

Economic Benefits of Less Restrictive Regulation of APRNs in North Carolina:

An Analysis of Local and Statewide Effects on Business Activity

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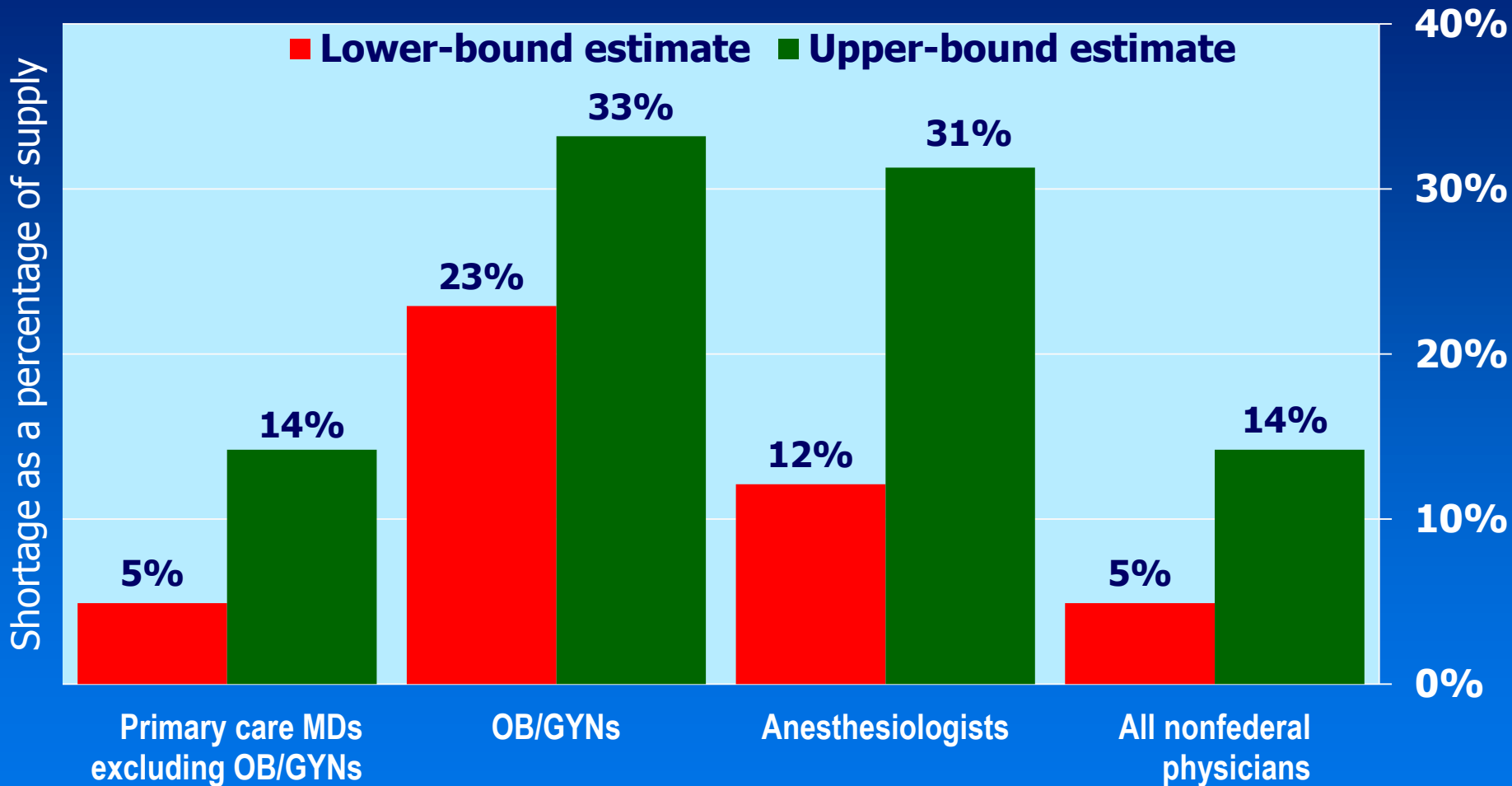
Roadmap

- The policy problem
- Projecting APRN demand and supply in NC
- Economic impact analysis
- Potential impact of APRNs on health expenditures
- Potential impact of APRNs on physician shortages
- Conclusions

Outline

- The policy problem

Estimated Physician Shortages in North Carolina in 2020



Source: Duke University, Center for Health Policy and Inequalities Research

APRNs: A Large Potential Resource

- APRNs have practice outcomes equivalent or better to those of physicians
- APRNs provide care at lower cost
 - Training costs for MDs are 4-7x APRN costs
 - APRN salaries 50-65% lower than MD counterparts
 - Resource savings:
 - Shorter hospital lengths of stay
 - Fewer infant hospitalizations
 - Less use of labor induction/C-sections

