Accounting for Care Provided by NPs/PAs in Estimates of Trends in VA Reliance on Primary and Specialty Care among Medicare Eligible Veterans

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VA HEALTH CARE Defining EXCELLENCE in the 21st Century

VA Reliance is a Measure of Patient Experience

- Voting with your feet
  - Cost, quality, convenience, or environment
- Understanding where Veterans seek care for different types of services has important policy implications
  - Access to care
  - Decisions in types of services to provide
  - Make or buy decisions

Reliance on VA Outpatient Care: Evaluation and Management (E&M)

- Patients are cared and managed at outpatient settings
- E&M visits are preferred to total visits
  - Measure the degree to which a Veteran relies on VA to orchestra his/her care
  - Can be identified by CPT codes on both Medicare claims and VA administrative data
- VA reliance
  - Proportion of total E&M visits occurred in the VA
  - VA E&M visits/(VA+Medicare E&M visits)

Using CPT codes and Provider Specialty to Classify Outpatient Visit Type for Both VA and Medicare

Visit Type	Brief Definition
Primary care E&M	Primary care provider and E&M code
Primary care: procedure only	Primary care provider with no E&M code
Mental health specialty care	Mental health specialist or mental health CPT codes
Surgical care	Surgeon
Medical specialty E&M	Medical subspecialist and E&M code
Medical specialty: procedure only	Medical subspecialist with no E&M code
NP/PA E&M	NP or PA with E&M code
NP/PA: procedure only	NP or PA with no E&M code
Others	Emergency Department, diagnostic, Rehab, tele-care

Classification of NP/PA Visits Complicates the Measurement of VA reliance

- NPs and PAs practice in both primary and specialty care clinics
- No provider specialty code associated with NP or PA in Medicare or VA administrative data
- Can identify VA clinics by stop code
- No stop code equivalent in Medicare

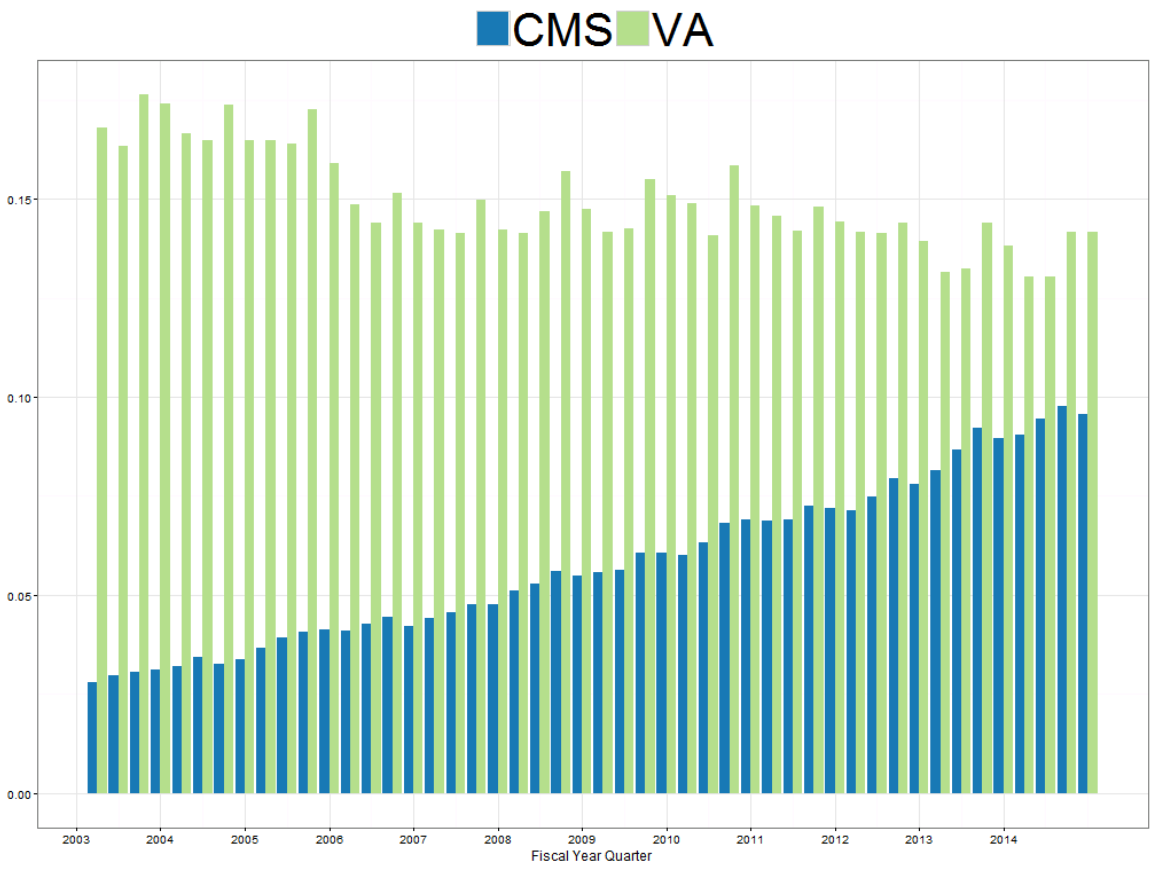
NPs and PAs Provide A Significant Proportion of E&M Visits

E&M visits	VA	Medicare
Primary Care	86,919 (51%)	121,807 (41%)
Medical Sub-specialty	41,523 (25%)	150,939 (50%)
NP/PA	39,950 (24%)	27,146 (9%)
Total	168,392 (100%)	299,892 (100%)

FY2014 5% PCMM sample
Veterans who were 65 years or older and enrolled in Medicare fee-for-service

