

Vital Signs: Increased Medicaid Prescriptions for Preexposure Prophylaxis Against HIV infection — New York, 2012–2015

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Abstract

Background: Approximately 3,000 incident cases of human immunodeficiency virus (HIV) infection occur in New York state each year. Daily HIV preexposure prophylaxis (PrEP) with the oral antiretroviral medication Truvada is a key component of New York's plan to end HIV/acquired immunodeficiency syndrome (AIDS) as an epidemic in the state by 2020.

Methods: Prescription data from the New York state Medicaid program from July 2012 through June 2015 were analyzed with an algorithm using medication and diagnoses codes to identify continuous use of Truvada for >30 days, after excluding use for postexposure prophylaxis or treatment of HIV or chronic hepatitis B infection.

Results: During July 2012–June 2013, a total of 259 persons filled prescriptions for PrEP in the Medicaid program. During July 2013–June 2014, a total of 303 persons filled prescriptions for PrEP. During July 2014–June 2015, a total of 1,330 persons filled prescriptions for PrEP, a substantial increase over the previous 12 months. Across all periods studied, 1,708 Medicaid recipients filled at least one prescription for PrEP, most of whom were New York City (NYC) residents, male, aged <50 years, and, for those with available data on race, white.

Conclusions: PrEP use by Medicaid-insured persons increased substantially in the years following statewide efforts to increase knowledge of PrEP among potential prescribers and candidates for PrEP. Other jurisdictions can follow New York state's example by taking similar steps to remove the financial and knowledge barriers experienced by both potential users and prescribers of PrEP.

Implications for Public Health Practice: Although both state and local health department efforts contribute to the availability and use of PrEP, their collaboration enhances the successful implementation of strategies to increase PrEP use. In addition, the decision by the state Medicaid agency to cover PrEP recognizes the long-term benefits of preventing HIV infections.

Introduction

On June 29, 2014, the Governor of New York detailed a plan to end human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) as an epidemic in the state. The goal of this initiative is to reduce the annual number of newly diagnosed cases of HIV infection from an estimated 3,000 to 750 by the end of 2020, thereby achieving the first-ever decrease in HIV prevalence in the state. The three major points of this plan are to 1) identify persons with undiagnosed HIV

and link them to care, 2) link and retain persons with diagnosed HIV infection in health care to maximize the likelihood of virus suppression so they remain healthy, and to prevent further transmission of the virus, and 3) facilitate access to preexposure prophylaxis (PrEP) for high-risk HIV-negative persons to prevent their becoming infected and transmitting the virus (1). After the Governor's announcement, a task force including representatives from the community, academia, and state and local governments was formed; the task force produced a set



of 37 recommendations and strategies to accomplish the goals of the Ending the AIDS Epidemic initiative (2). This report describes New York state's policy and programmatic efforts to increase the use of PrEP among Medicaid recipients, and to examine changes in the number of recipients filling prescriptions for PrEP during July 2012–June 2015.

In 2009, the New York State Department of Health's (NYSDOH) AIDS Institute staff recognized the potential for PrEP as a biomedical HIV prevention strategy, should the results of clinical trials underway at that time in the United States and internationally demonstrate the efficacy of PrEP to protect against HIV infection, and began to lay the groundwork for implementing PrEP to reduce HIV acquisition among state residents. By 2012, CDC had published information and guidance concerning PrEP (3,4), and the Food and Drug Administration had approved Truvada (a fixed-dose combination of emtricitabine/tenofovir disoproxil fumarate [FTC/TDF]) for daily use by uninfected adults to help protect against acquiring HIV through high-risk sexual contact. The AIDS Institute then drafted and began to implement a strategic plan (Box) to promote comprehensive and integrated PrEP and related services throughout the state within primary care, HIV care settings, and other settings that serve persons at risk for HIV and sexually transmitted diseases. In January 2014, the AIDS Institute posted its *Guidelines for the Use of Preexposure Prophylaxis (PrEP) to Prevent HIV Transmission* to its clinical guidelines website (5). This was followed in May 2014 by the release of the U.S. Public Health Service's clinical practice guideline for PrEP (6). To ensure that PrEP would be available to high-risk HIV-negative Medicaid recipients, the state's Medicaid program approved coverage of Truvada for PrEP through the program's fee-for-service drug formulary.

