



# Briefing on the Application of the AIDSTREATCOST Model

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## AIDSTREATCOST Model:

**Software that helps estimate  
costs of anti-retroviral treatment  
programs in low-resource  
countries**

# Why was ATC developed?

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The ATC model was developed to help countries that are planning to introduce ARV treatment programs in the public sector, but that lack comprehensive cost information

# Where has the ATC been used?

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- ▲ The ATC model has been applied in four high-prevalence countries in sub-Saharan Africa
  - ▲ Ethiopia
  - ▲ Nigeria
  - ▲ Uganda
  - ▲ Zambia

# The purpose of the model

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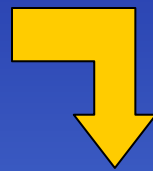
- ▲ To estimate the total cost of, and resources required for, a national ARV treatment program
- ▲ To support policy decisions, program planning, and budgeting for ARV provision

# Basic structure of ATC model

## Baseline Data

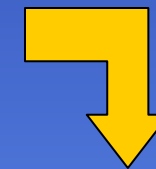
(to be taken as given)

- Demographic
- Epidemiological
- Medical
- Cost



## Scenario Editor (policy choices)

- Service delivery model
- Population uptake rates



## Output

- Costs
- Staff requirements

# What does the model include?

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## ▲ Services:

- ▲ Highly Active Anti-Retroviral Therapy (HAART)
- ▲ Voluntary Counseling and Testing (VCT)
- ▲ Opportunistic Infection Treatment (OI)
- ▲ Prevention of Mother-to-Child Transmission (PMTCT)

## ▲ Inputs:

- ▲ Drugs
- ▲ Tests
- ▲ Capital
- ▲ Staff
- ▲ Training

# Key questions that ATC attempts to answer

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1. How much does it cost to provide VCT, PMTCT, and ART to one patient for one year?
2. How many people can be feasibly treated (targets)?
3. What level of human resource capacity is needed to implement these targets?
4. How will these requirements evolve over the next five years (based on assumptions of incidence and prevalence)?

# Limitations of ATC

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- ▲ Focuses on ARV treatment. Excludes other important HIV/AIDS services (HBC, IEC, nutrition, blood testing, orphans, other)
- ▲ Does not perform cost-benefit or cost-effectiveness analysis
- ▲ Does not consider critical “non-monetary” inputs (e.g., good management structure) to a successful program
- ▲ Is not intended as an AIDS epidemic projection tool

# Why is costing information on ARV treatment needed?

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- ▲ Most HIV/AIDS costing work so far has focused on prevention
- ▲ Growing interest from policymakers to understand the impact of ARV provision on the health budget and human resources

# Why is costing information on ARV treatment needed? *(cont'd)*

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- ▲ Cost information is needed to guide policy decisions:
  - ▲ Resource mobilization: What share can government, donors, and patients contribute?
  - ▲ Targeting: How many and who can be feasibly treated?
  - ▲ Financial sustainability: ARV treatment is for life, so policymakers must plan for the future

# Why use the ATC model for ARV costing?

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- ▲ Compels users to consider all the costs involved in a comprehensive ARV program
- ▲ Developing a cost methodology can be time-consuming