Increasing Trend in NP/PA E&M Visits in Medicare: 2003-2014

Number of NP/PA E&M visits per Patient



Top 10 Stop Codes for NP/PA E&M Visits

Stop Code	Number of Visits	%	Cumulative %
Primary Care	23,857	59.7	59.7
Urology	2,185	5.5	65.2
Cardiology	1,658	4.2	69.3
Orthopedics	1,655	4.1	73.5
Dermatology	1,447	3.6	77.1
Mental health	1,189	3.0	80.1
Oncology	570	1.4	81.5
Anesthesiology	509	1.3	82.8
General surgery	508	1.3	84.1
Vascular surgery	500	1.3	85.3
Other	5,872	14.7	100.0
Total	159,431	100.0	-

NP/PA E&M Visits: Visit Type based on Stop Code

Visit Type	Number of Visits	%
Primary Care	24,829	62.2
Surgical Care	7,188	18.0
Medical Sub-specialty	6,437	16.1
Mental Health	1,496	3.7
Total	39,950	100.0

Potential Approach: Attribute NP/PA Visits according to the Physicians in Their Medical Group

- NPs and PAs typically provide the same type of care as the physicians in their medical group
  - In a primary care group, NPs/PAs typically provide primary care
  - In a cardiology group, NPs/PAs typically provide cardiology care
- Using Tax Identification Number (TAXID) to identify medical groups

Tax Identification Number (TAXID)

- TAXID represents individual organizations or units providing medical services
- A TAXID can be defined as a medical group that consists of one or multiple providers
- Each provider (National Provider Identifier, NPI) is associated with one or more TAXID
- TAXID is included on all Medicare Part B carrier claims
- VA data do not have TAXID, so we will create pseudo TAXID for specific clinic stops – VA_TAXID

Use TAXID to Attribute Performance Measures for NP/PA

- Generating Medicare Physician Quality Performance Measurement Results (GEM) Project
  - Developed the physician and other medical provider grouping and patient attribution methodologies
  - Attribute the specialty of care provided by NPs/PAs using the plurality of physician providers in a medical group, i.e. within a TAXID

Objectives

- Overall objective: Describe trends of VA reliance among Medicare eligible Veterans
- Specific task: Develop and test a method to attribute the E&M visits provided by NP/PA into primary, specialty, surgical care, and mental health care
  - Using the concept of TAXID to identify provider specialties within a medical group
  - Attribute NP/PA E&M visits to different specialties within a medical group
  - Apply the method using VA data
  - Valid the method using VA stop code
  - Apply the method to Medicare data

Data and Methods

Data Sources and Study Sample

- Data sources: VA administrative data and Medicare claims
- Study sample
  - 5% sample of PCMM patients from FY2003 to FY2014
  - Age 65 years or older
  - Enrolled in Medicare Parts A and B
  - Excluded those enrolled in Medicare HMOs

Approaches to Attribute NP/PA E&M Visits within a Tax ID

- Step 1: Code every clinic visit by a visit type based only on provider specialty codes and BETOs (i.e., CPT codes). Visit types we considered:
  - Primary Care E&M - Medical Specialty Care E&M
  - Surgical Care - Mental Health
- Step 2: Calculate the percent of visits to each visit type at each Tax ID
- Step 3: Apportion NP E&M visits at that Tax ID to other visit types based on these percentages

Hypothetical example continued: Visit-based weights

PatID	Date	CPT	NPI	Specialty
1	1-Feb	99214	8888	Int Med
1	1-Feb	36415	8888	Int Med
1	1-Mar	99214	4444	Gen Surg
1	1-Apr	25065	7777	Derm
2	1-Apr	99214	7777	Derm
2	1-Apr	36425	7777	Derm
3	1-Apr	36455	7777	Derm
3	1-Apr	36525	7777	Derm
4	1-Oct	99214	8888	Int Med
4	1-Nov	99214	8888	Int Med

Visit-based weights		
	Count	Weight
Prim Care	2	0.33
Surgery	1	0.17
Spec Care	3	0.50

Each NP/PA visits would be result in 0.33 primary care visits, 0.17 surgery, and 0.50 specialty care visits

Hypothetical example of visit-based weights for two clinics, identified by TaxID

Attribute NP/PA visits proportionally to three types of visits according to the weights

TaxID	Weight type	Primary Care weight	Specialty Care Weight	Surgical Care Weight	Sum of Weights
AAAA	Visit	0.60	0.20	0.20	1.0
BBBB	Visit	0.95	0.05	0	1.0

Training on VA Data

- Study period: VA outpatient visits in FY2014
- Step 1: Create a pseudo "VA_TAXID" using stat6a and stop code
  - Group stop codes into a reasonable number
  - VA_Tax IDs are unique combinations of stat6a and stop code group
- Step 2: Code each visit as primary care, specialty care, mental health or surgical care based on stop code (scb_type)
- Step 3: Calculate proportion within VA Tax ID of primary care, specialty care, or surgical care based on primary visit type (pvb_type)
  - Note this uses only physician specialty and CPT codes, not stop codes
- Step 4: Assess correlation between actual stop code group and predicted primary visit type

