Transforming Care for High-Risk Veterans: Partnered Research To Define Veteran Needs and Evaluate Intensive Primary Care Interventions

CDA Enhancement Initiative Cyberseminar
December 12, 2017

Donna M. Zulman, MD, MS
VA HSR&D CDA 2013 – 2018
Assistant Professor, Division of Primary Care and Population Health, Stanford University
Investigator, Center for Innovation to Implementation, VA Palo Alto Health Care System

Ann-Marie Rosland, MD, MS
VA HSR&D CDA 2011 – 2016
Associate Professor of Internal Medicine, University of Pittsburgh
Research Investigator, VA Pittsburgh Center for Health Equity Research and Promotion

Agenda

- High-risk & high-need patients: definitions and characteristics
- Clinically actionable groups high-risk Veterans defined using existing healthcare system data
- Findings from a randomized evaluation of intensive primary care for high-risk Veterans
- Ongoing VA operations-research partnerships to improve care for high-risk Veterans

Poll Question #1

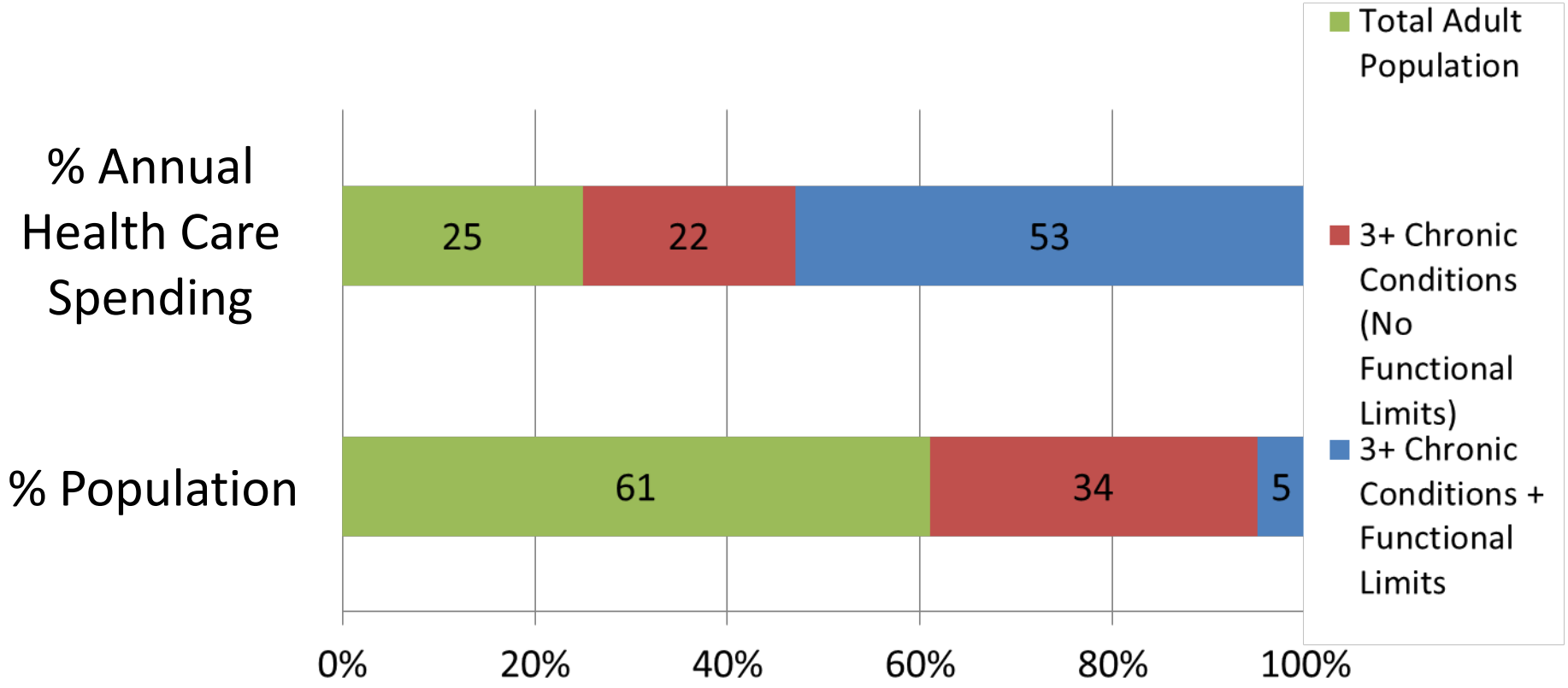
- What is your primary role in VA? (choose all that apply)
  - Clinician
  - Operations or Administration
  - Current CDA
  - Other Researcher
  - Other

Defining "High-Need"

"Individuals with complex conditions and circumstances requiring multiple services that, for the most part, are not currently delivered easily or effectively by the health care system"

(National Academy of Medicine 2017, adapted from Salzberg, *et al.,* 2016*)*

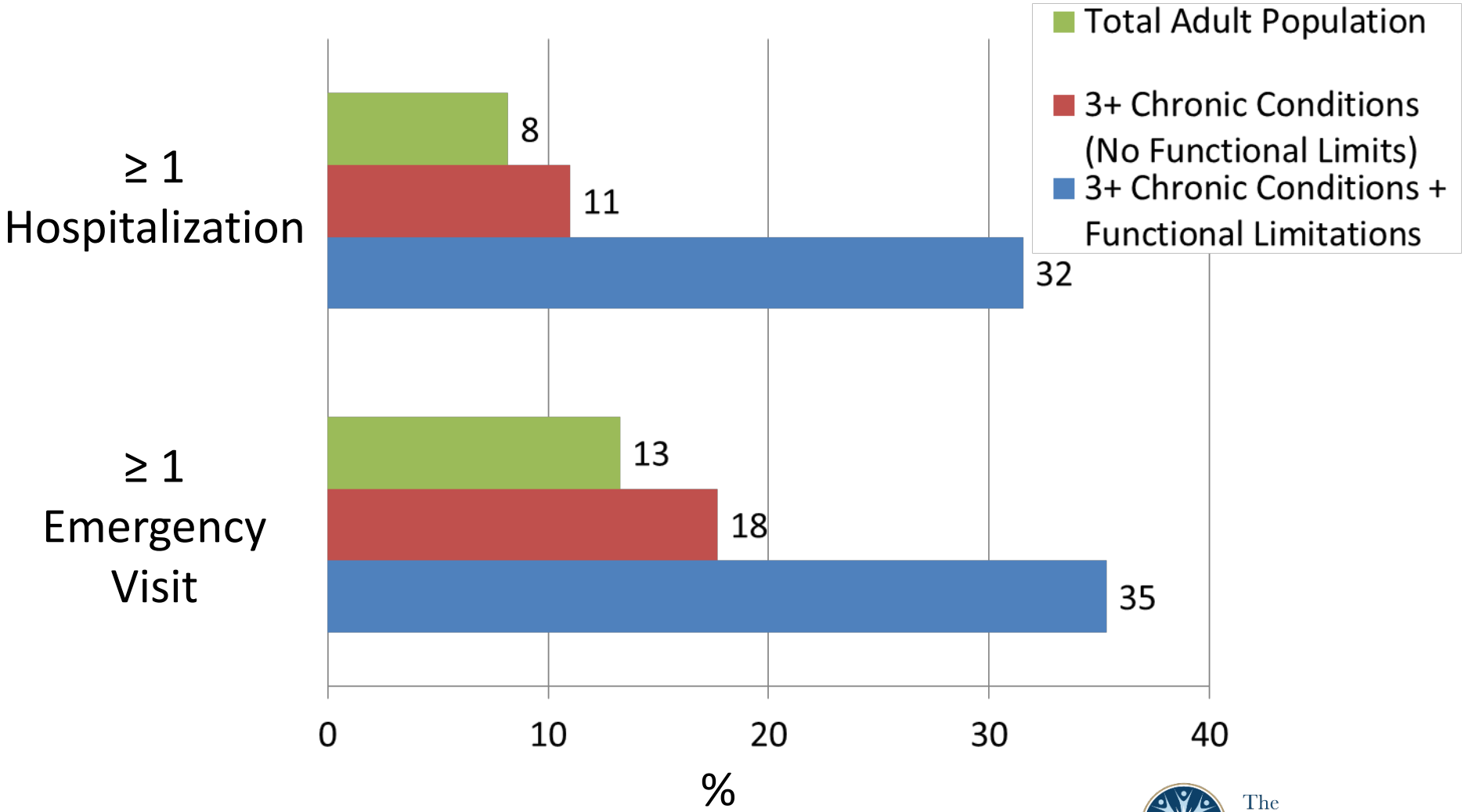
High-Need Patients Account for Disproportionate Spending and Utilization