Regulatory Barriers to Greater APRN Use

- **NPs.** NC among 21 most restrictive states
 - 22 states allow autonomous practice
 - 8 states allow autonomous Dx but not prescribing
- **CNMs.** NC among 5 most restrictive states
 - 46 states allow practice w/o MD supervisory agreement
 - 21 states allow independent prescribing authority
- **CRNAs.** NC among 11 most restrictive states
 - 17 states opted out of Medicare 4:1 supervision rule
 - 40 give CRNAs prescribing authority
- **CNSs.** NC among 11 most restrictive states
 - 40 give CNSs prescribing authority
 - CNSs allowed independent practice but no title protection

Outline

- The policy problem
- Projecting demand and supply for APRNs in NC

Projecting Demand for APRNs Through 2019

■ 2012 baseline

- Latest available estimates of APRNs by county
- “Pre-ACA” health spending (2009 actual projected to 2012)
- ACA “fully” implemented by 2018-2019 time-frame

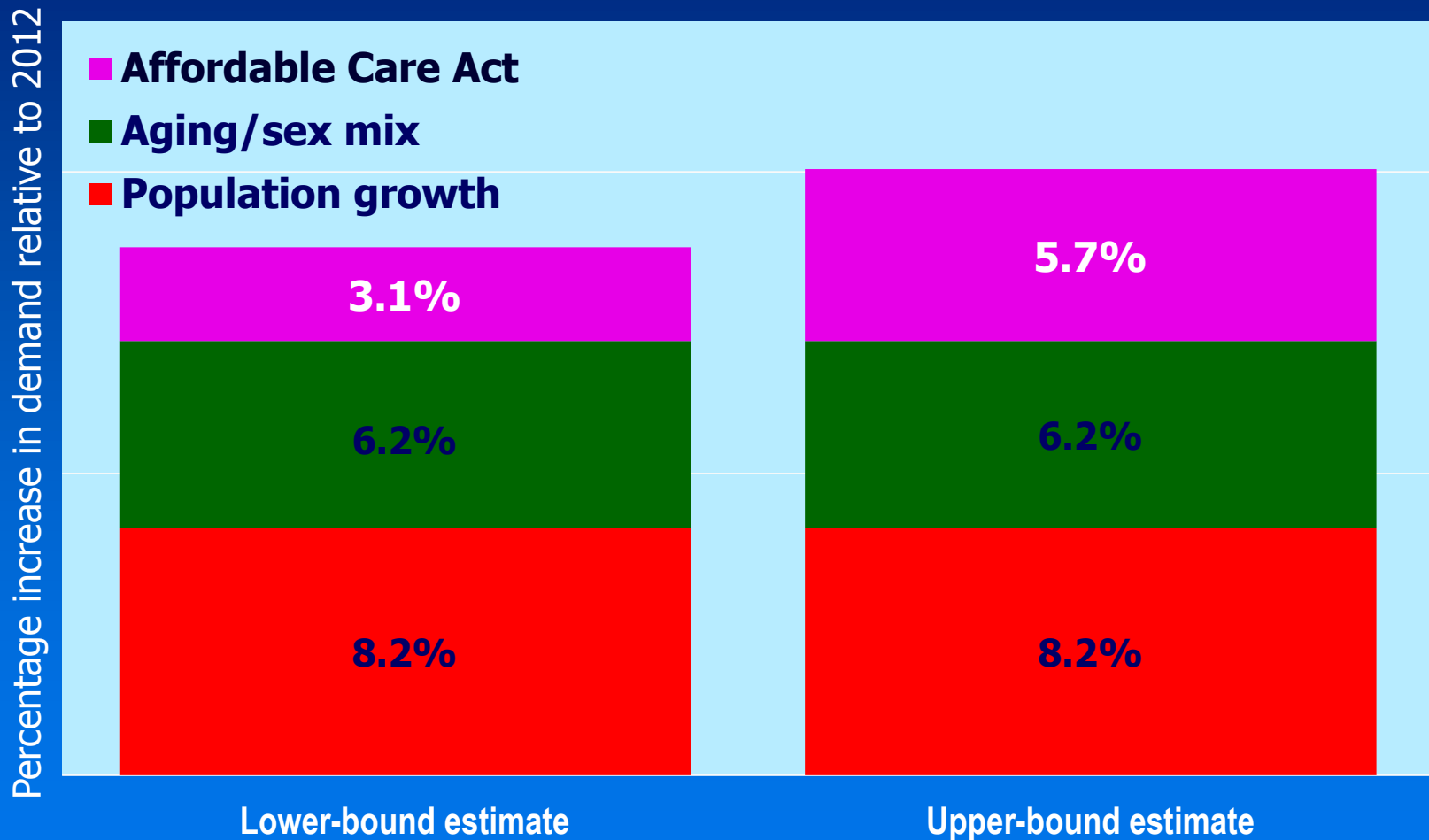
■ Demographic changes

