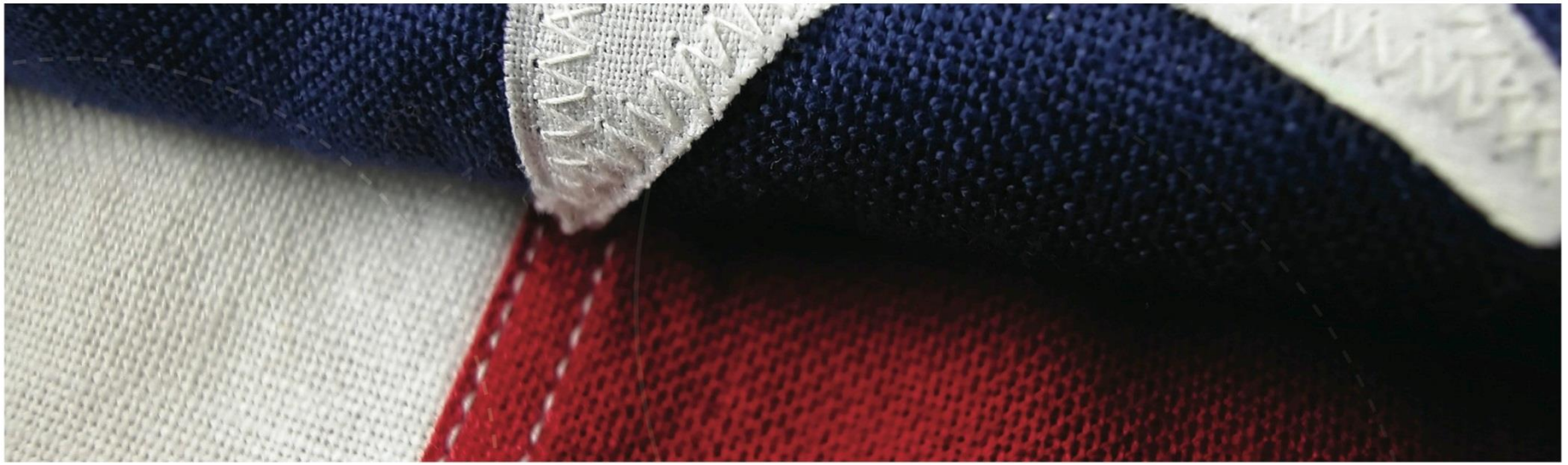

A System for Comparing Outpatient Use between VA and Medicare

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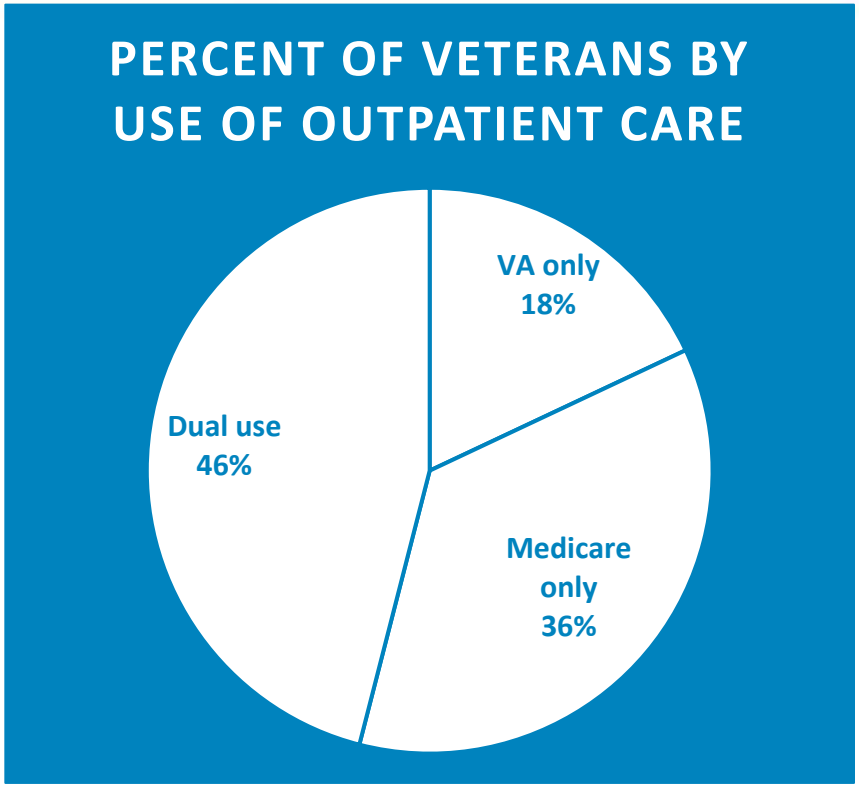
HERC Cyberseminar, October 21, 2015

VA HEALTH CARE Defining EXCELLENCE in the 21st Century

Background: Dual use of VA and Medicare is extensive

- Medicare eligible Veterans can use care in VA or Medicare (CMS)
- There is substantial dual use of Medicare by Veterans
- Hynes et al (2007) 46% of Dual-eligible Veterans use both VA and Medicare outpatient services

