VETERAN ACCESS TO CARE EVALUATION

Access to Care: Update on Metrics and Performance in the VHA

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PACT
Cyber seminar Series

Conflicts of Interest: None

Peter J. Kaboli, MD, MS
Veterans Rural Health Resource Center-Iowa City, VA Office of Rural Health and Center for Access and Delivery Research and Evaluation (CADRE), Iowa City VA Healthcare System, Iowa City, IA
Professor, Department of Internal Medicine, University of Iowa Carver College of Medicine, Iowa City, IA

Matthew R. Augustine, MD, MS
James J Peters VA Medical Center, Department of Medicine, Bronx, NY
Icahn School of Medicine at Mount Sinai, Department of Medicine, New York, NY

U.S. Department of Veterans Affairs
Veterans Health Administration
Health Services Research & Development Service

VETERAN
ACCESS TO CARE
EVALUATION

OBJECTIVES

- Described findings from the VA Office of Rural Health (ORH) Veterans Access to Care Evaluation

- Review recent evaluations describing how VHA is enhancing access to care and the metrics used in these evaluations.

2015 INSTITUTE OF MEDICINE REPORT

Transforming Health Care Scheduling and Access

Getting to Now

INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

- *"The IOM report* Crossing the Quality Chasm *(2001) identified six fundamental aims for healthcare-that it be: safe, effective, patient-centered, efficient, equitable, and timely. Of these fundamental aims, timeliness is in some ways the least well studied and understood."*

FY 2018: VETERANS ACCESS TO CARE EVALUATION

■ 20 Access Metric Brief Reports[1,2]

Wait times
- Wait Time, New Patients
- Third Next Available
- Timely Care

Primary Care
- Extended Hour Encounters
- Staffing Ratio
- Panel Size Fullness

Telehealth/Virtual Care
- Telephone Access
- Secure Messaging
- Home Telehealth

Patient Perceptions
- SHEP Surveys
- Kiosk

Mental Health
- PCMHI Penetration rate
- PCMHI same day access
- Chart Review: Patient Assessments for Call-ins
- Staffing Ratio
- Revisit Rate

Other
- VA Community Care Trends
- E-Consult Utilization
- Travelling Veteran Coordinators
- Group Practice Manager

ACCESS: DEFINITION (FORTNEY, *ET AL. JGIM,* 2011)

Access to Care represents the potential ease of having *virtual* or *face-to-face* interactions with a broad array of healthcare providers including clinicians, caregivers, peers, and computer applications.

- **Actual:** directly-observable and *objectively* measurable dimensions of access.
- **Perceived:** self-reported and *subjective* dimensions of access.

- 5 Dimensions of access:
  - Geographical
  - Temporal
  - Digital
  - Financial
  - Cultural

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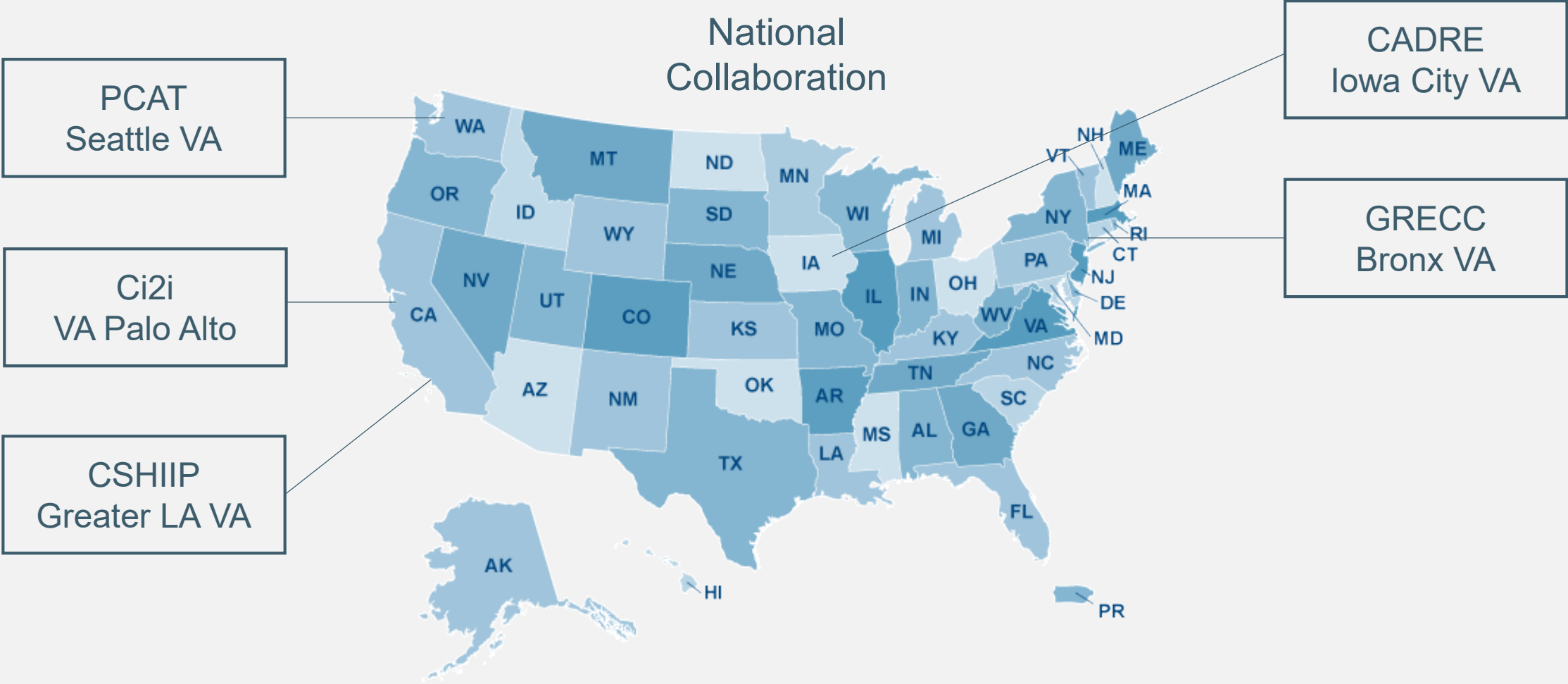
National Collaboration

