# ART Guideline Changes

## Potential Impacts on Program Sustainability in Botswana

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# Background

- Despite key successes, Botswana still has one of the worst epidemics globally
- GoB funds account for ~ 70% of AIDS program
- Donor funds peaked in 2008 but have been declining
- HIV-related mortality has been curbed by close to 90% coverage of national ART program
- Prevention efforts have not kept pace, accounting for less than 10% of total AIDS expenditure[1]

[1]National AIDS Coordinating Agency (2011), National Operational Plan for HIV and AIDS, GOB.

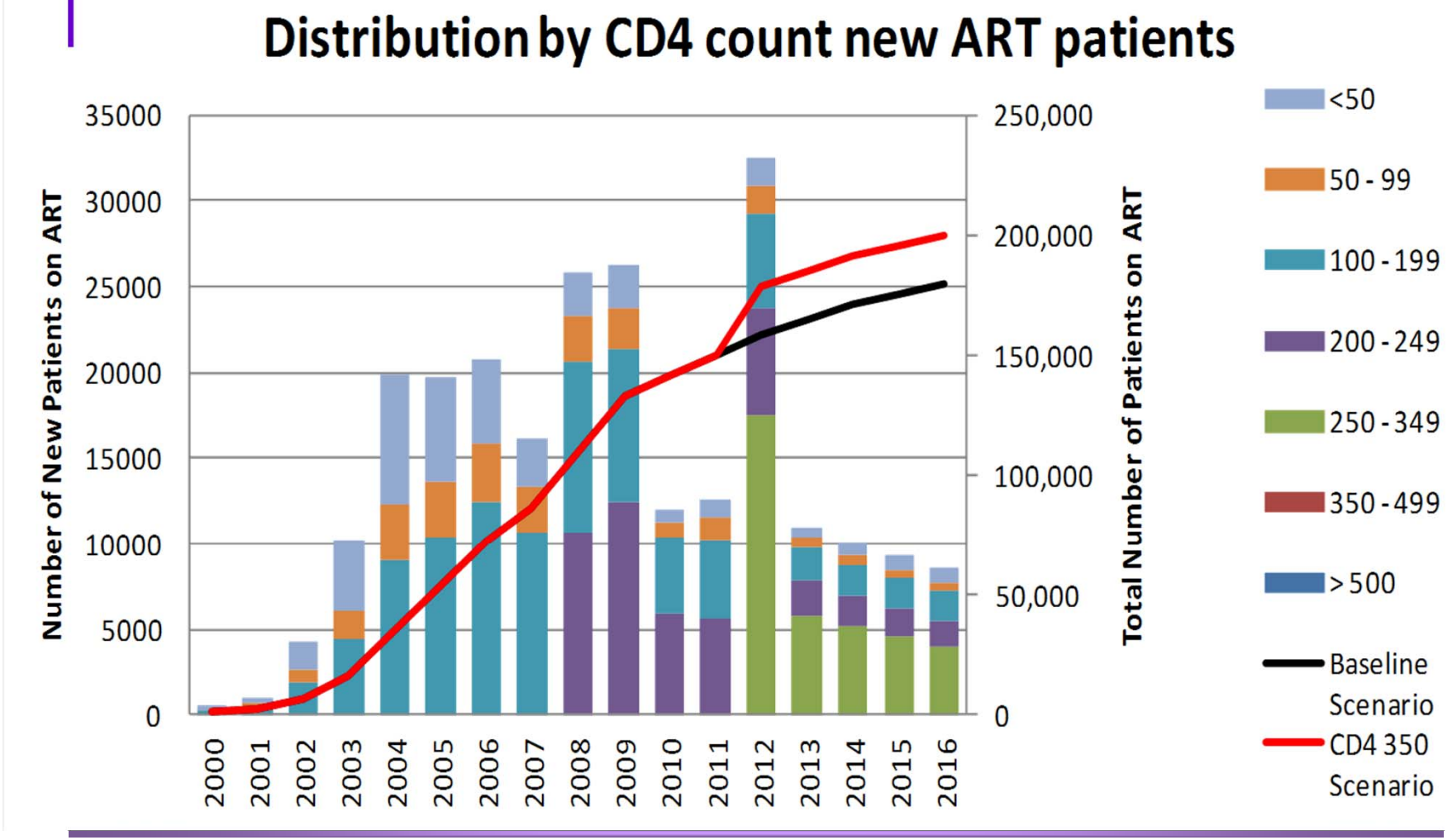
# The ART Program in Perspective

- Program started in 2002 in four primary sites
- By 2004 there was at least one treatment site in each of the 27 health districts
- Presently there are 32 ART sites and 212 satellite dispensing clinics across the country
- At end of March 2012 there were just over 184,000 people on treatment
- In 2010, the WHO recommended easing ART initiation guidelines to levels <CD4 350