RESULTS

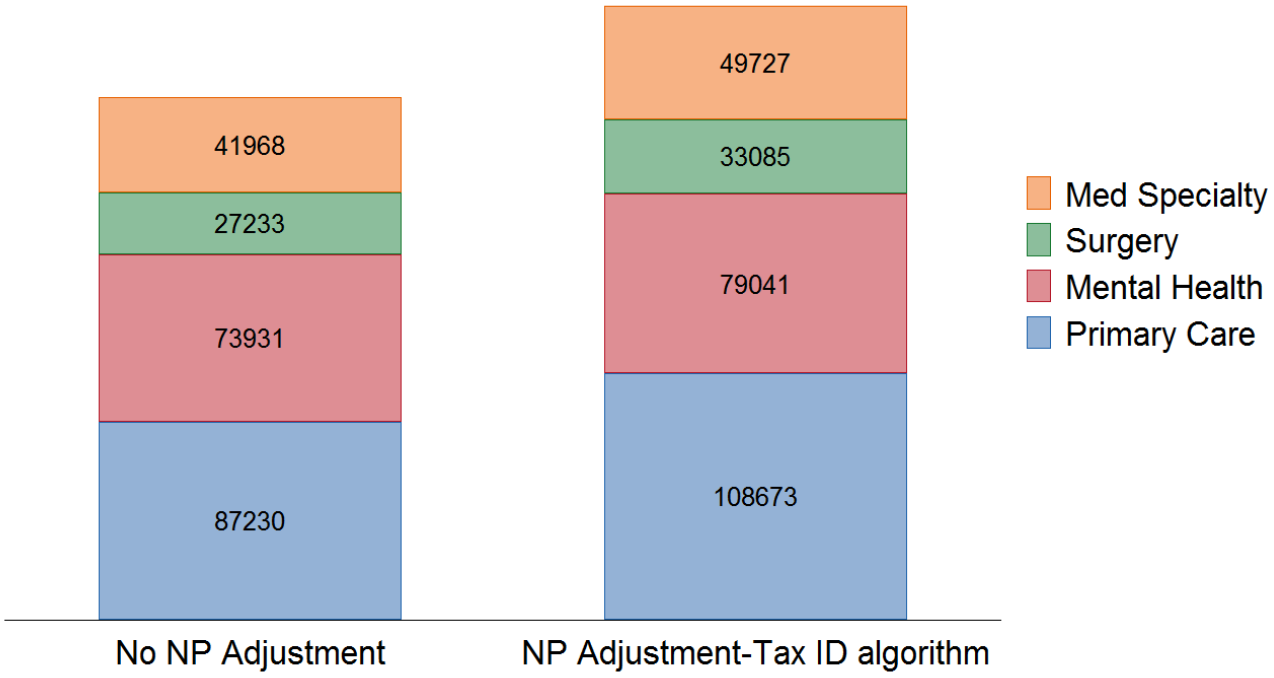
Validation of VA Tax ID algorithm against VA stop codes

Visit Type_Stopcode	Total NP/PA E&M Visits	Visit Type_VA_TAXID			
		Primary Care	Surgical Care	Medical Sub-specialty	Mental Health
Primary Care	24,829 (100%)	**20,994 (84.6%)**	121 (0.5%)	536 (2.2%)	**3,178 (12.8%)**
Surgical Care	7,188 (100%)	142 (2.0%)	**5,422 (75.4%)**	1,441 (20.0%)	183 (2.5%)
Medical Sub-specialty	6,437 (100%)	368 (5.7%)	39 (0.6%)	**5,768 (88.2%)**	262 (4.1%)
Mental Health	1,496 (100%)	3 (0.2%)	0 (0.0%)	1 (0.1%)	**1,492 (99.7%)**

