Use of Outpatient Care by Medicare-Eligible Veterans

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Dual Use, Continuity and Duplication of Services in VA & Medicare

- Funded by VA HSR&D, IIR 04-292
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Outline

- Background
- Study Objectives & Contribution
- Classification of primary care across VA and Medicare records
  - Goal: consistent classification of primary care
- Study Results
  - CBOC vs. VAMC
  - VA reliance

Policy Issue

- Veterans using Medicare and VA services increased significantly since mid-1990s
  - Likely to increase significantly in coming years, particularly for disability-eligible vets
- It appears that Medicare-eligible veterans use VA services strategically
  - Major inpatient procedures at non-VA hospitals, but those with prior VA stays went to VA hospitals
  - More preventive services outside VA
- Few prior studies examined choice & amount of outpatient care in a national sample (Petersen, HSR 2010)

Fleming, 1992; Borowsky & Cowper, 1994; Wright, 1997; 1999; Jones, 2000; Ashton, 2003; Shen, 2003; West & Weeks, 2007; Hynes, 2007; Carey 2008; Petersen 2010

Objectives

- Examine difference in use of VA and Medicare outpatient services among primary care patients in 2001-2004
  - Is lower VA use by CBOC patients offset by higher Medicare use?
  - Does VA reliance differ for age-eligible and disability-eligible veterans?
  - How has the distribution of VA reliance changed over time?

Contribution of the Study

- Examination of outpatient care use in VA and Medicare over time using national sample
  - Following cohort enables look at change over time
  - CBOC vs. VAMC patients
  - Disability-eligible vs. age-eligible patients
- Develop algorithm to make VA and Medicare claims comparable
- Apply novel analytic method for examining unusual distribution of VA reliance

Study Design

- Retrospective cohort

- Study period: FY2000 – 2004
  - Patient identification in FY2000
  - Follow-up period: FY2001 – FY2004

- Study sample (Maciejewski BMC HSR ’07)
  - Medicare eligible VA primary care patients from prior CBOC cost evaluation study
  - Random sample of primary care patients from 108 CBOCs and 72 VAMCs (all states but Alaska)

- Medicare & VA claims data

Cohort Selection

	Exclusions	Count
Initial Sample		66,366
Death prior or during FY 2000-2001	4,033	
Not Medicare eligible or Part A or B only	33,360	
Developed ESRD	422	
Enrolled in an HMO	5,506	
No VA primary care in FY00	7,525	
Working cohort		**15,520**
Age eligible		*10,816*
Disabled		4,704

Classification of VA and Medicare Outpatient Data by Care Type

Burgess, et al., Health Economics 2010 (in press)

Matching VA and Medicare Outpatient Services

- Central challenge of identifying primary care in VA and Medicare
  - Data generating process
    - Clinical data vs. billing records
  - Financial incentives
  - Medicare doesn't have stop codes
- Goal: Classify VA and Medicare encounters as primary care or "other" in *consistent* way

Context of Reconciling Patient Data in Two Systems

Incentives & organizational structures differ in two systems

VA providers

- Closed system
- Employed by VA
- Focus on treatment
- ICD-9 coding higher priority than CPT coding
- Physicians code CPTs
- Clinic stops used to define outpatient care types

Medicare providers

- Fee-for-service
- Individual practices
- Focus on billing payors
- CPT coding is priority
- Coders are instrumental
- UB-92 bill used to organize care
- Primary care not explicit

Philosophies of Matching

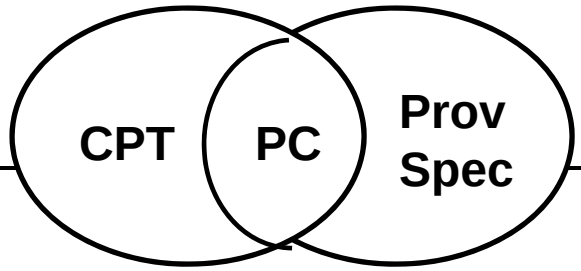
- Try to make VA look like Medicare
  - Use CPTs and match as if VA data are billing data
- Try to make Medicare look like VA
  - Classify Medicare work into “Clinic Stops”
- *Create a hybrid and transform both*
  - Pick and choose from data advantages and disadvantages in each sector

Hybrid Approach

- Classify VA and Medicare outpatient encounters into "Visit Type" using variables common to both systems
  - Primary Care, Mental Health, Diagnostic, Specialty