PCAT
Seattle VA

Ci2i
VA Palo Alto

CSHIIP
Greater LA VA

CADRE
Iowa City VA

GRECC
Bronx VA

FY 2019: EVALUATIONS

VETERAN
ACCESS TO CARE EVALUATION

01 Extended Hours

02 Call Centers

03 Secure Messaging

04 Panel Fullness

05 Mental Health
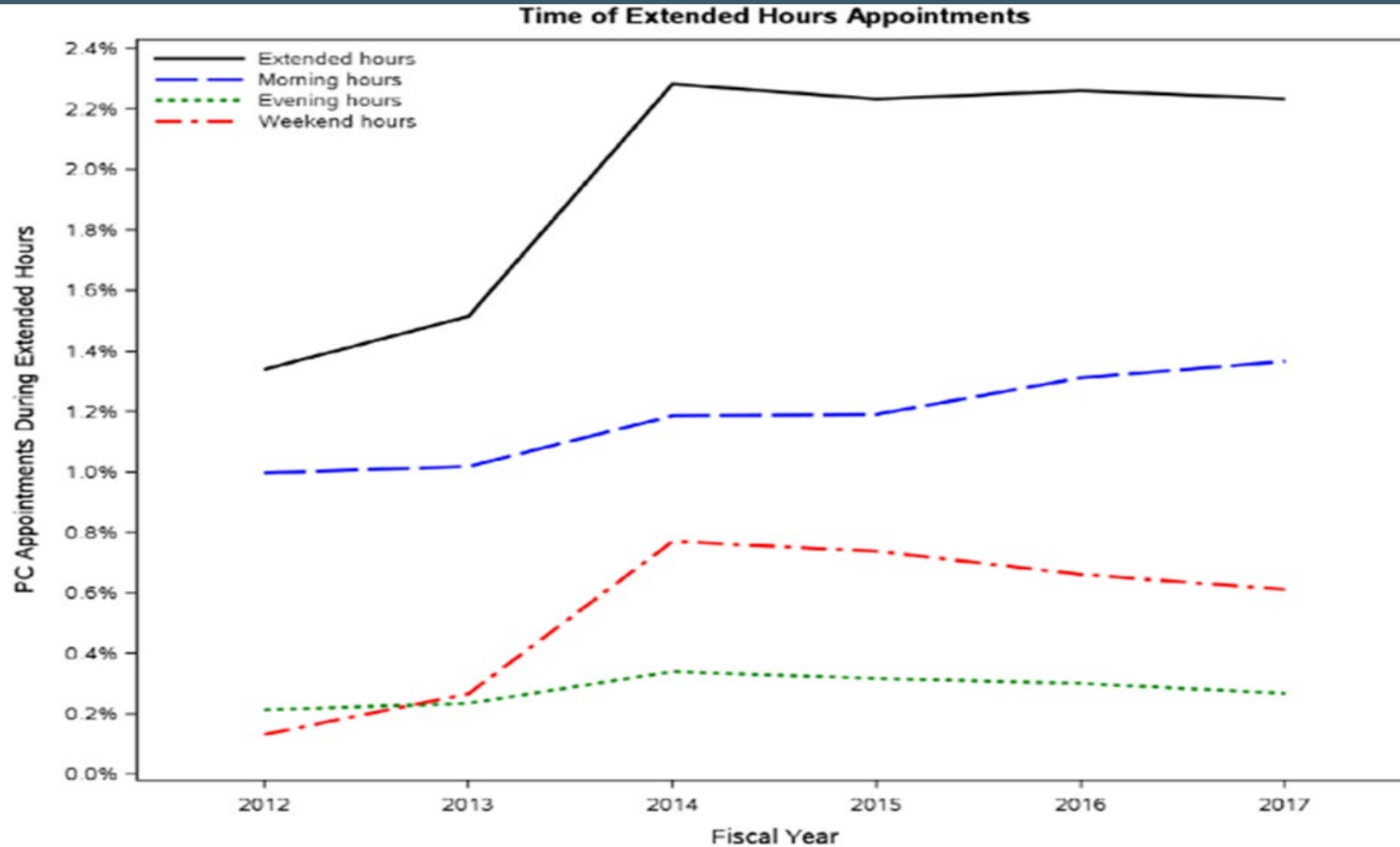
01 **Extended Hours**

Association of Primary Care Extended Hours with Access to Care and Emergency Department use
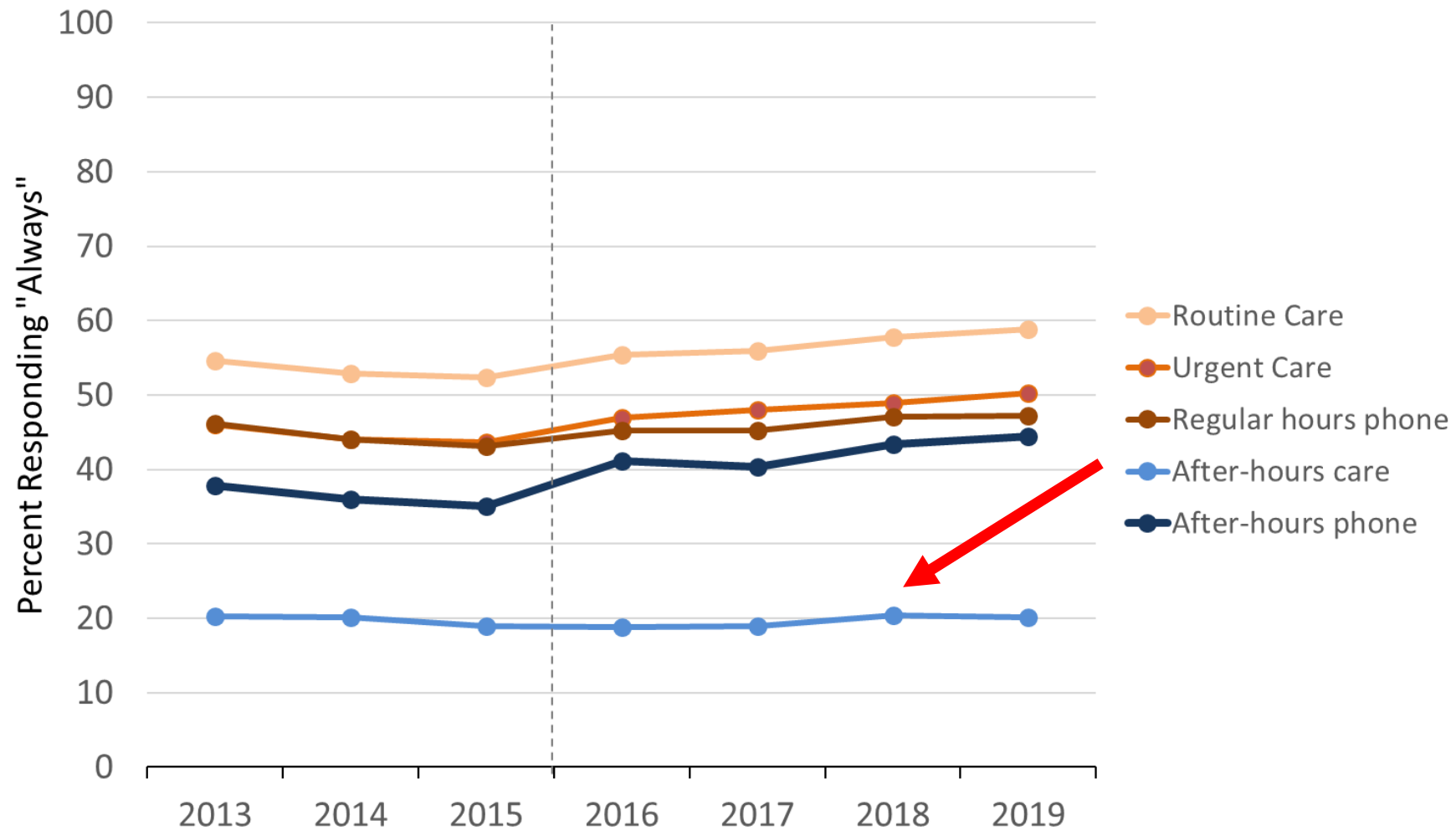
01 EXTENDED HOURS: Policies

- VHA Directive 2013-001 (January 2013)
  - Extended Hours: operation beyond 8:00 a.m. to 4:30 p.m., Monday through Friday
  - "Primary Care, including Women's Health, offers a full range of services in Department of Veterans Affairs (VA) medical centers and CBOCs, treating more than 10,000 unique Veterans each year, during extended hours, which occur on at least 1 weekday per week and at least once every weekend."

