Evaluation of a State Hospital Regulatory Strategy Addressing Racial Disparities in use of Cardiac Angiography

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Background

- Diagnostic **cardiac angiography (CA)** precedes common (and profitable) invasive cardiac treatments (e.g., angioplasty, bypass graft surgery)
- NJ and other states strictly limited CA capacity through Certificate of Need (CoN)
  - Volume-outcome relationship
  - Over-utilization/cost concerns
- Racial & ethnic disparities in CA use are well documented
  - Blacks have more risk but lower use
- In 1990s demand by hospitals to offer cardiac services grew, many states re-examined CoN
- 1996 – NJ reformed CoN policy

NJ CoN Policy Reforms

1996	Two-year CA CoN pilot program for low-risk patients - Strict quality regulations (volume & % negative) - Community Outreach/Access Plans - Audited clinical data reporting - Implemented mainly 1997
1998	Disparity reduction criteria for cardiac surgery CoNs Pilot extended
2001	Low-risk program made permanent Low-risk may “graduate” to full service CA facilities Full service CA may “graduate” to cardiac surgery

Research Questions

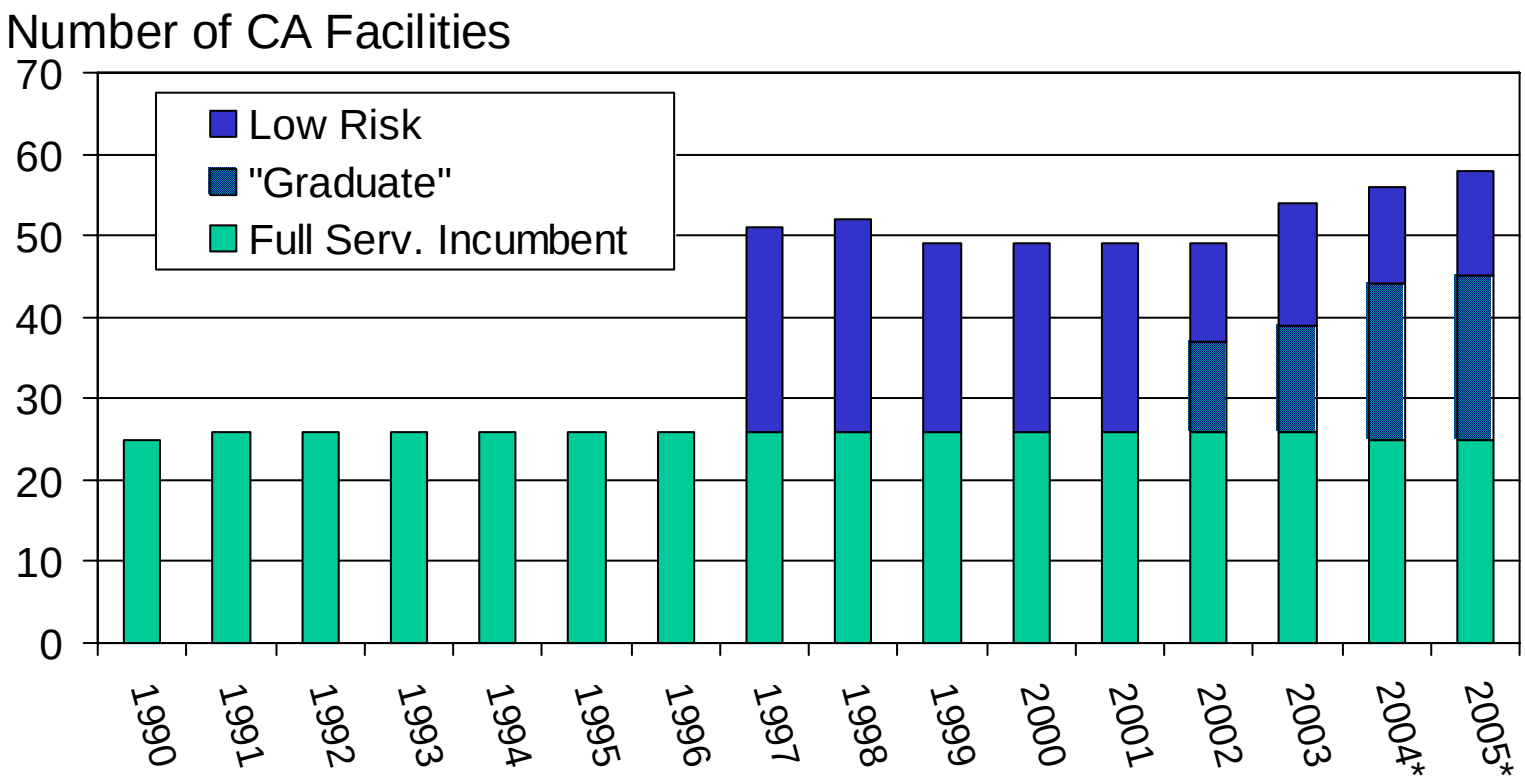
- Did the black-white CA disparity decline after the NJ reforms?
- If so, any clues about causality?
  - Outreach/Access Plans
  - Capacity & Competition

