



# Physician Shortages and Patient Safety in Michigan

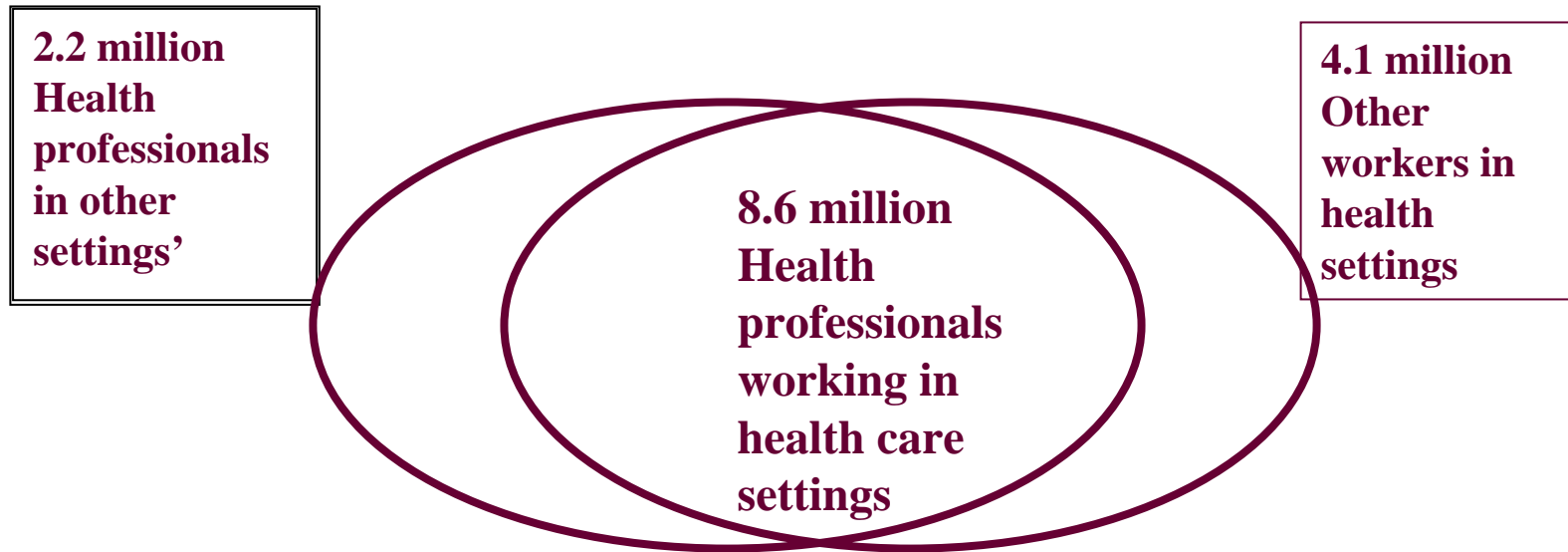
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# U.S. Health Workforce 2001

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**Almost 15 million in health care**

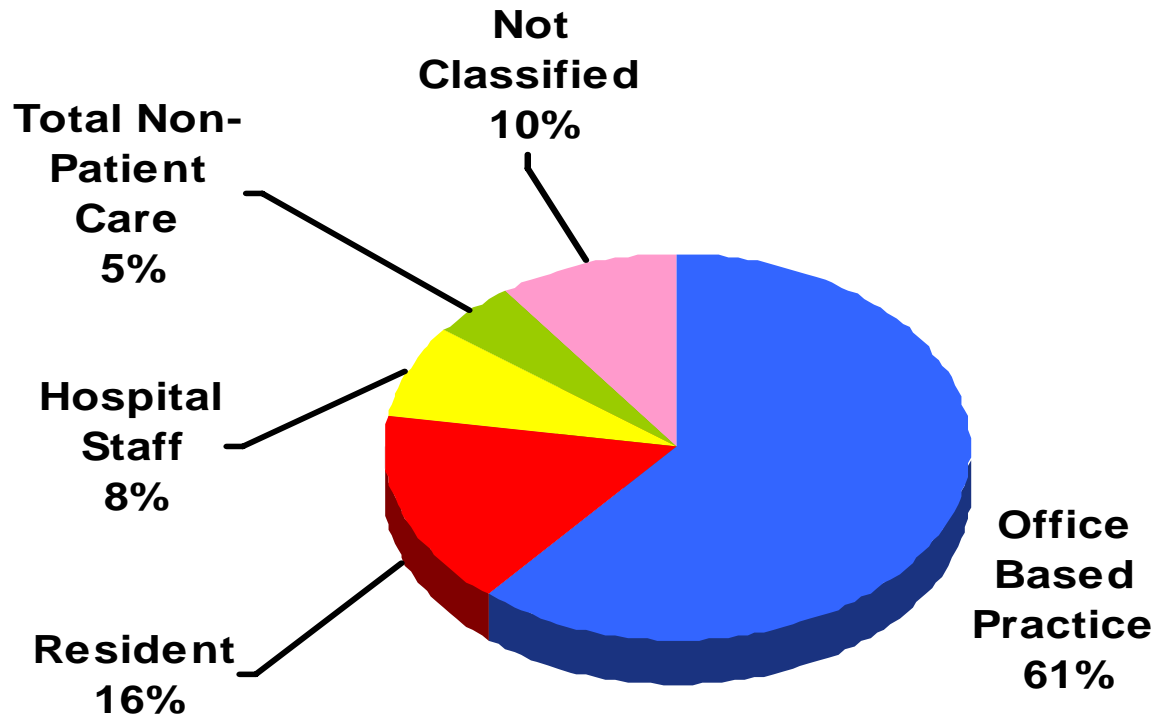
# Michigan Physician Profile

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- Based on AMA Master File, Oct. 2004
  - 32,709 licensed physicians in Michigan
  - 29,906 active physicians
  - 82% MDs, 18% DOs
  - 71% male, 29% female
  - Median age = 44.8 years
  - 26.8% age 55 and older