- VHA Directive 1231 (October 2019)[1]
  - "VA medical facilities and Community Based Outpatient Clinics (CBOC) treating 10,000 or more Primary Care enrolled unique Veterans per fiscal year (FY), must provide access to a minimum of 4 Extended Hours (EH) per week in both a Primary Care clinic and Mental Health clinic."

01 EXTENDED HOURS: Primary Care

Time of Extended Hours Appointments

Total extended hours encounter Encounters are represented by black solid line; Morning, blue dashed line; Evening, orange dotted line; and Weekends, red dot-dash line.

*unadjusted aggregate values from SHEP PCMH Data Cube

01 EXTENDED HOURS: Emergency Visits

- At the clinical level, is extended hours primary care impacting access?

Time of Extended Hours Appointments

Total extended hours encounter Encounters are represented by black solid line; Morning, blue dashed line; Evening, orange dotted line; and Weekends, red dot-dash line.
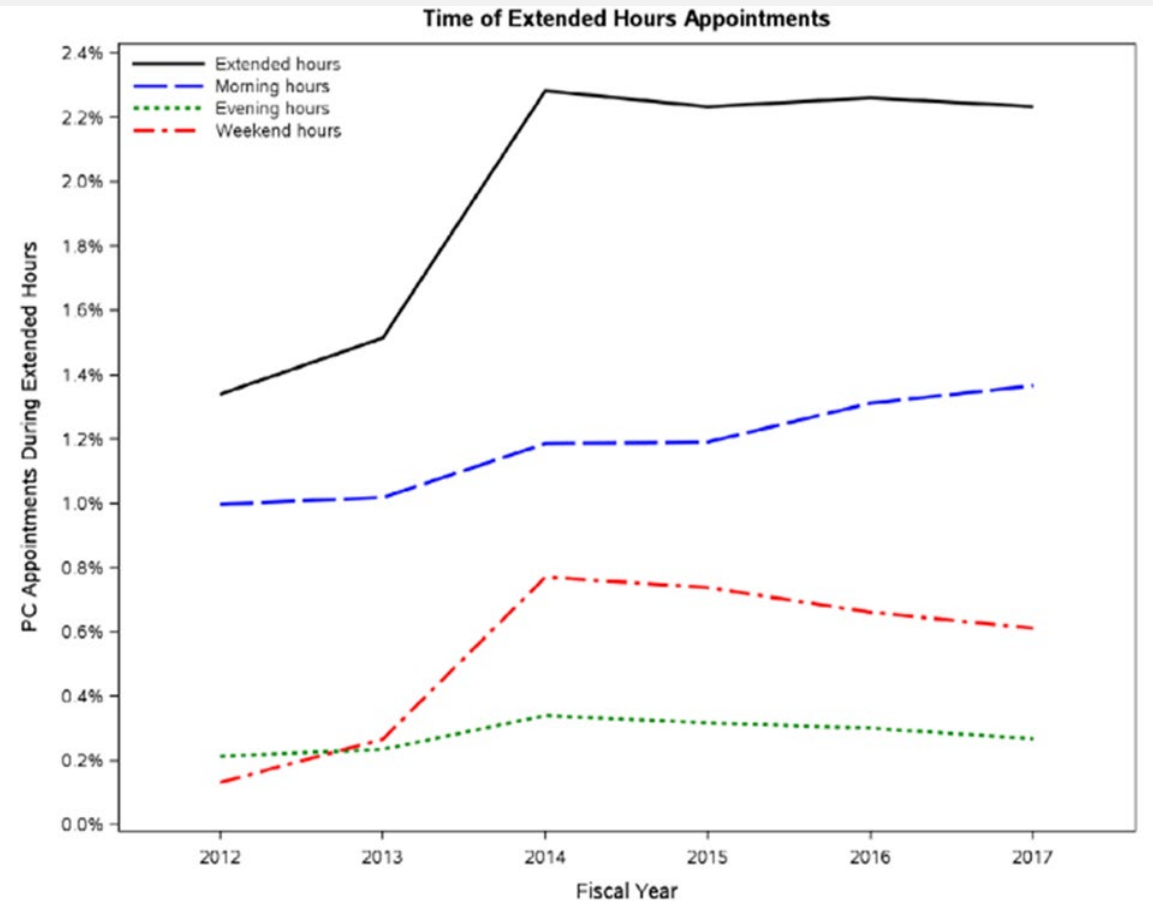
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01 EXTENDED HOURS: Methods

