

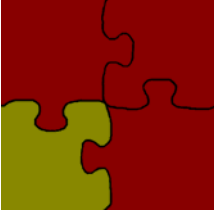
Physician Workforce SIGNS:

Statistical Indicators for Gauging Need and Shortages

Michael J. Dill
Senior Data Analyst
Center for Workforce Studies
AAMC
November 1, 2008



Physician Workforce SIGNS

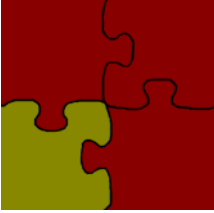


- Motivation
- Conceptualization
- Progress To Date
- Discussion
- Next Steps

What do *you* think?



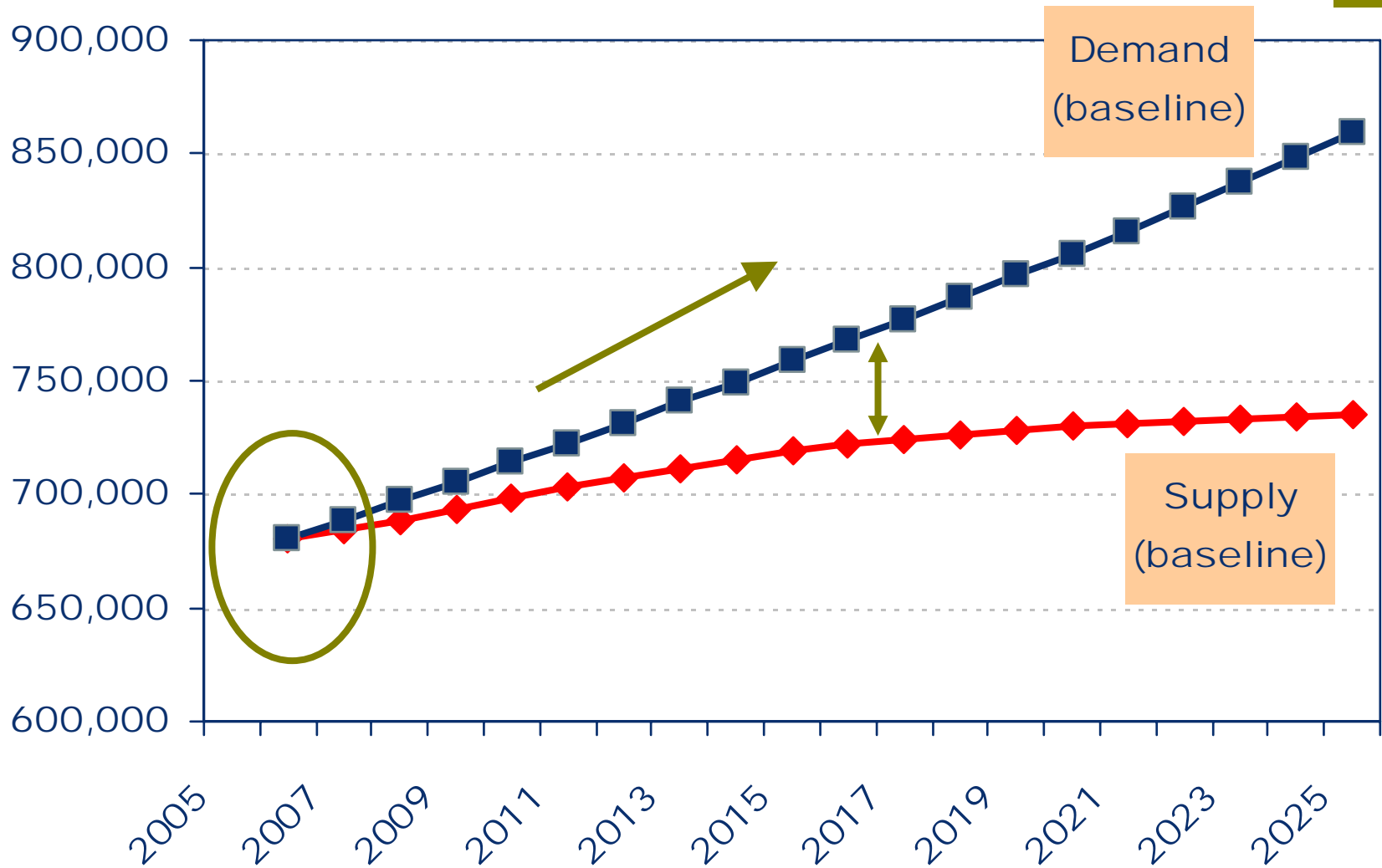
SIGNS



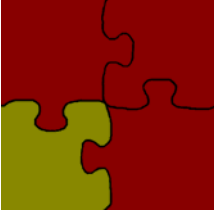
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Baseline Projections



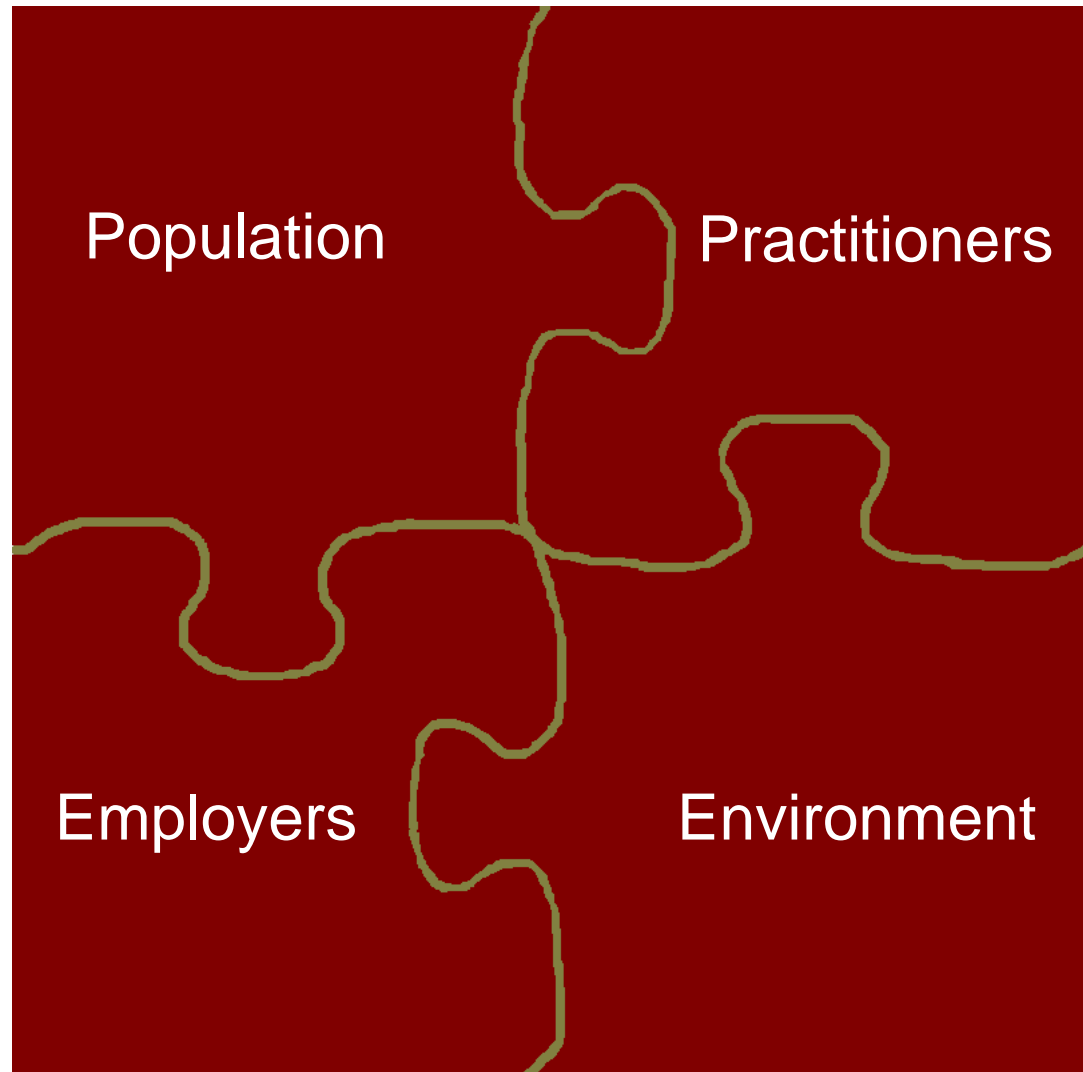
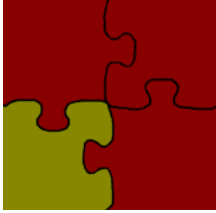
SIGNS



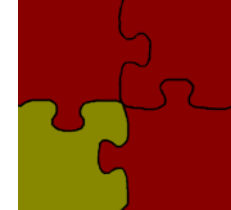
- Motivation
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The Demand Puzzle



Looking for SIGNS



Existing Reports

- CDC & NCHS, AHRQ, etc.

Existing Data Tools

- NCHS & AHRQ, Census, etc.

Existing Data

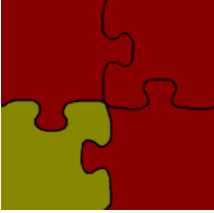
- NCHS, AHRQ, ICPSR, HRS

Original Data

- CWS, AAMC



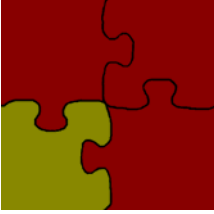
SIGNS



- Motivation
- Conceptualization
- **Progress To Date**
- Discussion
- Next Steps



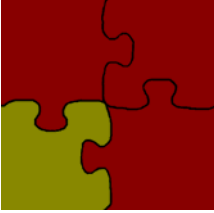
SIGNS We Have Seen



- Drivers of demand
 - Population level trends
- General Utilization
 - Hospitals
 - Physician offices
- Specialty Utilization
 - Conditions linked to specialties
- Population-specific Utilization
 - Differences by demography
- Access to care
 - Usual source of care
 - Getting an appointment or referral



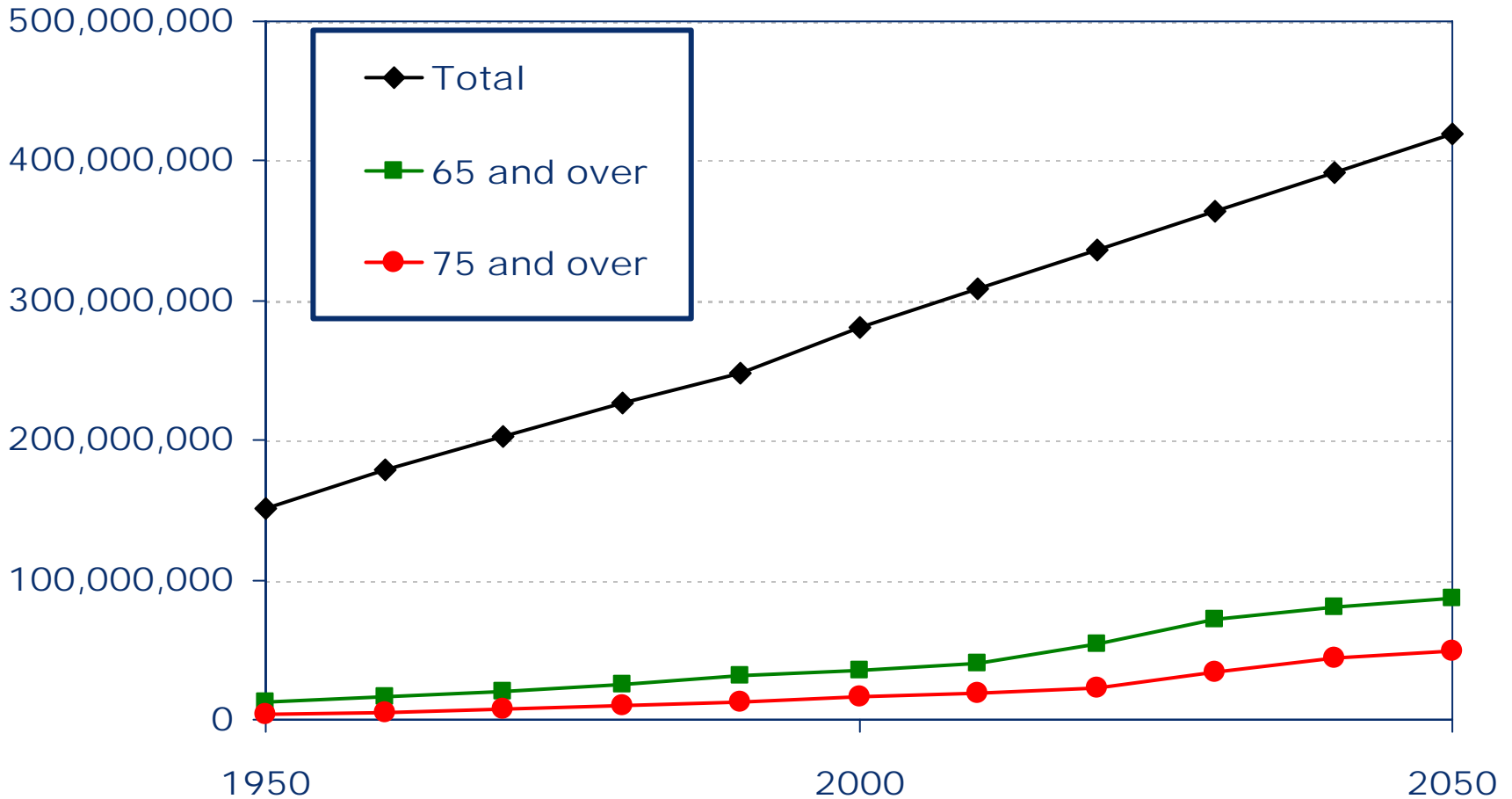
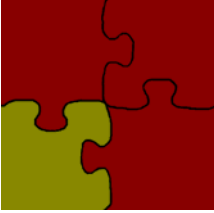
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Drivers of Demand: Population Growth



Source: CDC, NCHS, *Health, United States, 2007* (Chartbook figure 1 data table, p. 93).

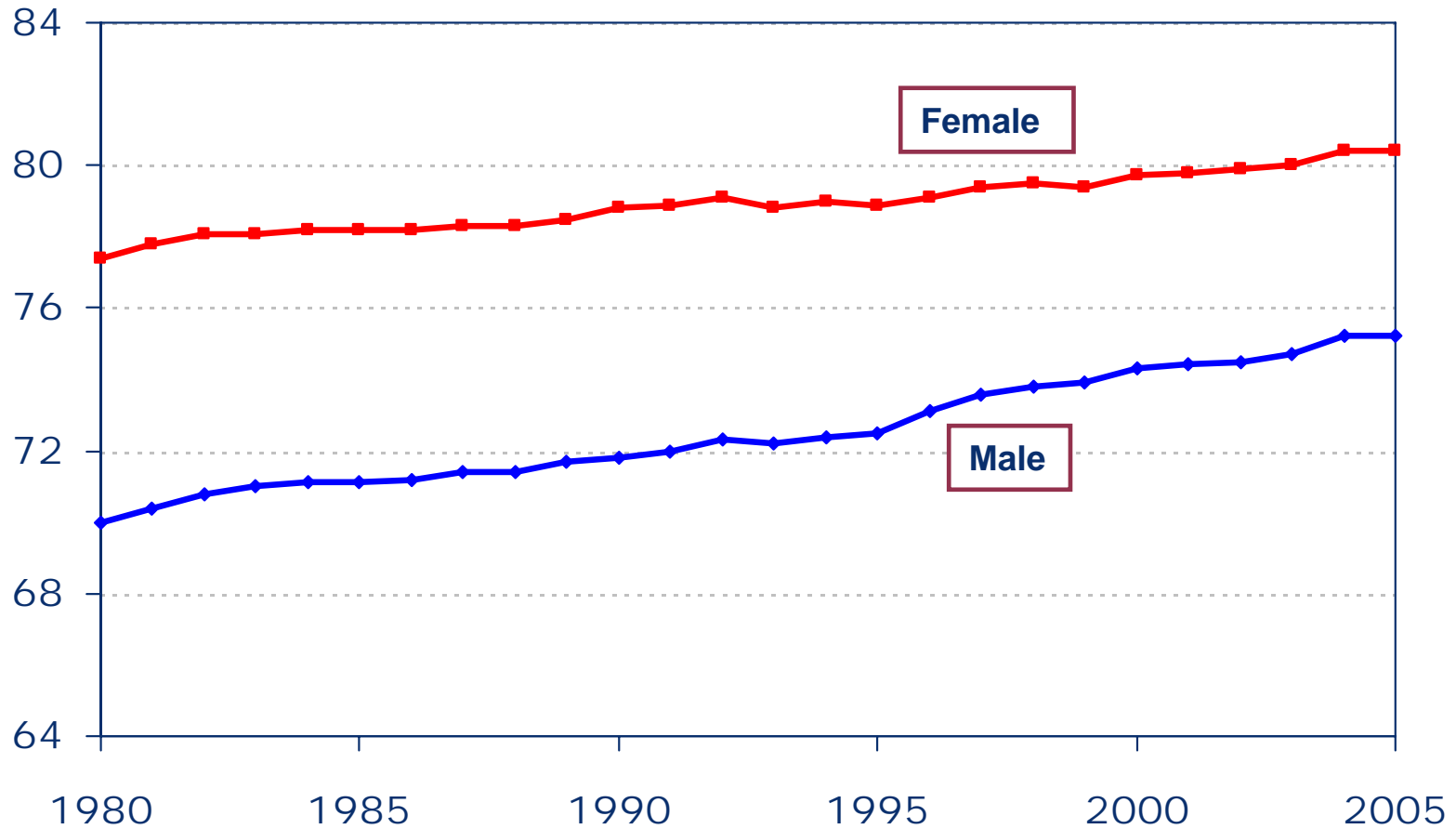
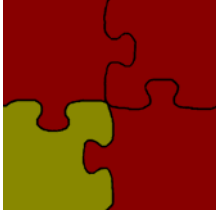


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Drivers of Demand:

Life expectancy



Source: CDC, NCHS, *Health, United States, 2007* (Trend Table 27: Life Expectancy at Birth, All Races).

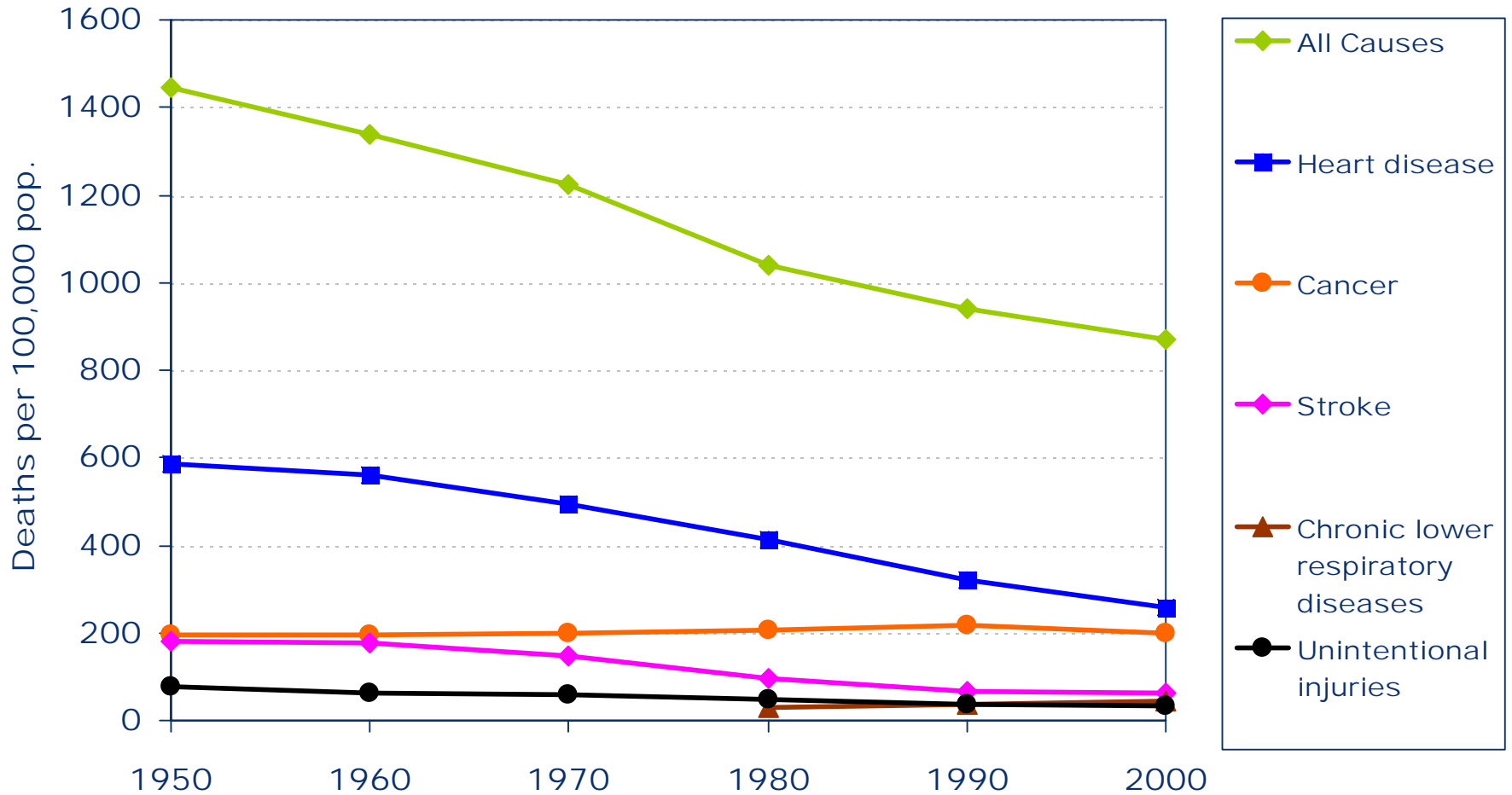
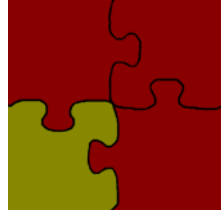


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Drivers of Demand:

Leading causes of death



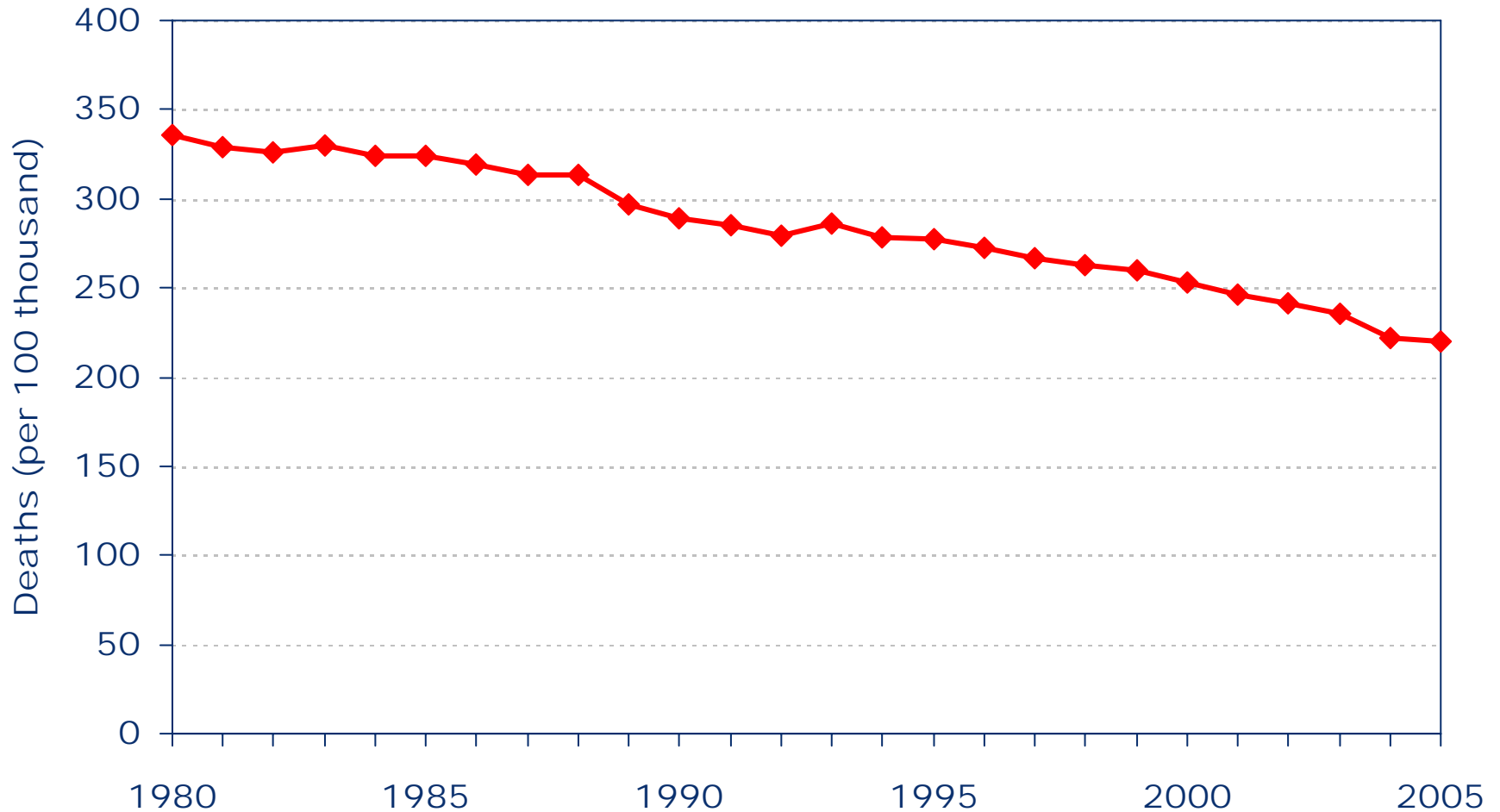
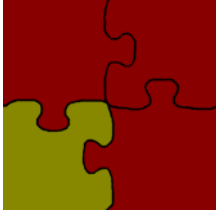
Source: CDC, NCHS, *Health, United States, 2007* (Chartbook figure 20 data table, p. 109).



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Heart Disease Death Rate



Source: CDC, NCHS, *Health, United States, 2007* (Trend Table 36).

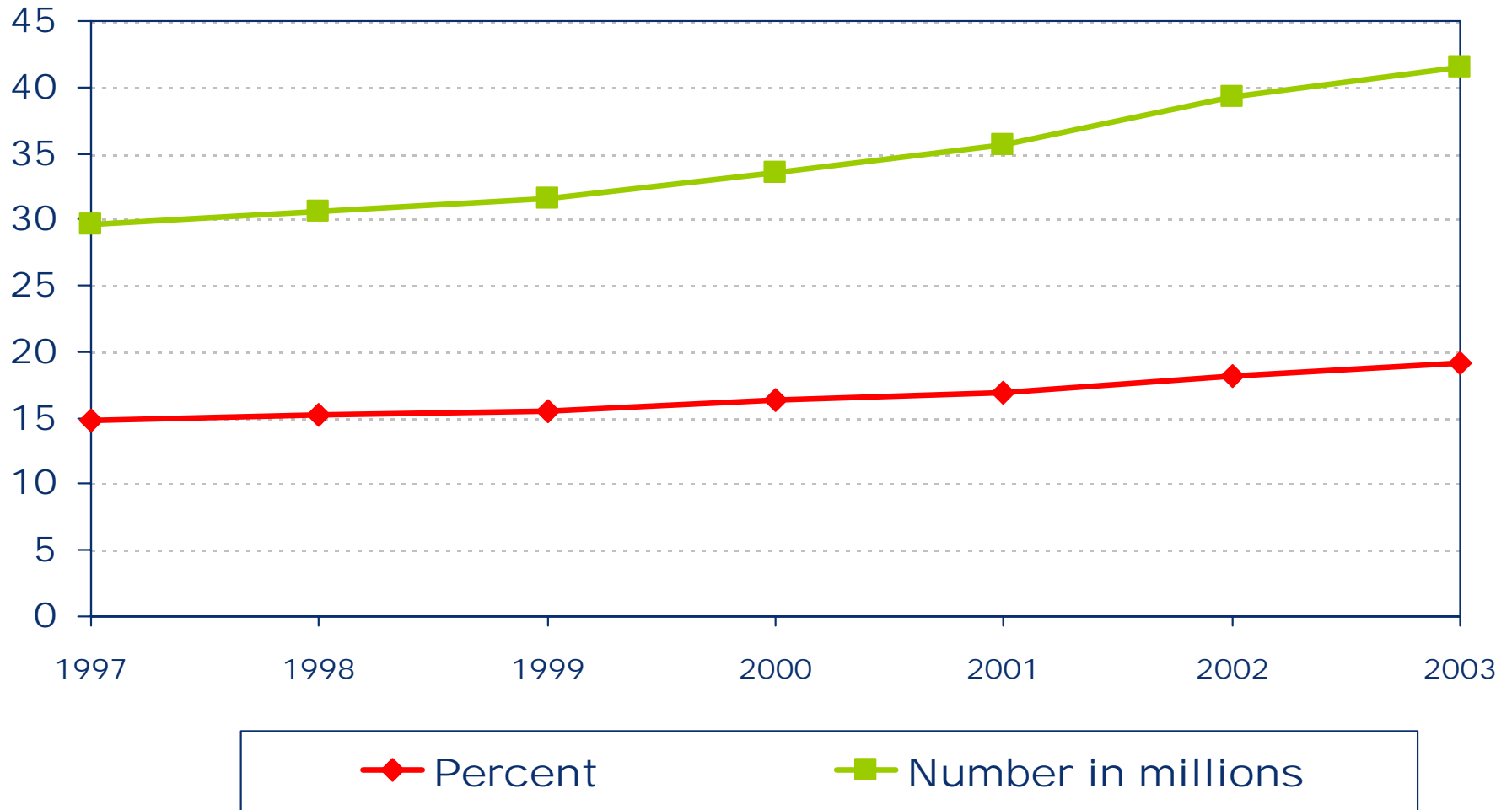
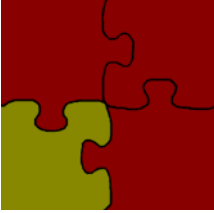


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Prevalence:

Adults reporting treatment for hypertension



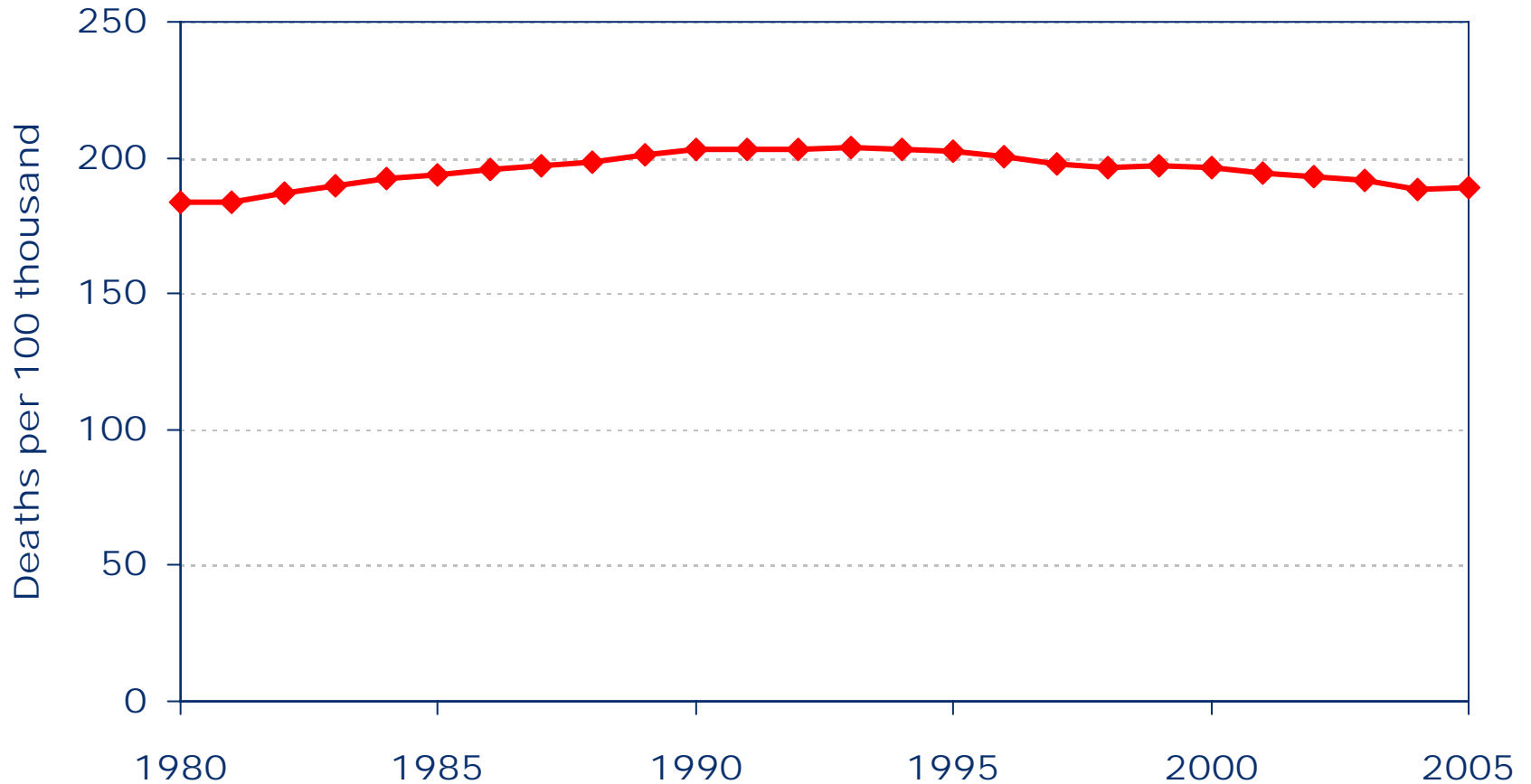
Source: AHRQ, MEPS (Research Findings # 25: Adults 18+).



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Cancer Death Rate



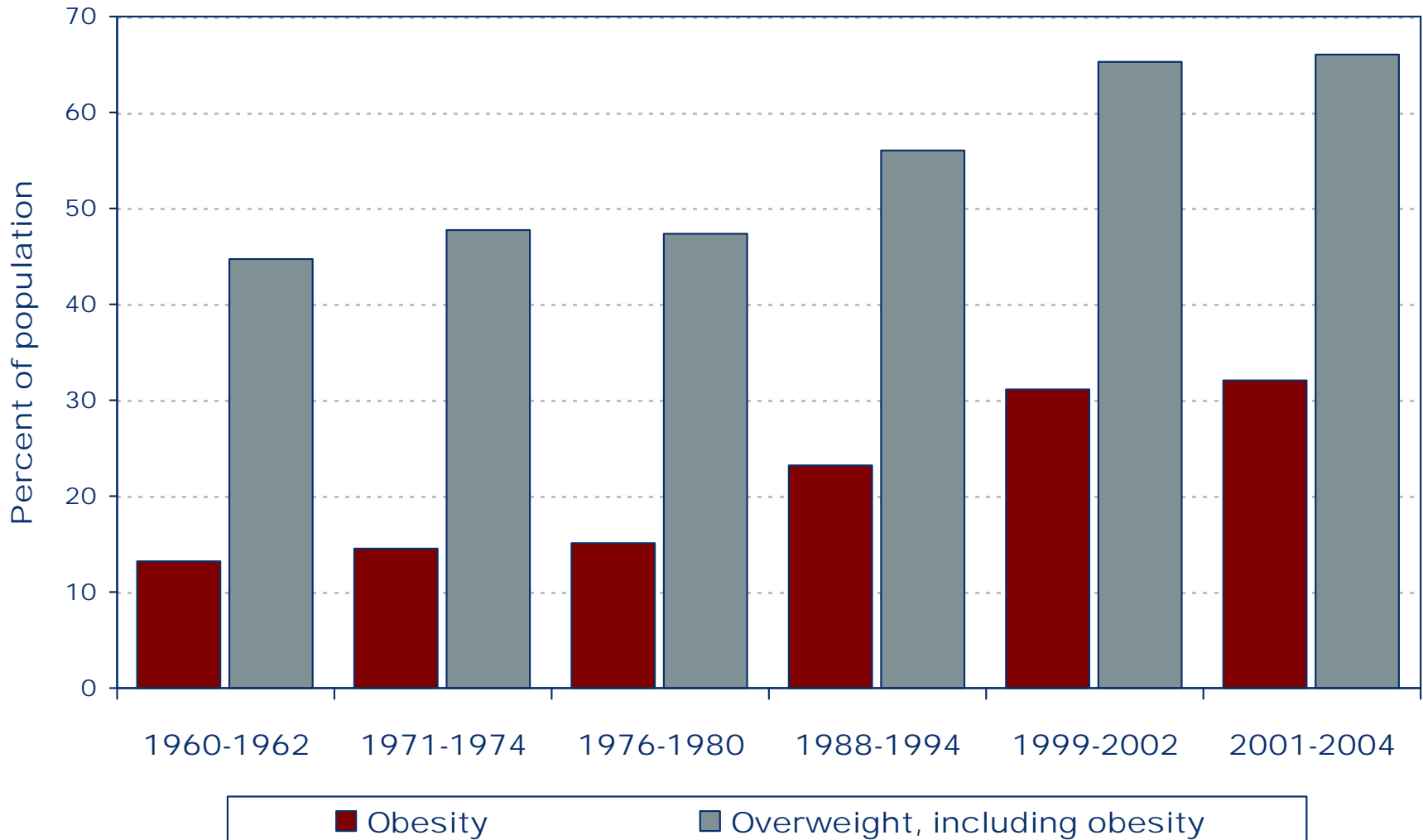
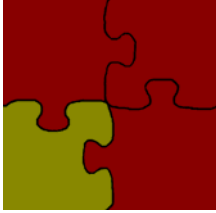
Source: CDC, NCHS, *Health, United States, 2007* (Trend Table 38).



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Prevalence:

Obesity and overweight among people 20-74 years

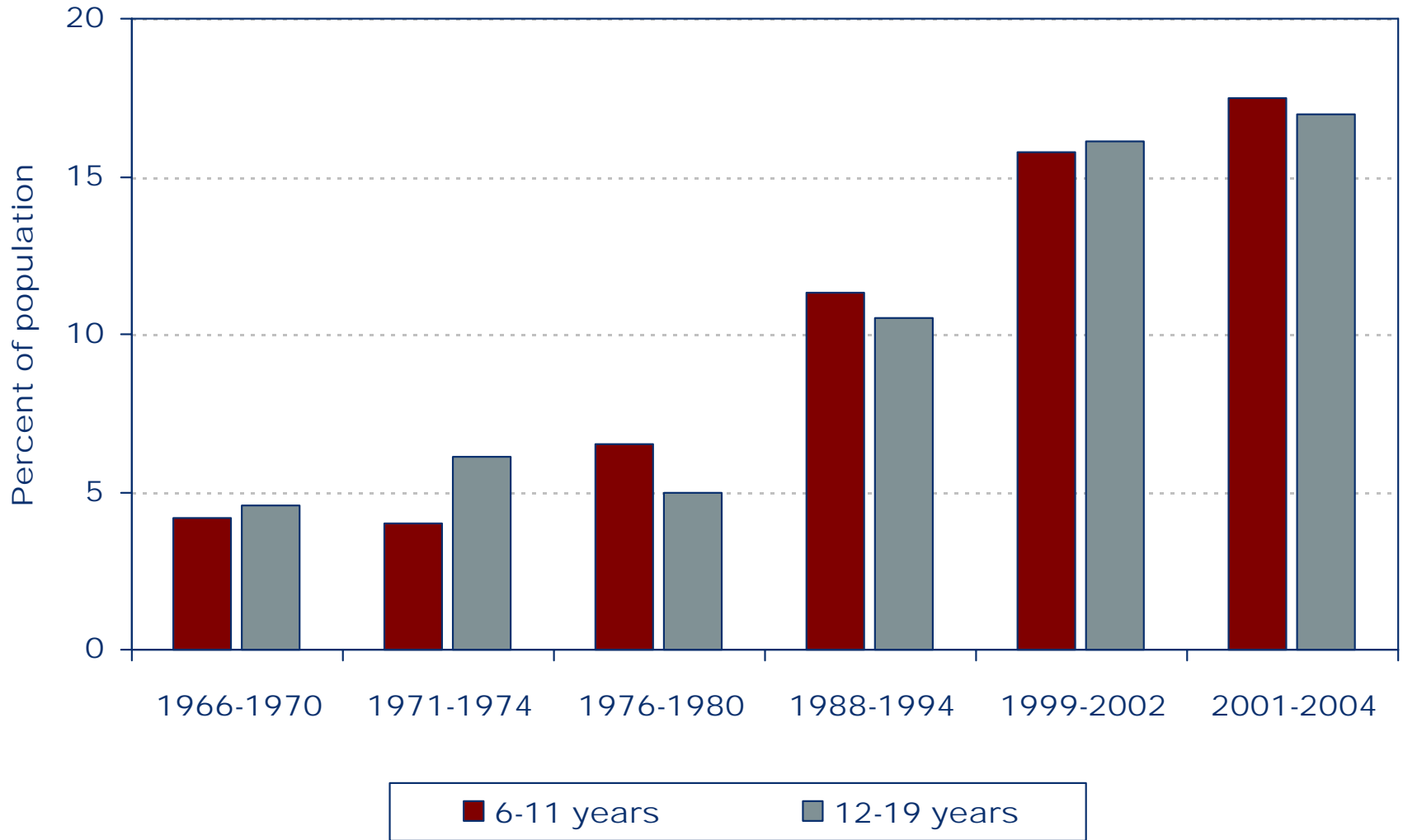
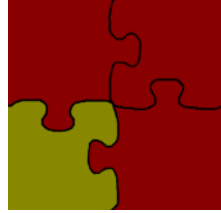


Source: CDC, NCHS, *Health, United States, 2007* (Trend Table 74).



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Prevalence: Overweight among people 6-19 years

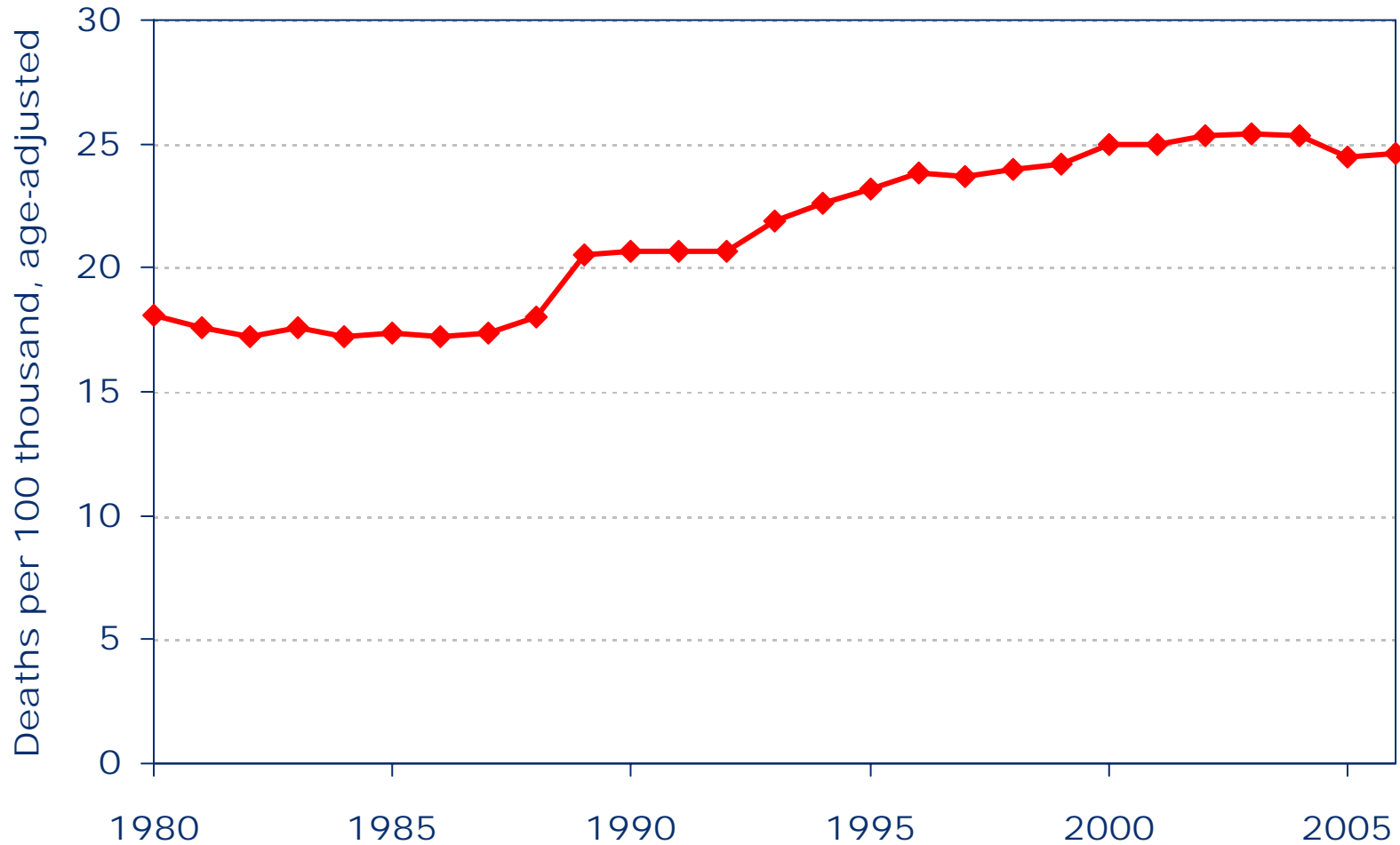


Source: CDC, NCHS, *Health, United States, 2007* (Trend Table 75).