- Population growth
- Change in age/sex mix

■ Changes due to ACA

- Lower bound: no Medicaid expansion
- Upper bound: with Medicaid expansion

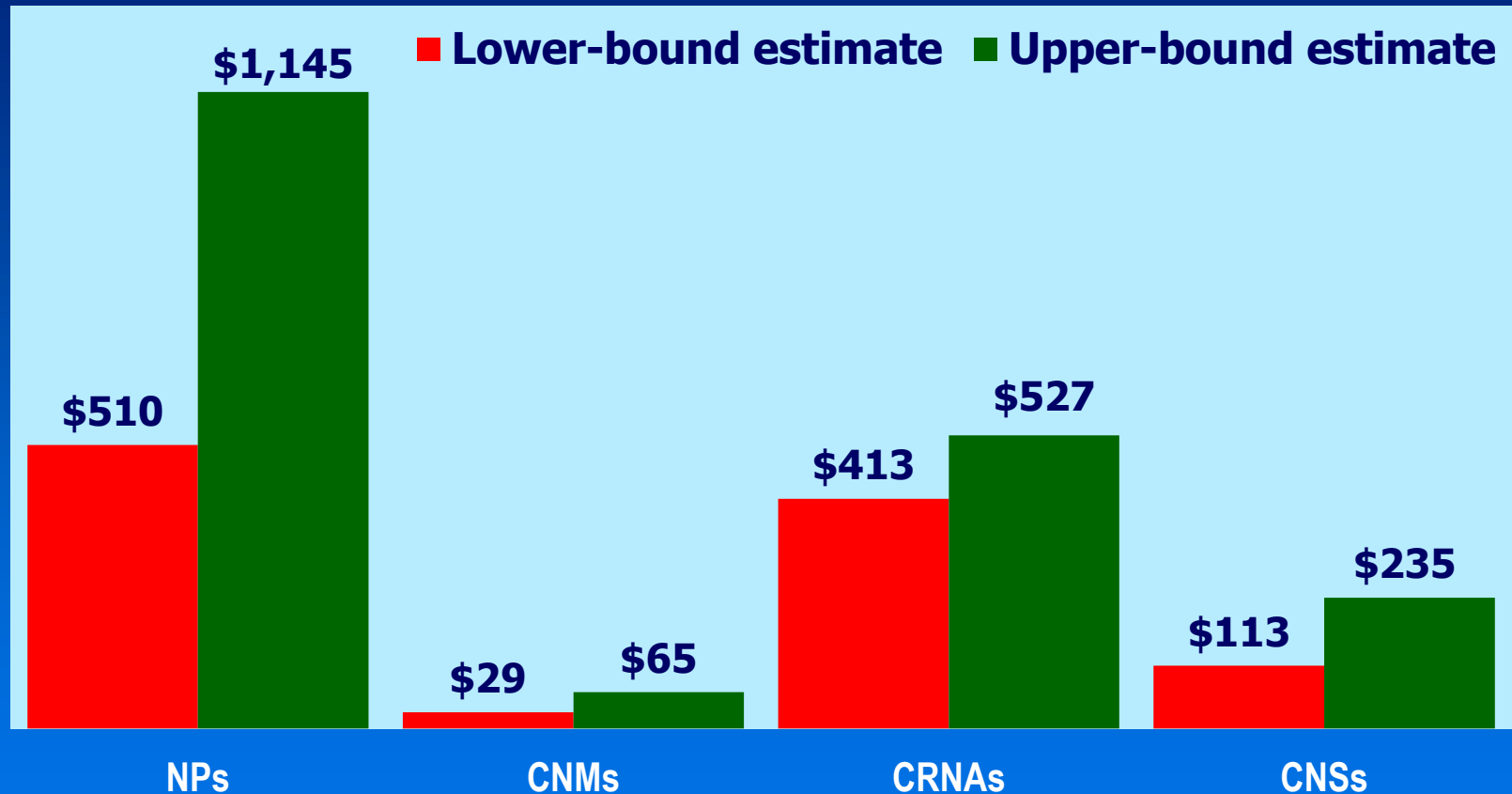
Estimated Change in Demand for APRNs (and other health care) 2012-2019



Projecting Supply of APRNs Through 2019

- 2012 baseline
 - Latest available estimates of APRNs by county
 - 2012-2019 mirrors Reagan/Salsberry APRN supply projections
- Reagan/Salsberry compared states with most NP restrictions (e.g., NC) with states having least restrictions (e.g., AZ, CO, NM, OR, UT, WA)
 - From 2001-2008 NP supply increased 10.91/100,000 more in least restrictive states
 - In NC, this would represent a 24.4% increase in NP supply
- 24.4% increase was used for all 4 categories of APRNs

Estimated Size of APRN Market in NC (millions of 2014 dollars)



Note: lower-bound estimates based solely on APRN total compensation (salaries & benefits). Upper-bound estimates include practice expenses.

