



Validating and applying VA substance use disorder and mental health performance measures through operations-partnered investigation

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Collaborators and Support

- Collaborators
 - Steven Pizer (PEPReC)
 - Jodie Trafton (PERC/OMHO)
 - Matt Neuman (PERC/OMHO)
 - Amy Wallace (VA North Texas Health Care System)
- Support
 - HSR&D (CREATE—Keith Humphreys, PI)
 - PERC/OMHO
 - QUERI (PEPReC)

Outline

- Introduction to the Partnered Evidence-based Policy Resource Center (PEPReC)
- Impact of dedicated substance use disorder funding
 - On workload: Did it stick? (Frakt et al. Implementation Science 2013, 8:79)
 - On access and intensity: Did the VHA keep pace with growing demand? (Frakt et al. J Subst Abuse Treat 2015 55:58-63)
- Validating mental health program characteristics with satisfaction measures
 - Program reach
 - Psychosocial service access
 - Program intensity
 - Treatment continuity
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 - Risk mitigation for patients receiving VHA opioid prescriptions
 - Targeting care for patients at high risk for suicide

Poll Question

- How familiar are you with the Partnered Evidence-based Policy Resource Center (PEPReC)?
 - a) I've never heard of it
 - b) I've heard of it, but I don't know what it does
 - c) I've heard of it, and I know what it does
- My guess: Few have heard of it and know what it does because it is relatively new

Partnered Evidence-based Policy Resource Center

PEPReC

Partnered Evidence-based Policy
Resource Center

- A new HSR&D/QUERI resource center to
 - Provide timely, rigorous data analysis
 - Support development of high-priority policy, planning, and management initiatives
 - Plan quantitative program evaluations with randomized designs
- Core Mission 1: Collaborate with VA operations partners to
 - Accurately forecast the demand for VA care
 - Efficiently deploy resources where they are most needed
 - Monitor performance, including access to care
 - Make sound decisions about major new investments
- Core Mission 2: Collaborate with operations partners and researchers to design and implement randomized program evaluations
- Co-PIs: Julia Prentice & Austin Frakt
- Chief Economist: Steve Pizer

Current Partnered Activities Supported By Operations & QUERI

PEPReC

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Resource Center

- Access and Clinic Administration Program
 - Metrics to Advance Implementation/Evaluation of Clinic Management Training Program
 - Evaluating the VA Scheduling System Options
- Office of Policy and Planning
 - External Determinants of Non-Elderly Veterans' Demand of VA Care
 - Volume Effects of FFS Medicare Relative to VA Utilization Patterns
- Office of Mental Health Operations
 - Measuring Demand Response to New Mental Health Capacity
- Office of Informatics and Analytics
 - VISTA Evolution National Evaluation

Randomized Program Evaluations To Be Supported By HSR&D

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Resource Center

- Call for concept papers for service directed research: randomized program evaluations
 - Veteran-Directed Home & Community Based Services, with the Office of Geriatrics and Extended Care
 - Predictive Model-Based Targeted Risk Mitigation For Patients Receiving VA Opioid Prescriptions Who Are At High Risk Of Adverse Events, with the Office of Mental Health Operations
 - Risk Stratified Enhancements To Clinical Care: Targeting Care For Patients Identified Through Predictive Modeling As Being At High Risk For Suicide, with the Office of Mental Health Operations
 - Impact Of Mobile Teledermatology On Skin Care Delivery And Patient Outcomes, with the Office of Connected Care

Randomized Program Evaluation Process

PEPReC



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Resource Center*

- PEPReC is designing 3-year randomized evaluations with operations partners
- PEPReC will construct metrics and perform quantitative analysis of administrative data throughout evaluations
- Call for concept papers issued February 3, 2016 to solicit applications from potential research partners.
- Concept papers were due March 8th
- Planning awards to be made in late March
- Full protocols due in eRA Commons in June and December