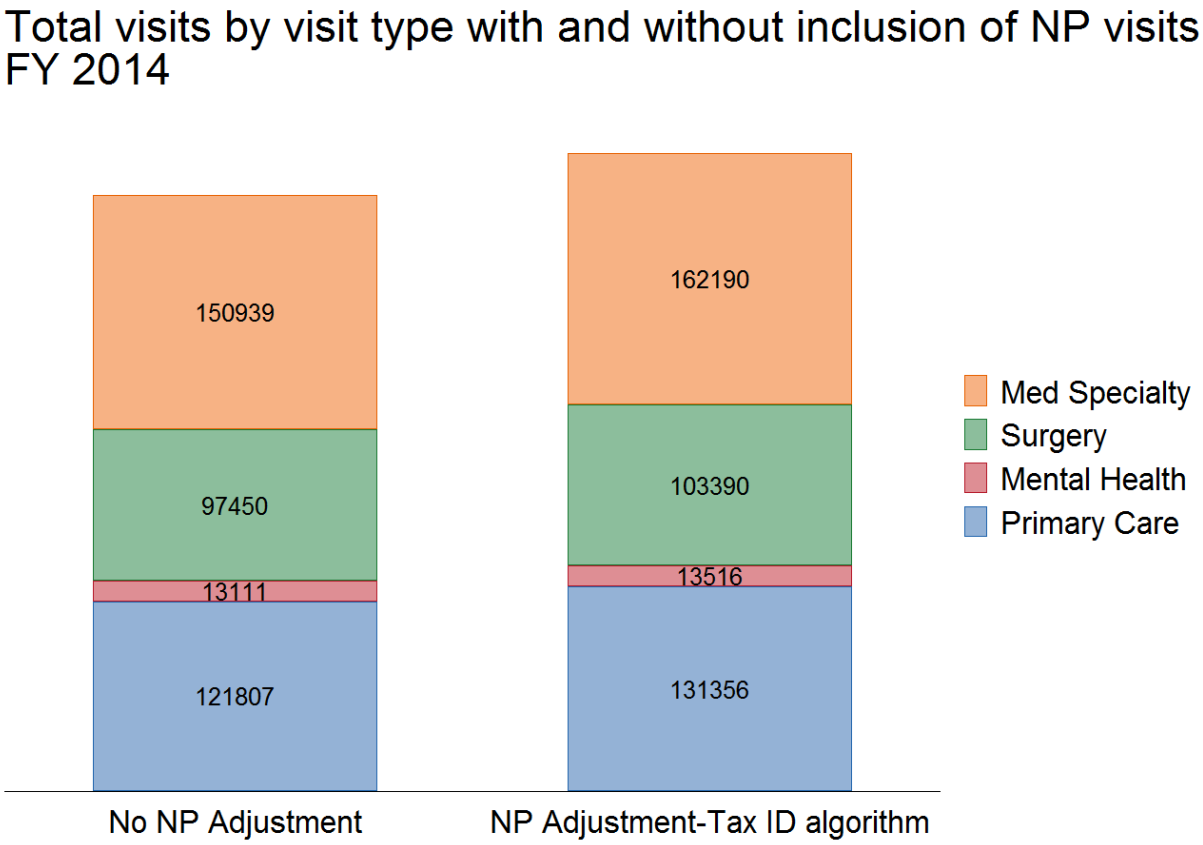
Percent concordance= 85%

Effect of recoding 40K NP E&M visits to other visit types, VA FY 2014

Total visits by visit type with and without inclusion of NP visits
FY 2014



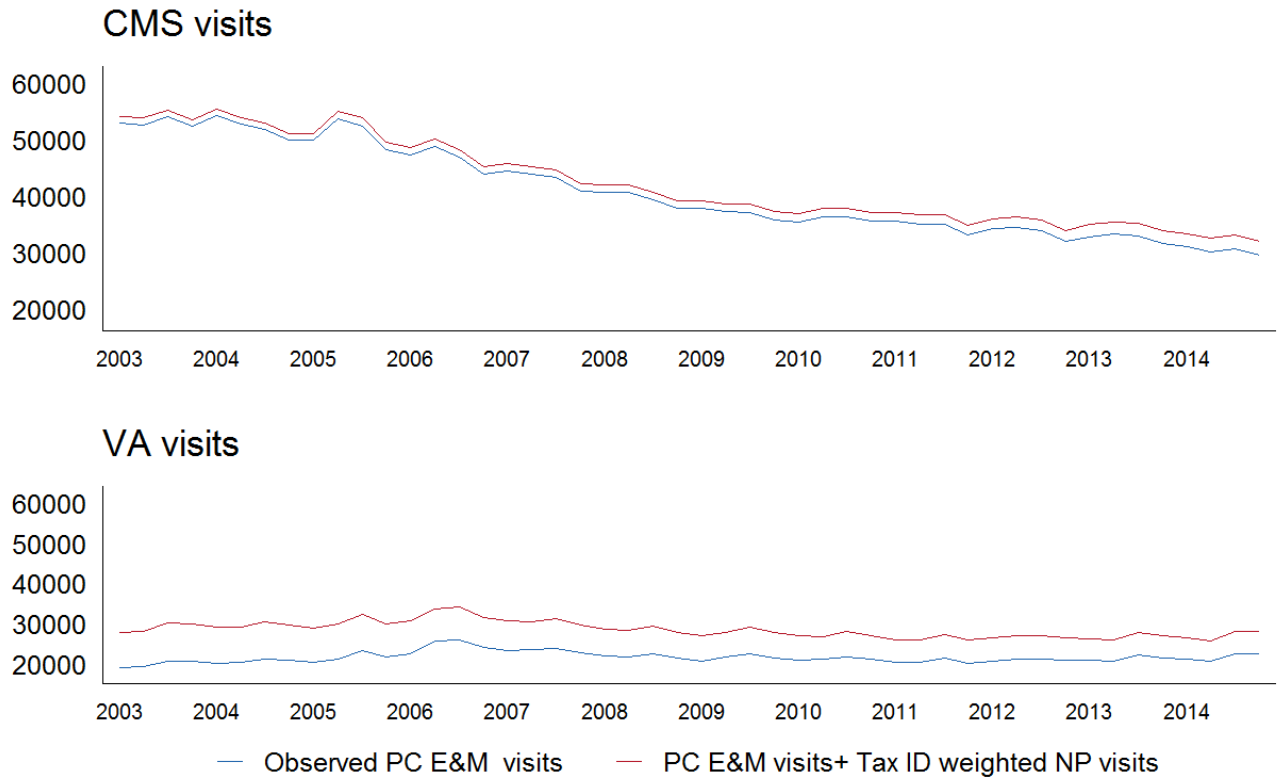
Effect of recoding 27K CMS NP E&M visits to other visit types, CMS FY 2014



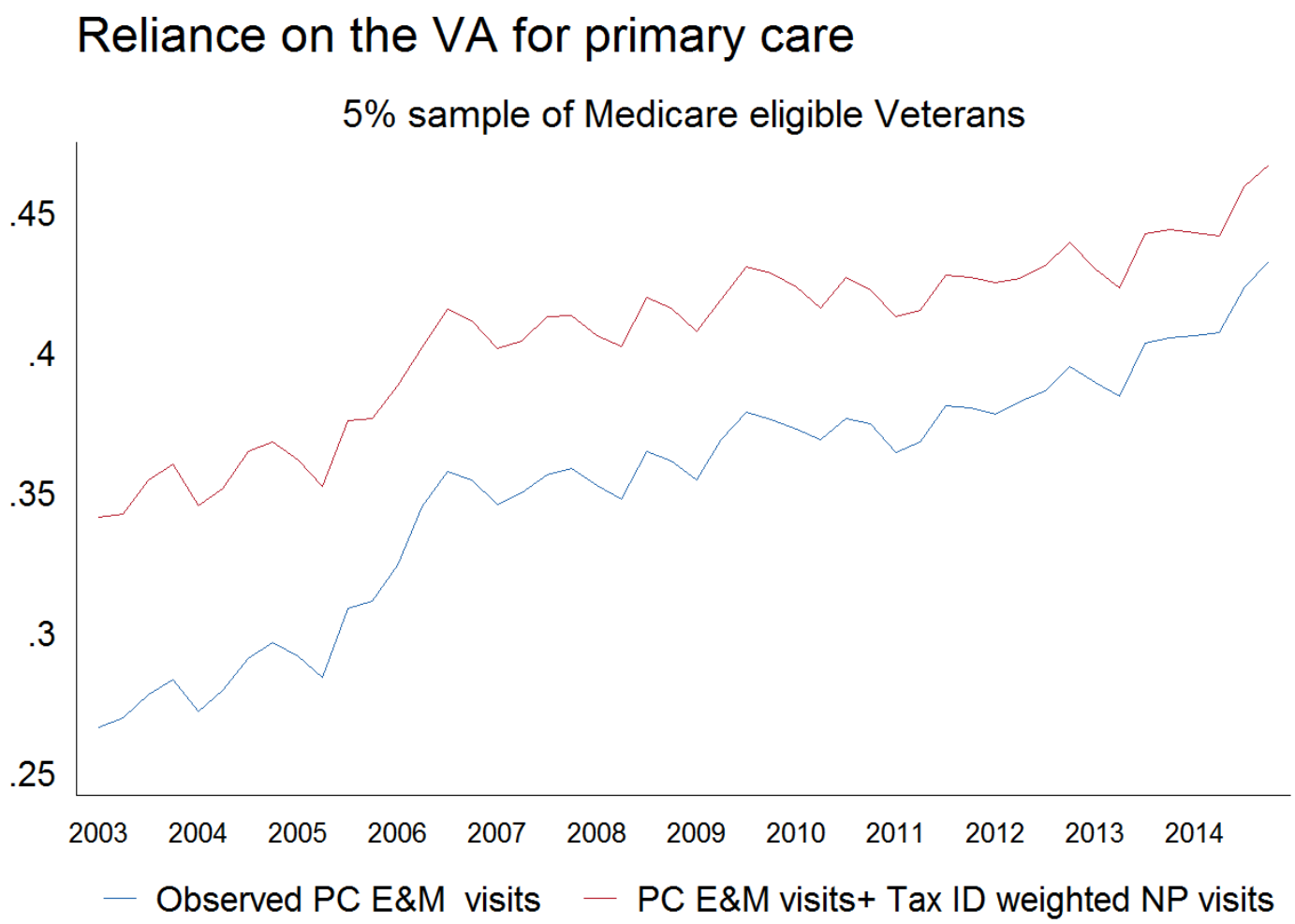
Results: Effect of NP recoding on primary care E&M visits

