

# THE COST EFFECTIVENESS OF A COMMUNITY GARDEN

Analysis by Healthcare Analytics, LLC

## THE COST EFFECTIVENESS OF A COMMUNITY GARDEN

- Diabetes Mellitus
  - Affects 30.3 million people in the USA (9.4% of population)
  - Costs Nationally of \$327 billion per year
    - \$237 billion in direct costs
    - \$90 billion in indirect costs
  - Simi Valley (pop'n 128,960) has 6.9% diabetics
    - 8,898 people
    - Low income residents are not eating well
      - Accessing a large amount of carbohydrates
      - Can't afford fresh fruits and vegetables
      - Rely on food with high fat and calories content

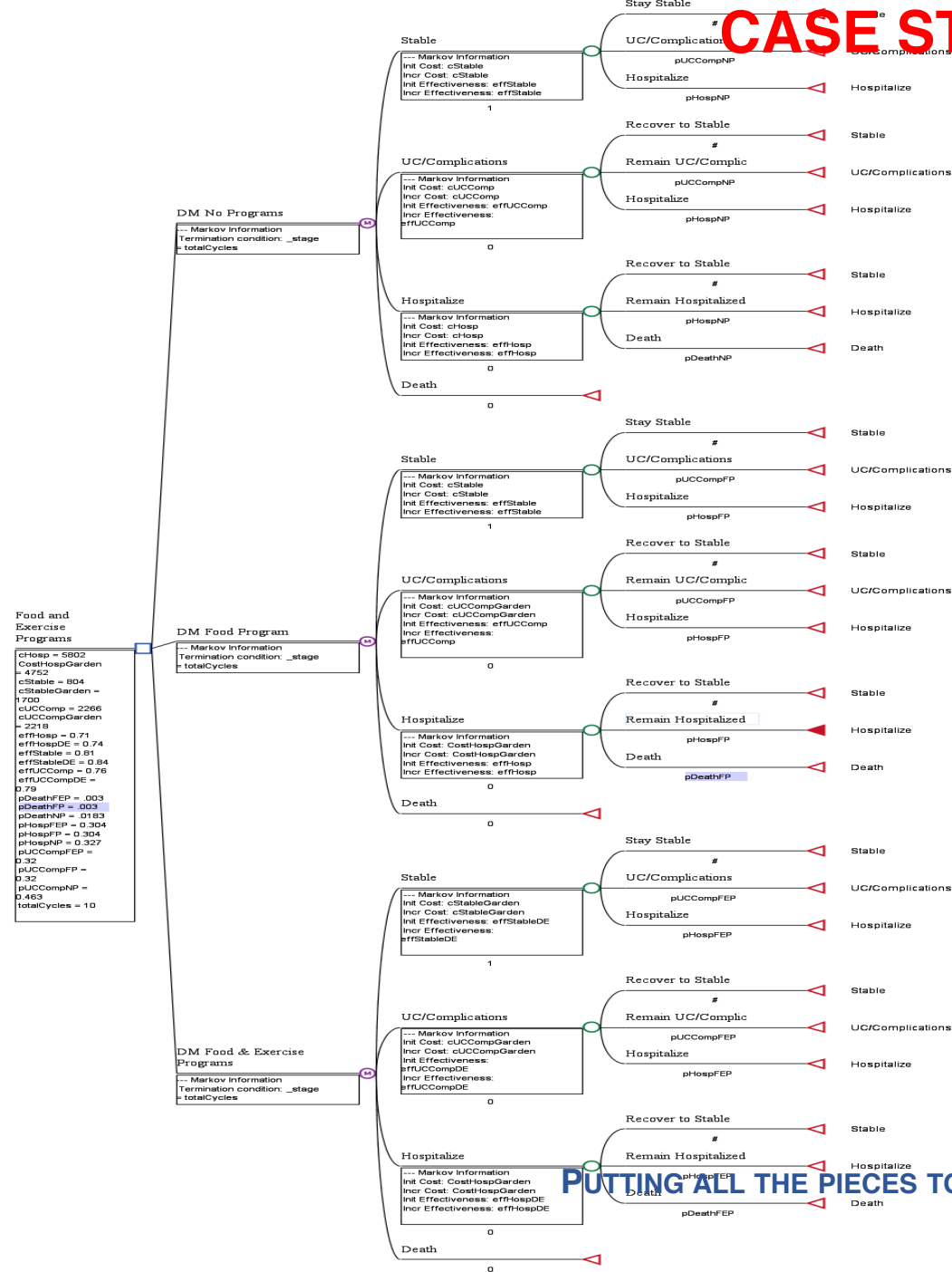
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- Simi Valley Community Garden
  - At Sinaloa Rd
  - Provides free food to the entire community with a Farmer's Market
    - Currently done monthly
      - Plan to increase frequency
  - Grows and provides food to the Indigent Community
    - Provides Healthy Fresh Vegetables
  - Medical Literature affirms that diabetics who participate in a community garden had significant reduction in their HgbA1c post-intervention (from 9.9% to 6.6%)
    - Weltin, et. al. The Effect of a Community Garden on HgA1c in Diabetics of Marshallese Descent. *Journal of Community Health Nursing*, 29: 12-24, 2012

