

Maine Single-Payer Microsimulation Model

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**Deborah Chollet, Ph.D.
Glen Mays, Ph.D.**

MATHEMATICA
Policy Research, Inc.

Conventional vs. Microsimulation Models

- **Conventional models**
 - Estimate behavioral parameters
 - Computational task: estimates parameters measuring relationships among selected variables
- **Microsimulation models**
 - Incorporate behavioral parameters and assumptions estimated outside the model
 - Data processing task: develops a modified version of input data for comparison

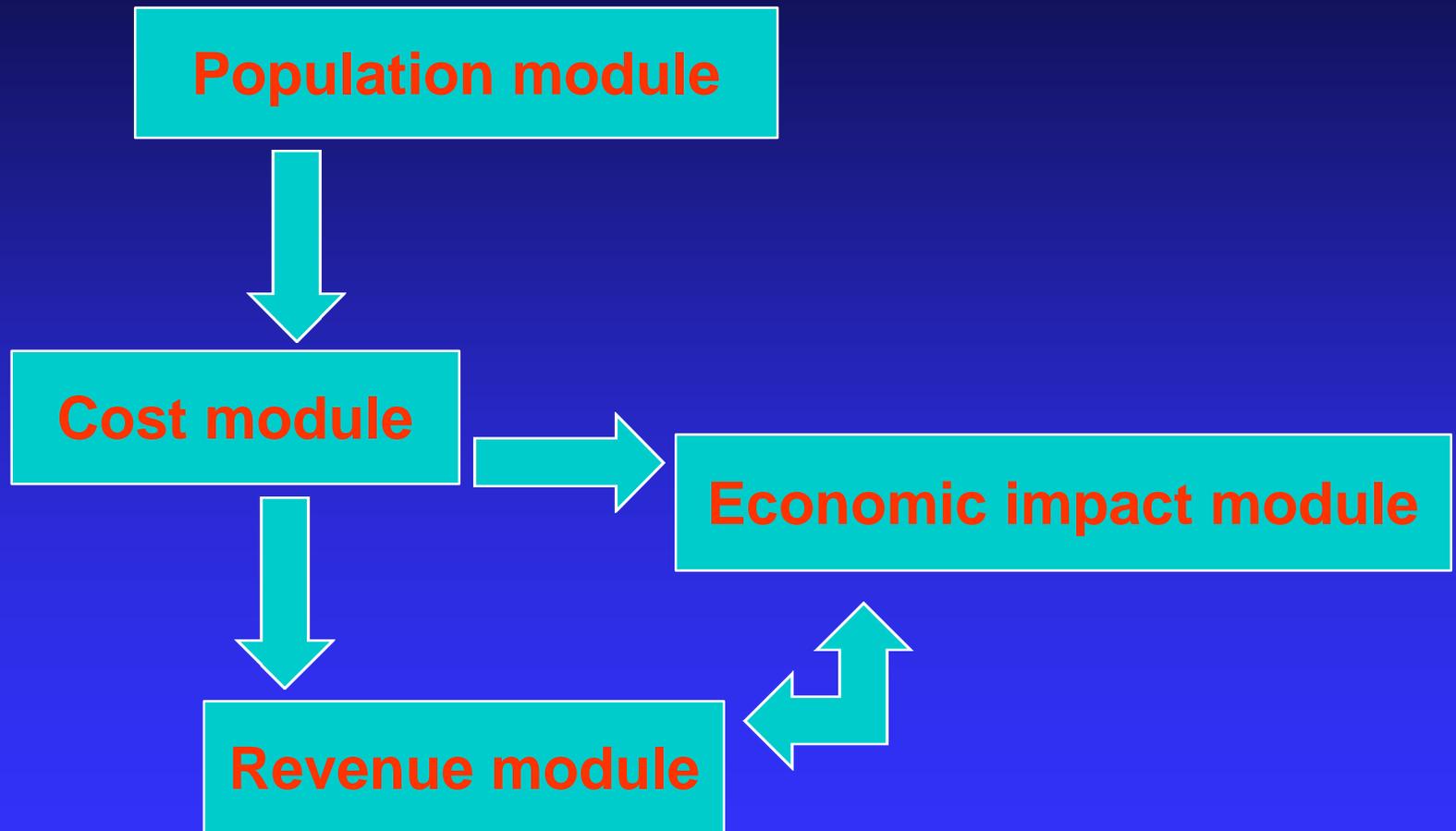
Static vs. Dynamic Microsimulation

- **Static models**
 - Constant behavioral parameters
 - Near-term effects
- **Dynamic models**
 - Changes in behavior (e.g. work effort related to wage levels or tax burden)
 - Longer-term projected effects