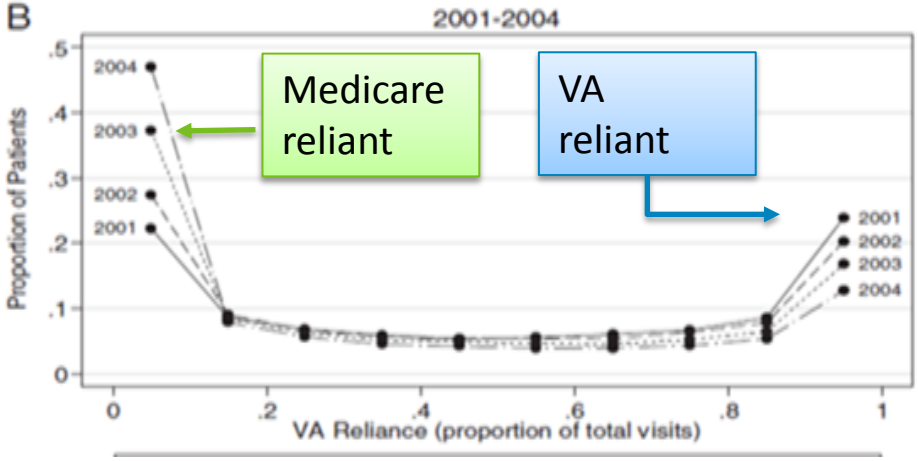


Hynes DM et al, Medical Care 2007. 45:3; pp 214-223

VA Reliance has a U-shaped distribution

- Liu et al (2011) tracked a panel of Veterans for four years
  - Reliance is U-shaped
  - More Veterans are heavily reliant on CMS for specialty care than primary care
  - VA reliance decreases with age

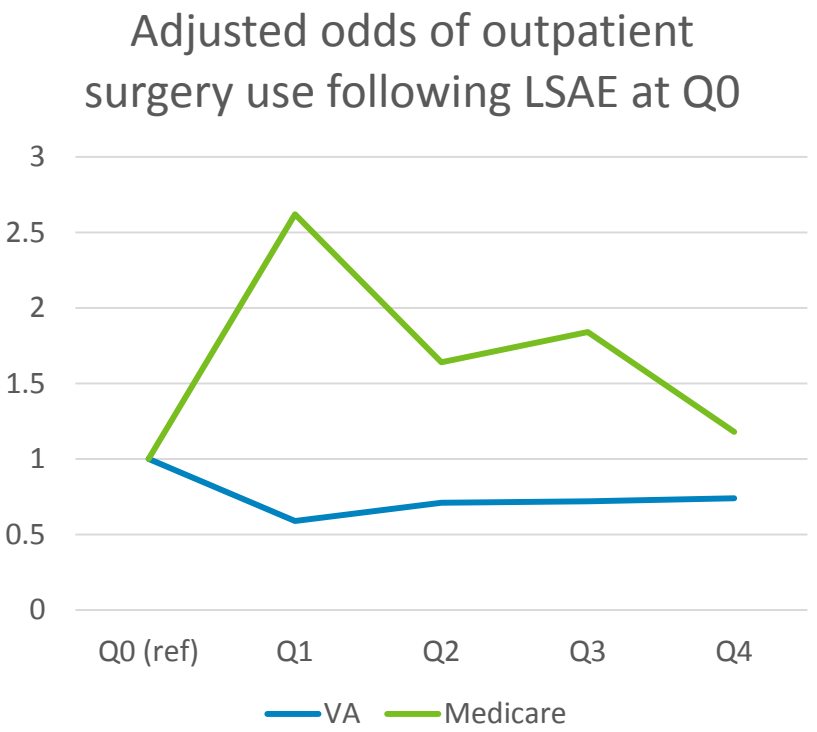
Distribution of patients by reliance on VA for specialty care, 2001-2004



Liu CF et al, Medical Care 2011. 49:10; pp 911-17

VA reliance may be a marker for value

- Dually-eligible Veterans "voting with their feet" may reflect the overall value of VA care at VA a facility
- Wagner et al (2015)- use of Medicare increased following large scale adverse events (LSAE) at a VA facility.



Wagner TH, et al. BMJ Qual Saf 2015;24:295–302

Different data structures complicate VA-CMS comparisons

- VA and Medicare comparisons are complicated by different data systems at each institution
  - Medicare: billing system
  - VA: clinical care, resource use
- Burgess, Liu et al (2011): describe methods for comparing VA use and Medicare use across three dimensions
  - Primary care
  - Specialty care
  - Psychiatric care

Objective

- Describe a framework for a more comprehensive comparisons of outpatient use at VA and Medicare (CMS)
  - Build on the algorithms developed by Burgess/Liu to compare outpatient use between VA and Medicare
  - Expand to different types of visits
  - Expand to include different dimensions of visits
  - IIR-10-150-3 (Hebert)
- Report on VA reliance over time
  - PACT National Evaluation

Framework for a more comprehensive comparisons of outpatient use at VA and Medicare (CMS)

Paul L. Hebert, PhD

Framework

- Extend previous methods by Burgess and Liu
  - Add more categories within the type-of-visit
  - Add more dimensions to the visit

Dimension	Description
Type of visit	Why did the veteran receive care?
Type of service	What did we do for him/her?
Type of provider	Who provided the service?
Location of visit	Where was the service provided?
Cost of visit	How much did it cost? (Work-in-Progress)

VA and CMS administrative data sources

Dimension	VA data elements	CMS data element
Type of service	CPT codes	Line-item CPT codes
Type of provider	First-listed provider specialty	Line-item specialty code
Location of visit	Stop codes	Line-item place of service code
Cost of visit	HERC/DSS costs (WIP)	Line-item reimbursed amount
Type of visit	Service+location+provider	