As a key component of New York's plan to end HIV/AIDS as an epidemic in the state, expanding access to PrEP among persons at highest risk for HIV infection has the capacity to substantially reduce the number of incident infections. NYSDOH partnered with the New York City Department of Health and Mental Hygiene (NYCDOHMH) in developing elements of the strategic plan. For example, NYCDOHMH developed and distributed a PrEP toolkit for primary care providers, which the state adapted for use in areas outside of NYC. Also, the city and state health departments collaborated on developing an online directory of providers currently offering PrEP, which is publicly available on their respective websites. NYCDOHMH also devoted an issue of its City Health Information series to providing comprehensive health care to men who have sex with men (MSM) (7) and drafted a PrEP provider FAQ sheet (8),

both of which are posted on the agency's website, and created a web address to which queries concerning PrEP and postexposure prophylaxis (PEP) can be sent.

Methods

An algorithm was developed and applied to Medicaid fee-for-service claims and encounter data submitted by Medicaid managed care plans that are housed in the NYSDOH Medicaid data warehouse (Figure). This algorithm included diagnosis and prescription drug coding that was intended to monitor the number of HIV-negative Medicaid recipients who filled prescriptions for Truvada for PrEP, as distinguished from those recipients receiving Truvada for PEP or as treatment of chronic hepatitis B infection. For this report, this algorithm was applied to the Medicaid data warehouse to examine the number of persons enrolled in Medicaid anytime during the 3-year period from July 2012 through June 2015 and who filled at least one prescription for PrEP.

Results

The number of Medicaid recipients filling at least one prescription for PrEP increased by 17.0%, from 259 recipients during July 2012–June 2013 to 303 recipients during July 2013–June 2014, and more recently by 338.9%, to 1,330 recipients during July 2014–June 2015 (Table). Across all periods studied, 1,708 Medicaid recipients filled at least one prescription for PrEP, among whom 80.7% reside in NYC and 82.4% are enrolled in Medicaid managed care plans. The proportion of persons filling prescriptions for PrEP who were male increased across the periods studied from 54.8% to 78.0%, although the number who were female more than doubled. Among recipients for whom race was reported, the proportion of Medicaid recipients filling prescriptions for PrEP who were white increased from 34.8% in the earlier period to 65.7% during the most recent period. However, the number of black recipients who filled at least one prescription for PrEP increased by 67.3%.

Recipients aged 18–49 years accounted for 85.8% of Medicaid recipients filling prescriptions for PrEP across all periods reported. Males accounted for 63.6% of these recipients, and among males in this age group for whom race was reported, 50.5% were white and 22.2% were black. Although males accounted for an increasing proportion of recipients aged 18–49 years using PrEP, the proportion who were black decreased by nearly three quarters, from 59.8% in the early period to 14.9% in the more recent period; however, males accounted for 56.6% of blacks in this age group.

BOX. Selected ongoing and accomplished elements of a strategic plan for preexposure prophylaxis (PrEP) — AIDS Institute, New York State Department of Health (NYSDOH), 2015–2017

Scientific groundwork (formulate guidelines, develop supportive services, define target populations, and integrate into existing services)

- Establish internal biomedical workgroup to coordinate activities.
- Convene a group of clinicians, consumers, and other stakeholders to develop guidance for New York state practitioners regarding evaluating patients for PrEP and initiating and managing patients on PrEP.
- Develop a summary of PrEP guidelines for nonclinical providers.

Regulatory, policy, financial groundwork (address issues related to financing and integration of PrEP into public health priorities)

- Implement a PrEP assistance program, modeled on the state's HIV Uninsured Care Program's AIDS Drug Assistance Program Plus initiative, to provide reimbursement for monitoring and care services delivered to uninsured and underinsured persons on PrEP.
- Convene the Ending the AIDS Epidemic initiative task force, which lists expanding access to PrEP to prevent new infections as one of its three major points.

Stakeholder and infrastructure groundwork (local participation in implementation planning, building public awareness, and physical and human resources infrastructure)

- Governor appoints 64 members to the Ending the AIDS Epidemic initiative task force to create the Ending the Epidemic Blueprint.
- Training conducted for "PrEP ambassadors" to answer questions about PrEP and nonoccupational postexposure prophylaxis (nPEP) at Gay Pride events throughout the state.
- NYSDOH website redesigned to permit clinicians and consumers easy access to information regarding PrEP and nPEP, such as departmental guidance for prescribers and a question and answer document for consumers.
- Access and adherence to PrEP included as fundable services in future requests for applications for various grant-supported services.
- NYSDOH adapts the PrEP toolkit created by the New York City Department of Health and Mental Hygiene (NYSDOHMH) and distributed it to primary care providers outside New York City.

