

Long-term costs and health impact of continued Global Fund support for ART

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HIV/AIDS Grants: Countries with Rounds 1-9 grants



140 countries

US\$ 10.8 billion (Approved Grant Amount)

US\$ 17.4 billion (Total Lifetime Budget)

Background

- At end-2009, Global Fund-supported programs provided ART to 2.5 million people in LMIC (104 countries, 80% in sub-Saharan Africa)
- By end-2011, this will grow to 3.5 million people supported (approved R8&9 grant targets)
- ART covers a quarter of overall expenditures in these HIV/AIDS programs.
- GF support for ART includes medicines, HR testing, equipment, improvement of supply management, and integration of HIV care with other health services.
- We estimated the cost to continue support for the 2011 cohort of patients.

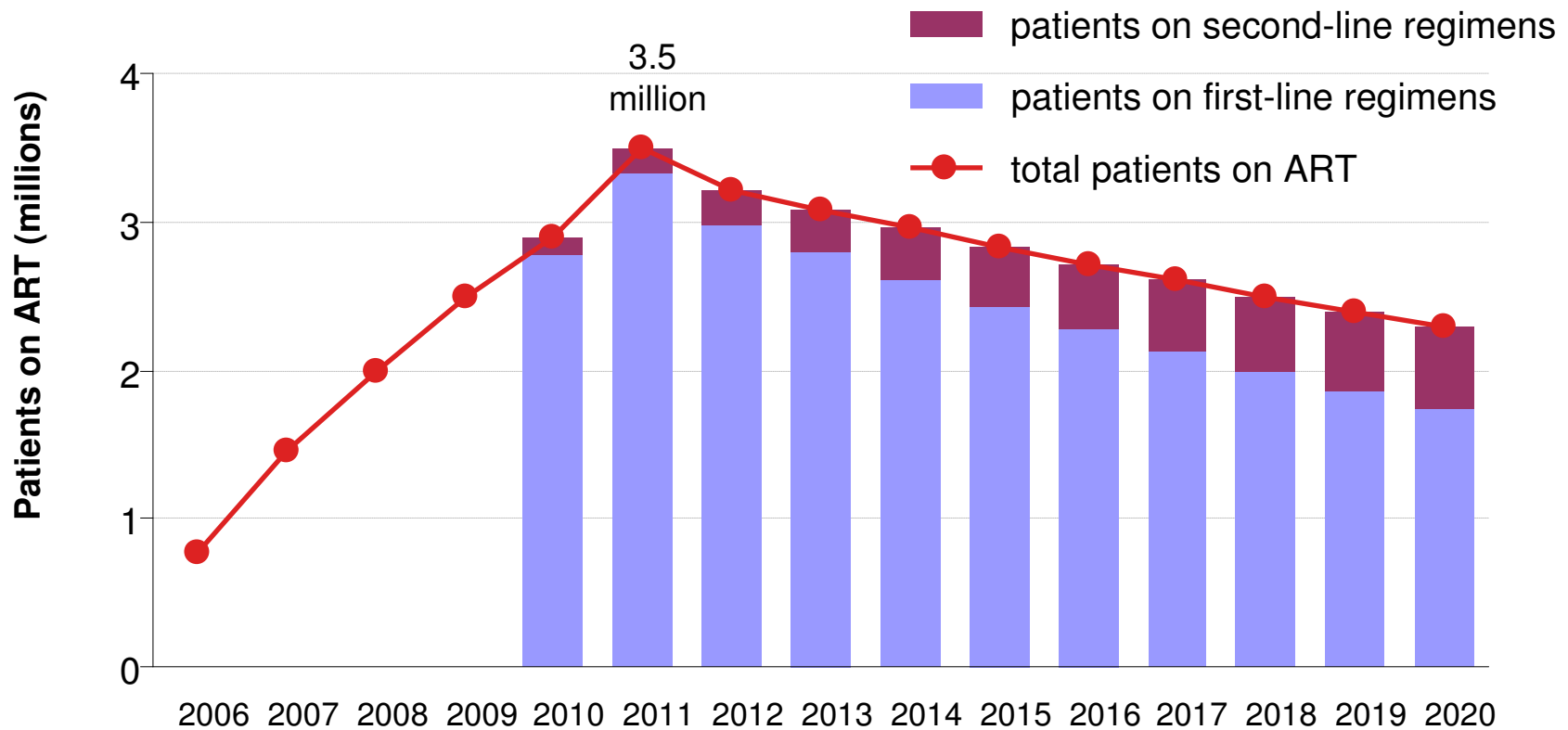
Model projections

- HIV/AIDS patient cohorts:
 - End-2009: 2.5 million
 - End-2010: + 0.6 million additional patients
 - End-2011: + 0.82 million additional patients
 - } 3.5 million people at end-2011