Hayes SL, The Commonwealth Fund, August 2016 (2009-2011 MEPS Data)

The COMMONWEALTH FUND

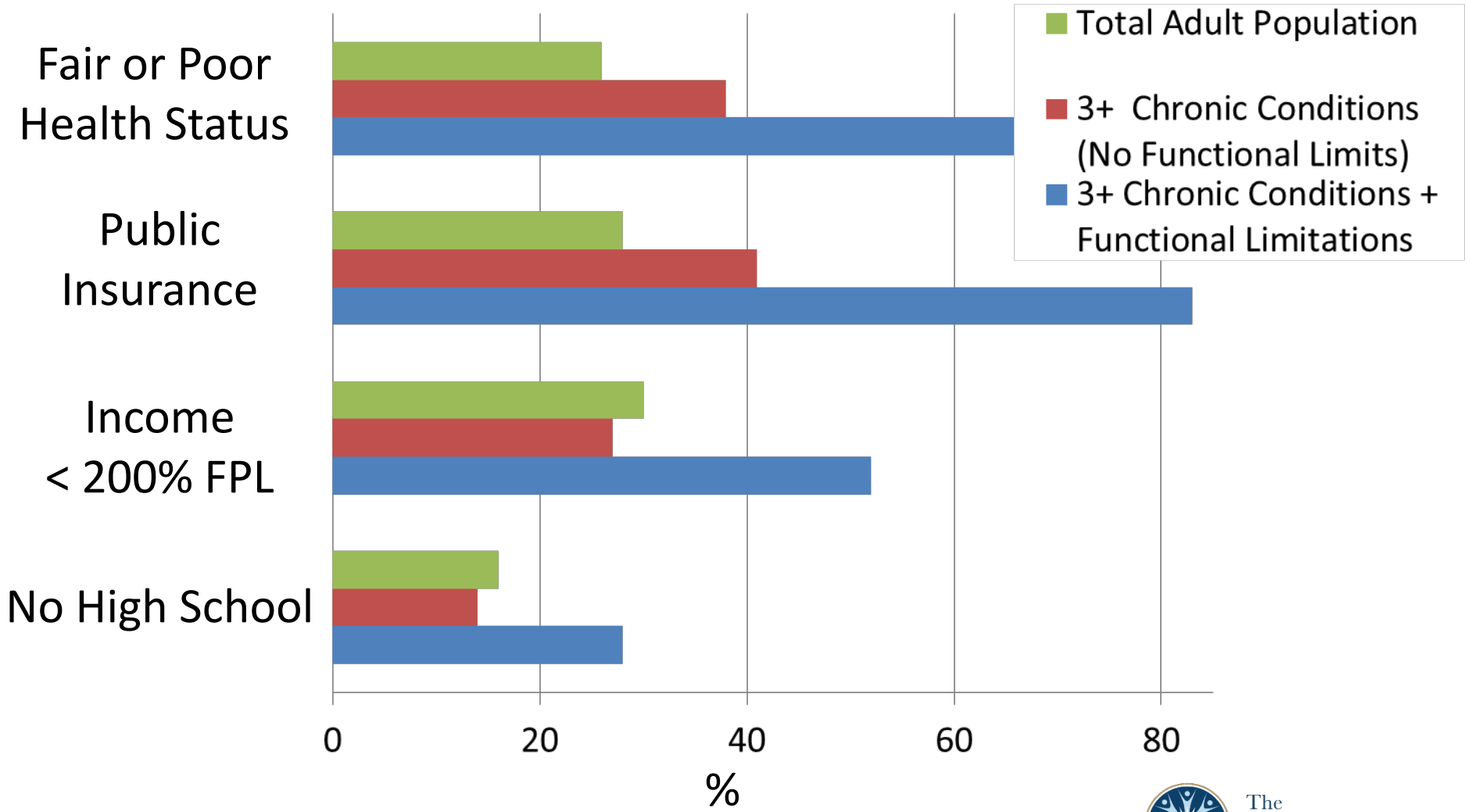
High-Need Patients Account for Disproportionate Spending and Utilization



Hayes SL, The Commonwealth Fund, August 2016 (2009-2011 MEPS Data)

