

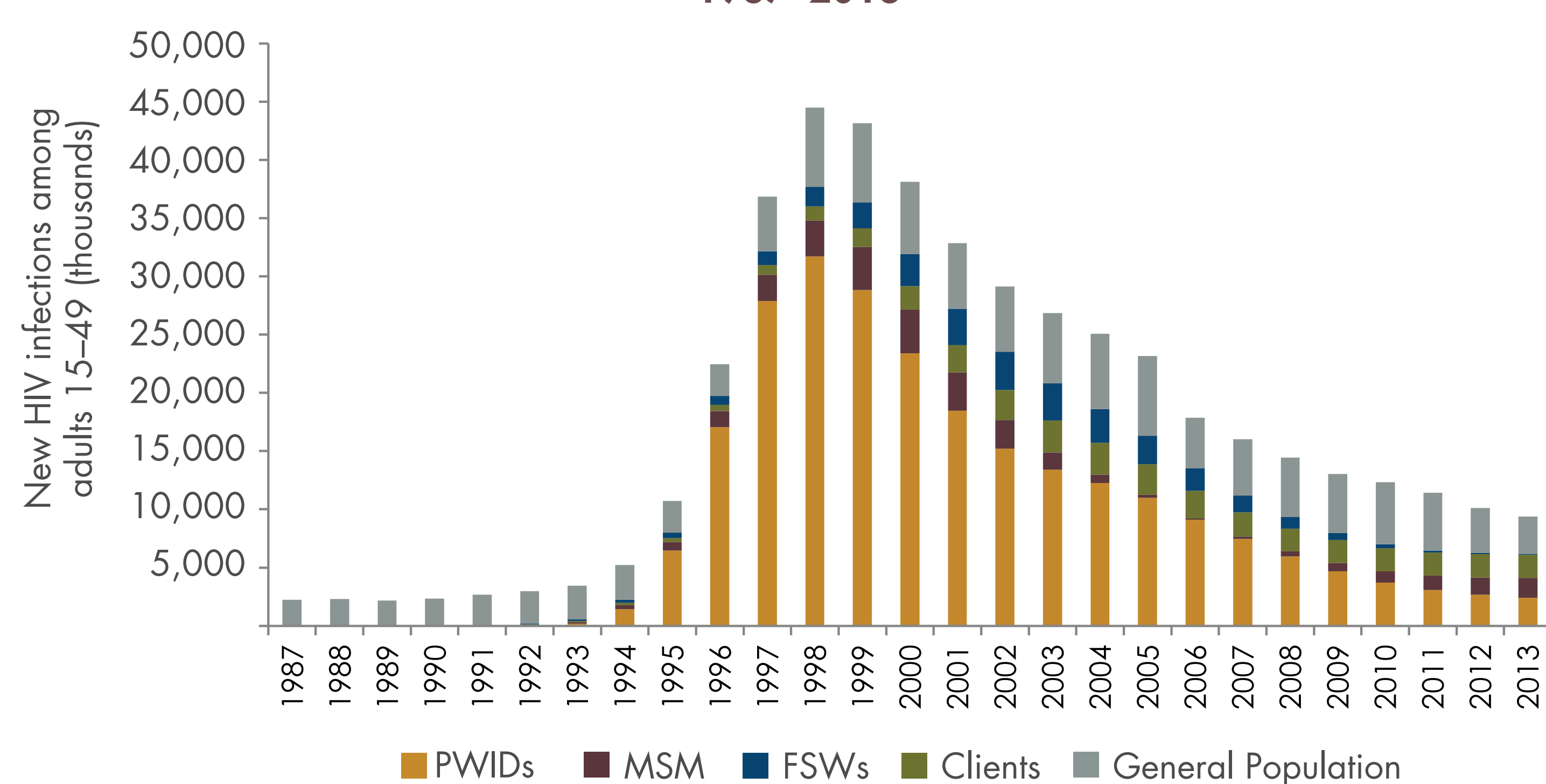


# Investment Case for an Evolving Concentrated HIV Epidemic: National Goals Application in Ukraine

## INTRODUCTION

The HIV epidemic in Ukraine is severe and concentrated: it is estimated that there were 211,800–237,000 HIV-positive individuals in the country in 2013. Once dominated by infections among people who inject drugs (PWID), the adult HIV incidence in Ukraine is increasing among other key populations and the national prevention strategy must adapt. These populations include female sex workers (FSWs), clients and casual partners of FSWs, and men who have sex with men (MSM), among others. In this context, the USAID- and PEPFAR-funded Health Policy Project partnered with the State Service of Ukraine on HIV/AIDS and the Institute for Economy and Forecasting to analyze the cost and effectiveness of HIV prevention from 2014–2018. Conducted in July 2013, the analysis aimed to inform the National AIDS Programme (NAP) 2014–2018.