# The benefits are...

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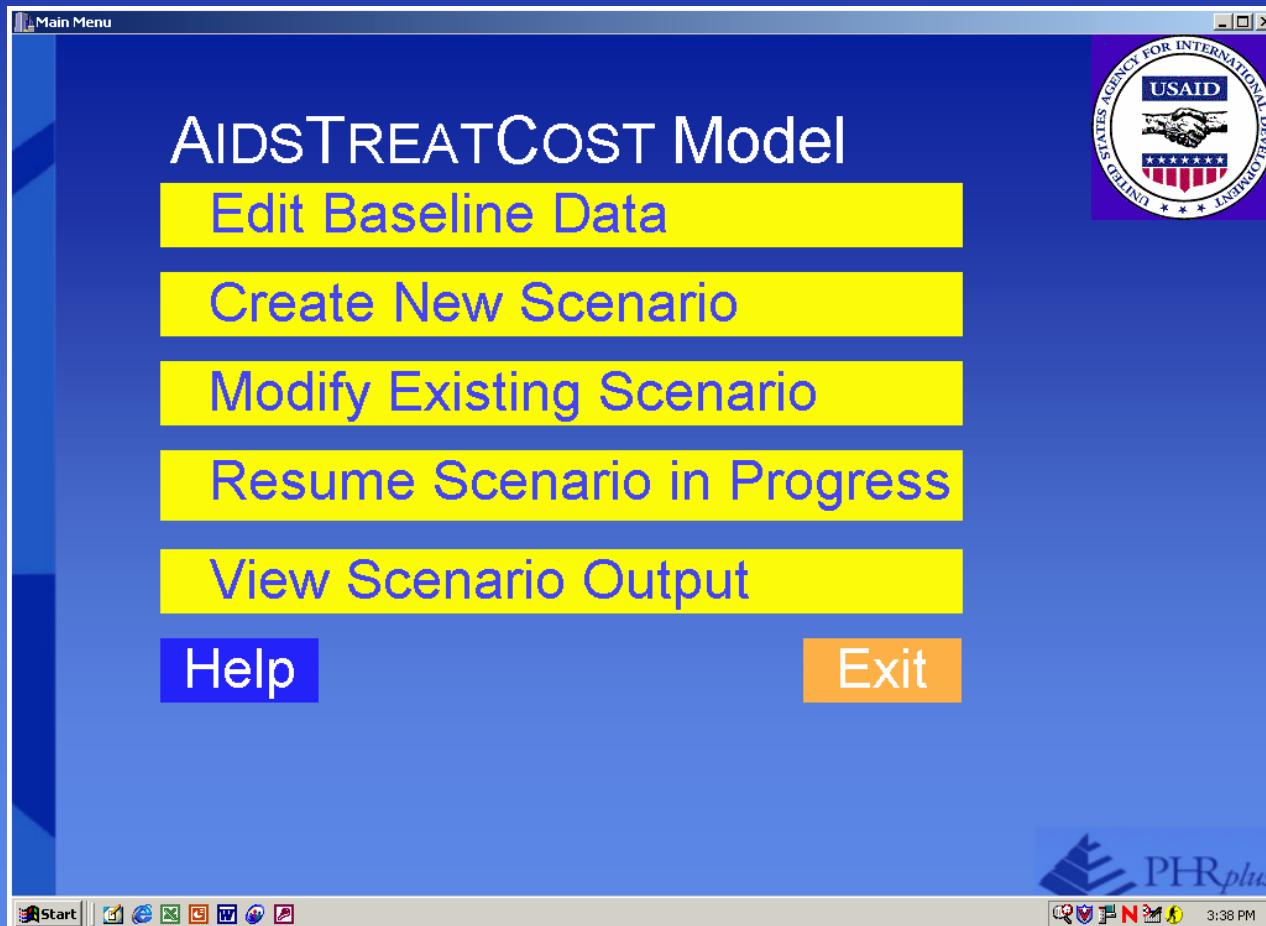
- ▲ **Allows in-country policymakers to begin collecting data and generating results immediately**
- ▲ **Avoids any need to re-invent the wheel in all the countries now requesting help with ARV costing**

## ... benefits

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- ▲ ATC is easily updated. ARV costs are changing very rapidly. Less flexible costing approaches could become outdated very quickly
- ▲ ATC emphasizes country-specific data collection which boosts the legitimacy of the results

# ATC main page



# Baseline data categories

The screenshot shows a web application window titled "Baseline Data". On the left is a sidebar menu with a tree structure under the heading "Baseline Data":

- Baseline Data
  - Demographic Data
  - Epidemiological Data
  - Medical Data
  - Cost Data
  - Drug Conflicts

The main content area contains several yellow buttons for data categories: "Demographic Data", "Epidemiological Data", "Medical Data", "Cost Data", and "Drug Conflicts". Below these is a section for file management:

Baseline Data File Name

At the bottom of the window are buttons for "Help" and "Back", and the "PHR<sub>plus</sub>" logo.