Data

- Hospital data reported to CoN regulators
- Hospital discharge abstract data for NJ, RI, NY and MA
- Stakeholder interviews (just a little, if time)

Findings

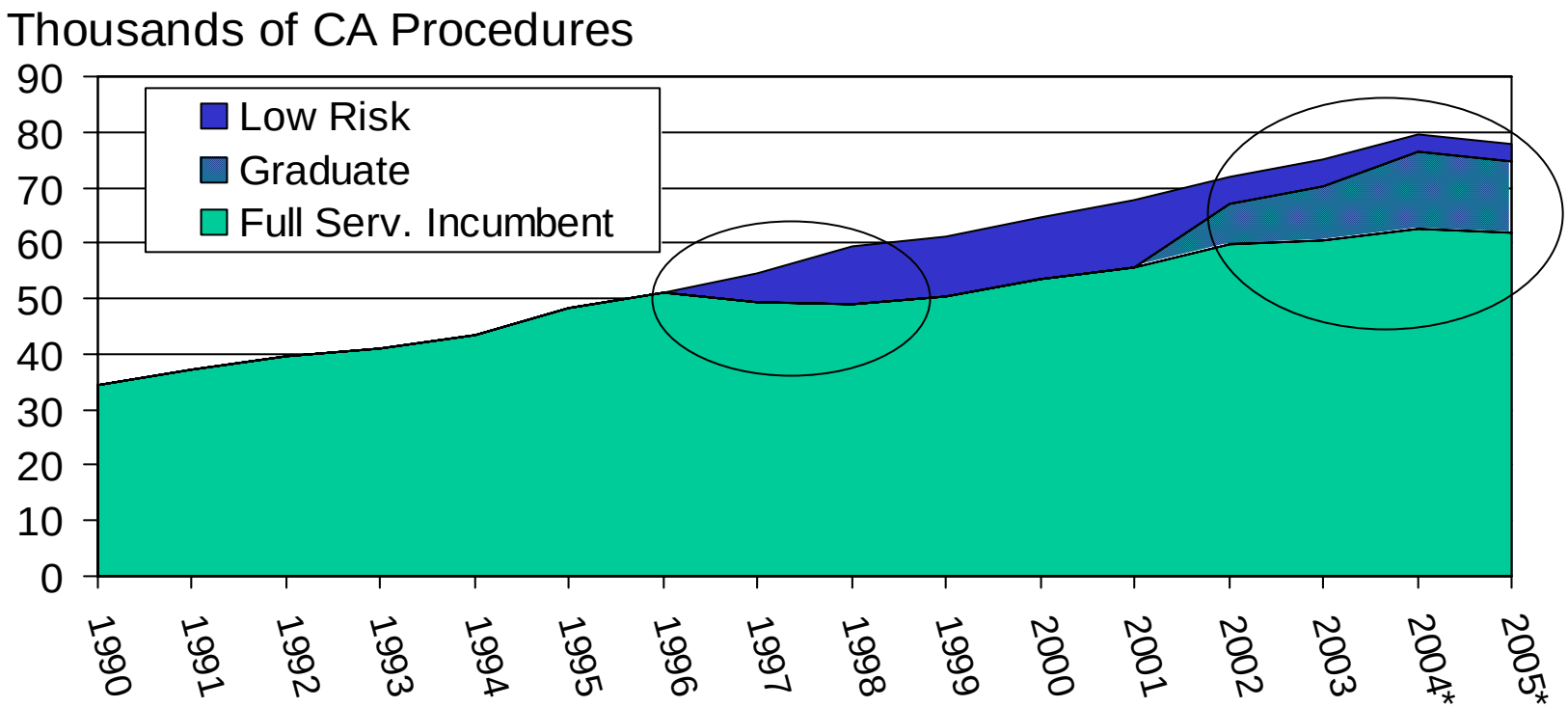
Number of CA facilities doubled & many graduated to full service



Source: NJDHSS Regulatory Reports

*In 2004 one full service center graduated to cardiac surgery, data for this facility not shown