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Diabetes Death Rate



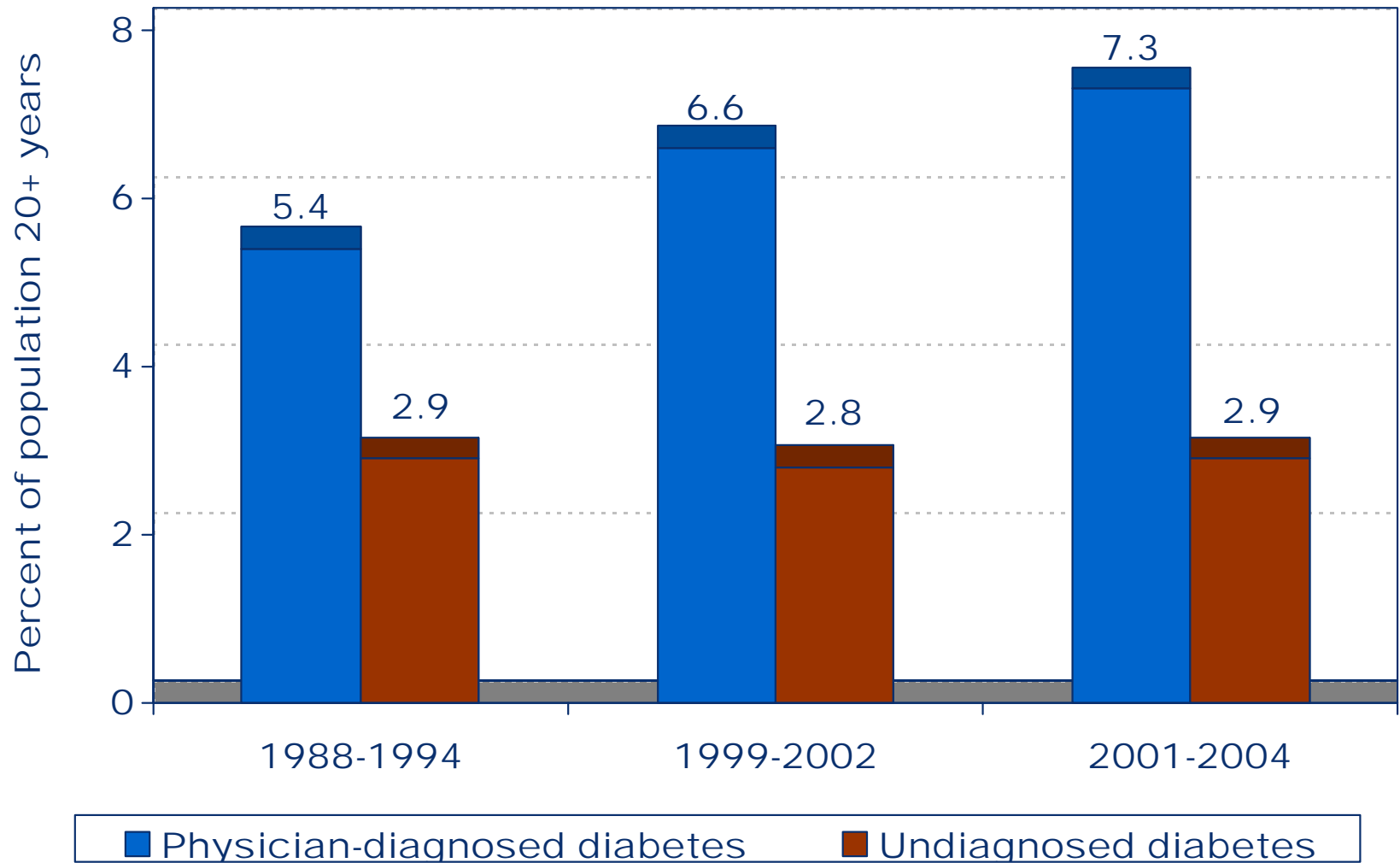
Source: CDC, NCHS, *Health, United States, 2007* (Trend Table 29).



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Prevalence:

Diabetes among people 20 years and over

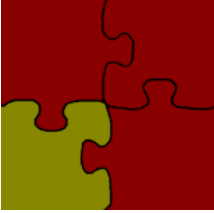


Source: CDC, NCHS, *Health, United States, 2007* (Trend Table 55).



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SIGNS We Have Seen

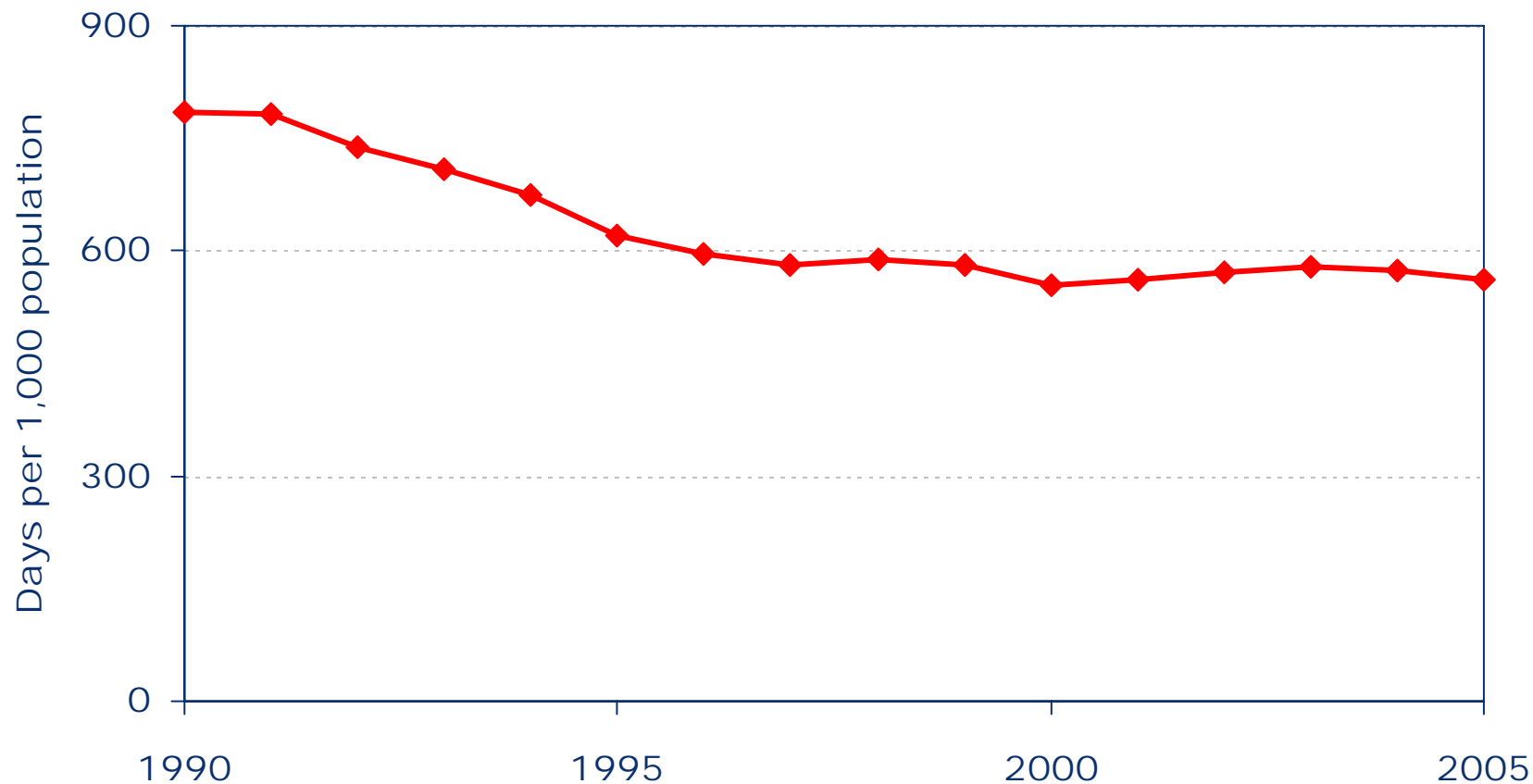
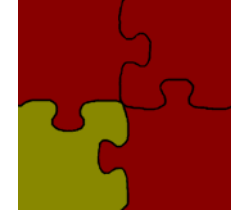


- Drivers of demand
 - Population level trends
- **General Utilization**
 - **Hospitals**
 - **Physician offices**
- Specialty Utilization
 - Conditions linked to specialties
- Population-specific Utilization
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- Access to care
 - Usual source of care
 - Getting an appointment or referral



Utilization:

Hospitals days per 1,000 population



Source: CDC, NCHS, *Health, United States, 2007* (Trend Table 99-nonfederal short stay hospitals).

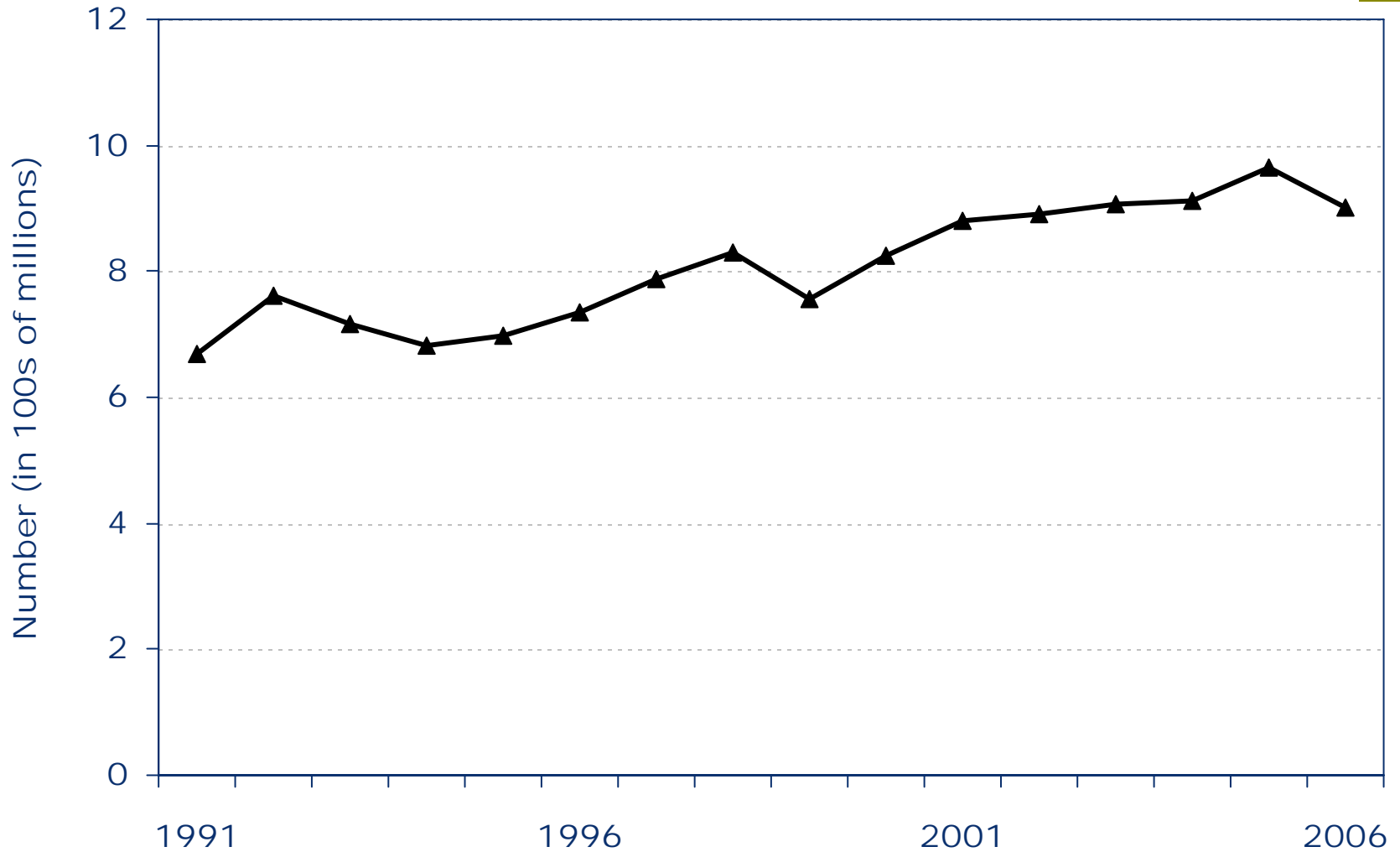
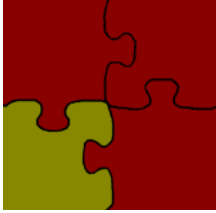


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Utilization:

Physician office visits



Source: NCHS National Ambulatory Medical Care Survey, Annual Summaries, 1991-2006

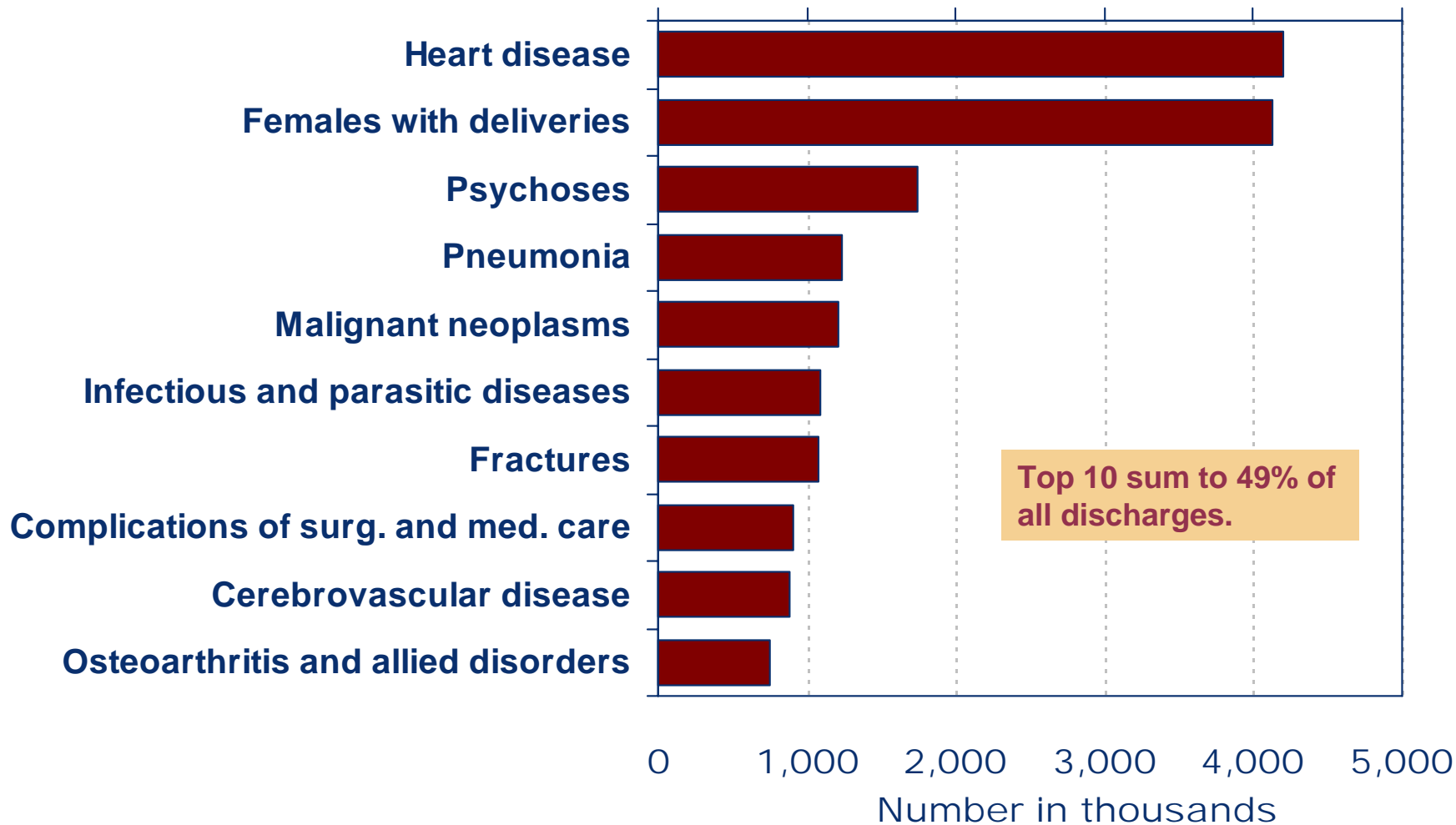
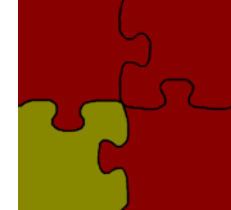


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Utilization:

Inpatient discharges: top 10 first-listed diagnosis groups, U.S., 2006



Source: CDC, NCHS, 2006 National Hospital Discharge Survey (table 2).

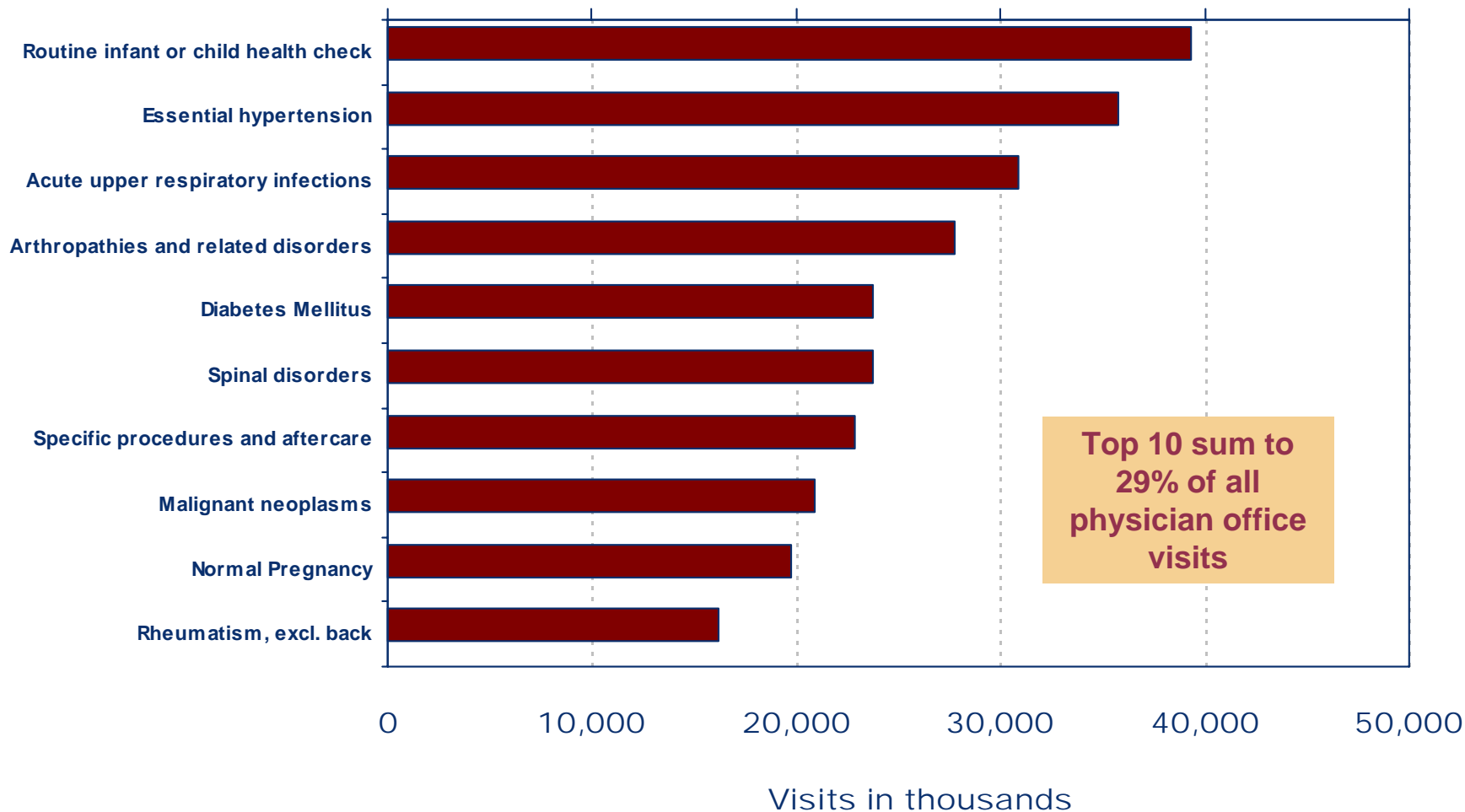
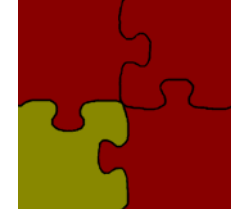
Note: data are for nonfederal, short stay hospitals.



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Utilization:

Physician office visits: top 10 primary diagnosis groups, U.S., 2006



Source: CDC, NCHS, National Ambulatory Medical Care Survey: 2006 Summary (table 12).