Outline

- The policy problem
- Projecting the supply and demand for APRNs in NC
- Economic impact analysis

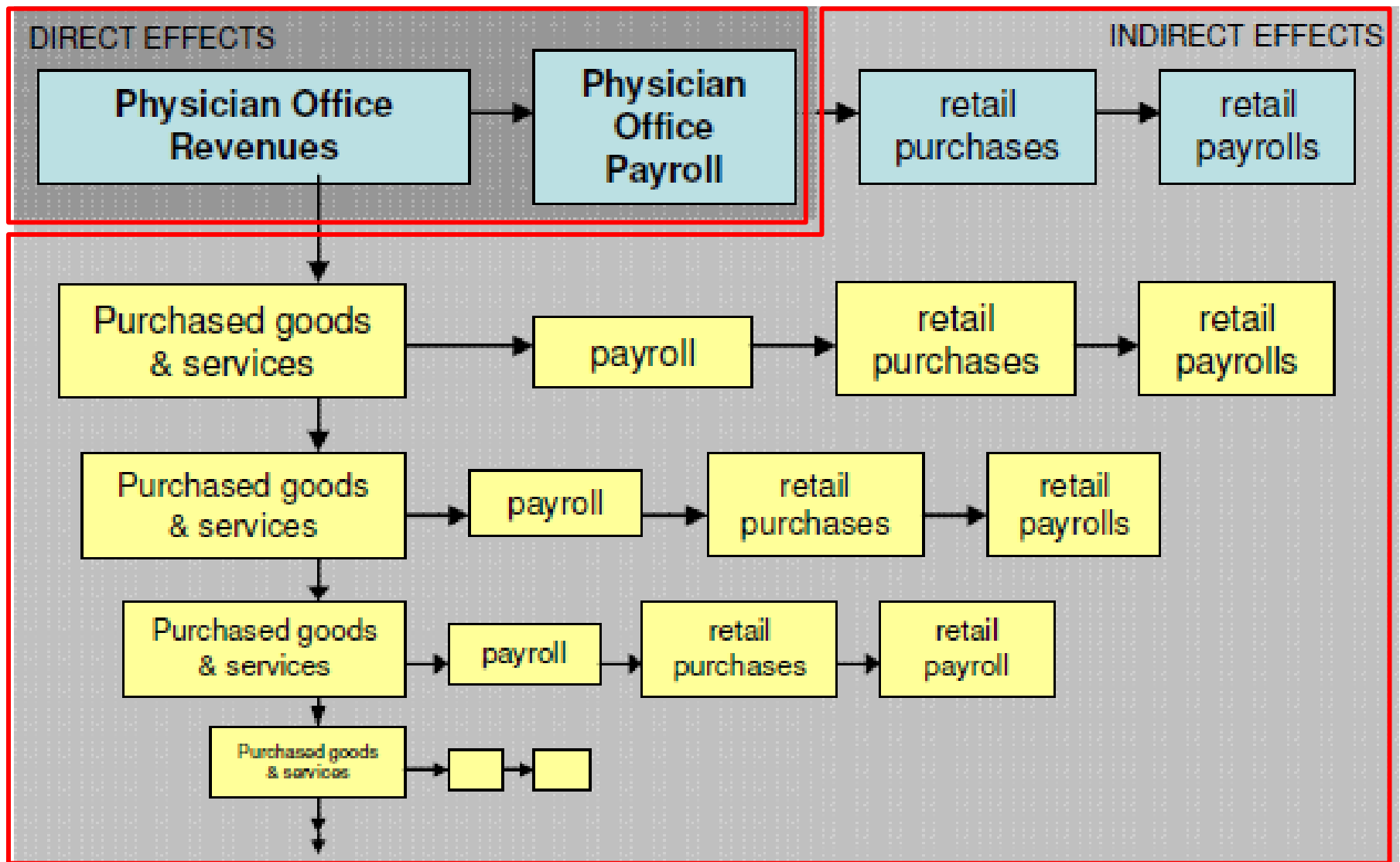
Measuring Economic Activity

- **Output.** Economic value of goods and services provided (in \$)
- **Jobs.** Number of people employed
- **Wages and benefits.** Payroll compensation (in \$)
- **Tax Revenues.** State and local tax revenues

Economic Impact Analysis

- **Direct Effect:** an increase/ decrease in economic output in one part of the economy
- **Indirect Effect:** increase/ decrease in economic output as a result of the direct effect

Economic Impact Analysis



Economic Impact of Less Restrictive APRN Regulation

■ Total Output

- Will increase \$477 to \$883 million
- Each new FTE APRN supports \$273,000 to \$506,000 in added output.