Review Panel Members and Senior Staff

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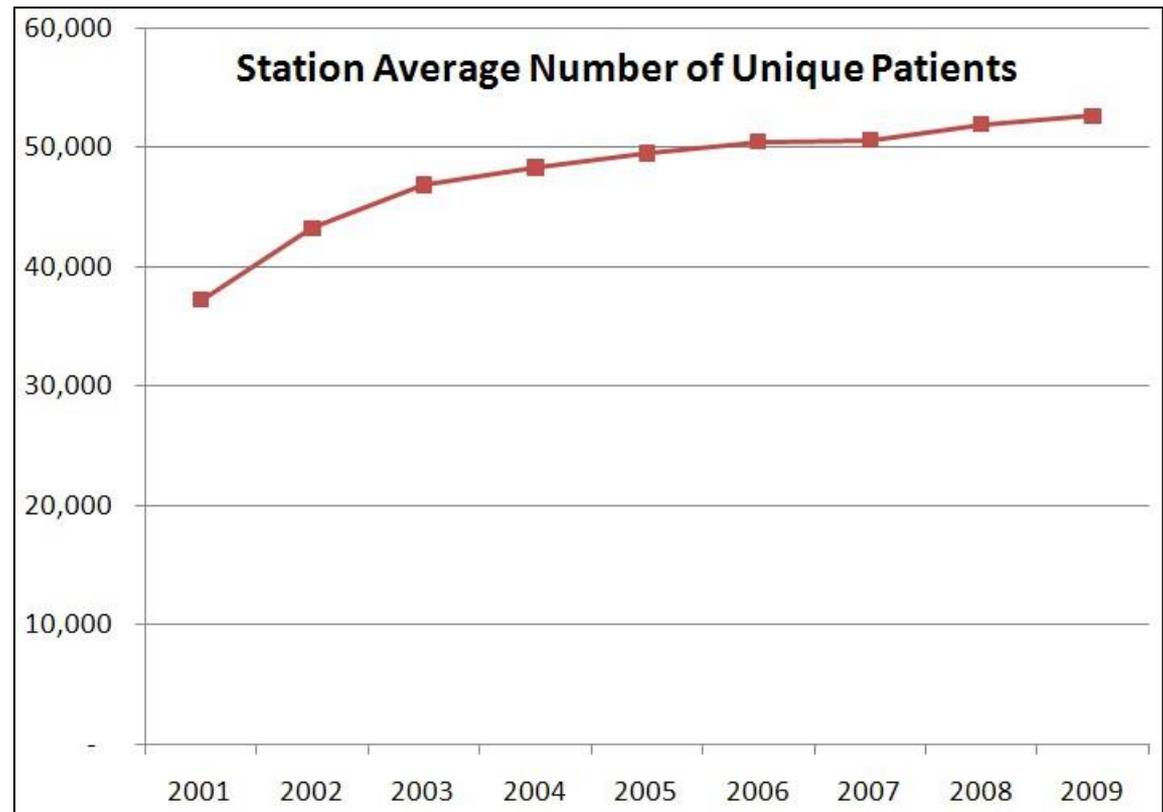
Review Panel Members	Senior Staff
DeAnn Farr, PhD, CFAAMA, PMP (Office of Policy and Planning)	Julia Prentice, PhD (PEPReC co-PI)
Michael Davies, MD (Access and Clinic Administration Program)	Austin Frakt, PhD (PEPReC co-PI)
Merry Ward, PhD (Office of Informatics and Analytics)	Steven Pizer, PhD (Chief Economist)
Jodie Trafton, PhD (Office of Mental Health Operations)	Amy Kilbourne, PhD, MPH (Director of QUERI)
Joe Francis, MD, MPH (Office of Informatics and Analytics)	
David Atkins, MD, MPH (HSR&D)	

