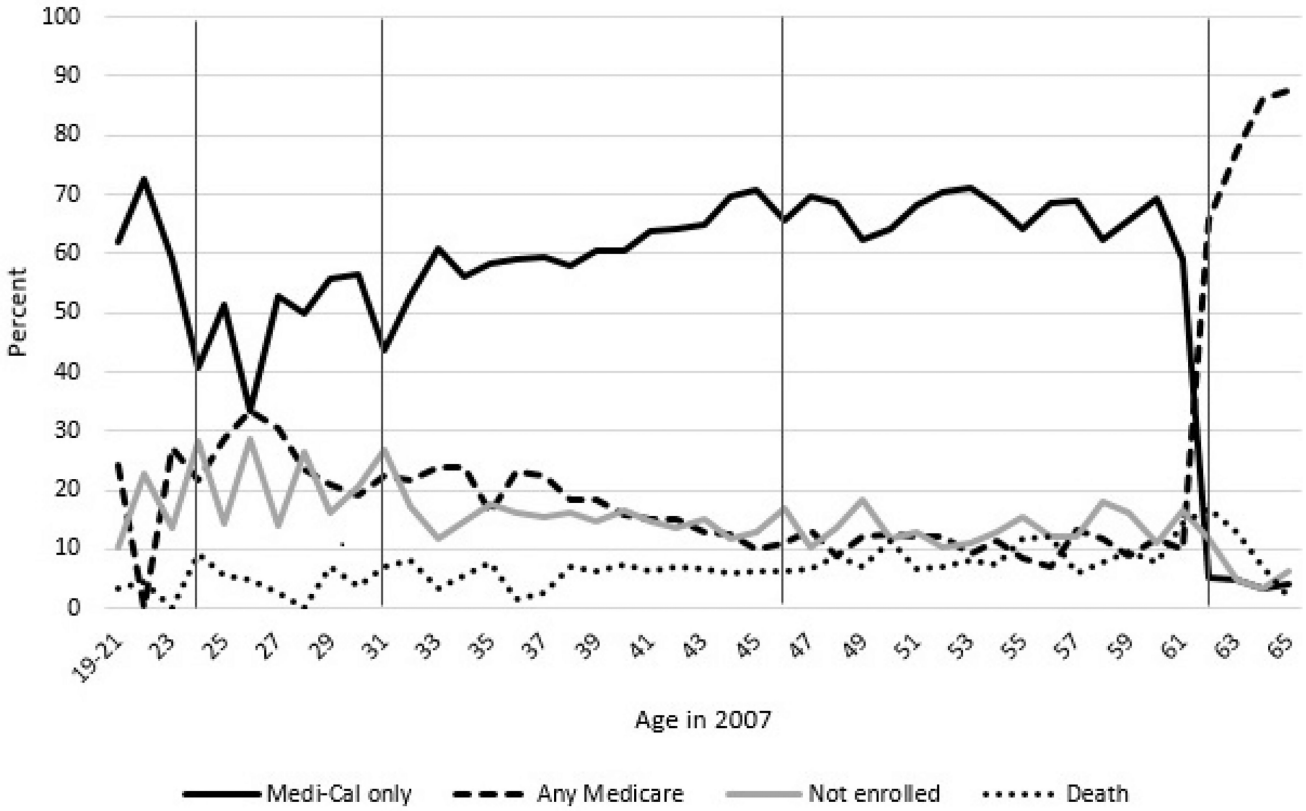


**FIGURE 2.**

Percentages of first transitions out of Medi-Cal only between 2007 to 2010 by age of enrollee in 2007.

**TABLE 1**

Background Characteristics, Mental Health, and Physical Comorbidities by Enrollment Status in January 2007

| | Medi-Cal only (*N* = 7,853) | | Any Medicare (*N* = 11,032) | | Total (*N* = 18,885) | |
|---|---|---|---|---|---|---|
| | % | *n* | % | *n* | % | *n* |
| Medicare only | | | 37 | 4,066 | | |
| Dual coverage | | | 63 | 6,966 | | |
| Background characteristics | | | | | | |
| Male gender | 73 | 5,749 | 90 | 9,953 | 83 | 15,702 |
| Age | | | | | | |
| 19–30 years old | 5 | 382 | 0.9 | 99 | 2.5 | 481 |
| 31–45 years old | 41 | 3,258 | 32 | 3,537 | 36 | 6,795 |
| 46–61 years old | 50 | 3,922 | 52 | 5,761 | 51 | 9,683 |
| 62 years old or older | 4 | 291 | 15 | 1,635 | 10 | 1,926 |
| Ethnicity/race | | | | | | |
| African American | 35 | 2,720 | 18 | 1,962 | 25 | 4,682 |
| Latino | 19 | 1,517 | 18.5 | 2,041 | 19 | 3,558 |
| White | 38 | 2,972 | 60 | 6,600 | 51 | 9,572 |
| Other | 8 | 644 | 4 | 429 | 6 | 1,073 |
| Medicaid-paid long-term care (Yes vs. No) | 4 | 289 | — | — | — | — |
| Eligibility | | | | | | |
| Aged | 0.4 | 29 | 9 | 1,032 | 6 | 1,061 |
| Blind/disabled | 97 | 7,608 | 91 | 10,000 | 93 | 17,608 |
| Other adult | 3 | 216 | 0 | 0 | 3 | 216 |
| CCS-MHSA Classifications (Yes vs. No) | | | | | | |
| Adjustment/anxiety disorders | 5 | 431 | 0.2 | 18 | 2 | 449 |
| Mood disorders | 15 | 1,190 | 3 | 343 | 8 | 1,533 |
| Schizophrenia and other psychotic disorders | 7 | 557 | 1.5 | 171 | 4 | 728 |
| Presence of additional mental health disorders | 3 | 251 | 0.3 | 35 | 1.5 | 286 |
| Alcohol or substance-related disorders | 15 | 1,213 | 3 | 380 | 8 | 1,593 |