Shift in CA volume by licensure category



Source: NJDHSS Regulatory Reports

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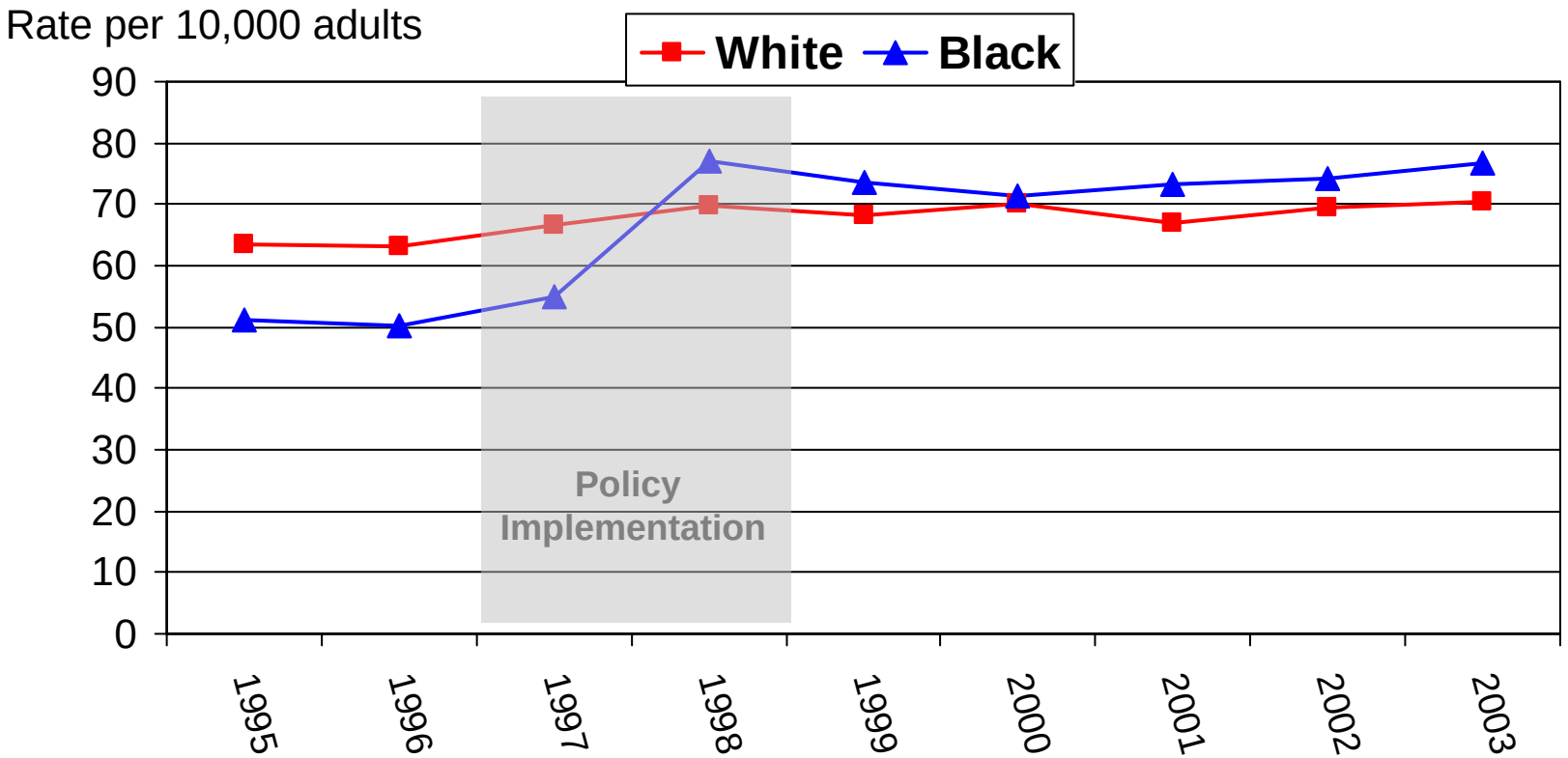
Hospital Characteristics, 1999

	Incumbent CA Facilities	Low Risk CA Facilities	No CA Facility
% African American/ Black in market area	15%	13%	18%
Mean # beds	405	293	174
% with Teaching	37%	5%	0%
# high-tech services (0 to 7)	2.47	0.75	0.33

