

CONTROLLING THE HIV EPIDEMIC WITH  
**ANTIRETROVIRALS**



Avoiding the Cost  
of Inaction

18-19 September 2014 • Royal Garden Hotel, London

# Plenary #9

## Return on Investment Scenarios: Implications of Making Small-, Mid-, and Large-Scale Investments

Alan Whiteside



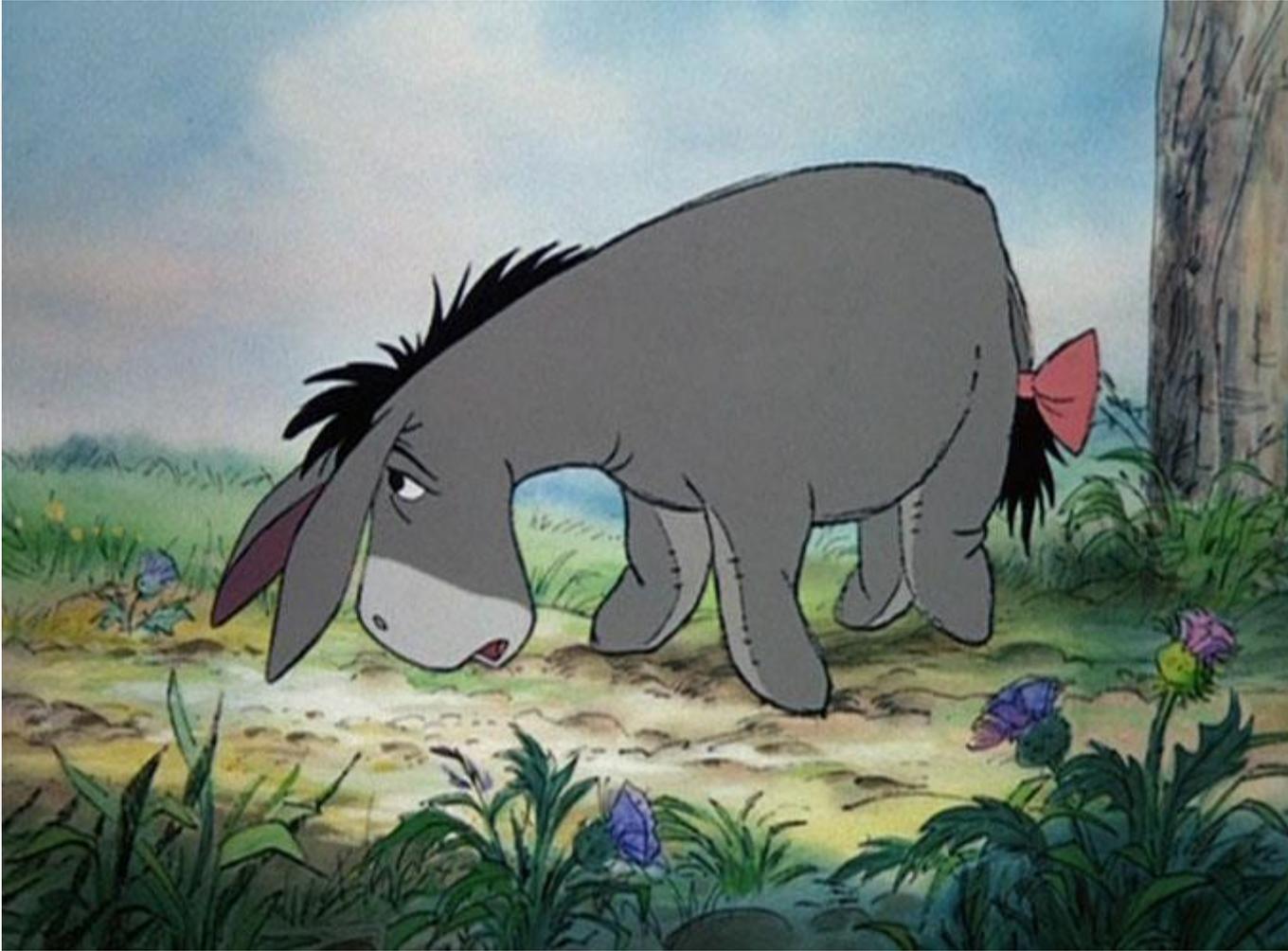
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PUFFIN MODERN CLASSICS

**Winnie-the-Pooh**  
A. A. MILNE



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# Return on Investment (ROI)

- The ROI metric measures per period, rates of return on money invested to decide whether to invest

$$\text{ROI} = \frac{\text{Gain from Investment} - \text{Cost of Investment}}{\text{Cost of Investment}}$$

- But...over what period do we do this?
  - ROI is not Net Present Value adjusted and it is generally “Year 0” investment and two to three years income



# Discounted Cash Flows

$$DCF = \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \dots + \frac{CF_n}{(1+r)^n}$$

$$FV = DCF \cdot (1+r)^n$$



# Cost-Benefit Analysis (CBA)

- A means of evaluating all of the potential costs and benefits that may be generated if the project is undertaken
- The outcome of the analysis will determine whether the project is financially feasible, or if another project should be pursued



# Cost-Effectiveness Analysis (CEA)

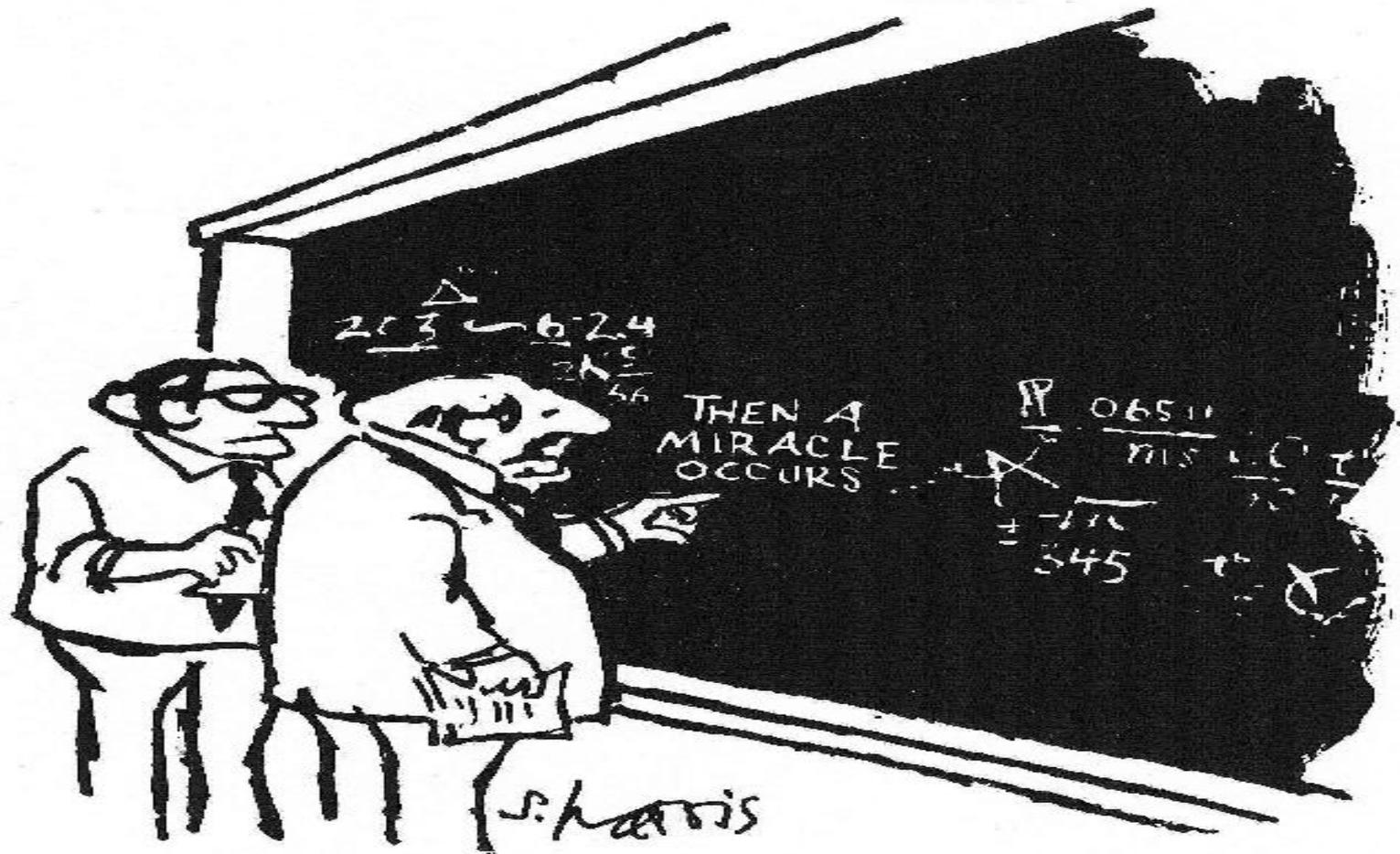
- A form of economic analysis that compares the relative costs and outcomes of two or more courses of action
- Cost-effectiveness analysis is often used in the field of health services, where it may be inappropriate to monetize health effect



