

Using Clinical Information To Project Federal Health Care Spending*

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Potential Implications of Diabetes Simulation Models

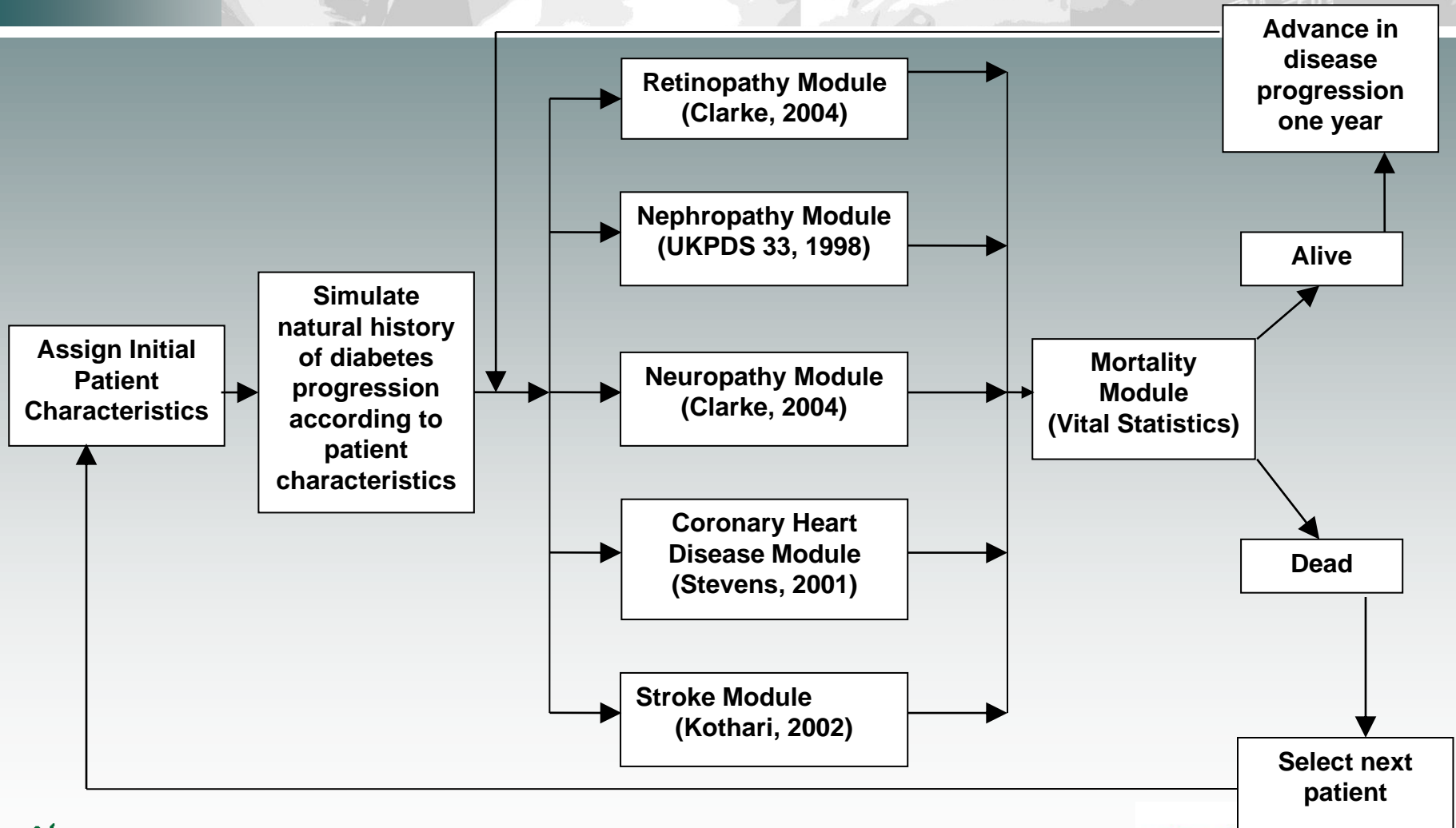
- **Diabetes is perhaps the prototypical chronic condition for demonstrating what epidemiological modeling can do for cost-estimating.**
- **Natural history of diabetes has been assessed and modeled extensively for over a decade.**
 - **The baseline progression of major complications are well documented.**
 - **The effect of treatment interventions are generally well understood (but evolving).**
 - **Multiple scientific organizations have created diabetes models (NIH, CDC, UK and Europeans).**

The 10-Year Budget Window, Disease Progression, and Effect of Treatment – The NIDDK Model

Type 2 Diabetes and Glucose Control Efforts:
Average Annual Cost of Complications - 2007\$