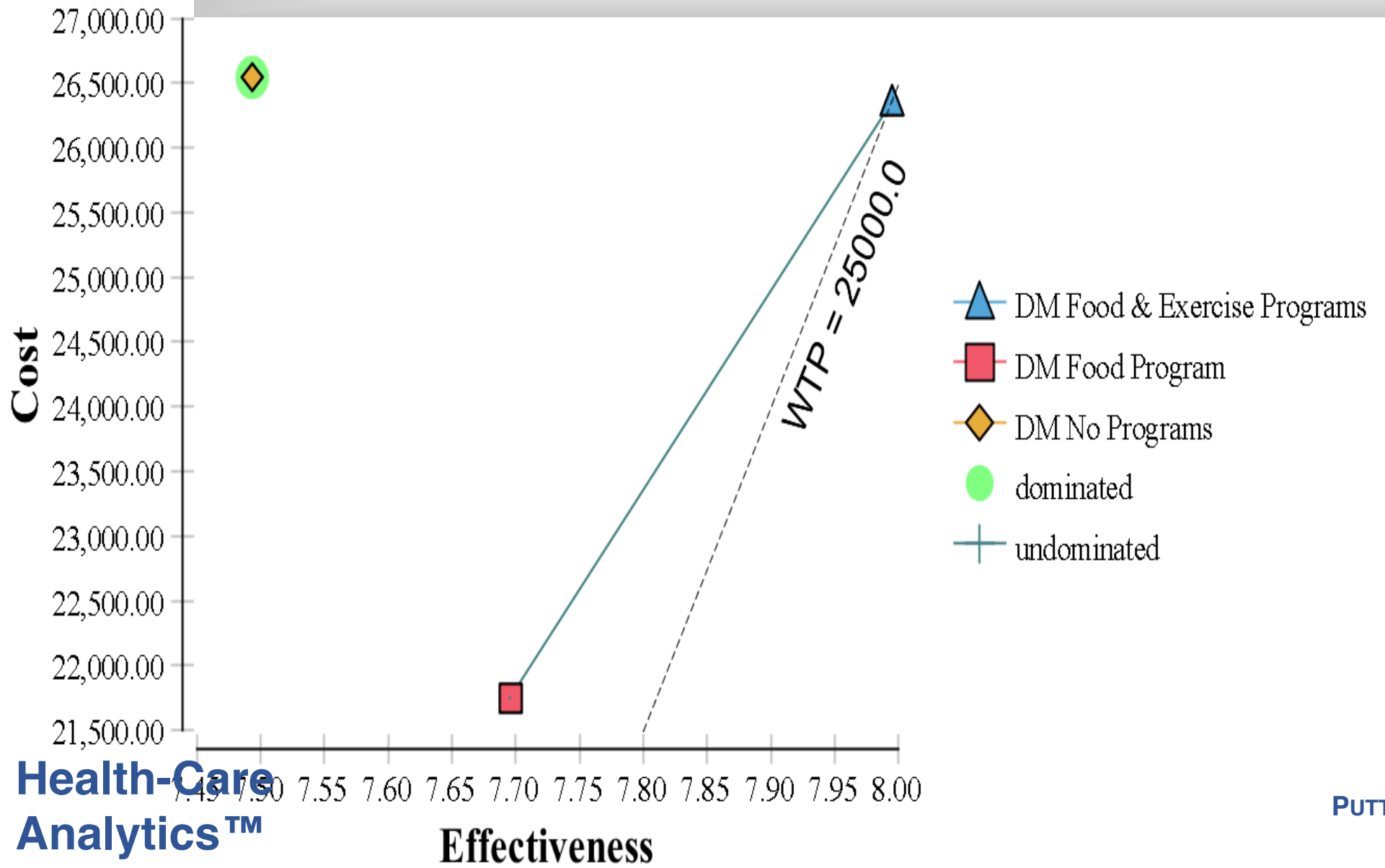
## THE COST EFFECTIVENESS OF A COMMUNITY GARDEN

- ANALYSIS
  - Utilized Cost effectiveness analysis with Markov modelling, a trusted model for long term studies of chronic disease.
  - Studied the Problem based on annual cycles of 10 consecutive projected years/cycles with one year of actual data input.
  - Able to identify a clear set of desirable outcomes and value them accordingly.

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- Incremental Cost Effectiveness Ratio (ICER)
  - Measured in terms of Dollars (\$) per Quality Adjusted Life Year (QALY)
    - Markov model shows the cumulated ICER over the period of the study-10 years
    - DM with no food program:  $\$26,542.17/7.49 = \$3,543.65/\text{QALY}$
    - DM with the community garden:  $\$21,747.73/7.70 = \$2,824.38/\text{QALY}$
    - Advantage is  $\$719.30/\text{QALY}/\text{Patient}$
    - For Simi Valley the Advantage over 10 years:
      - $\$6,400,331.40$

## THE COST EFFECTIVENESS OF A COMMUNITY GARDEN

- Community Gardens are an economic benefit
  - Increase property values
  - Less expensive than parkland area to develop and maintain
  - Place to retreat from noise and commotion of urban environments
  - Provide employment, education and entrepreneurship opportunities
  - Provide access to fresh traditional produce and nutritionally rich foods in low-income neighborhoods
  - Increase the consumption of organic local produce
  - Based on this analysis, it will save the community of Simi Valley \$6.4 million in healthcare costs