The COMMONWEALTH FUND

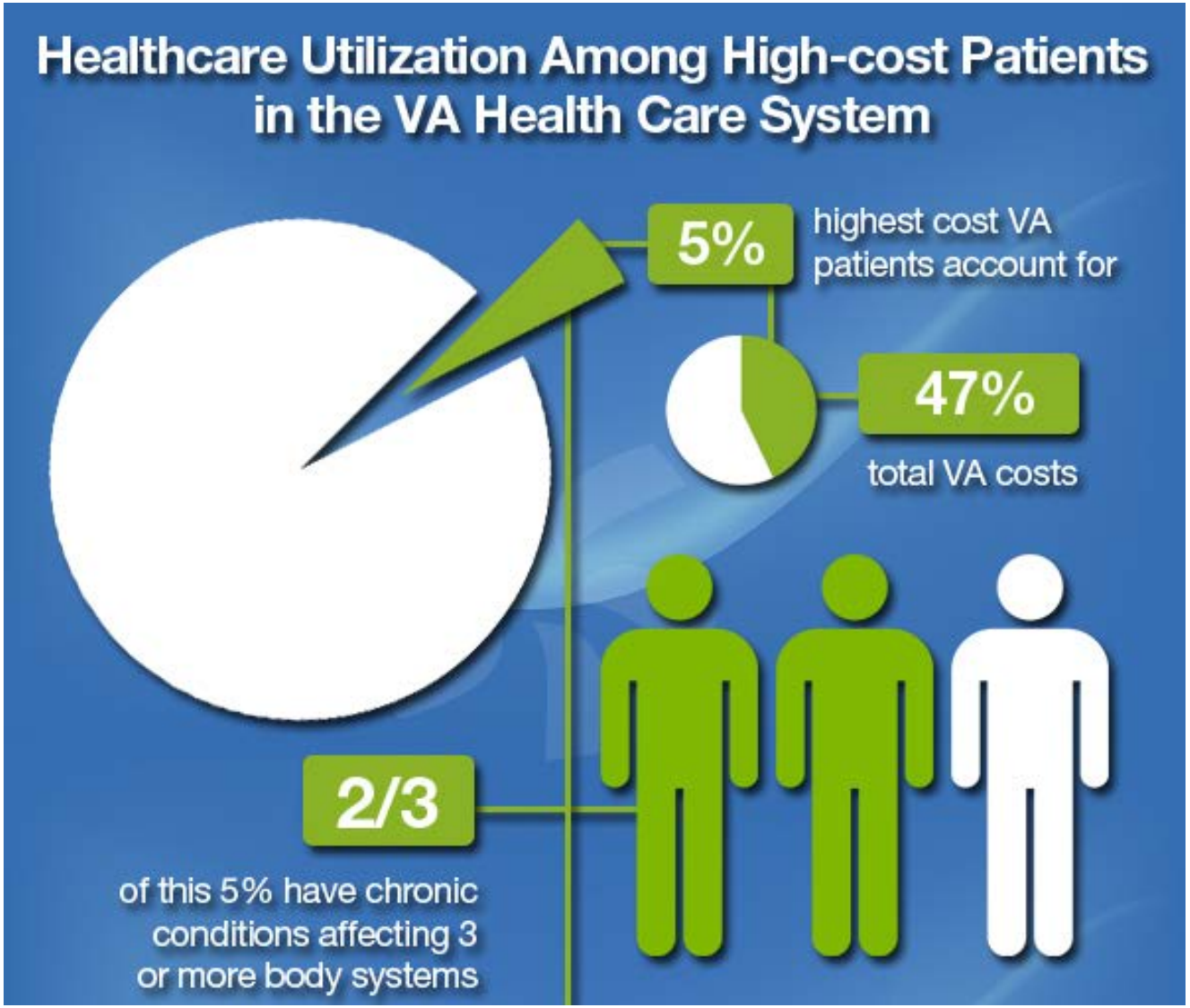
Characteristics of High-Need Patients



Hayes SL, The Commonwealth Fund, August 2016 (2009-2011 MEPS Data)

The COMMONWEALTH FUND

5% of VA Patients Account for 47% of Costs



Zulman DM, *et al.*, *BMJ Open.* 2015

Characteristics of VA's Most Costly 5%

- High rates of hospitalization and ED visits
- Many patients with complex/costly conditions
  - Cancer, heart failure, renal failure
  - 65% with conditions spanning 3+ systems
- Approximately half with MH conditions
- High rates of homelessness (14%)
- Many with inadequate social support (41% married)
- Interactions among these factors, e.g., ED & hospitalization rates increase significantly with greater multimorbidity.

*Data from FY2010; Zulman DM, *et al.*, *BMJ Open.* 2015

What Patients Say…

Too many problems, too little time

Every time I would go to a doctor's appointment, everybody would be watching the clock and say you've got 15 minutes. Pick one thing, that's all we can talk about. And when you have a laundry list, it makes it very difficult to [squeeze] everything into 15 minutes.

Mountains of medications

It's a huge struggle. Every week I have to put my meds in pill boxes because if I don't do that, with as many different medicines as I'm taking…To be perfectly honest I couldn't even tell you how many pill bottles it really is.

Psychological isolation

For me having the mix of diseases, I have been walking around in a bubble thinking I'm the only one in the world that has got this.

Coordinate providers, avoid conflicts

I get results from one guy, pass it over to the other one. Same thing for the medication, so they both know what I'm taking and I don't have conflicts. They can't talk to one another. I have to be the go-between.

*Focus group participants with multiple chronic conditions

Zulman DM, *et al.*, *J Gen Int Med*, 2015

Poll Question

What experience have you had with high-risk patients?

- Direct clinical care for high-risk patients
- Leadership role in program for high risk patients
- Research with high risk patients
- Other experience with high risk patients
- No experience yet

Outline

- High-risk & high-need patients: definitions and characteristics
- Subgroups of high-risk Veterans with distinct clinical risk factors and utilization patterns
- Findings from a randomized evaluation of intensive primary care for high-risk Veterans
- Ongoing VA research/operations partnerships to improve care for high-risk Veterans

Defining High Risk for PACT Teams: Care Assessment Needs Score (CAN) 2.0

- Identifies PACT patients at high risk for hospitalization or death
- Generated from logistic regression model using
  - Demographics
  - Clinical information
  - Rank/service branch
- CAN score represents percentile of estimated probability
- Generated on a weekly basis

PATIENT CARE ASSESSMENT SYSTEM

PCAS

User: VHA19\VHADENBoxT

Help

a product of the office of
ANALYTICS & BUSINESS INTELLIGENCE

Manage Patients | Consults | Administration | Tasks | News

Filter By Name:	Go	Manual High Risk Flag
Search By Last 4 SSN:	Go	
Filter By CPRS Status:	ACTIVE Go	
Filter By Request Date:	Start Date: End Date: Go	
	Clear Filter	

	Last 4 SSN	Patient Name	High Risk Flag	Request Date Time	Request Service Name	CPRS Status	Team
Select	1234	Patient Name		04 Dec 2013	O/NON VA CARE PAIN REFERRAL	ACTIVE	OMA PACT 003 (636)
Select	1234	Patient Name		20 Nov 2013	O/NON VA CARE PAIN REFERRAL	ACTIVE	OMA PACT 003 (636)
Select	1234	Patient Name		17 Jan 2014	O/ENT VERTIGO/DIZZINESS	ACTIVE	OMA PACT 003 (636)
Select	1234	Patient Name		22 Nov 2013	O/NON VA CARE PAIN REFERRAL	ACTIVE	OMA PACT 003 (636)
Select	1234	Patient Name		22 Oct 2013	O/NON VA CARE PAIN REFERRAL	ACTIVE	OMA PACT 003 (636)
Select	1234	Patient Name		15 Jan 2014	O/NON VA CARE ACUPUNCTURE	ACTIVE	OMA PACT 003 (636)
Select	1234	Patient Name		24 Dec 2013	O/NON VA CARE PHYSICAL THERAPY	ACTIVE	OMA PACT 003 (636)
Select	1234	Patient Name		18 Nov 2013	O/NON VA CARE PAIN REFERRAL	ACTIVE	OMA PACT 003 (636)
Select	1234	Patient Name		02 Dec 2013	O/NON VA CARE PAIN REFERRAL	ACTIVE	OMA PACT 003 (636)
Select	1234	Patient Name		18 Nov 2013	O/GASTRO COLONOSCOPY	ACTIVE	OMA PACT 003 (636)
Select	1234	Patient Name		27 Dec 2013	O/NON VA CARE EMG	ACTIVE	OMA PACT 003 (636)
Select	1234	Patient Name		14 Jan 2014	O/PHARMACY MEDICATION THERAPY MANAGEMENT	ACTIVE	OMA PACT 003 (636)
Select	1234	Patient Name		17 Jan 2014	O/PHARMACY MEDICATION THERAPY MANAGEMENT	ACTIVE	OMA PACT 003 (636)
Select	1234	Patient Name		14 Jan 2014	O/NON VA CARE CARDIOLOGY ECHO CONSULT	ACTIVE	OMA PACT 003 (636)
Select	1234	Patient Name		10 Jan 2014	O/NON VA CARE DERMATOLOGY	ACTIVE	OMA PACT 003 (636)
Select	1234	Patient Name		10 Jan 2014	O/CCHT	ACTIVE	OMA PACT 003 (636)
Select	1234	Patient Name		06 Dec 2013	O/NON VA CARE PAIN REFERRAL	ACTIVE	OMA PACT 003 (636)
Select	1234	Patient Name		07 Jan 2014	O/NON VA CARE PAIN REFERRAL	ACTIVE	OMA PACT 003 (636)