- **National Sample**
- **Timeframe**: July 2017 – October 2018
- **Clinics**: 1.0 FTE medical provider, 2000 patients
- **Exposure**: % Appointments in Extended Hours
- **Outcomes**:
  - Timeliness: Same Day Access, Timely Care
  - Wait-time: New & Established Patients
  - Capacity: Third Next Available
  - Utilization: VHA Emergency Department Visits at VAMCs
- **Methods**: Multilevel (Mixed) Regression
  - Between-Within approach
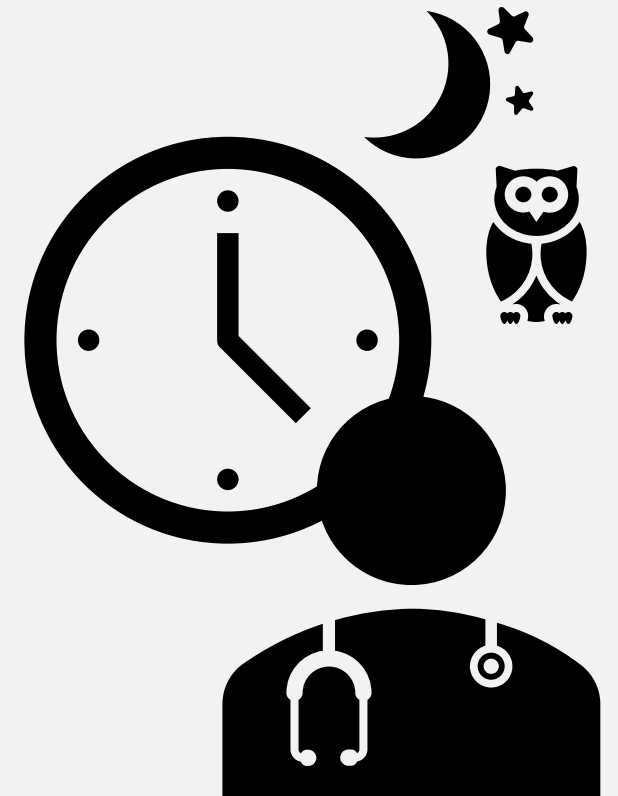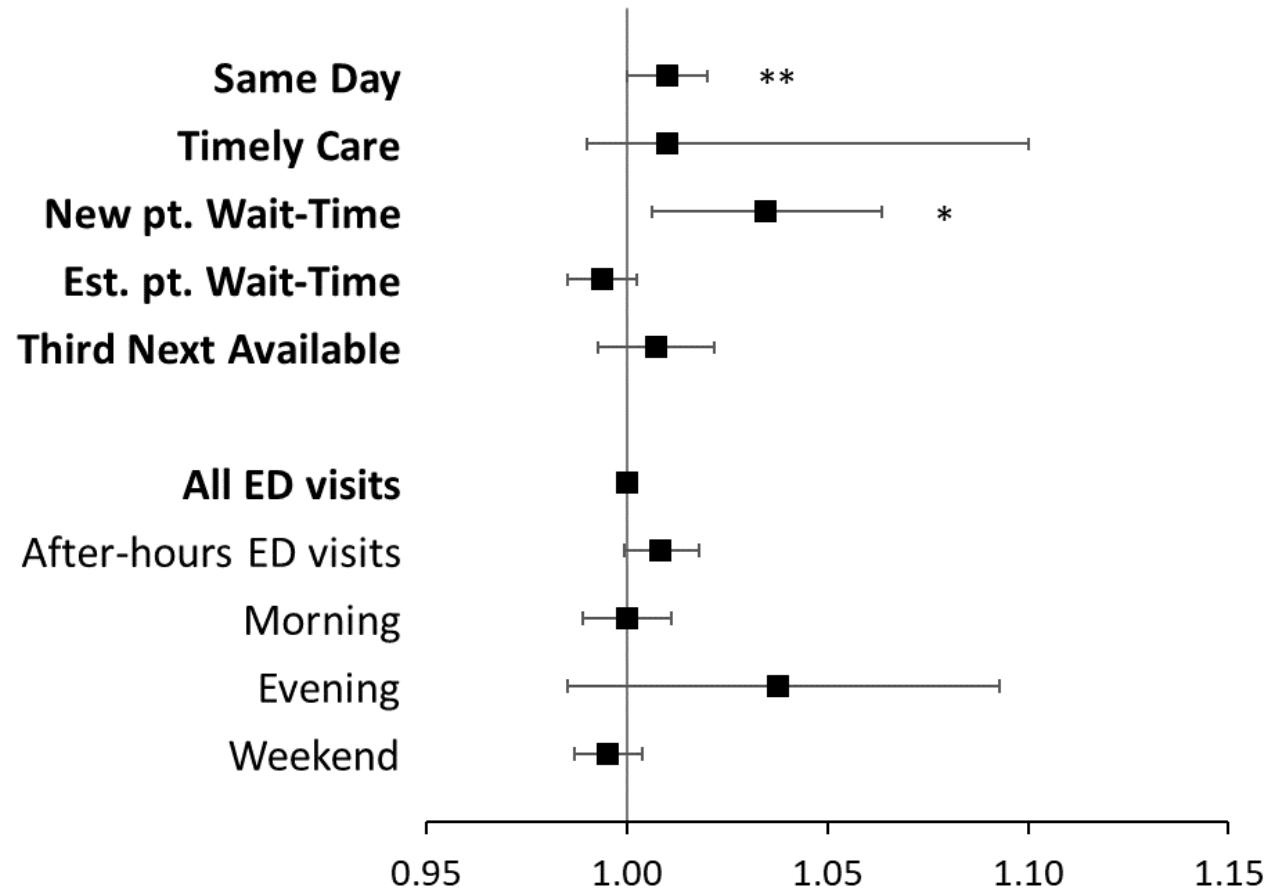
All associations expressed in 10% change in clinical panel size fullness. Same Day and Timely Care expressed in Odd Ratios; all others in incidence rate ratios (IRR). *p<0.05; **p<0.01

01 EXTENDED HOURS: Summary

- Increase patients seen the same day access (OR 1.01, p=0.010).

- Modest increase in new patient wait-time by with 0.27 additional days (IRR 1.03, p=0.028)

- No association with overall or time-concordant VHA ED visits at VA Medical Centers

01 EXTENDED HOURS: Implications & Next

- Extended hours may enhance same day access by providing more available times for patients to obtain care.
- While investigations are ongoing, clinics with high demand for same day access may consider continuing or expanding extended hours to offer range of times for patients to access care.

- Next
  - Confirm
  - Earlier timeframes over duration of implementation
  - Patient Experiences
  - Non-VHA data

FY 2019: EVALUATIONS

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02 Call Centers

Routing Calls to Licensed Independent Practitioners (LIP) and the association with Emergency Department and Outpatient Visits

02 CALL CENTERS: Policy & Question

- Clinical Contact Modernization
  - VHA Priorities: Customer Service, Transforming Business Systems, MISSION Act

- Clinical Call Center
  - Nurse Triage
  - First Contact Resolution
  - License Nurse Practitioner (LIP)

- Question: Does inclusion of LIP in Clinical Call Centers reduce utilization?

02 CALL CENTERS: Methods

- **Greater Los Angeles Call Center**
- **Timeframe**: May 2015 to March 2019
- **Exposure**: LIP vs. Other
- **Outcomes**: VA and Fee basis
  - Emergency Department
  - Primary Care
  - Specialty Care
  - Hospitalization
- **Methods**:
  - Matched to Chief Complaint, Recommended Follow-up Interval, Recommended follow-up location
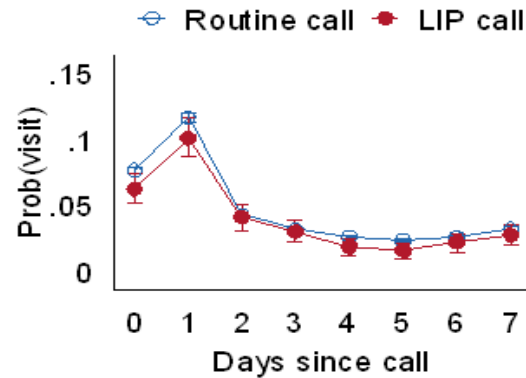 - Repeated measure logistic regression

