Michigan Physician Workforce Requirements Assessment
Project and Methodology Review

Meeting of the Steering Committee for the Blue Ribbon Group on Physician Supply for the State of Michigan
December 1, 2004

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Center for Health Workforce Studies
Presentation Overview

- Project Team
- Project Overview
- Project Components
  - Current Physician Supply in Michigan
  - Medical Education and Graduate Medical Training in Michigan
  - Population and Demographic Trends in Michigan
  - Future Physician Supply and Demand in Michigan
- Project Products
Project Team
Center for Health Workforce Studies

- Conducts studies of the supply, demand, use and education of the health workforce
- Committed to collecting and analyzing data to understand workforce dynamics and trends
- Goal to inform public policies, the health and education sectors and the public
- One of six regional centers with a cooperative agreement with HRSA/Bureau of Health Professions
Project Team

Center for Health Workforce Studies
- Project Director: Gaetano Forte
- Lead Researcher: Sandra McGinnis
- Data Analyst: David Armstrong
AAMC Center for Workforce Studies

- Lead Consultant: Edward Salsberg
- To encourage a supply of physicians by specialty and region consistent with demand and need
- To promote a more effective marketplace for physician workforce
- To support more informed decisions by the medical education community and by policy makers
- To promote more systematic physician workforce data collection and analysis and dissemination of findings
Project Team

- Altarum Health Solutions Division
  - Lead Consultant: Charles Roehrig
  - 30+ year history in health workforce modeling for the federal government
  - Developed supply and requirements models for physicians, nurses, and other health professionals
  - Consulted with CHWS on the most recent national COGME physician workforce policy assessment and the recently completed assessment of the California physician workforce
Project Overview
Project Background and Context

- National Physician Workforce Assessment
- California Physician Workforce Assessment
- Demographic Trends
- Physician Utilization Trends
National Physician Workforce Assessment

Accounting for likely future trends affecting the physician supply and demand in the U.S.:

Supply in 2020: 972,000 – 1,077,000 FTEs
Demand in 2020: 1,027,000 – 1,240,000 FTEs

Likely difference between supply and demand in 2020: 85,000 – 96,000 FTEs

Source: COGME, forthcoming
Physician Supply and Demand in 2020 (in FTEs)

Supply: 1,077,000
Demand: 1,240,000

Source: COGME, forthcoming
California Physician Workforce Assessment

Accounting for likely future trends affecting the physician supply and demand in the California:

- Supply in 2015: 101,000 – 113,000 physicians
- Demand in 2015: 104,000 – 131,000 physicians

- Likely difference between supply and demand in 2015: 5,000 – 17,000 physicians

Source: CHWS, forthcoming
Projected US Resident Population Over 65 and Over 85 Years of Age, 2004 – 2015

65 and Over: 29% growth between 2004 and 2015

85 and Over: 39% growth between 2004 and 2015

Sources: US Census Bureau 2004, CHWS
Physician Utilization Trends

Per Capita Physician Visits by Age Group, 1990 and 2000

Sources: NAMCS 1990 and 2000, CHWS
Project Purpose

- To develop an up-to-date systematic assessment of the physician workforce in Michigan
- To assess the medical education and training efforts in the Michigan and understand their contributions to the supply of physicians in the state
- To assess the likely demographic changes in Michigan over the next 10 years
- To forecast the supply of and demand for physicians in Michigan over the next 10 years under a variety of likely scenarios
Project Components
Project Components

- Current Physician Supply in Michigan
- Medical Education and Graduate Medical Training in Michigan
- Population and Demographic Trends in Michigan
- Future Physician Supply and Demand in Michigan
Current Physician Supply in Michigan

This component will include:

- Basic physician counts and ratios per population
- Specialty distributions
- Demographic profile of physicians practicing in the state
- Current practice patterns
- Details on the education and training of physicians practicing in the state
Current Physician Supply in Michigan

Data Sources:
- American Medical Association’s Physician Masterfile
- American Osteopathic Association’s Physician Database
Medical Education and Training in Michigan

This component will include:

- Profile of medical education in the state
- Historical outcomes of medical education in the state
- Profile of graduate medical training in the state
- Historical outcomes of graduate medical training in the state
- Assessment of medical school capacity
Medical Education and Training in Michigan

Data Sources:

- AMA’s Physician Masterfile
- AMA’s Graduate Medical Education Database
- American Association of Colleges of Osteopathic Medicine data on Osteopathic education in the state
- Association of American Medical Colleges
Population and Demographic Trends in Michigan

- Profile of current Michigan population by:
  - Age
  - Gender
  - Race/ethnicity
  - Health status
  - Insurance status

- Population projections
Population and Demographic Trends in Michigan

Data sources:
- US Census Bureau
- Behavioral Risk Factor Surveillance System (BRFSS)
- Other sources
Future Physician Supply and Demand in Michigan

- Modification of existing forecasting models
- Multiple scenarios
- Forecasts through 2015
Physician Supply Forecasting

Model Dimensions

- National projections through 2020
- For 36 medical specialties
- Activity Distribution (e.g., patient care, administrative, research, teaching, other)
- Physician age and gender
- IMGs, USMGs, CMGs
- MDs and DOs
Physician Supply Forecasting

- Model Determinants
  - Current age, gender, USMG/IMG/CMG, and specialty distribution of physician workforce
  - Annual number of US and international medical graduates
  - Recent patterns of specialty choice and activity distribution
  - Physician retirement patterns
  - Physician productivity (especially average hours worked)
  - Physician migration into and out of the state
Physician Supply Forecasting

Model Diagram

STOCK

BASELINE PHYSICIAN SUPPLY:
- Specialty Distribution
- Activity Distribution
- Age
- Gender
- IMGs, USMGs, CMGs
- MDs and DOs

BASELINE PHYSICIAN SUPPLY t+1

GROWTH

MEDICAL SCHOOL GRADUATES:
- Age
- Gender
- PGY
- IMGs, USMGs, CMGs
- MDs and DOs

SPECIALTY DISTRIBUTION

ACTIVITY DISTRIBUTION

TOTAL SUPPLY:
- Specialty, Activity, Age, Gender, Edu.t+1

NEW PHYSICIAN SUPPLY t+1

Losses

Source: Dall, 2004
Physician Supply Forecasting

Forecast Scenarios

1. Baseline scenario based on trends in historical determinants
2. 5% reduction in work hours among physicians phased in over 10 years
3. 10% increase in productivity phased in over 10 years
4. Combine scenarios 2 and 3
Physician Demand Forecasting

Model Dimensions

- Projections through 2020
- For 18 medical specialties
- For specific population groups defined by age, gender, metropolitan/non-metro location
Physician Demand Forecasting

Model Determinants

- Population projections by age, gender, metro/non-metro location
- Projected insurance distribution
- Detailed physician-to-population ratios
- Adjustments to demand projections made outside the model
  - Economic growth
  - Changes in patterns of care
Physician Demand Forecasting

Model Diagram

- **POPULATION PROJECTIONS**
  - Gender, age
  - Metro/nonmetro
  - Insurance

- **TRENDS**
  - Gender, age
  - Metro/nonmetro
  - Insurance

- **PRACTITIONER REQUIREMENTS ESTIMATES**
  - Assigns 18 specialties and 12 NPC disciplines to each gender, age, metro/nonmetro and insurance category

- **PRACTITIONER STAFFING RATIOS**
  - Physicians (18 specialties)
  - NPCs (12 disciplines)

*Source: Dall, 2004*
Physician Demand Forecasting

Forecast Environments

1. Current health care delivery system remains constant
2. Expanded access, expanded insurance, other efforts to improve the health status of Michigan’s population
Physician Demand Forecasting

Forecast Scenarios

1. Baseline scenario based on current levels of determinants
2. Annual increase in per capita gross state product factored into model
3. Changing age-specific physician utilization rates
4. Reduction of the estimated unnecessary/marginally beneficial services provided by physicians
5. Combine scenarios 2 and 4
6. Combine scenarios 3 and 4
Project Products
Project Products

- Physician Profile
- Summary Report
Thank You

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