

Using Capacity Planning Models to Estimate Organizational Costs of HIV Care within the United States Department of Veterans Affairs



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MOTIVATION FOR HIV TESTING

- >1,000,000 HIV cases in US
- VA cares for >20,000 HIV pts/yr
- HAART Rx has transformed HIV into treatable chronic disease – if detected
- Costs are similar to other serious chronic illnesses

REASONS TO TEST FOR HIV

Early detection / early care critical for:

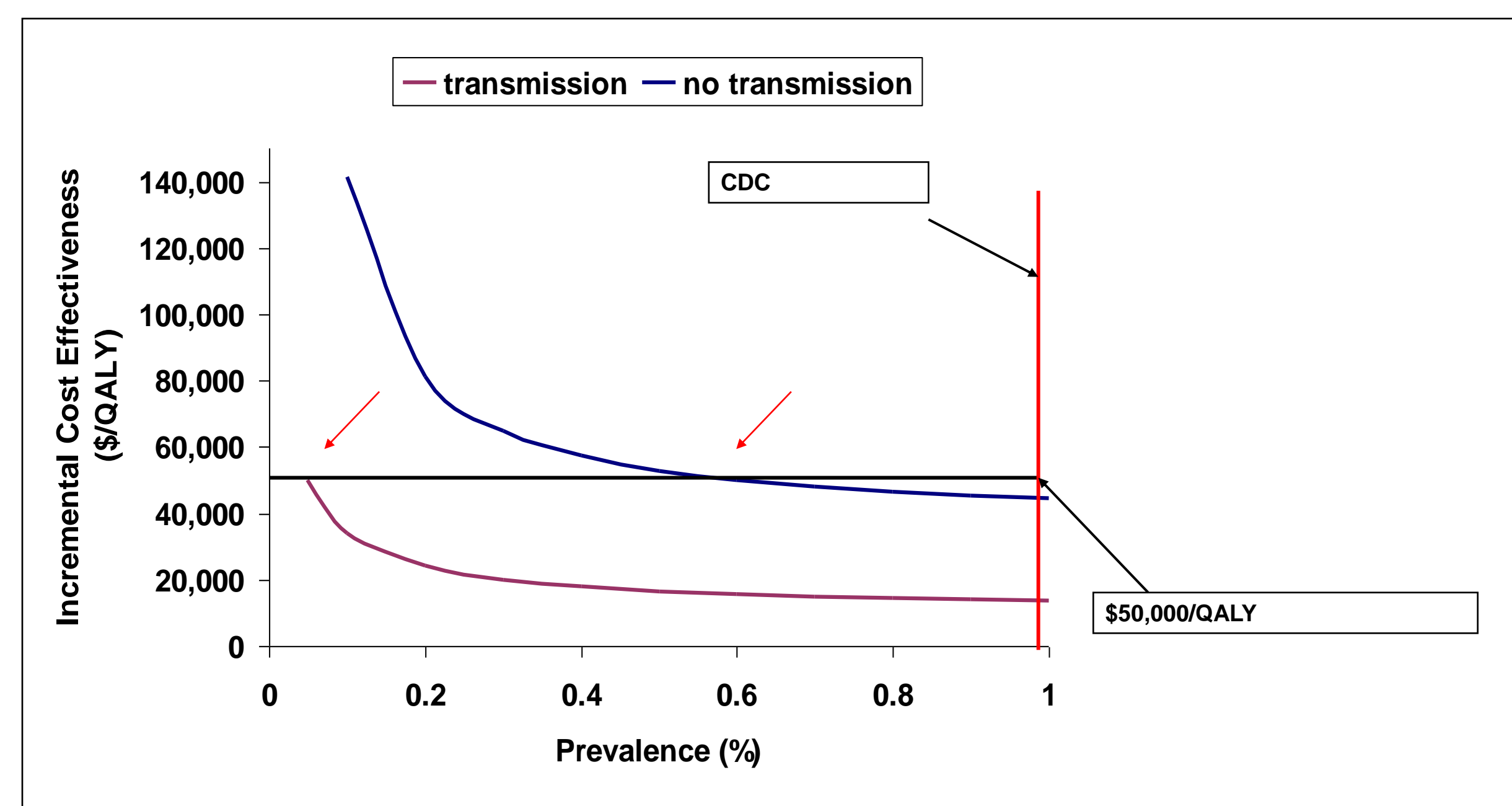
- reducing cost/pt
- prolonging lives
- preventing further transmission

CDC guideline: Patients should be tested if risk group prevalence is >1%

COST EFFECTIVENESS OF WIDESPREAD TESTING FOR HIV

Caring for HIV patients within the expected range for chronic disease, and estimated \$13,899/yr in 2000

As the graph shows, it would be cost effective even at much lower prevalence rates than have been found in general VA populations



SUMMARY OF RATIONALE TO VHA MANAGERS

- HIV easier/cheaper to treat if detected early
- VA has high prevalence of HIV
- VA performance falls short
- Therefore we should improve screening and testing rates