■ Jobs

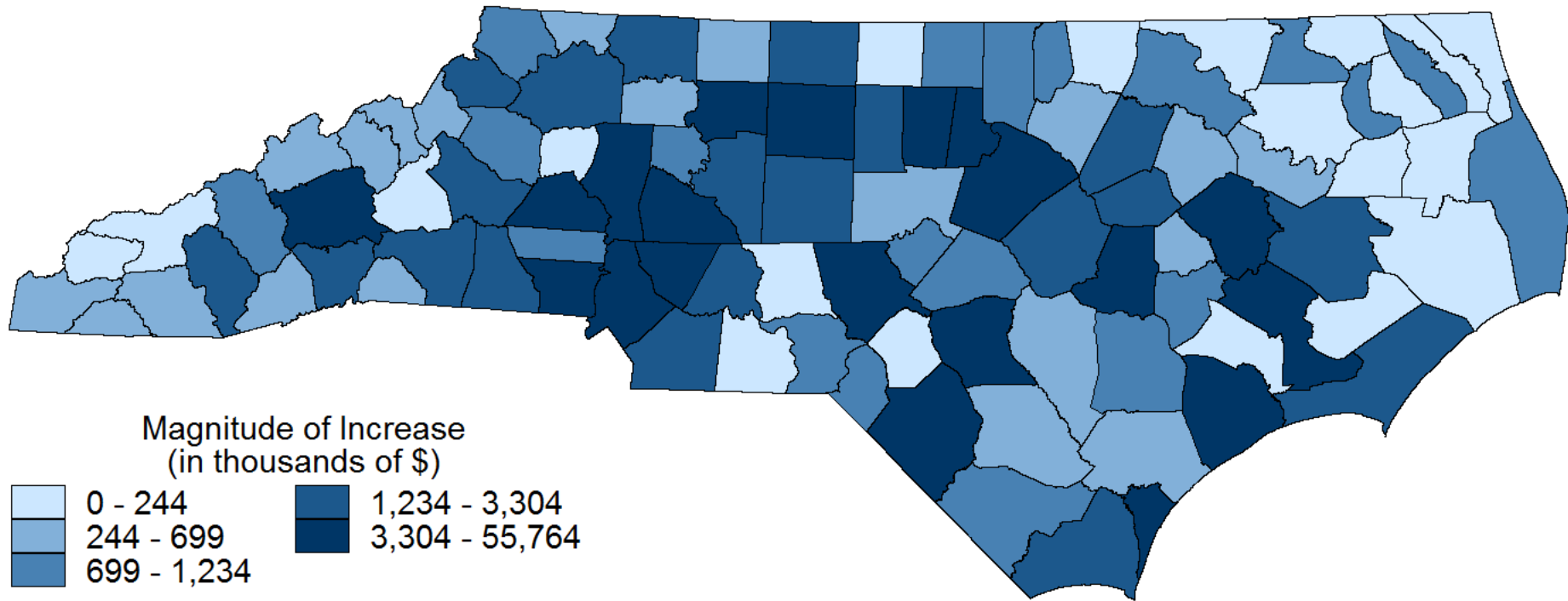
- Will increase 3,848 to 7,128 annually
- Each new FTE APRN supports 2.2-4.0 jobs