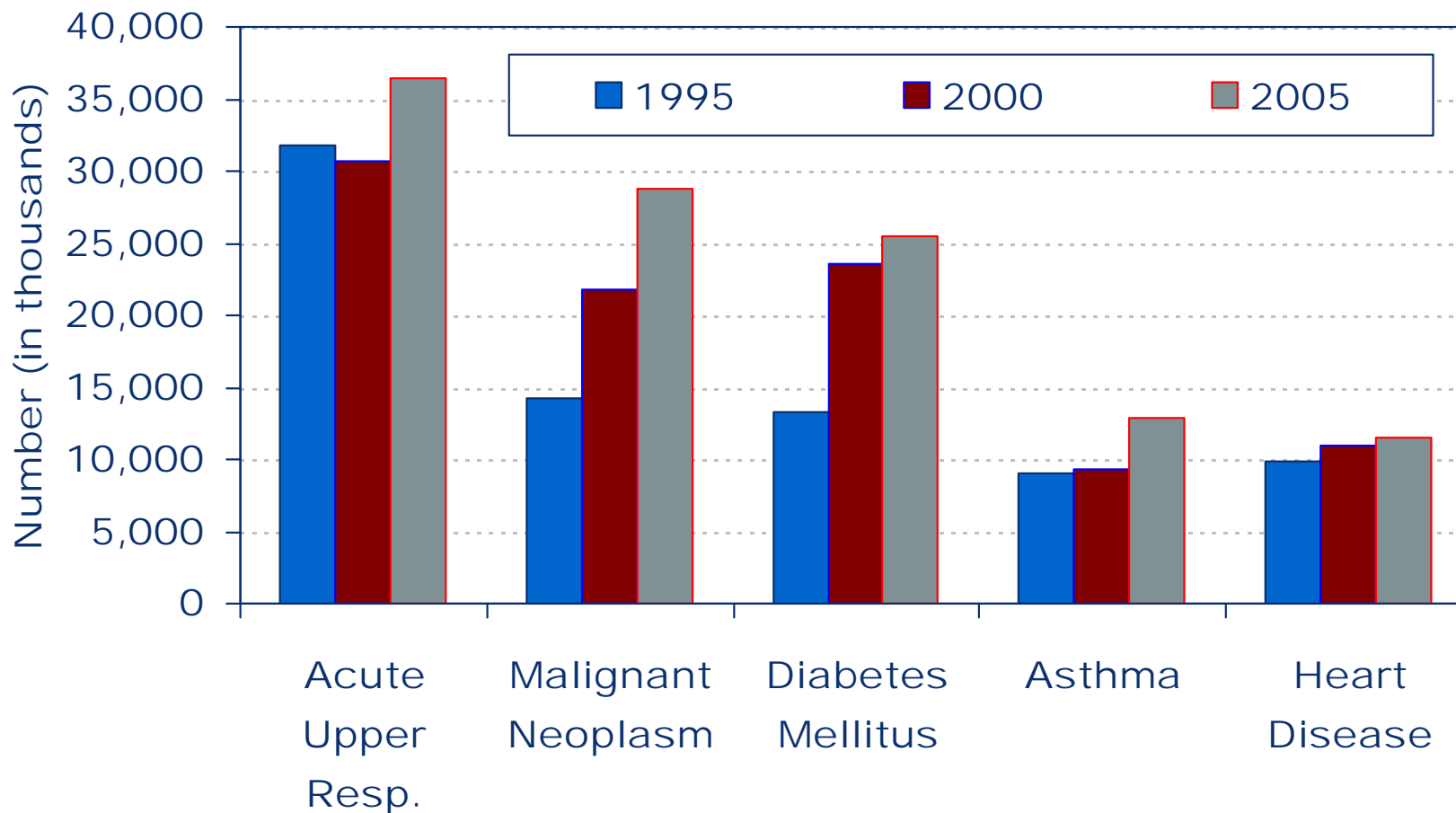
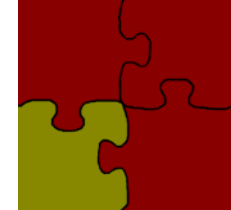


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Utilization:

Physician office visits, by diagnosis



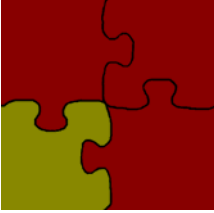
Source: CDC, NCHS, *National Ambulatory Medical Care Survey 2005, 2000, 1995 summaries* (Table 13, Table 12, Table 10, respectively: unadjusted).



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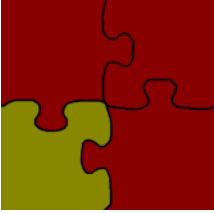
SIGNS We Have Seen



- › Drivers of demand
 - Population level trends
- › General Utilization
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Specialty-Specific Demand

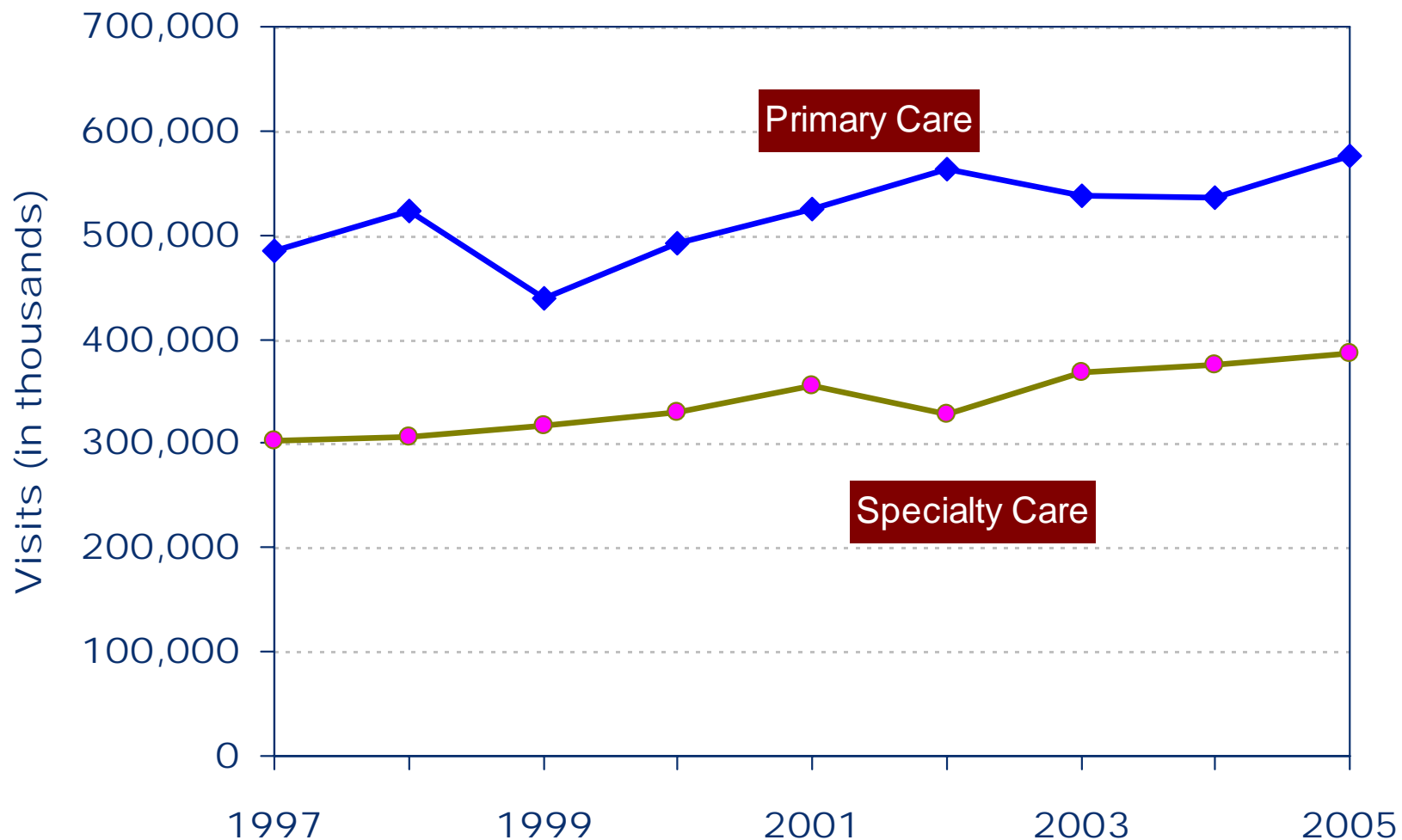
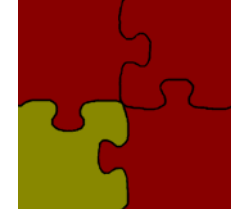


- Primary care
- Specialists
 - Musculoskeletal procedures (orthopaedic surgery)
 - Chronic pulmonary heart disease (cardiology)
 - Digestive procedures (gastroenterology)
 - Bariatric surgery (general and plastic surgery)
 - Hyperplasia of the prostate (urology)



Utilization:

Visits to primary and specialty care physicians



Source: CDC, NCHS, *National Ambulatory Medical Care Survey annual summaries* (Table 1).

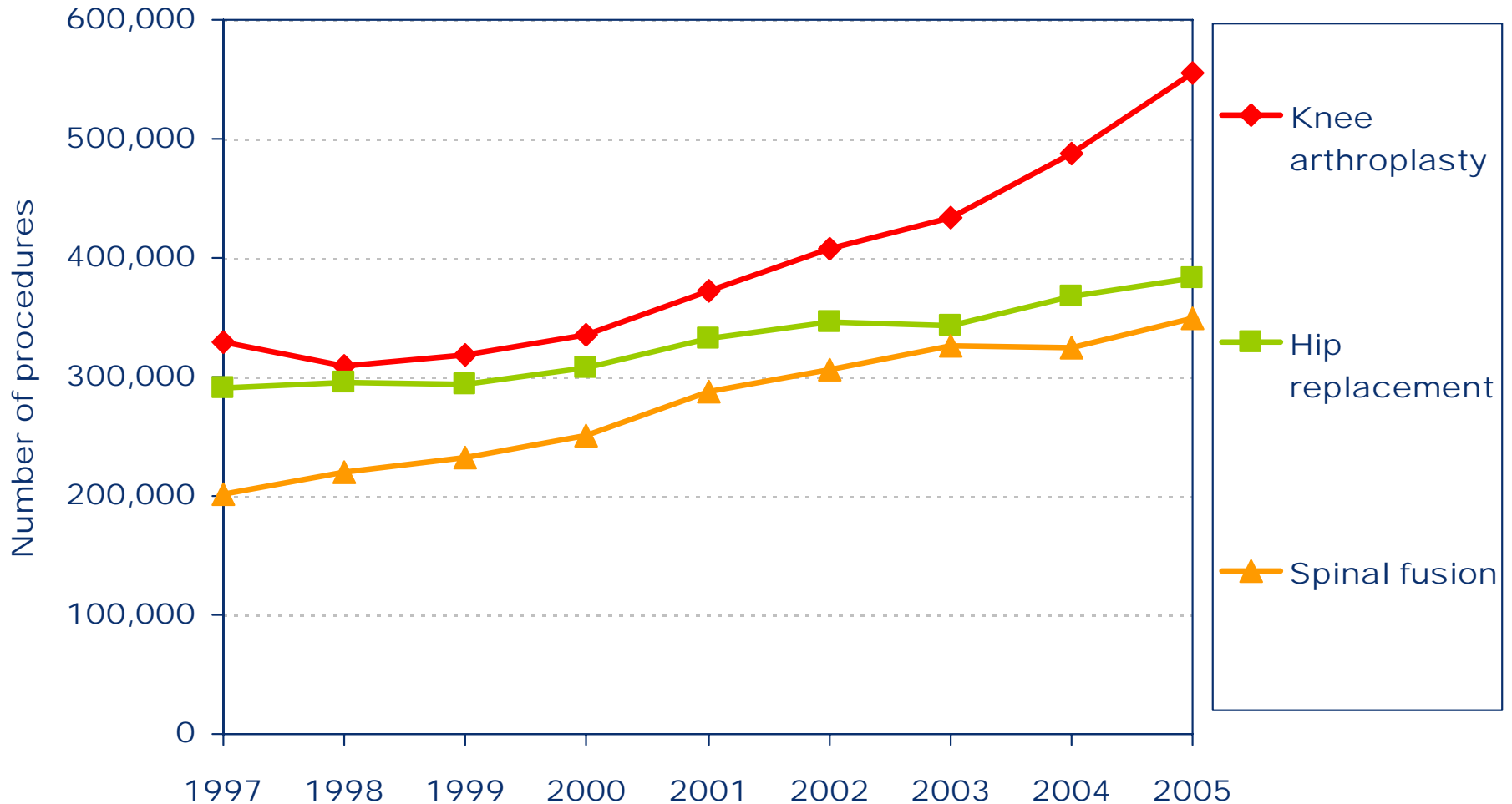
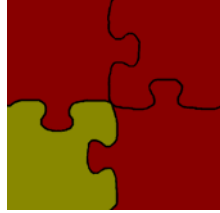


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Utilization:

Knee arthroplasty, hip replacement, and spinal fusion procedures (orthopaedic surgery demand)



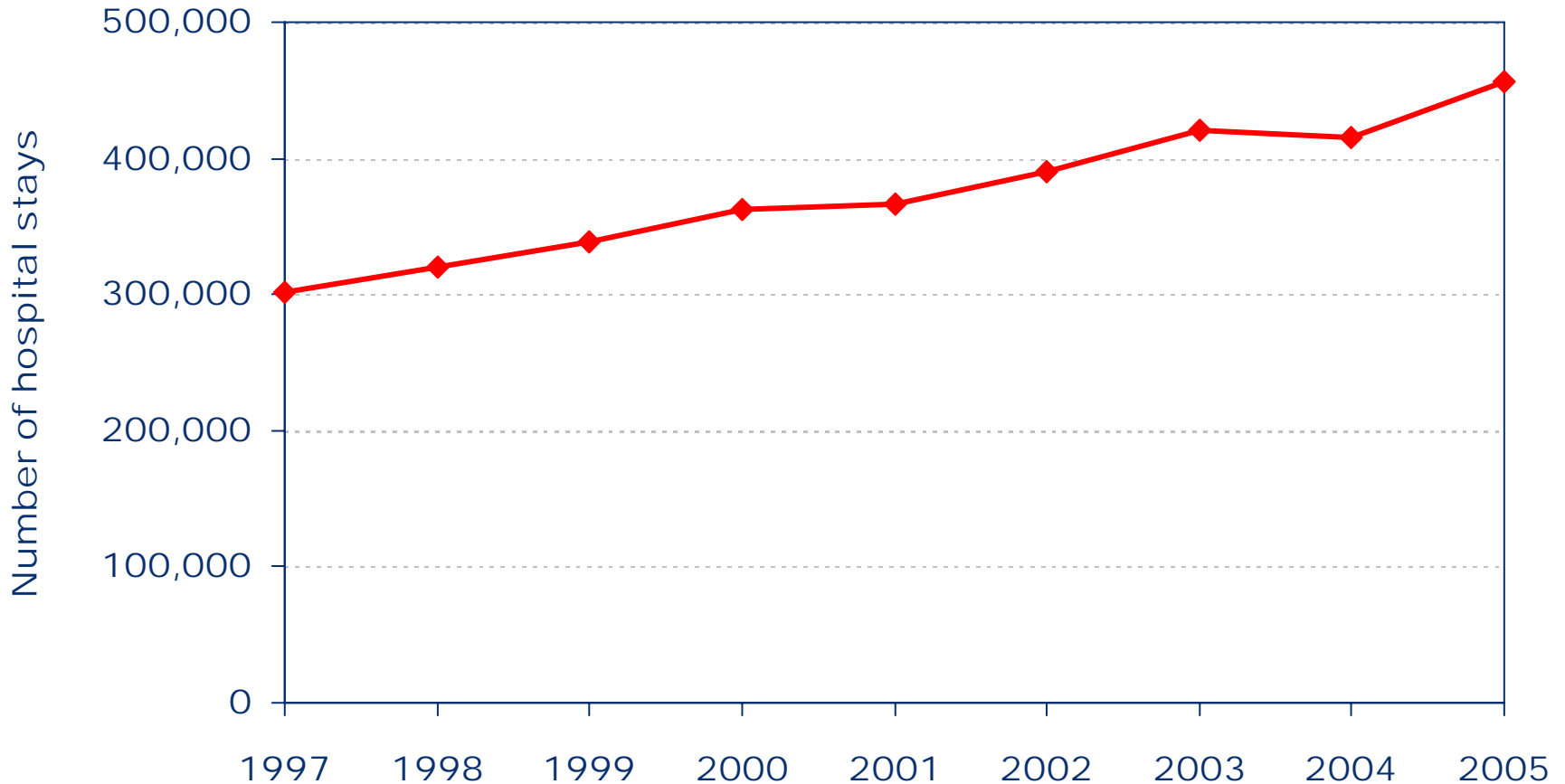
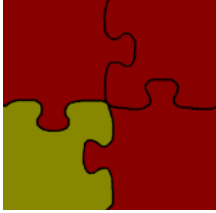
Source: AHRQ, HCUP (Statistical Brief #34).



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Utilization:

Hospital stays with a diagnosis of chronic pulmonary heart disease (cardiologist demand)



Source: AHRQ, HCUP (Statistical Brief #43).

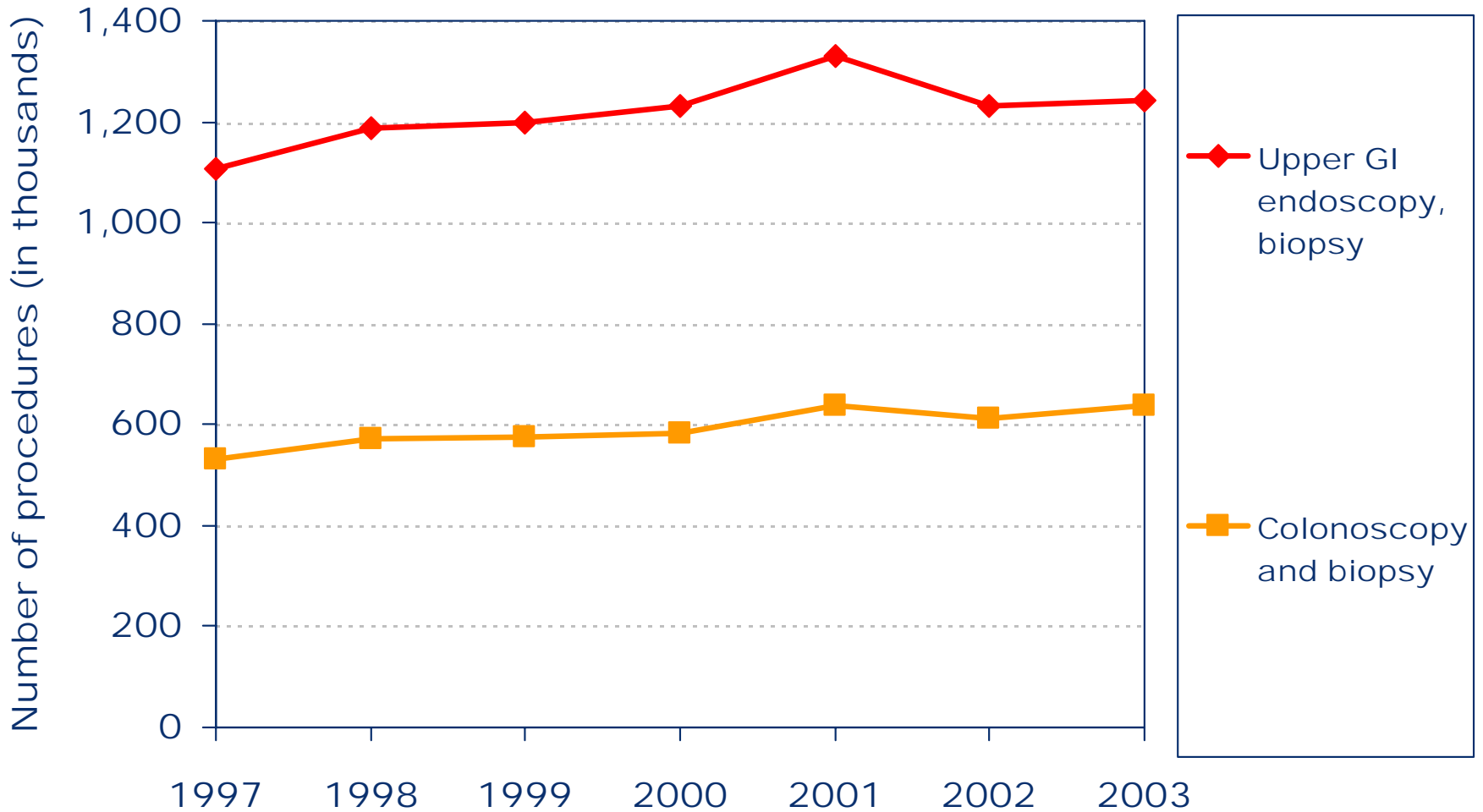
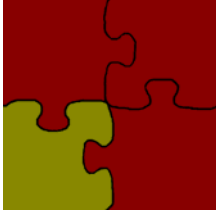


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Utilization:

Digestive Procedures (gastroenterologist demand)



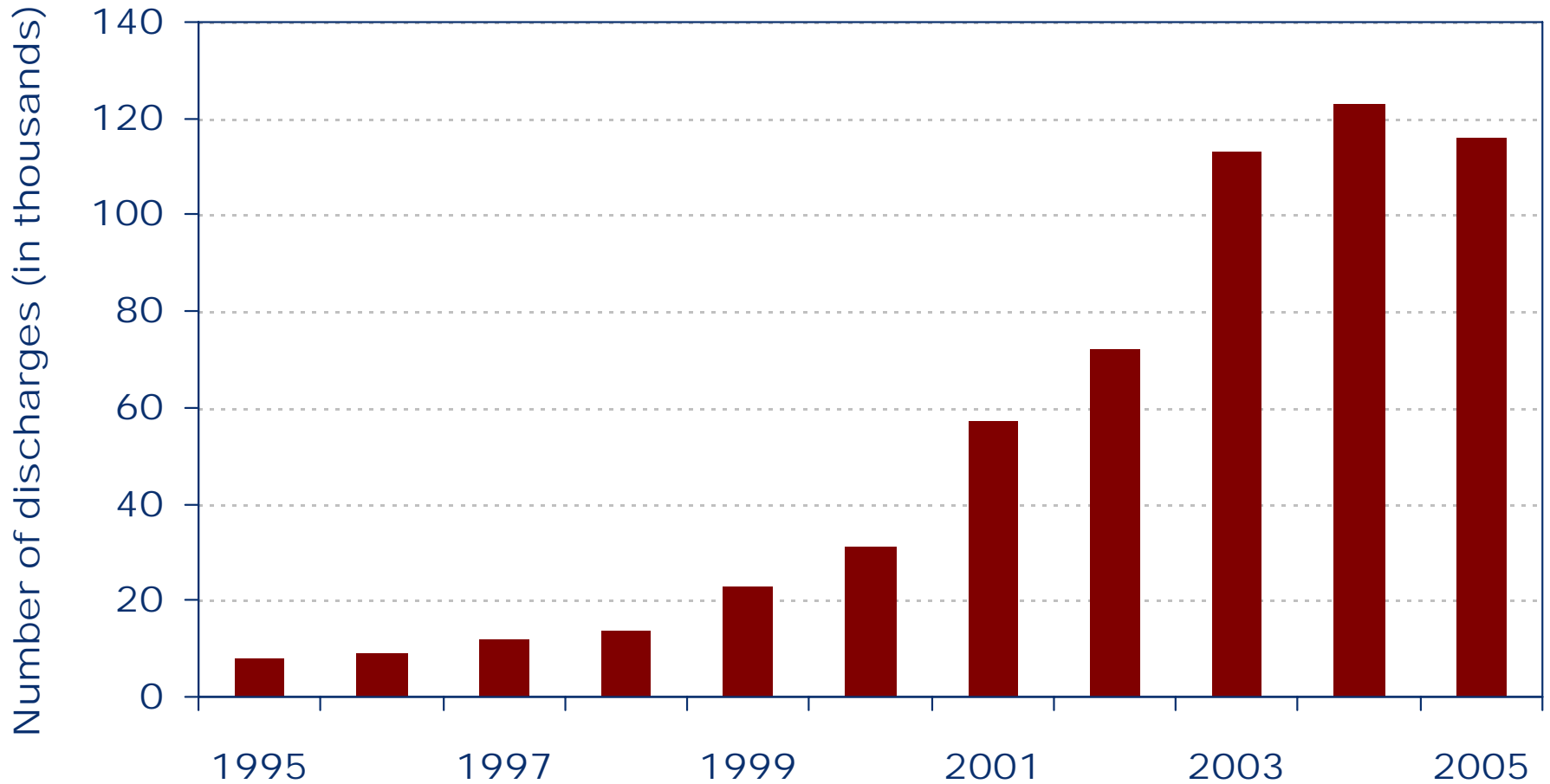
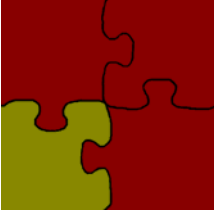
Source: AHRQ, HCUP (Factbook #7).