BUSINESS CASE MODELING

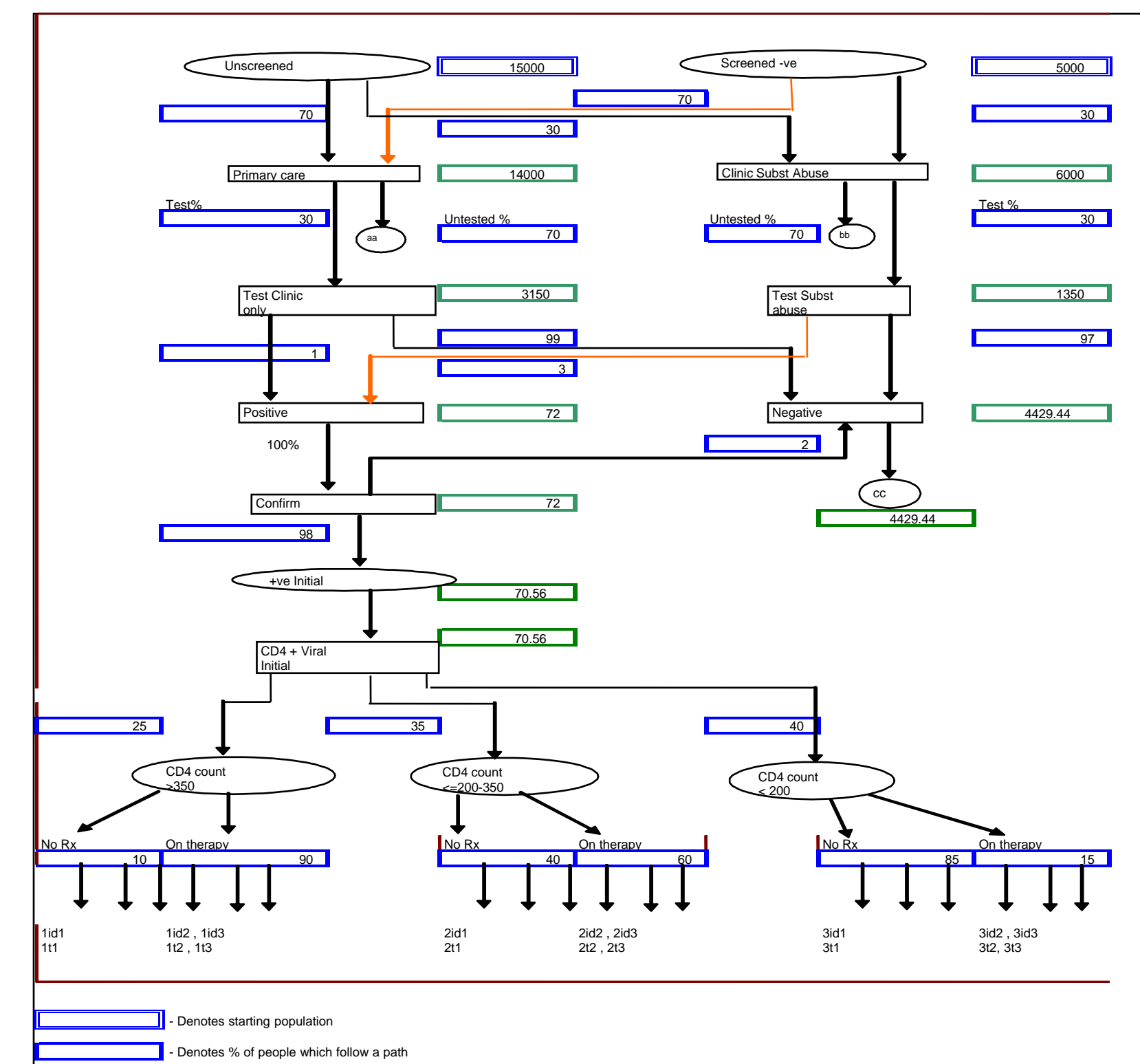
- Data-driven models for making managerial or technical decisions
- Valuable tool for program managers although vastly underused
- Used by Dept of Defense

PROCESS MAP METHOD

- Uses current HIV testing rates
- Estimates costs associated with testing and treating (e.g., fixed MD FTE, Pharmacy, Lab costs)
- Links rates/costs over time
- Specifies categories of 1st year org. costs associated with two scenarios of increasing screening rates:
 - 0 to 5%
 - 0 to 10%

EXCERPT OF MODELING PROCESS

Excel-based, top to bottom (and qtr. to qtr.) flowchart design



QUARTER ON QUARTER INCREASES IN OVERALL COSTS

We found a \$37,000 – \$75,000 increase in the direct costs of HIV testing between baseline and quarter one. Although the costs of increased HIV testing gradually decrease over time, the total costs of HIV care increase due to the increase in the number of HIV-infected patients under care



IMPLICATIONS/LESSONS LEARNED

Business case modeling is an effective, powerful (and potentially simple) method for analyzing effects of contemporaneous policy decisions on future organizational impacts, fiscal and otherwise.

The effectiveness of cost modeling has important implications for organizational impacts associated with changes in care delivery.

These models can be tailored to be highly flexible and can be used to estimate the short and long-term objectives of both an individual facility or large healthcare organization.

Stakeholders and facility/organizational managers should consider the use of capacity planning models of this sort to extrapolate future costs based on current actions.

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