■ Wages and Benefits-will increase \$244 to \$452 million annually

■ Tax Revenues- will increase \$20.7 to \$38.3 million annually

Visualizing the Results

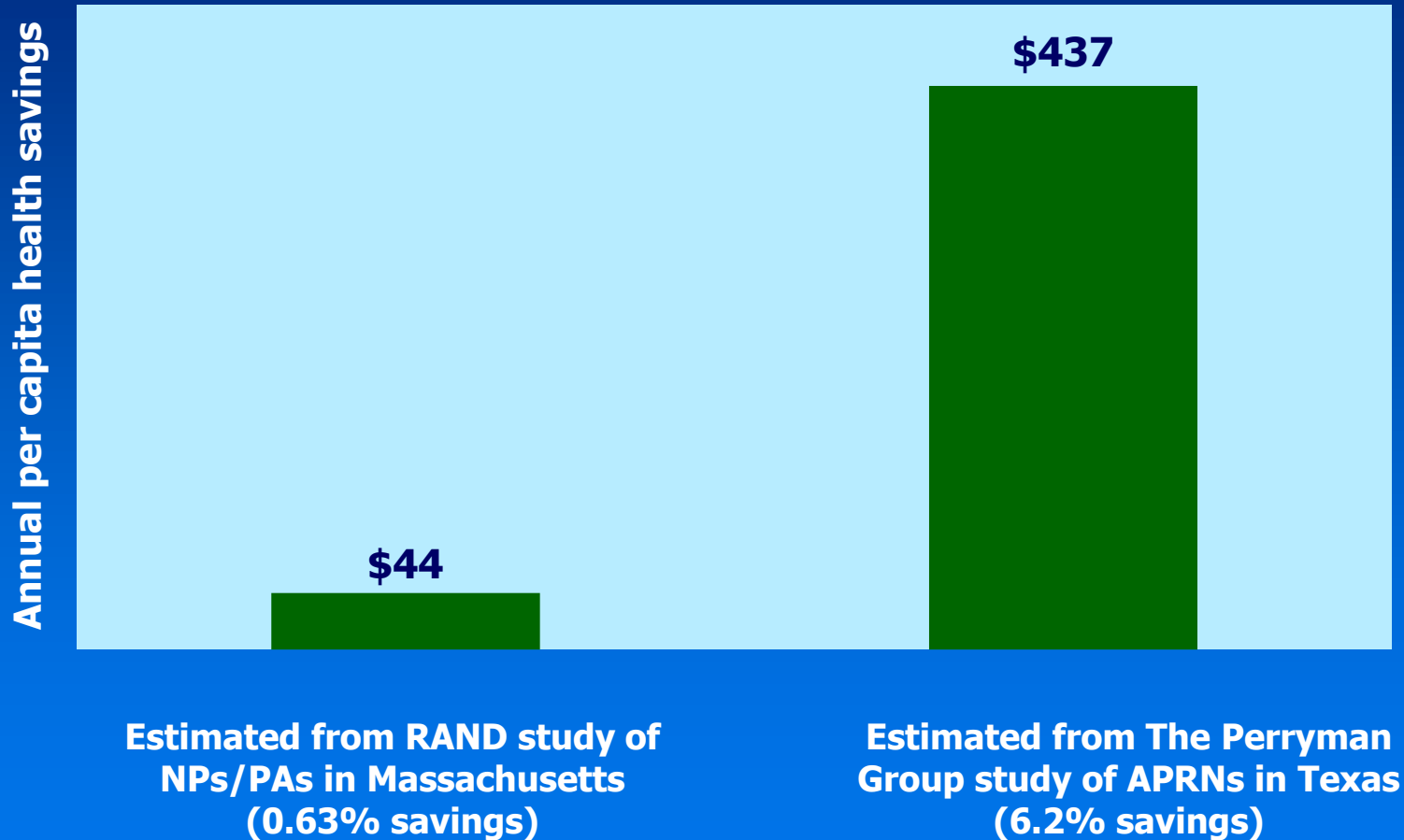
Increased Output (Lower Bound) by County



Outline

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- Potential impact of APRNs on health expenditures

Potential Impact of Less Restrictive APRN Regulation on Health Spending in NC



Support for Lower-Bound Estimates

- Problems with extrapolating RAND savings estimate to NC
 - NP/PA use in MA=1/3 below U.S. average
 - NP use in NC roughly matches U.S. average
 - Potential share of visits that could be handled by NPs has declined slightly (9.2% in 2006 vs. 8.7% in 2010)
- Problems with extrapolating Perryman Group savings estimate to NC
 - Purportedly based on comprehensive review of literature and comprehensive consideration of sources of savings
 - However, computations/assumptions are a black box