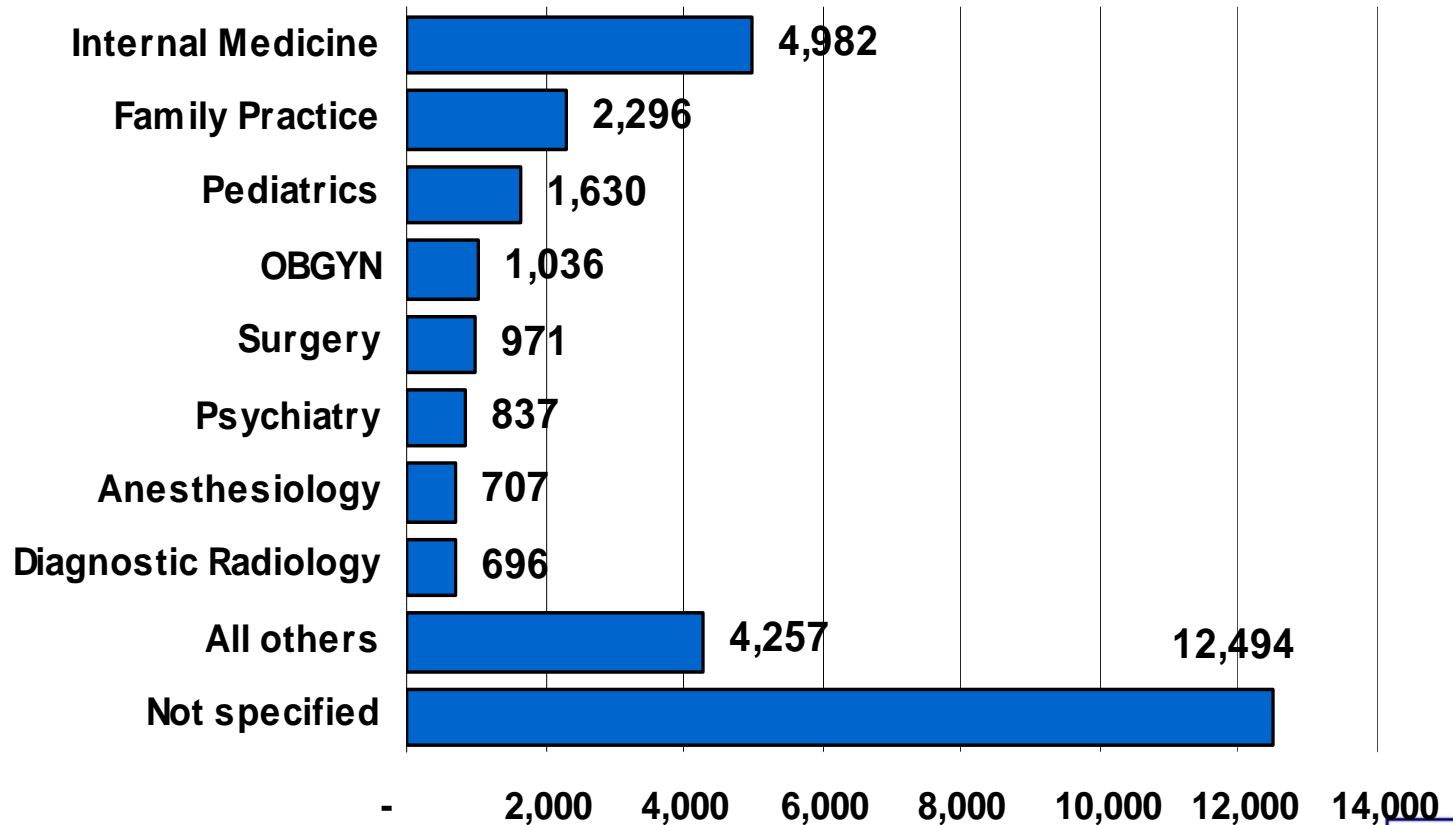
# Michigan Physician Profile

## Major Professional Activity, 2004



# Michigan Physician Profile

## Most Common Board Certification, 2004



# Physician Geography 2004

## Michigan Counties with the Greatest Number of Physicians per 100,000 Population, 2004

Rank	County	Population Estimate, July 1, 2003	Total Active Physicians, November 2003	Physicians per 100,000 Residents, November 2004
1	Washtenaw	338,562	3,472	1025.5
2	Oakland	1,207,869	7,514	622.1
3	Emmet	32,741	176	537.6
4	Grand Traverse	82,011	389	474.3
5	Ingham	282,030	1,304	462.4
6	Kalamazoo	242,110	977	403.5
7	Marquette	64,616	250	386.9
8	Kent	590,417	1,902	322.1
9	Dickinson	27,186	83	305.3
10	Genesee	442,250	1,267	286.5
14	Wayne	2,028,778	5,291	260.8

Source: AMA MasterFile, November 2004; Bureau of the Census, 2004; Public Policy Associates, Incorporated, 2005

# Forecasting Methodology

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## ■ Supply Forecast

- “Cohort-component” model
- Tracks physician cohorts over time

## ■ Demand Forecast

- Uses current (2004) physician-to-population ratios (physicians per 100,000 residents)
- Compiled for total population, older population (age 65+), and weighted average of both

# Forecasting Assumptions

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## ■ Constants

- No significant change in reimbursement
- No change in the structure of American medicine
- Prepare a descriptive, not prescriptive forecast
- No change in number of Michigan or US medical school graduates
- No change in number of Michigan residency and post-graduate positions
- 50% of residents remain in Michigan upon completion
- Number of medical administrators, researchers, and faculty remain constant

# Forecasting Assumptions

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## ■ Variables

- Increasing percentage of female residents
- Aging physician workforce
- Apply age-specific mortality rates
- Apply age-specific retirement rates
- Assumes physicians do not retire as soon as they plan

# Alternative Scenarios: Demand

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Demand #1: Demand based on the current ratio of physicians per 100,000 Michigan residents

Demand #2: Demand based on the current ratio of physicians per 100,000 Michigan residents age 65 and older

Demand #3: Demand based on weighted averages of the above

# Alternative Scenarios: Supply

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Supply #1: Forecast supply with no change in practice patterns or work effort

Supply #2 to #5: Forecast supply while assuming future reductions in physician work effort

- -5% female physicians only
- -5% male and female physicians
- -10% females, phased in -10% for males
- -10% male & female physicians