VA OABI

Goal: Identify Subgroups of Patients at High-Risk of Hospitalization Via Clusters of Clinical Conditions

Criteria for Approach:

- More accurately reflect comorbidity complexity
- Use available EMR diagnosis data
- Empirical to start
- Clinically Useful

Approach:

- Mixture - Item Response Theory Modeling of Diagnosis Clusters and Patient Complexity

Applying Mixture Item Response Theory to Comorbid Conditions

- Analyzes **clusters** of many diagnoses simultaneously
- Yields 4 different types of information:
  - Latent clusters (subgroups) of patients
  - Rare/significant comorbidities for each subgroup
  - Diagnosis-specific numerical estimate of how much "complexity" a diagnosis carries *for each subgroup*
  - "Complexity Score" (theta) for each person (akin to comorbidity score)

Methods

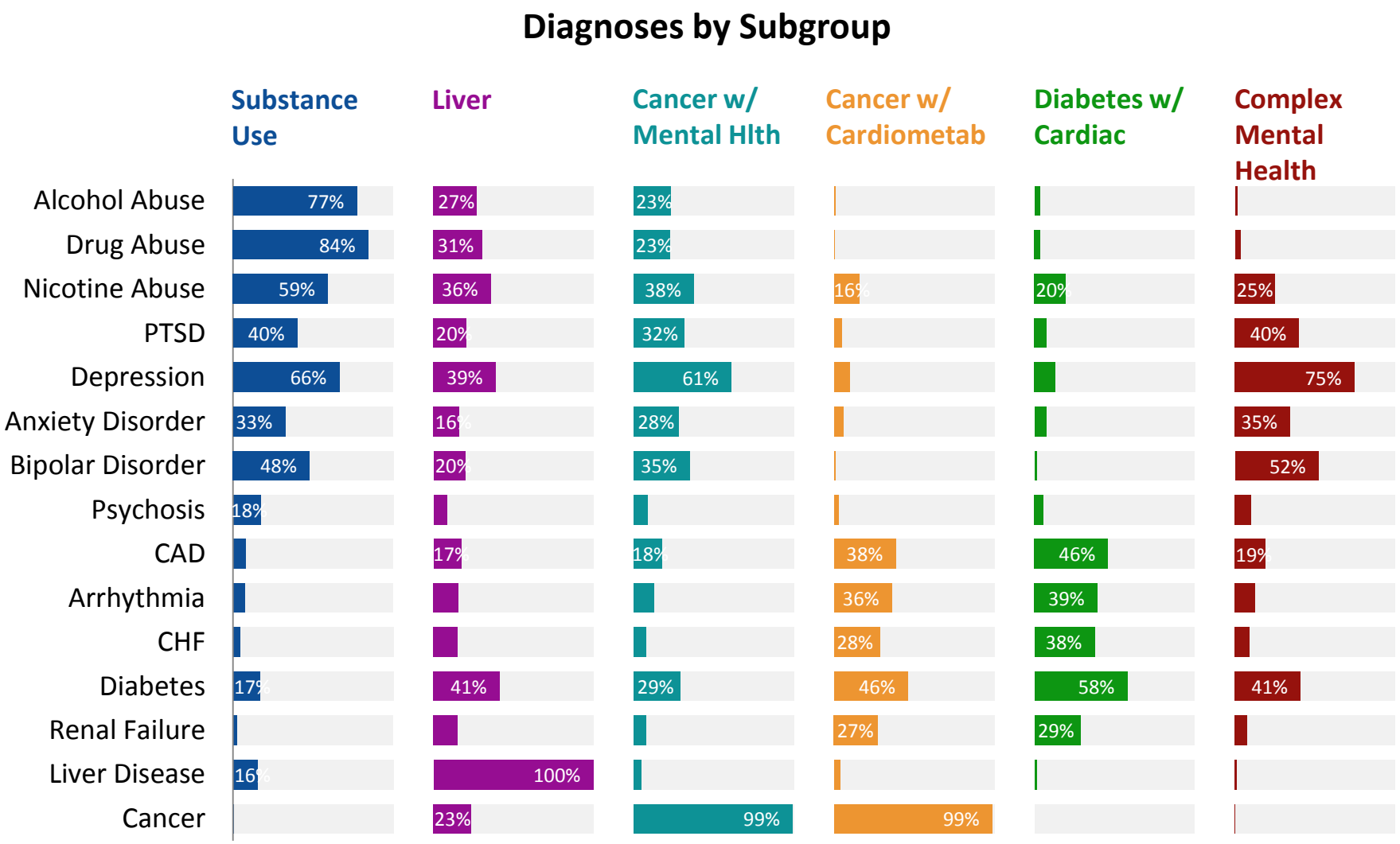
Sample

- 100 Random samples of ~65,000 Veterans Health Administration (VHA) patients at high risk of hospitalization in 1-year
- Probability of hospitalization ≥ .25 (~90th percentile) at any time during 2014 based on the VA Care Assessment Needs (CAN) prediction score