- *Spectrum* survival modelling
 - with ART: 80% of patients survive year 1; 96% survive each next year.
 - without ART: based on African cohort studies (ALPHA network)
- Migration from 1st-line to 2nd-line regimens:
 - 2% per year (WHO *Treatment use* surveys, 38 high-HIV countries, 2008)
 - 2009: 2.5% of existing patients on 2nd-line regimens (country-varying)

ART Cost assumptions

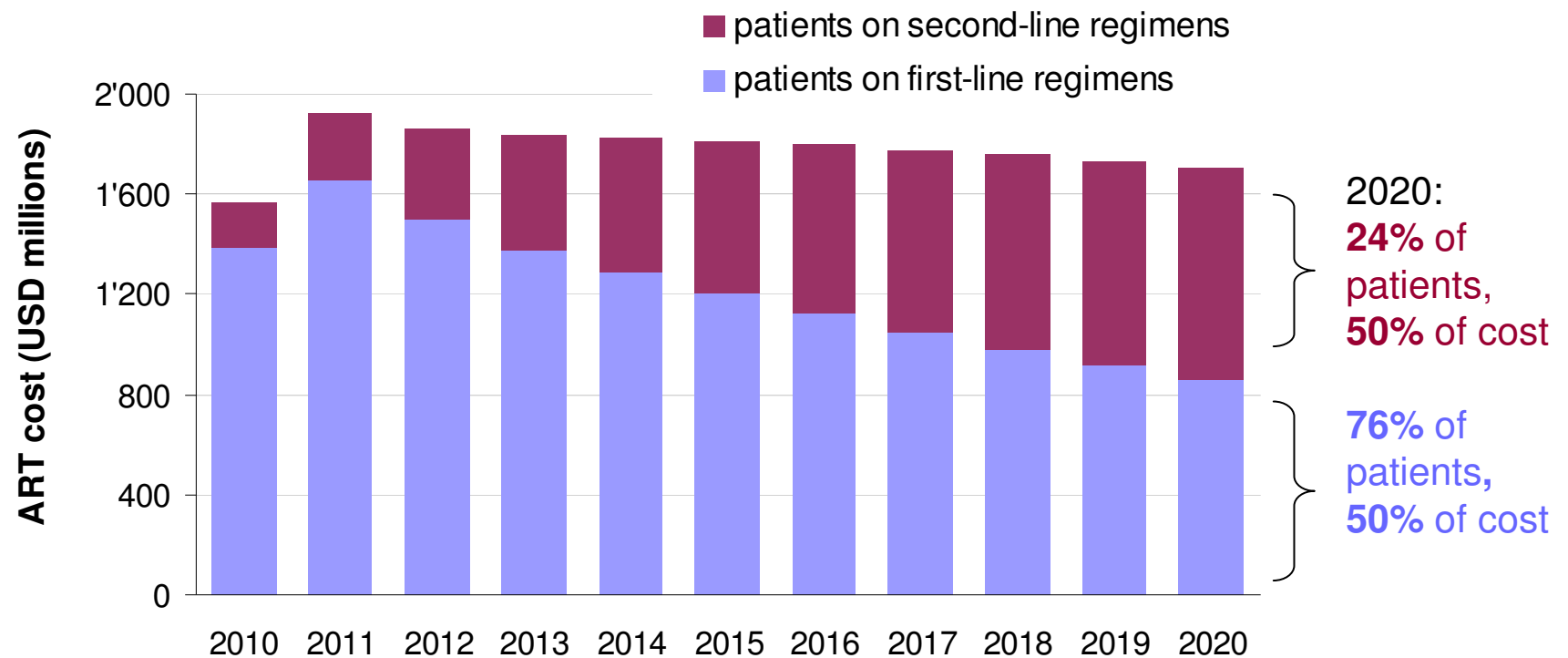
Cost component	US\$	Source
1st-line ARVs: 1 patient-year	204#	Global Fund Price & Quality Reporting system and WHO Global Price Reporting mechanism
2nd-line ARVs: 1 patient-year	1,238#	
Laboratory Testing: 1 patient-year	180	Comprehensive costing studies
Treatment delivery: 1 patient-year	103	WHO-CHOICE country estimates
End-of-life treatment of opportunistic infections: per patient lifetime	160	During a patient's <i>last</i> year on ARV therapy only. Based on WHO-CHOICE and literature review of non-ARV therapy costs of HIV care (<i>Futures Institute</i>)
Total 1st-line ART (1 patient-year)	487#	
Total 2nd-line ART (1 patient-year)	1521#	