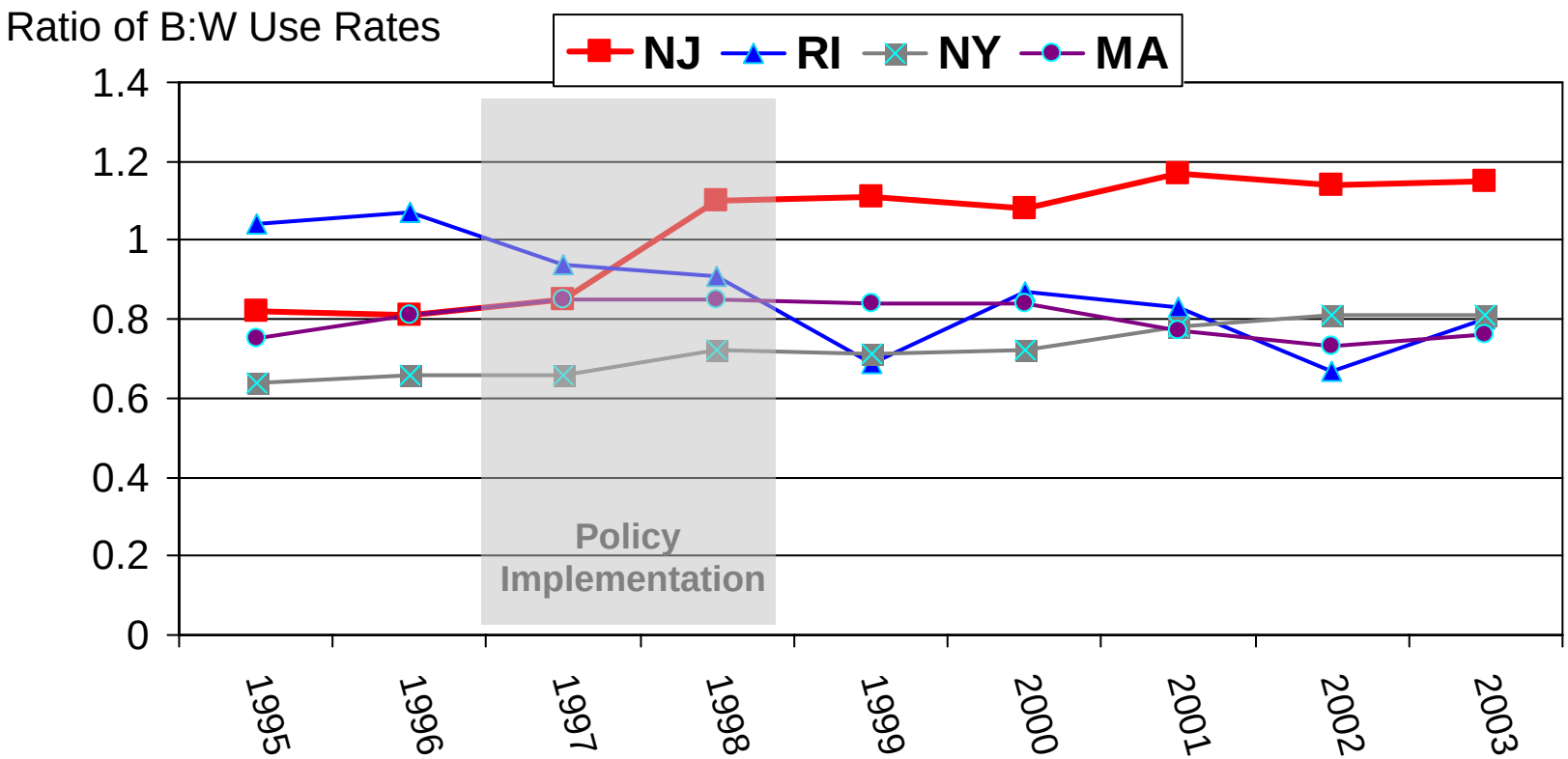
Sources: NJ hospital discharge data and AHA Annual Survey

NJ Age-Sex Adjusted CA Rates, by Race, 1995 to 2003 (limited to inpatient cases)