- Combination of provider specialty and procedure (CPT-4) codes

- Goal: Identify primary care with face validity and consistency



Provider Specialty Types

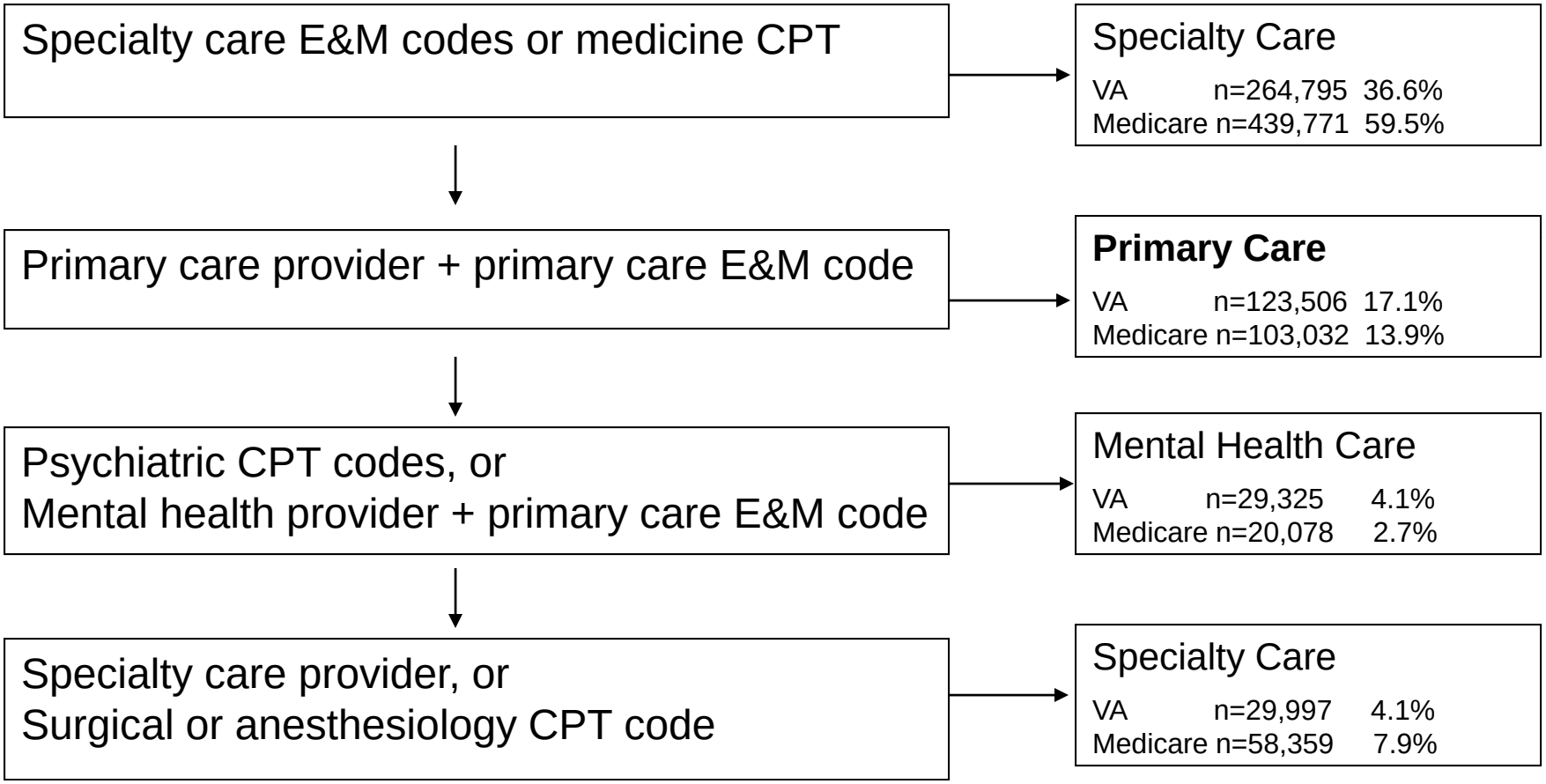
- Primary care:
  - Physicians: family practice; internal medicine; sports medicine/family practice
  - Nurse practitioners: family practice; primary care; women's health
- Specialty care
- Mental health
- Diagnostic care

Classification of CPT Codes

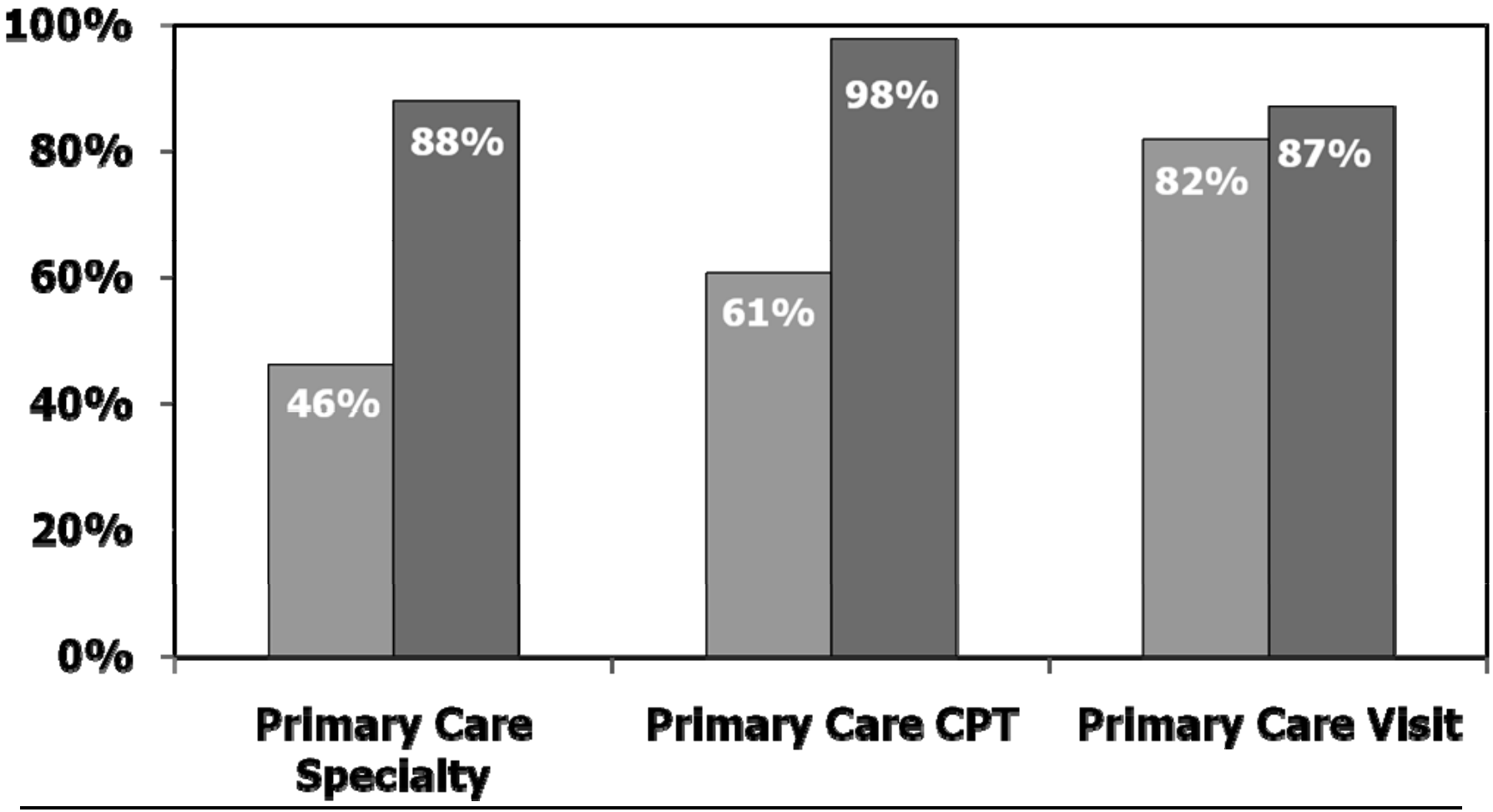
General Category	CPT code range
Anesthesia	00001 to 09999
	99100 to 99150 *
Evaluation / Management (E&M)	99201 to 99499
Medicine	90281 to 99602 *
Pathology/Laboratory	80000 to 89999
Psychiatry	90800 to 90900 *
Radiology	70000 to 79999
Surgery	10000 to 69999