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Utilization: Bariatric Surgery Discharges



Source: AHRQ, MEPS (HCUP Facts and Figures, 2005). * SE>.30.

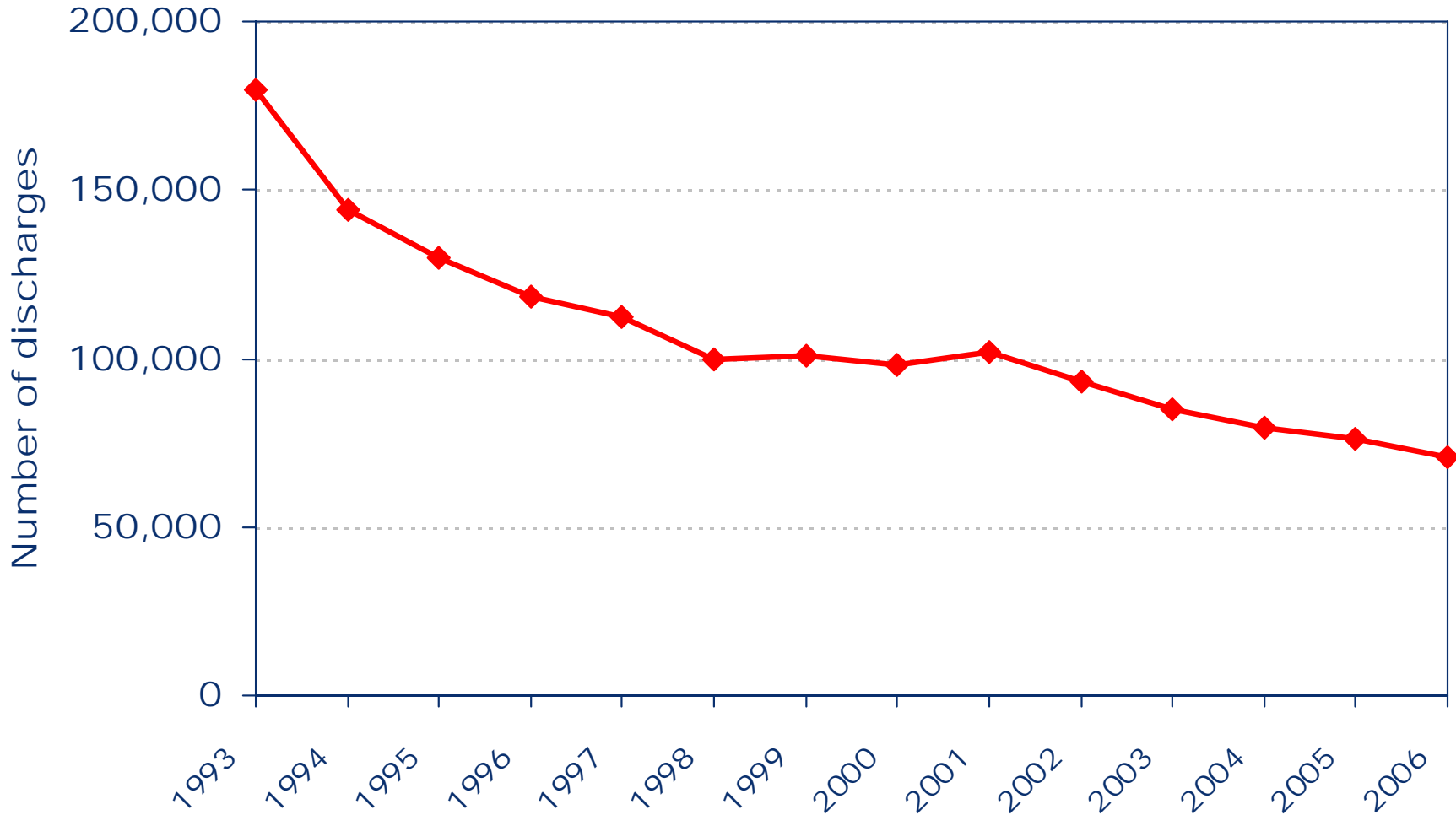
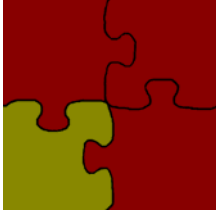


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Utilization:

Hospital discharges for hyperplasia of the prostate
(demand for urologists)



Source: AHRQ, HCUP (HCUPnet).



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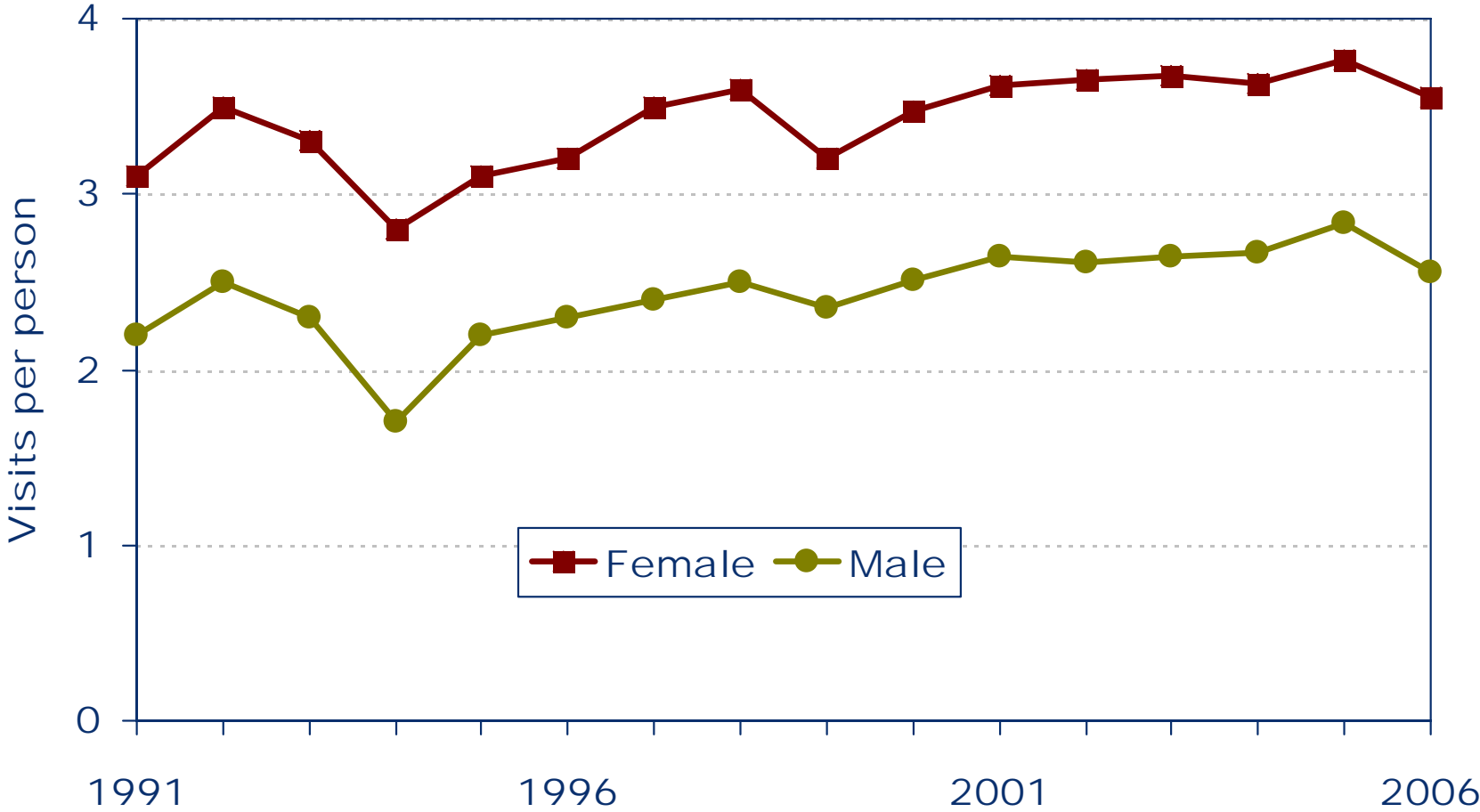
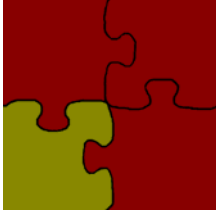


SIGNS We Have Seen

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Physician office visit rates by sex



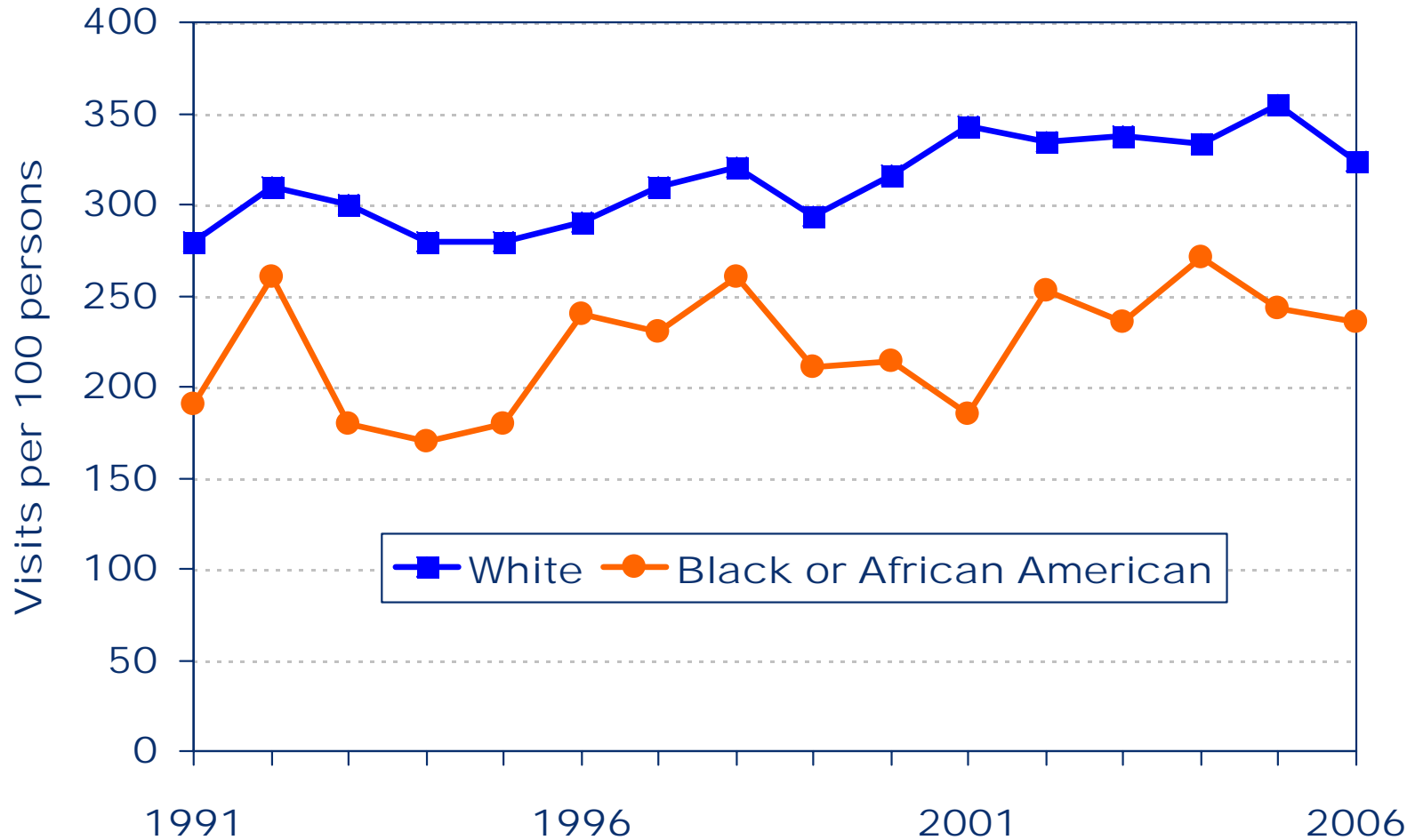
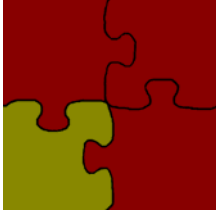
Source: CDC, NCHS, National Ambulatory Medical Care Survey 1991-2006 annual summaries (table 3).



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Physician office visit rates by race

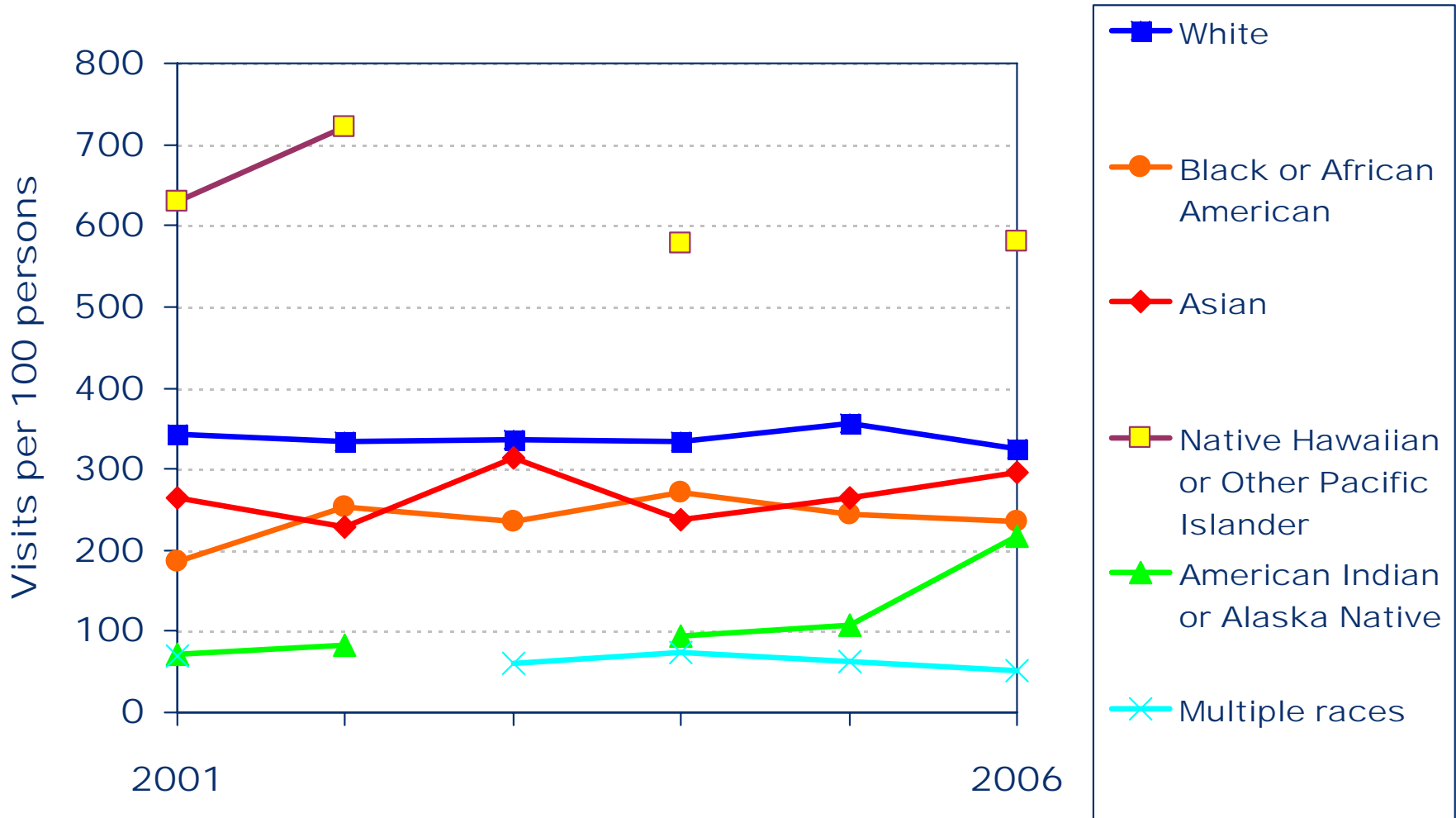


Source: CDC, NCHS, National Ambulatory Medical Care Survey 1991-2006 annual summaries (table 3). Race groups include persons of both Hispanic and non-Hispanic origin.



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Physician office visit rates by race



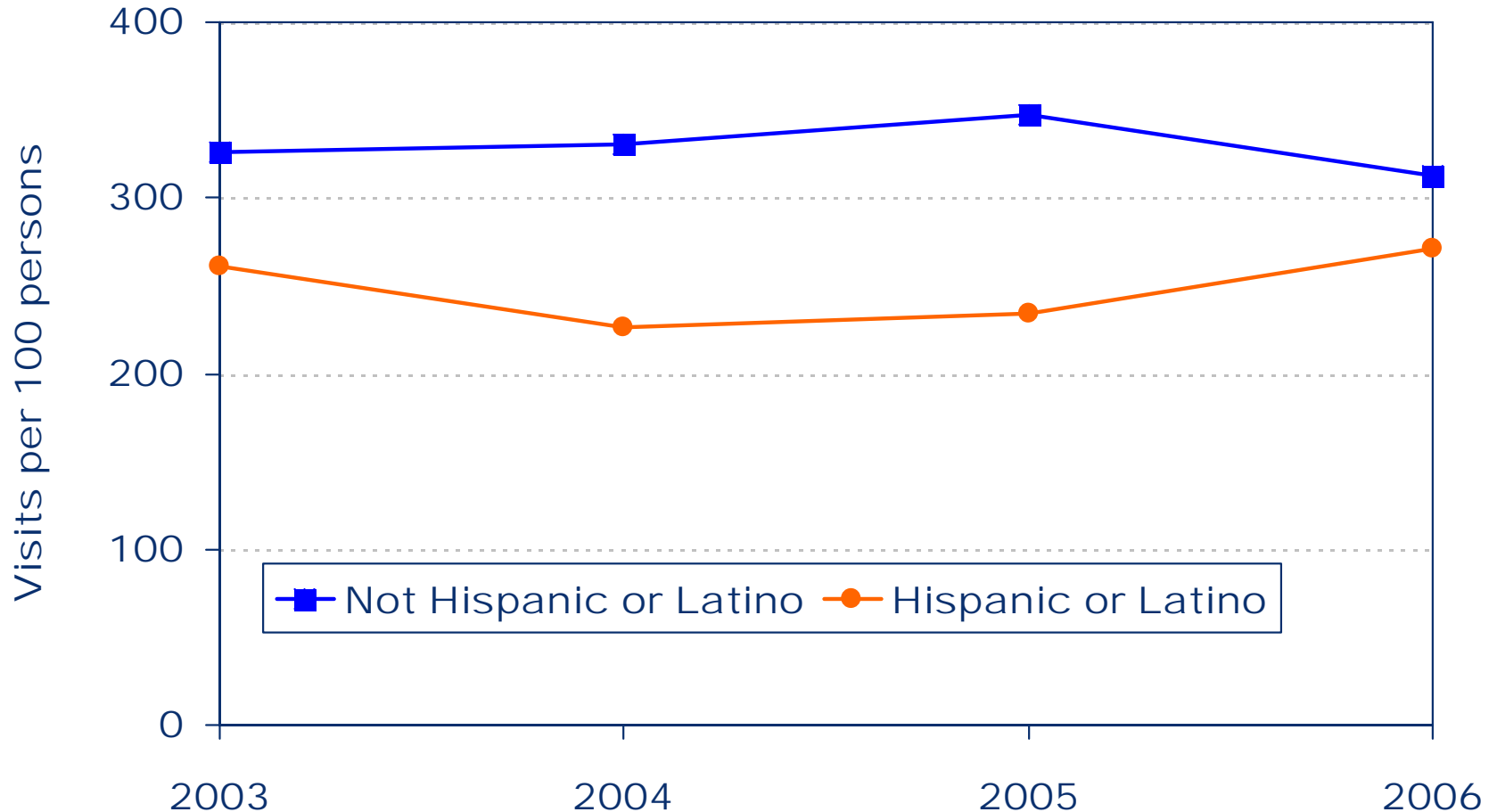
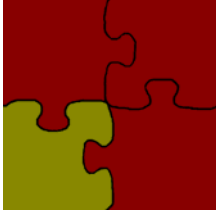
Source: CDC, NCHS, National Ambulatory Medical Care Survey 1991-2006 annual summaries (table 3). Race groups include persons of both Hispanic and non-Hispanic origin.



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Physician office visit rates by Hispanic origin



Source: CDC, NCHS, National Ambulatory Medical Care Survey 1991-2006 annual summaries (table 3). NOTE: Information on Hispanic origin was not available in the NAMCS annual reports prior to 2003. Persons of Hispanic origin can be of any race.