Delivering PrEP (coordinating delivery components and ongoing adjustment and adaptation)

- Directories of PrEP and PEP providers posted to NYSDOH and NYCDOHMH websites.
- Create a toll-free phone service for clinicians with 24/7 coverage to respond to questions about PrEP.
- Enhance contracts for 23 specialized care centers and primary care clinics to hire an on-site PrEP specialist to promote clinic-wide approaches to provide PrEP and PrEP-related services.
- Contract with clinics with high numbers of transgender persons and young men who have sex with men to increase their awareness of PrEP, assess their appropriateness for treatment, and link them to care.
- Conduct PrEP pilot projects in several hospital-based and community-based clinics, including a number of local health department sexually transmitted disease (STD) clinics, to describe and implement those elements needed to identify, recruit, and retain appropriate candidates for PrEP and assist them in adhering to their medications.

Long-term monitoring (monitoring population-level effects and learning from the implementation process)

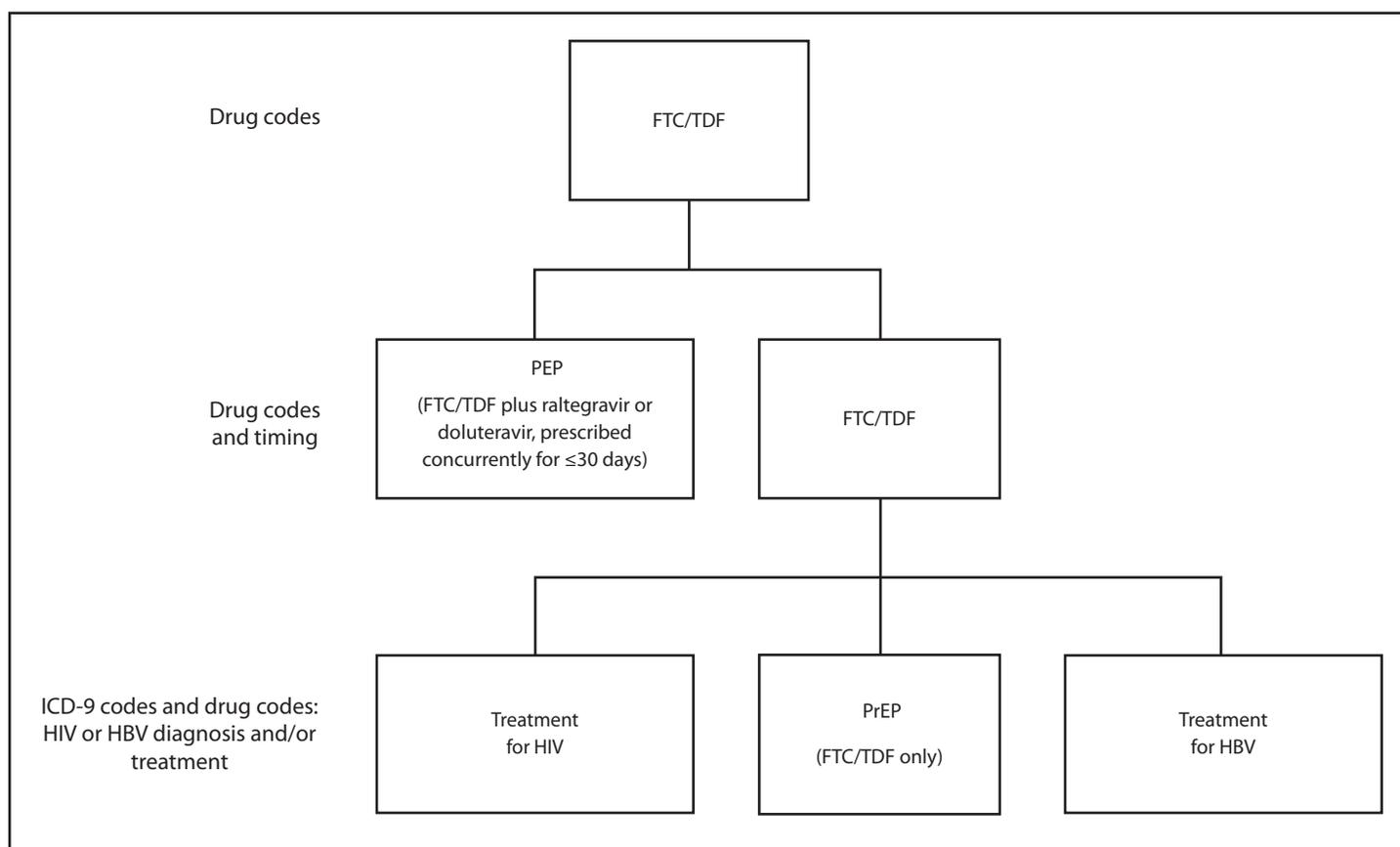
- Require human immunodeficiency virus/STD partner services and disease intervention services staff to include brief PrEP questions and PrEP referrals into their programming.
- Add questions related to PrEP to National HIV Behavioral Surveillance System survey conducted by NYSDOH.
- Periodic analysis of Medicaid data to assess changes in numbers of recipients filling prescriptions for PrEP and nPEP.