* Some codes classified into other categories

Classification Algorithm



Positive and Negative Predictive Value of ProvSpecialty & CPT compared to Stopcode



Is Lower VA Use by CBOC Patients offset by Higher Medicare Use?

Liu, et al. Health Services Research in press

CBOCs and Prior Work

- Compared CBOC & VAMC patients in 2000-2004

- CBOC patients had…
  - Primary care: More visits, similar costs
  - Specialty, mental health, ancillary OP: Lower odds of use, fewer visits & lower costs among users
  - Inpatient: Lower odds of use, lower costs among users
  - *Lower total outpatient and total costs*

Chapko et al., Borowsky et al., Hedeen et al., Maciejewski et al., and Fortney et al., Medical Care 2002; Maciejewski et al., BMC HSR 2007; Liu MCRR 2007

Unanswered Question in Prior Work

- Only examined VA experience
  - Are lower outpatient use and lower total (OP+IP) expenditures offset by higher non-VA use?
- Story may change if Medicare use doesn't parallel VA use
  - Veterans' comorbidity burden under-estimated if Medicare diagnoses excluded

Variable Definitions

- VAMC/CBOC primary care user defined based on the majority of primary care visits in each year

- Primary care user status in each year
  - Dual users
  - VA-only
  - Medicare only
  - Non-user

- Outcome: VA, Medicare and total visits in 2001-2004

Data Analysis

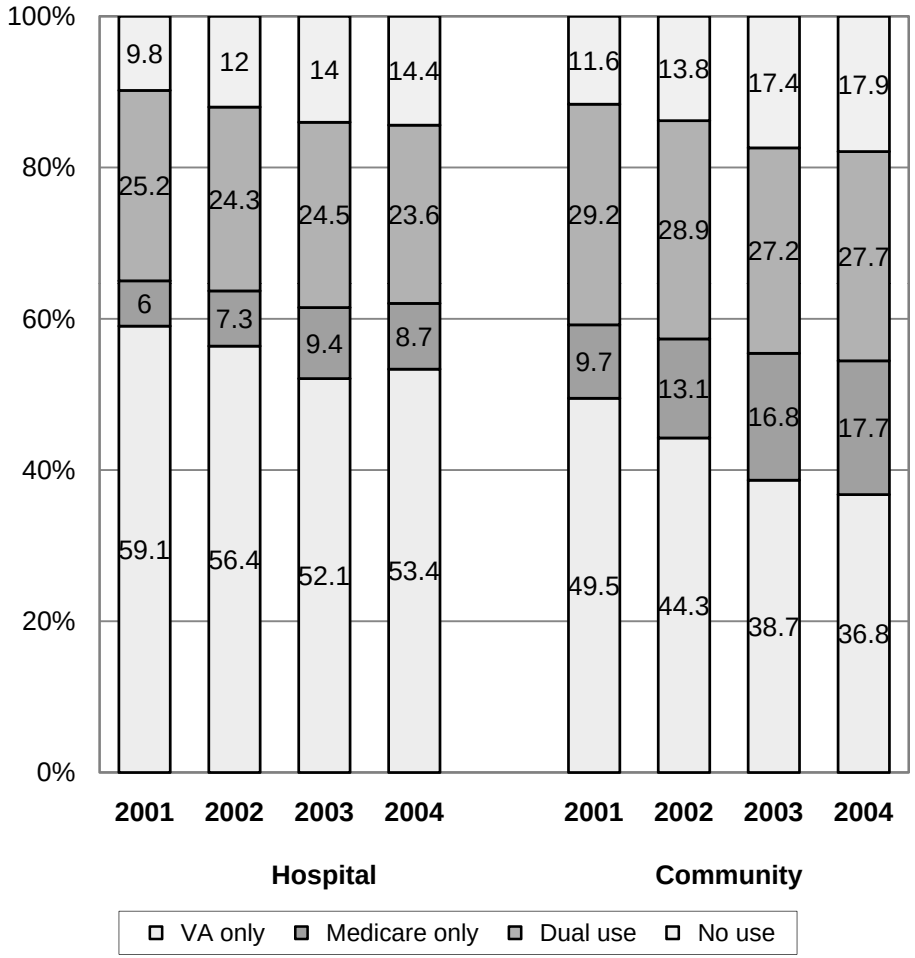
- Generalized estimating equation (GEE)
  - Negative binomial distribution
  - Log link
  - Exchangeable correlation
- Adjusted for sampling weights from the original CBOC study
- Adjusted for covariates

Patient Characteristics

Baseline Characteristic (2000)	CBOC (n=8301)	VAMC (n=6452)
Age (mean/SD)**	70.5 (9.1)	69.6 (9.9)
Age < 45 (%)**	1.7	2.5
Age 45-54 (%)**	5.8	8.1
Age 55-64 (%)**	7.7	8.9
Age 65+ (%)**	84.8	80.5
Female (%)	2.5	2.8
Race - White (%)**	91.4	84.4
Married (%)**	69.8	62.5
Percent Service Connected Disability (mean/SD)**	14.2 (27.1)	17.4 (30.5)
Medicaid Enrollee (%)**	4.6	5.8
Free care - disability (%)**	33.4	37.1
- low income (%)**	43.9	46.3
Distance to VA (mi) (mean/SD)	16.5 (18.2)	16.6 (17.2)
DCG FY00 (from VA and Medicare Dx) (mean/SD)	0.92 (0.67)	0.92 (0.67)
Per Capita Income in Zip Code (mean/SD)**	19763 (6117)	20263 (8877)
% High School Graduates in Zip Code**	80.0 (10.1)	79.2 (11.3)
Population per SQ. Mile in FIPS (mean/SD)**	628 (3320)	1423 (5517)