Patients on ART



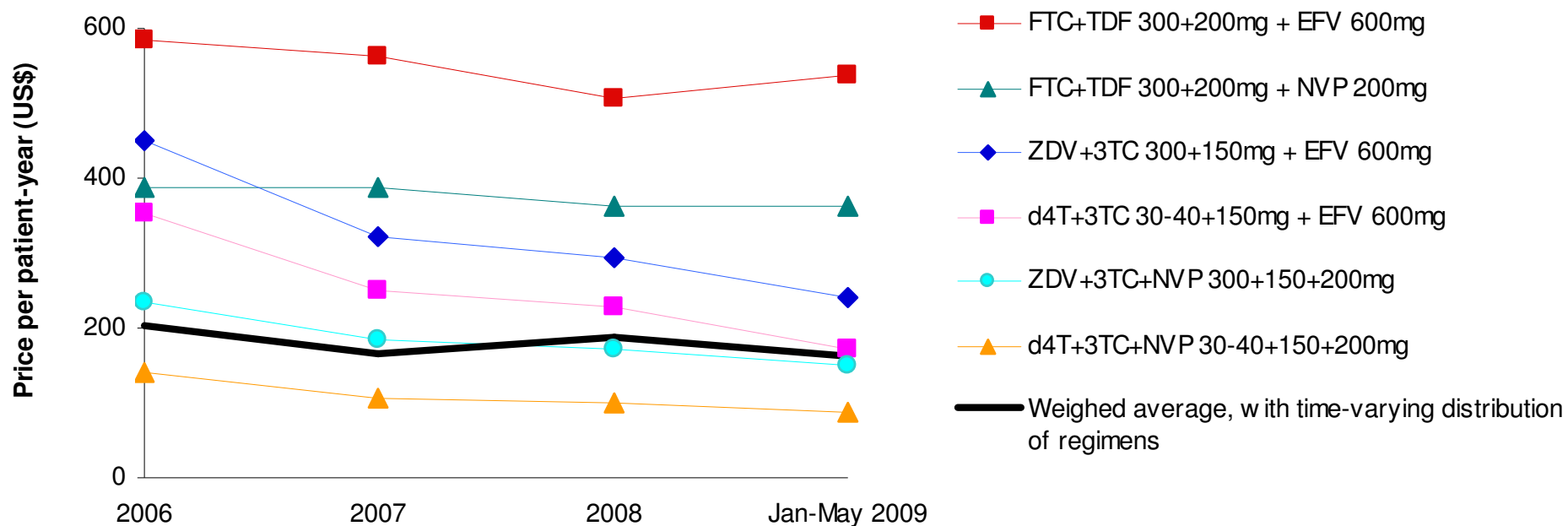
Numbers for 2006-9 represent aggregate results of Global Fund-supported programs. Those for 2010-11 cumulative grant targets including Rounds 8-9.

