Editorial

An ounce of prevention: Medicaid's role in reducing the burden of cancer in men with HIV

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One of the more remarkable joint public health and medical achievements of the past several decades is the decline in annual incident HIV cases (an 8% decrease between 2015 and 2019)[1] coupled with an improved survival period after HIV diagnosis that approaches the lifespan of the general population.[2] Although highly active antiretroviral treatment (HAART) is the primary reason survival has improved to previously unimagined longevity, people living with HIV (PLWH) often suffer from comorbid conditions that limit their ability to live their lives as they would have in the absence of HIV. PLWH are also more likely to be persons of color, men who have sex with men, transgender women, people who inject drugs, and people with lower socioeconomic status. Given the complex clinical, patient, social, and health care system factors that affect health risks, access to care, and care coordination for PLWH, it is essential to understand patterns of serious and high-cost comorbid conditions to inform strategies for prevention and management among providers, health care payers, and policymakers.

In this issue of *Cancer*, Koroukian et al report excess cancer in men living with HIV (MLWH) and insured by Medicaid.[3] Strikingly, the prevalence of cancer was nearly twice as high in MLWH as in men without a diagnosis of HIV. In this national sample of MLWH, lymphoma and anal cancer were the most prevalent cancers, although MLWH also had an excess prevalence of other cancers, including cancers of the esophagus and rectum, as well as a higher prevalence of leukemia, relative to a sample of men without HIV. This finding underscores the need to better understand risk factors among PLWH so that cancer can be prevented and, if not prevented, detected early, when treatment is most effective. The findings also draw attention to the experiences of a growing survivorship population, one that lives with both HIV and cancer.

Koroukian and colleagues' study sample was drawn from the national Medicaid Analytic eXtract file, which includes data from fee-for-service plans and health maintenance organizations. This is a highly relevant sample to study because Medicaid provides health insurance coverage for approximately 42% of PLWH[4] who, in all likelihood, will age into Medicare coverage if they do not qualify as dually eligible for both programs before age 65 years. Together, federal funding for HIV/AIDS care under the Medicaid and Medicare programs was >$17 billion in 2019.[4]

By using Medicaid claims data, the researchers used International Classification of Diseases, Ninth Revision, diagnosis codes to identify HIV status and 13 common cancers. They further stratified the sample by symptomatic and asymptomatic HIV, age, and race/ethnicity to examine differences within these important subgroups who may disproportionately experience adverse effects of HIV and cancer and who also may face inequities in receipt of health care. The burden of cancer was not shared equally across the sample of MLWH. Hispanic men, a group that is relatively understudied, experienced the highest *adjusted prevalence ratios* for cancer. A brief survey of the literature offered few explanations for this disparity. More research is needed to understand the underlying risk factors faced by Hispanic men living with HIV.

Not unsurprisingly, symptomatic men also experience a greater burden of cancer, highlighting the importance of HAART and the complexity of clinical considerations for men with symptomatic HIV. However excess cancer prevalence, especially anal cancer, was also significantly higher in younger MLWH, underscoring the importance of human papillomavirus vaccination in all children and adolescents to prevent these cancers. In addition, eligible adults who did

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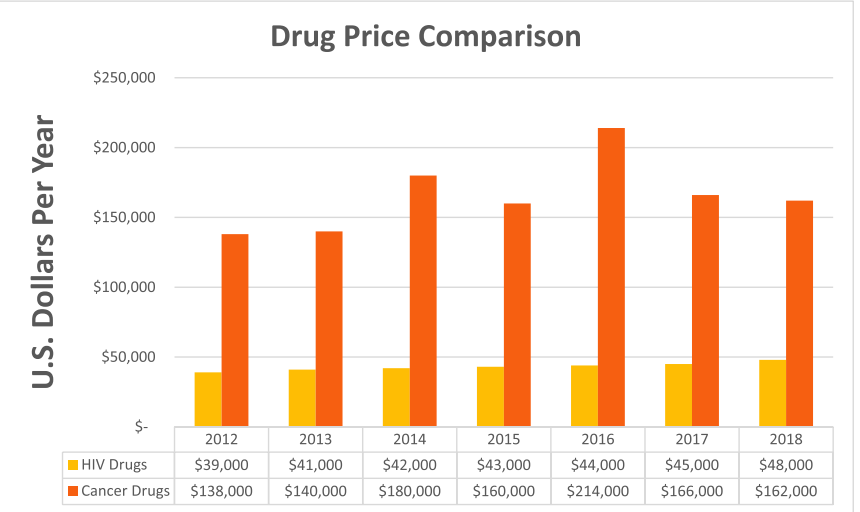

Figure 1. Inflation-adjusted drug price growth is illustrated during 2012 and 2018 for cancer and HIV drugs. Inflation was adjusted for 2021 using the Bureau of Labor Statistics Medical Care Index (US Cities Average). Cancer drug prices were used for 2012 through 2016 from Memorial Sloan Kettering Cancer Center and for 2017 and 2018 from IQVIA. In 2014, the drugs that drove the median price higher were blinatumomab ($77,420.33 per month) and belinostat ($46,860.63 per month). In 2016, olaratumab ($19,321.95 per month) and cabozantinib ($18,762.86 per month) increased the median price. Source material for estimations: Bach PB. Price & Value of Cancer Drug. Memorial Sloan Kettering Cancer Center. Accessed January 6, 2022. https://www.mskcc.org/research-programs/health-policy-outcomes/cost-drugs[12]; IQVIA. IQVIA Institute for Human Data Science Releases Global Oncology Trends 2019 Study: Record Number of Cancer Drugs Launched in 2018 Across 17 Indications. Accessed January 3, 2022. https://www.iqvia.com/newsroom/2019/05/iqvia-institute-for-human-data-science-releases-global-oncology-trends-2019-study-record-number-of-c[13]; IQVIA. Global Oncology Trends 2018. Accessed January 28, 2022. https://www.iqvia.com/insights/the-iqvia-institute/reports/global-oncology-trends-2018[14]; McCann NC, Horn TH, Hyle EP, Walensky RP. HIV antiretroviral therapy costs in the United States, 2012-2018. *JAMA Intern Med*. 2020;180:601-603. doi:10.1001/jamainternmed.2019.7108[7]