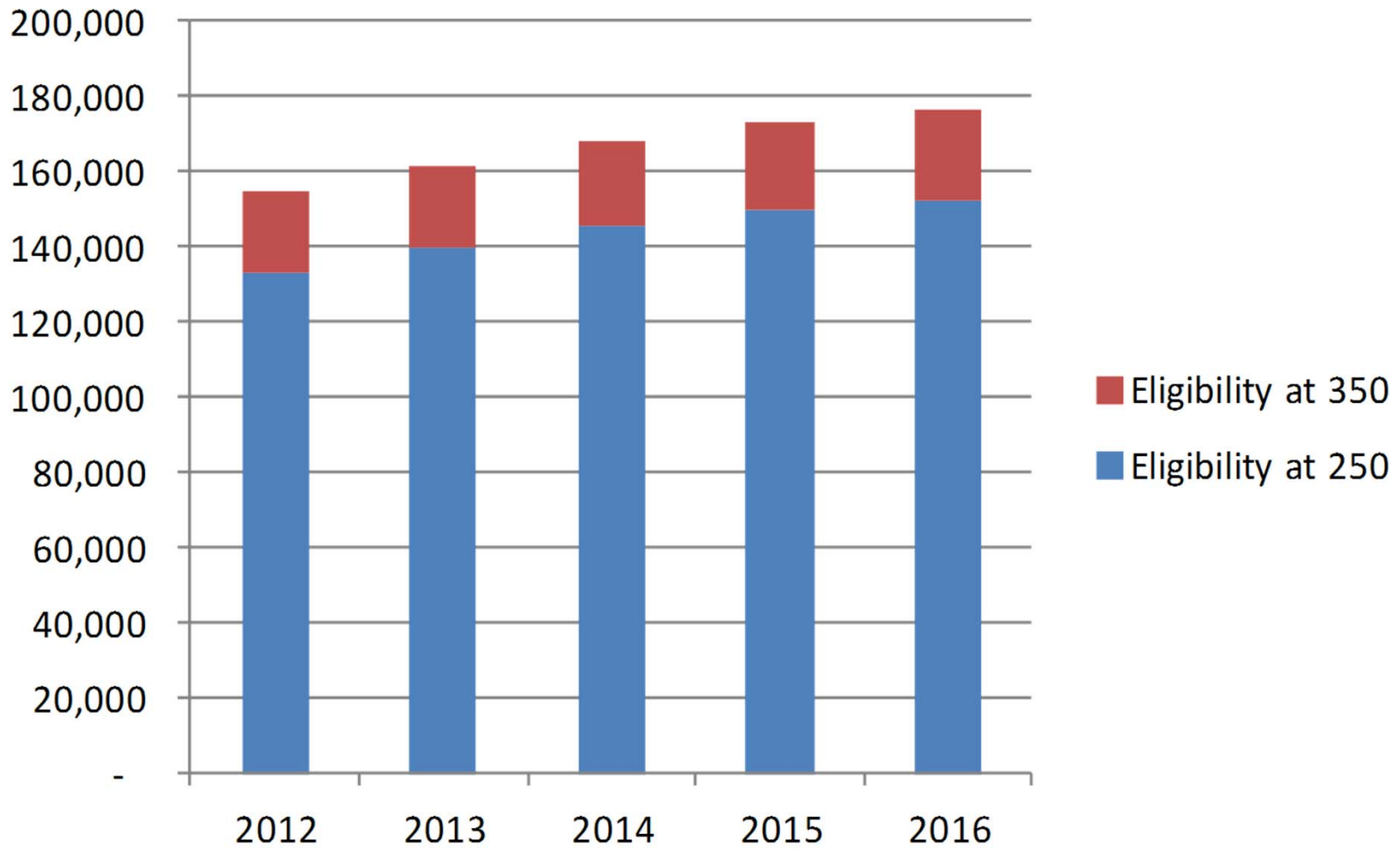
# Modeling ART Guideline Change

- Created the baseline projection in which the threshold for ART initiation was CD4 250
- Developed an alternative scenario in which the threshold for ART initiation was relaxed to CD4 350
- In both scenarios coverage was held at 90%
- The difference between the baseline and the CD4 350 scenario produced counterfactual impacts and costs for the ART program to 2016