# Sample data entry screen

Enter Types

## AIDS Tests

Notes

Save and Exit   Exit Without Saving   Revert to Saved Types   Import   Export   Help

	Name of Test	Test Cost	Every Visit?
Delete	Full Blood Count	8	Yes
Delete	Urea/Electrolytes	10	Yes
Delete	Liver function test	20	Yes
Delete	Chest X-ray	4	No
Delete	Hepatitis B	1	No
Delete	CD4/CD8	25	Yes
Delete	Viral Load	70	Yes

Add New Test

# Sample scenario editor screen

ARV: AIDS Tests

## Annual Tests For People Receiving ARV Or OI Treatment


**Scenario Editor**

- Eligible Populations
- Screening Protocol
- Treatment Protocol
  - MTCT
  - ARV
    - Staffing
    - AIDS Tests**
    - ARV Treatment
  - OI
- Mortality Reduction

Test	Test Offered?	Times Per Year
Full Blood Count	<input checked="" type="radio"/> Yes <input type="radio"/> No	Every Visit (2)
Urea/Electrolytes	<input checked="" type="radio"/> Yes <input type="radio"/> No	Every Visit (2)
Liver function test	<input checked="" type="radio"/> Yes <input type="radio"/> No	Every Visit (2)
Chest X-ray	<input checked="" type="radio"/> Yes <input type="radio"/> No	1
Hepatitis B	<input checked="" type="radio"/> Yes <input type="radio"/> No	1
CD4/CD8	<input checked="" type="radio"/> Yes <input type="radio"/> No	Every Visit (2)
Viral Load	<input checked="" type="radio"/> Yes <input type="radio"/> No	Every Visit (2)

Save Scenario in Progress

[Help](#) [Back](#) [Cost](#) [Next](#)