WIP=work in progress

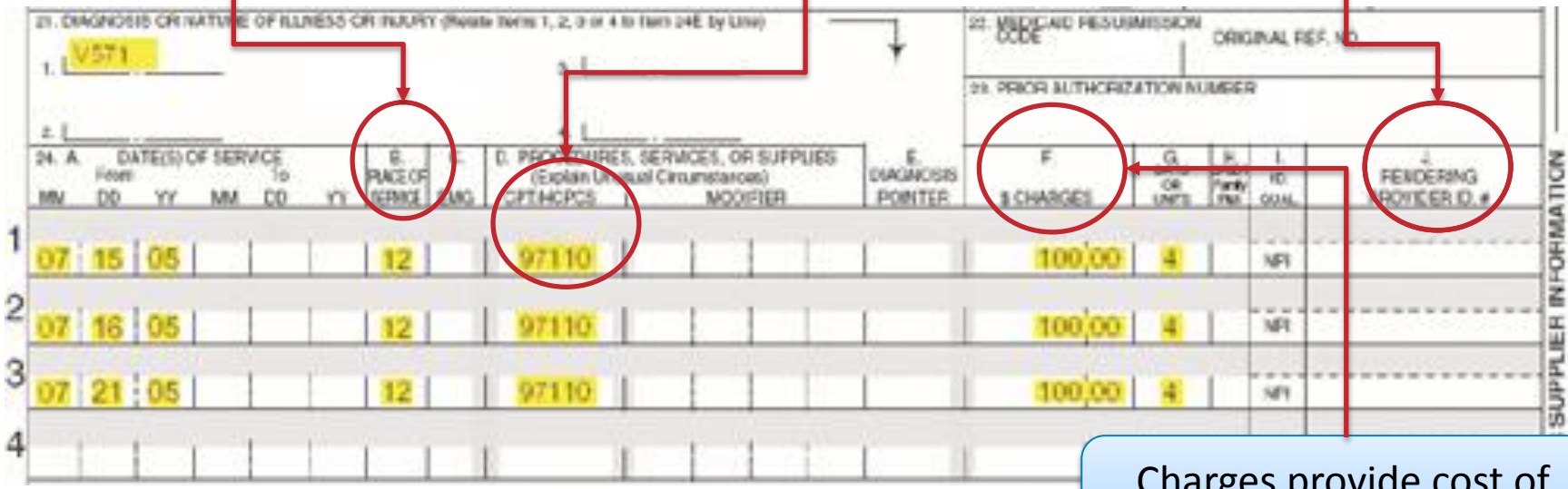
Structure of Medicare Claims: HFCA 1500

- CMS Outpatient claims derive from the HCFA 1500 form

Place of service provides location of service

Procedure codes provide type of service

Rendering provider ID identifies type of provider



Charges provide cost of visit

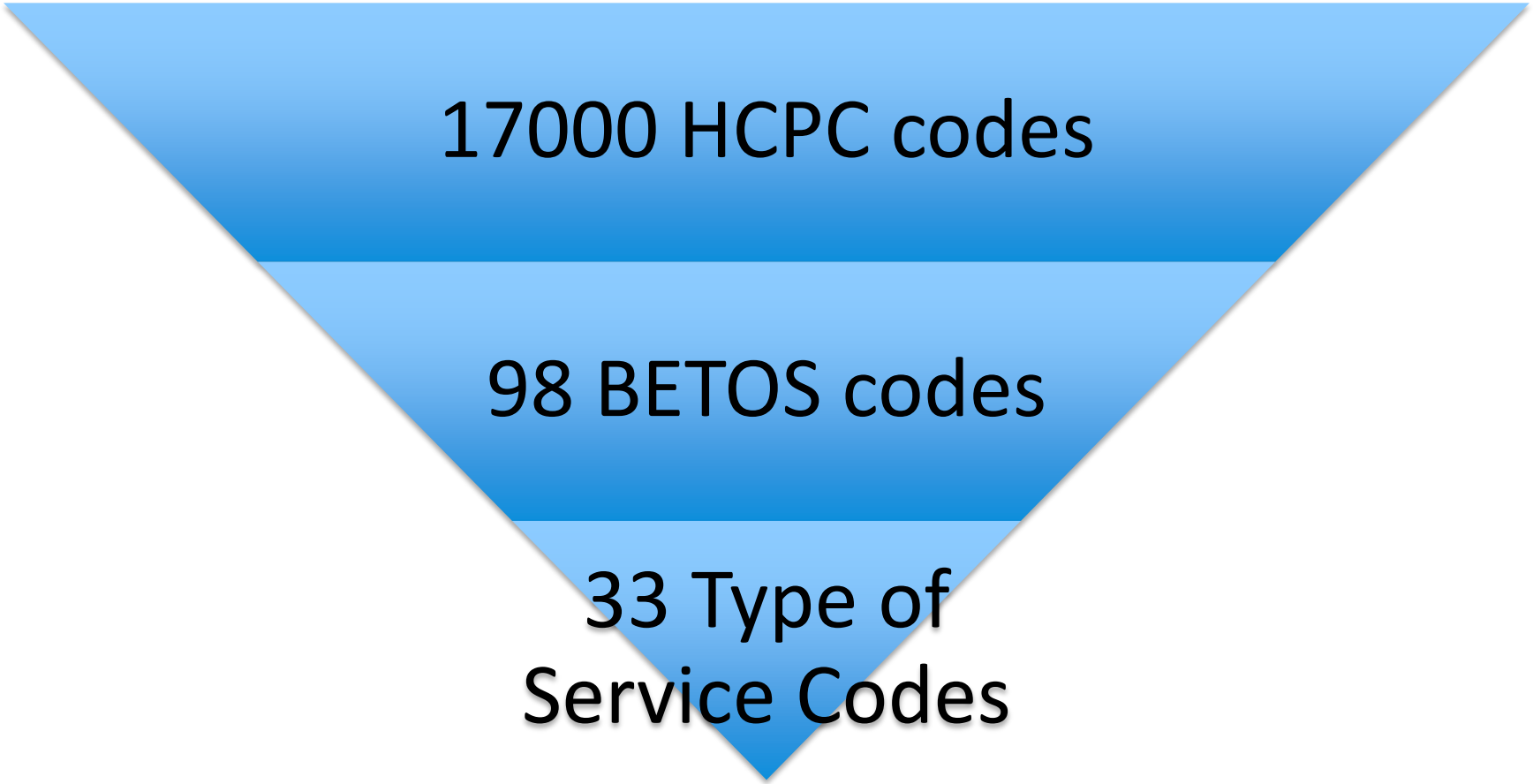
Type of Service

- Type of service derived from Berenson-Eggers Type of Service (BETOS) Codes
- Assigns every HCPCS code to only one BETOS code
  - HCPC codes include all CPT codes used by CMS, plus CMS specific codes
  - 17000 HCPC codes mapped to 98 BETOS codes
- Consists of readily understood clinical categories
- Developed for analyzing the growth in Medicare expenditures.
- Is stable overtime, and is relatively immune to minor changes in technology or practice patterns.
- BETOS-HCPC map available for download from www.cms.gov

Type of Service- BETOS codes

Major BETOS Category	Examples
Evaluation and Management (E&M) - 13 subgroups	M1B: Office visit established patient M3: Emergency department M5B: Specialist-Psychiatry
Procedures - 45 subgroups	P3C: Knee replacement P6A: Minor procedure-skin
Imaging – 18 subgroups	I2C: MRI Brain
Tests- 12 subgroups	T2C: EKG
Durable medical equipment- 7 subgroups	D1D: Wheelchair