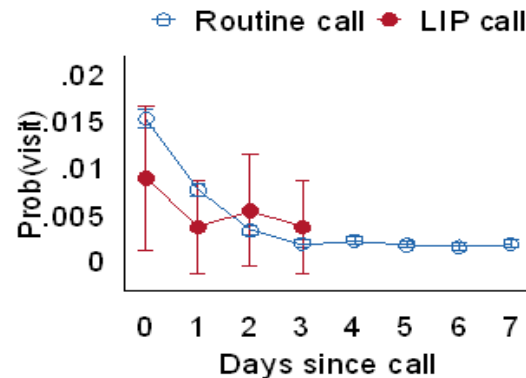# 02 CALL CENTERS: Results
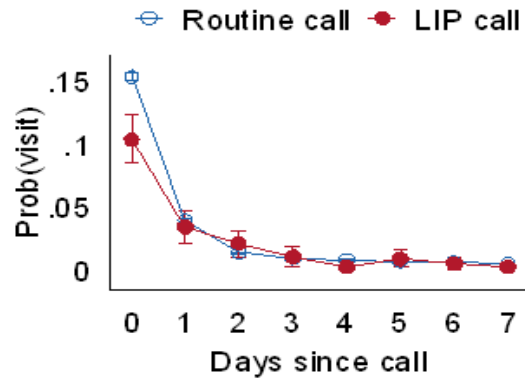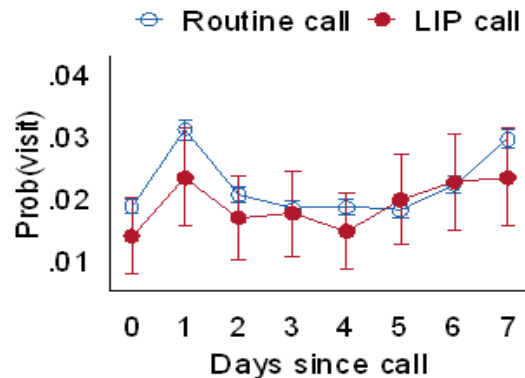
Veterans whose calls handled routinely were more likely to use ED, hospital, and specialty visits in the days after the call than were veterans whose calls were handled by the NP.

After adjustment for differences in characteristics of calls and callers, the differences in healthcare use was smaller but still statistically significant for ED, inpatient, and primary care.

02 CALL CENTERS: Results

	Probability of any use					Count of use per person				
	Unadjusted			Adjusted[1]		Unadjusted			Adjusted[2]	
	Routine call	LIP call	p-value	Risk-ratio	p-value	Routine call	LIP call	p-value	Rate ratio[2]	p-value
ED	.23	.09	<0.001	.71	<0.001	.27	.11	<0.001	0.78	0.002
Primary Care	.36	.34	.180	.76	<0.001	.42	.43	0.801	0.9	0.008
Specialty Care	.15	.11	<0.001	.78	0.002	.2	1.5	<0.001	0.87	0.037
In-patient	.03	.01	<0.001	.64	0.131	0.04	0.01	<0.001	0.6	0.083

[1]Risk ratio from a logistic regression of any use as a function of patient characteristics (socio demographics; prior 12-month ED, primary care, specialty care and inpatient use), and call characteristics (chief complaint, duration of complaint, urgency of condition, and pain score). [2]Rate ratio from a Poisson model of the same variables as the logistic regression.

02 CALL CENTERS: Implications

- Veterans whose calls were routed to an LIP at the Greater Los Angeles (GLA) call center had fewer subsequent face-to-face clinic visits than did veterans who called for similar health conditions and whose calls were handled routinely by registered nurses.

- Incorporating LIPs into the GLA call center appears to have obviated some healthcare visits.

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03 Secure Messaging

Association between Secure Messaging and Primary Care Face to Face and Phone Visits

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03 SECURE MESSAGING: Policy & Question

- MyHealtheVet initiated in 2009, 2.1 million veterans (30% of PCMM) have signed up to use the secure messaging (SM) portal.

- FY 2013, the proportion of patients in PCMM using SM each year has nearly tripled, increasing from 4% to over 11% in FY17.

- My VA Access Initiative included SM in the list of possible fulfillment options for same day care.

- In FY17, only 10% of rural patients were actively using SM in comparison to 13% of urban patients.
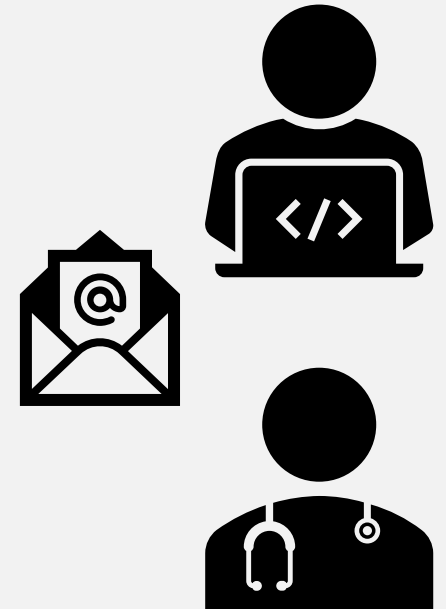
03 SECURE MESSAGING : Question

- Does secure messaging influence primary care utilization?

03 SECURE MESSAGING: Methods

- MyHealtheVet
- Timeframe: 2016 (1 year pre/post SM initiation)
- Population: 25,683 new SM users matched with 49,266 non-users from the underlying population (5.8 million FY16 PCMM cohort)
- Matching Criteria: same primary care provider panel, age, sex, service connection, and rurality, within 1/5 of the standard deviation of the predicted propensity by Nosos score and drive time to the nearest clinic.
- Outcomes: Primary Care Utilization (Face-to-Face, Telephone visits)

- REDUCTION in PC F2F visits by 16%, or 0.23 visits per SM, with significant absolute difference of 7%.
- INCREASE in PC Telephone visits by 11%, or 0.27 visits per SM, with significant absolute difference of 7%.

Measure	Matched Control (N=49,266)			Secure Messaging User (N= 25,683)			Difference in Differences * (% in difference)
	Pre	Post	Difference *	Pre	Post	Difference *	
Average # annual face-to-face visits per patient	1.11	1.00	0.1 (↓9%)	1.44	1.21	-0.23 (↓16%)	-0.13 (↓7%)
Average # annual telephone visits per patient	1.76	1.84	0.08 (↑4%)	2.45	2.72	0.27 (↑11%)	0.19 (↑7%)

*P-value < 0.05

03 SECURE MESSAGING : Implications

- Based on one year pre- and post-event periods, initiation of secure messaging in 2016 was associated with <u>decrease</u> in face to face primary care visits and <u>increase</u> in telephone visits

- Future work
  - Prospective cohort study
  - Short term impact vs. long term effect
  - Provider workload increase and burnout

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04 Panel Fullness

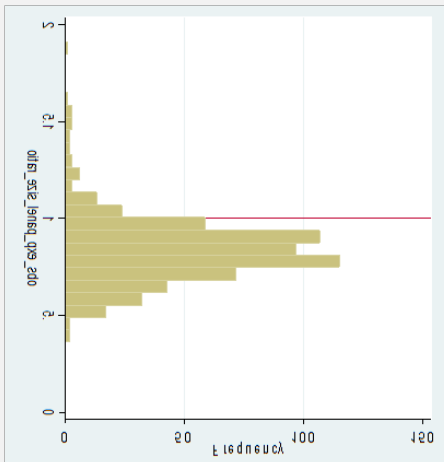Association of Primary Care Clinic Fullness with Access to Care and Emergency Department Use

Burnout

Panel size
(1200 Pts / MD FTE)
(900 Pts / PA or NP FTE)

- Support Staff
- Rooms
- Clinical Severity
- Number of Women

**Lower
Access to Care?**

04 PANEL FULLNESS : Question

- Is unadjusted panel fullness associated with access to primary care and Emergency Department utilization?