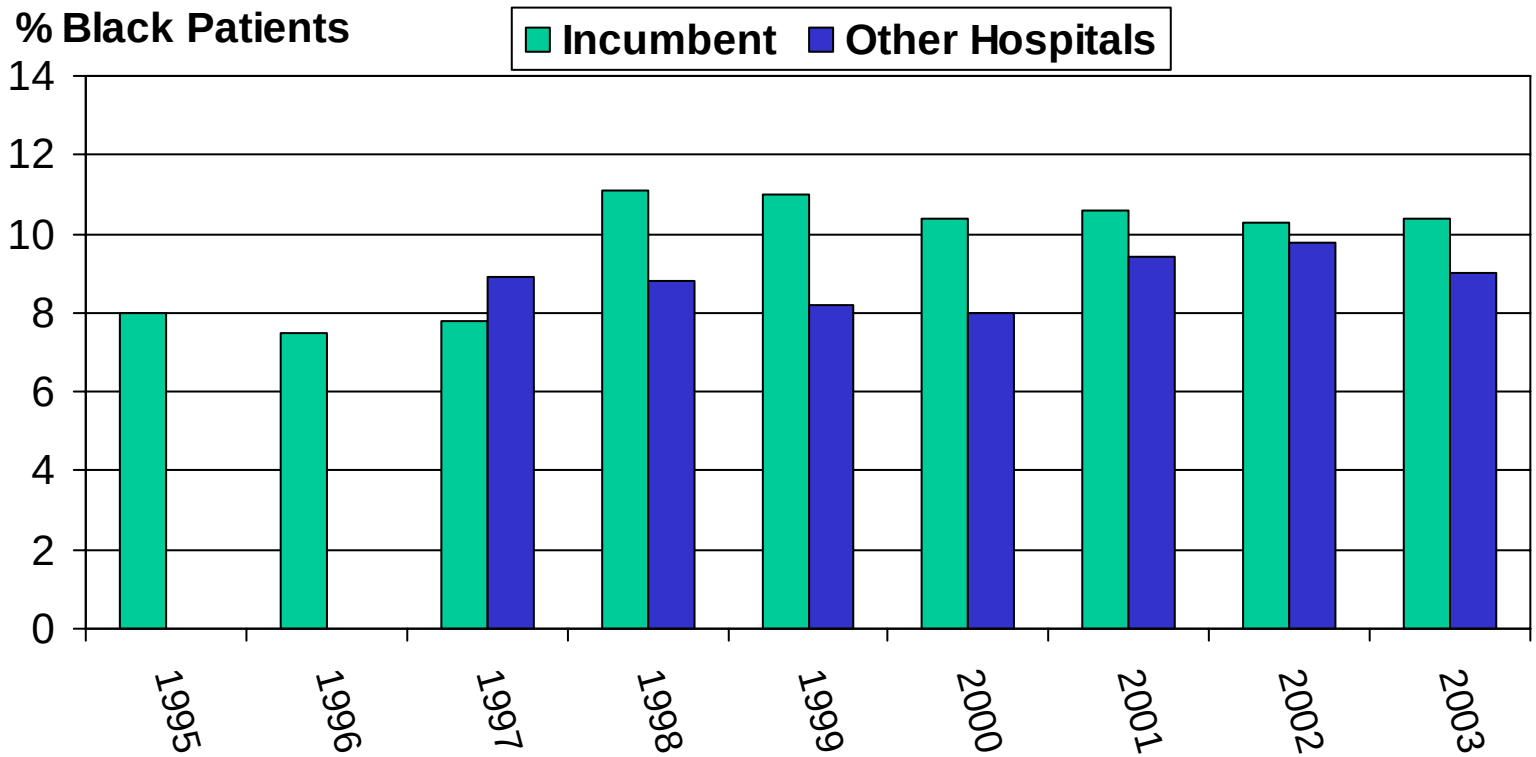
Source: NJDHSS Hospital Discharge Abstract Data (UB-92) and Census Population Data

NJ, RI, NY and MA Black:White Ratio of Age-Sex Adjusted CA Rates, 1995 to 2003 (inpatient)



Sources: Hospital Discharge Abstract Data and Census Population Data

Percentage of Black Patients in NJ by Hospital Licensure Cohort, 1995 to 2003



Source: NJ Hospital Discharge Abstract Data

Discussion

Conclusions

- Large change in capacity after NJ CoN reform
  - Double number of CA locations, but not in high-minority areas
- Use rate among blacks greatly increased, exceed white rate
  - Not evident in other N.E. states
  - “Incumbent” hospitals increased service to black patients, suggesting competition may be important
- Causality?
- Is there a tradeoff between capacity control and minority access?

Additional Analyses Underway

- Further data adjustments (i.e., border crossing, outpatient CA)
- National Hospital Discharge Survey comparison trend
- Analysis of Pennsylvania (full CoN deregulation in ’96)
- Formal Diff in Diff analysis
- Market level tests of capacity & competition hypotheses
- Comparative case studies of selected NJ hospitals
  - Hospitals serving comparatively more black patients vs. others
  - Market & facility characteristics associated with high minority service
  - Best practices