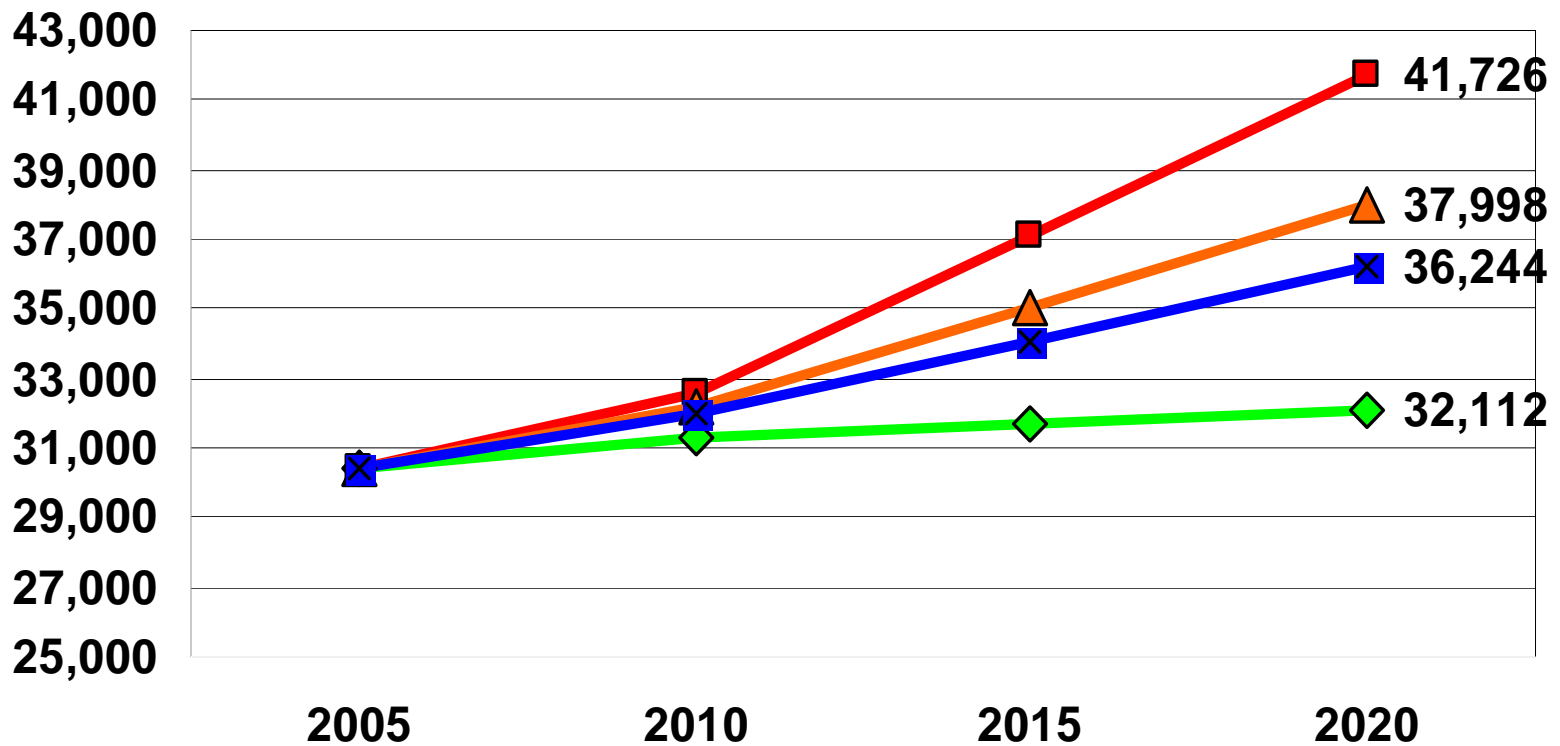
# Forecasted Physician Demand

<b>Scenario</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
<b>Total Population</b>	<b>30,366</b>	<b>31,310</b>	<b>31,708</b>	<b>32,112</b>
<b>Population 65+</b>	<b>30,366</b>	<b>32,535</b>	<b>37,136</b>	<b>41,726</b>
<b>Weighted 1</b>	<b>30,366</b>	<b>32,142</b>	<b>35,031</b>	<b>37,998</b>
<b>Weighted 2</b>	<b>30,366</b>	<b>31,957</b>	<b>34,041</b>	<b>36,244</b>