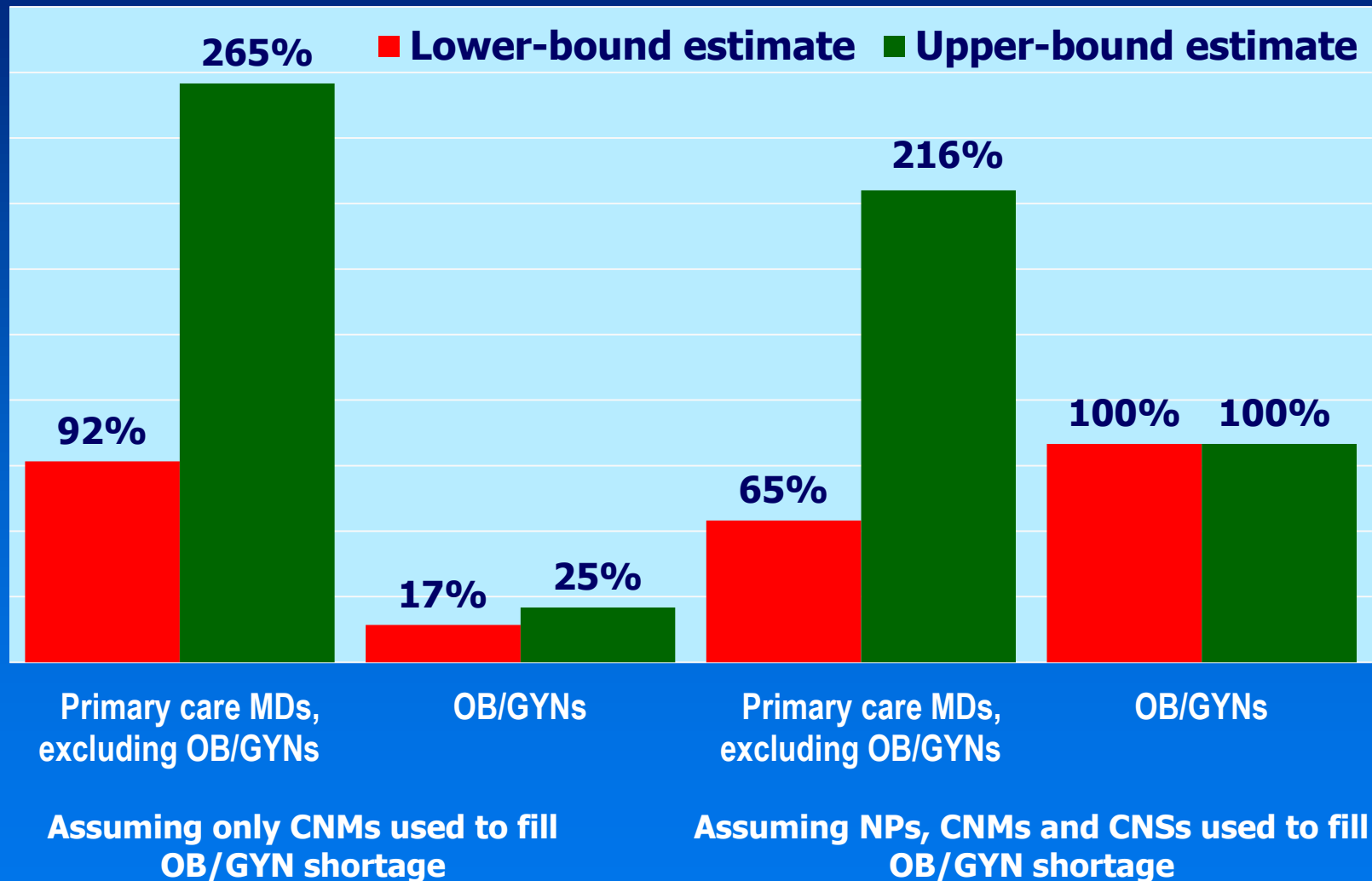
Support for Upper-Bound Estimates

- Why RAND savings may be conservative
 - Based only on NP savings, ignores other categories of APRNs
 - Figures entirely exclude savings from lower resource use, e.g., hospitalizations
 - Based on phased-in savings over 5 years
 - RAND itself calculated an upper-bound figure of 1.25%
 - NC regulations on APRNs are more restrictive than MA's
- Could Perryman Group savings be conservative?
 - Theoretically: yes. Probablistically: no.
 - But no sure way of telling given what has been reported
- Bottom line:
 - Far more likely that savings exceed lower bound than upper bound
 - More likely that savings are closer to 6.2% than 0.63%