ART cost: 1st-line versus 2nd-line ARV regimens



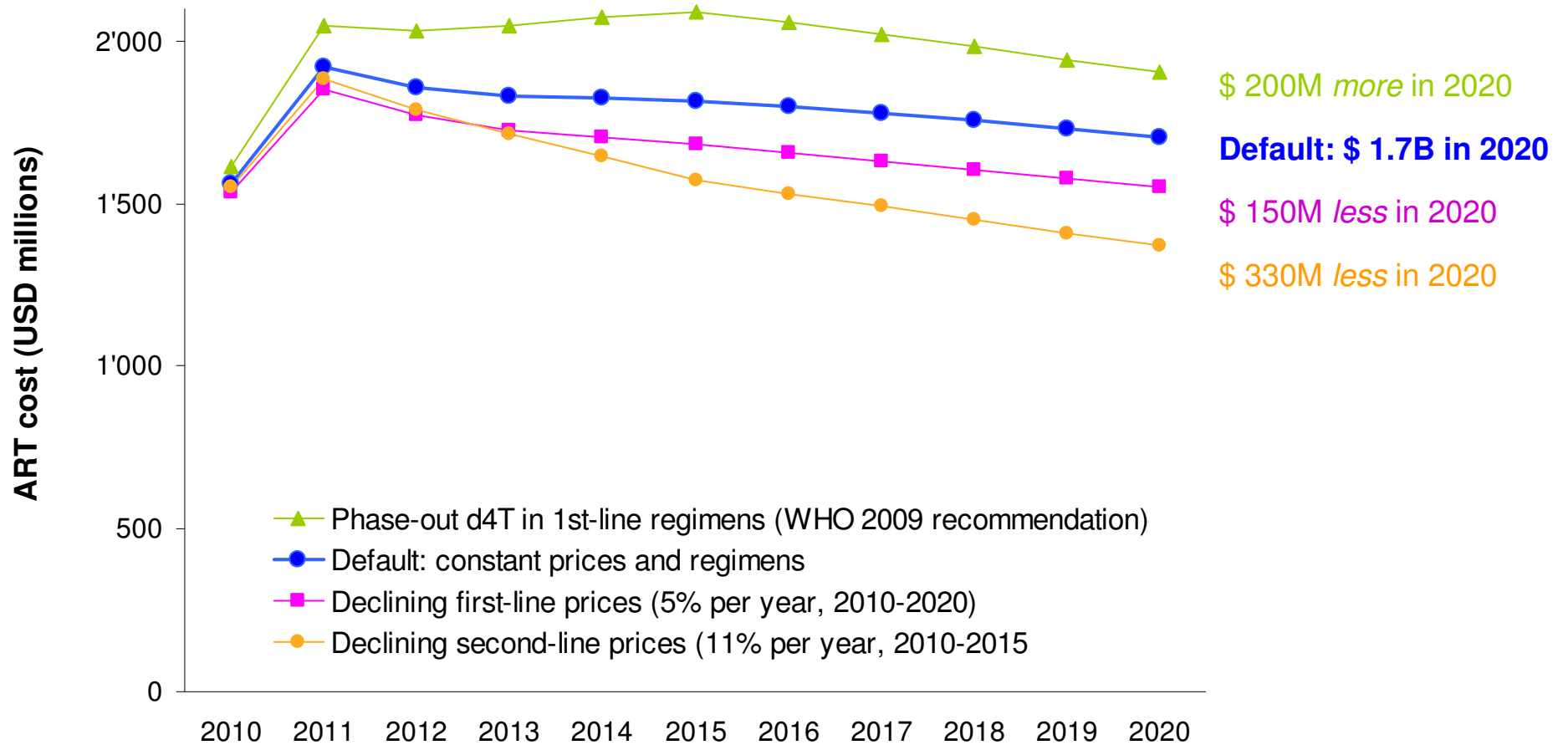
Full program-level cost, including ARVs and ART delivery.
Assumes fixed prices of first-line and second-line ARV regimens, fixed distribution of patients over ARV regimens, and no inflation or discounting.

(Expected) ARV price trends?