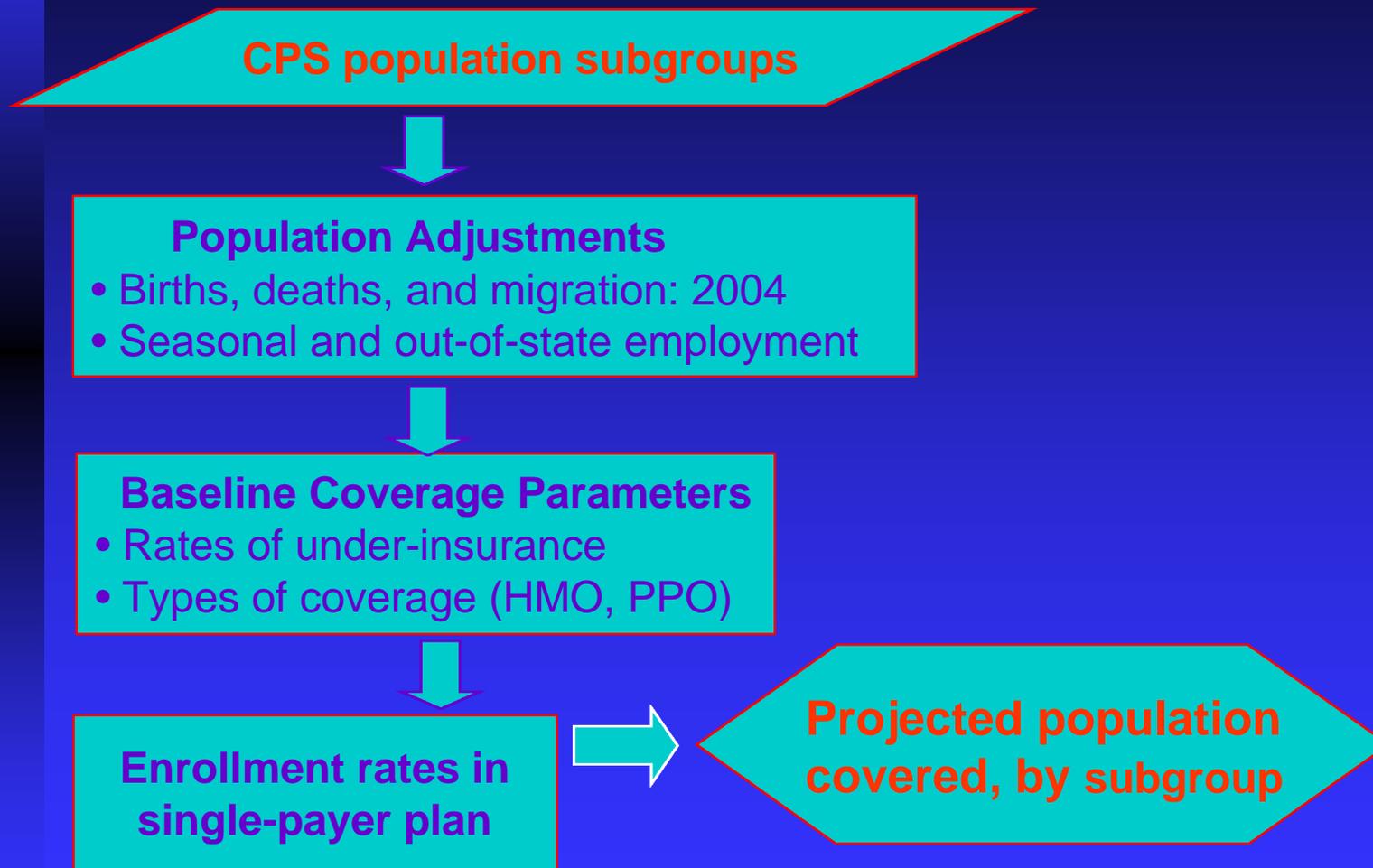
Advantages and Limits of Microsimulation

- **Allows systematic modeling of complex interactions**
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- **Available input data**
- **Quality of assumptions**
- **Finite consideration of second-order change**

Basic Architecture of Maine Single-Payer Model



Population Module



Data Sources: Population Module

- **Current Population Survey (CPS)**
 - Maine population by age, gender, income, insurance status & source, rural/urban
 - “Borrowed precision” methodology
- **National Center for Health Statistics**
 - Births and mortality
- **U.S. 2000 Census**
 - Migration and seasonal employment
- **Medical Expenditure Panel Survey (MEPS)**
 - Rates of under-insurance, adjusted for Maine
- **InterStudy and/or Maine Dept. of Insurance**
 - Maine rates of HMO and PPO enrollment