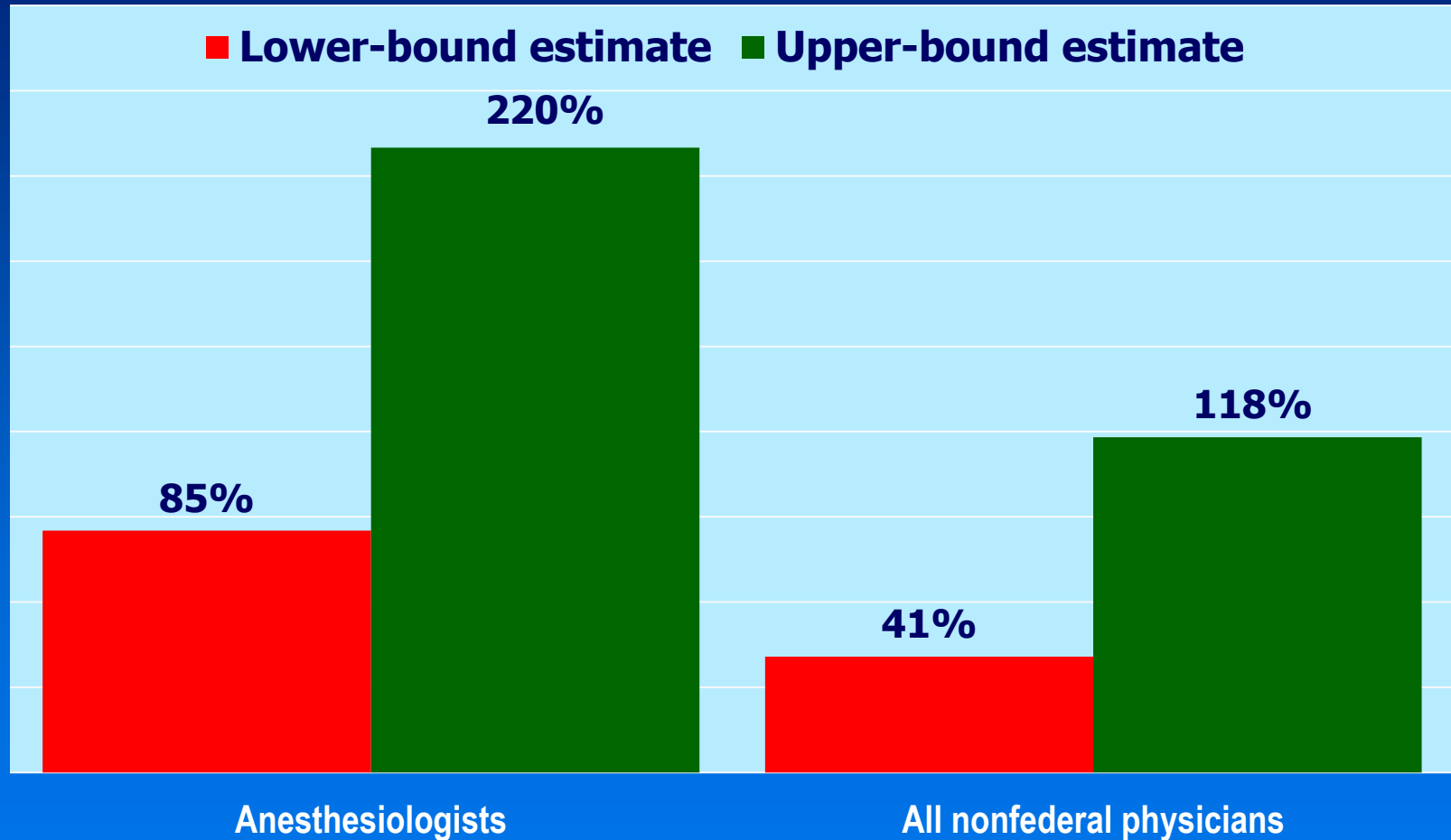
Outline

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- Potential impact of APRNs on physician shortages

Potential Impact of Less Restrictive APRN Regulation on PCP Shortages in NC



Potential Impact of Less Restrictive APRN Regulation on Other MD Shortages in NC



Support for Lower-Bound Estimates

- Evidence that upper-bound physician shortage estimates are too low
 - Non-OB-GYN PCP estimate possibly inflated (based on 8% shortage for all non-federal MDs regardless of specialty)
 - Anesthesiology figures ignore 18.5% current shortage of CRNAs
- Evidence that 24.4% increase in APRN supply is too optimistic
 - The measured increase in Reagan/Salsberry occurred when the supply of NPs relative to population was at a much lower level
 - Absent empirical studies, there is no way to know for certain whether CNMs, CRNAs or CNSs would respond to lighter regulation to same extent as NPs

Support for Upper-Bound Estimates

- Evidence that lower-bound physician shortage estimates are too high
 - Anesthesiologist estimate based on 2010 RAND study but newest RAND estimates show no current shortage in NC
 - Most remaining estimates rely on NCIOM baseline shortage figure of 1% which seems quite conservative
- Evidence that 24.4% increase in APRN supply is too pessimistic
 - In Reagan/Salsberry, actual NP/pop. increase in high regulation states was 40%
 - Cross-sectionally, CNM supply is 3.3x as high in low regulation states compared to high regulation states like NC
- Bottom line:
 - Weight of evidence = impact \geq lower bound
 - Odds that less restrictive regs would generate significant surpluses of any MD specialty appear low

Conclusions

- Right-sizing the regulation of APRNs offers the prospect of:
 - Greatly expanding the number of active APRNs in NC
 - Sharply reducing the size of pending physician shortages
 - Modestly reducing avoidable health expenditures
- An important side-benefit will be:
 - More new jobs
 - More wages/benefits
 - Greater state/local tax revenues
- Rare for policy change to improve access, cost *and* quality simultaneously