

Estimating HIV Resource Needs for National response and Prevention Interventions

Deepak Mattur

Senior Advisor, Resource Tracking

Sustainability Practice, UNAIDS



Presentation Overview



Objectives



Methods



Assumptions



Results



Next Steps

The approach behind Resource Needs modeling

(Population) x (intervention coverage)



Population in Need for each
intervention (P)

How many people need the service?



Unit Cost for interventions (Q)

What does it cost to deliver?



Total Resource Needs

$P \times Q$ across all interventions

Beyond the formula

Standardized intervention packages

Assumptions on programme inputs (# of visits, # condoms distributed per year, # of visits for stable pART, new initiations, PrEP methods mix etc.)

Commodity Procurement costs

Unit Costs scenarios at national level

Human resources, Programme management and systems costs

Community and multisectoral investments

Intervention packages included in the Resource needs estimation

Intervention	Included in Unit Cost (Service Delivery Only)	Excluded from Unit Cost
ART service delivery	Clinical consultations, adherence counseling, staff time, routine monitoring visits, facility overhead (direct), differentiated service delivery costs	ARVs, lab reagents, viral load test commodities, program management, HSS (up to 16%), above-site costs
Treatment for AHD (commodities retained)	AHD drug package, diagnostics (CD4, CrAg), inpatient/outpatient care, prophylaxis drugs, clinical staff time	Broader facility level capital infrastructure, program management add-on
Oral PrEP visit	Clinical consultation, HIV testing service time, counseling, follow-up visits, monitoring services	PrEP drugs, test kits, lab reagents, demand creation, program management
LA PrEP visit	Injection administration visit, clinical monitoring, follow-up consultations	Long-acting PrEP commodity, cold chain expansion, HSS allocation
Ring PrEP visit	Clinical visit, counseling, follow-up visits	Ring commodity, community mobilization, program management
HIV test (service component only)	Staff time, counseling, facility overhead, quality assurance activities	Test kits, consumables, national campaigns, management overhead
Comprehensive sexuality education (CSE)	Teacher training (delivery component), classroom implementation time, supervision	Curriculum development at system level, broader education infrastructure
Voluntary medical male circumcision (VMMC)	Surgical staff time, procedure delivery, follow-up visit time, minor complication management Also includes surgical kits, consumables, demand creation campaigns	
Routine visit cost	Outpatient clinical staff time, facility operating cost per visit	Capital infrastructure, national administration
Female sex worker services	Peer outreach time, counseling, testing service time, referral services, Condoms/lubricants	structural GBV programs, legal reform interventions
MSM services	Outreach, counseling, prevention service delivery time, condoms	Commodities (PrEP), structural interventions
Transgender services	Outreach, prevention service delivery time, referrals	Commodities, broader gender-affirming care
PWID services	Outreach, counseling, referral time	Needles/syringes, OAMT drugs, structural harm reduction reform
PWID needle & syringe programs (NSP)	Staff time, outreach delivery, supervision Needles/syringes, disposal commodities infrastructure	
PWID opioid agonist maintenance therapy (OAMT)	Clinical consultation, monitoring visits, counseling Methadone/buprenorphine	Justice system reform

Potential for further customization for refining costs of various scenarios: Domestic led response or costing the architecture of national response