Conclusion and Comments

New York state experienced substantial increases in the number of HIV-negative Medicaid recipients initiating PrEP after the state's efforts to raise awareness of PrEP among potential users and increase the pool of PrEP prescribers. The

state's efforts to provide information to potential users and prescribers included making PrEP-related materials available through the NYSDOH website, training activities, public forums, and other activities focusing on educating potential prescribers and users.

FIGURE. Coding algorithm for extracting Medicaid recipients filling prescriptions for PrEP



Abbreviations: FTC = emtricitabine; HBV = hepatitis B virus; ICD-9 = *International Classification of Diseases, Ninth Revision*; PEP = postexposure prophylaxis; PrEP = preexposure prophylaxis; TDF = tenofovir disoproxil fumarate.

During the 3-year period ending June 30, 2015, the number of Medicaid recipients initiating PrEP in New York state increased more than fourfold. Those recipients initiating PrEP during this period were mostly male, aged <50 years, and, among those for whom data describing race was available, white. Despite the lack of diagnosis coding indicating whether Medicaid recipients filling prescriptions for Truvada are appropriate candidates for PrEP, there is concern that PrEP might not yet be reaching those who are engaging in high-risk behaviors, especially young black MSM (9).

Although the increase in percentage of Medicaid recipients filling Truvada prescriptions for PrEP during the 3-year period is substantial, the number of persons doing so remains low relative to the number needed to treat in order to achieve the goals of New York state's Ending the AIDS Epidemic initiative. Although no specific target goal for PrEP coverage has been set, recent modeling studies and other studies have projected reductions in the number of HIV infections from implementation of PrEP (10,11). For example, results from the United Kingdom's PROUD study examining the impact

on gay men of using PrEP showed an 86% reduction in HIV infections among MSM receiving PrEP, suggesting that for every 13 persons on PrEP, one HIV infection is averted (11). Although it is still early in the state's Ending the AIDS Epidemic initiative, which includes efforts to facilitate access to PrEP, monitoring the outcomes of the various strategies outlined in this report and others will provide opportunities to assess the impact of the efforts to increase PrEP use as well as inform where and to which populations resources should be most appropriately directed.

The findings in this report are subject to at least three limitations. First, because the analysis was based on administrative billing data, the results must be interpreted with caution. The algorithm derived and the database against which it is applied use combinations of diagnosis and prescription drug codes typically submitted by medical providers for billing and payment purposes, and the database does not contain information that would permit calculating an estimate of potential candidates for PrEP. Second, the database and the claims and encounter data that constitute it are subject to data submission errors and

TABLE. Use of preexposure prophylaxis (PrEP) by Medicaid recipients, by selected characteristics — New York state, July 2012–June 2015