# Sample output table

**Total Cost by Input Type**

Help Log to File Back Show Graph Switch Scenarios

Scenario simulation\_scenario\_2  
Total Cost by Input Type

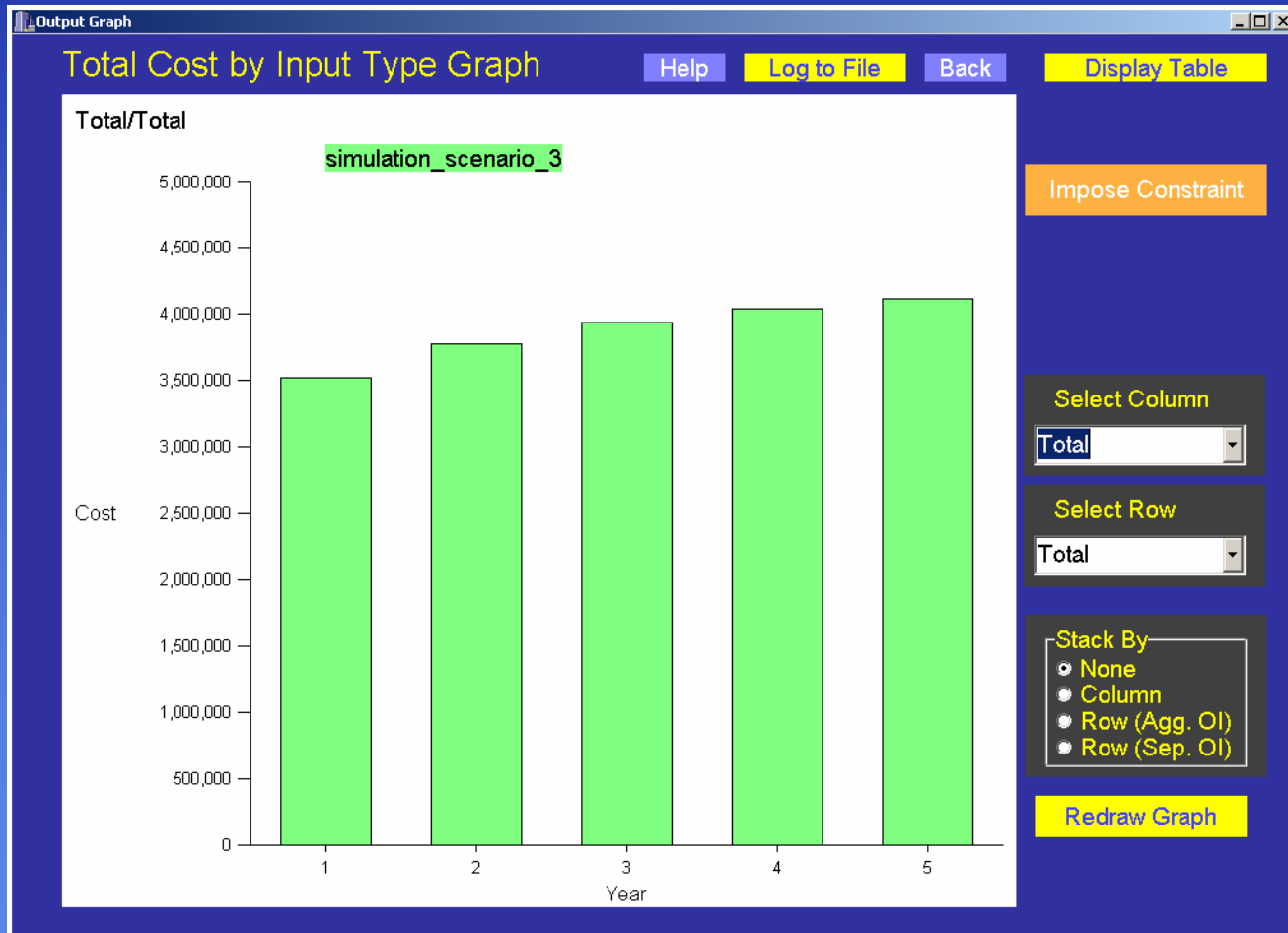
**Year 1**

	All Adults (> 14)	Total
Screening Tests	187,338	187,338
Pregnancy Tests	213.25	213.25
MTCT Protocols	624.8	624.8
AIDS Tests	557,668	557,668
ARV Protocols	554,551	554,551
OI Protocols	13,229	13,229
Tuberculosis	13,229	13,229
Labor	77,895	77,895
Training	46,297	46,297
Capital	4,556,728	4,556,728
Total	5,994,543	5,994,543