**Figure 1. Adult HIV Incidence by Key Population Groups\* Over Time, 1987–2013**



\* PWIDs: people who inject drugs; MSM: men who have sex with men; FSWs: female sex workers; Clients: clients of FSWs; Gen. Pop.: lower-risk adults ages 15–49. Source: AIDS Impact Model (AIM) projection.

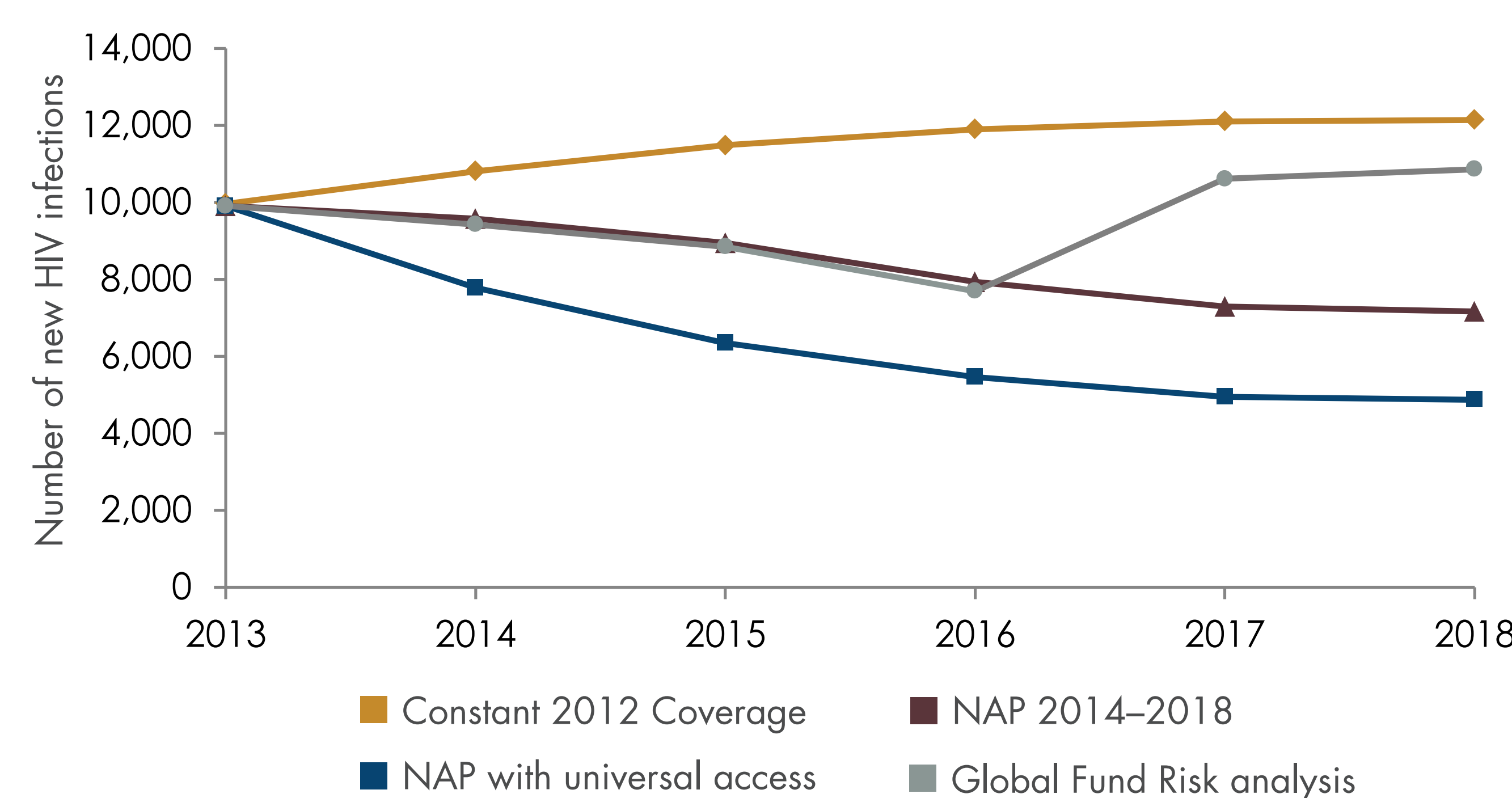
## RESULTS

### HIV incidence

All of the scenarios estimated there would be 9,900 new HIV infections among adults ages 15–49 in 2013. By 2018, large differences emerged. For the entire period 2013–2018, the highest number of infections was seen in the Constant 2012 Coverage scenario, while the fewest infections occurred in the NAP with UA scenario. Comparing the two scenarios, 29,032 infections can be averted by an ambitious scale-up of interventions.

In 2017, the GF Risk scenario showed a sharp rise in new infections, stemming from the loss of funding for prevention programming for certain key populations. As a result, the GF Risk scenario resulted in an additional 6,542 HIV infections overall compared to the NAP 2014–2018 scenario.

**Figure 2. New HIV Infections Among Adults Ages 15–49, 2014–2018, by Scenario**



## METHODOLOGY

The study team applied the Goals mathematical model to examine the effects of scaling up treatment, harm reduction, and other behavioral interventions on incidence. The Goals model is integrated within the Spectrum software suite of models. The software simulates an HIV epidemic among adults ages 15–49, based on the likelihood and frequency of sexual and injecting risk behaviors and a decrease in the possibility of HIV transmission when HIV-positive patients are