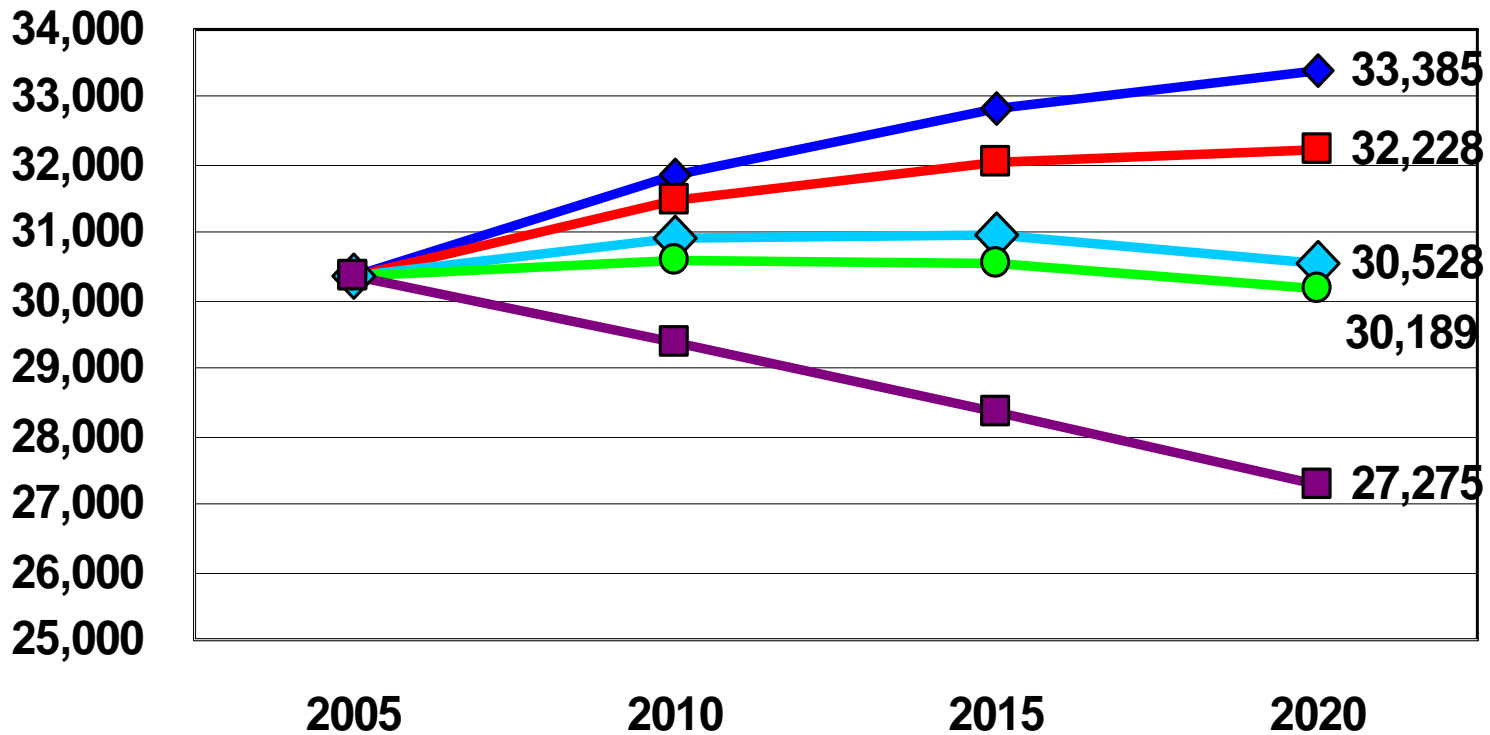
# Forecasted Physician Supply

<b>Work Effort</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
<b>No reduction in work effort</b>	<b>30,366</b>	<b>31,850</b>	<b>32,851</b>	<b>33,385</b>
<b>Females 5% reduction</b>	<b>30,366</b>	<b>31,460</b>	<b>32,064</b>	<b>32,228</b>
<b>Males &amp; Females 5% reduction</b>	<b>30,366</b>	<b>30,612</b>	<b>30,537</b>	<b>30,189</b>
<b>Females 10% reduction, males reduction phased In</b>	<b>30,366</b>	<b>30,929</b>	<b>30,961</b>	<b>30,528</b>
<b>Males &amp; females 10% reduction</b>	<b>30,366</b>	<b>29,378</b>	<b>28,335</b>	<b>27,275</b>