Other- 7 Subgroups	O1B: Chiropractic care
Unclassified- 4 subgroups	Z1: Local codes

Type of service



Location of Visit

- 53 CMS Place of Service codes and VA Stop codes mapped to 12 location codes

Code	Name	Place of Service Classification
1	Clinic	11 (Office), 22 (Outpatient Hospital), 50 (FQHCs),…
2	Home	12 (Home)
3	Residential	13 (Assisted Living Facility), 32 (Nursing Facility), …
4	Retail Clinic	17 (Walk-in Retail Clinic)
5	Urgent care	20 (Urgent Care Facility)
6	Emergency Room	23 (Emergency Room – Hospital)
7	Inpatient Hospital	21 (Inpatient Hospital), 51 (Inpatient Psychiatric Facility), …
8	Ambulatory Surgical	24 (Ambulatory Surgical Center)
9	Skill Nursing	31 (Skill Nursing Facility), 61 Inpatient Rehabilitation Facility)
10	Ambulance	41 (Ambulance – Land), 42 (Ambulance – Air or Water)
11	Lab	81 (Independent Laboratory)
98	Other	The rest of the codes

Type of Provider

- Derived from CMS specialty codes
  - 127 CMS specialty codes derived from Provider Taxonomy Codes
- Reduced to 32 specialty codes
- Mapped VA specialty codes to these 32 categories
- Used the first listed provider for the primary stop code as the only provider for the visit

Top provider type codes
Primary Care
Cardiology
Dermatology
Oncology
Endocrinology
Rheumatology
Pulmonary/Critical Care
Pain Medicine
Neurology