receiving treatment. An Excel-based model was also developed to estimate the implementation cost. Recent Ukraine-specific epidemiological, behavioral, demographic, and cost data were obtained from the Ministry of Health and other secondary sources.

Four scenarios for the scale-up of key prevention interventions were examined, using different assumptions about the availability of financing and policy priorities.

1. Constant 2012 Coverage: Maintaining 2012 treatment, care, and prevention coverage
2. NAP 2014–2018: Increasing coverage to targets proposed for the NAP
3. NAP with UA: Achievement of universal access (UA) for all prevention interventions under NAP
4. GF Risk: Assuming Global Fund (GF) grants are not renewed, discontinuation of NAP prevention interventions for key populations currently implemented with GF funding

Scenario 1 is the baseline for all comparative analyses.

**Table 1. Coverage of Selected HIV Interventions in 2014 and 2018 Under Four Scenarios**

INTERVENTION	COVERAGE IN 2014				COVERAGE IN 2018			
	1. CONSTANT (%)	2. NAP (%)	3. NAP WITH UA (%)	4. GF RISK (%)	1. CONSTANT (%)	2. NAP (%)	3. NAP WITH UA (%)	4. GF RISK (%)
HCT*,**	12	7.5	7.5	7.5	12.6	7.9	7.9	7.9
ART**	39	56	56	56	32	83	83	83
Youth at risk	23	34	34	34	25	42	80	5
School-based	0	100	0	100	0	100	100	100
FSW package	36	39	40	39	38	47	60	0
MSM package	11	14	20	14	12	28	60	0
PWID MAT**	3	5	14	5	3	9	60	5
PWID package	57	58	57	58	60	53	60	0

\* Coverage for the general population only. Due to specific assumptions, coverage for HCT is higher in Scenario 1's "constant" than other scenarios, which have higher coverage for other interventions.