# Physician Demand 2005-2020

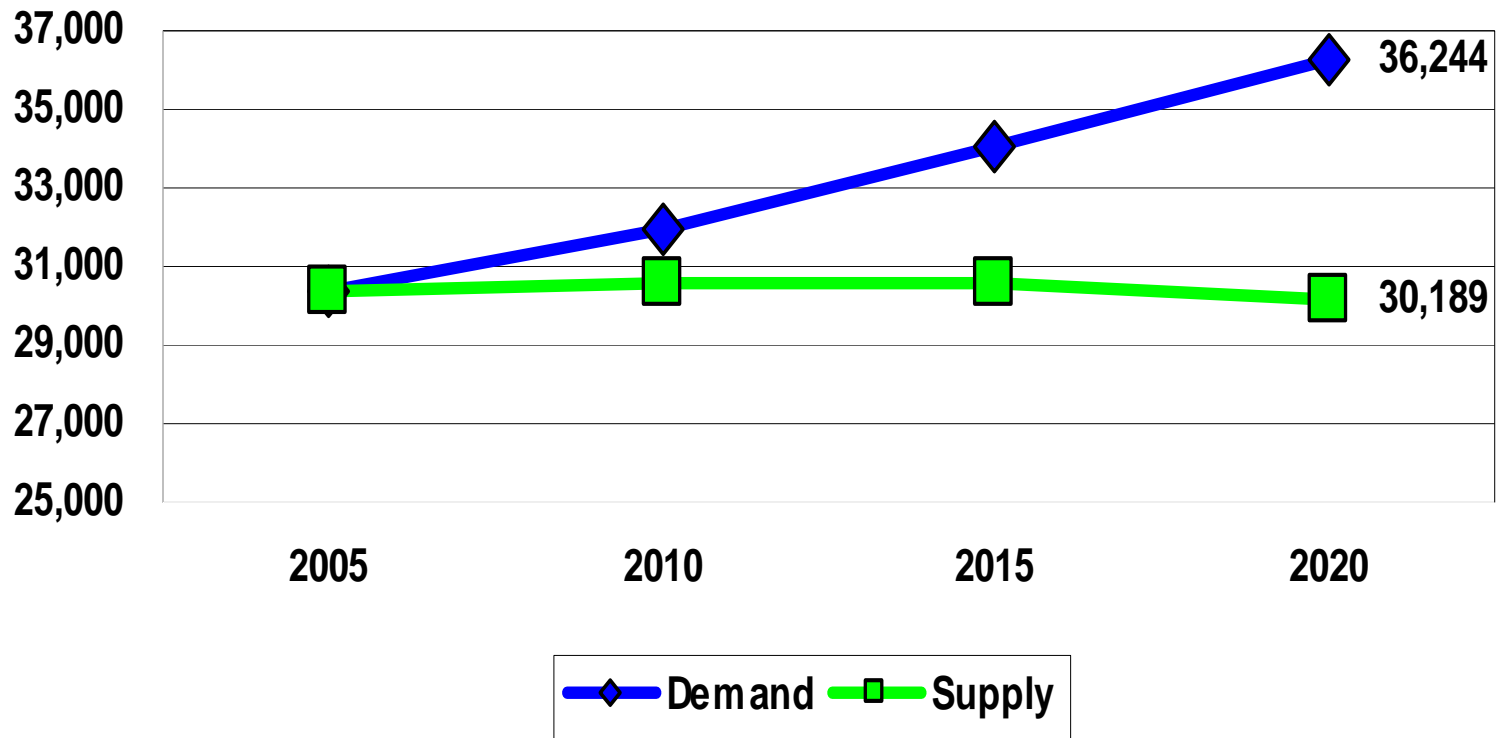


# Physician Supply 2005 - 2020



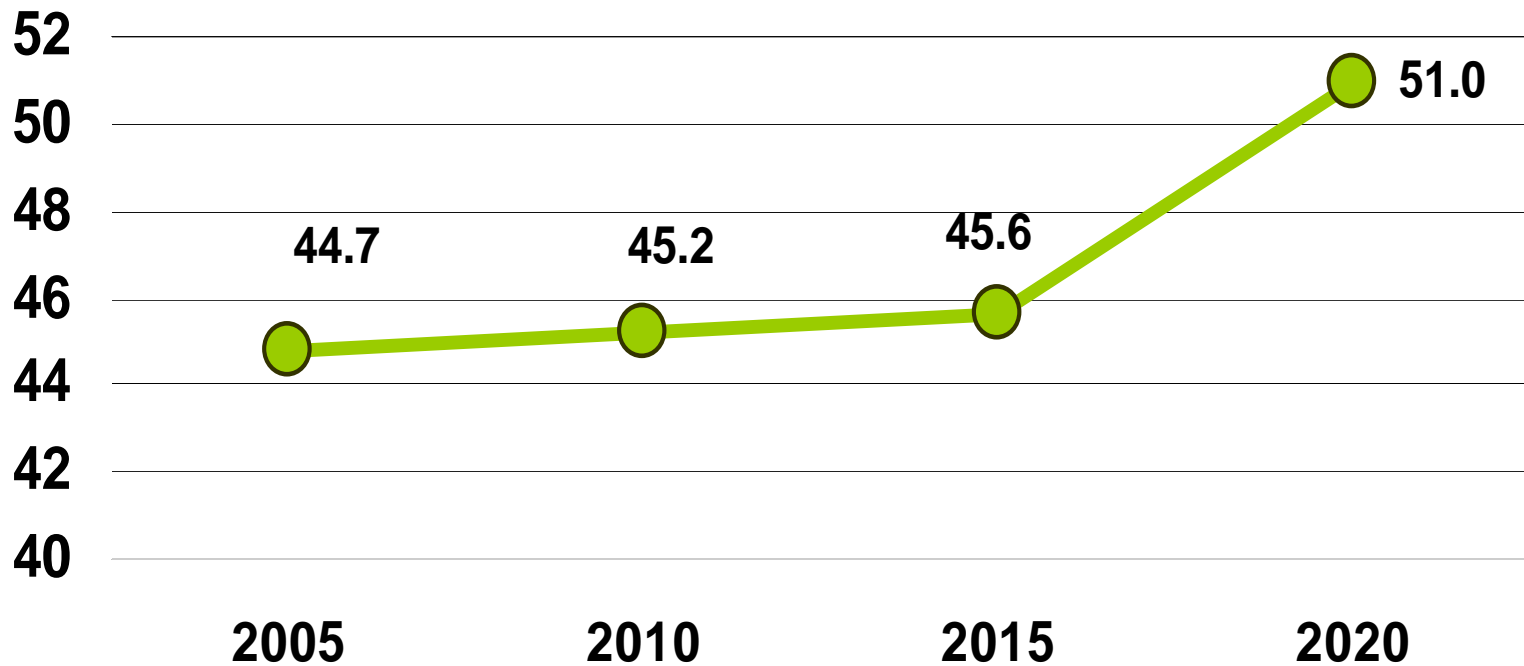
- ◆ No reduction
- ◆ 10% Female, Male Phase-in
- ◆ 10% All Physicians
- Females 5%
- 5% All Physicians