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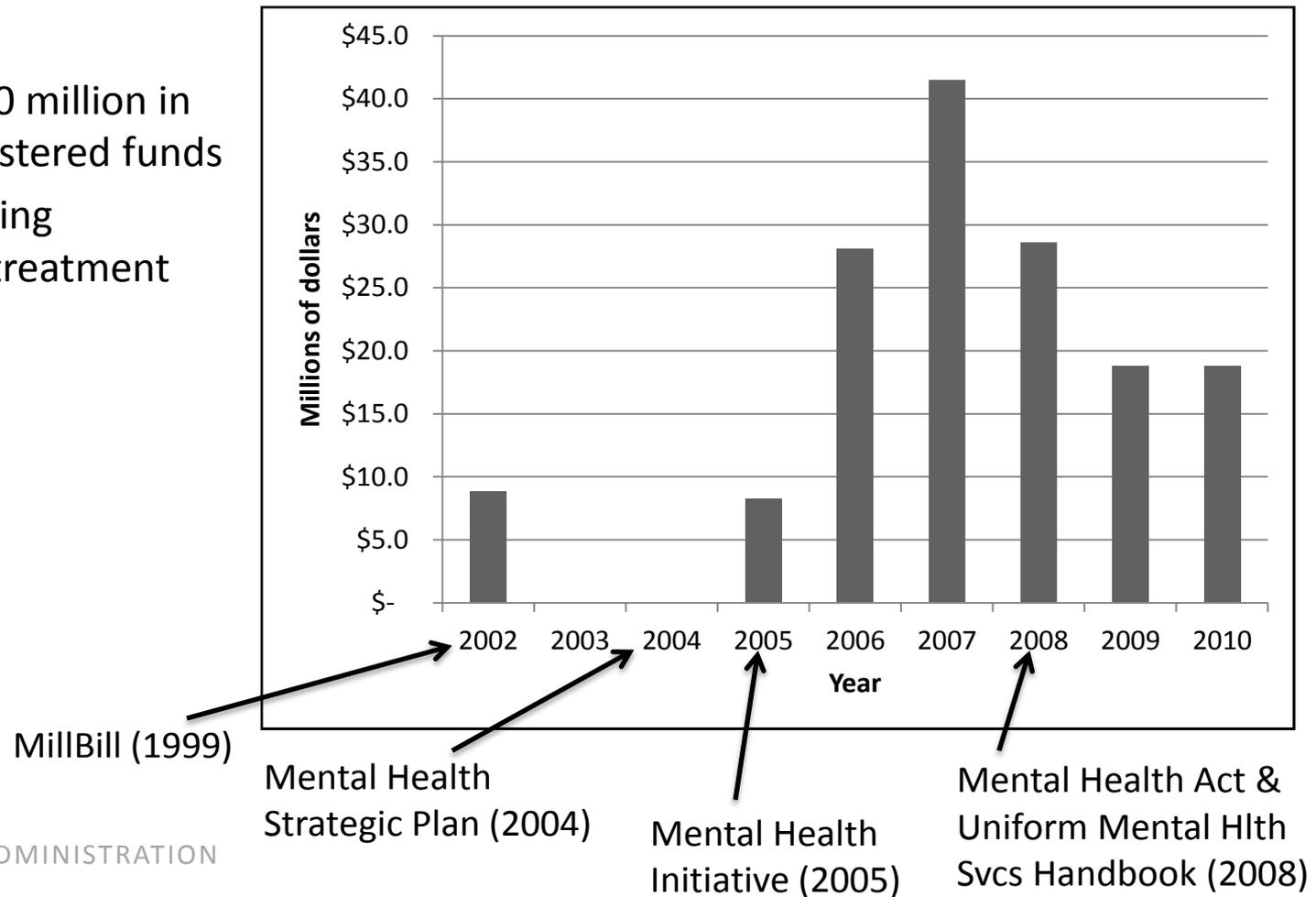
Growing VHA and SUD Treatment Demand

- Number of unique patients increased in the 2010s
- SUD-diagnosed patients grew 42% from 2005-2010 (310K to 439K)
- Intensive treatment delivery grew commensurately: 41%