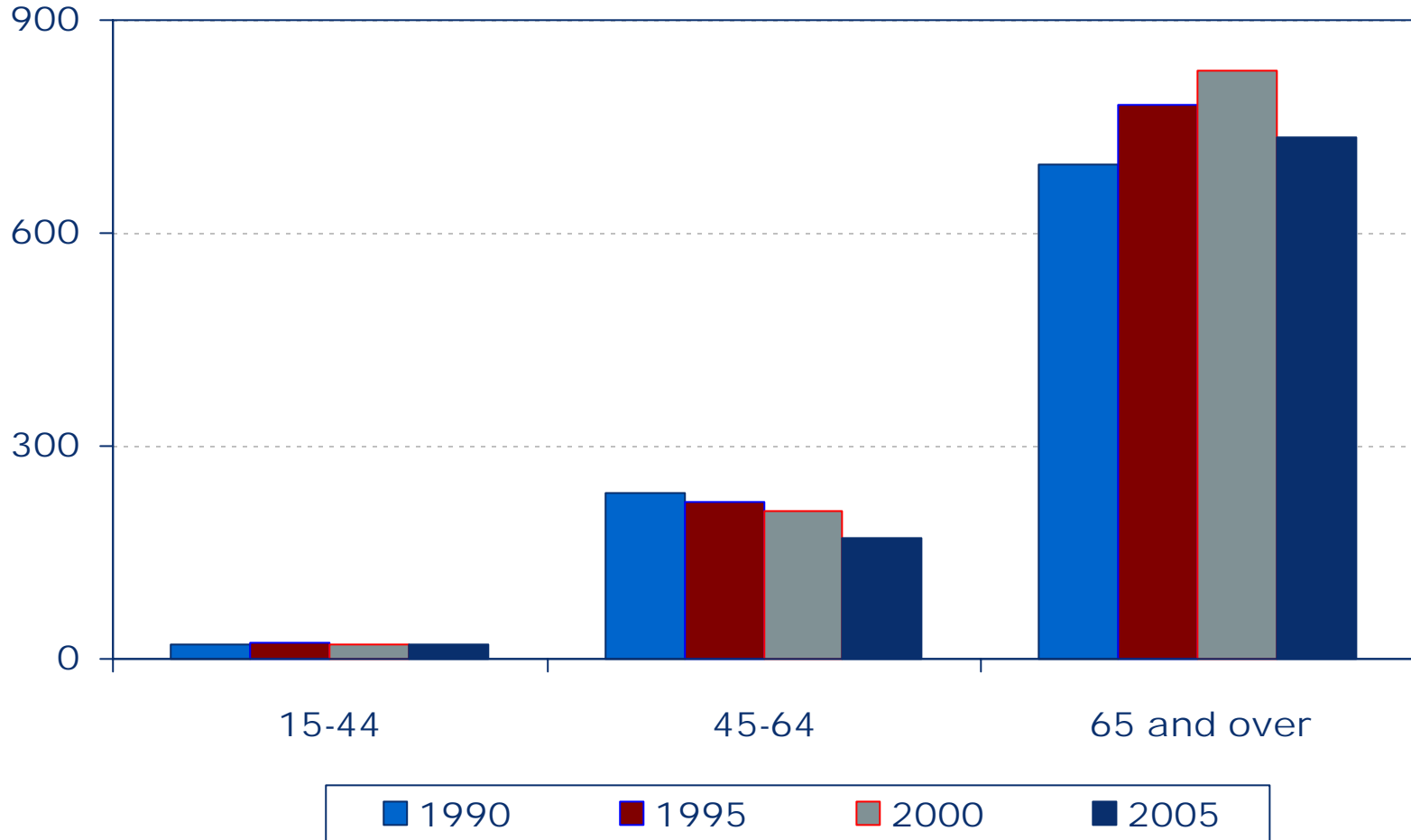


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Utilization:

Hospital discharges for diseases of heart, per 10,000 population



Source: CDC, NCHS, *National Hospital Discharge Survey, annual summaries for 1990, 1995, 2000, 2005* (Table 3; Table 5 in 1990).

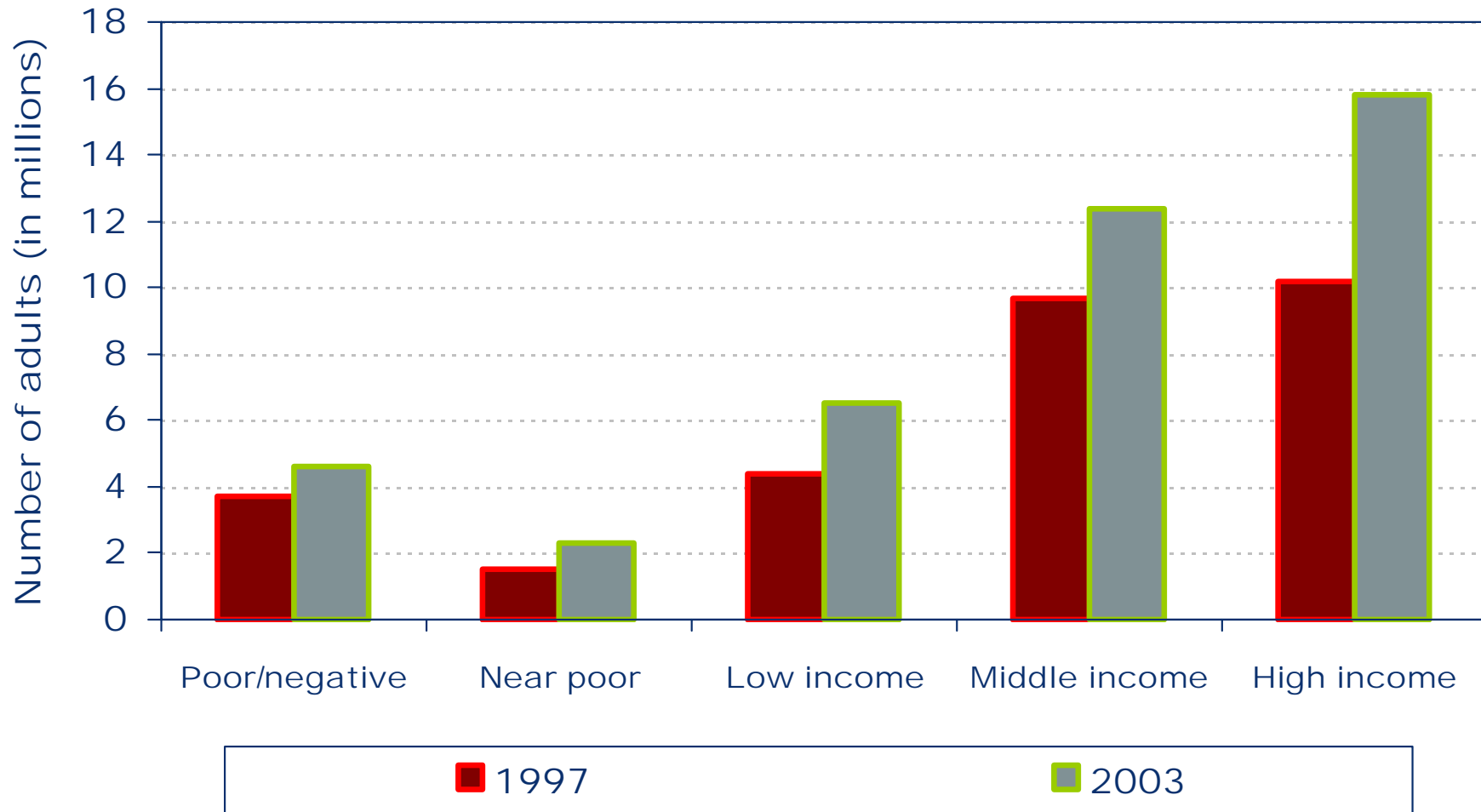
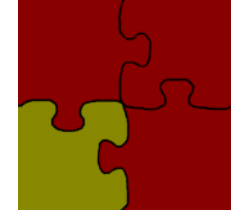
Note: Non-federal, short stay hospitals.



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Prevalence:

Adults reporting treatment for hypertension, by income status



Source: AHRQ, MEPS (Research Findings # 25).

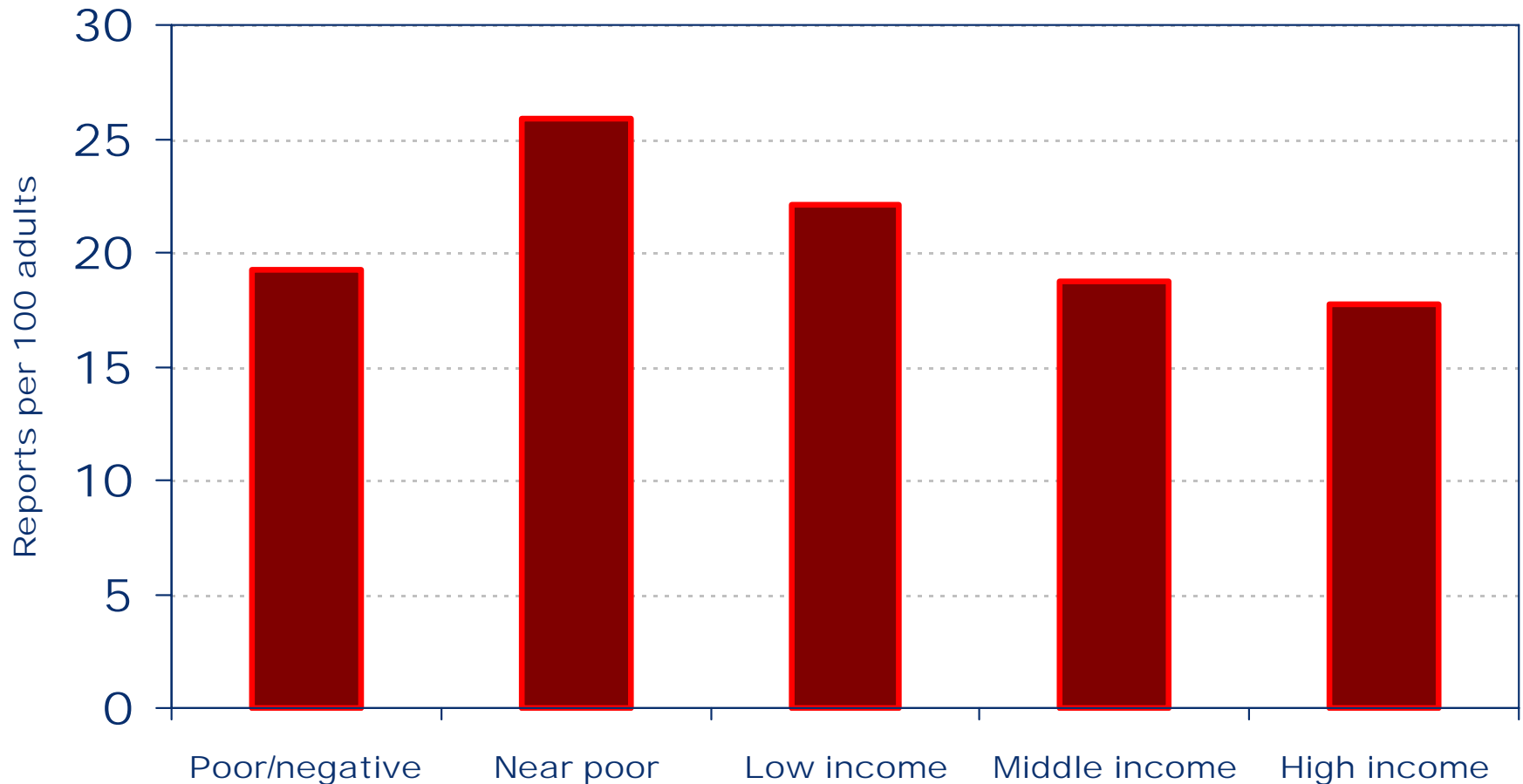
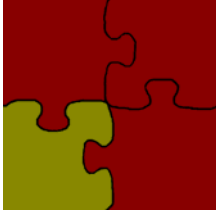


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Prevalence:

Reported treatments for hypertension, by income status, per 100 adults, 2003



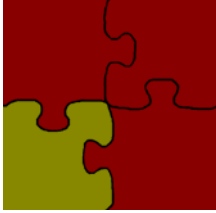
Source: AHRQ, MEPS (Research Findings # 25).



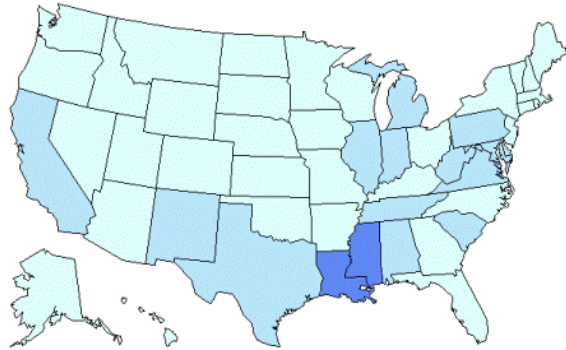
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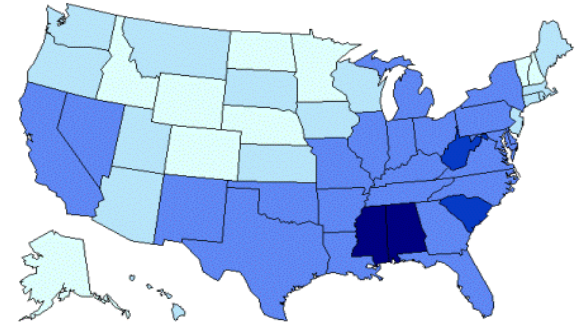
Diabetes Among Adults



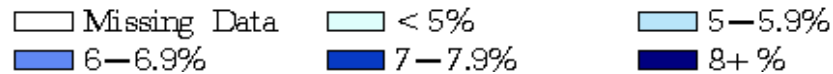
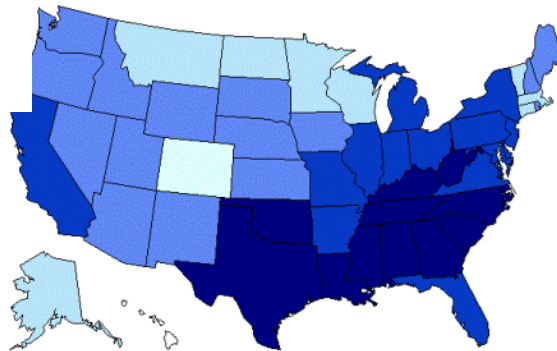
1995



2000



2005



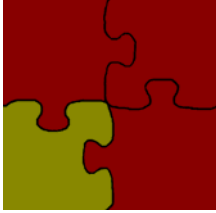
Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System.



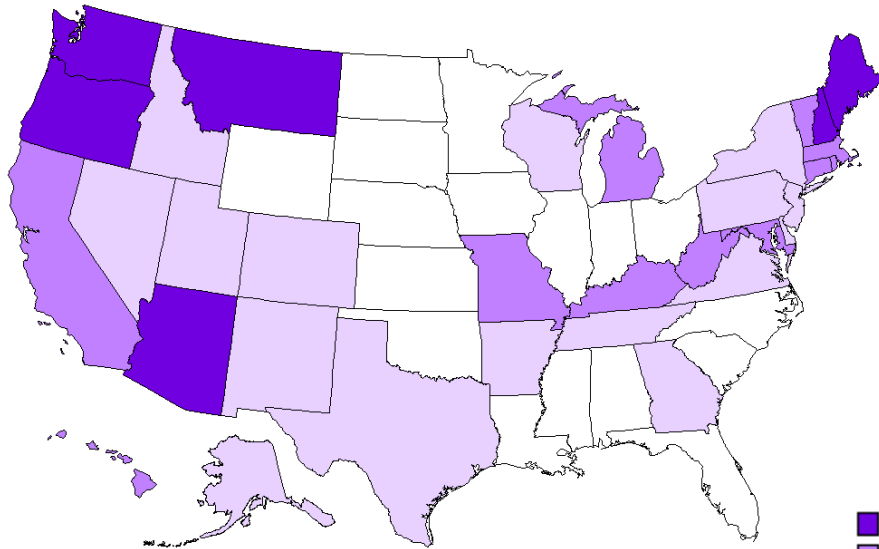
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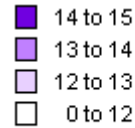
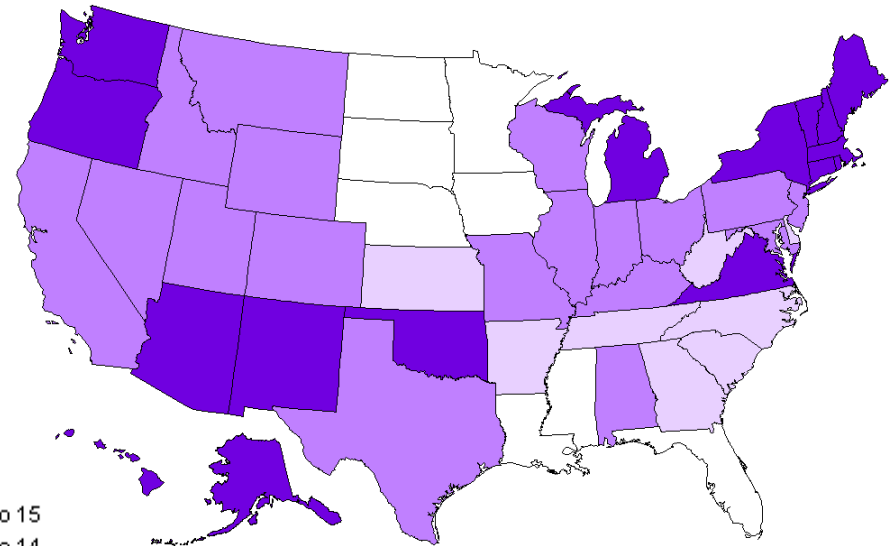
Asthma Among Adults



2002



2007



Source: CDC, BRFSS (Downloaded data for 2002 and 2007).



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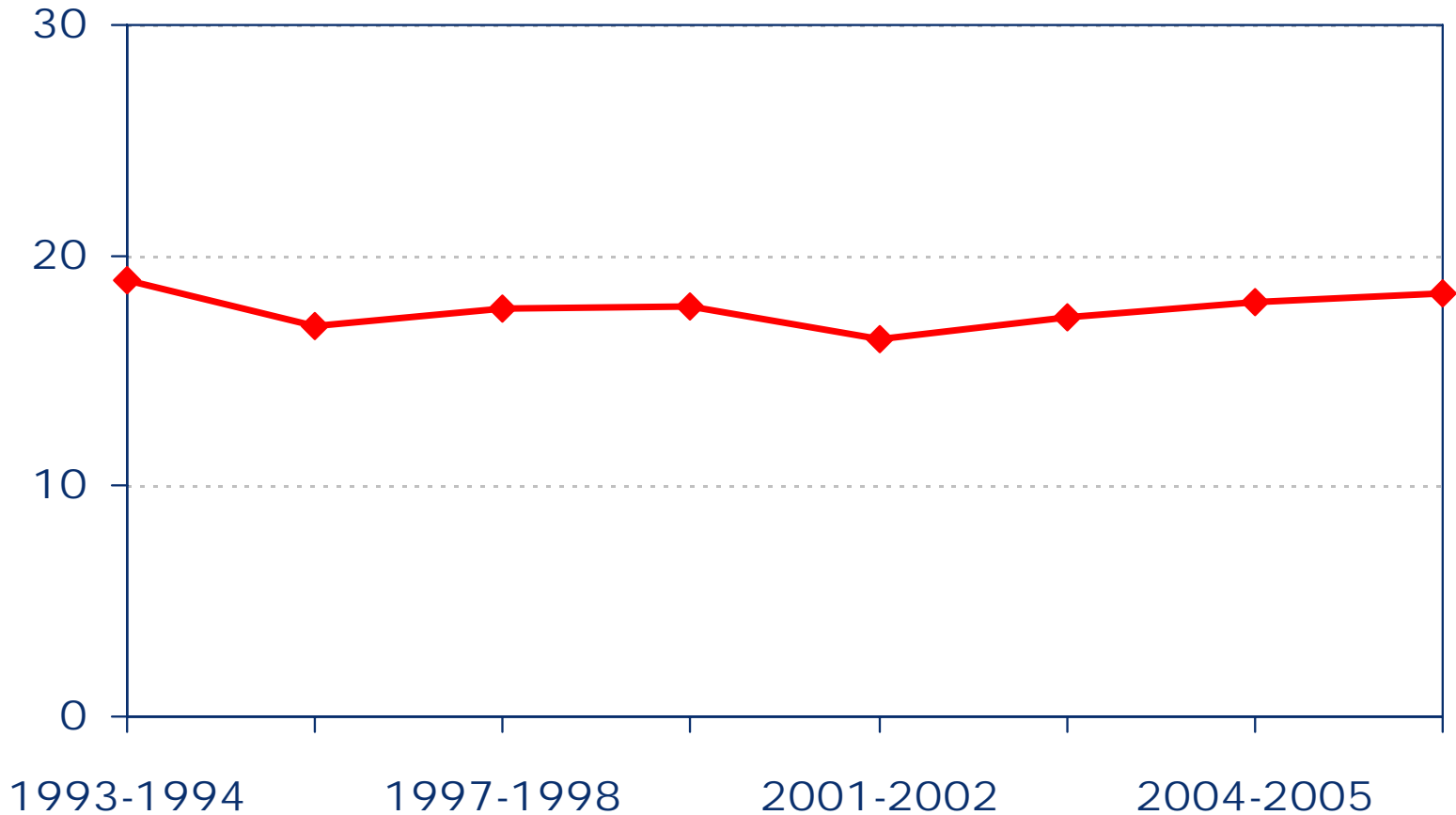
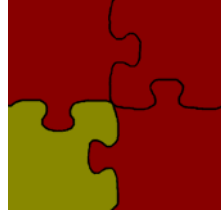
SIGNS We Have Seen

- Drivers of demand
 - Population level trends
- General Utilization
 - Hospitals
 - Physician offices
- Specialty Utilization
 - Conditions linked to specialties
- Population-specific Utilization
 - Differences by demography
- **Access to care**
 - Usual source of care
 - Getting an appointment or referral



Access to care:

Percent of adults aged 18-64 without a usual source of health care



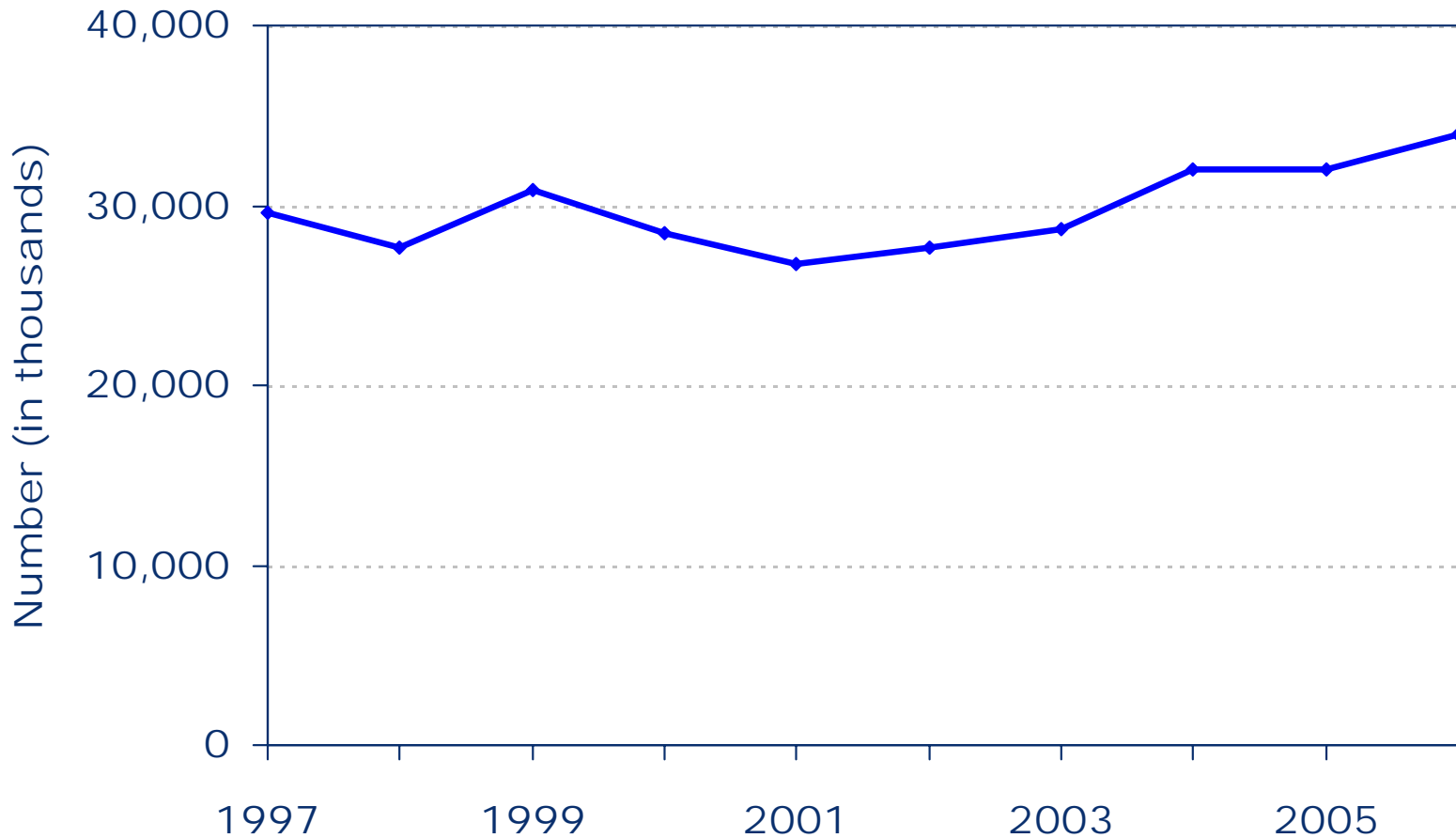
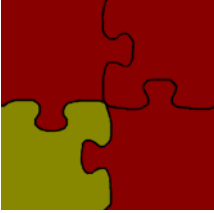
Source: CDC, NCHS, *Health, United States, 2007* (Trend Table 78).



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Access to care:

Adults 18 years and older without a usual source of health care



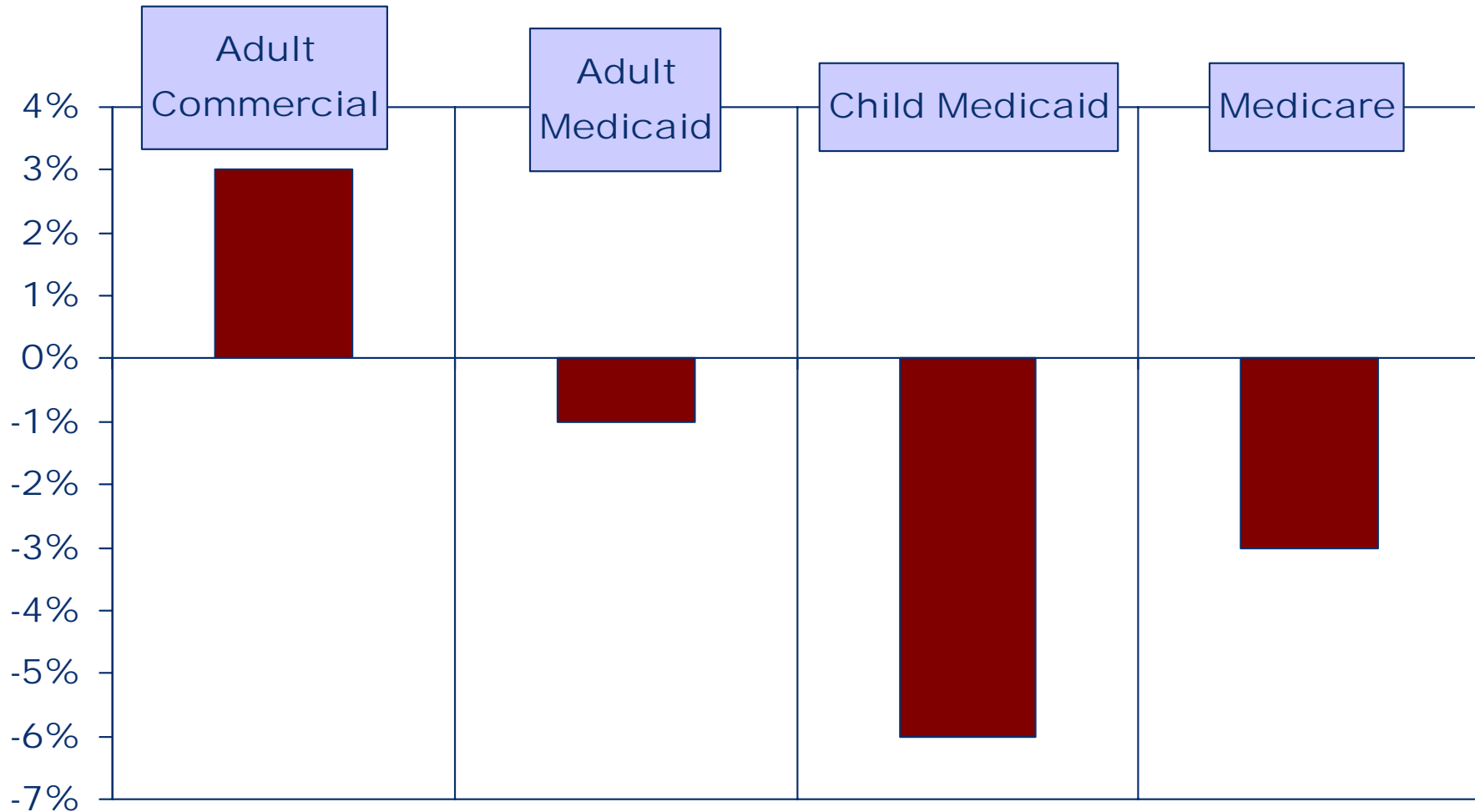
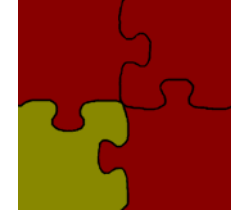
Source: CDC, NCHS, *Summary Health Statistics for U.S. Adults: NHIS, 1997-2006 editions* (Table 32).



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Access to care:

Change in percent of population usually/always getting an appointment as soon as they wanted, 2004 to 2007



Source: AHRQ, CAHPS (2004 & 2007 CAHPS Health Plan Survey Chartbooks).

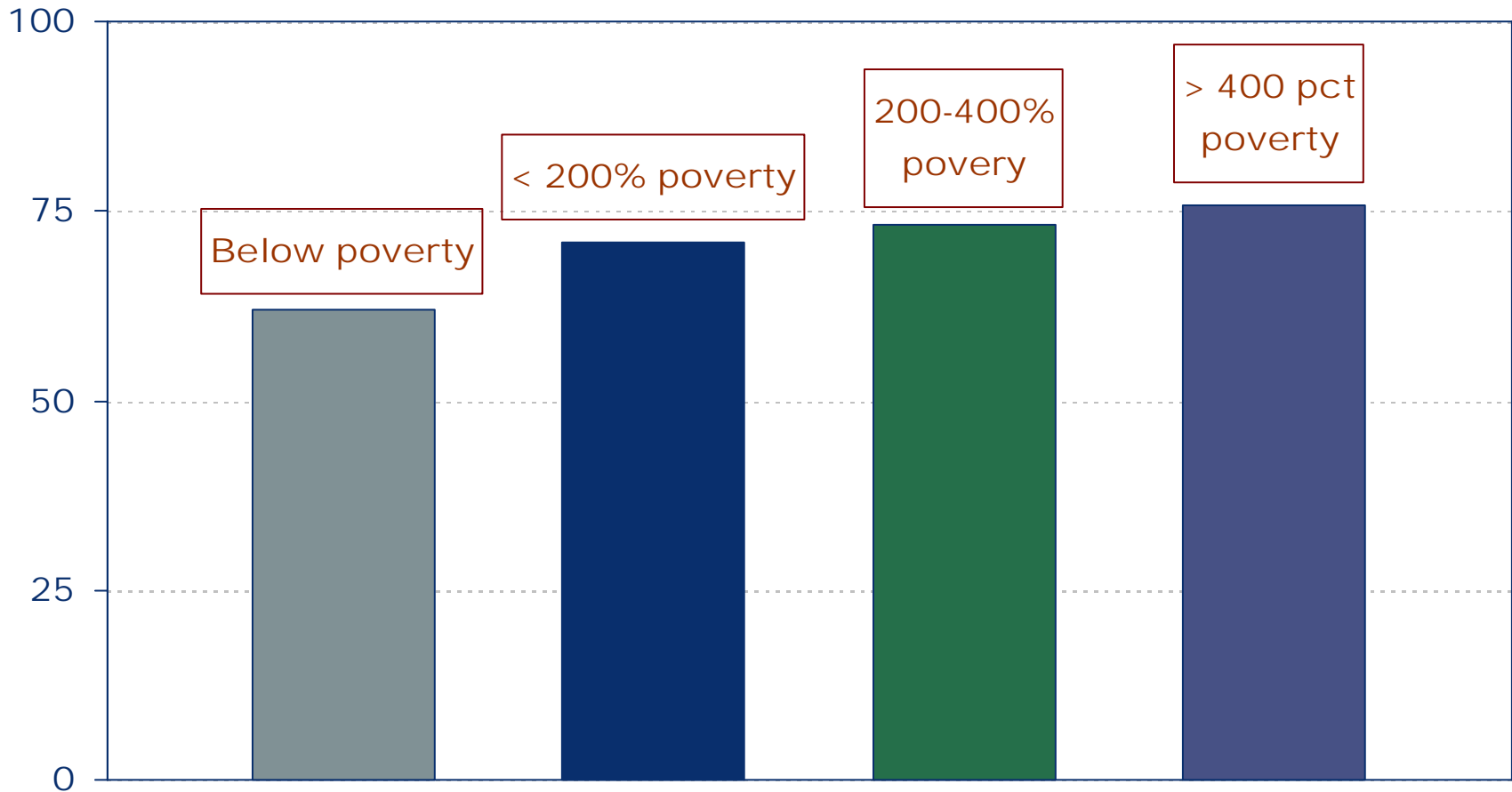
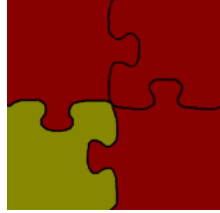


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Access to care:

Percent of adults without problems getting referral to a specialist in the past year, 2004



Source: AHRQ, MEPS (NHDRnet).



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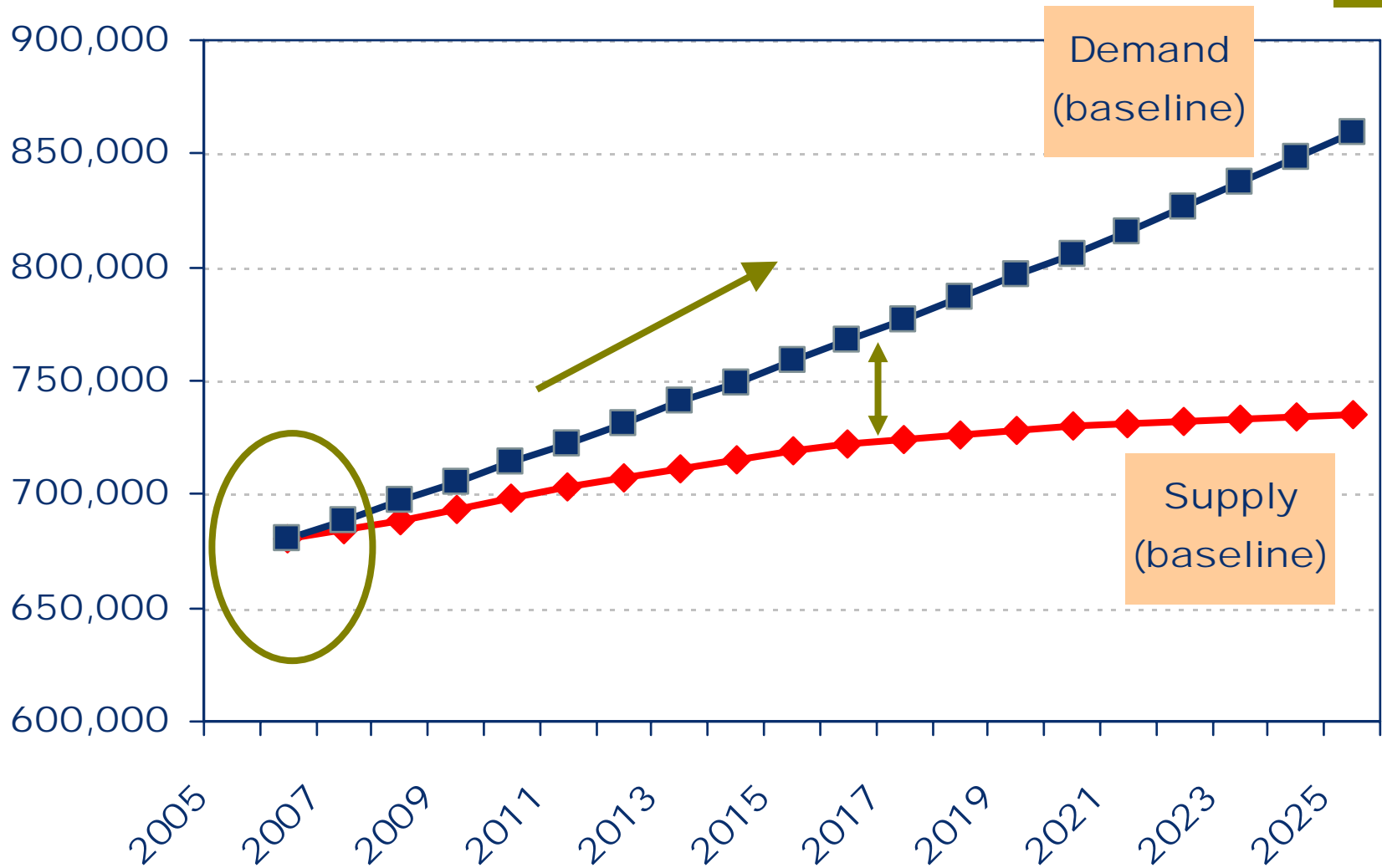


SIGNS

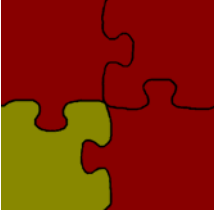
- Motivation
- Conceptualization
- Progress To Date
- **Discussion**
- Next Steps



Baseline Projections



Shortages



No definitive SIGNS

- HPSAs

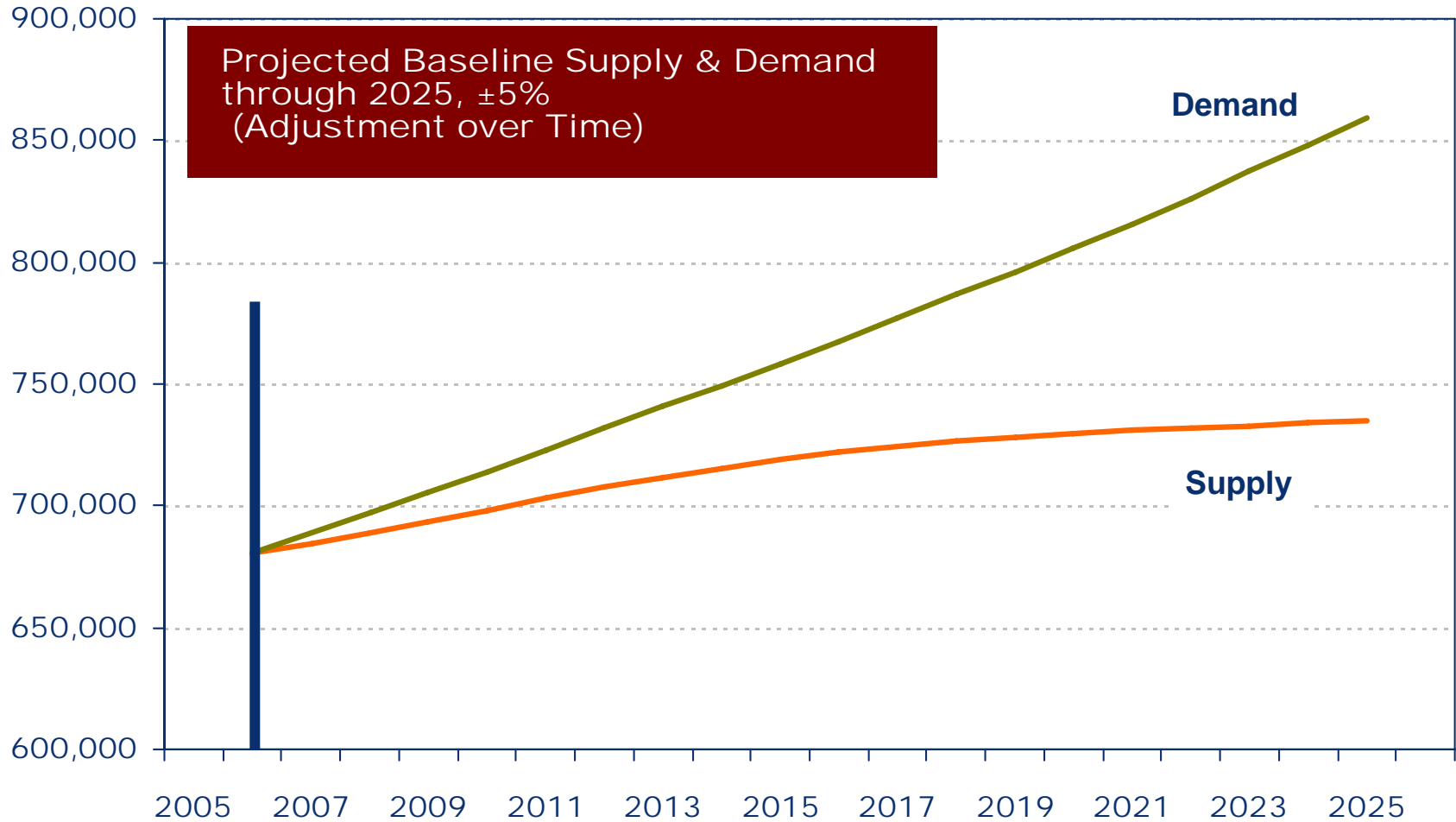
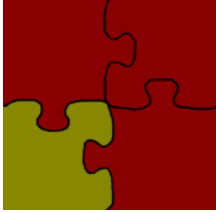
Qualitative evidence indicative

- Delays in getting care
- Diversion to other sources

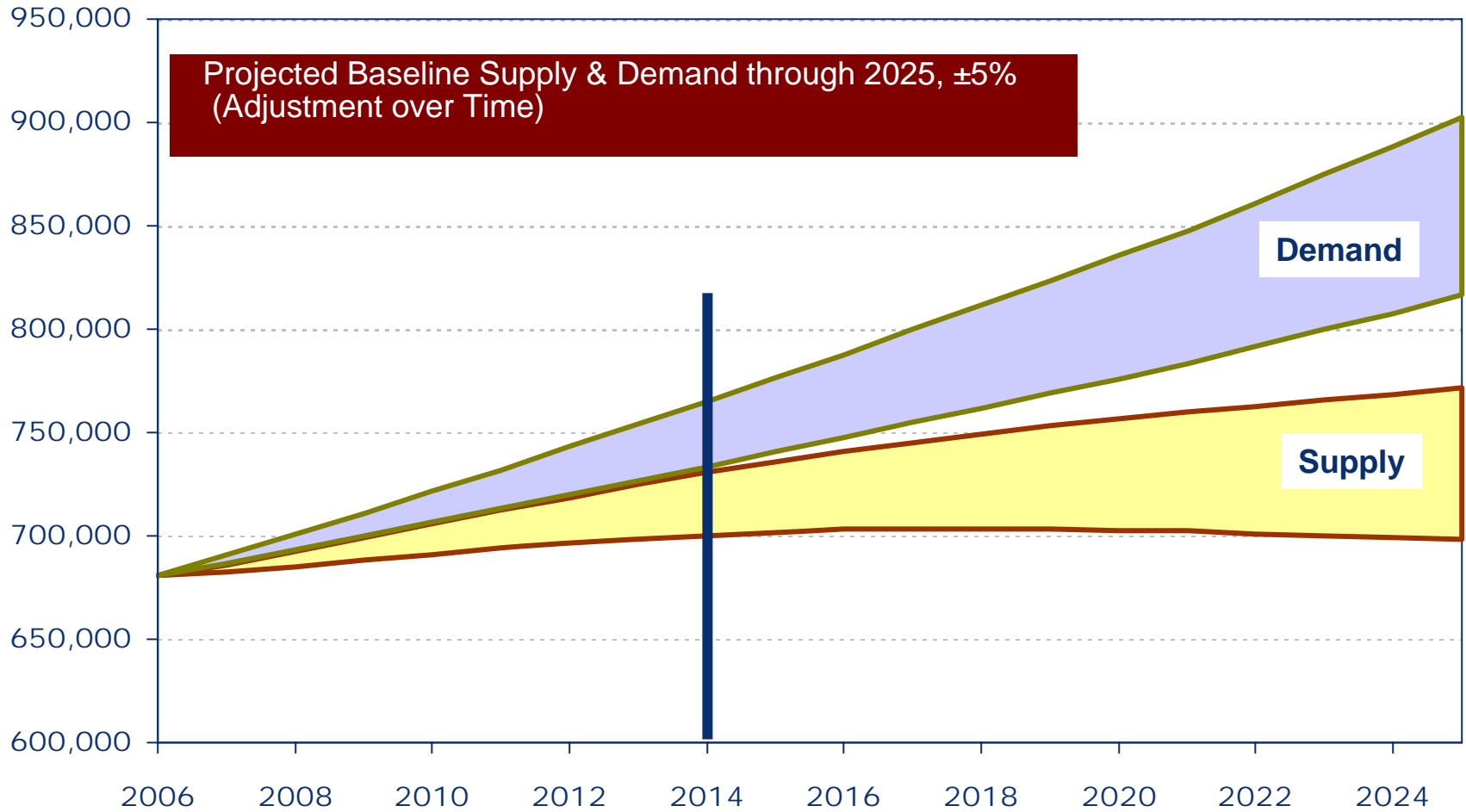
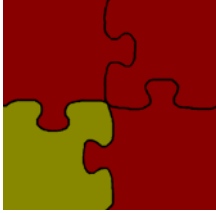
A note on the popular press