Primary care visits per quarter without and with NP imputation, CMS and VA

5% sample of Medicare eligible Veterans

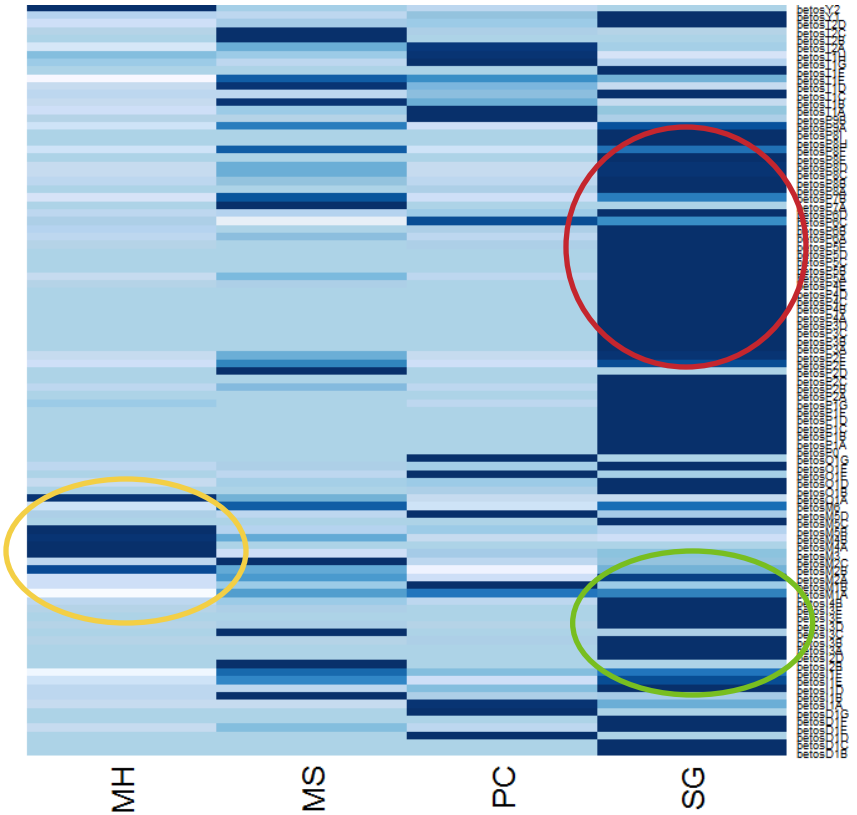


Results: Reliance on the VA for primary care E&M visits



Can we do better than just Tax ID?

- NPs who practice with a bunch of surgeons are probably in a surgery clinic, but what if there were a mix of types of clinicians in that Tax ID?
- Say half of clinicians were surgeons and half were psychiatrists/psychologists.
- We can tell whether a particular visit is for surgery or mental health based on the BETOS codes on that visit
  - Many procedures (red circle) or imaging (green) done in surgery stop codes (SG) but not many in mental health (MH) stop codes
  - Many E&M codes (yellow circle) done in MH stop codes but not many done in surgical stop codes