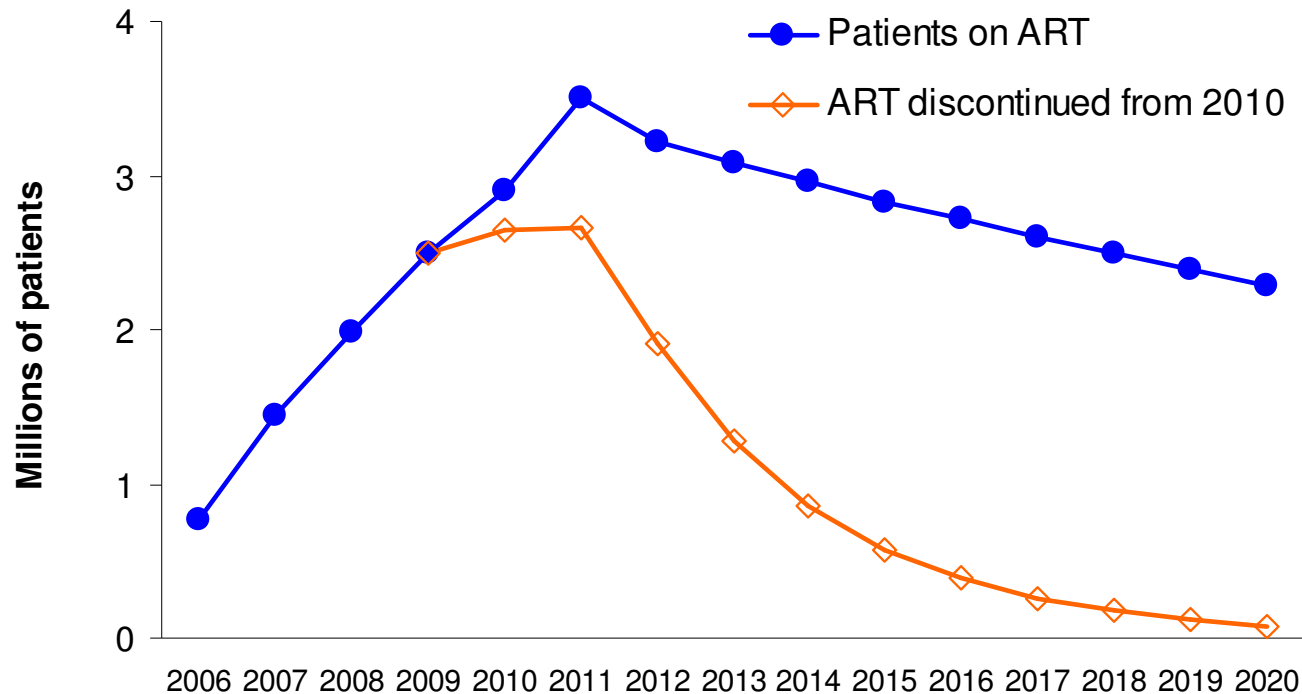
First-line adult ARV regimens: price per patient-year
 Source: WHO Global Price Reporting system