Characteristic	Year 1 (July 2012–June 2013)		Year 2 (July 2013–June 2014)		% change (year 1 to 2)	Year 3 (July 2014–June 2015)		% change (year 2 to 3)	All years combined*	
	No. of recipients	(%)	No. of recipients	(%)		No. of recipients	(%)		No. of recipients	(%)
Recipients of PrEP regimen	259	(100.0)	303	(100.0)	+17.0	1,330	(100.0)	+338.9	1,708	(100.0)
Medicaid program										
Fee-for-service	59	(22.8)	58	(19.1)	-1.7	201	(15.1)	+246.6	300	(17.6)
Managed care	200	(77.2)	245	(80.9)	+22.5	1,129	(84.9)	+360.8	1,408	(82.4)
Age group (yrs)[†]										
<15	3	(1.2)	3	(1.0)	0.0	15	(1.1)	+400.0	21	(1.2)
15–17	7	(2.7)	11	(3.6)	+57.1	14	(1.1)	+27.3	32	(1.9)
18–24	33	(12.7)	53	(17.5)	+60.6	231	(17.4)	+335.8	294	(17.2)
25–49	168	(64.9)	204	(67.3)	+21.4	938	(70.5)	+359.8	1,171	(68.6)
50–64	45	(17.4)	31	(10.2)	-31.1	129	(9.7)	+316.1	184	(10.8)
≥65	3	(1.2)	1	(0.3)	-66.7	3	(0.2)	+200.0	6	(0.4)
Sex										
Female	117	(45.2)	115	(38.0)	-1.7	292	(22.0)	+153.9	472	(27.6)
Male	142	(54.8)	188	(62.0)	+32.4	1,038	(78.0)	+452.1	1,236	(72.4)
Region										
New York City	224	(86.5)	242	(79.9)	+8.0	1,065	(80.1)	+340.1	1,378	(80.7)
Rest of state (outside of New York City)	35	(13.5)	61	(20.1)	+74.3	265	(19.9)	+334.4	330	(19.3)
Race/Ethnicity										
White, non-Hispanic	77	(29.7)	105	(34.7)	+36.4	574	(43.2)	+446.7	687	(40.2)
Black, non-Hispanic	113	(43.6)	83	(27.4)	-26.5	189	(14.2)	+127.7	336	(19.7)
Asian/Pacific Islander	11	(4.2)	12	(4.0)	+9.1	38	(2.9)	+216.7	50	(2.9)
Native American	1	(0.4)	5	(1.7)	+400.0	7	(0.5)	+40.0	11	(0.6)
Hispanic	19	(7.3)	25	(8.3)	+31.6	66	(5.0)	+164.0	100	(5.9)
Other/unknown	38	(14.7)	73	(24.1)	+92.1	456	(34.3)	+524.7	524	(30.7)

Source: New York state Medicaid data as of July 2015.

* The counts for all years represent unique counts across the 3 years and include those persons who were enrolled in Medicaid anytime during the study period.

† Ages are calculated at initial Truvada claim for PrEP.

omissions (notably data describing the race and ethnicity of the recipients and any indication of risk) and lag times between the provision of services and claims submission and adjudication. Finally, although the intent of this analysis is to determine the number of Medicaid recipients on PrEP, the results present the number of recipients filling a prescription for Truvada but not whether those persons are following the PrEP regimen.

Despite these limitations, the findings suggest benefits derived from New York state's efforts to raise the awareness and knowledge of PrEP among persons at risk for HIV infection and the clinicians who care for them and can appropriately prescribe the regimen for their patients. This report focuses on results achieved among the state's Medicaid population, which accounts for one quarter (25.6%) of the state's population (NYSDOH, unpublished data, 2015). In addition, almost 170 practitioners, health centers, and practices throughout the state have listed themselves in NYSDOH's online PrEP/PEP provider directory (http://www.health.ny.gov/diseases/aids/general/prep/provider_directory.htm), although PrEP and its related services are more widely available.

New York state's response to the availability of PrEP and PEP as a key strategic component of the state's initiative to end HIV/AIDS as an epidemic in the state is illustrative of its efforts to raise awareness about HIV prevention interventions among clinicians and all persons at high risk for becoming infected or transmitting the virus, regardless of health insurance coverage. Recommendations by the Ending the AIDS Epidemic initiative task force and the elements of the AIDS Institute's PrEP strategic plan reflect perceived and reported needs and barriers concerning PrEP. Other jurisdictions can take similar steps to implement interventions appropriate to their populations at high risk for HIV infection or transmitting the virus that remove the financial and knowledge barriers experienced by potential users and prescribers of PrEP.

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Key Points

- Human immunodeficiency virus (HIV) infections continue to increase among gay and bisexual men in New York state.
- Daily oral preexposure prophylaxis (PrEP) is a safe and effective intervention to help protect men who have sex with men (MSM) and other HIV-uninfected adults against acquiring HIV through sexual contact, as well as those exposed to HIV through injection drug use.
- This report describes aspects of New York state's Ending the AIDS Epidemic initiative and various strategies to facilitate access to PrEP.
- New York state has experienced some success in facilitating access to PrEP as evidenced by a more than fourfold increase in the number of Medicaid recipients filling at least one prescription for PrEP during July 2012–June 2015.
- This increase has been achieved in large part through implementation of aspects of a strategic plan to increase PrEP use as part of the state's Ending the AIDS Epidemic initiative.
- Other state and local jurisdictions can use New York state's implementation strategies as a model to adopt or adapt to increase PrEP use among their own populations.
- Additional information is available at <http://www.cdc.gov/vitalsigns>.

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