# Other Buzz Words

- Efficiency
- Effectiveness
- Value for money (VFM)
- Sustainability



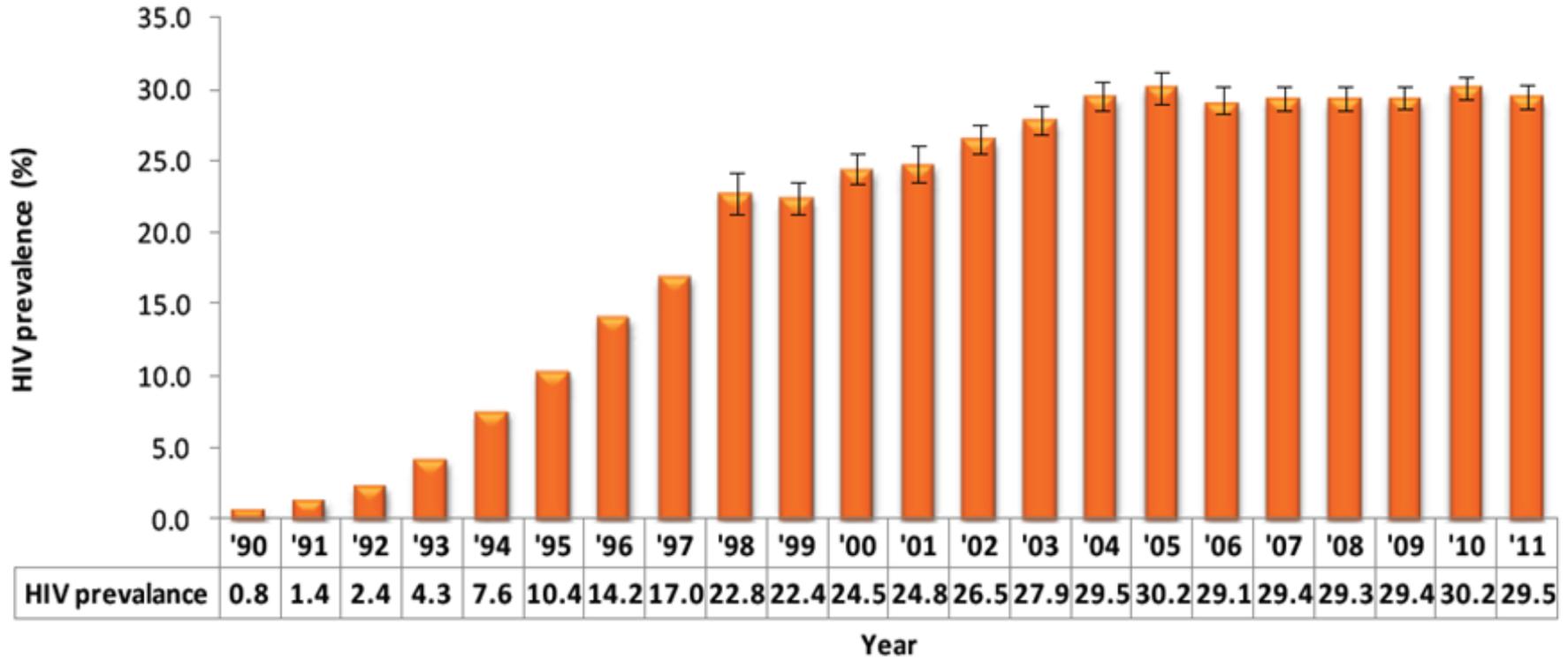


"I think you should be more explicit here in step two."



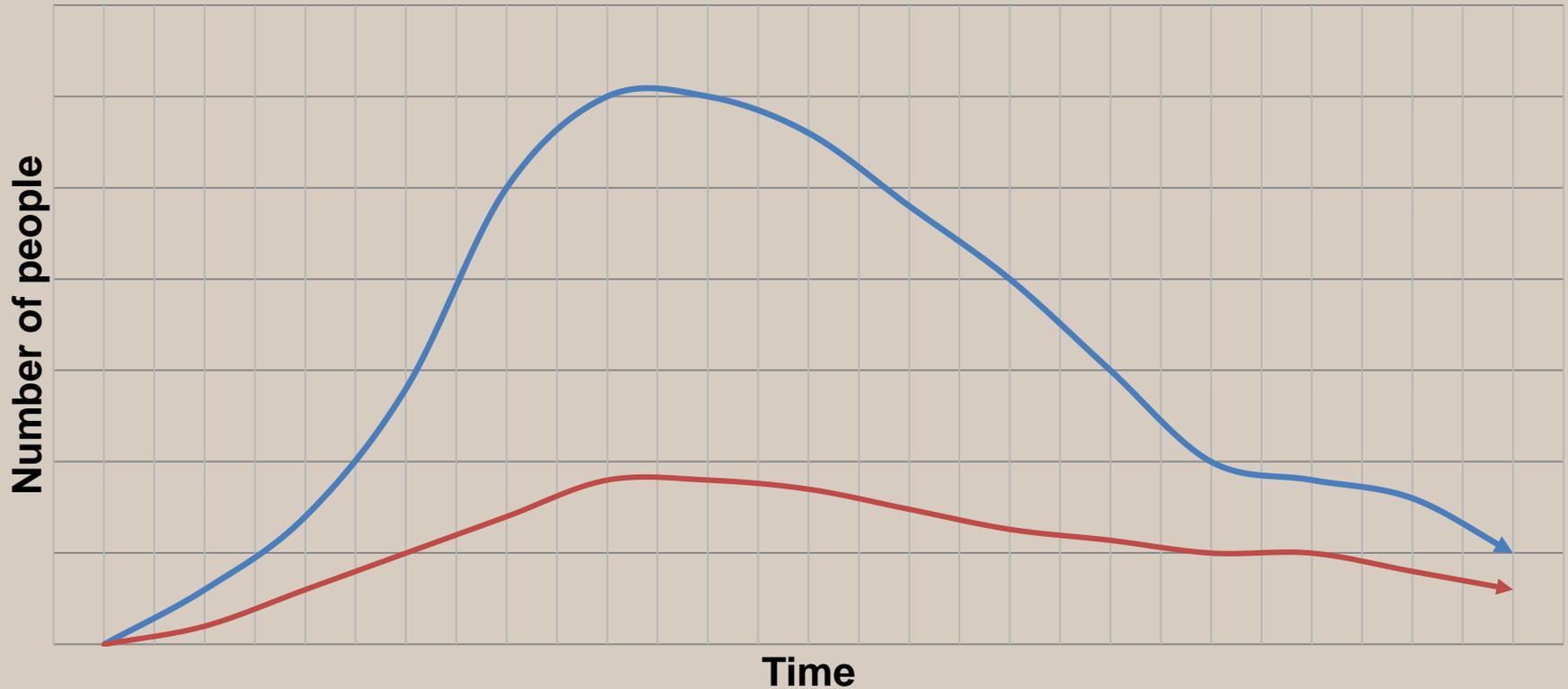
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# Ante-natal Prevalence in South Africa 1990-2011