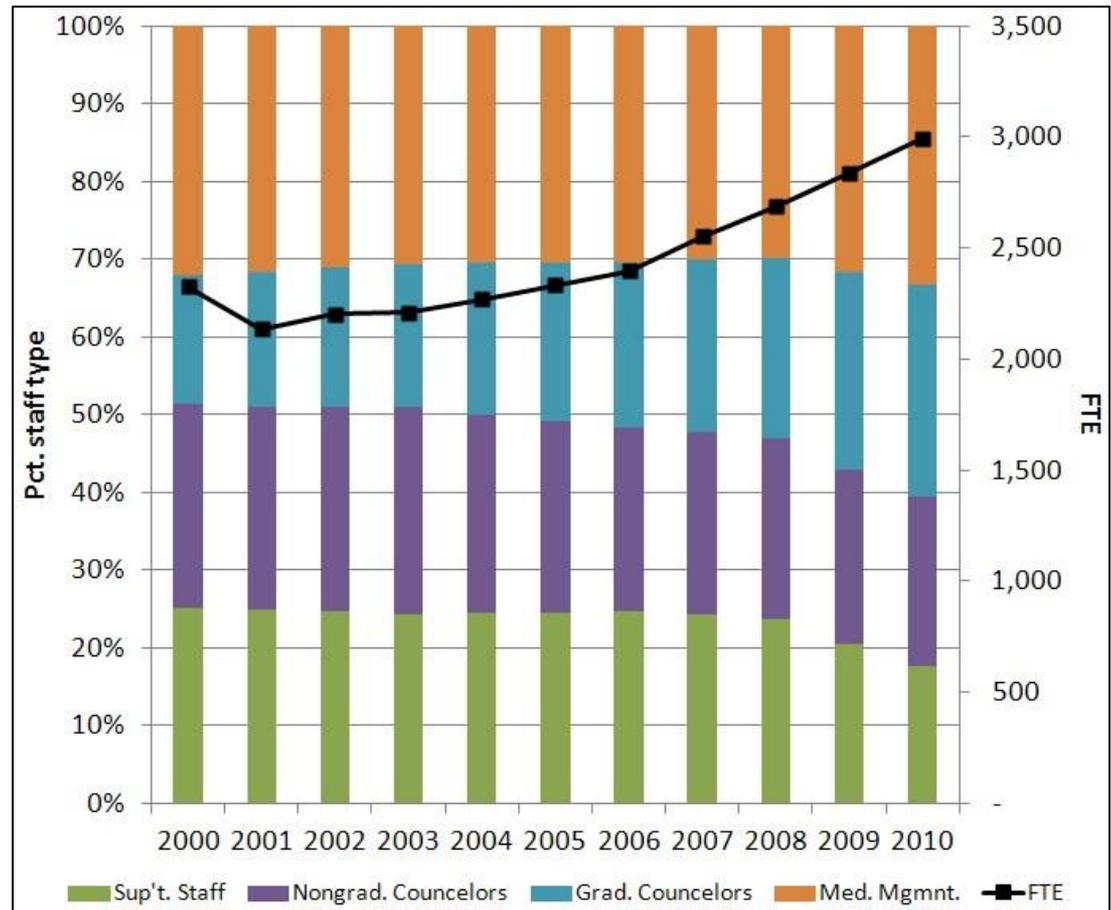
Dedicated SUD Funding

- 2002-2010: \$150 million in centrally administered funds
- Dedicated to hiring additional SUD treatment staff