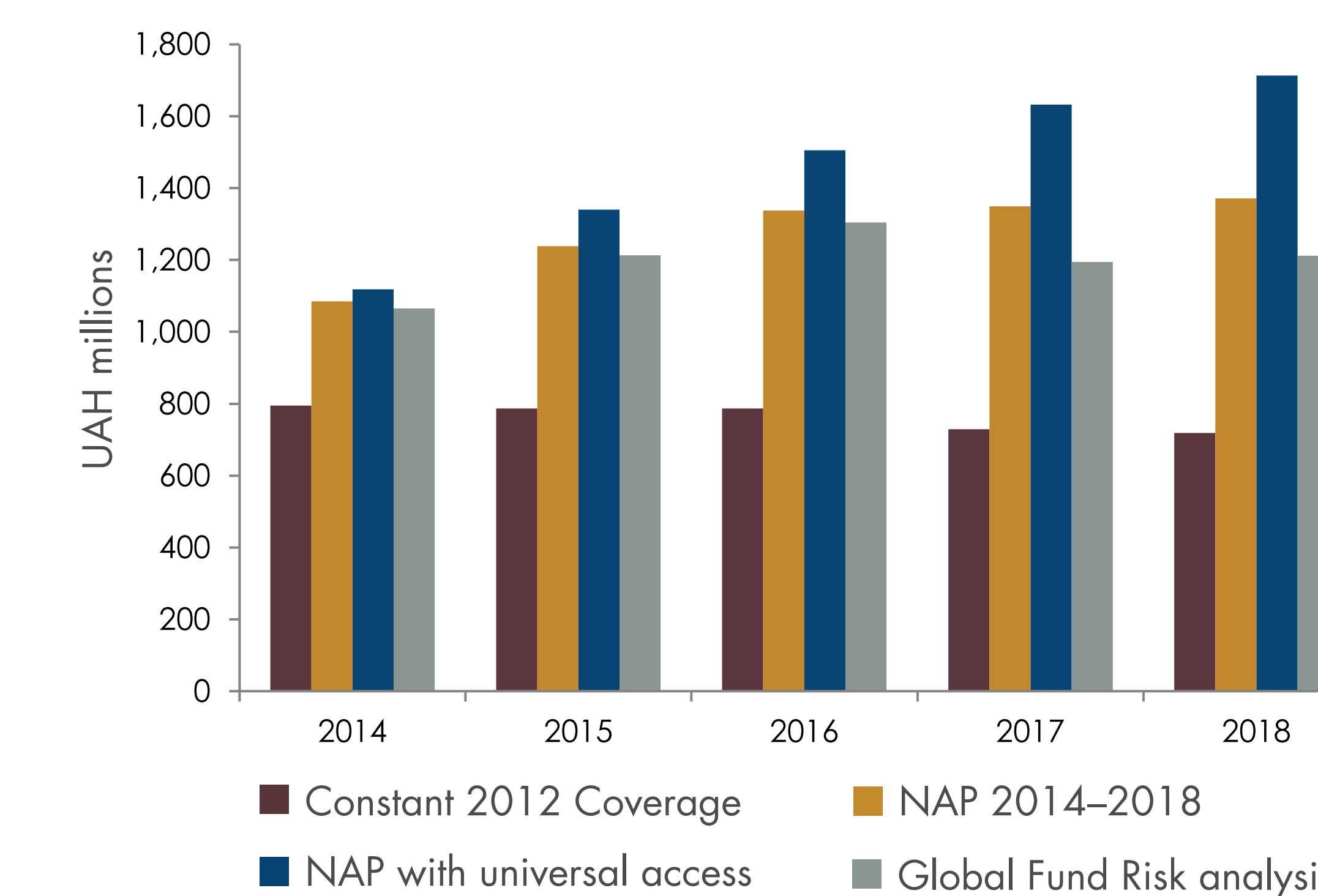
\*\*HCT: HIV counseling and testing; ART: antiretroviral therapy; MAT: medication-assisted therapy

## Cost

Implementing the NAP 2014–2018 would cost 6,380 million Ukrainian hryvnias (UAH) (US\$776 million).\* Due to fluctuations in the anticipated number of blood transfusions and changes in the investments in other support functions, there would be a decrease in annual costs of about 10 percent between 2014 and 2018. The NAP with UA scenario would cost an additional UAH 928 million (US\$113 million) over 2013–2018 to support the rapid scale-up of HIV prevention for key risk groups.

\* All US\$ values reflect November 2013 exchange rate (FX USD/UAH 8.22).