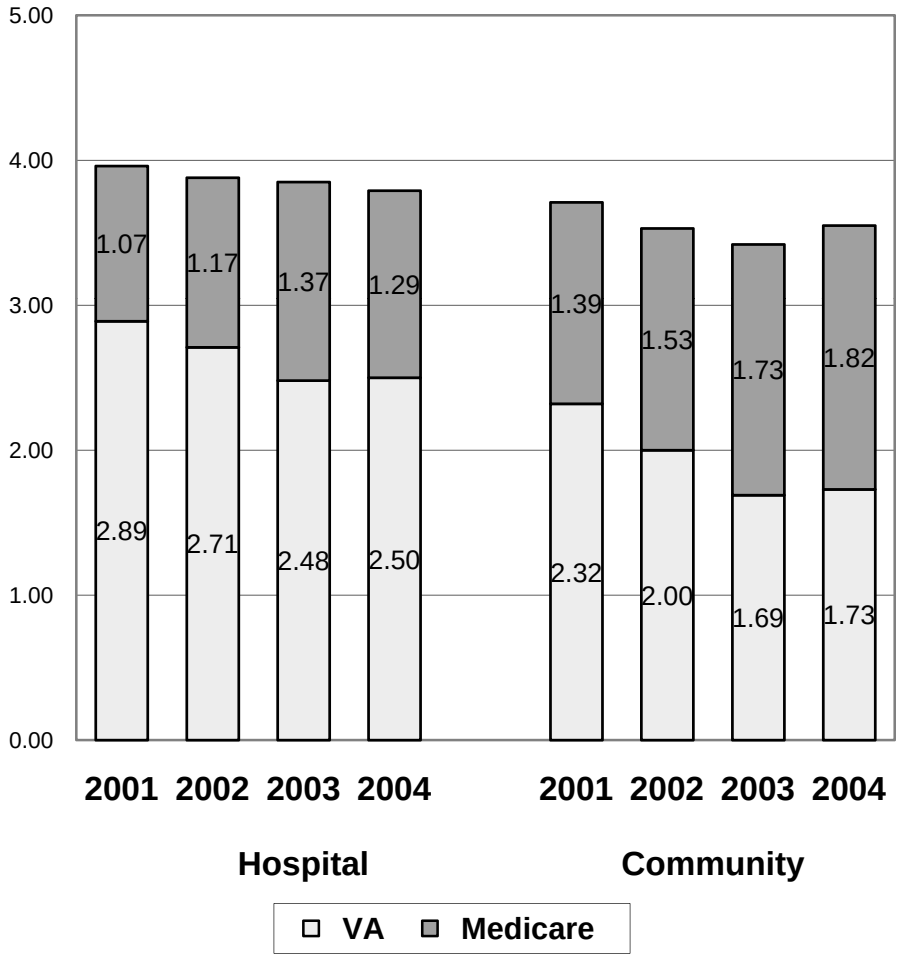
Primary Care Use Patterns

- VA only was most common for both groups, especially for VAMC patients
- CBOC patients more likely to be Medicare only
- Significant use of Medicare for both groups, including dual use or Medicare only



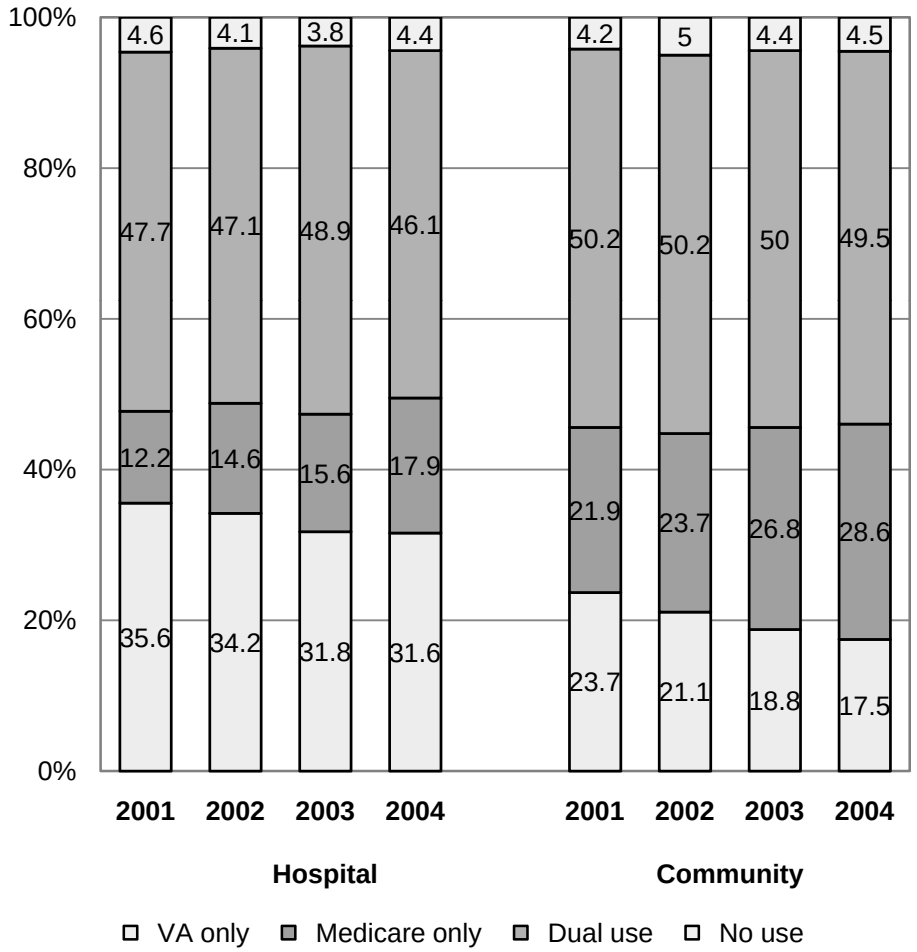
Primary Care Visits

- Compared to VAMC patients, CBOC patients had
  - fewer VA visits and more Medicare visits
  - fewer total visits
- VA visits decreased over time
- Adjusted analysis: CBOC patients had
  - 0.37 fewer VA visits per year
  - 0.14 more Medicare visits
  - 0.22 fewer total visits