04 PANEL FULLNESS: Methods

- National VHA
- Timeframe: July 2017 to October
- Panel Fullness (unadjusted)

$$\text{Panel Fullness} = \frac{\textbf{Observed Panel Size} = \text{Number Assigned patients, PCMM}}{\textbf{Expected Panel Size} = 1200 * \text{MD/DO FTE} + 900 * \text{NP/PA FTE}}$$

- Outcomes
  - Same Day Access (<24 hours)
  - Timely Care (<48 hours)
  - New Patient Wait Time (preferred date)
  - Established Patient Wait Time
  - Third Next Available
  - ED visits among clinics located within VAMCs
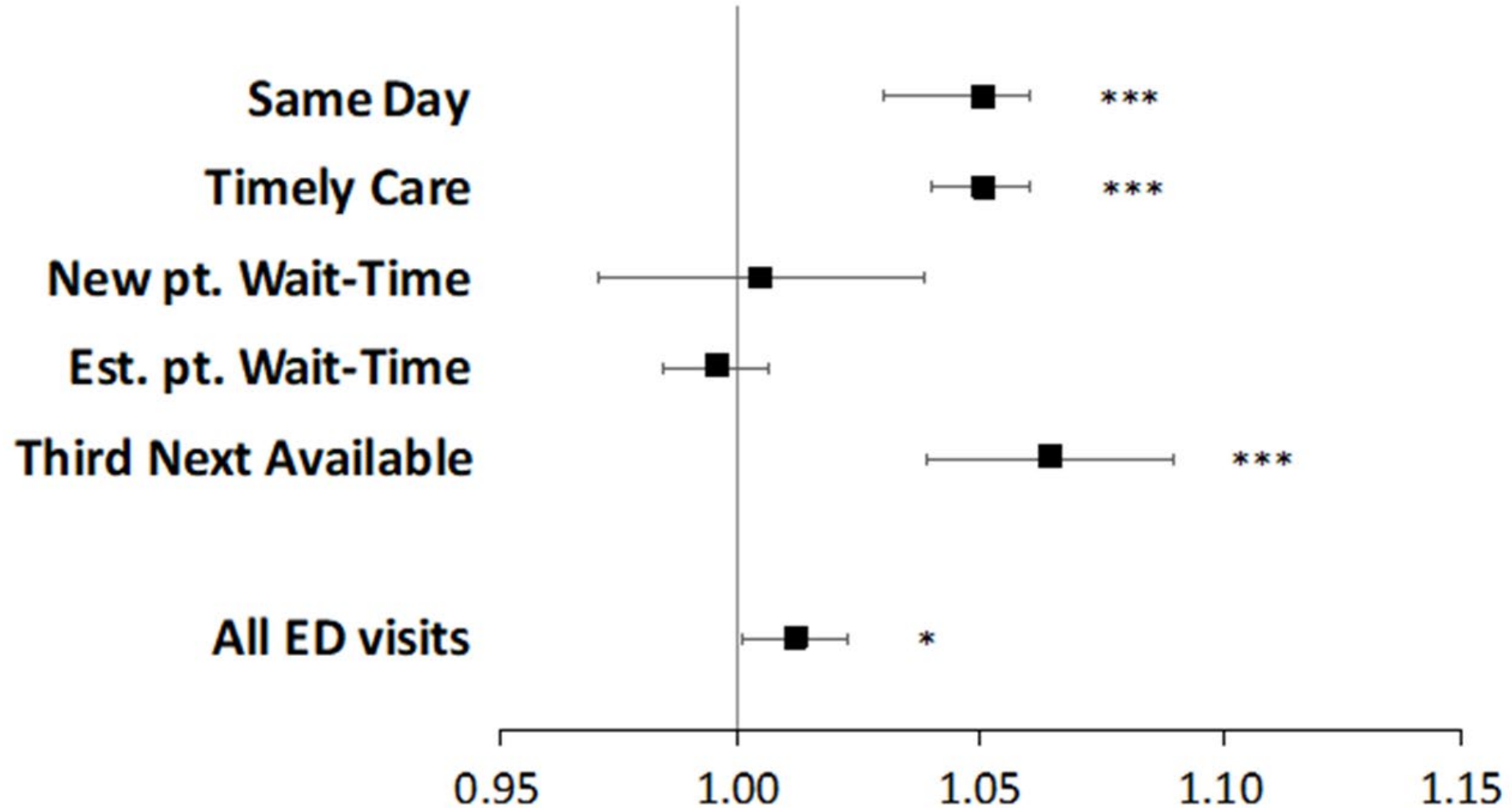
04 PANEL FULLNESS: Implications

- Increase in panel fullness by 10% (~120 pts / MD FTE; ~90 patients per FTE PA/NP) was associated with:
  - Improved timely care
  - More urgent care or next available requests being fulfilled within 24-48 hours
  - Longer time to the 3rd next available open time slot (0.58 days)
  - 1.1% increase in ED visits at a VAMCs

- Increased VHA ED visits may signify time constraints of clinics or limited face-to-face appointment slots (i.e., TNA) among clinics with higher panel fullness to provide higher acuity and complete care to deter ED visits.

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05 Mental Health

Association between Acute Psychiatric Bed Availability and Risk of Suicide in a National Sample of Veterans: 2001-2016

- Hospital diversions and bed capacity, as a measure of healthcare access and quality, are not routinely measured, reported, or studied.
  - Inpatient Hospital Capacity Strain [Eriksson; *JGIM* 2016]
    - Increased mortality and reduced hospital quality in most studies
  - ED Diversions [Burt; *AEM* 2003]
    - ~45% of EDs report diverting at some point that year; average of 3% of the time.
  - ICU Capacity
    - Range of no impact to up to 5X greater odds of death with overcrowding

05 MENTAL HEALTH: Policy & Question

- Low psych bed supply for serious mental illness associated with:
  - Higher suicide and premature mortality
  - Extended ED waits and higher threshold for admission
  - Short revolving-door stays with higher re-hospitalization rates
  - Homelessness, violent crime, incarceration, and trans-institutionalized to prisons

- No international consensus on safe minimum numbers of beds
  - USA: 22/100,000 population
  - UK: 50/100,000
  - OECD: 71/100,000
  - VA: 76/100,000

05 MENTAL HEALTH: Policy & Question

UK National Health Service

- Estimate of 50/100,000 publicly funded beds needed to provide:

  - Equal access as medical care

  - 4-hour rule for admission to an acute ward

  - 85% occupancy rate to meet the 4-hour rule

  - Adequate beds to allow 2-4 week LOS

Suicide Rates and the Declining Psychiatric Hospital Bed Capacity in the United States
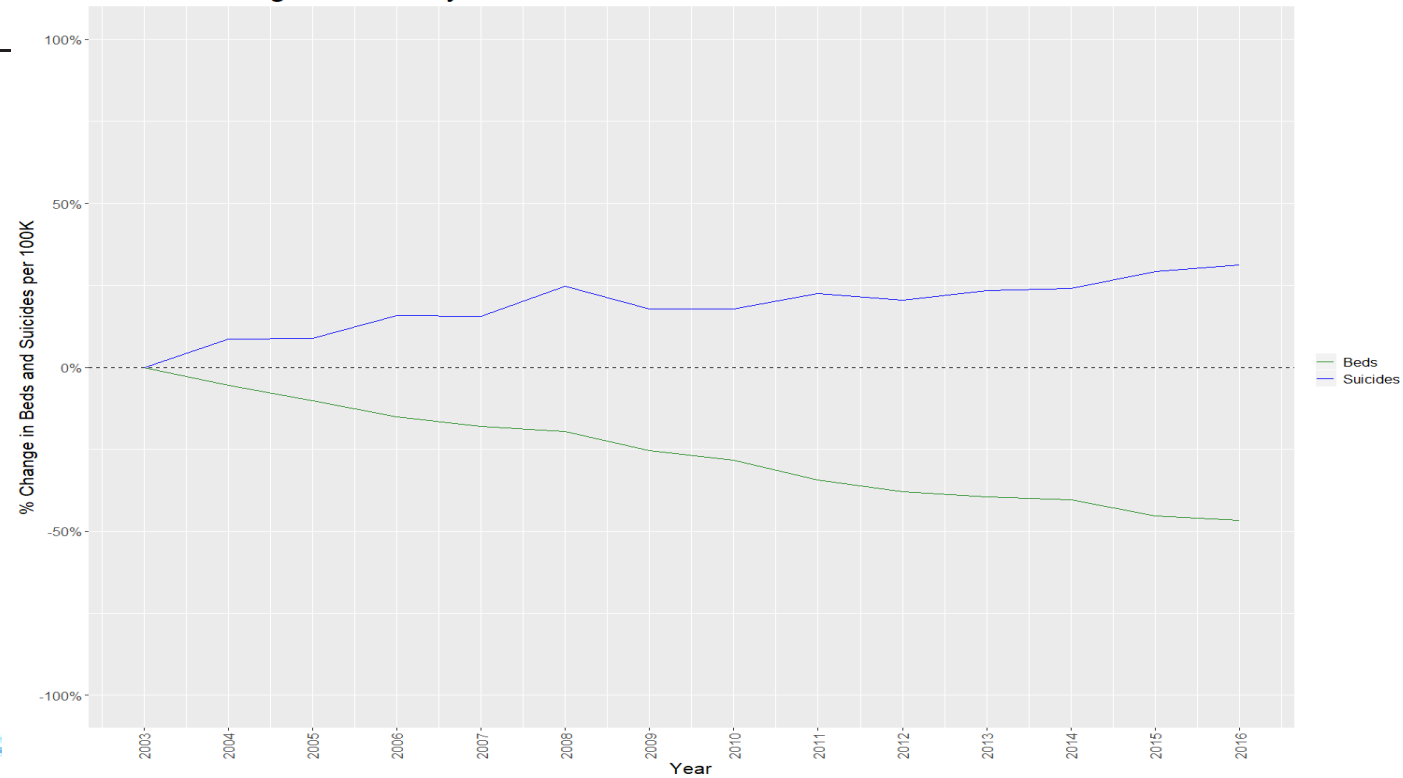
Figure. Association Between Number of Psychiatric Hospital Beds and Suicide Rates
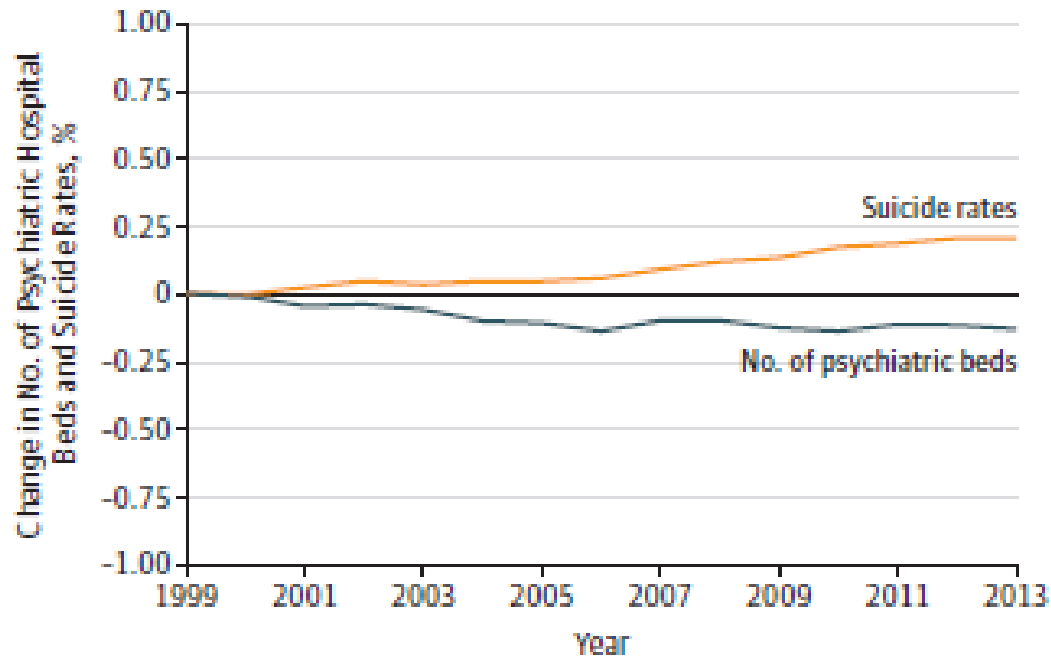
Percent Change in VHA Psychiatric Beds and Veteran Suicides

05 MENTAL HEALTH : Methods

- **Study Design:** Cross-sectional time series with repeated measures
- **Patient Population:** 10,119,845 veterans in primary care (1/1/2003 – 12/31/2016)
- **Data Elements:**
- Suicides from the DoD/VHA Suicide Data Repository
- Clinical characteristics from the VHA Corporate Data Warehouse (CDW).
- Hospital-level variables from VSSC, including monthly hospital occupancy.
- Civilian/Regional-level characteristics from: Area Health Resource File, State Mental Health Agency, Census Bureau, American Community Survey
- **Facility-level Analysis**
- Relationship between hospital-level characteristics and market-level suicide rate using a Generalized Linear Mixed Model (GLMM)
- Suicide rate modeled as number of suicides/quarter with a Poisson distribution and a log-link.

05 MENTAL HEALTH: PRELIMINARY Findings

Lower rates of suicide:

For each additional 25 civilian psychiatric beds per 100,000 population

For each additional $50 spent on mental health per capita

Higher rates of suicide:

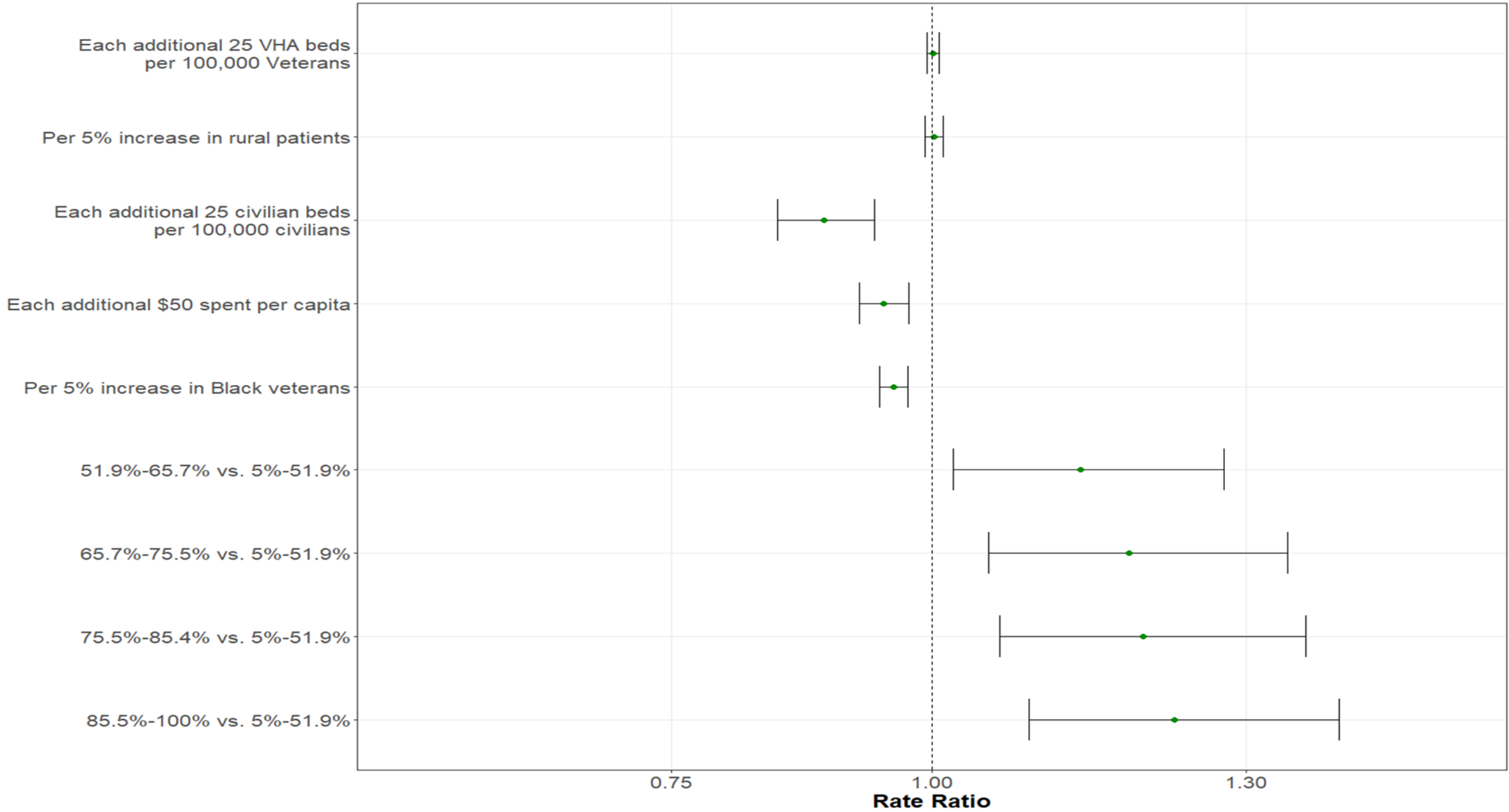Compared to hospitals in lowest occupancy quintile, rate ratio (RR) of suicide increased in:

quintile 2 (RR=1.13; 95%CI 1.01-1.27),

quintile 3 (RR=1.19; 95%CI 1.05-1.34),

quintile 4 (RR=1.20; 95%CI 1.06-1.35),

quintile 5 (RR=1.24; 95%CI 1.10-1.41).

Rate Ratios for Hospital-Level Analysis

05 MENTAL HEALTH: Implications

- Lack of mental health bed availability is associated with a higher risk of suicide.

- Greater community mental health investment is protective against suicide.

- Future work:
  - Estimate optimal levels of bed occupancy and MH spending in VHA and community, including trends in occupancy over time.
  - Geographic variation and hot-spotting of high risk clinics/locations

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FUTURE ACCESS-RELATED ISSUES

- Mission Act (401/403)
  - Access Standards for when to refer to community for care
  - Criteria for "underserved facilities" designation with annual definition
    - Implement mobile deployment teams, residency program pilot, and scribes
- Electronic Health Record Modernization
  - Impact on access and efficiency (20-30% reduction?)
- Reduce no-shows (currently 11%)
- Provider and staff recruitment and retention and access
- Continued expansion of virtual care to improve access (e.g., E-consults, specialty care telemedicine, tele-hospitalists)
- Access-related marketing/satisfaction
- Inpatient access/bed availability

THANK YOU

- **Peter J. Kaboli, MD, MS** *Iowa City VA Healthcare System, Iowa City, IA*
  Peter.Kaboli@va.gov

- **Matthew R. Augustine, MD, MS** *James J Peters VA Medical Center, Bronx, NY*
  Matthew.Augustine2@va.gov

PCAT (Seattle)	CADRE (Iowa City)
Idamay Curtis	Bjarni Haraldsson
Karin Nelson	
Paul Hebert	
Ashok Reddy	
Emily Ashmore	
Eric Gunnink	
Adam Batten	
Elaine Hu	

METRIC BRIEFS AND OTHER MATERIALS

- **OVAC VA Pulse:**

https://www.vapulse.net/community/ovac/content?filterID=contentstatus[published]~category[veteran-access-to-care-evaluation

- **Access SharePoint:**

https://vaww.infoshare.va.gov/sites/primarycare/PCAT-Access/Access/VAC%20Evaluation.aspx

00 Home Telehealth

Evaluation of Home Telehealth Services (2010-2018) in the Veterans Health Administration

00 HOME TELEHEALTH: Policy & Question

- Home Telehealth: daily case management for chronic conditions (e.g., heart disease, hypertension, diabetes)
- FY2012 to FY2018: 6.7 million telehealth encounters to 1.0 million veteran patients
- Limited prior analyses

- Questions:
  - Which Veterans are enrolling in HT and why?
  - Does HT enrollment impact utilization (e.g., PCP visits, Mental health visits, ED visits, ACSC hospitalization and all-cause hospitalization)?

00 HOME TELEHEALTH: Methods

- National VHA
- Timeframe: 2010-2017
- Exposure: Age, Gender, Rurality, Drive time, Co-morbidity, health risk
- Outcome: HT enrollment
  - Duration
  - Conditions for enrollment

00 HOME TELEHEALTH: Findings

Characteristic	2010	2014	2017
Mixed chronic conditions (MCC), %	35.9	3.1	0.2
Hypertension (HTN), %	15.1	31.1	32.2
Diabetes (DM), %	12.2	16.7	17.7
Behavioral Health (BH), %	6.7	4.8	3.5
Cardiovascular Disease (CVD), %	6.4	10.7	8.0
Weight, %	6.4	22.5	29.2
Mixed, %	5.4	0.6	0.0

00 HOME TELEHEALTH: Findings

- Most patients enrolled in HT were male (92.3%), live in urban areas (65.7%), and drive on average 20 miles to care.
- Number using home TH has plateaued at ~50,000/year.
- A majority were receiving remote monitoring for common conditions treated in primary care.
- The 3 most common conditions that remote monitoring was used for were hypertension (26.9%), obesity (23.7%), and diabetes (15.3%).
- The median length of enrollment in HT program was 224 days (IQR 102 – 530).

- Further work on impact on utilization and outcomes