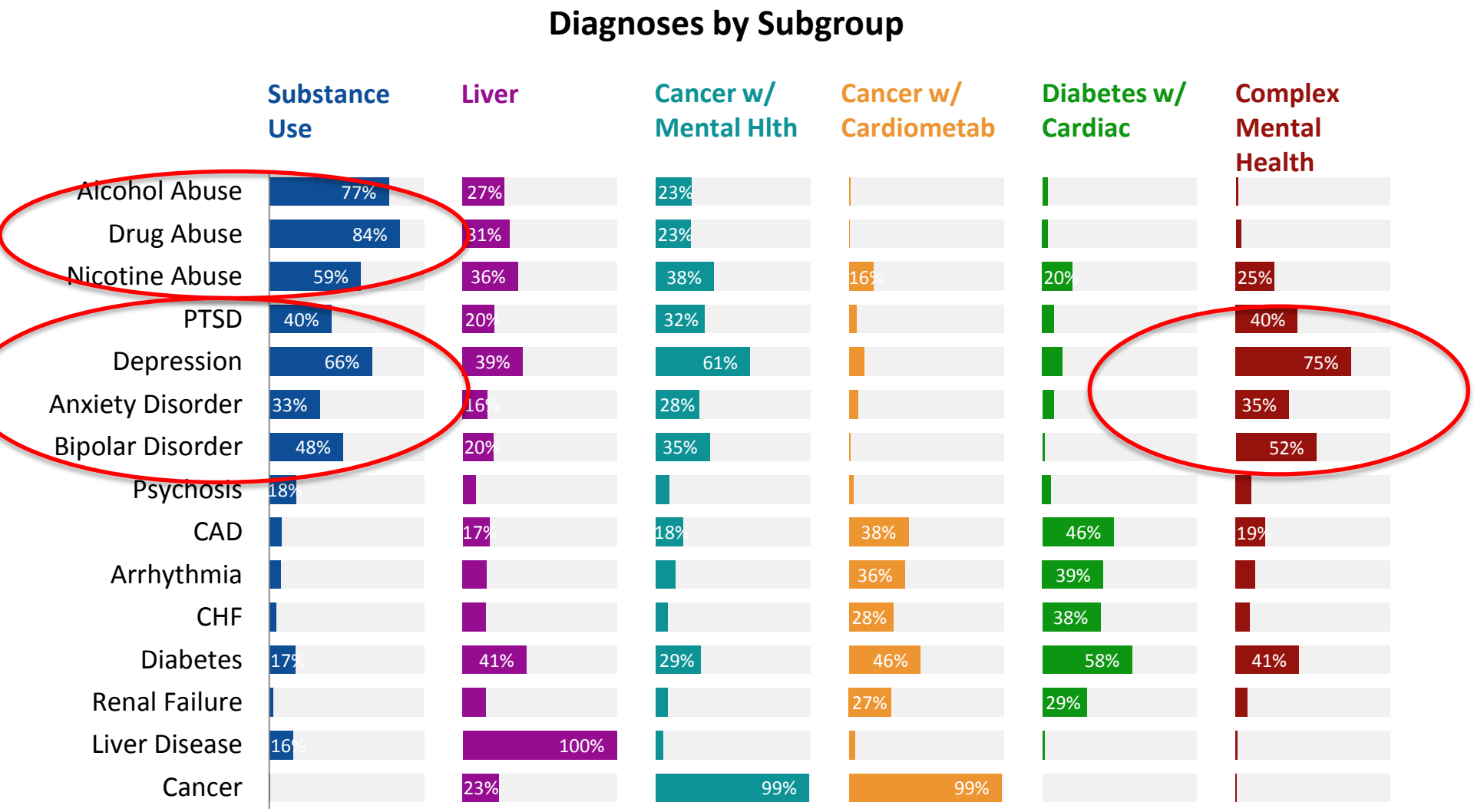
Initial Data

- 31 medical and mental health diagnoses

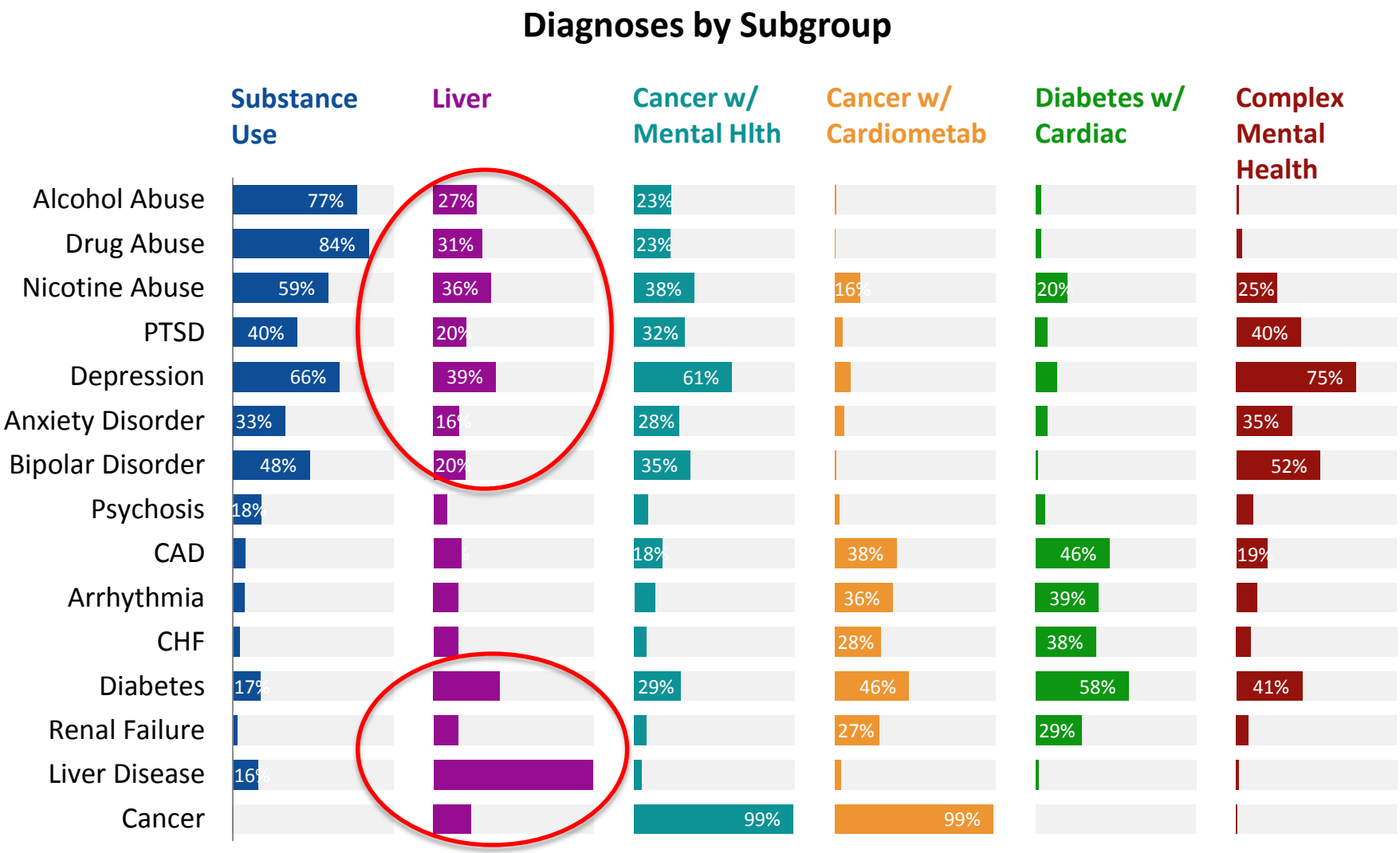
Clinical Subgroups of High-Risk Patients