System Adaptations

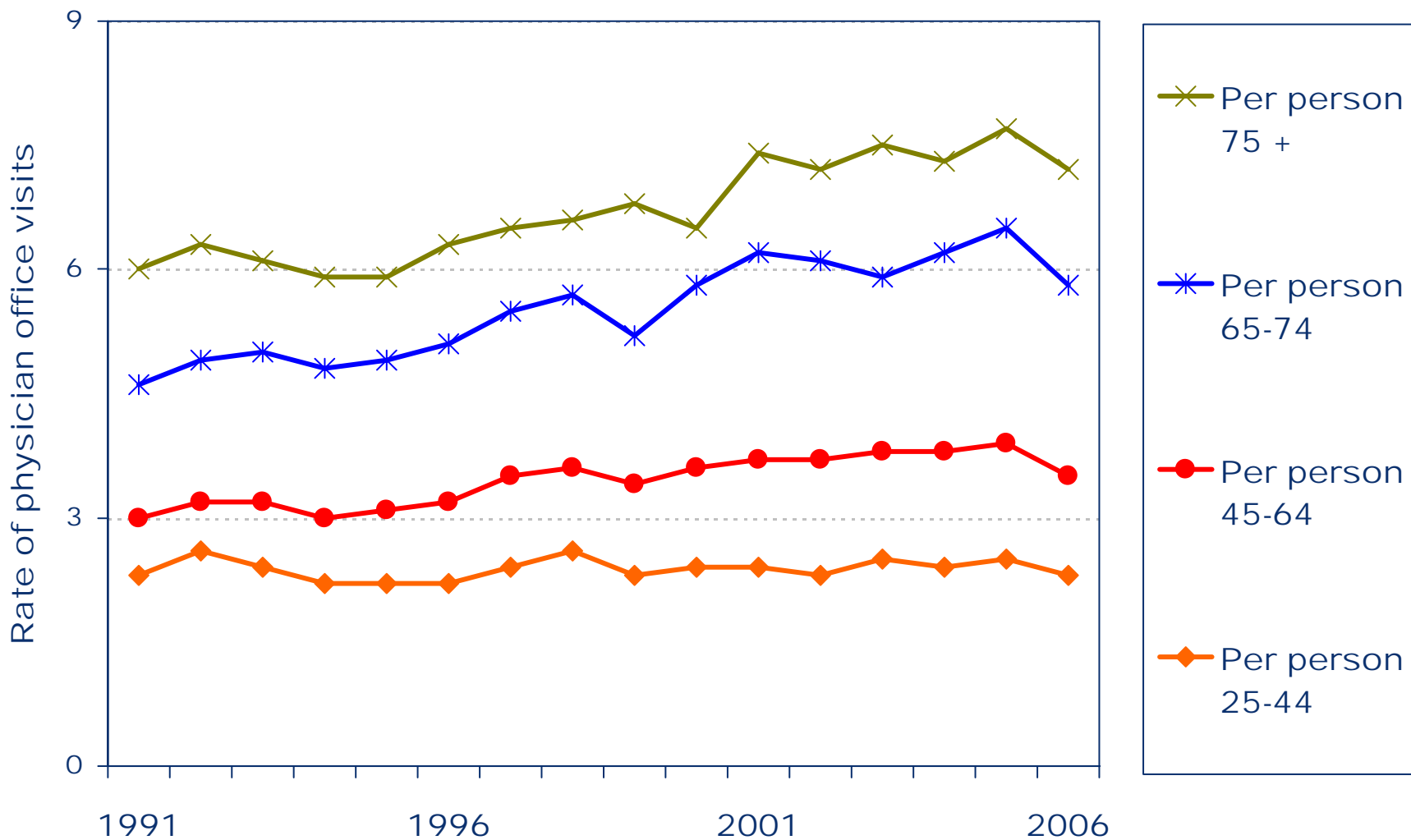
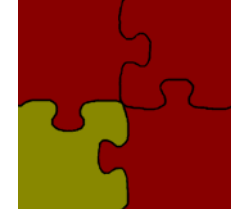


System Adaptations



Utilization:

Physician office visit rates



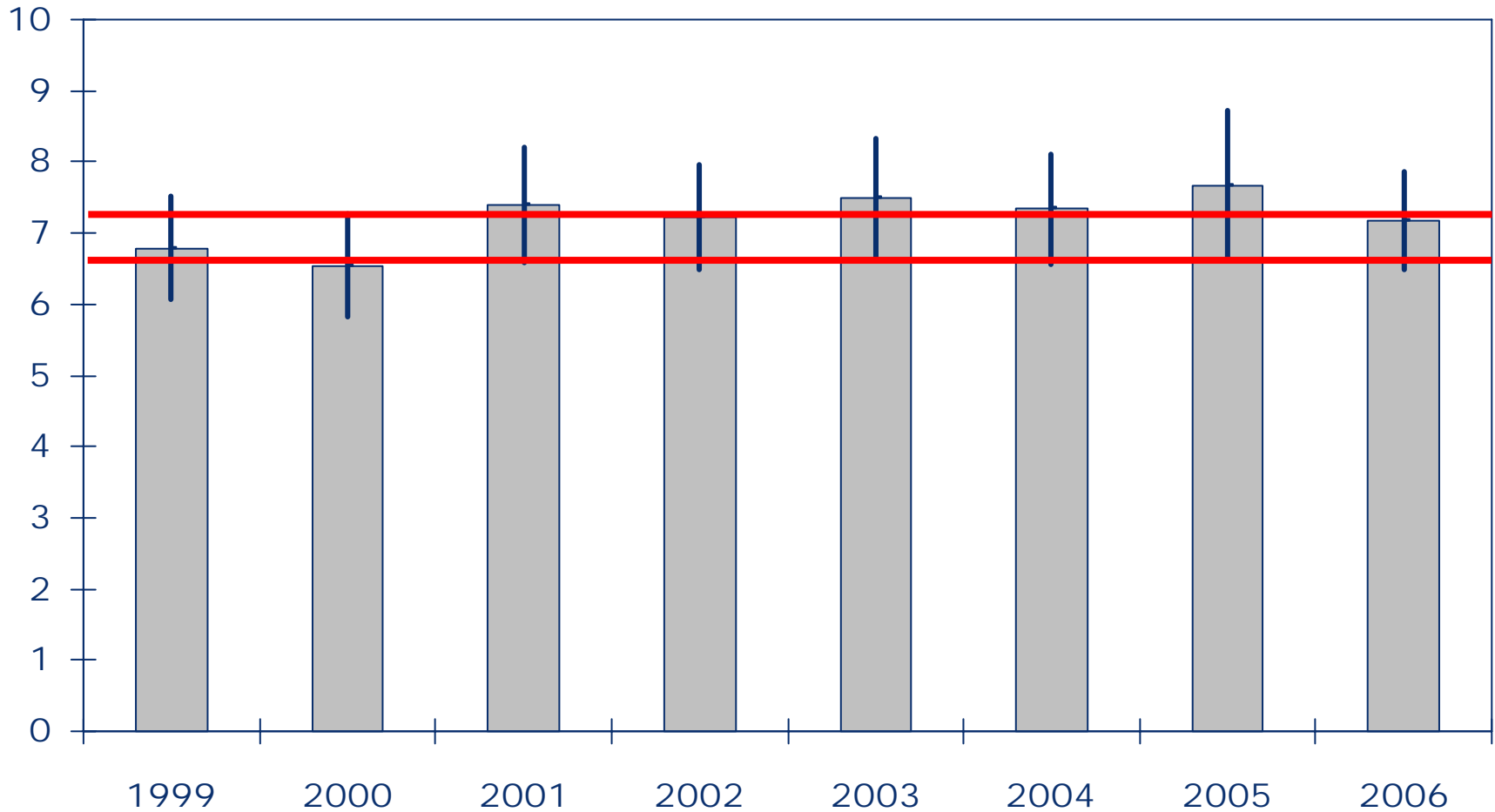
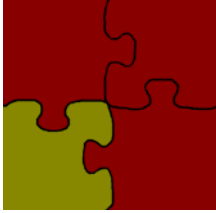
Source: NCHS National Ambulatory Medical Care Survey, Annual Summaries, 1991-2006



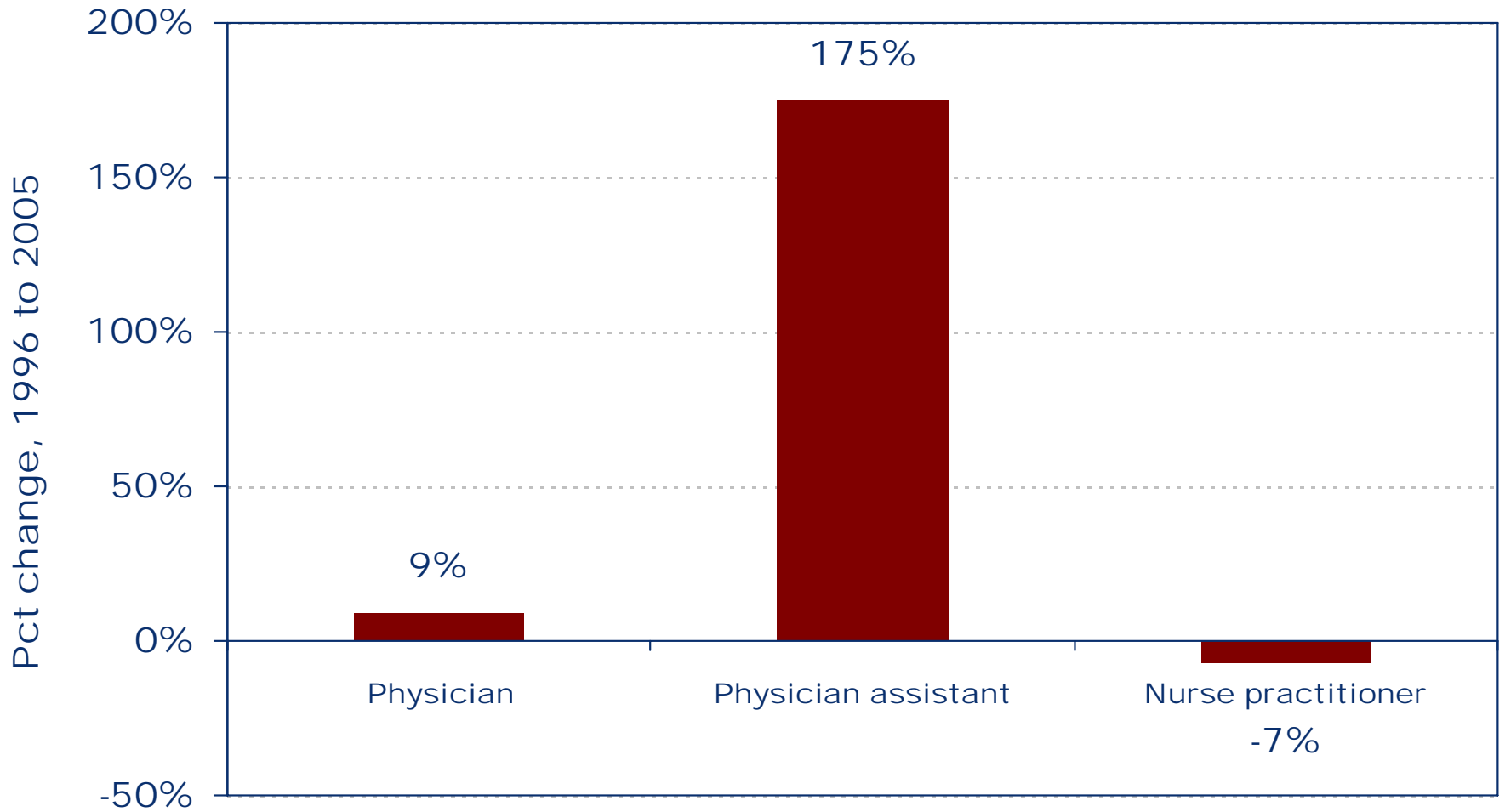
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Physician office visits per person 75+, with confidence intervals



Growth in office-based visits, by provider type



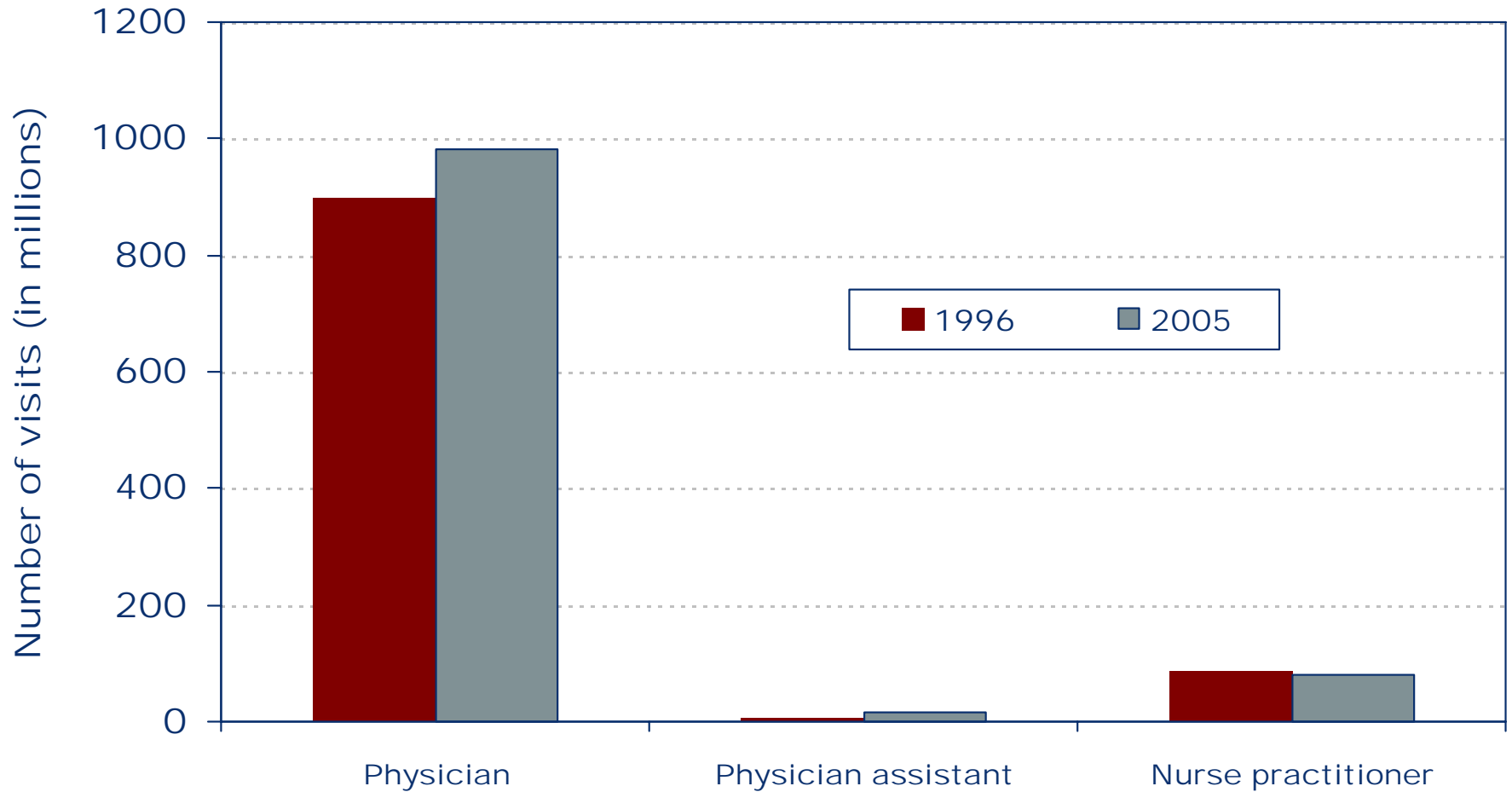
Source: AHRQ, MEPS (MEPSnet).



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Office-based provider visits, by provider type



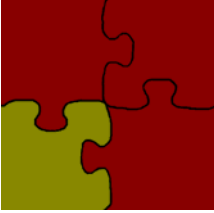
Source: AHRQ, MEPS (MEPSnet).



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Starting Point Data Sources



Utilization

- NAMCS, NHAMCS, NHDS, HCUP
- NSAS, Others

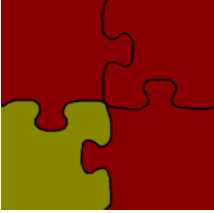
Pop need

- Census, Vital Statistics, NHIS, NHANES, MEPS

Many to go



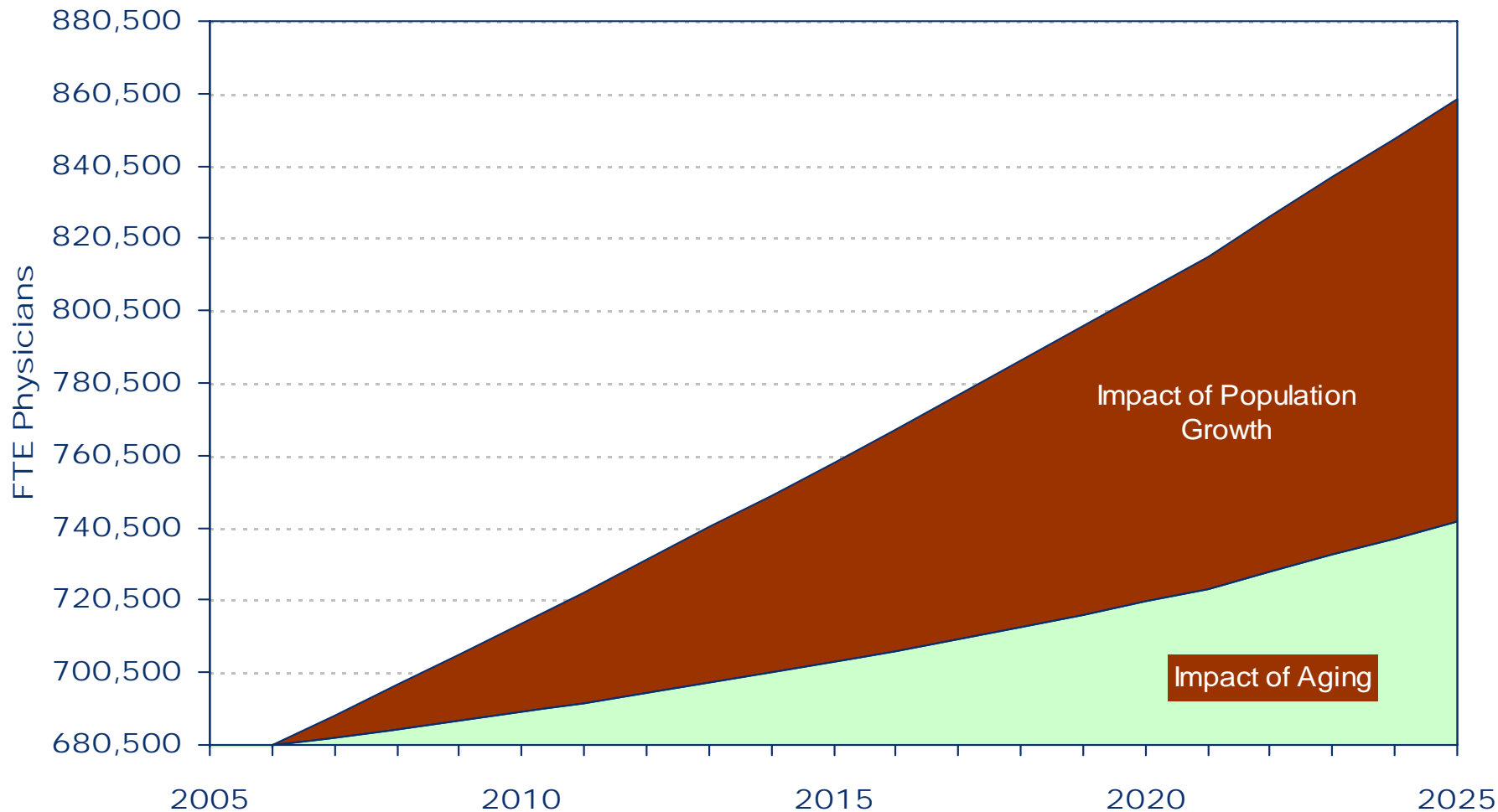
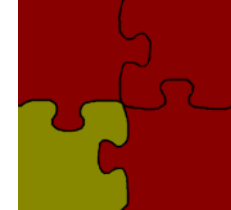
Significant Considerations



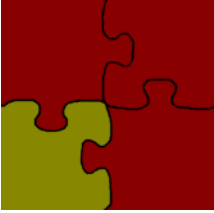
- Population driving demand
- Demand rising, but rates?
- Shortage?
- Complexity is the key
 - Setting, specialty, demography
 - Insurance coverage and access
 - Short term versus long term demand
 - Trends and point estimates
 - Duration of a single training cycle



Impact of Population Growth and Aging on Physician Demand

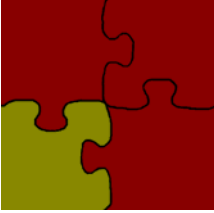


SIGNS



- Motivation
- Conceptualization
- Progress To Date
- Discussion
- Next Steps**





Physician Workforce SIGNS

Michael Dill
mdill@aamc.org



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