Coverage targets

Scale-up timelines
and trajectories

Unit costs

- Reviewing local unit costs and service delivery models

Priority
interventions

Methods mix of
products

Share of Programme
management
overheads in total
Resource needs

Share of HSS in
total Resource
needs

Multi sectoral
interventions to be
prioritized

**Step by Step approach to estimating
Resource needs of national HIV
Response**

Population estimates

Population

Population indicator	Source	2025	2026	2027	2028
Total population	World Population Prospects 2024	35,631,653	36,639,851	37,668,658	38,714,099
Males 15-49	World Population Prospects 2024	8,163,763	8,459,523	8,766,030	9,076,437
Adolescent boys and young men (ABYM)	World Population Prospects 2024	3,589,702	3,705,782	3,826,886	3,951,702
Males 25-49	World Population Prospects 2024	4,574,062	4,753,742	4,939,144	5,124,735
Females 15-49	World Population Prospects 2024	8,662,512	8,948,446	9,242,644	9,540,439
Adolescent girls and young women (AGYW)	World Population Prospects 2024	3,617,627	3,728,716	3,844,961	3,965,594
Females 25+ with multiple partners	DHS (HigherRiskSex)	955,577	988,696	1,022,402	1,055,960
Males 25+ with multiple partners	DHS (HigherRiskSex)	2,042,973	2,123,226	2,206,034	2,288,927
Female sex workers	UNAIDS	105,144	108,614	112,185	115,800
Men who have sex with men	UNAIDS	61,367	63,590	65,894	68,227
Transgender people	PSEproportions 2024 Hierachy_10June2024.xlsx	3,664	3,796	3,934	4,073
People who inject drugs	PSEproportions 2024 Hierachy_10June2024.xlsx	19,111	19,802	20,517	21,240
Prisoners	Key Population Atlas (Prisoner_data)	62,685	64,956	67,309	69,693
Births	World Population Prospects 2024	1,304,409	1,323,752	1,341,734	1,364,651
HIV+ pregnant women	From Goals/AIM targets projection	121,537	115,362	108,375	101,614

Global Targets to end AIDS by 2030

Target coverage for Population in need of each intervention

(Coverage scale-up starts in 2026)

Intervention	Target Population	Target Coverage in 2030
Key population services	FSW, MSM, TG, PWID	95%
Needle and syringe programs	PWID reached by program	95%
OAMT	PWID reached by program	50%
Comprehensive sexuality education	Secondary school students	95%
VMMC	Adolescent boys and young men in 15 priority countries	90%
Condoms	Higher risk sex acts (with non-cohabiting, non-regular partner)	80%
ART	PLHIV who know their status	95%
AHD prophylaxis and treat	PLHIV with CD4 counts < 200	95%
ANC testing	Pregnant women	95%
Infant testing	Infants born to HIV+ mothers	95%
HIV testing	Adult men and women	Rate required to reach 95% KOS

Coverage targets

Coverage

Intervention	2025	2026	2027	2028	2029	2030
Sex worker services	37	48	60	72	83	95
Sex worker PrEP	15	28	41	54	67	80
MSM services	34	46	58	71	83	95
MSM PrEP	8	7	6	5	5	4
Transgender services	28	41	55	68	82	95
Transgender PrEP	8	7	6	5	5	4
PWID harm reduction	25	39	53	67	81	95
PWID PrEP	0	16	32	48	64	80
PWID needle and syringe programs	24	38	53	67	81	95
PWID opioid agonist maintenance therapy	25	30	35	40	45	50
AGYW PrEP	1	4	7	9	12	15
AGYW comprehensive sexuality education	0	18	36	54	72	90
ABYM PrEP	0	0	0	1	1	1
ABYM comprehensive sexuality education	0	18	36	54	72	90
Voluntary medical male circumcision (VMMC)	73	76	80	83	87	90

Unit Costs of Prevention Commodities: A note on default values

Commodities

Global fund reference prices

Commodities	2025	2026	2027	2028	2029	2030
ARVs for adults living with HIV	\$41.00	\$40.80	\$40.60	\$40.40	\$40.20	\$40.00
ARVs for children living with HIV	\$44.00	\$43.20	\$42.40	\$41.60	\$40.80	\$40.00
CD4 test	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00
Creatinine test	\$9.00	\$9.00	\$9.00	\$9.00	\$9.00	\$9.00
Viral load test	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00
HIV/syphilis test for pregnant women	\$0.60	\$0.60	\$0.60	\$0.60	\$0.60	\$0.60
Infant EID testing	\$39.83	\$39.83	\$39.83	\$39.83	\$39.83	\$39.83
Rapid diagnostic test kit	\$1.10	\$1.10	\$1.10	\$1.10	\$1.10	\$1.10
Condom	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03
Oral PrEP	\$40.00	\$38.20	\$36.40	\$34.60	\$32.80	\$31.00
Long-acting PrEP	\$60.00	\$56.00	\$52.00	\$48.00	\$44.00	\$40.00
Dapivirine ring	\$156.00	\$156.00	\$156.00	\$156.00	\$156.00	\$156.00
CrAg test	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00