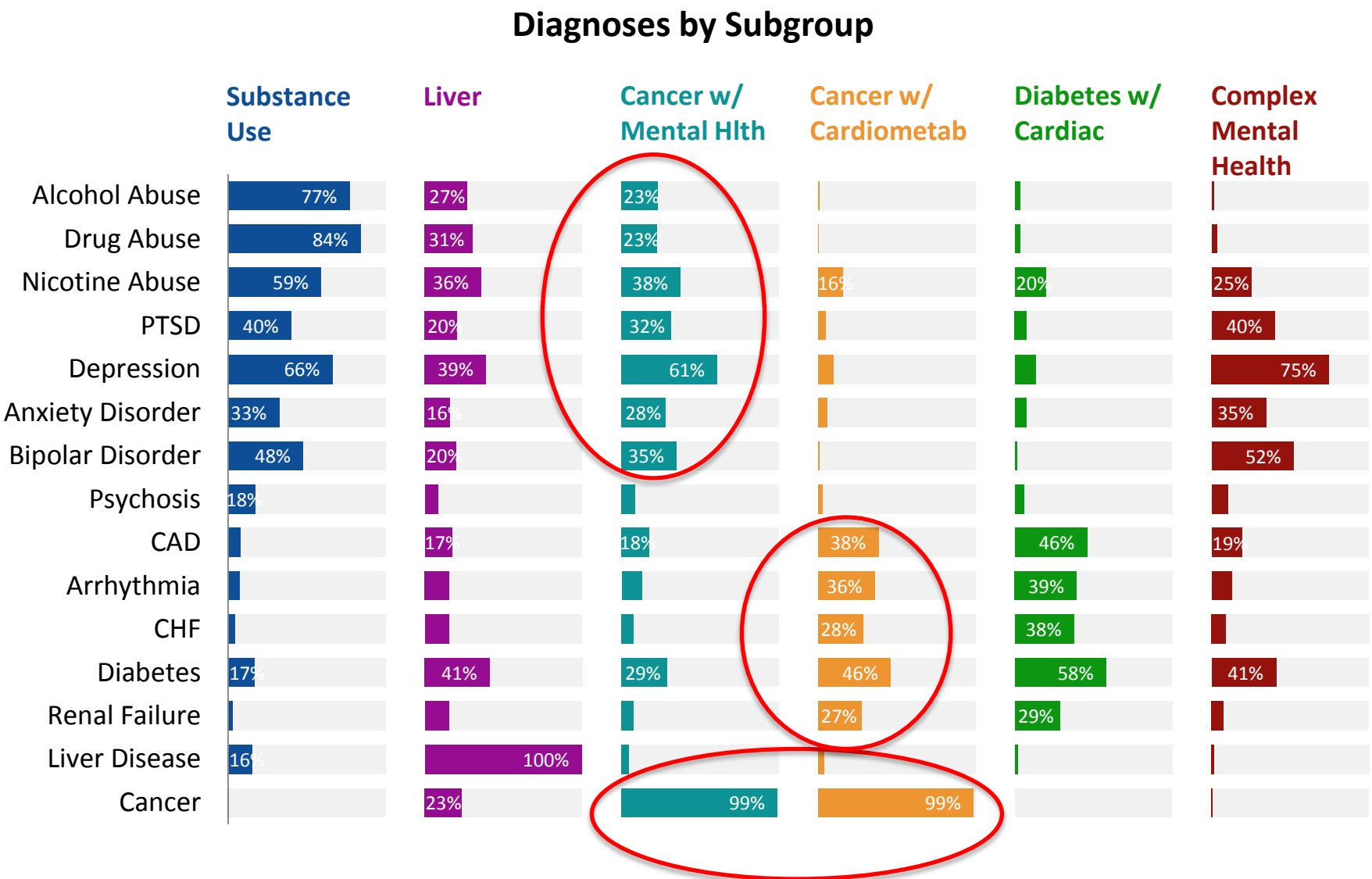
Clinical Subgroups of High-Risk Patients



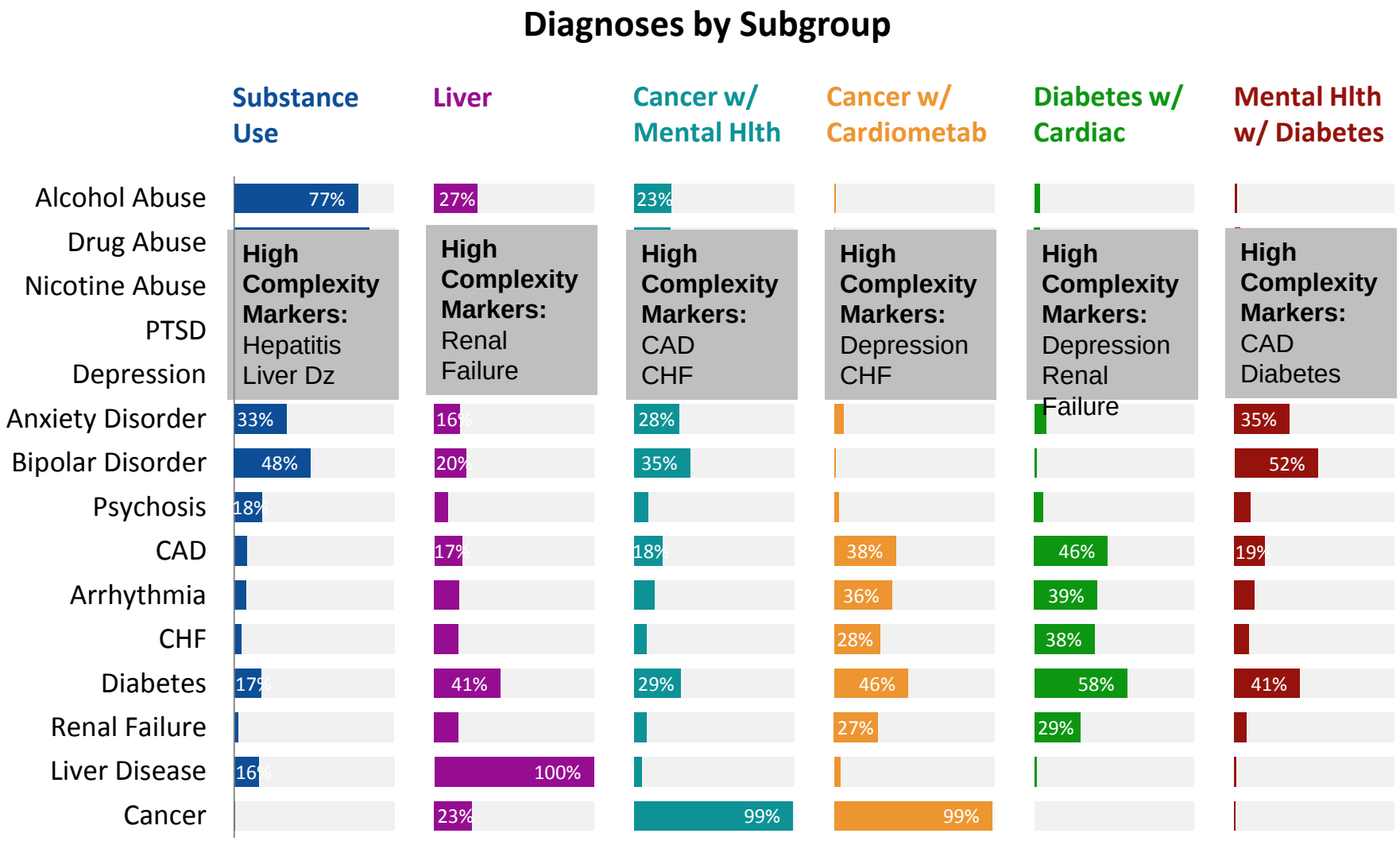
Clinical Subgroups of High-Risk Patients