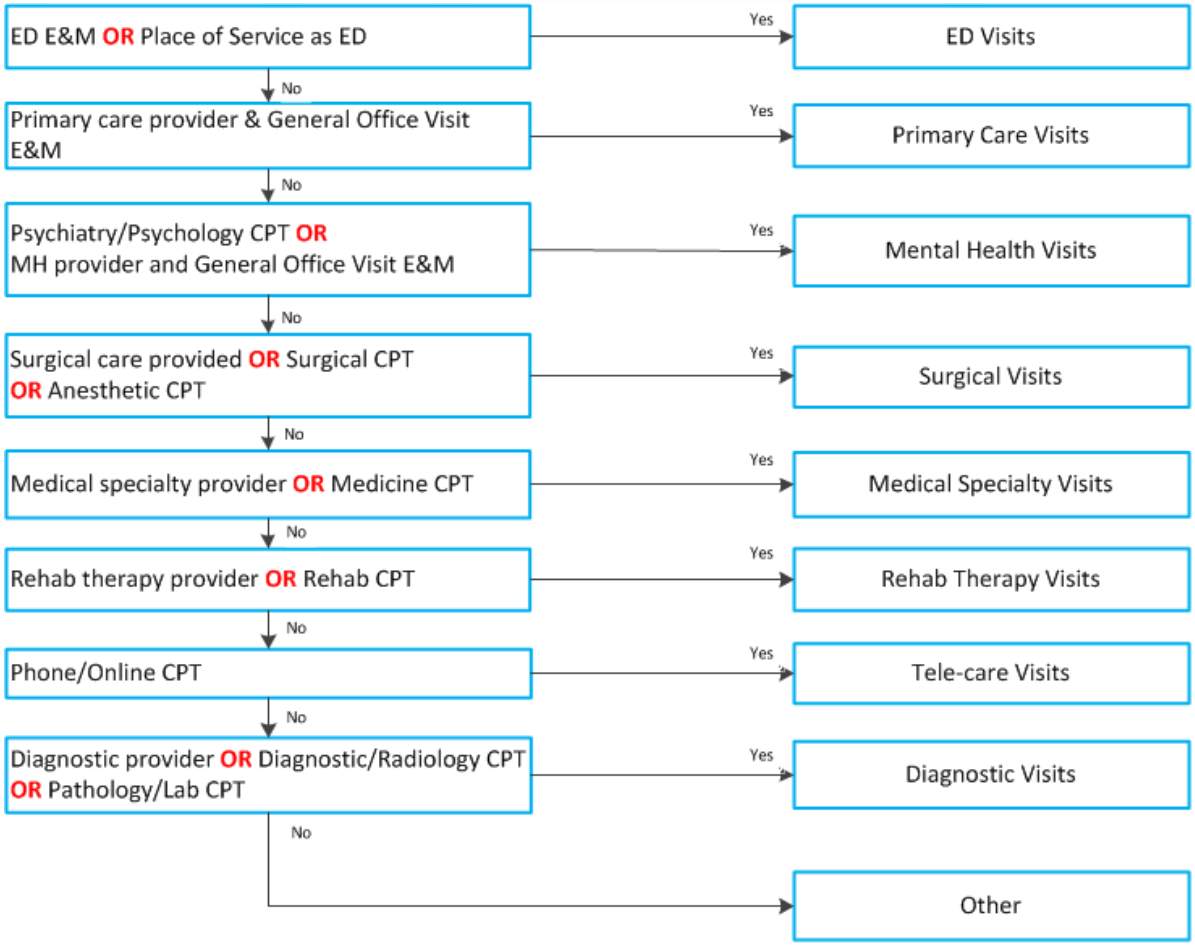
Classification of type of visit

- Classify each encounter between a Veteran and the healthcare system (VA or CMS) as one of 8 mutually exclusive categories:

Emergency care	Primary care
Mental health	Specialty care
Rehab care	Tele-care
Diagnostic	Other

- Do this in three steps
  - Identify the location of the visit
  - Identify the type of service
  - Identify the type of provider
  - Combine to make type of visit

Classification of Visit Type



Results: VA reliance over time

Chuan-Fen Liu, PhD

Objective

- To assess time trends in reliance on VA outpatient care for various types of visits, and types of providers among Medicare-eligible Veterans from 2003 - 2012

Methods

- Repeated cross-sectional time series analysis from 2003 to 2012
- Data sources: VA administrative data and Medicare claims
- Study Sample
  - All patients in Primary Care Management Module (PCMM)
  - Enrolled in both Medicare parts A and B
  - Excluded Medicare Advantage (MA) enrollees because of no medical claims available

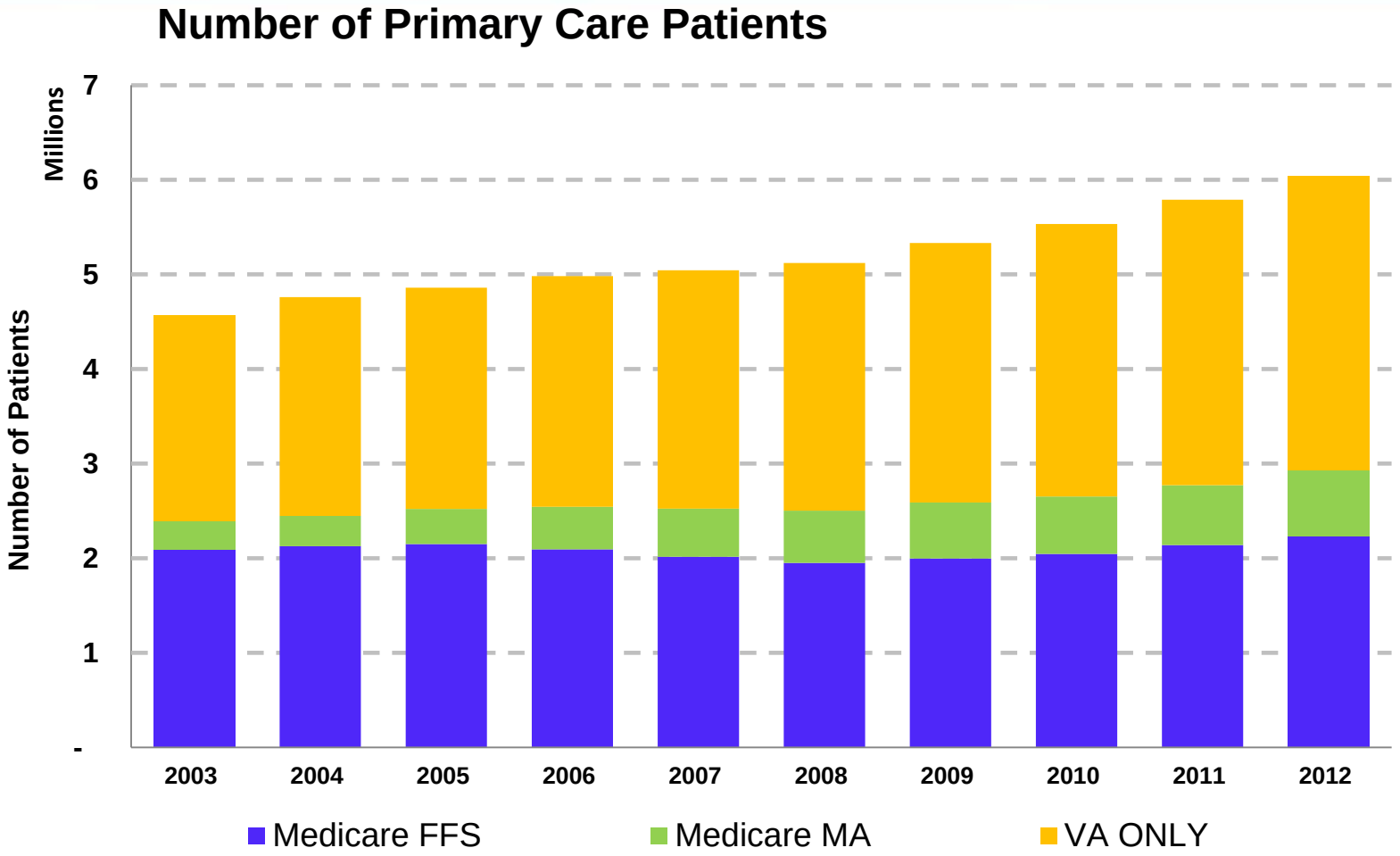
Classification of Outpatient Visits

- Four types of face-to-face visits
  - Primary care
  - Specialty mental health care
  - Medical specialty care
  - Surgical care
- Provider specialty
- Service type