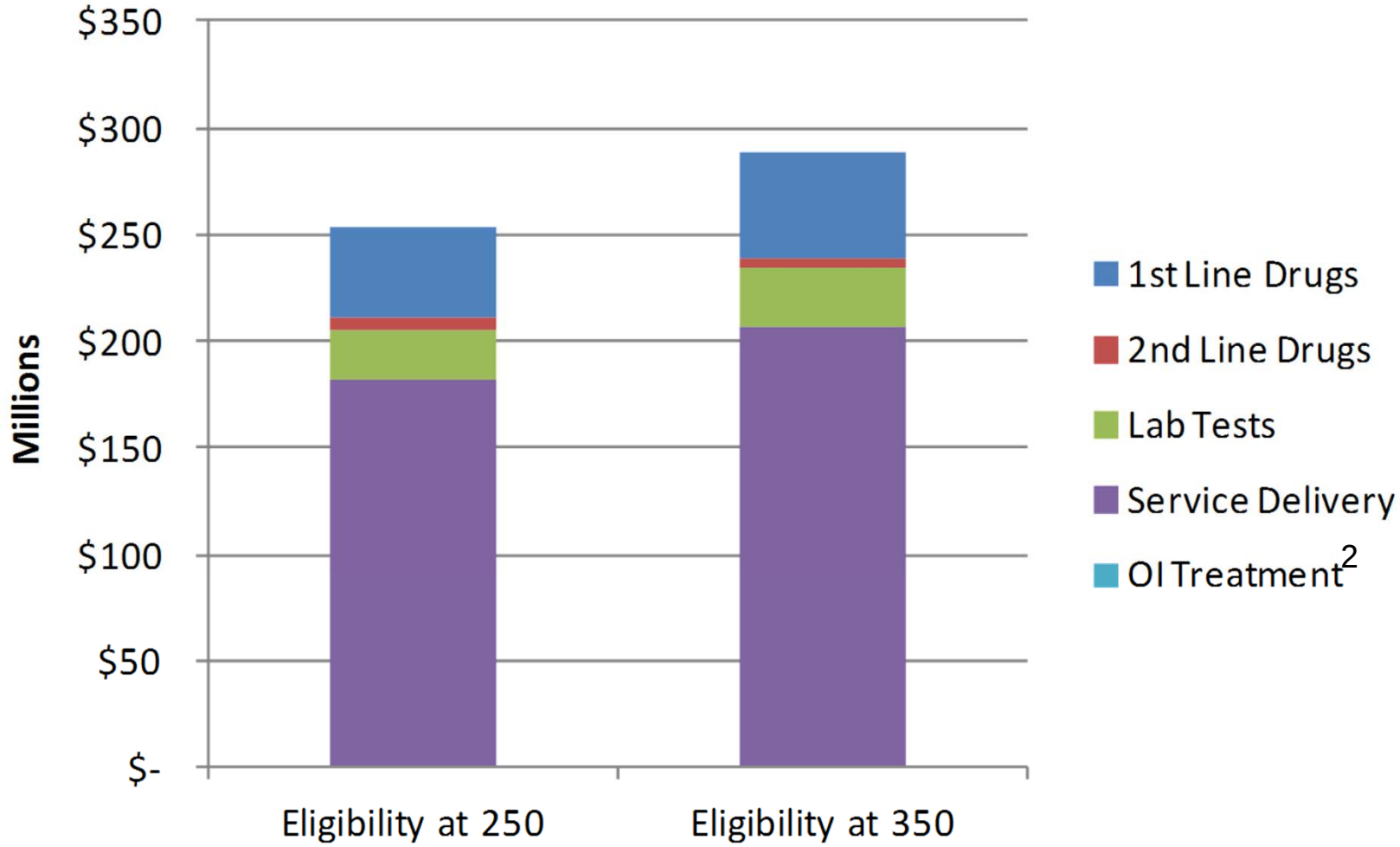
# Estimated New & Existing ART Patients



# Additional Clients Eligible for ART



# Increased Care & Treatment Costs 2012



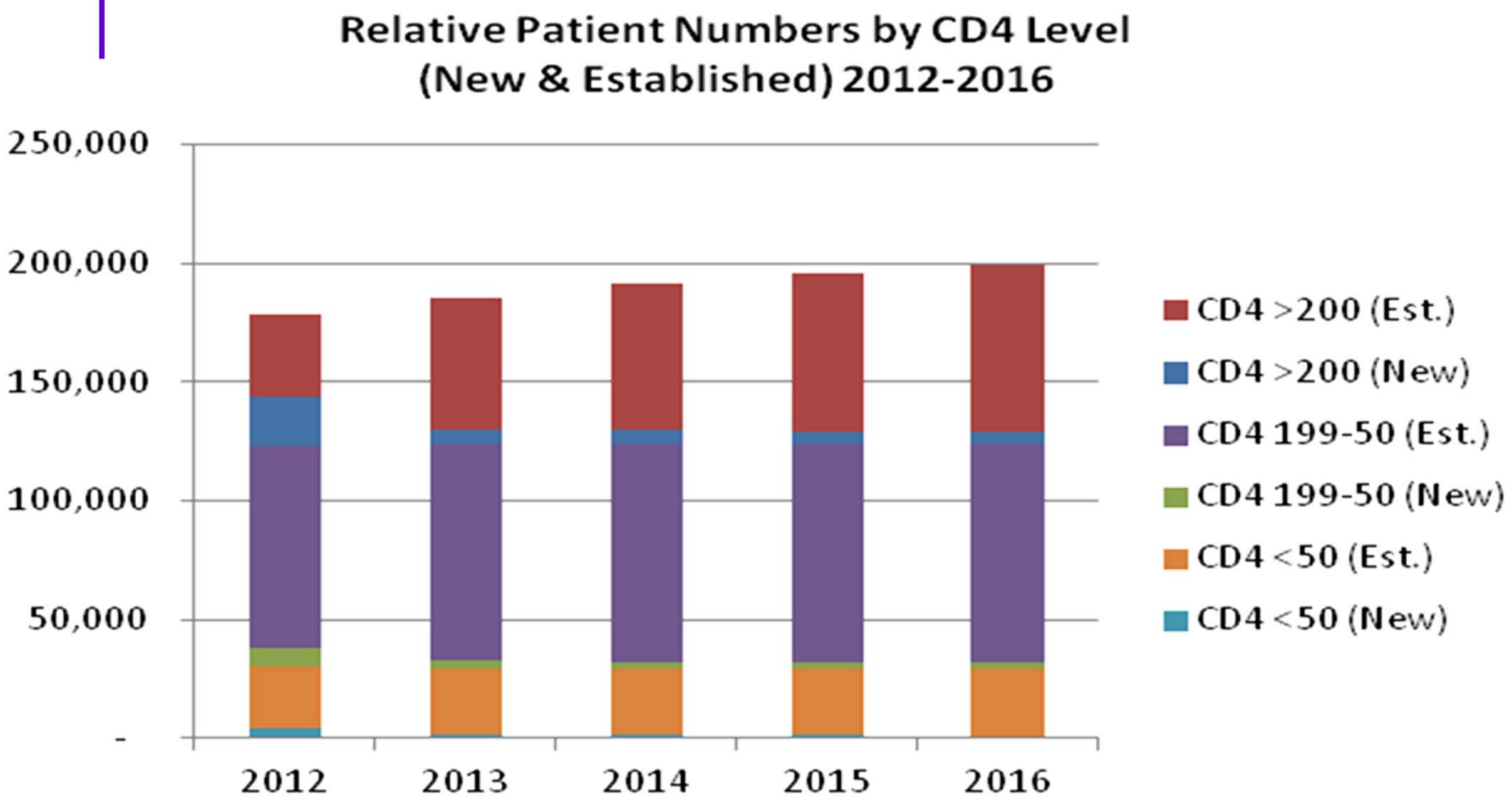

[2]Amounts for OI are marginal in either case and are therefore not visible here

# Estimating HR Impacts and Costs

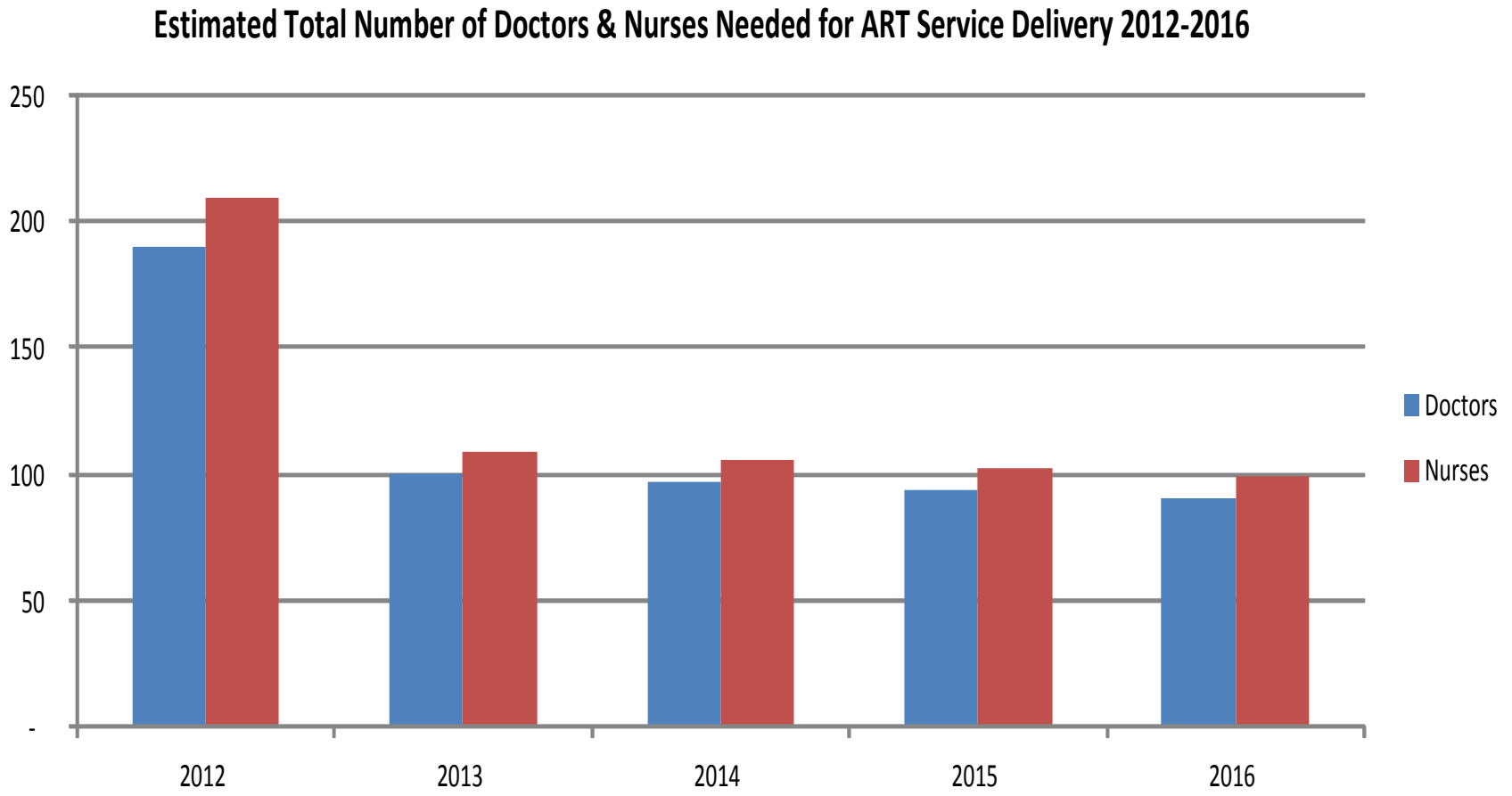
- Adopted a Quantity, Tasks & Productivity (QTP) model[3] estimating interaction time between health care providers and patients
- Focused on Doctors and Nurses only
- Clients disaggregated by CD4 count; and whether established (>1 year in program) or newly enrolled
- Estimated the total quantity of patient hours implied by the number of ART patients in each category for every year from 2012 to 2016.

[3]Kurowski and Mills (2006) Estimating human resource requirements for scaling up priority health interventions in Low-income countries of Sub-Saharan Africa: A methodology based on service quantity, tasks and productivity, Health Economics and Financing Programme (HEFP) Working Paper 01/06, LSHTM, DFID

# ART Client Categories



# Staffing Needs for ART Service Delivery



# Cost of HR for ART Guideline Change

- High-end / Low-end scenarios
- High-end: 32 additional doctors and no nurses needed in first year with total cost < $1m
- Low-end: 84 additional doctors and 42 additional nurses needed in first year with total cost of $2.9m
- By the second year, if patient hours fall after the initial “spike,” HR needs should begin to match demand

# Conclusions

- ART initiation at <CD4 350 has positive benefits
- Sustainability remains a concern
- Demand for ART may ultimately outstrip Botswana's ability to supply
- MOH may cope with the "spike" period with few additional inputs
- Long term costs and impacts on HR could be mediated by exploring efficiencies in service delivery