Clinical Subgroups of High-Risk Patients



Clinical Subgroups of High-Risk Patients



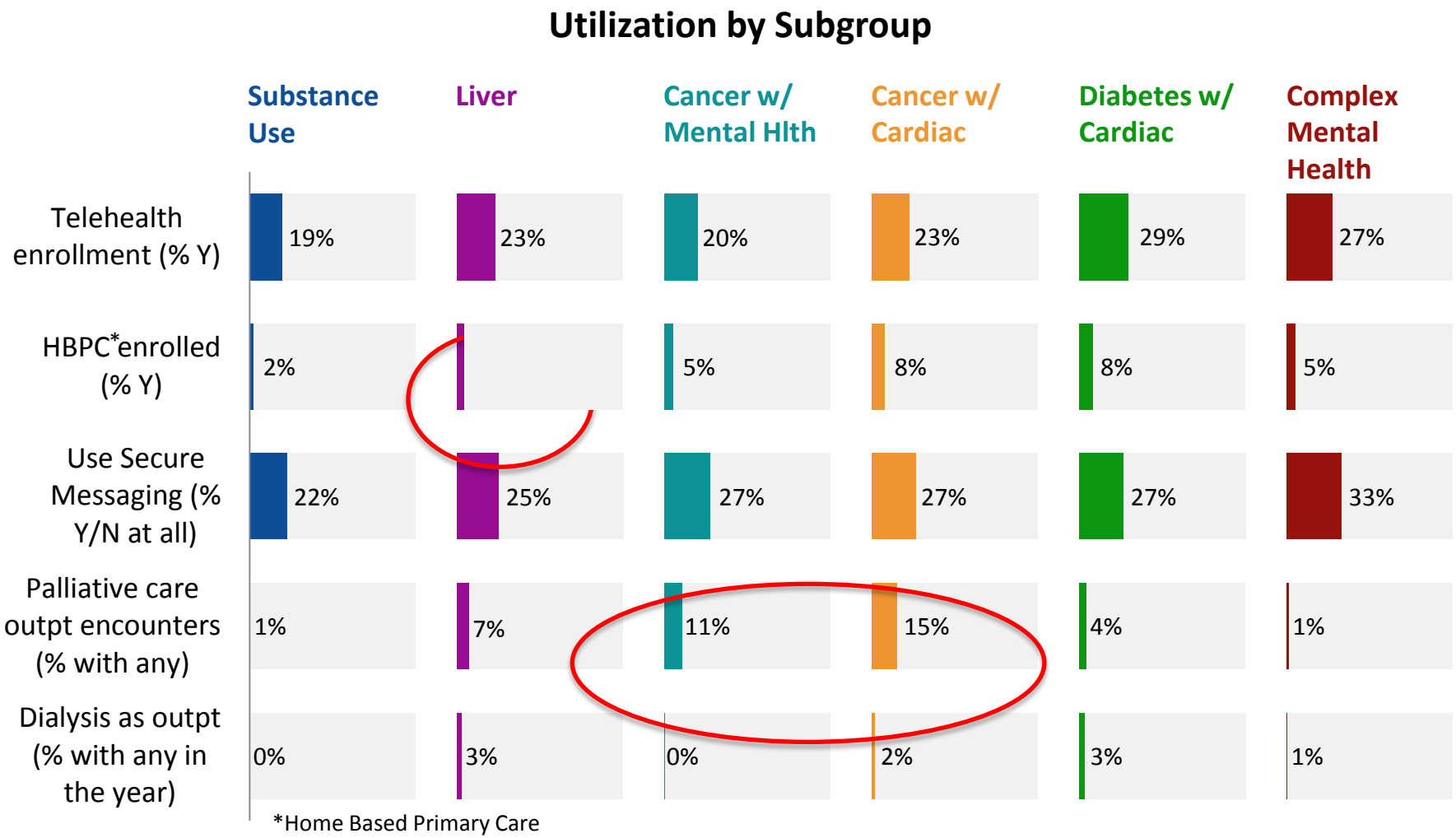
VA Hospitalizations/Urgent Care Rates

Subgroup	Substance Use	Liver	Cancer w/ Mental Hlth	Cancer w/ Cardiac	Diabetes w/ Cardiac	Complex Mental Health
N patients	10,579	5,826	5,026	8,628	23,691	14,649
All VA Hospitalizations Per Pt/Per Year Mean (SD)	0.76 (1.35)	0.90 (1.38)	0.63 (1.08)	0.85 (1.26)	0.67 (1.05)	0.43 (0.83)
Psychiatric Hospitalizations Per Pt/Per Year Mean (SD)	0.24 (0.71)	0.05 (0.35)	0.05 (0.29)	0.01 (0.09)	0.01 (0.15)	0.09 (0.40)
Readmissions within 30 days Per 100 Discharges *(prelim)*	21.0	21.1	21.0	20.3	21.4	20.3
Length of Stay 8+ days % of All Hospitalizations	65.6	53.2	49.4	52.6	45.7	40.2
ED Visits Per Pt/Per Year Mean (SD)	2.72 (3.81)	2.28 (2.99)	1.95 (2.84)	2.00 (2.50)	1.95 (2.55)	2.08 (2.70)

VA Outpatient Utilization Rates

	Subgroup	Substance Use	Liver	Cancer w/ Mental Hlth	Cancer w/ Cardiac	Diabetes w/ Cardiac	Complex Mental Health
	N patients	10,579	5,826	5,026	8,628	23,691	14,649
Per Patient/ Per Year: Mean (SD)	**PCP visits in person**	4.65 (4.74)	5.17 (4.33)	4.94 (4.33)	4.98 (4.54)	5.18 (4.77)	5.51 (4.74)
	Primary care phone visits (all providers)	0.25 (0.52)	0.48 (0.68)	0.48 (0.68)	0.55 (0.72)	0.48 (0.70)	0.38 (0.64)
	Outpatient specialty visits	4.70 (7.47)	10.59 (12.76)	11.15 (14.25)	14.40 (17.18)	9.54 (12.10)	6.70 (8.84)
	Mental health clinic outpatient encounters	29.18 (34.58)	10.16 (23.08)	8.85 (18.08)	0.94 (4.47)	2.27 (9.65)	12.13 (19.27)
	Integrated PC Mental Health (in person & phone)	0.71 (2.44)	0.43 (2.05)	0.62 (2.53)	0.11 (0.79)	0.20 (1.34)	0.73 (2.78)

VA Programs/Services, % Using



Care Management Tool Possibilities

Highest Hospitalization Risk Patients					
	Subgroup	**Patient theta**	**High-risk Comorb**	**Persistent High Risk**	**Services Recommended**
Will Smith	DM w/CV	26.2	🚩		Primary Care Mental Health
Elle Jones	SA	37.5	🚩		Hepatitis Screen My HealtheVet
Lucas Johnson	DM w/ CV	40.1			Nephrology Referral
Dustin Hayes	MH	22.5		🚩	Diabetes Classes
Mike Whalen	Liver	33.0	🚩	🚩	Home Based Primary Care

Outline

- High-risk & high-need patients: definitions and characteristics
- Subgroups of high-risk Veterans with distinct clinical risk factors and utilization patterns
- Findings from a randomized evaluation of intensive primary care for high-risk Veterans
- Ongoing VA research/operations partnerships to improve care for high-risk Veterans

Innovative Care Models for High-Need Patients

VIEWPOINT

VITAL DIRECTIONS FROM THE NATIONAL ACADEMY OF MEDICINE

Tailoring Complex Care Management for High-Need, High-Cost Patients

David Blumenthal, MD
The Commonwealth Fund, New York, New York.