Effect of changing ARV prices and regimens



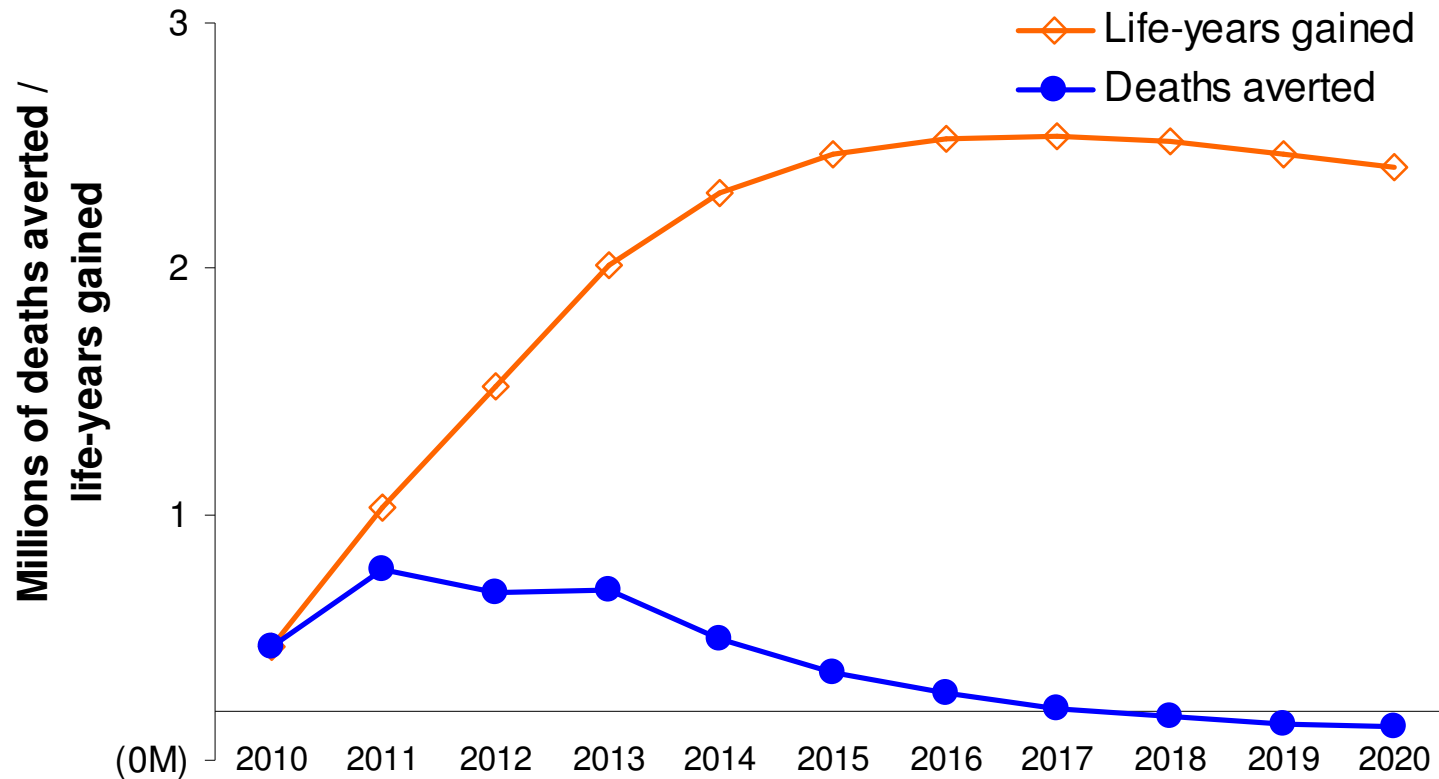
Full program-level cost, for 2011 cohort

Health impact of ART: survival



Survival assumptions according to UNAIDS / WHO country ART surveys / *Spectrum* model.
Does not account for the HIV prevention effect of ART.

Health impact of ART: survival



Limitations

- Global level aggregation
 - Program-level costs (except for country ARV prices, and country outpatient/hospitalization costs)
 - ART survival & migration to 2nd-line regimens
- Uncertainties / strong assumptions about constant prices and costs

Conclusions

- Annual cost of ongoing support for 2011 beneficiaries is stable over 2010—2020, if current ARV prices and ART delivery unit costs are maintained.
- 2nd-line ARVs a key cost component, increasing over time →
 - invest in **treatment quality, retention** of patients on **1st-line regimens**
 - support move toward **generic drugs**
 - **ARV price reductions.**
- Poor cost data esp. on non-ARV components limits understanding of future ART delivery cost in different settings.
 - Routine expenditure data collection by national programs, using standardized cost categories and definitions, is needed to understand and maximize value for money.

Context

- Global Fund supports part of program-level ART cost, besides domestic and other-donor funding
 - 2008-9: av. contribution per patient-year of \$130; compared to average program-level cost of \$500
- Cost for 2011 cohort is minimum resource need
 - ART coverage (end-2009: ≈5.0 million patients, out of which 2.5 million GF-supported) far from universal (15 million?)
 - At current rate of scale-up, expect 8-9 million GF-supported patients by 2020 (≈ \$5 billion in 2020 alone)?
 - Continued donor (co-)funding remains necessary, esp. in low-income countries
- Cost for 2011 cohort does not end at 2020: then still 2.3 million patients alive