# Most Likely Scenario



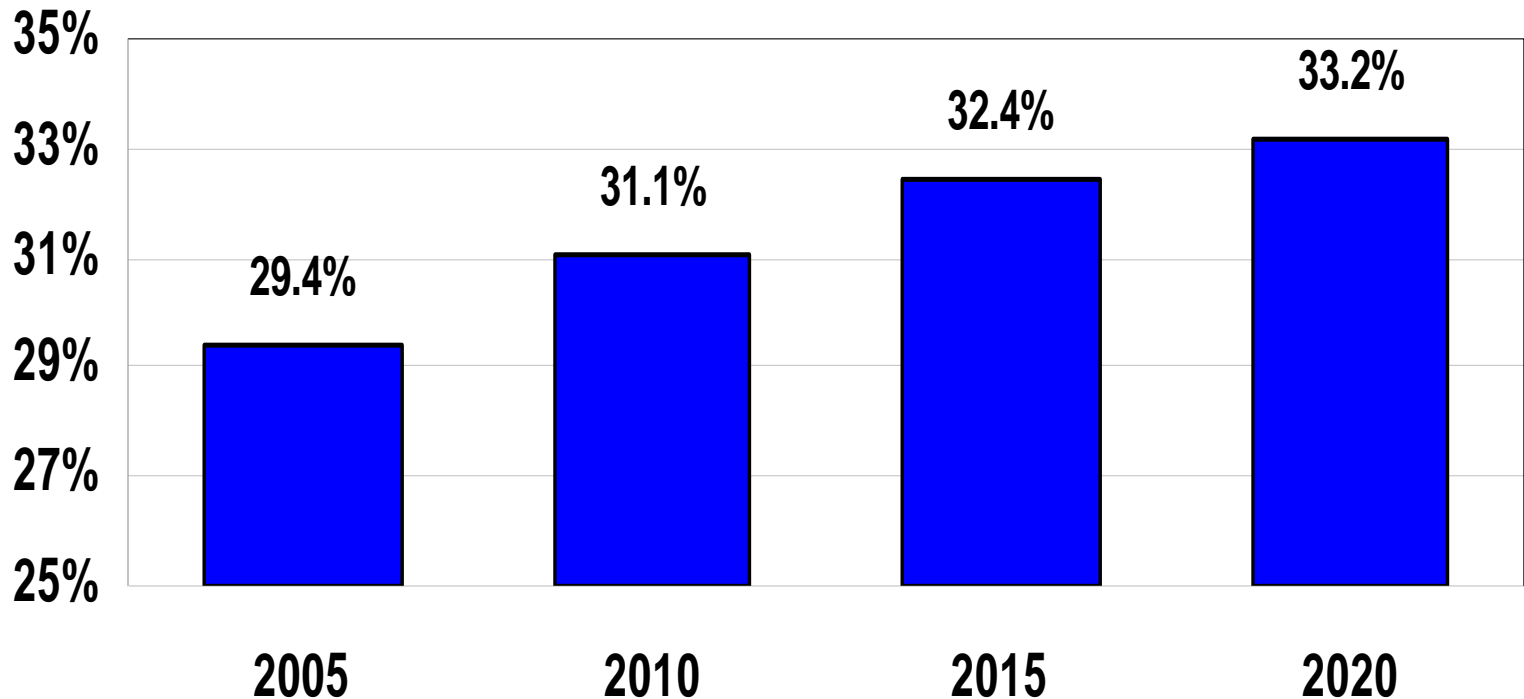
# Aging Physician Workforce

## Median Age of Physicians in Michigan



# Female Physicians

## Female Percentage of Active Physicians in Michigan



# Physician Shortage Locations 2020

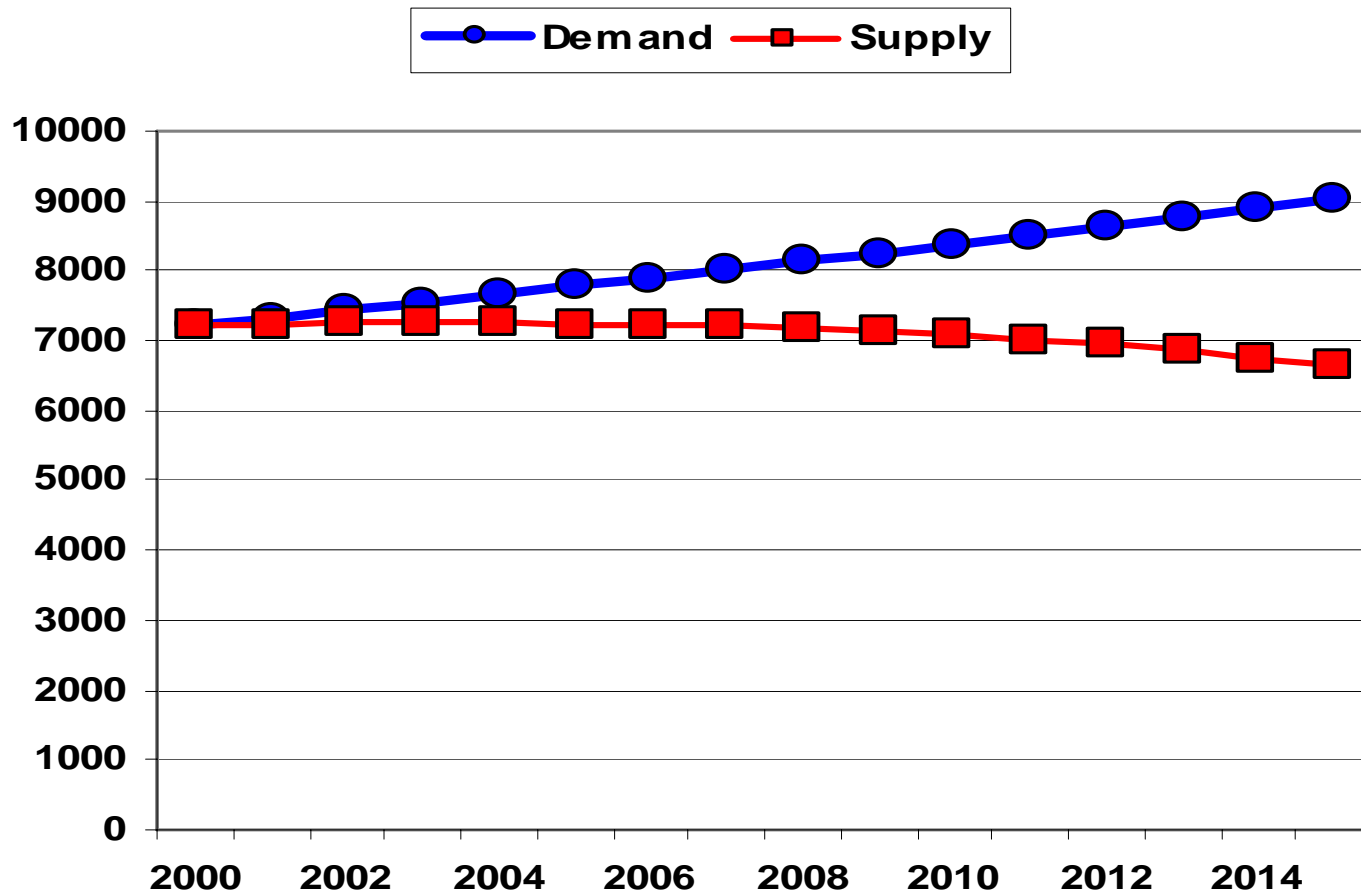
<b>Southeastern Michigan</b>	<b>-3800</b>
<b>Flint Area</b>	<b>-200</b>
<b>West Michigan</b>	<b>-600</b>
<b>Southwestern Michigan</b>	<b>-300</b>
<b>Capital Area</b>	<b>-300</b>
<b>Tri-City Area</b>	<b>-200</b>
<b>Northern Lower Michigan</b>	<b>-300</b>
<b>Upper Peninsula</b>	<b>-100</b>