not receive the vaccine as adolescents should be counseled toward vaccination. The available evidence strongly suggests the vaccine's protective effect for these individuals.

If it were possible to do so, the Medicaid data Koroukian et al used would have been augmented through linkage to cancer registry data that include detailed characteristics of the cancer, such as date of diagnosis, disease stage, and date and cause of death, if applicable. Linked data would have informed the investigators of when cancer was diagnosed relative to HIV diagnosis and relative to Medicaid enrollment. Linked data would also have allowed for an assessment of whether MLWH are more likely to be diagnosed at later stages. Furthermore, data from multiple payers, like those found in All Payer Claims Data, could address some of the limitations noted by the authors related to differences between those who are enrolled in Medicaid and the general population and the potential for enrollment in Medicaid because of complex or high-cost conditions. An opportunity exists to improve the nation's data infrastructure to address these types of questions.[5,6]

Koroukian and colleagues' study is especially important because it reports on a growing population that is experiencing the convergence of 2 previously fatal health conditions, which are now becoming chronic conditions. The implications extend far beyond this single study. The population of PLWH covered by Medicaid insurance increased by 33% between 2007 and 2013,[4] which is a substantial burden on a publicly funded program and predates the expansions of Medicaid across many states in 2014. Moreover, the cost of outpatient drugs to treat HIV comprises 8% of Medicaid's prescription drug spending, a share that is expected to increase as the costs of these drugs outpace inflation.[7] Simultaneously, the costs of drugs to treat cancer are rising faster than all other drugs in the United States.[8] Annualized treatment costs between 2010 and 2013 for follicular lymphoma, a common non-Hodgkin lymphoma, approached $100,000 for first-line therapy and exceeded $400,000 for fifth-line therapy.[9] Systemic therapy for Hodgkin lymphoma exceeds $100,000 per person per year.[10] Similarly high costs exist for the treatment of anal cancer.[11] Figure 1[7,12-14] illustrates the inflation-adjusted annual cost of drugs for HIV and cancer from 2012 through 2018. The growth in the median costs for cancer and HIV drugs have outpaced

inflation, with an increase of 15% and 19% in the median cost of cancer and HIV drugs, respectively.

Given the human toll and the unsustainable costs of care, a greater emphasis on cancer prevention and control is needed. Among PLWH, 10% to 20% of deaths are attributable to cancer.[15] Once diagnosed with HIV, long-term care plans for PLWH should include guidelines for cancer prevention and surveillance. The excess prevalence of cancer in this population further emphasizes the need to address additional risk factors (eg, smoking, alcohol, and substance use) associated with cancer and the need for continued use of HAART. Koroukian et al noted lower cancer incidence in MLWH who were asymptomatic and, presumably, also were taking HAART. Although the authors rightly recommended caution in interpreting these results, some evidence suggests that HAART may have antitumor activity independent of its antiviral benefits.[16] Once diagnosed with cancer, HAART must be comanaged with chemotherapy because HAART withdrawal could result in exacerbation of HIV symptoms. Unfortunately, because PLWH are typically excluded from clinical trials in oncology, little is known about toxicities and drug interactions in this population.

Policy initiatives to prevent and control cancer in PLWH are also needed. Gaps in Medicaid coverage are common[17] and are associated with noncompliance with medications,[18] potentially leading to opportunistic infections and symptomatic HIV, for which the risk of cancer may be higher. Policies that ensure continuous insurance coverage potentially could prevent worsening of HIV symptoms, may detect cancers early, and may even prevent some cancers. Medicaid-insured patients who are enrolled in Medicaid before cancer diagnosis tend to be diagnosed at earlier stages than patients who enroll in Medicaid after diagnosis.[19] Further evidence suggests that higher physician fees are associated with higher cancer screening rates in Medicaid-insured patients,[20] suggesting an important lever to increase screening in this vulnerable population. Moreover, copayments for cancer screening appear to discourage Medicaid-insured patients from seeking these preventive services.[21] Policies that improve the affordability of care will also further reduce the burden of these 2 expensive-to-treat conditions. A growing body of literature consistently reports the large financial burden associated with cancer treatment, even among patients who are insured.[8,22-24]

As successes in medical treatments are celebrated, we must simultaneously grapple with the complex needs of the populations that stand to benefit from these innovative and often expensive treatments. The PLWH population is growing and aging, raising the risk of cancer and other comorbid conditions that will increase their need for intensive and costly health care. Because many people who experience conditions like HIV also have low income, Medicaid is the primary payer for their care, and their care needs and clinical outcomes have implications for state and federal public programs and budgets. Policies and programs targeting prevention and ensuring access to high-quality care, with a particular focus on the needs of populations affected by systemic and individual discrimination, including people of color and people who are gay and transgender, are needed to ensure equitable care and to improve disparities in health outcomes, which may also curb public health care costs.

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