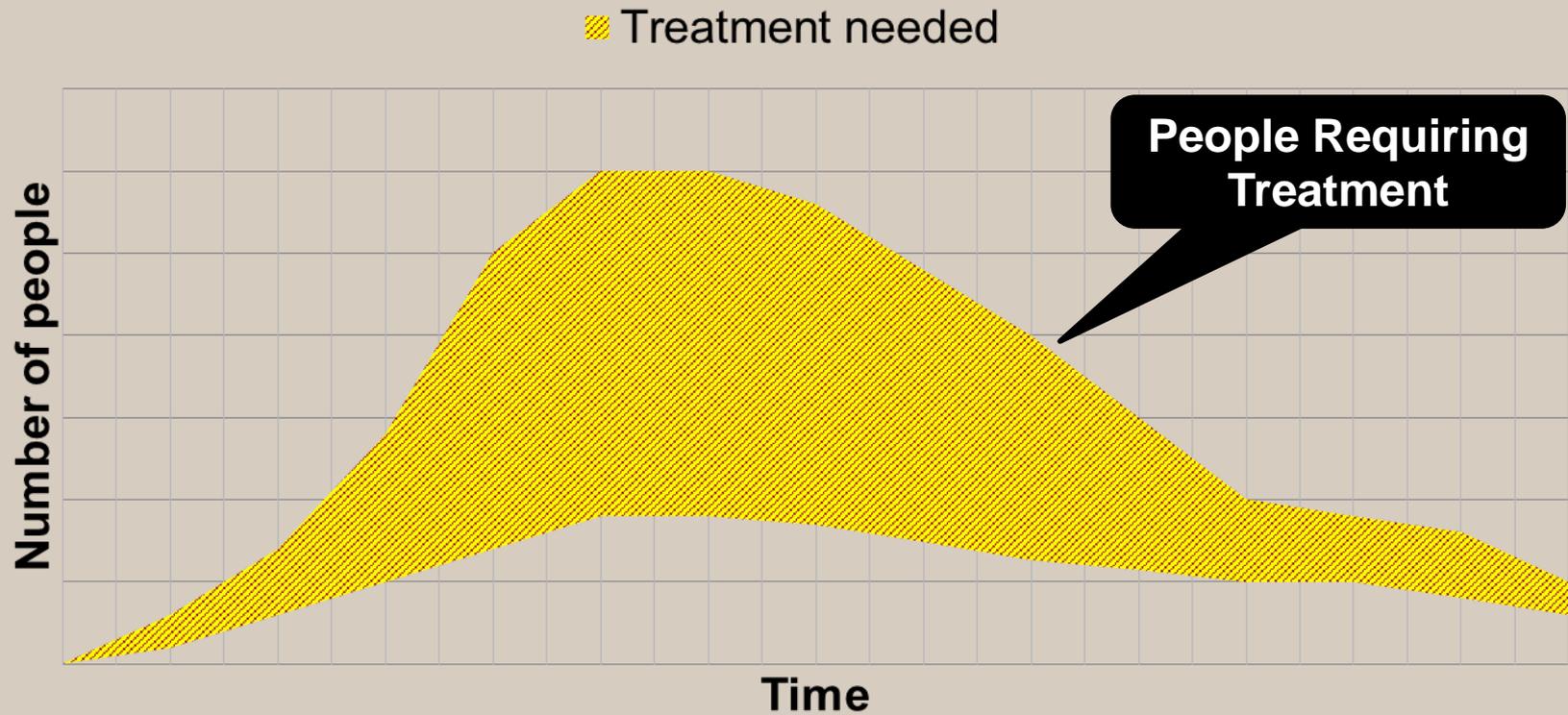


# Understanding Curves: New Infections and Deaths

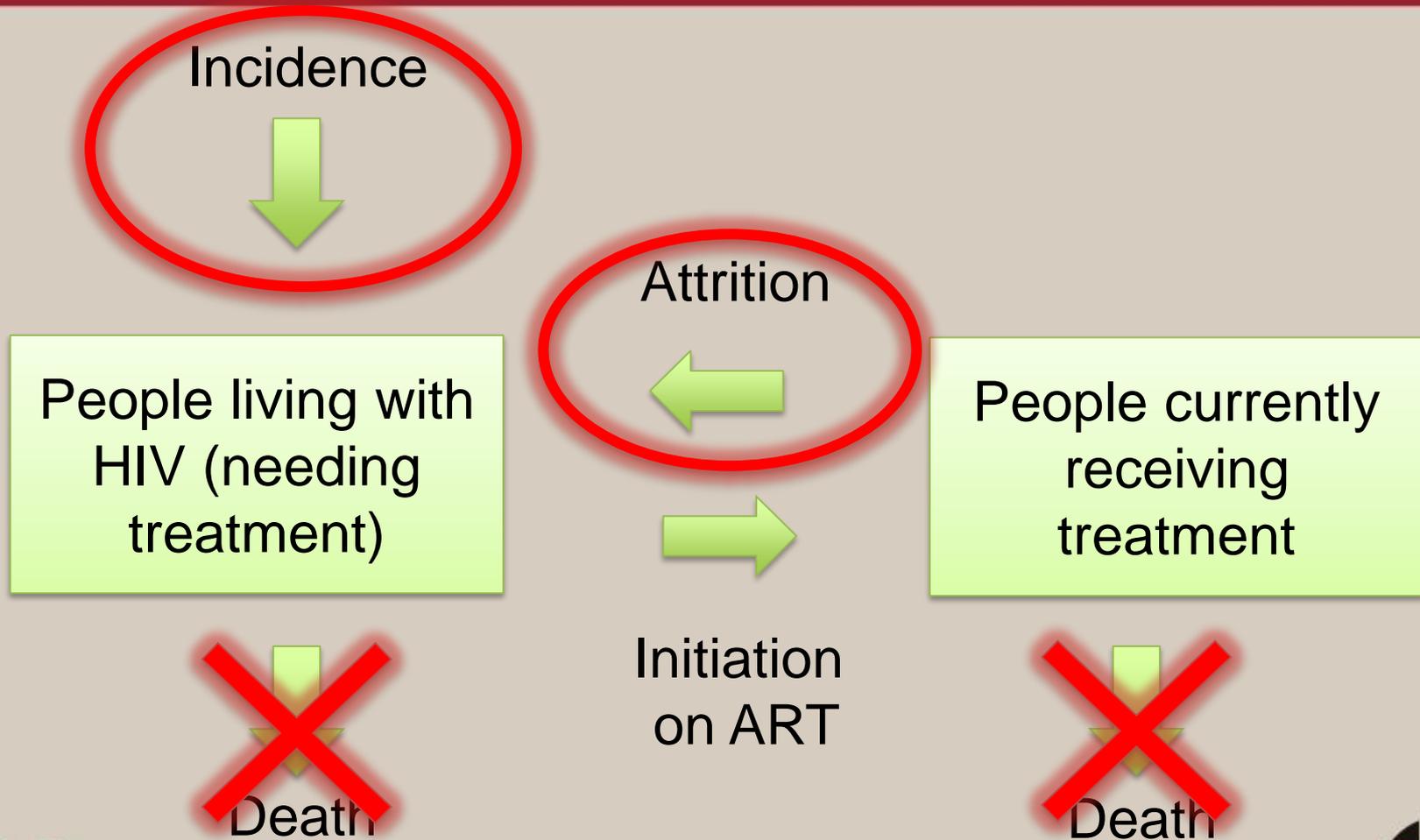
→ New Infections      → Deaths of HIV Positive People