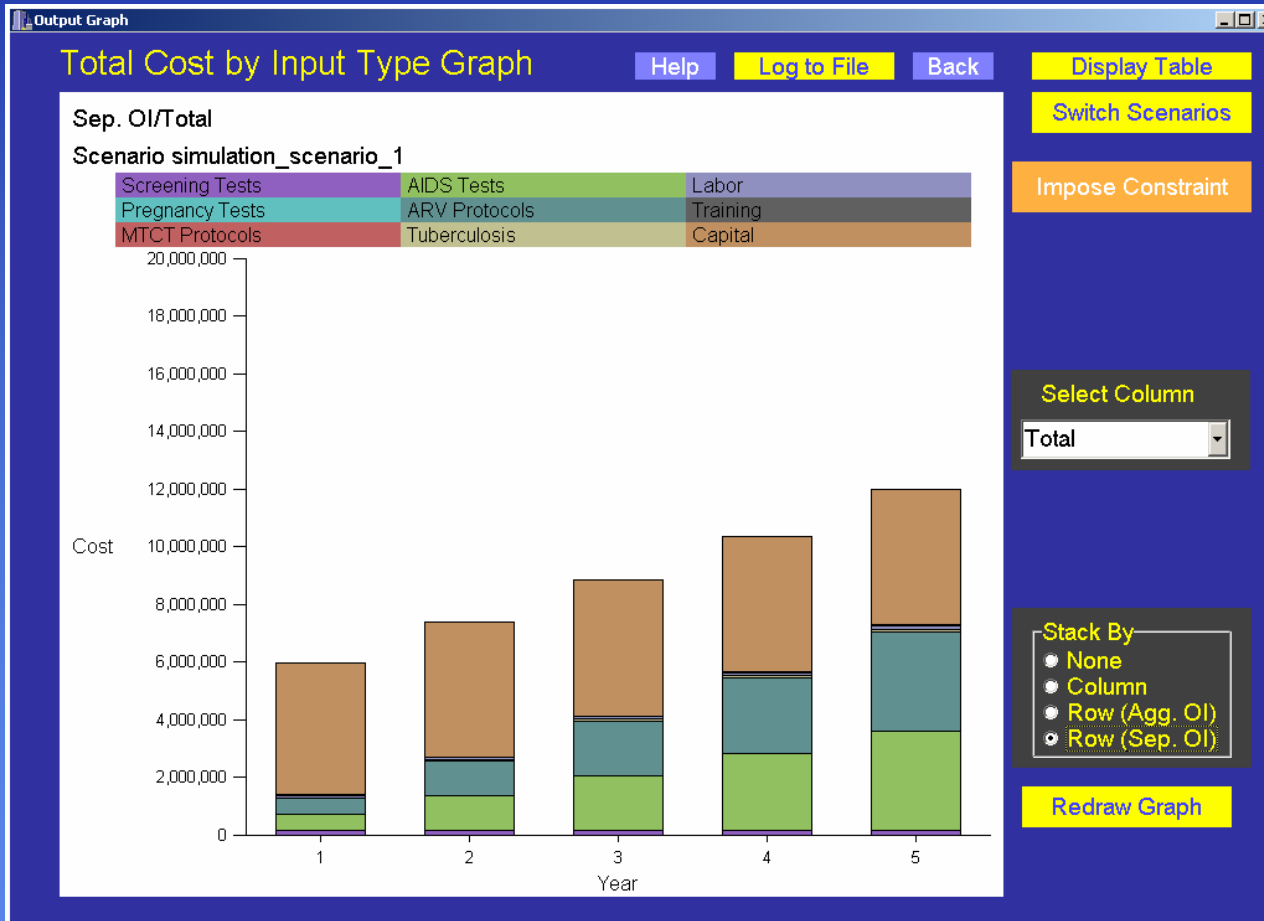
**Year 2**

	All Adults (> 14)	Total
Screening Tests	189,363	189,363
Pregnancy Tests	395.08	395.08
MTCT Protocols	1,106	1,106
AIDS Tests	1,225,820	1,225,820
ARV Protocols	1,218,974	1,218,974
OI Protocols	29,119	29,119
Tuberculosis	29,119	29,119
Labor	89,525	89,525
Training	8,664	8,664
Capital	1,225,820	1,225,820

# Sample output graph



# Sample output graph (cont'd)



# Lessons Learned: ATC has been used to ...

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- ▲ **Generate resource mobilization estimates (e.g. for Global Fund Applications) in Uganda and Zambia**
- ▲ **Generate estimates of human resources requirements for scaling up ART in Zambia, Nigeria and Ethiopia**
- ▲ **Determine the financial sustainability of payment schemes in Zambia**
- ▲ **Determine the number of patients that can be treated under various budget scenarios (Uganda, Zambia)**

# Acknowledgements

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The ATC costing tool was developed by the Partners for Health Reform *plus* Project, funded by USAID. The ATC model was developed in collaboration with a panel of experts assembled by PHR *plus* and USAID. Copies of the software (and supporting manual) are available at:

[www.PHRplus.org](http://www.PHRplus.org)

**Thank you!**

**...Any questions?**