VA Reliance at System Level

- Proportion of visits occurred in VA for a specific visit type in a given year
  1. Sum up visits provided in VA and Medicare, respectively, across all patients
  2. VA reliance = VA visits/(VA visits + Medicare visits)
- Ranging from 0 to 1
- Adjusted for age, gender, and race by standardizing the study population in a given year to the distribution of study population in 2010

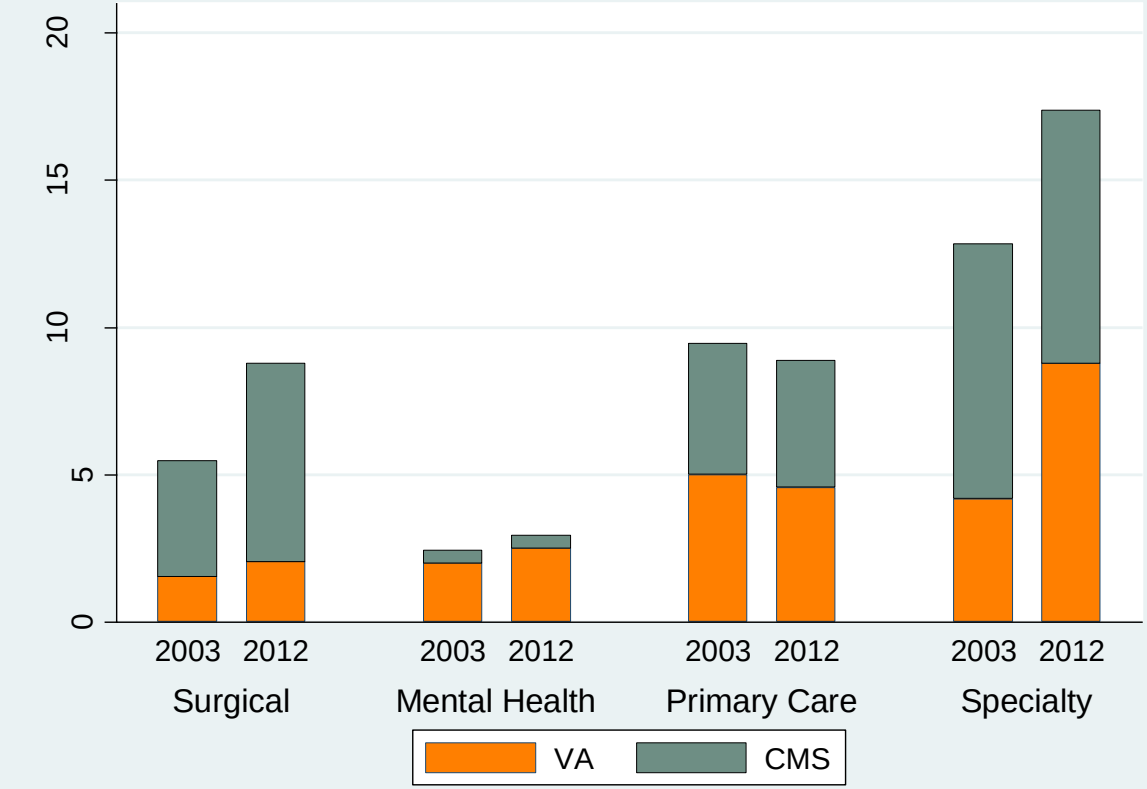
Number of VA primary care patients with Medicare FFS was stable over time



Results of Classification of Visits in 2012 Number of Visits (millions)