Incorporating BETOS codes into an NP recoding algorithm

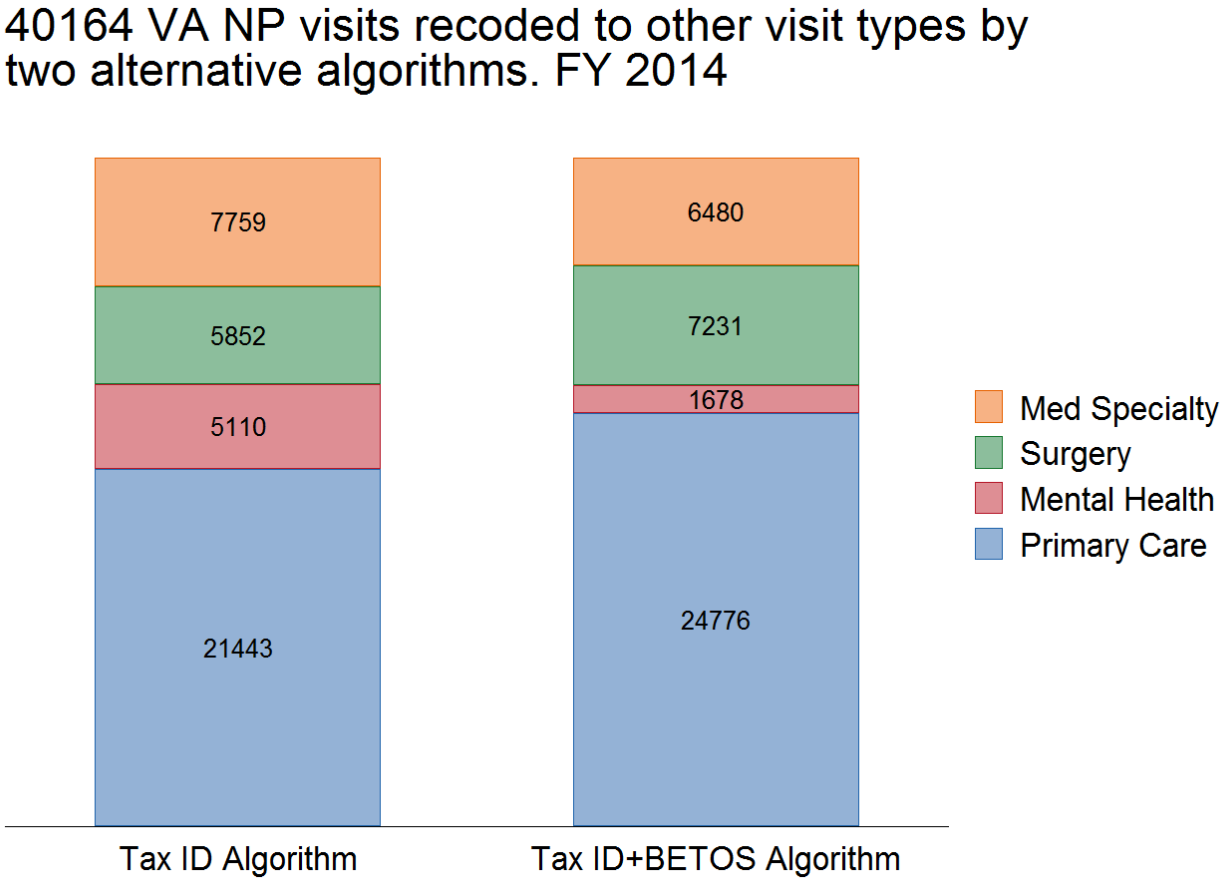
- Step 1: Code each visit based on the BETOS codes on that visit
- Step 2: Using VA data, estimate a multinomial logit of stop code group as a function of Tax ID weights for each visit type and BETOS codes
  Prob(stopcode)=f(%SpecTaxID, %SurgTaxID,%MHTaxID, BETOS1..BETOS99)
- Step 3: Get predicted probability of each stop code group for each visit
- Step 4: Attribute the NP E&M visit to each of the stop code group visit types based on the predicted probability.
- Step 5: Apply multinomial model parameters to VA visits in other years and to CMS visits
  - Calculate predicted probabilities in these years, sectors.
  - Attribute NP visits according to those probabilities

Validation of VA Tax ID+ BETOS algorithm against VA stop codes

Visit Type_Stopcode	Total NP/PA E&M Visits	Tax ID+ BETOS based Algorithm			
		Primary Care	Surgical Care	Medical Sub-specialty	Mental Health
Primary Care	24,829 (100%)	**24,627 (99.2%)**	31 (0.1%)	86 (0.3%)	85 (0.3%)
Surgical Care	7,188 (100%)	26 (0.4%)	**7109 (98.9%)**	53 (0.7%)	0 (0.0%)
Medical Sub-specialty	6,437 (100%)	113 (1.5%)	50 (1.5%)	**6267 (97.7%)**	0 (0.2%)
Mental Health	1,496 (100%)	40 (2.7%)	1 (0.0%)	8 (0.5%)	**1447 (96.7%)**