Other key parameters that influence overall costs

Programme Management costs as % of total direct costs

Systems Strengthening costs as % of total direct costs

Commodities distributed per person per year
Condoms, Needles and syringes, OAMT doses

PreP methods mix

% of direct costs for Societal enablers

Parameters	Value
Annual oral PrEP visits	4
Annual long-acting PrEP visits	2
Percent of PrEP users with initiation visit	33.00%
PrEP method mix: oral in 2025	100.00%
PrEP method mix: oral in 2026	75.00%
PrEP method mix: oral in 2027	50.00%
PrEP method mix: oral in 2028	36.60%
PrEP method mix: oral in 2029	33.00%
PrEP method mix: oral in 2030	33.00%

Results

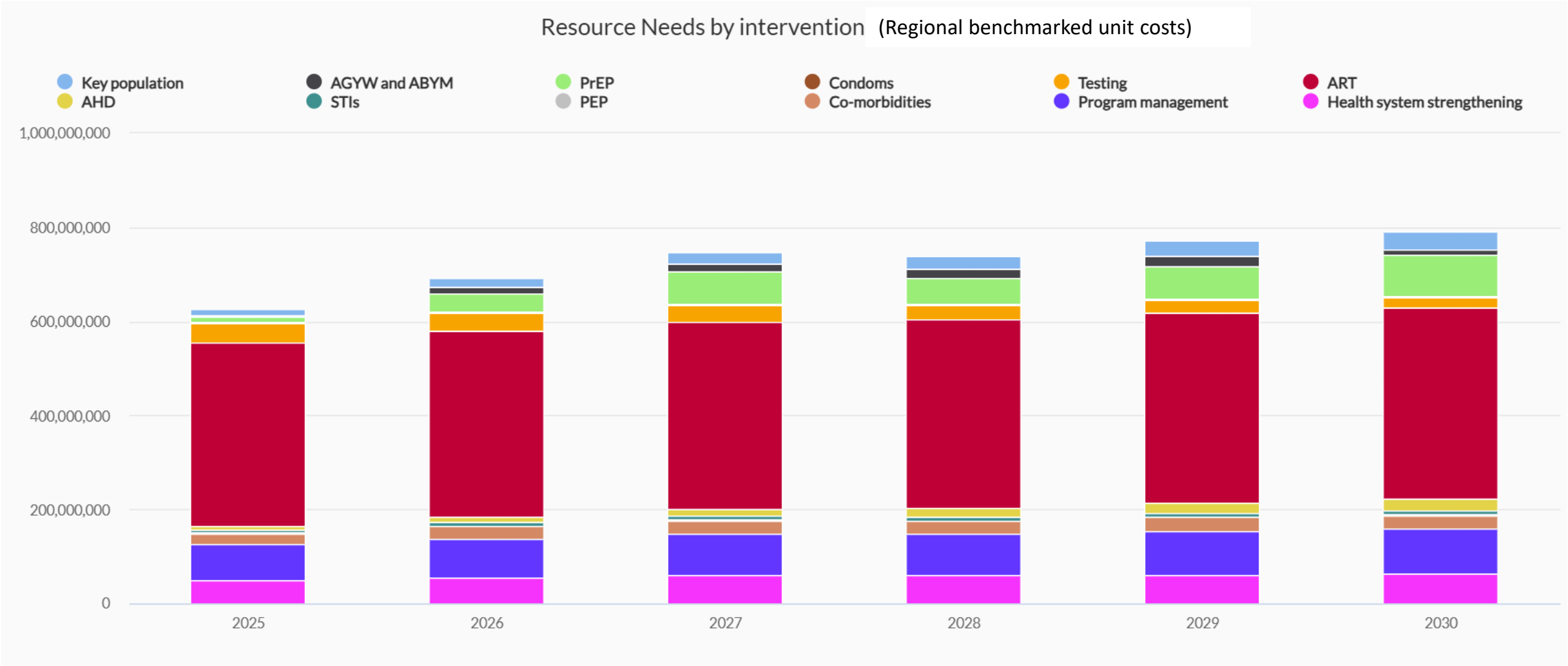
Total resource needs

Breakdown by intervention

Commodity vs services cost split

Scenario comparisons

Total Estimated Resource Needs

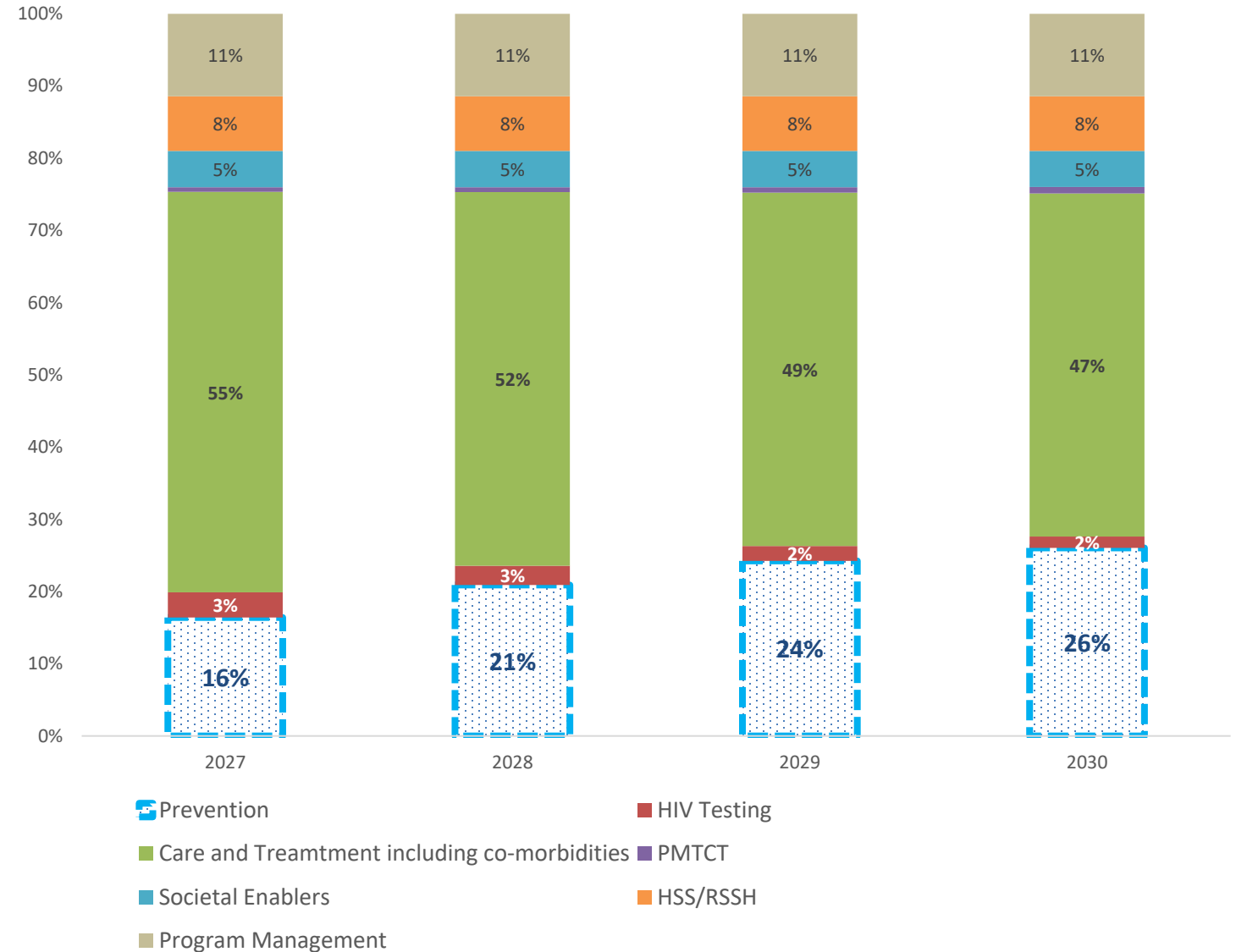


Estimated resource needs for Commodities

Commodity	2025	2026	2027	2028	2029	2030
ARVs	\$107,695,115	\$109,000,540	\$110,020,295	\$110,817,410	\$111,399,805	\$111,902,395
VL tests	\$27,009,816	\$27,337,212	\$27,592,968	\$27,792,888	\$27,938,952	\$28,065,000