| | Medi-Cal only (*N* = 7,853) | | Any Medicare (*N* = 11,032) | | Total (*N* = 18,885) | |
|---|---|---|---|---|---|---|
| | % | *n* | % | *n* | % | *n* |
| Alcohol-related disorders | 3 | 252 | 1 | 132 | 2 | 384 |
| Substance-related disorders | 13 | 1,044 | 2.5 | 286 | 7 | 1,330 |
| Count of Charlson comorbidities | | | | | | |
| 0 | 70 | 5,467 | 92 | 10,128 | 83 | 15,595 |
| 1 | 22 | 1,698 | 6 | 701 | 13 | 2,399 |
| 2 | 6 | 467 | 1 | 157 | 3 | 624 |
| 3 or more | 3 | 221 | 0.4 | 46 | 1 | 267 |

*Note*. All comparisons between columns for Medi-Cal only and any Medicare coverage are statistically significant ($p < .0001$). $\chi^2$ statistic = 957.08 ($df = 3$) for age, $\chi^2$ statistic = 1114.51 ($df = 3$) for ethnicity/race, $\chi^2$ statistic = 1585.92 ($df = 3$) for count of physical comorbidities; remaining $\chi^2$ statistics range from 93.27 to 946.13 ($df = 1$).

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**TABLE 2**

Percentages of 2007 Medi-Cal Enrollees With HIV/AIDS Who Remained in Medi-Cal, Transitioned to Medicare, Were Not Enrolled, or Died by 2010 by Demographic and Comorbidity Factors

| | Total | Medi-Cal | | Medicare | | Not Enrolled | | Death | |
|---|---|---|---|---|---|---|---|---|---|
| | *N* | *N* | % | *N* | % | *N* | % | *N* | % |
| *Demographics* | | | | | | | | | |
| Gender | | | | | | | | | |
| Male | 5,532 | 3,438 | 62.2 | 889 | **16** | 807 | **14.6** | 398 | **7.2** |
| Female | 2,030 | 1,431 | 70.5 | 161 | 8 | 294 | 14.5 | 144 | 7.1 |
| Age | | | | | | | | | |
| 18–30 years old | 382 | 201 | 52.6 | 89 | **23.3** | 76 | **20.0** | 16 | 4.0 |
| 31–45 years old | 3,258 | 2,044 | 62.7 | 528 | **16.2** | 486 | **14.9** | 200 | 6.1 |
| 46–61 years old | 3,922 | 2,624 | 66.9 | 433 | 11.0 | 539 | 13.7 | 326 | 8.3 |
| Race/ethnicity | | | | | | | | | |
| African American | 2,613 | 1,732 | 66.2 | 281 | **10.8** | 393 | 15.0 | 207 | 7.9 |
| Hispanic/Latino | 1,449 | 890 | 61.4 | 267 | 18.4 | 198 | 13.7 | 94 | 6.5 |
| Other | 625 | 449 | 71.8 | 49 | **7.8** | 85 | 13.6 | 42 | 6.7 |
| White | 2,875 | 1,798 | 62.5 | 453 | 15.8 | 425 | 14.8 | 199 | 6.9 |
| *Comorbidities* | | | | | | | | | |
| Schizophrenia | | | | | | | | | |
| Yes | 552 | 390 | 70.7 | 30 | **5.4** | 92 | 16.7 | 40 | **7.3** |
| No | 7,010 | 4,479 | 63.9 | 1,020 | 14.6 | 1,009 | 14.4 | 502 | 7.2 |
| Alcohol/substance disorders | | | | | | | | | |
| Yes | 1,181 | 767 | 64.9 | 70 | **5.9** | 228 | **19.3** | 116 | 9.8 |
| No | 6,381 | 4,102 | 64.3 | 980 | 15.4 | 873 | 13.7 | 426 | 6.7 |
| Physical comorbidities | | | | | | | | | |
| Two or more | 646 | 315 | 48.8 | 47 | 7.3 | 114 | **17.7** | 170 | **26.3** |
| One | 1,628 | 1,085 | 66.7 | 159 | **9.8** | 231 | 14.2 | 153 | **9.4** |
| None | 5,288 | 3,469 | 65.6 | 844 | 16.0 | 756 | 14.3 | 219 | 4.1 |

*Note*. Total *N* = 7,562. Bolded percentages represent statistically significant transitions from the Medi-Cal base case to one of three other possible enrollment categories as predicted by demographic and comorbidity factors. Statistical tests are based on the multivariable logistic regression in Appendix Table A2.