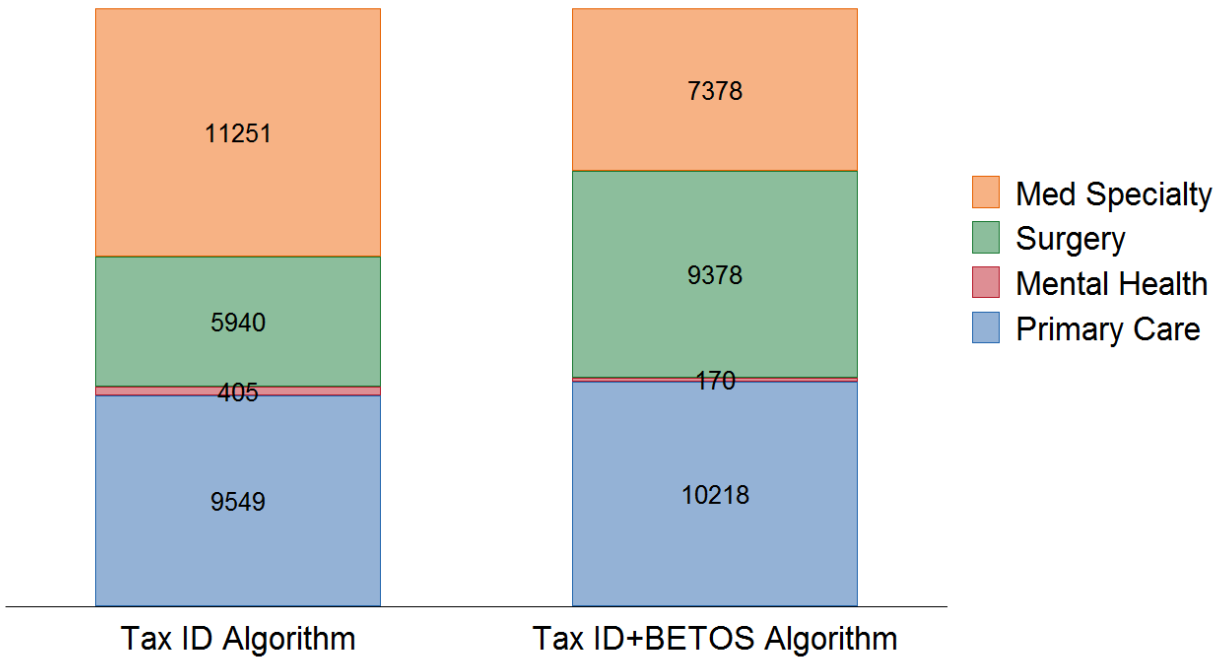
Percent concordance= 99%

Effect of alternative algorithms for recoding NP E&M visits to other visit types, VA visits 2014

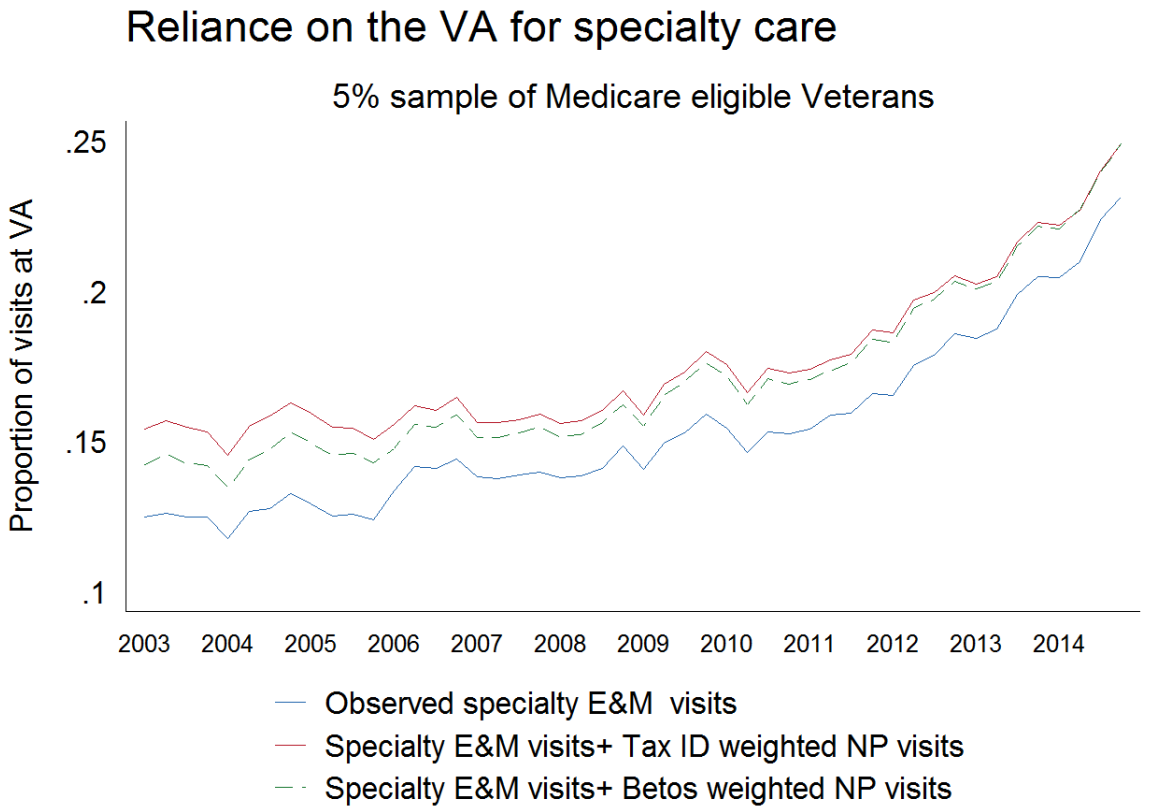


Effect of alternative algorithms for recoding NP E&M visits to other visit types, VA visits 2014

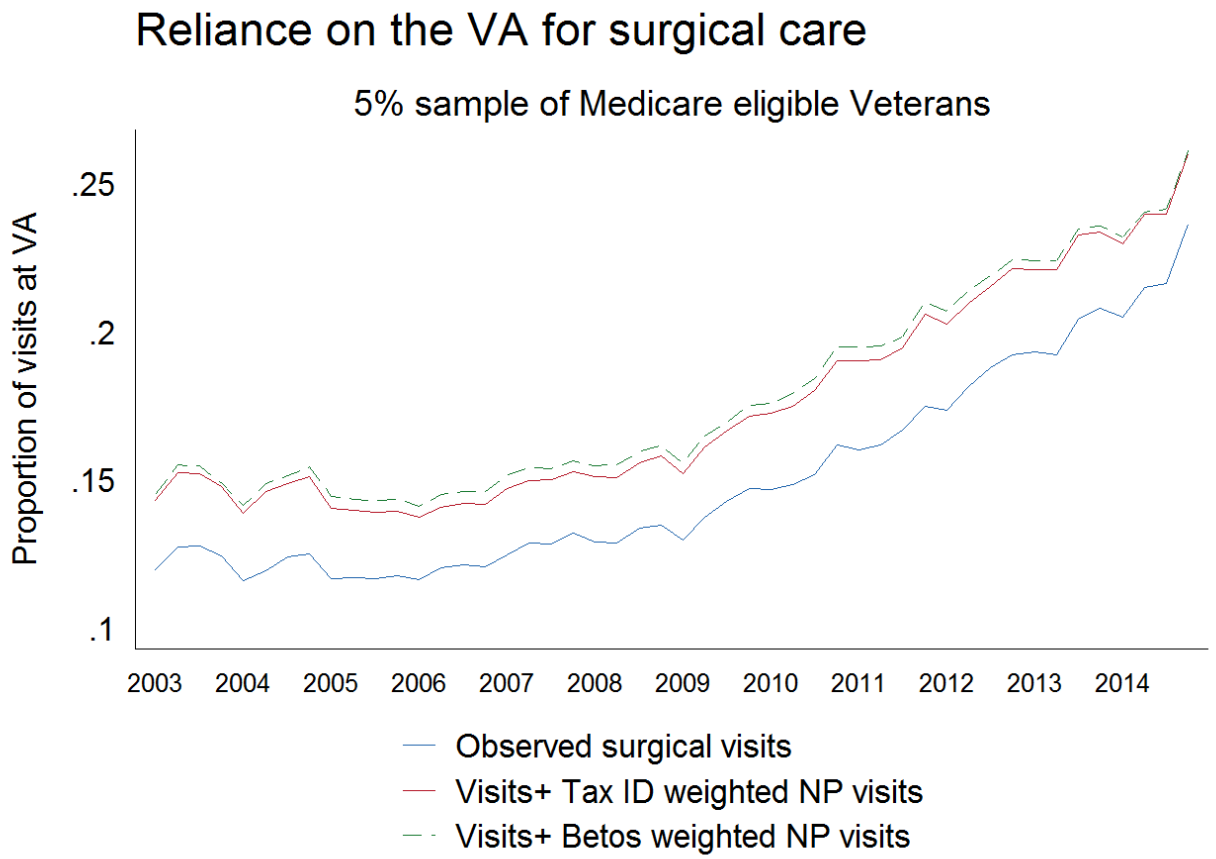
27145 CMS NP visits recoded to other visit types by two alternative algorithms. FY 2014