# Specialty Practice

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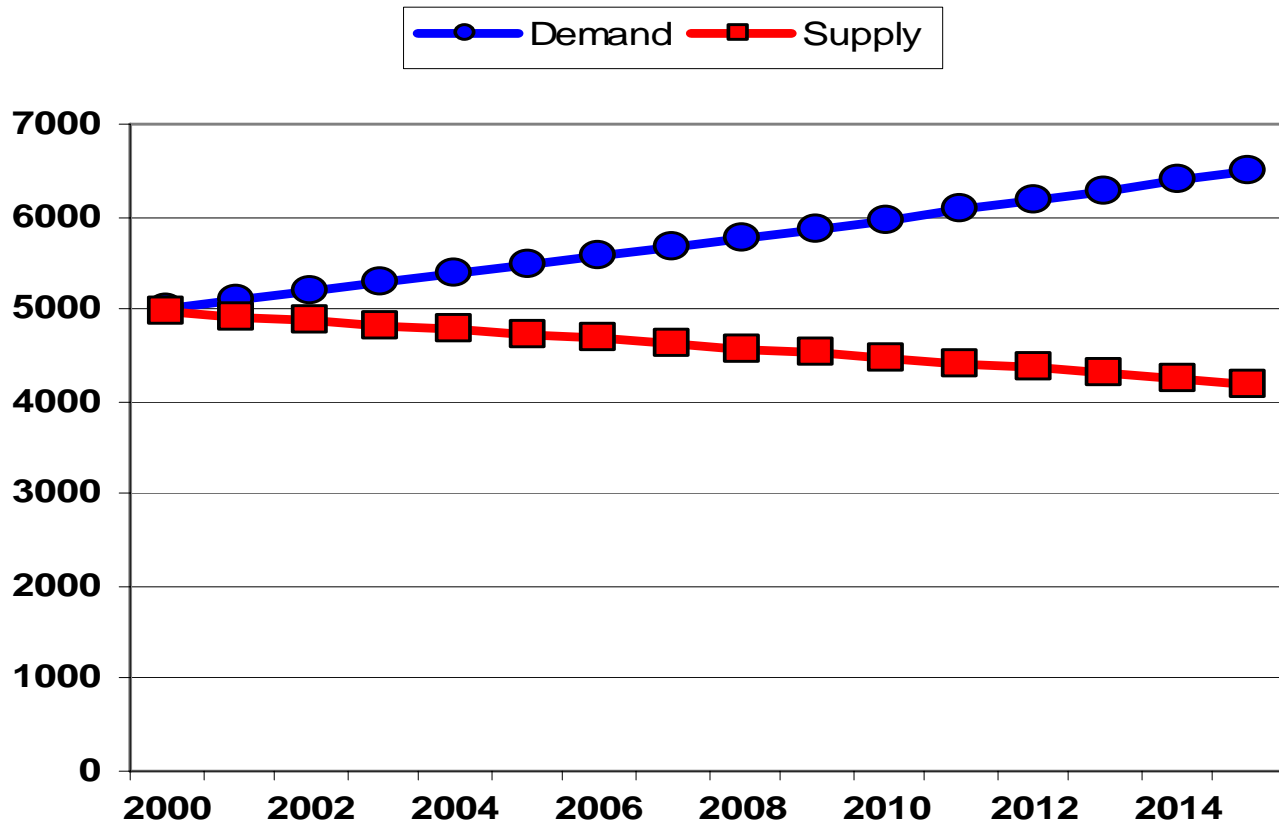
- Growing specialization
- Growing sub-specialization
- Most likely future shortages:
  - Psychiatry
  - Urology
  - Pathology
  - Surgery
  - Radiology
  - OBGYN
  - Family practice, general practice

# Pharmacists: 2000 - 2015



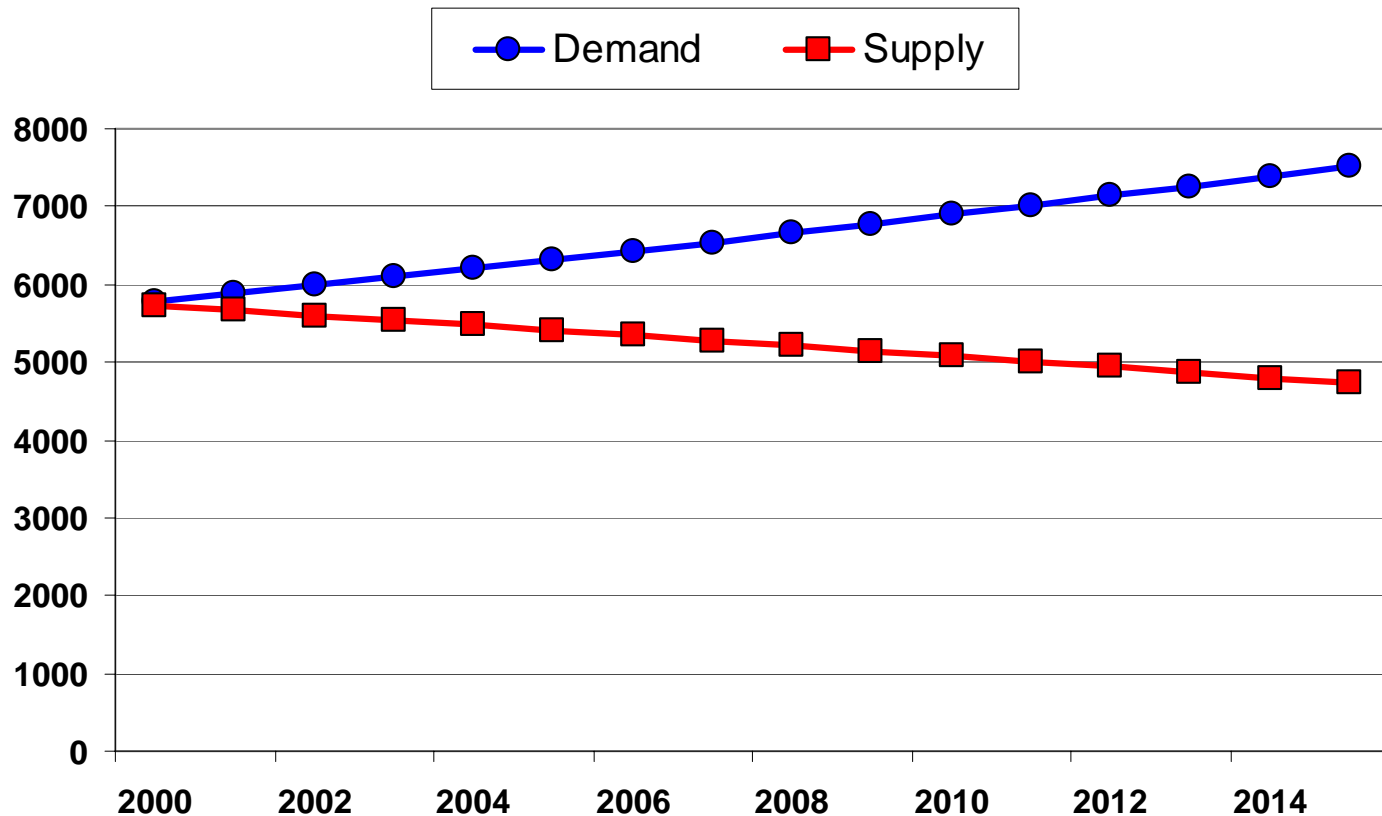
Source: Public Policy Associates for MDCH, 2005.