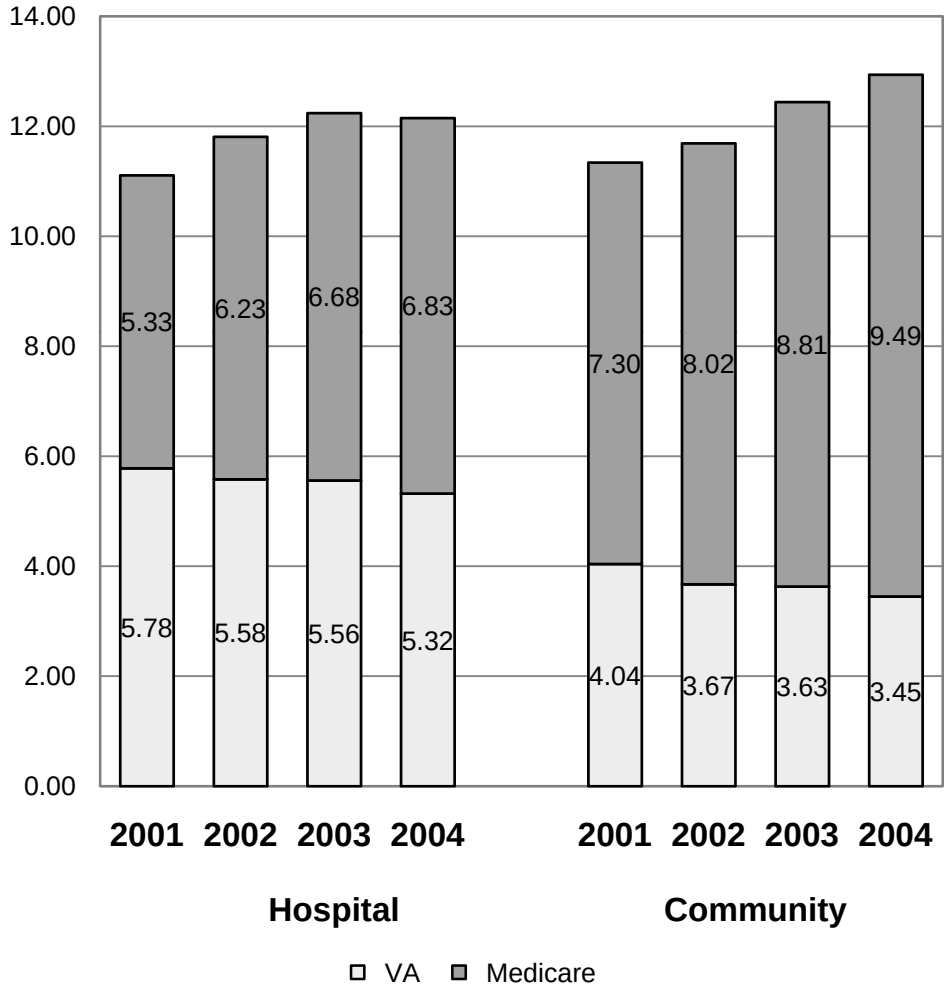
Specialty Care Use Patterns

- Dual use was most common for both groups
- CBOC patients likely to be Medicare only users
- Medicare only users increased over time, while VA only users decreased over time