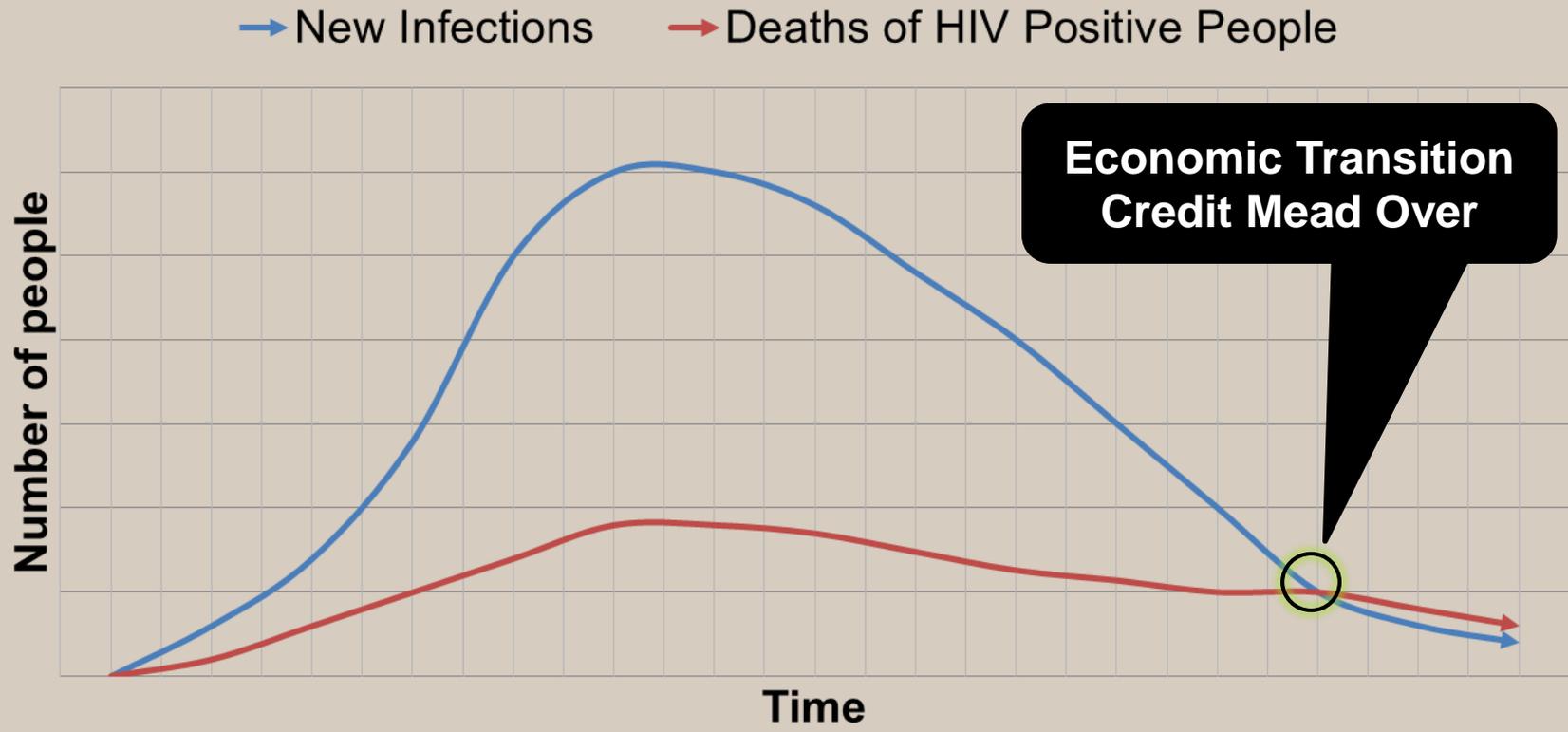
# Treatment Requirements



# Treatment Requirements



# Economic Transition



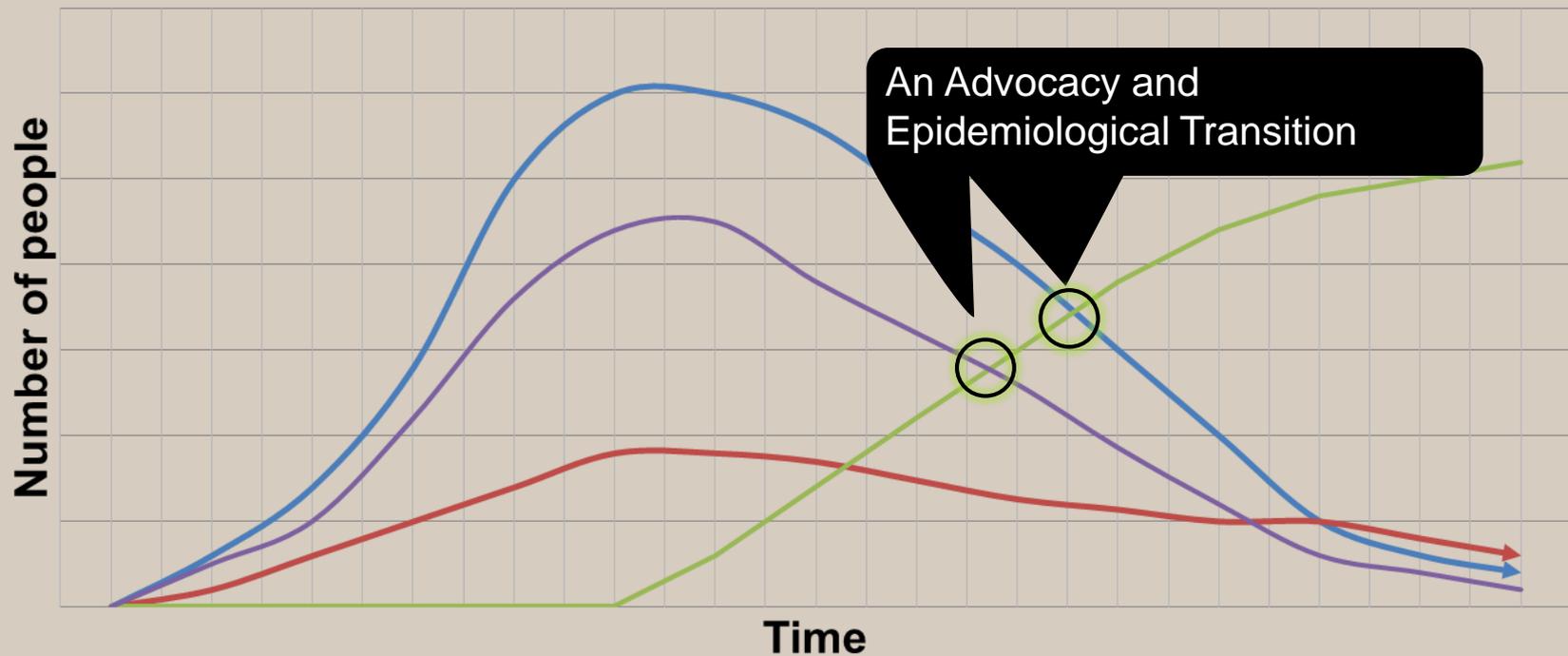
# Epidemiologic Transition

→ New Infections

→ Deaths of HIV Positive People

— Treatment

— New people needing treatment



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→ New Infections

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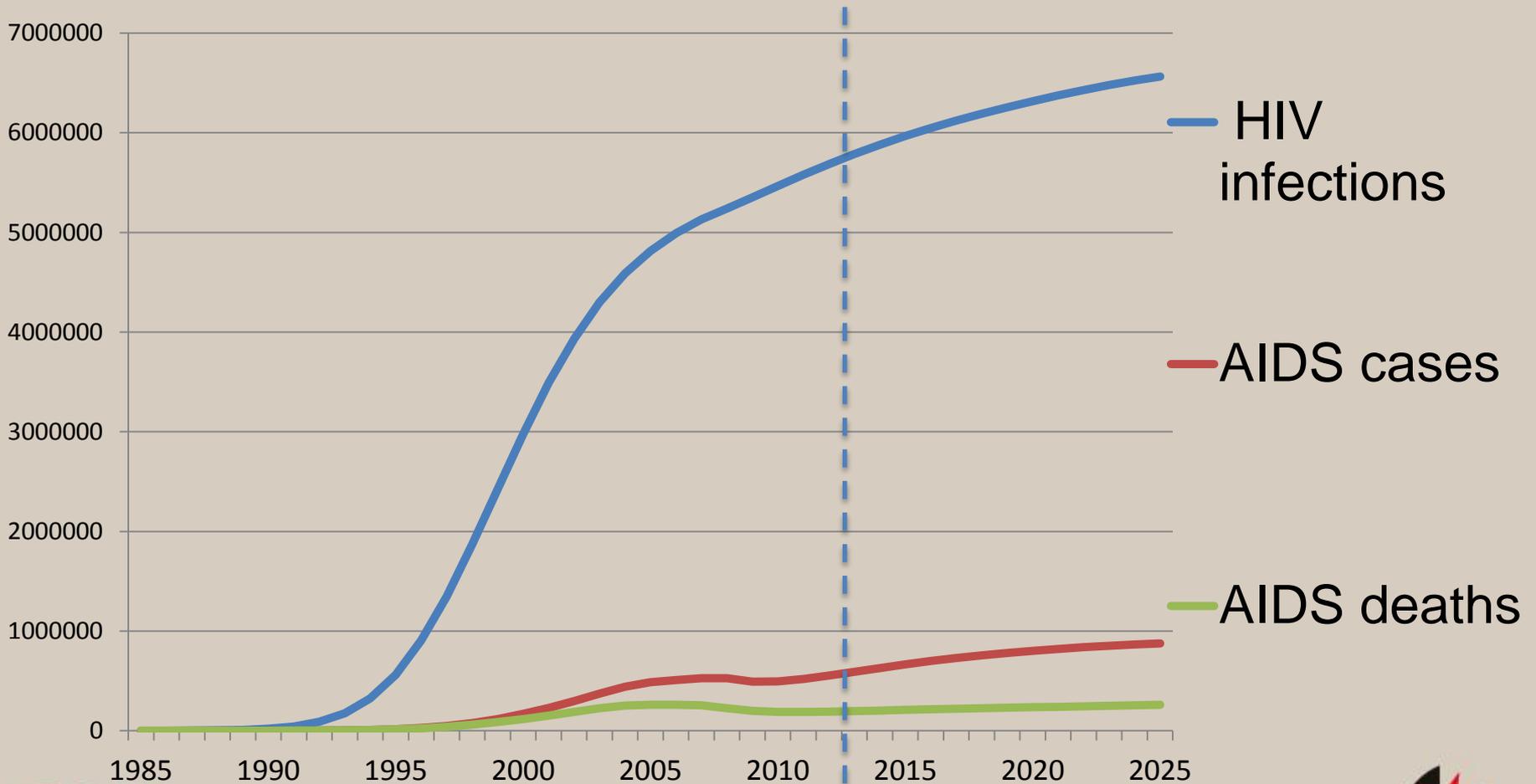
# Real Data from South Africa

ASSA 2008 – Comparing the estimates to the latest HSRC data:

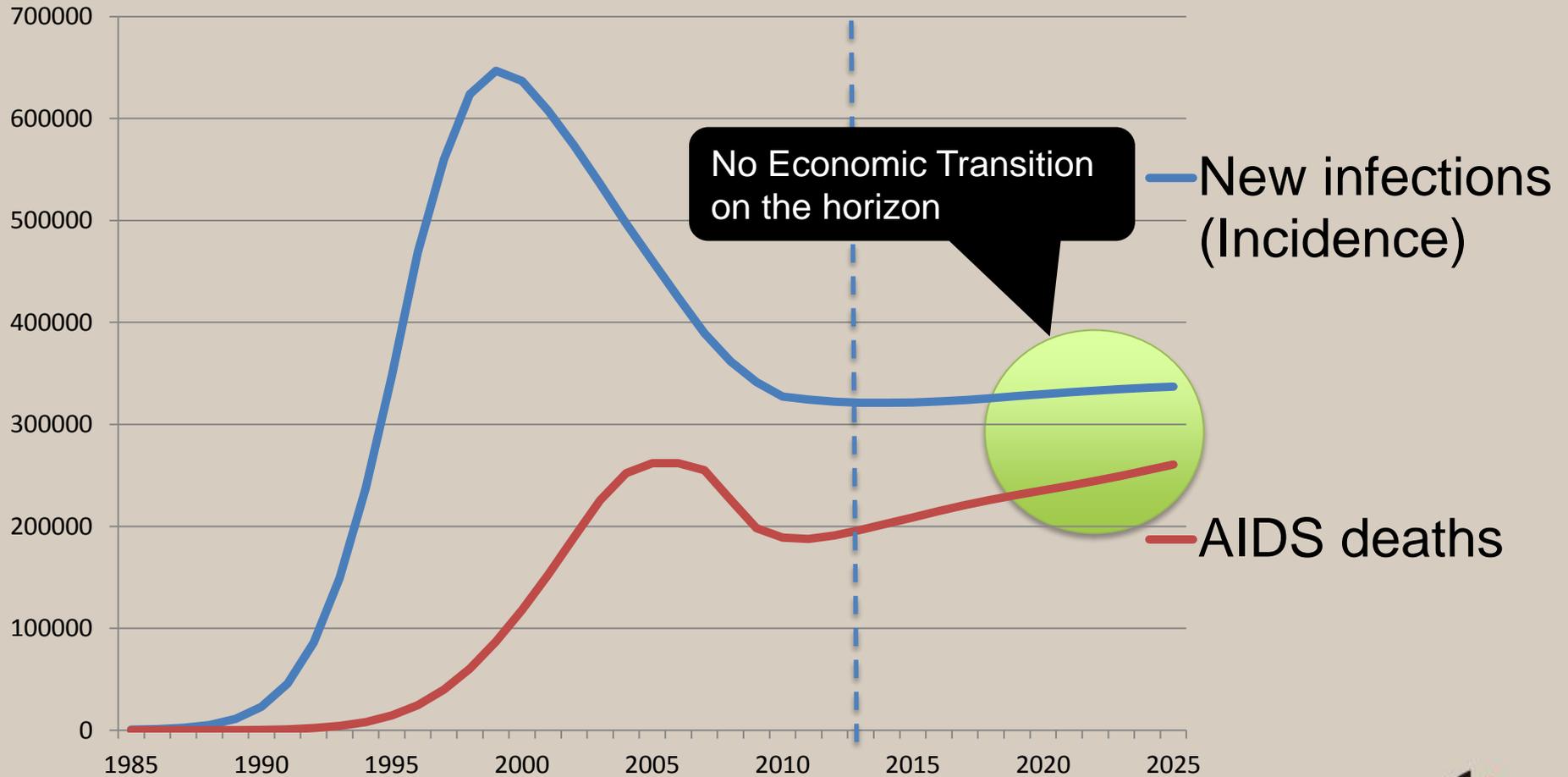
- Prevalence is higher than ASSA estimates for 2012
- There were fewer AIDS deaths than predicted in 2012, possibly due to drug improvements
- Incidence rates in 2012 were higher than ASSA estimates
- In 2008, the benefits from treatment as prevention were not fully understood