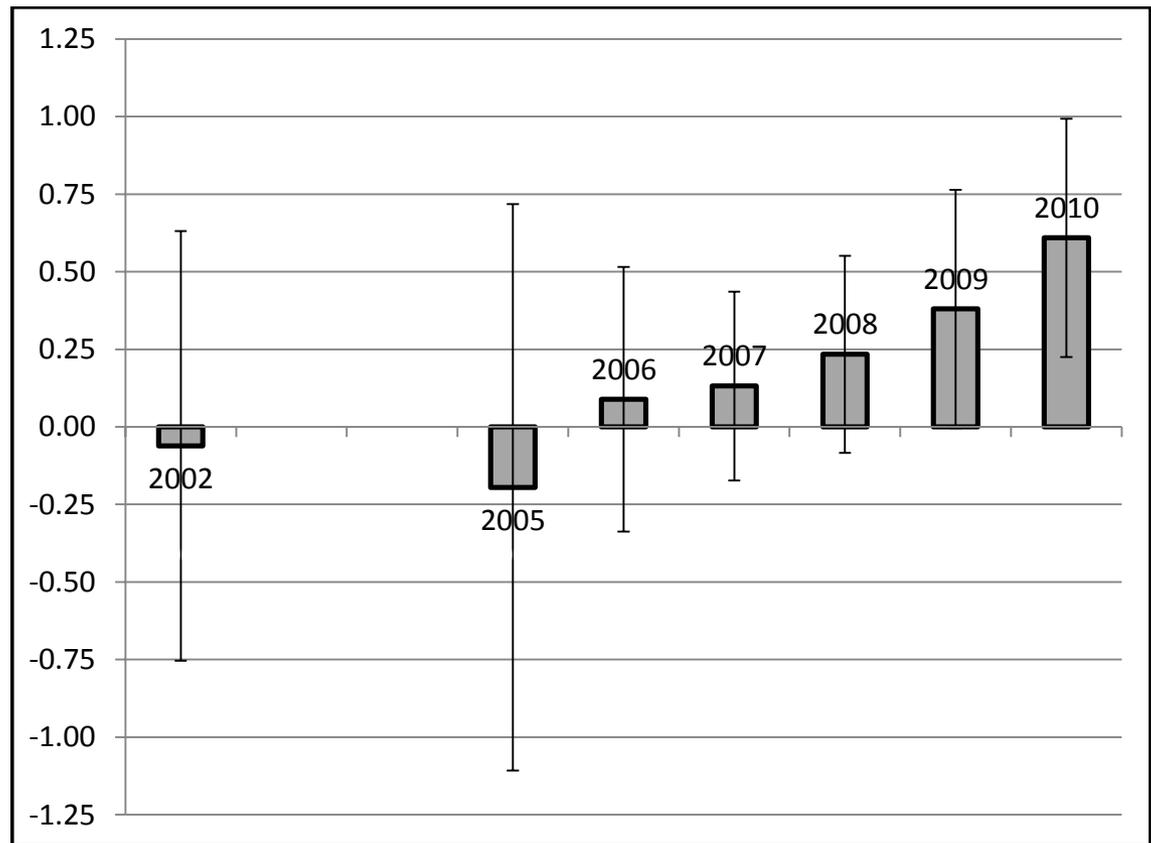
SUD Treatment Staffing

- Staff growth concentrated among more highly credentialed staff
- Is this due to dedicated funding?
- General (unrestricted) allocation was also increasing



Proportion Dedicated Funding Used for SUD Specialty Clinic Staff

- Controlled for gen'l allocation
- “Flypaper” effect: funds “sticking where they hit”
- Prior work in ‘80s-’90s on community clinics found large flypaper effects
- Changes over time:
 - Poaching effects
 - Increase in scope of fenced funding, from SUD to MH
 - Monitoring
- Frakt et al. Implementation Science 2013, 8:79



Were Access and Treatment Intensity Maintained?

- Remember: Period of growing demand
- Might worry that mandated expansions implemented less effectively than locally-driven ones
- Quality of space/support might suffer, resources diverted
- How did dedicated funding affect access and intensity?
- Was dedicated funding — when it stuck — enough to keep pace?
- Examined relationship between dedicated funding and access & intensity over 2005-2010
- Used access & intensity measure definitions from the Mental Health Information System Dashboard (MHIS)

Access & Intensity Measures

- The proportion of patients diagnosed with a SUD
- The proportion of SUD diagnosed patients receiving specialty treatment
- The proportion of SUD diagnosed patients receiving intensive residential treatment
- The proportion of SUD diagnosed patients receiving intensive outpatient treatment
- The average number of weeks of intensive residential treatment among those receiving any
- The average number of weeks of intensive outpatient treatment among those receiving any

Simulation of Dedicated Funding's Relationship to Access & Intensity

2010 Simulation: Percent change in performance for a 50% increase in average dedicated funding (~3% of total SUD treatment funding or \$74k per medical center)

% SUD diagnosed	% receiving specialty treatment	% intensive residential	% intensive outpatient	Ave weeks intensive residential	Ave weeks intensive outpatient
0.22%	1.38%***	1.57%*	4.73%***	-1.27%	3.16%***

- Analysis controlled for general allocation
- Almost all statistically significant results were in 2009-2010, consistent with flypaper findings
- Increases in dedicated funding associated with increases in access & intensity: keeping up with demand
- A necessary condition is that dedicated funding “sticks”
- Frakt et al. J Subst Abuse Treat 2015 55:58-63

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Motivation

- Individual-level satisfaction is costly to measure in real time
- OMHO measures other aspects of mental health care (e.g., access, intensity) with administrative data
- To what extent do facility-level administrative data-based program characteristics predict individual-level satisfaction?
- Satisfaction isn't directly modifiable by facilities, but access and intensity are

Analytic Approach

- Combined 6 patient-level satisfaction measures with 29 mental health program characteristics (MHIS, SAIL report)
 - Satisfaction measures from Survey of Healthcare Experiences of Patients (SHEP)
 - Program characteristics from MHIS and SAIL report
- Controlling for demographics and comorbidities, assess the correlation between performance metrics and satisfaction in 2013
- Limited to SHEP respondents who had a VHA mental health visit in the same quarter year as the visit that triggered their SHEP interview
- The point is to only examine patients with a recent VHA mental health encounter
- Sample: 6,990 patients across 165 VHA facilities
 - Due to item non-response, we did not have complete satisfaction data for all patients