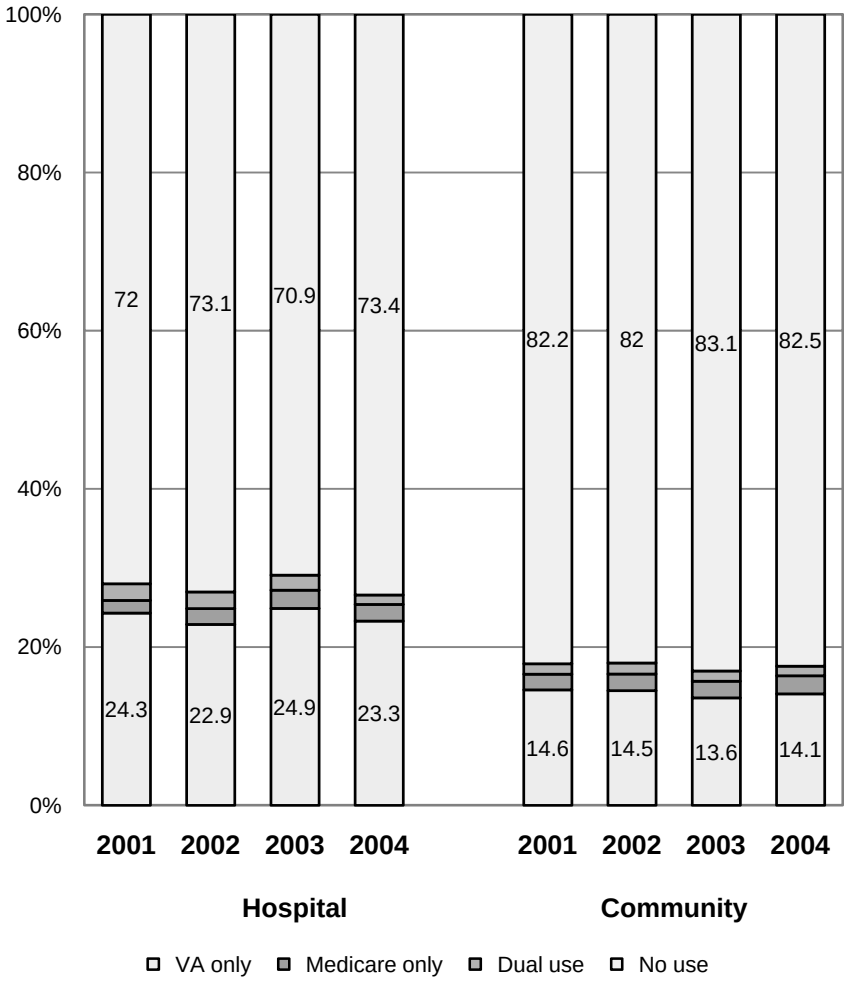
Specialty Care Visits

- VAMC patients had more VA visits
- CBOC patients had more Medicare visits
- Lower VA use of CBOC patients offset by more Medicare use
- Adjusted analysis: CBOC patients had
  - 1.06 fewer VA visits per year
  - 1.43 more Medicare visits
  - No difference in total visits



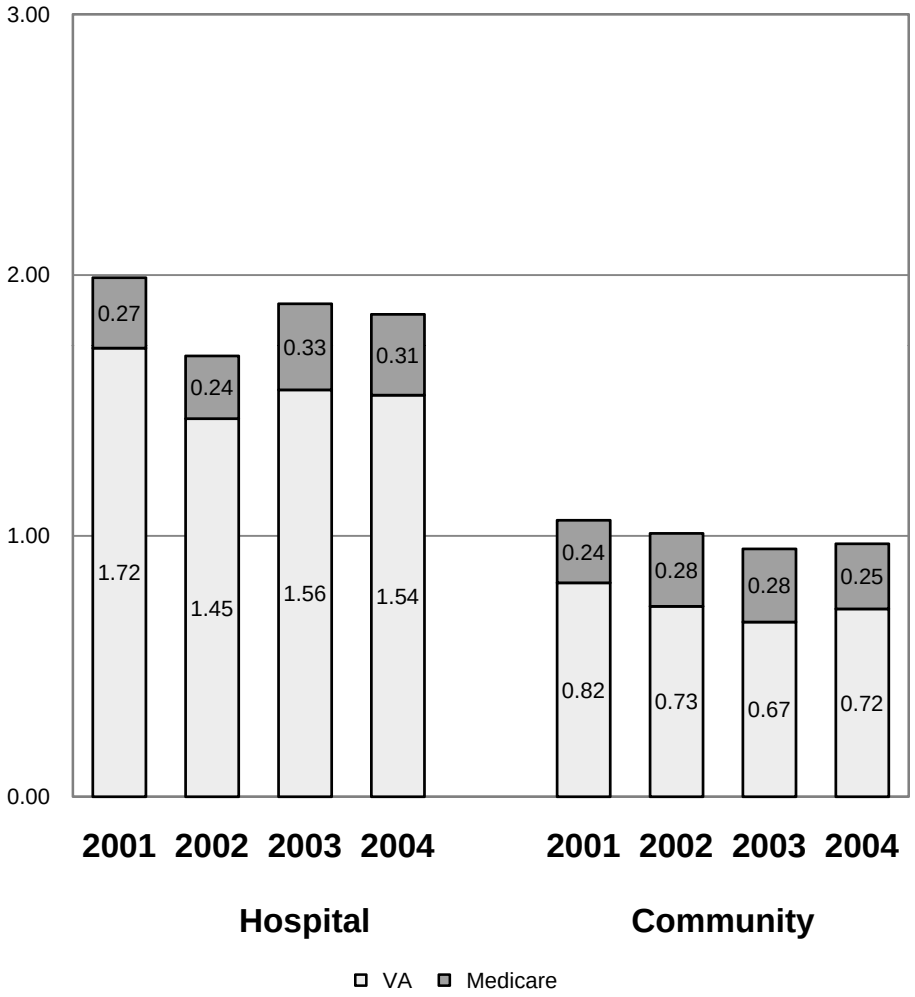
Mental Health Use Patterns

- No use was most common for both groups, followed by VA only
- VAMC patients more likely to be VA only users
- Small proportion of no use or Medicare only for both groups
- Similar patterns across years



Mental Health Visits

- CBOCs patients had fewer VA and total mental health visits than VAMCs patients
- No difference in Medicare use
- Similar patterns across years
- Adjusted analysis: CBOC patients had
  - 0.16 fewer VA visits per year
  - 0.14 fewer total visits
  - No difference in Medicare visits



Summary

- Significant use of Medicare primary and specialty care for both VAMC and CBOC patients
  - CBOC patients had fewer total primary care visits
  - CBOC patients had similar number of total specialty visits
  - CBOC patients had fewer total mental health visits
- Lower VA use by CBOC patients was offset by Medicare services
  - Not fully offset for primary care
  - Fully offset for specialty care

How Does VA Reliance Change Over Time?