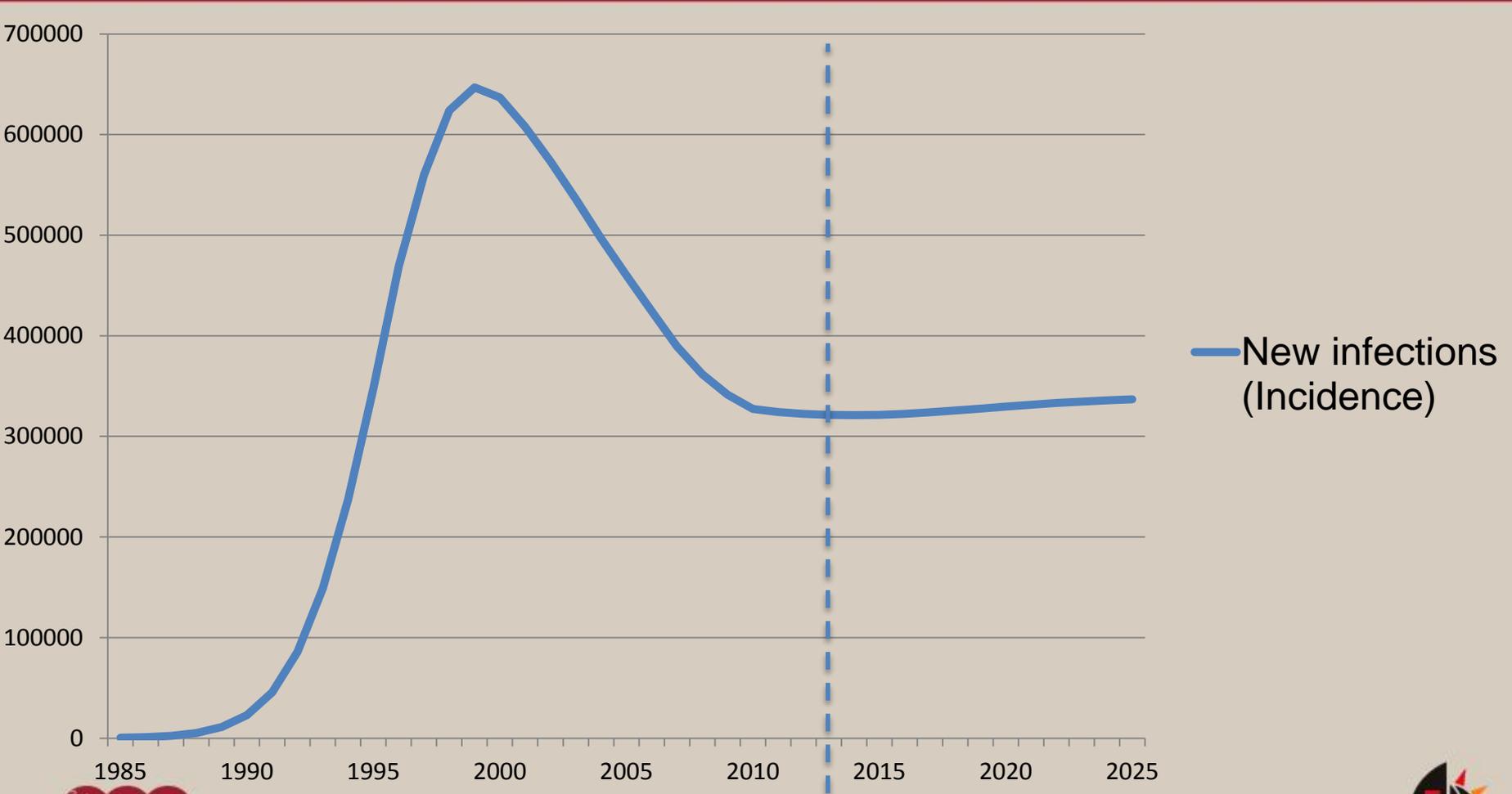
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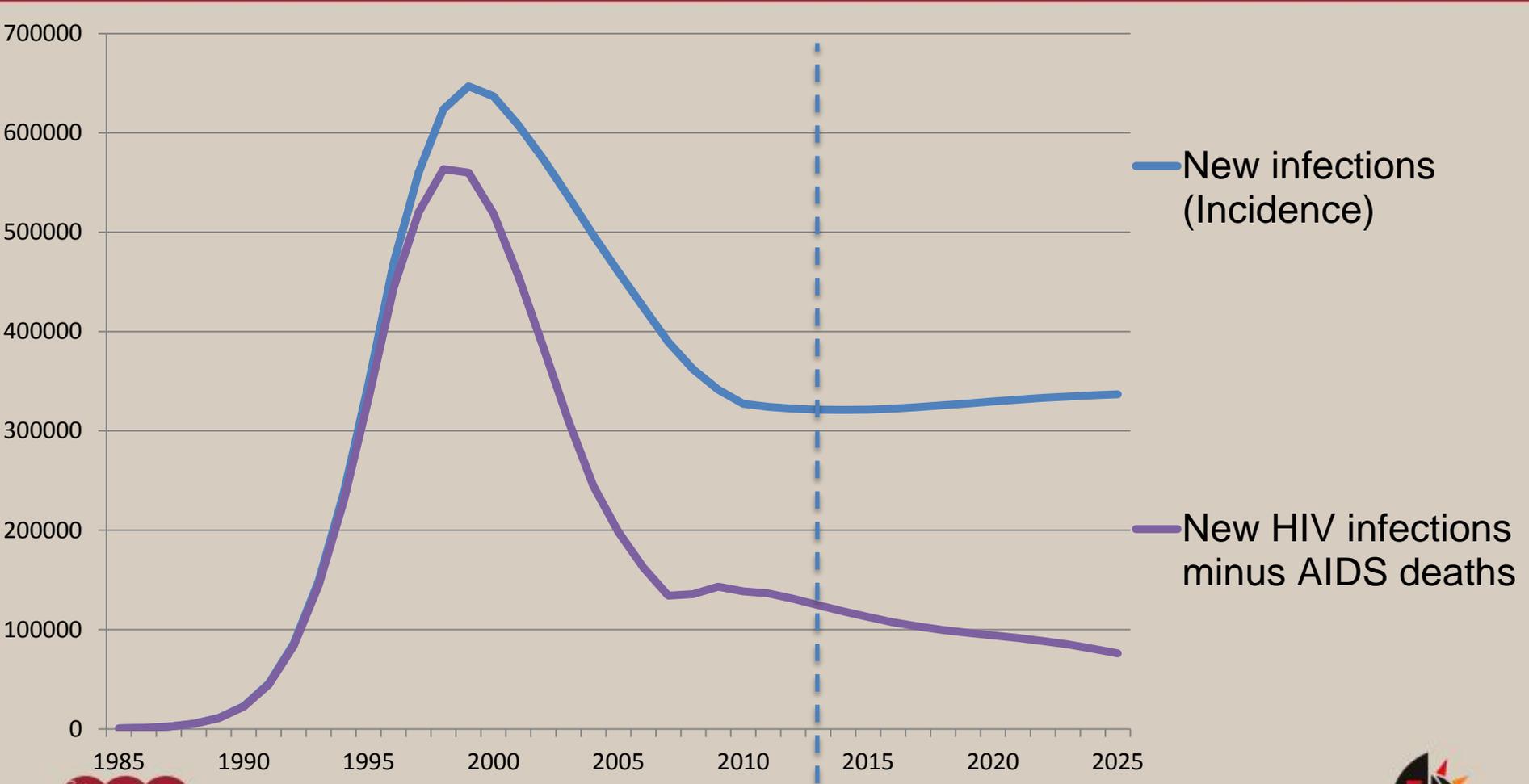
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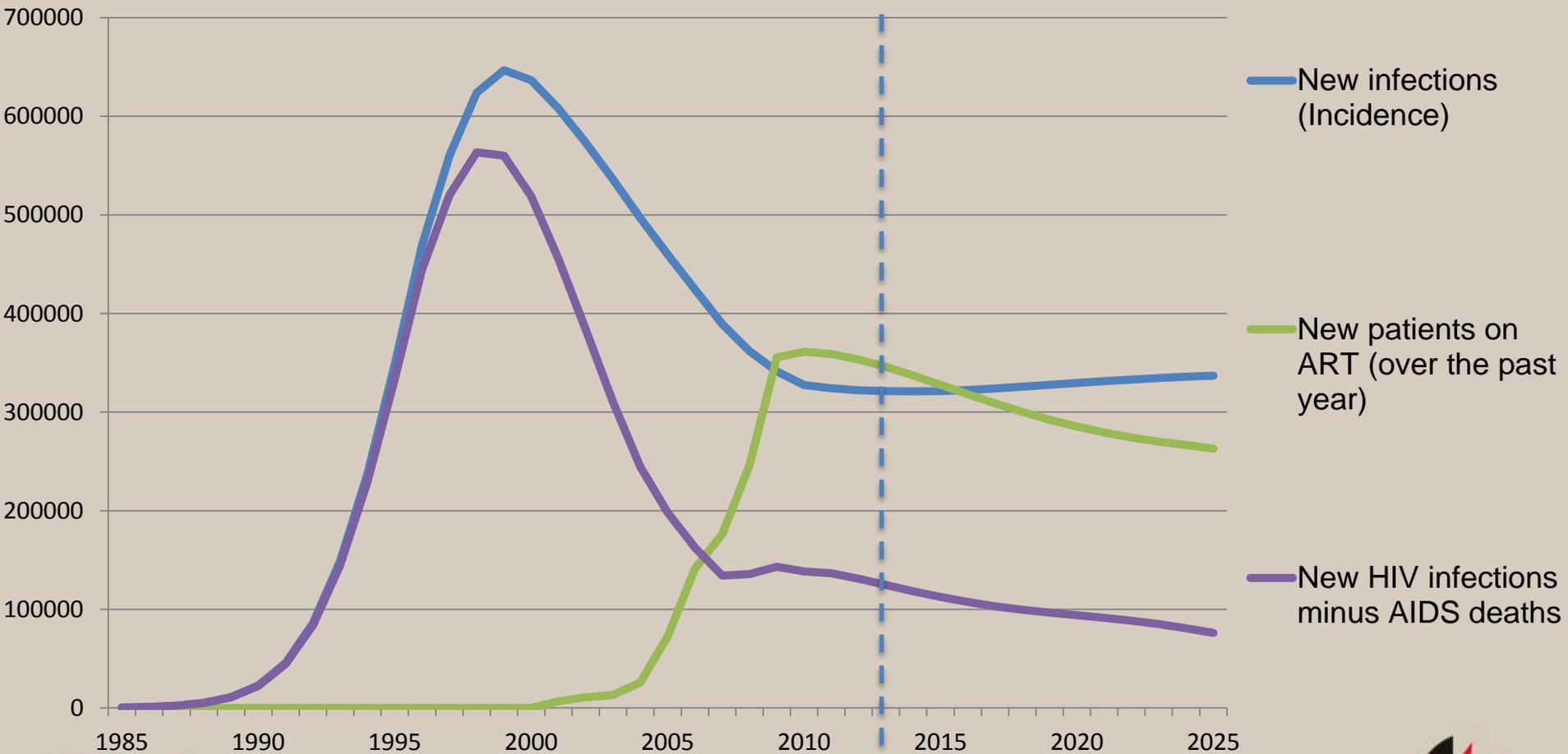
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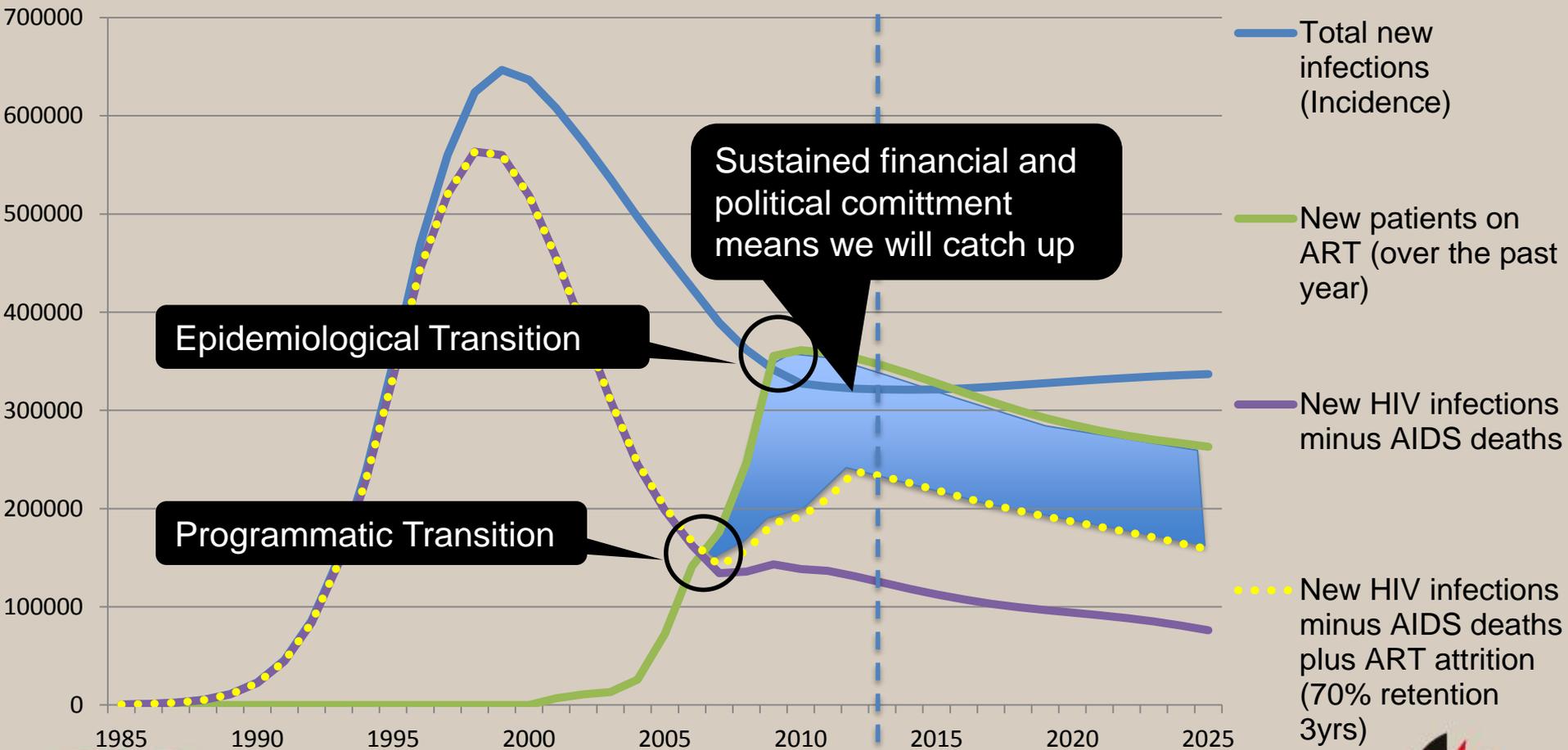