Cost Module

**Baseline per-capita use
and costs by service**

**Changes in coverage and
benefit design**

- Population module
- Watson Wyatt actuarial model

Utilization and cost changes

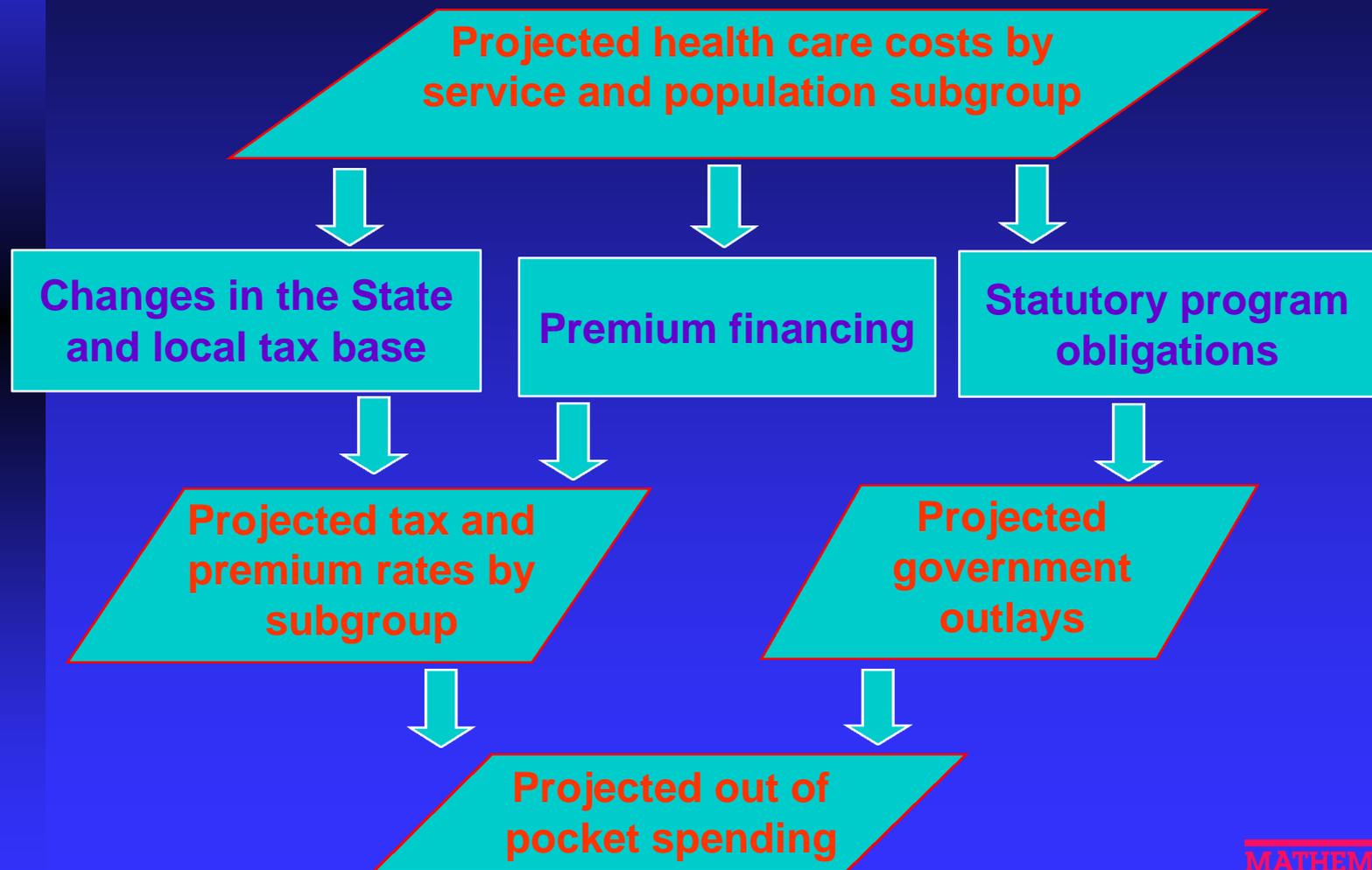
- Service volume and mix
- Insurer administrative cost
- Provider administrative cost
- Uncompensated care cost
- Negotiated prices

**Projected per-capita
costs by subgroup**

Data Sources: Cost Module

- MHMC: Baseline cost for privately insured
- BMS: Baseline cost for Medicaid
- CMS: Baseline cost for Medicare
- MEPS: Baseline cost for uninsured
- Watson Wyatt: Cost change parameters related to benefit design
- MHDO: Hospital uncompensated care costs
- HRSA: Maine community health center costs for uninsured
- Maine Bureau of Insurance (NAIC): Insurer administrative costs