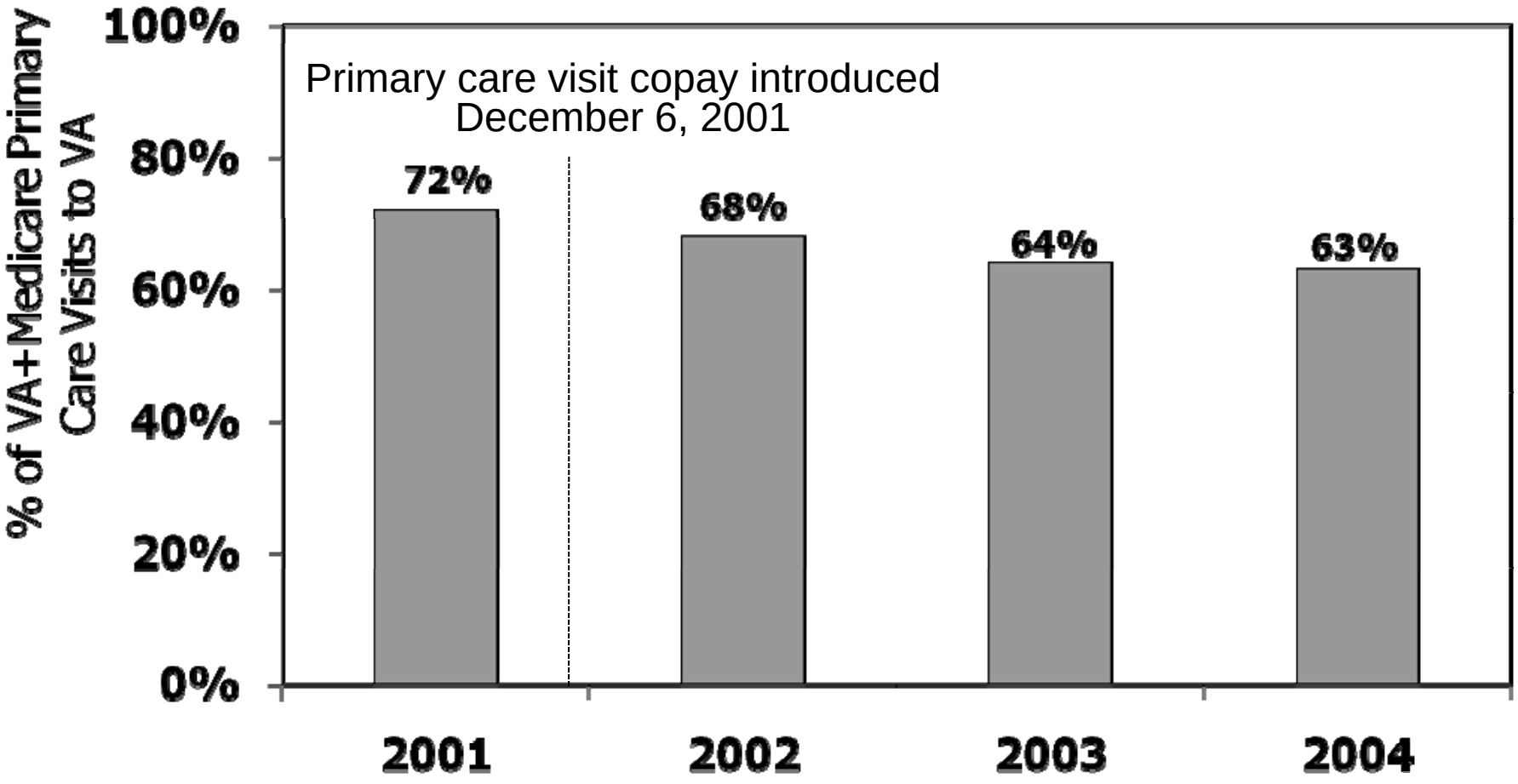
Work in Progress

Research Question

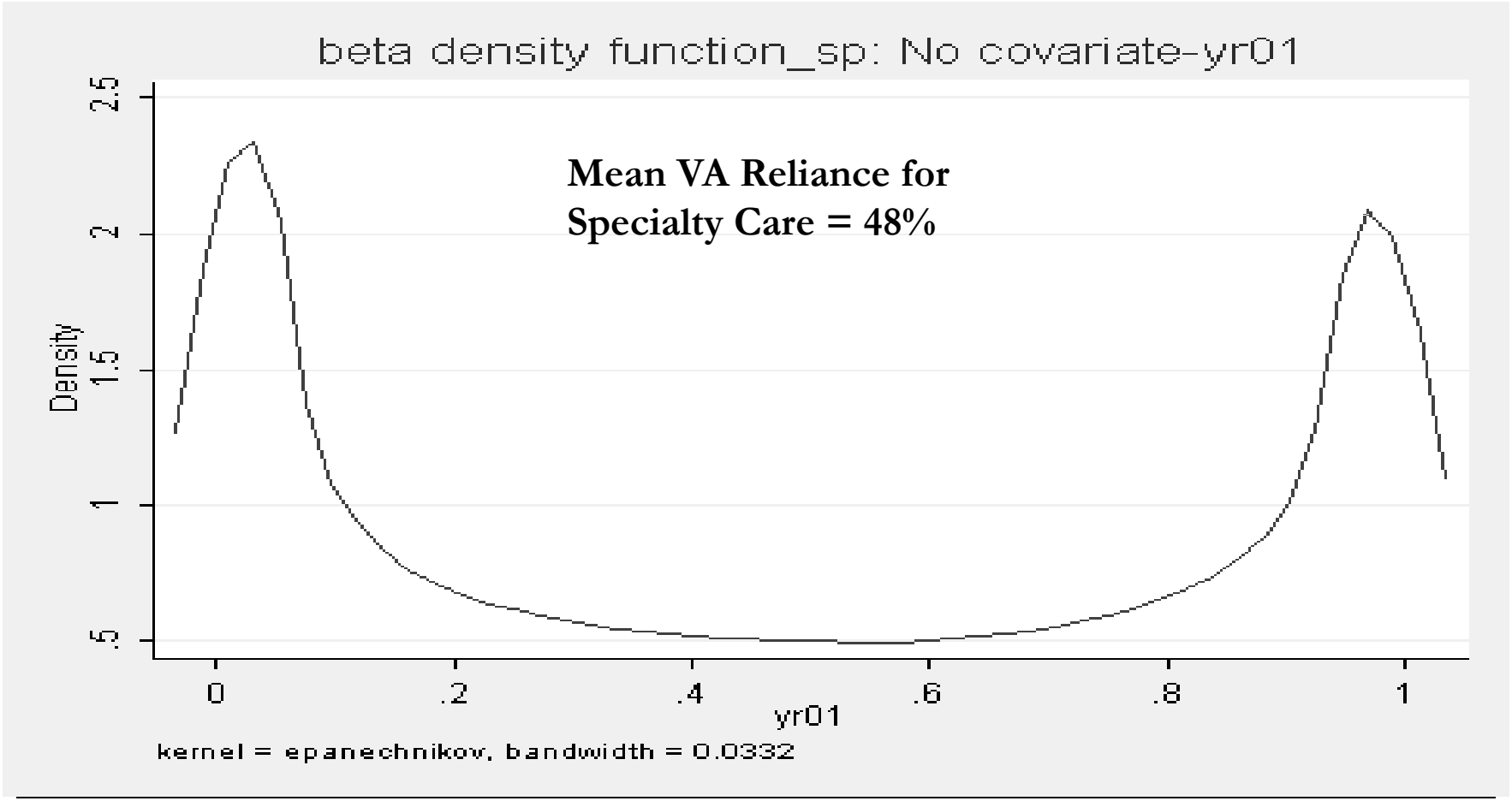
- What factors influence veterans' use of primary care in VA and Medicare in 2001-2004?
  - Operationalize dual use by examining Medicare-eligible veterans' *reliance on VA for primary care services*

