

Ending the HIV Epidemic (ETE) in NYS

Projected **Fiscal Impact** of Recommended Expansions of HIV Prevention, Antiretroviral Treatment, and Housing Supports

March 2015

OVERVIEW

In June 2014, New York Governor Andrew Cuomo made history by committing New York State to end AIDS as an epidemic by the year 2020. The goal is ambitious, but grounded in reality. NYS has always been a center of innovation in the fight against AIDS, and has reduced the number of annual new HIV infections by 40% over the last decade while the rest of the U.S. saw no decline. Deaths from HIV-related conditions have also continued to drop dramatically. With expanded health care coverage and highly effective antiretroviral therapy, taken as treatment or prevention, **we now have the means to end the HIV epidemic**, even without a cure, by stopping new HIV infections and eliminating AIDS deaths.

To advance his plan, Governor Cuomo appointed an Ending the Epidemic (ETE) Task Force of HIV/AIDS experts from the public and private sectors and health and community-based organizations. The Task Force developed recommendations to be incorporated by the NYS AIDS Institute into a gubernatorial Blueprint to not only meet the Governor's mandate to reduce annual new infections from 3,200 in 2013 to below 750 in 2020, but to exceed that mission with proposals to **"get to zero"** new infections and HIV-related deaths. With the political will and funding necessary to implement the ETE Blueprint, NYS can be the first jurisdiction anywhere to end AIDS, saving the lives of thousands of New Yorkers and providing a model for the rest of the nation and the world.

Ending AIDS as an epidemic is not just the right thing to do for the health of New Yorkers – it's also cost-effective. We simply can't afford a status-quo approach to HIV. Every new HIV infection costs \$443,904 in health spending alone (the discounted present value of \$798,300 in lifetime HIV treatment costs).¹ ETE implementation would improve the health of New Yorkers living with HIV and prevent 10,850 new primary HIV infections between now and 2020 as well as thousands of secondary downstream infections.

The fiscal analyses detailed here focus primarily on costs and savings to the NYS Medicaid program that covers 50% of people with HIV in the State. As outlined in the Appendix, additional savings are expected in Medicare, ADAP, and other public health programs.

Between now and 2020, successful ETE implementation would generate:

\$6.8 billion in total Medicaid savings, including:

- At least **\$1 billion** in savings in avoidable Medicaid spending from getting people with HIV successfully onto lifelong antiretroviral treatment that improves their health;
- Another **\$1 billion** in savings in avoidable crisis and inpatient health spending from housing over 10,000 homeless and unstably housed people with HIV statewide; and
- **\$4.8 billion** in Medicaid savings from prevented HIV infections.

\$4.5 billion in net savings to Medicaid after taking into account an estimated \$2.25 billion investment in increased HIV treatment costs.

\$120 million in public savings from reduced NYC shelter costs (over \$20 million annually) by housing the 700 or more homeless people with HIV who spend each night in City shelters.



Housing Works is a healing community of people living with and affected by HIV/AIDS. Our mission is to end the dual crises of homelessness and AIDS through relentless advocacy, the provision of lifesaving services, and entrepreneurial businesses that sustain our efforts.

Treatment Action Group is an independent AIDS research and policy think tank fighting for better treatment, a vaccine, and a cure for AIDS. TAG works to ensure that all people with HIV receive lifesaving treatment, care, and information.

Impact of ETE **ARV Treatment Expansion** on NYS Health Care Spending

ETE implementation requires doubling the number of people with HIV in NYS who are retained in continuous antiretroviral (ARV) therapy that results in viral suppression – from 68,000 people with HIV (44% of all people with HIV in NYS) virally suppressed in 2012 to at least 136,000 (88%) virally suppressed as soon as possible. An HIV-positive person successfully and sustainably treated can maintain optimal health and is virtually unable to transmit HIV to others.

Successful ETE testing, treatment, and prevention expansion that reduces new HIV infections statewide from 3,200 in 2013 to 750 or less in 2020 will reduce Medicaid spending by at least \$3.93 billion² for the 50% of New Yorkers with HIV who rely on Medicaid. This is calculated as the difference between an investment of \$2.25 billion in Medicaid spending for incremental treatment costs and \$6.18 billion in offsetting Medicaid savings from improved HIV health outcomes (\$1.43 billion) and averted HIV infections (\$4.75 billion in avoided costs for prevented primary and secondary HIV infections).

\$2.25 billion costs vs. \$6.18 billion savings = \$3.93 billion net savings to NYS Medicaid

ETE COSTS

\$2.25 billion in incremental ARV costs between now and 2020:

- With community support, the State has negotiated volume-based discounts with pharmaceutical companies that represent more than 70% of the ARV market, which will significantly reduce new ARV costs to the NYS Medicaid program.
- Annual incremental costs to Medicaid of doubling the number of HIV-positive beneficiaries on ARV medications are estimated at \$375 million/year (with total estimated ARV treatment costs to Medicaid of \$1.125 billion/year instead of \$1.5 billion without discounts).
- Total incremental Medicaid ARV medication costs would therefore be \$375 million/year for six years (2015 – 2020), or a total of \$2.25 billion.