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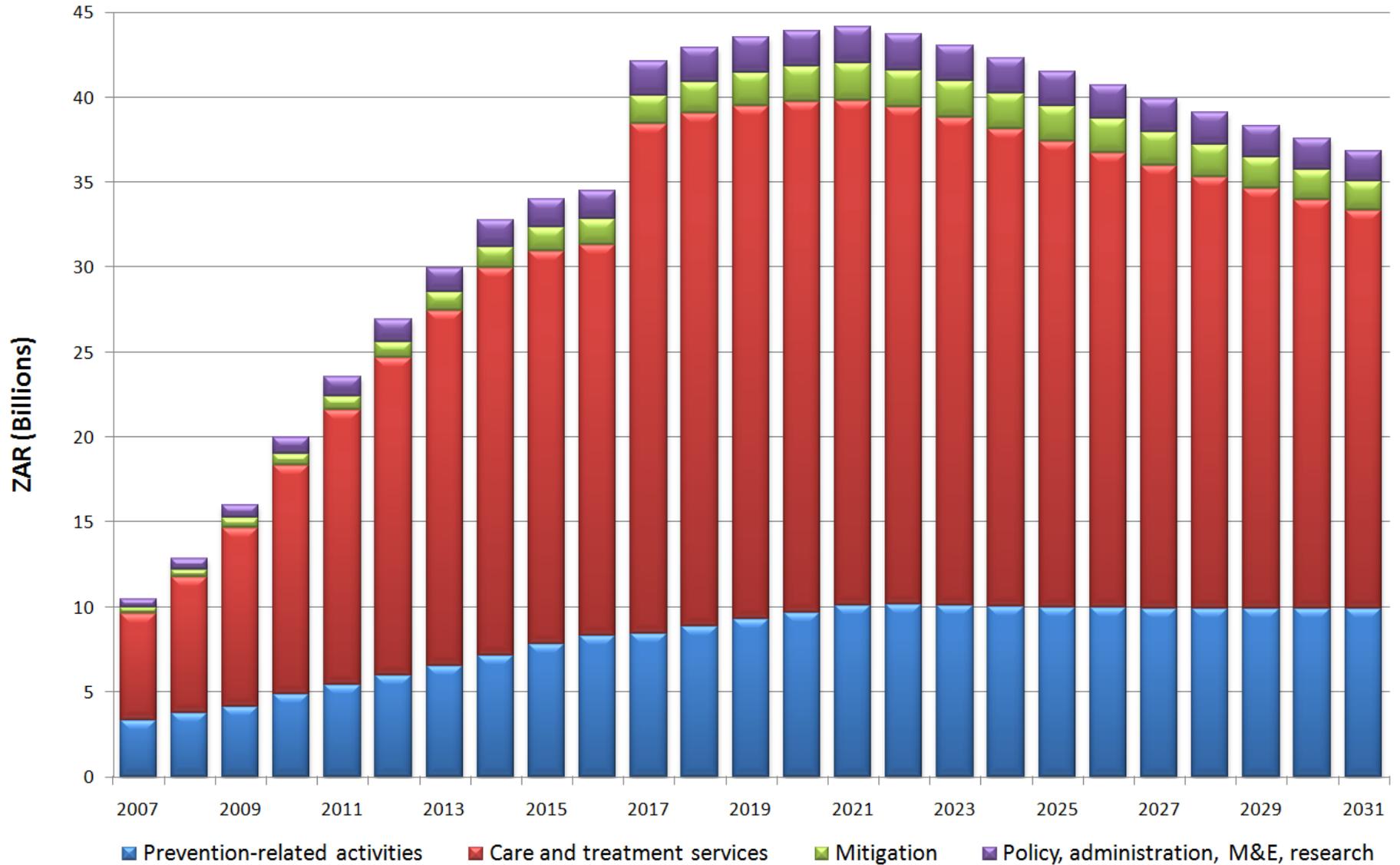


# Scenarios: Small, Medium, Large

- Dependent on:
  - Politics
  - Budget
  - Priorities
  - Human Rights



## Expanded NSP - Total Resources Required and their Distribution



# Things We Need to Think About

- Treatment as prevention only works if it is done on a large enough scale
- There needs to be a clear time horizon
- Advocacy must get smarter
- Where is the money coming from?





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