Description of Sample: Selected Characteristics

Characteristic	Mean	Characteristic	Mean
Age	62	Psychosis	37%
Married	55%	Depression	48%
Female	8%	Hypertension	62%
Black	12%	Diabetes	38%
Alcohol use disorder	17%	Obesity	24%
Drug use disorder	9%		

N = 6,990 patients

- Very high substance use and mental health disorders due to sample selection
- High rates of comorbidities, reflecting increased prevalence of health conditions among SUD and MH patients

Satisfaction Measures

- Following Prentice et al. American Journal of Medical Quality 29(3):227-35

- Access satisfaction: In the last 12 months, did you ...

... get needed care right away?

... often get appointment as soon as you needed?

... find it easy to get needed care?



“always” or “usually,”

→ 1

“sometimes” or “never”

→ 0

- Encounter satisfaction: Rate your VHA (0-7 or 10 point scales) ...

... health care in last 12 months

... doctor or nurse

... overall experience of recent visit



2 most satisfied categories

→ 1

other categories

→ 0

Rates of Access and Encounter Satisfaction

Access Satisfaction	Mean	Encounter Satisfaction	Mean
get needed care right away?	76%	health care in last 12 months	53%
often get appointment as soon as needed?	76%	doctor or nurse	66%
find it easy to get needed care?	78%	overall experience of recent visit	47%

N ∈ [3546, 6990], depending on measure

- Access satisfaction higher than encounter satisfaction, though possibly an artifact of dichotomization

Program Characteristics: Four Domains

1. Program reach
 - e.g., proportion of patients receiving mental health care
 2. Psychosocial service access
 - e.g., proportion of patients initiating psychosocial treatment or psychotherapy
 3. Program intensity
 - e.g., number of encounters per year
 4. Treatment continuity
 - e.g., proportion of discharged patients with follow-up within seven days
- Within each domain we examined five or more measures program characteristics

Means of Selected Program Characteristics (from 29)

Program reach

% of veterans service-connected for MH that reside in the facility catchment area that received VHA MH care	51%
% homeless VHA patients receiving any mental health care (<i>does not count those who don't access VHA</i>)	89%

Psychosocial service access

% SMI patients initiating psychosocial treatment or psychotherapy	61%
% PTSD patients initiating psychotherapy	59%

Program intensity

Number of mental health encounters per VHA patient	2.91
Number of mental health encounters per patient w/ any	11.87

Treatment continuity

% SMI patients w/ 8 psychotherapy or psychosocial treatment visits in 14 weeks	8%
% PTSD patients with 8 visits for PTSD psychotherapy in 14 weeks	14%

Results

- Controlling for demographics and comorbidities, assess the correlation between performance metrics and satisfaction
- Report number of statistically significant ($p < 0.05$) positive and negative coefficients, within access and encounter satisfaction domains
 - 3 measures in each of these two domains
- Group results by program characteristic domain
 - 5 or more measures in each of four domains
- There are a lot of results!

Results: Program Reach

Number of coefficients, p<0.05

Program reach

Characteristic	Access Satisfaction		Encounter Satisfaction	
	+	-	+	-
% of veterans service-connected for a mental health condition that reside in the facility catchment area that received VHA mental health care	2	0	2	0
% SMI patients w/ transitional work visits ^(a)	2	0	2	0
% SMI patients that receive supportive employment visits ^(a)	0	0	0	0
% homeless VHA patients receiving any mental health care	0	0	0	0
% PTSD patients that receive specialty outpatient care for PTSD	0	1	0	0
% SUD patients initiating intensive SUD treatment in a specialty setting	0	0	0	0
% SMI patients that receive MH intensive case management for psychosis	0	3	0	0

- Broad measures of program reach positively associated with satisfaction
- Sicker patients report less satisfaction, consistent with prior work
 - Reflects condition, not care
 - Justify characteristic on other grounds. E.g., case mngmt improves clinical outcomes