- Reliance = $\frac{\text{VA Primary Care Visits}}{\text{VA + Medicare Primary Care Visits}}$

On Population Basis, Mean VA Reliance is High but Drops Over Time

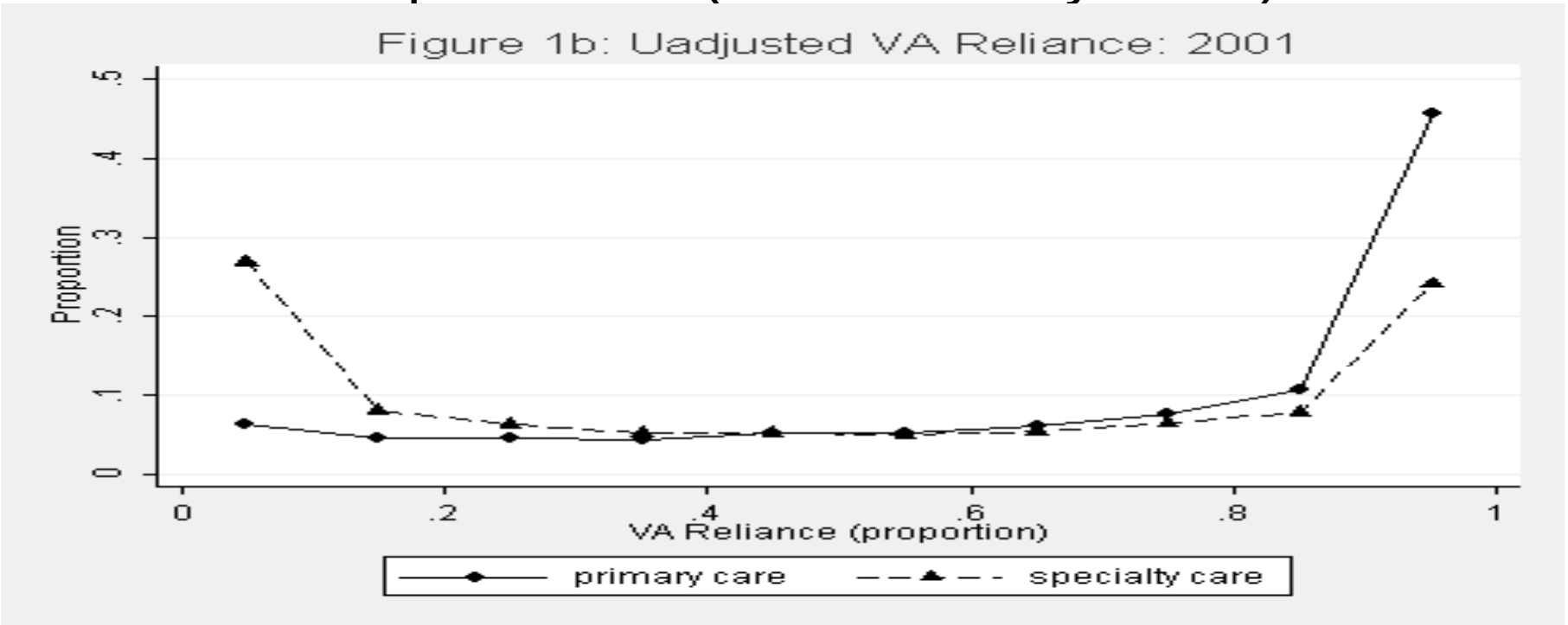


Distribution & Mean of VA Reliance Are Not Consistent



Data Analysis

- Beta-binomial regression in Stata
- VA reliance has unique distribution
  - Mass of points at 1 (VA only users)
  - Mass of points at 0 (Medicare only users)



Guimaraes, P. Stata Journal, 5(3), *pp. 385-394,* 2005

Summary

- Conventional wisdom (vets strategically use VA) may not hold
  - Most Medicare-eligible veterans who used VA primary care are dedicated to VA
  - Medicare-eligible veterans who get care via Medicare switch quickly
  - Small proportion appear to be “persistent” dual users
- Mean of VA reliance is misleading
- These results need updating to post-Part D

Limitations

- Not a random sample of VA primary care users
  - Original sample: Primary care users in large CBOCs & VAMCs in 2000
  - Doesn't exactly match all Medicare-eligible veterans
- Imperfect classification of outpatient visits across VA and Medicare systems with hybrid algorithm
  - Need to refine to improve NPV & PPV of specialty care, mental health care
- No Medicaid data on non-elderly Medicare-eligible veterans
- May not generalize to post-Part D world

Overall Conclusions from Study

- A significant % of Medicare-eligible veterans who use primary care in VA also use primary care and specialty care in Medicare
  - Lower VA use by CBOC patients offset by Medicare use
  - Most mental health services obtained in VA
- Disability-eligible veterans use more services than age-eligible veterans, which is likely to mirror OEF/OIF veterans using both systems
- Most Medicare-eligible veterans are “VA only” or “Medicare only”, but population-average VA reliance (63-73%) suggests a large % of dual users
  - VA reliance is decreasing over time among PC users

Questions?