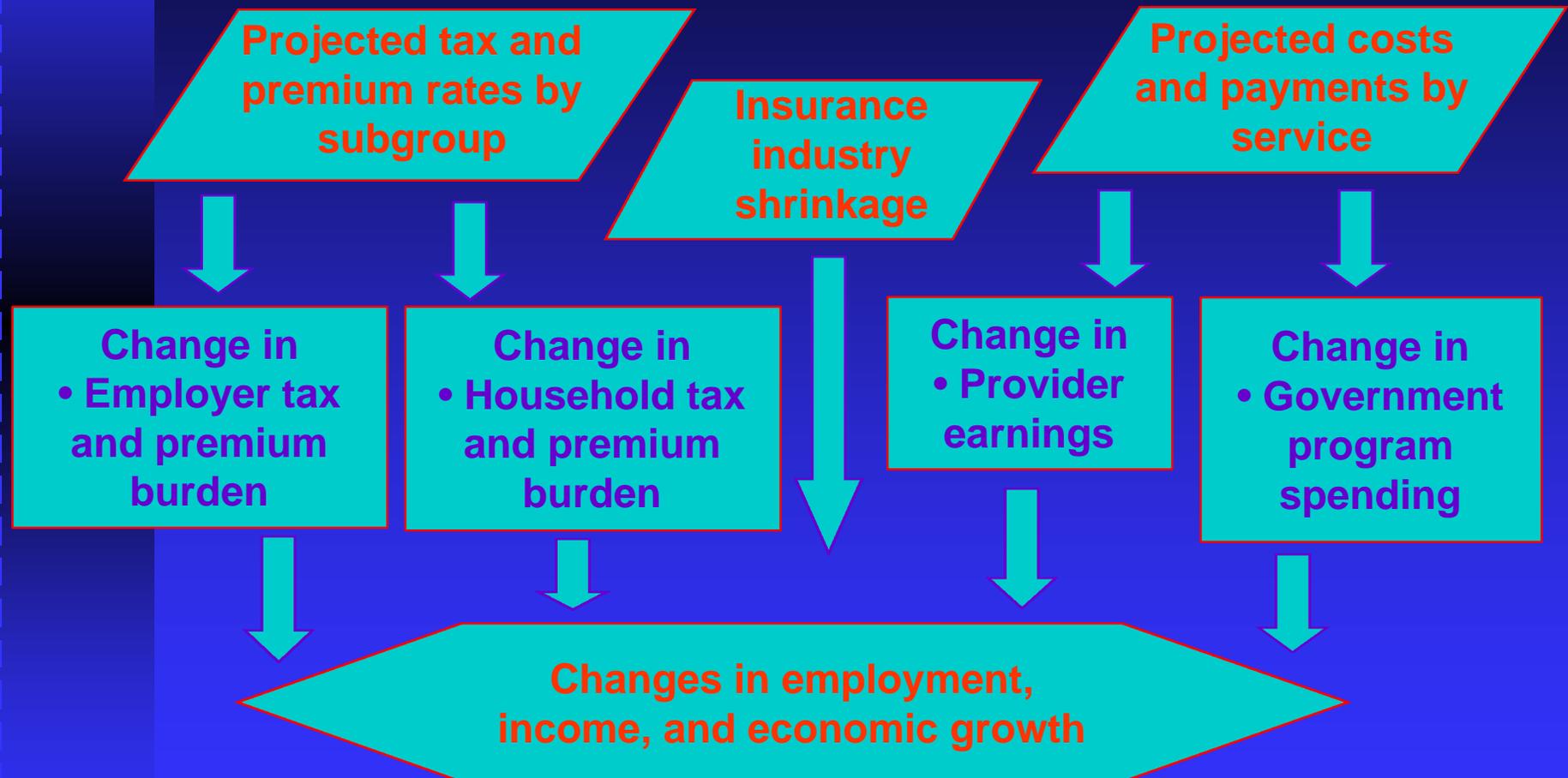
Financing Module



Data Sources: Financing Module

- **Maine Health Information Center**
 - 1999 Health Insurance Premium Survey
 - Supplemented by
 - ◆ Maine Health Data Organization
 - ◆ Maine Bureau of Insurance (NAIC)
- **Maine Workers' Compensation System**
- **Maine Health Care Management Coalition**
 - Self-insured employer expenditures
 - Supplemented by
 - ◆ KFF/HRET 2001 employer survey
- **Federal, state and local program projected outlays**

Economic Impact Module



Data Sources: Economic Module

- **Financing module output**
 - Estimated tax rates and burden
- **Cost module output**
 - Projected costs and payments
- **CPS and state estimates**
 - Insurance industry shrinkage
- **State economic forecast**
 - Baseline employment and income

Outstanding Issues

- **Maintenance of effort?**
 - Federal programs
 - Local programs
 - Employers: federal, state, private
- **Premium financing: who and how much?**
- **Cost sharing?**
 - Supplemental private coverage?
- **Cost containment strategies?**
- **Long term care benefit?**
- **Other tax bases?**