ETE SAVINGS

\$1.43 billion from improved health for people with HIV:

- 34,000 people with HIV will receive effective ARV treatment from NYS Medicaid (50% of the 68,000 people with HIV newly on ARV treatment).
- People with HIV on ARV treatment incur costs as much as \$7,000 less per year than those not on ARVs, due to reductions in avoidable medical costs and longer life expectancies associated with effective ARV treatment.³
- Savings in avoidable Medicaid spending would therefore be \$238 million/year (34,000 people with HIV at \$7,000/year) for six years (2015 – 2020), or a total of \$1.43 billion.

\$2.41 billion from prevented primary HIV infections:

- 10,851 new primary HIV infections will be prevented between now and 2020 as NYS reduces annual new infections to 750 or less in 2020 (see Appendix).
- Each infection prevented saves \$443,904 in lifetime HIV treatment costs,⁴ generating \$4.816 billion in total health care savings, including a \$4.07 billion reduction in public sector health spending that breaks down as follows:

Medicaid: \$2.41 billion (50% of people with HIV in NYS);

Medicare and dual eligibles: \$795 million (16.5% of people with HIV in NYS); and

AIDS Drug Assistance Program: \$867 million (18% of people with HIV in NYS).⁵

\$2.34 billion from prevented secondary HIV infections:

- Averting 10,851 new primary HIV infections would also prevent an estimated 10,525 downstream secondary infections, as the average HIV-infected person is expected to transmit HIV to 0.97 HIV-uninfected persons over his or her lifetime.⁶
- Preventing secondary infections will generate \$4.67 billion in savings in lifetime HIV treatment costs (10,525 prevented secondary infections at \$443,904/infection), including \$2.34 billion in savings to Medicaid (50% of people with HIV in NYS).

Impact of ETE **Housing Expansion** on Public Costs and Spending

Successful ETE implementation will require increased public investments in housing resources for the 10,000 to 12,000 low-income people with HIV in NYS who are currently homeless or unstably housed. Housing status is among the strongest predictors of access to HIV care, viral load, health outcomes/spending, and ongoing risk of HIV transmission.⁷

Funding safe, stable housing for homeless and unstably housed New Yorkers with HIV will produce net savings of at least \$1 billion in public spending between now and 2020. This is calculated as the difference between public investments of up to \$720 million for new housing supports and \$1.72 billion in offsetting public savings in Medicaid spending from improved HIV health outcomes (\$1.08 billion), averted HIV infections (\$520 million), and in public spending on inappropriate homeless shelters (\$120 to \$180 million).

\$720 million costs vs. \$1.72 billion savings = \$1 billion net savings to NYS

ETE COSTS

\$600 to \$720 million

in new public spending on housing between now and 2020.

- An estimated 6,000 people with HIV in NYC and 4,000 to 6,000 people with HIV in the balance of the State have a current unmet housing need and are financially eligible for public housing supports.
- The public costs of required rental subsidies and related supports for the 10,000 to 12,000 homeless/unstably housed people with HIV statewide is estimated at \$100 million to \$120 million per year, or between \$600 million and \$720 million total over the six years between now and 2020.⁸

ETE SAVINGS

\$1.08 billion in Medicaid savings from improved health outcomes.

- The 10,000 to 12,000 extremely low-income people with HIV who are homeless or unstably housed are eligible for and should be enrolled in Medicaid or other publicly funded program(s) for health coverage.
- Improved housing status for people with HIV is strongly linked to reduced viral load and better health outcomes and has been found to reduce avoidable health care spending on emergency and inpatient care by an average of \$15,000/year for each person with HIV who moves from homelessness to stable housing.⁹
- Savings from improved housing status for 12,000 homeless and unstably housed people with HIV in NYS are therefore estimated at \$180 million per year (\$15,000/person/year in avoided emergency, inpatient and other crisis health care costs), for a total savings over six years of \$1.08 billion.

\$520 million in Medicaid savings from prevented primary infections.¹⁰

- Improved housing status is also independently linked to reduced risk of ongoing HIV transmission.¹¹
- Housing 12,000 currently homeless/unstably housed people with HIV in NYS can be expected to prevent at least 1,173 new HIV infections between now and 2020, saving the NYS Medicaid program approximately \$520 million in lifetime HIV treatment costs (\$443,904 in avoided lifetime treatment costs per prevented HIV infection).¹²
- Put another way, continued failure to meet the housing needs of 12,000 people with HIV in NYS can be expected to result in 1,173 new HIV transmissions between now and 2020, undermining the ETE goals described in the Treatment Expansion section above and costing the Medicaid program \$520 million in lifetime treatment costs.

\$120 to \$180 million in savings from reduced use of inappropriate homeless shelters.

- Analysis of NYC administrative data indicates that 700 to 1,000 PWH are forced to use Department of Homeless Services shelters each night, at a cost of \$78/night for single adults and \$102/night for families.¹³
- Assuming that 80% of sheltered people with HIV are singles and 20% have families (per the current NYC HIV/AIDS Services Administration [HASA] caseload), the total public cost of shelter for people with HIV in NYC is \$21 million to \$30 million each year.
- Housing 700 to 1,000 New Yorkers with HIV who use DHS shelters each night would therefore produce savings of \$20 million to \$30 million annually, or \$120 million to \$180 million over the six years between now and 2020 – funds that could be better spent to provide safe, stable, long-term non-shelter housing.