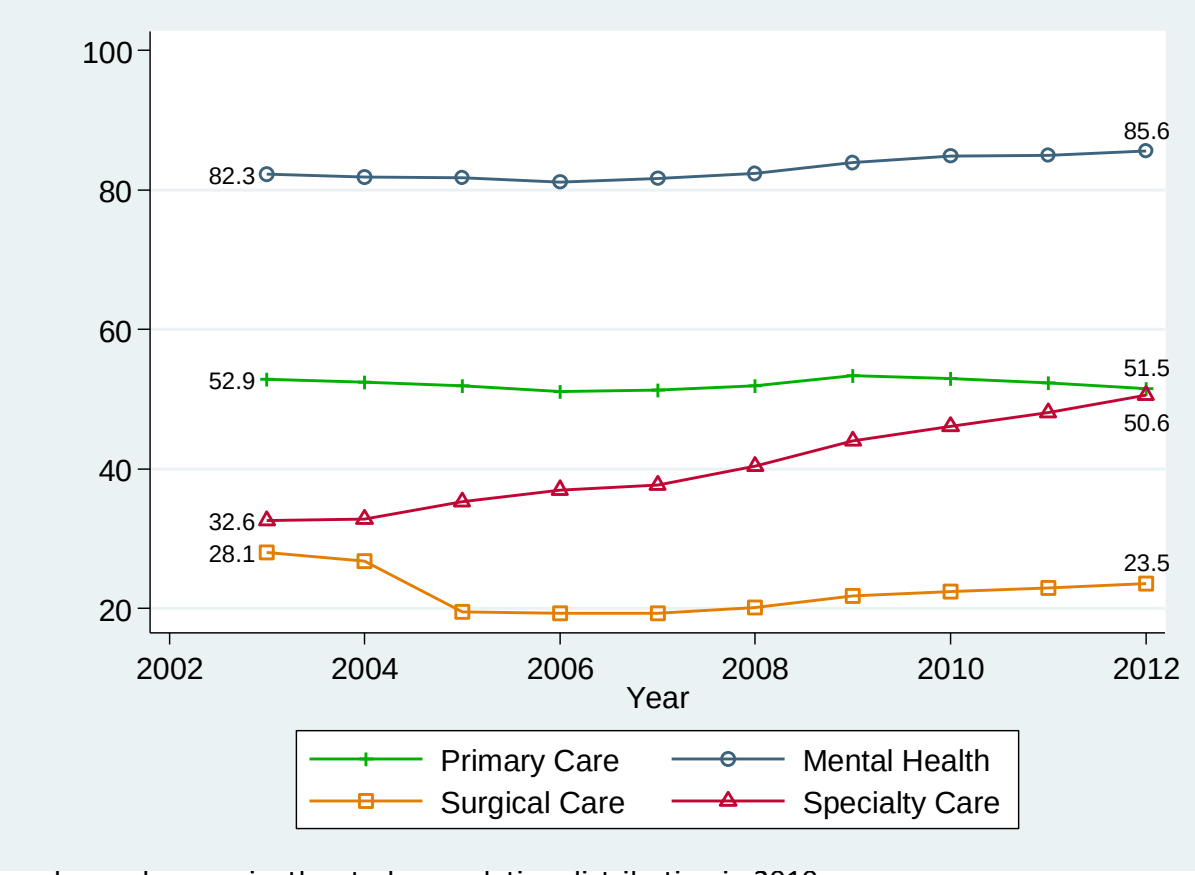
Visit Type	VA	Medicare
Emergency Department	0.5	1.0
Primary Care	4.5	4.2
Mental Health	2.5	0.4
Surgical Care	2.0	6.5
Medical Specialty Care	7.4	8.3
Rehab Therapy	0.9	2.0
Tele-care	5.2	0.0
Diagnostic	4.6	3.6
Other	4.8	2.1

Adjusted Total Visit Counts in VA and Medicare by Visit Type: 2003 and 2012



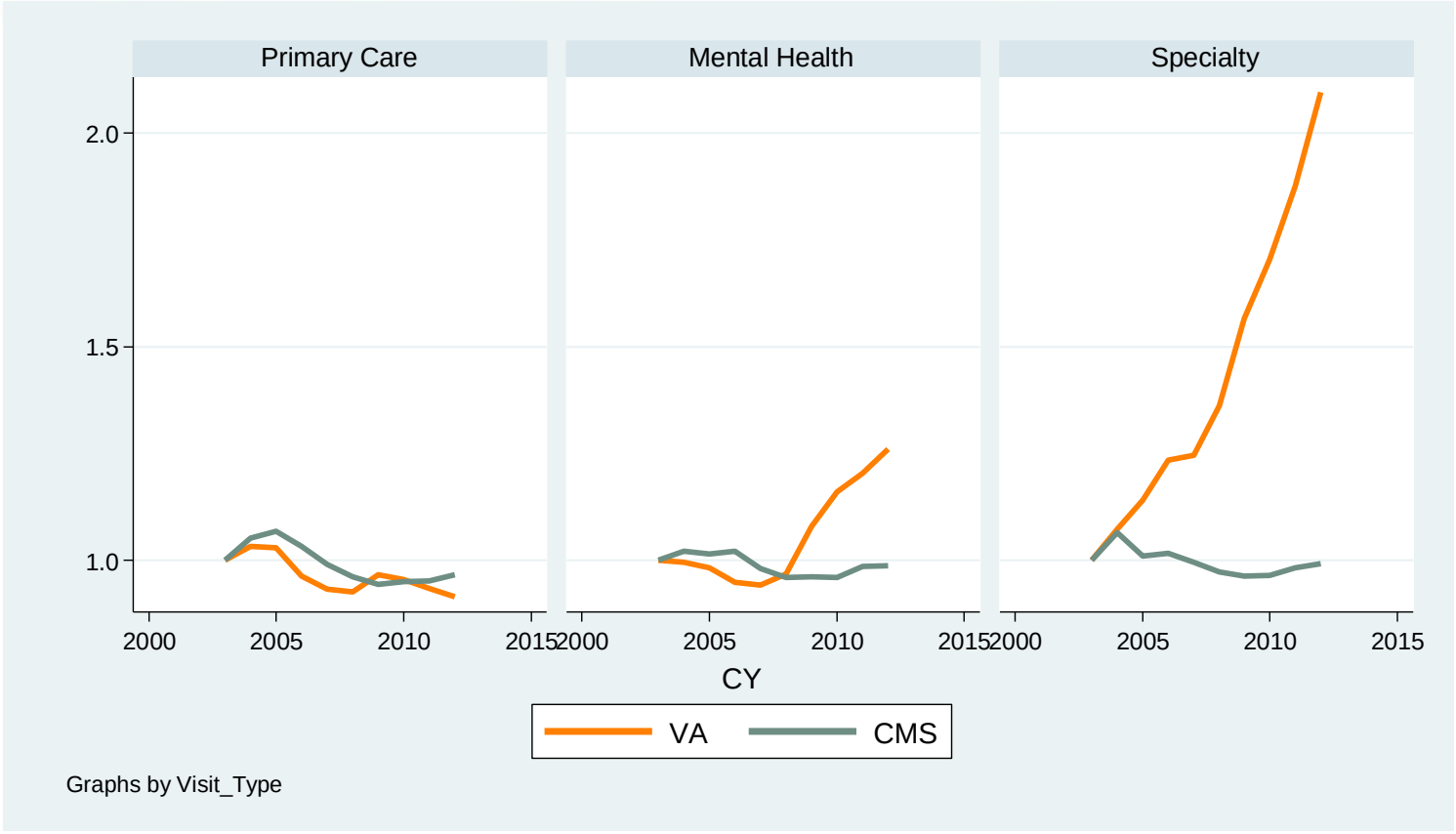
VA visit count: Bottom section of the bar
Medicare visit count: Upper section of the bar
Adjusted for age, gender, and race using the study population distribution in 2010