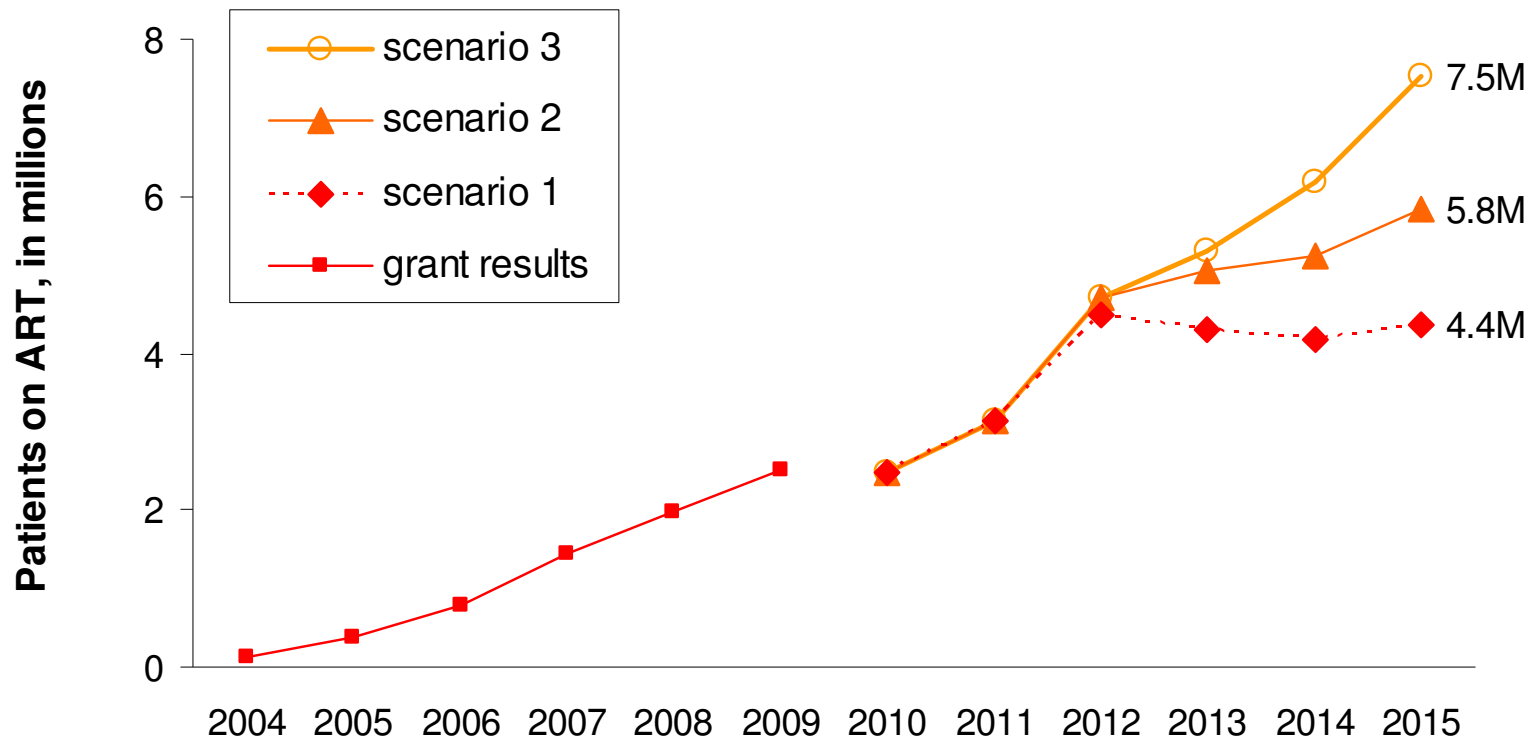
Global Fund Replenishment

<i>Scenario of available funding</i>	<i>Amount 2011- 2013</i>
1. Continue funding for existing programs, and allow for an additional, lower level of funding for new programs	\$ 13 billion
2. Continue funding for existing programs, and maintain current level of funding for new programs	\$ 17 billion
3. Accelerated scale-up	\$ 20 billion



http://www.theglobalfund.org/documents/replenishment/2010/Resource_Scenarios_en.pdf

Patients on ART: projection



Assuming constant:

- 49% of GF portfolio spent on HIV;
- 25% of HIV grant expenditures on ART;
- relation between disbursements and service delivery output (equivalent to constant unit cost & constant Global Fund share in unit cost)