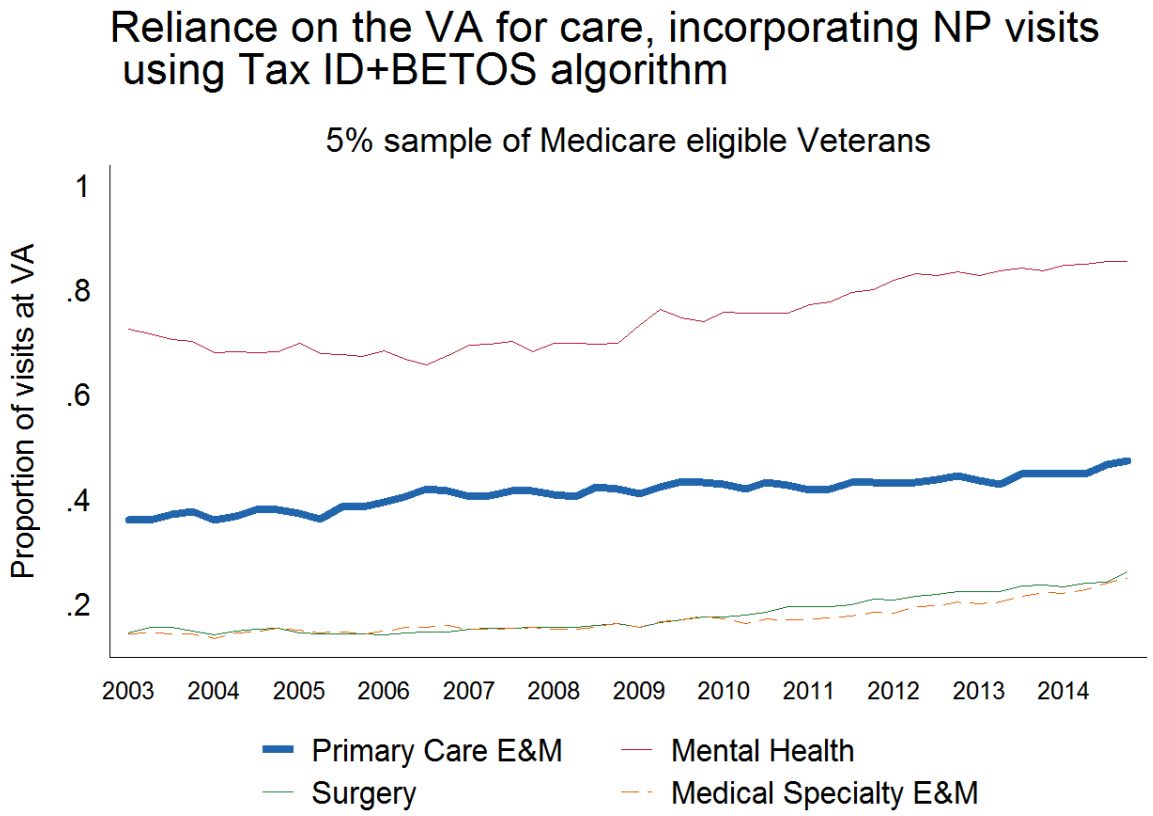
Results: Reliance on the VA for specialty care, by two methods for recoding NP visits



Reliance on the VA for surgical care by two methods for recoding NP visits



Summary: Reliance on the VA by veterans who are Medicare eligible, 2003 to 2014



Conclusion and Next Steps

- The algorithm for recoding NP E&M visits to other visit types seems to work when applied to VA data
  - Unknown whether BETOS-based algorithm applies as well to CMS as to VA data on which algorithm was derived
- Effect on VA reliance is modest
  - Regardless of how we code E&M visits to NPs and PAs, from 2003-2014, Medicare eligible Veterans voted with their feet to rely more on the VA for Primary Care, Specialty Care, Mental Health, and Surgical Care
- Next steps
  - Incorporate a larger sample of Veterans to get better estimate of types of clinicians at Tax IDs
  - Extend to more detailed specialty clinics (i.e., dermatology, cardiology, etc..)
  - Extend to VA facilities—what facilities are Veterans voting with their feet to support or reject?

QUESTIONS? COMMENTS? -

- Thanks!

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