# Physical Therapists: 2000 - 2015



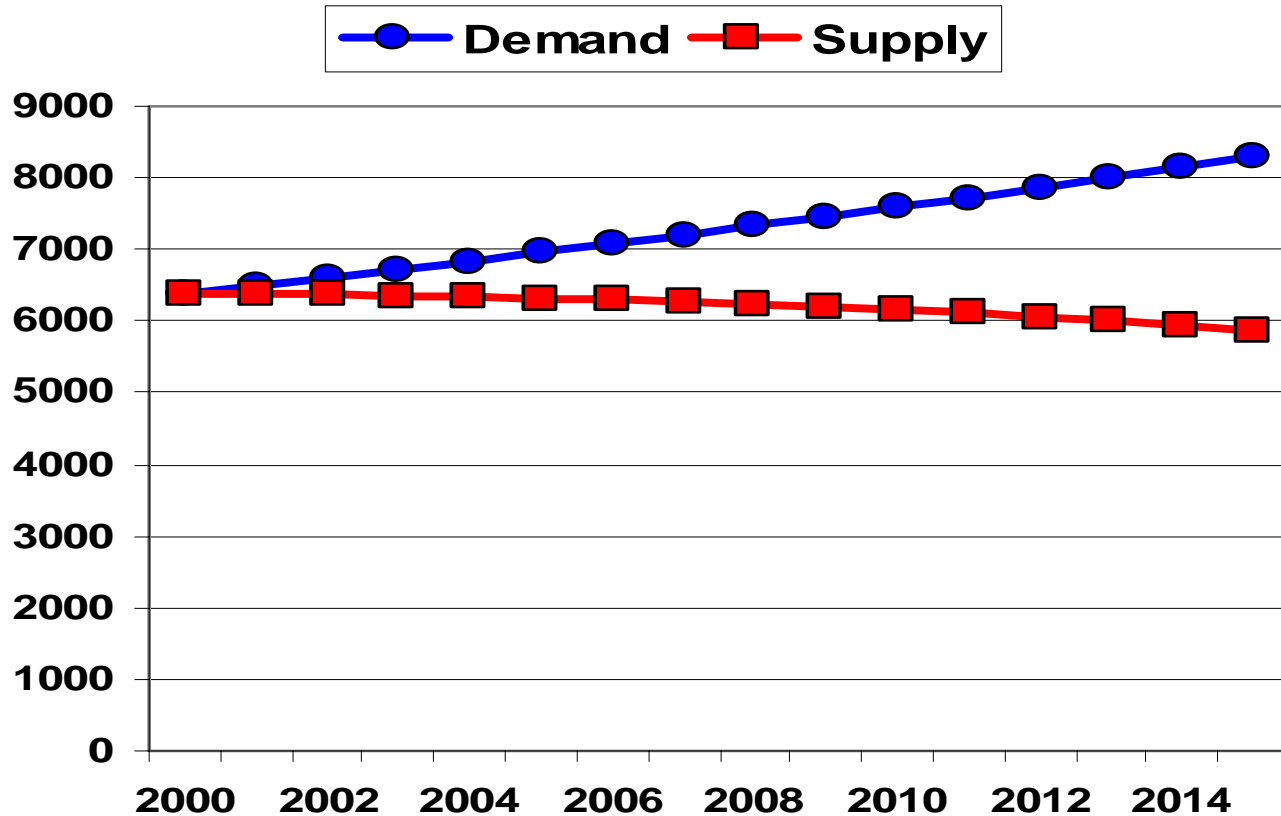
Source: Public Policy Associates for MDCH, 2005.

# Lab Technologists: 2000 - 2015



Source: Public Policy Associates for MDCH, 2005.

# Radiological Techs: 2000 - 2015



Source: Public Policy Associates for MDCH, 2005.

# Patient Safety Implications

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- Growing demand for physician extenders
  - Overall physician shortages
  - Growing specialization and sub-specialization among physicians
  - Reduced physician work effort
- But . . . Using nurses as physician extenders may exacerbate nursing shortages

# Patient Safety Implications

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- Advanced Practice nurses may be associated with
  - Hospital staffing shortages
  - Scope of practice issues
  - Fewer opportunities for clinical nursing training
  - Increased medical errors and adverse events
  - Greater reliance on technologists and technicians who also may be in short supply

# State Policy Options

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- Expand the GME cap
- Expand medical school enrollments
- Establish new medical schools
- Promote more doctoral-trained RN faculty
- Enhance nursing faculty salaries
- Promote coordination of 2-year and 4-year nursing programs

# State Policy Options

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- More health occupation scholarships
- Expanded loan repayment programs
- Higher education support
  - More support for clinical training
  - Capacity expansion
  - New programs
  - Curriculum reform
  - Distance learning, Internet learning, etc.

# State Policy Options

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- Support new technologies
  - Use state bonding authority to implement labor-saving technologies
- Modify scope-of-practice regulations
  - Engage MDs/Dos, PAs, NPs in realistic discussions about scope of practice
  - Expand reliance on evidence-based changes
- Upgrade recent immigrants who have health care training

# Policy Discussion Issues

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- Should patient safety supersede the operation of the health care labor market?
- What role should the government play?
- Where should we focus our concerns?
  - Professionals (physicians, nurses, pharmacists, therapists)
  - Technologists, technicians, health care support workers
  - Direct care workers

# Policy Discussion Issues

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- Should we expand immigration opportunities?
  - International medical grads
  - Foreign nurses
  - Technicians
  - Direct care workers
- What are the ethics of drawing foreign health workers to the U.S.?



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