Results: Psychosocial Service Access

Psychosocial service access

Characteristic	Access Satisfaction	Encounter Satisfaction
	+ -	+ -
% SMI patients initiating psychosocial treatment or psychotherapy	0 1	0 0
% PTSD patients initiating psychotherapy	0 2	0 0
% SUD patients initiating psychosocial tmnt or psychotherapy in any setting	0 0	1 0
% patients with depression initiating psychotherapy	0 0	0 0

- Category with the fewest statistically significant associations between program characteristics and satisfaction measures
- Some of these groups may be small: underpowered?
- Negative associations could reflect challenges conditions (SMI, PTSD) at initiation
- Seeing more of these patients increases competition for visits, decreasing satisfaction

Results: Program Intensity

Program intensity

Characteristic	Access Satisfaction	Encounter Satisfaction
	+ -	+ -
Number of mental health encounters per VHA patient	0 0	0 0
Number of mental health encounters per patient w/ any	3 0	3 0
Num encounters at psychosocial rehab & recovery centers per VHA patient	0 1	0 1
Number of MH encounters per homeless veteran w/ any	1 0	3 0
Weeks intensive outpatient SUD treatment per patient w/ any	1 0	1 0
Number of transitional work visits(a) per patient w/ any	0 0	0 0
Number of supportive employment visits(b) per patient w/ any	1 0	0 0

- In all but one case, associations are positive or not statistically significant
- Contrast the top two: per VHA patient vs. per patient with any (more focused)
- Likely correlation across measures. Useful when considering incentives

Results: Treatment Continuity

Treatment continuity

Characteristic	Access Satisfaction	Encounter Satisfaction
	+ -	+ -
Num outpt visits in 6 mnths post residential MH discharge	2 0	2 0
Num outpt visits in 6 months post inpatient MH discharge	2 0	1 0
% patients with 7 day follow-up after residential discharge	0 0	0 0
% w/ MH outpt visit in year who went 6 months without a 2nd visit	0 3	0 3
% SMI patients w/ 8 psychotherapy or psychosocial tmnt visits in 14 weeks	3 0	3 0
% PTSD patients with 8 visits for PTSD psychotherapy in 14 weeks	3 0	3 0
% inpatient detox with outpatient follow-up within 7 days	3 0	2 0
% outpatient detox patients with outpatient follow-up within 7 days	0 0	0 0
% SUD patients w/ 8 SUD psychotherapy or psychosocial tmnts in 14 weeks	0 0	0 0
% depression patients with 8 psychotherapy visits in 14 weeks	3 0	3 0

- Across the four domains, continuity is the most strongly associated with satisfaction

Discussion

- Access satisfaction greater than encounter satisfaction
- Broad measures of program reach and intensity positively associated with both kinds of satisfaction, more so than those focused on narrow populations
 - Reflects conditions?
 - Reflects small sample size?
- No measure of access to psychosocial services and nearly all measures of continuity are positively associated with both kinds of satisfaction
 - Should not conclude that psychosocial services are not valuable
 - Efforts to expand them may reduce satisfaction measures
 - Causality may run in both directions for continuity and satisfaction: more satisfied may lead to greater engagement with care
- Measures not associated with satisfaction should be justified on other grounds
- Number of MH encounters per patient doesn't have strong justification

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Targeted Risk Mitigation For Patients Receiving VA Opioid Rx

- The Stratification Tool for Opioid Risk Mitigation (STORM) estimates risk of adverse behavioral outcomes, overdoses and accidents for patients who received VA opioid prescriptions
- Facilities would be randomized to
 1. STORM availability alone
 2. STORM plus process for review and management of very high risk patients, or
 3. STORM plus process for review and management of very high and high risk patients
- Outcomes: suicide-related events, overdoses, and accidents
- PEPReC is working with OMHO to support development process for policy to accompany STORM and specify review and management practices
- An SDR consideration in process to partner with PEPReC for additional data collection and analysis

Targeting Care For Patients Identified Through Predictive Modeling As Being At High Risk For Suicide

- Suicide risk stratification tool to be made available on a dashboard
- For 0.1% highest predicted risk patients:
 - 30-40 fold increase in suicide risk over next 3 months
 - 16 fold increase one year
- Potential to randomize facilities to different means of follow-up for such patients
- Further design and policy details are ongoing
- Partnership with PEPReC via SDR in process

Thank You

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