Modeling Diabetes Complications

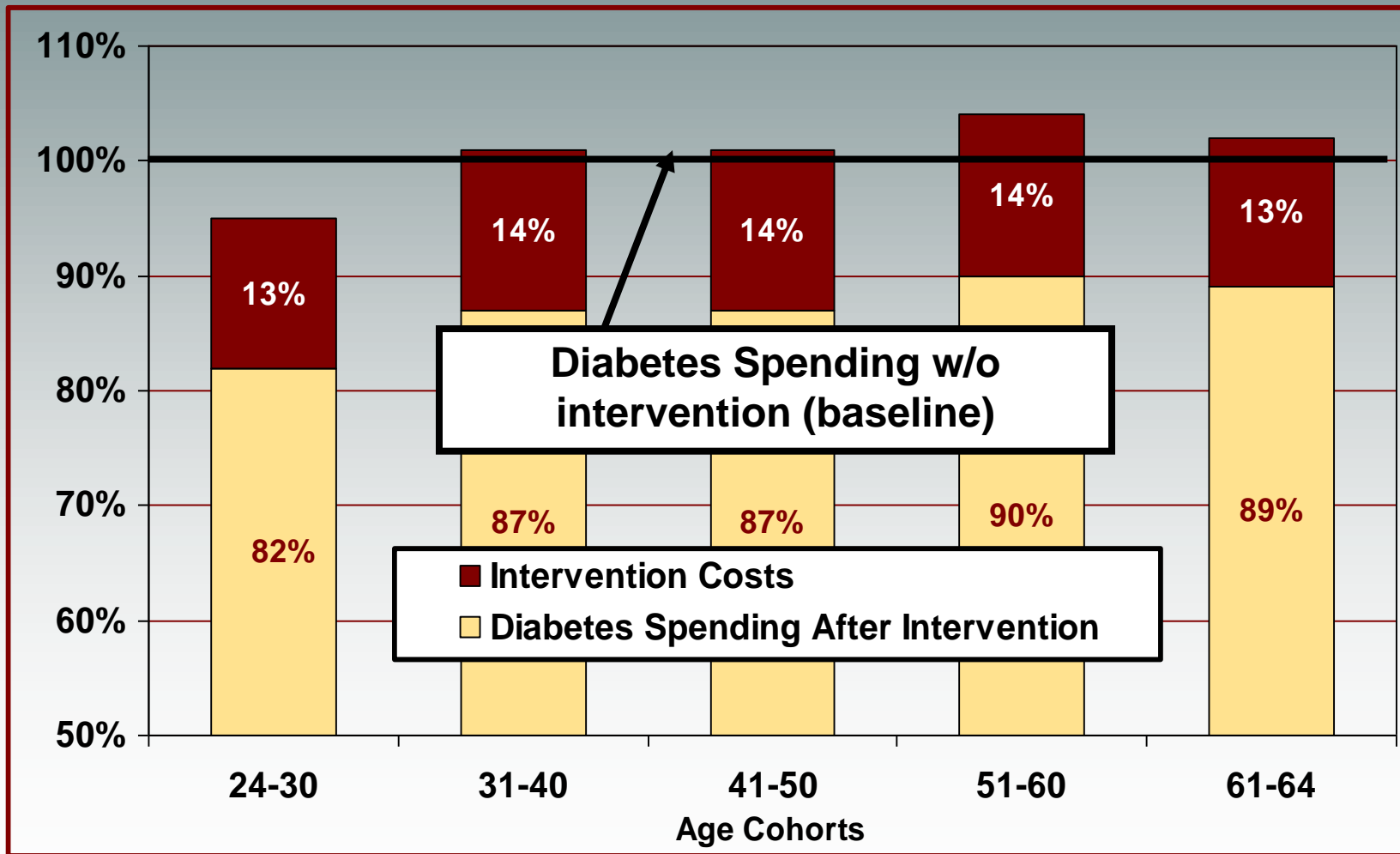




Policy Projections

- **Modeled a prototypical diabetes treatment improvement intervention that is similar to current well-designed disease management programs.**
- **Intensify the treatment of individuals with prevalent and incident diabetes aiming to improve**
 - **Glucose control**
 - **Blood pressure control**
 - **Cholesterol control**
 - **Use of beneficial preventive therapies (aspirin, ACEI)**
 - **Expected benefits from program based on meta-analyses and national diabetes QI program experience.**

Diabetes Quality Improvement Intervention (25-year spending)



Source: Derived from the authors' own analyses/computations.



Conclusions

- I. In selected instances, include the best epidemiologic data and modeling in baseline and intervention estimates:**
 - Allow the modeling of obesity trends and their interaction with chronic illnesses, like diabetes.**
 - Incorporation of consensus “lessons learned” from clinical trials.**
 - Challenge to the epidemiological community – be sure the data and trials meet rigorous standards for inclusion in the policy debate.**



Conclusions

(continued)

- 2. In certain instances, look beyond the traditional 10-year budget window, if the data indicates a better understanding for policymakers.**
 - For most proposals a 10-year window is appropriate, but if there's a well established natural history of the disease exceptions should be possible.**
 - Cuts both ways – CBO may find that for many proposal a longer window would show ballooning spending in the out years.**



Thanks....

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