CD4 tests	\$6,439,961	\$6,518,028	\$6,579,012	\$6,626,675	\$6,661,501	\$6,691,553
Creatinine tests	\$22,891,896	\$23,169,375	\$23,386,140	\$23,555,583	\$23,679,378	\$23,786,208
CrAg tests	\$292,725	\$296,274	\$299,046	\$301,212	\$302,795	\$304,161
Rapid HIV tests	\$14,085,512	\$12,572,289	\$10,989,481	\$9,442,937	\$8,002,240	\$6,738,935
Dual HIV syphilis tests	\$1,793,039	\$1,819,629	\$1,844,346	\$1,875,848	\$1,897,801	\$1,921,419
EID tests	\$3,291,751	\$3,372,647	\$3,401,484	\$3,407,817	\$3,369,222	\$3,314,853
Condoms	\$1,282,474	\$1,524,899	\$1,783,908	\$2,057,973	\$2,346,300	\$2,649,589
NSP	\$250,835	\$648,414	\$1,255,501	\$2,091,323	\$3,174,444	\$4,524,091
OAMT	\$22,836	\$45,036	\$74,682	\$112,411	\$158,822	\$214,510
Oral PrEP	\$8,001,160	\$12,145,422	\$12,053,241	\$11,593,491	\$12,810,039	\$15,002,171
LA PrEP	\$0	\$16,109,112	\$41,060,492	\$23,070,520	\$31,717,360	\$39,301,920
Total	\$193,057,120	\$214,558,877	\$240,340,596	\$222,746,088	\$233,458,659	\$244,416,805

Distribution of Resource Needs by key interventions (2026-2030)

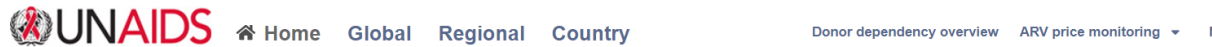
- \$404 million in 2027 to \$ 474 million by 2030.
- By 2027,
 - 49% of RNE on ART.
 - Co-morbidities and AHD 3%
 - HIV Testing 3%
 - **PrEP: 9%**
 - **Prevention for KP: 5%**



Estimating Resource Needs for National Priority Packages: Using the Online Tool and UNAIDS Support Process

The Online costing tool will be launched soon and available on UNAIDS HIV Financial dashboard

[UNAIDS HIV Financial Dashboard](#)



Welcome to the HIV Financial Dashboard

Overview

The HIV Financial dashboard brings together more than 85 different indicators on HIV financial resources into a single platform. The objective of the dashboard is to provide strategic information on HIV resources for policy-makers, program directors, and researchers. The indicators included in the dashboard are an extension of the data reported through Global AIDS Monitoring and also triangulates information reported on HIV and Health financial resources from other agencies.

Getting started

To get started, please select the geography that you are interested in and then one of the available indicators.

Global

Regional

Country

Help and information

For more information, please contact via [✉ AIDSSpending@unaids.org](mailto:AIDSSpending@unaids.org)



Thank You