Time Trends of VA Reliance by Visit Type



Adjusted for age, gender, and race usingthe study population distribution in 2010

Increase in VA reliance for specialty care due to an increase in VA visits, not drop in Medicare



VA and CMS visits indexed to 1.0 in 2003

Across Board Increase in Use of VA Specialty Care

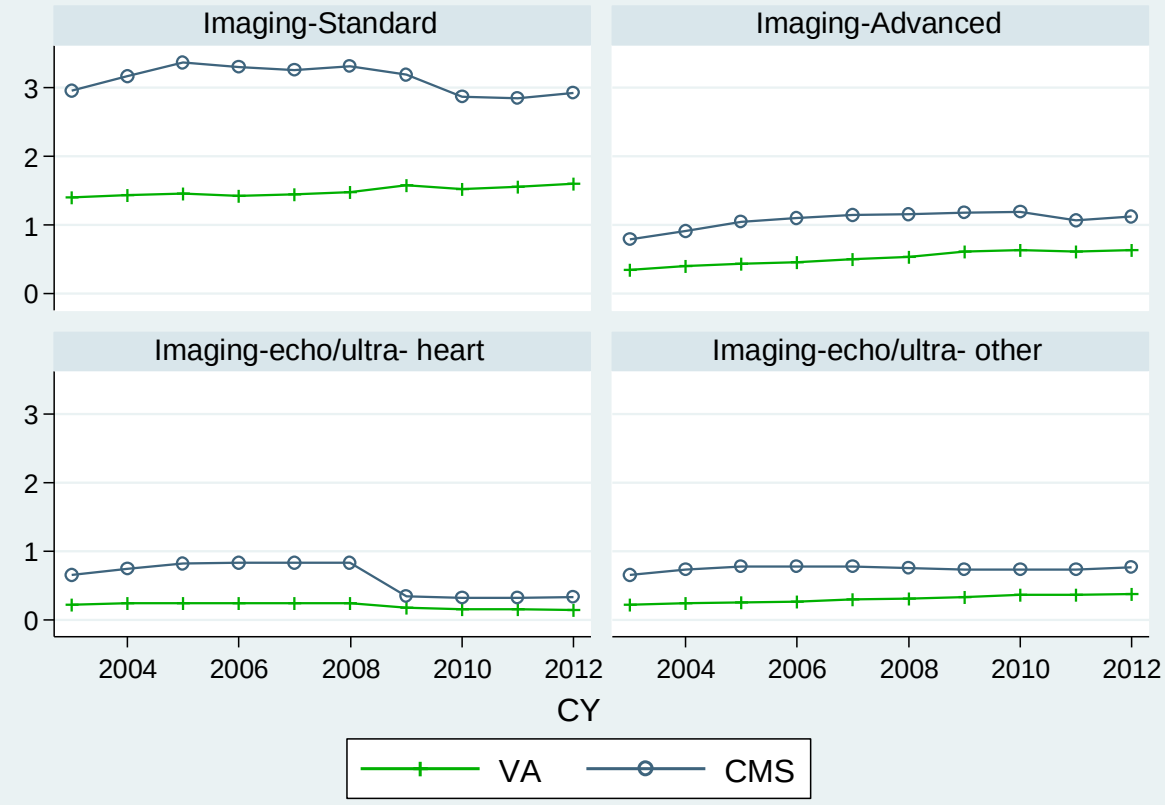
Medical Specialty	Total CPT counts in 2012* (millions)	VA Reliance in 2012	% Increase of VA Use from 2003 to 2012
Cardiology	5.5	20%	177%
Opthamology	5.1	43%	227%
Dermatology	3.0	29%	159%
Oncology	3.0	16%	236%
Pulmonary/Critical Care	2.3	63%	258%
Pain Medicine	1.9	80%	168%
Neurology	1.8	70%	178%
Otolarygology	1.0	41%	154%
Nephrology	1.0	37%	167%
GI	0.9	37%	178%

*VA+CMS

Top 10 Service types in 2012: CMS, VA and VA reliance (millions)

	CMS	VA	Total	VA Reliance
Labs	16.5	39.6	56.1	71%
E&M General Office Visits	11.5	10.1	21.6	47%
Other	9.9	13.6	23.5	58%
Ambulatory and Minor procedures	6.1	2.7	8.8	31%
E&M Other Specialist	2.0	5.1	7.1	72%
Imaging-Standard	2.9	1.6	4.5	35%
Physical Therapy	2.4	1.4	3.7	36%
Other Drugs	1.7	2.7	4.3	62%
Other testing-Other	1.6	2.4	4.0	59%

Use of imaging in the VA and CMS, 2003 to 2012



VA reliance Summary

- Large increase in VA reliance on specialty care resulted from more VA use
- High reliance on VA mental health care and trending upward
- Reliance on VA primary care stable over time

Limitations

- Trends from repeated cross sectional analysis differ from longitudinal trends for a given cohort
- Did not yet adjust for comorbidity

Challenges in Classification Visits Across Systems

- Complex process, but understand details of cross system use
- Billing records vs encounter data
  - Some codes only in VA, eg. Tele-care
- Changes in CPT coding over time
  - Policy changes
  - Changes in reimbursement rules
  - Map BETOS codes annually

Acknowledgement

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