CONCLUSION

After 30 years, we know all too well the human toll of AIDS on New York State's individuals, families, and communities – but the ongoing NYS HIV epidemic also costs the State billions in avoidable public spending. Implementing the Ending the Epidemic Blueprint will translate into substantial savings in avoided health care and services spending. The ETE plan is expected to generate over \$6.8 billion in total Medicaid savings, reducing Medicaid spending by a net \$4.5 billion after factoring in an investment of \$2.3 billion for incremental treatment costs. The expansion of essential housing services called for in the ETE plan will alone produce net public savings of at least \$1 billion through increased stability and improved health outcomes for New Yorkers with HIV who are currently homeless or unstably housed. An AIDS-free New York stands to gain much – in both human and fiscal terms.

Appendix: Primary Infections Averted & Health Care Cost Savings With Implementation of ETE Plan 2014-2020*

Year	New Infections	Infections Averted	Total Savings From Averted Infections/Year	Cumulative Savings
2013	3,200	0	\$0	\$0
2014	2,800	400	\$177,561,600	\$177,561,600
2015	2,400	800	\$355,123,200	\$532,684,800
2016	2,000	1,200	\$532,684,800	\$1,065,369,600
2017	1,600	1,600	\$710,246,400	\$1,775,616,000
2018	1,200	2,000	\$887,808,000	\$2,663,424,000
2019	800	2,400	\$1,065,369,600	\$3,728,793,600
2020	749	2,451	\$1,088,008,704	\$4,816,802,304
Total		10,851		\$4,816,802,304

Payor	% HIV+	Savings
Medicaid	50%	\$2,408,401,152
ADAP	18%	\$867,024,415
Medicare	12%	\$578,016,276
Medicaid/care dual	4.5%	\$216,756,104
Privately insured	15%	\$722,520,346
Other sources	0.5%	\$24,084,012
Total		\$4,816,802,304
NYS public sector	84.5%	\$4,070,197,947

HIV care (entry at CD4 < 500) cost per infection in 2015 USD**:
\$443,904

*CDC. HIV Cost-Effectiveness. <http://www.cdc.gov/hiv/prevention/ongoing/costeffectiveness/>, accessed 11 Feb. 2015.

**Schackman BR, et al. The lifetime medical cost savings from preventing HIV in the United States. *Med Care*. 2015 Feb 21. Epub ahead of print.

***\$1 in 2012 = \$1.02 in 2015, per the US Consumer Price Index, <http://www.usinflationcalculator.com/>, accessed 9 March 2015.

Endnotes

- Schackman BR, et al. (2015). The lifetime medical cost savings from preventing HIV in the United States. *Med Care*. 2015 Feb 21. Epub ahead of print.
- Additional Medicaid savings will be realized as the result of ETE housing expansion to meet the needs of homeless and unstably housed people with HIV, as explained in the following section.
- Hutchinson AB, et al. (2006). The economic burden of HIV in the United States in the era of highly active antiretroviral therapy: Evidence of continuing racial and ethnic differences. *J Acquir Immune Defic Syndr*, 43(4): 451–7.
- Schackman, et al. (2015). (Assumes access to ARVs for persons newly diagnosed with HIV at CD4 < 500; Schackman's estimate of \$435,200/infection (2012 US\$) has been updated to 2015 US\$ per the Consumer Price Index (CPI) calculator.)
- Sources of health insurance based on NYS Department of Health data.
- Schackman, et al. (2015).
- Aidala, AA, et al. (2007). Housing need, housing assistance, and connection to medical care. *AIDS & Behavior*, 11(6)/Supp 2: S101-S115; Leaver, CA, et al. (2007). The effects of housing status on health-related outcomes in people living with HIV: A systematic review of the literature. *AIDS & Behavior*, 11(6)/Supp 2: S85-S100.
- Based on estimated fair market housing costs less tenant contributions of 30% of disability benefits or other income.
- See, e.g., Buchanan, DR, et al. (2009). The health impact of supportive housing for HIV-positive homeless patients: A randomized controlled trial. *Am J Public Health*, 99:6; Holtgrave, DR, et al. (2012). Cost-utility analysis of the housing and health intervention for homeless and unstably housed persons living with HIV. *AIDS & Behavior*, 17(5): 1626-1631.
- Not included in this analysis is an additional \$495 million in Medicaid savings for lifetime treatment costs attributable to prevented secondary HIV infections.
- Aidala, AA, et al. (2006). Sexual behaviors and sexual risk in a prospective cohort of HIV-positive men and women in New York City 1994-2004: Implications for prevention. *AIDS Education & Prevention*, 18(1): 12-32.
- Holtgrave, et al. 2012.
- Estimates based on an analysis of administrative data conducted by the NYC Departments of Health and Mental Hygiene (DOHMH) and Homeless Services (DHS); shelter costs from the 2014 NYC Mayor's Management Report.