**Figure 3. Total Costs of the Ukraine HIV Program, 2014–2018, by Scenario**

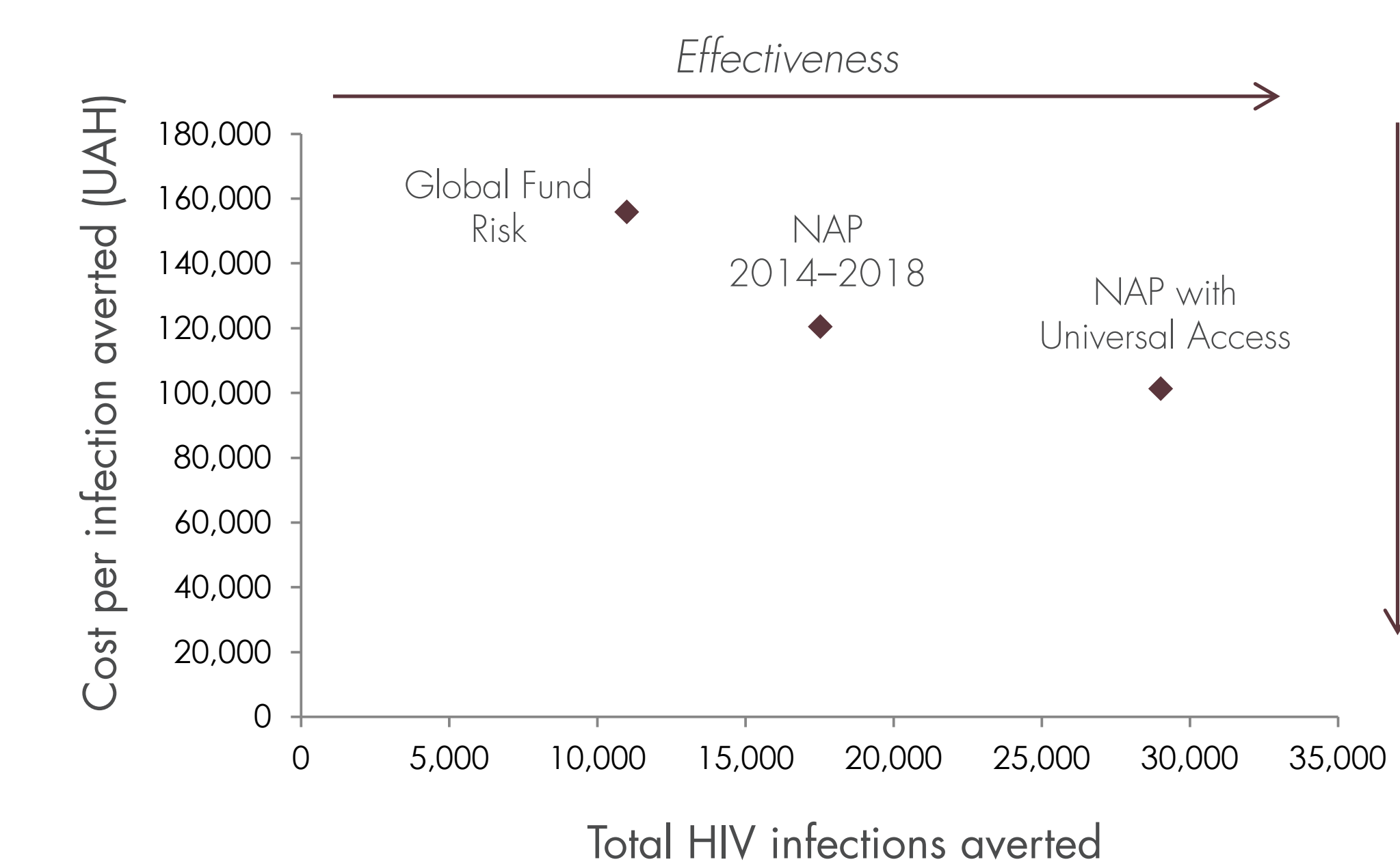


## Cost effectiveness

Cost-effectiveness was analyzed by calculating the incremental costs and the number of HIV infections averted when the scenarios were compared with Constant 2012 Coverage (Figure 4). Moving from the GF Risk scenario to the NAP with UA scenario, we see increasing effectiveness as well as allocative efficiency.

The incremental cost per HIV infection averted for the NAP with UA scenario was UAH 101,252 (US\$12,318), making this the most cost-effective of the scenarios. These results suggest that it is rational to plan for the ambitious scale-up of prevention interventions if resources are available.

**Figure 4. Comparing Scenarios on Cost-effectiveness and Impact**



## CONCLUSIONS

The analysis suggests that Ukraine can afford to invest more in HIV prevention. If additional resources are invested in key prevention interventions, treatment, and care and support, further reductions in HIV infections are achievable. In this context, a program with ambitious yet achievable targets up to 2018, as exemplified in the NAP with UA scenario, can avert an additional 11,491 HIV infections compared with implementing the draft NAP 2014–2018 targets.

Any loss of funding for prevention can significantly affect the epidemic. High priority must be given to secure post-2016 funding for key prevention interventions currently provided through the Global Fund. Additional resources could be mobilized to increase the scale-up of key interventions beyond what is planned in the NAP 2014–2018. This will allow the program to fully capitalize on the effectiveness of successful interventions in Ukraine.

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