Melinda K. Abrams, MS
The Commonwealth Fund, New York, New York.

The NEW ENGLAND JOURNAL of MEDICINE

Perspective

SEPTEMBER 8, 2016

Caring for High-Need, High-Cost Patients — An Urgent Priority

David Blumenthal, M.D., M.P.P., Bruce Chernof, M.D., Terry Fulmer, Ph.D., R.N., John Lumpkin, M.D., M.P.H., and Jeffrey Selberg, M.H.A.

NATIONAL ACADEMY OF MEDICINE

MODELS OF CARE FOR HIGH-NEED PATIENTS

A National Academy of Medicine Workshop

...funded by the Peterson Center on Healthcare

Intensive Outpatient Care

Integrated Care Management Program

Other Team Members

Clinical Pharmacy
Social Work
Nutrition
Case Managers
Behavioral Health

Teamlet (1 team per ~ 1200 patients)

Provider (MD or NP)
Care Manager (RN)
Clinical Assoc (LPN, MA)
Clerk

Patient

and caregivers

Im PACT
PATIENT ALIGNED CARE TEAM

Intensive Management Patient Aligned Care Team

Core Elements of ImPACT

- Multidisciplinary Team: NP, MD, SW, Recreation Therapist, Clinical Coordinator
- Comprehensive intake; goal-concordant care
- Frequent in-person/phone contact
- After-hours access
- Chronic condition case management
- Coordination of primary and specialty care
- Rapid response to health status deterioration
- Support during transitions from hospital to home
- Access to social and community resources

Zulman DM, *et al.*, *J Gen Intern Med*, 2014

Partnered Research

- VA Office of Specialty Care Transformation (ImPACT)
  - Support for ImPACT Pilot Program (team FTEs)
  - ImPACT was implemented as QI pilot
- VA Palo Alto Leadership
  - Agreed to enrollment of random sample of patients to facilitate a rigorous evaluation
- HSR&D
  - Pilot grant (13-117)
  - Evaluation of ImPACT program, comparing high-risk Veterans randomly invited to participate in ImPACT with high-risk Veterans receiving usual PACT care

Study Design

- Population
  - 150 high-risk/high-cost patients randomly selected for ImPACT
  - 433 high-risk/high-cost patients in usual PACT care

- Outcomes
  - Cost
  - Utilization (hosps, ED visits, outpt services)
  - Patient experience (satisfaction with program and with VA)
  - Access, care coordination, end of life care
    - Frances Wu (VA HSR fellow), Deb Hummel (ImPACT NP)
  - Implementation barriers/facilitators; how to improve program
    - Jessica Breland (VA HSR fellow, now CDA!)

- Analyses
  - Intention-to-treat, difference-in-differences (16-month pre, 17-month post)
  - Instrumental variable analysis: treatment effect for those with ≥3 encounters
  - Stratified analyses (e.g., age, MH condition, HF/DM/COPD, recent hosp)

ImPACT and Usual Care Patient Characteristics

	ImPACT (n=140) %	Usual Care (n=405) %	P-Value
Age, mean (SD)	66 (14)	66(13)	0.62
75+	24	24	
Male	93	90	0.33
Urban Location	89	92	0.27
Non-VA Insurance	53	55	0.62
Medicare/Med Advantage	49	51	
Major Medical	9	9	
Medicaid	3	2	
Homeless in 9 mo baseline	25	26	0.87
Chronic Conditions, mean (SD)	10 (4)	11 (3)	0.38
Med/Surg Hosp in 9 mo, mean (SD)	1.2 (1.4)	1.2 (1.4)	0.70
ED Visits in 9 mo, mean (SD)	3.4 (3.3)	3.3 (3.3)	0.70

ImPACT and Usual Care Patient Characteristics

	ImPACT (n=140) %	Usual Care (n=405) %	P-Value
Hypertension	71	71	0.94
Joint Disorders	57	59	0.78
Coronary Artery Disease	36	28	0.07
Diabetes Mellitus	34	38	0.40
Renal Failure or Nephropathy	29	25	0.40
Heart Failure	24	21	0.49
Cancer (solid/heme/melanoma)	21	28	0.11
Liver Disease/Hep C	21	26	0.24
Mental Health (Any)	68	69	0.78
Depression	49	48	0.93
Drug Use Disorders	29	25	0.34
PTSD	23	28	0.20
Schizophrenia	8	6	0.42
Alcohol Use Disorders	21	25	0.34

Key Findings

- **2/3rds of invited patients engaged in ImPACT**
  - Engaged patients were more likely to be:
    - Older
    - Residing closer to VA Palo Alto
    - Lower serious mental illness/alcohol/substance use rates

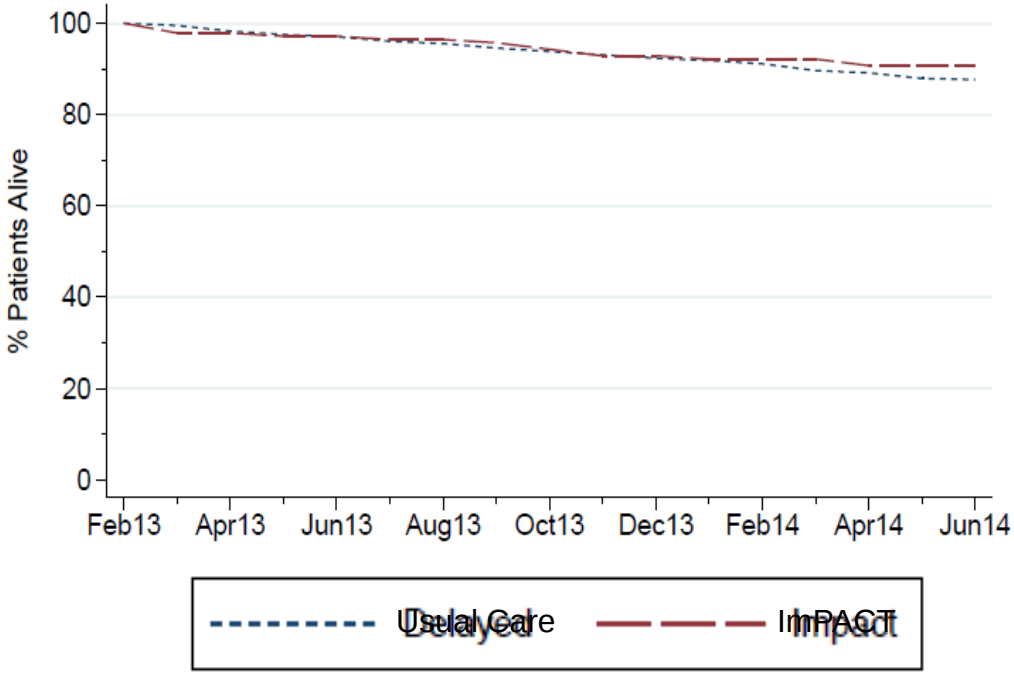
Key Findings

- 2/3rds of invited patients engaged in ImPACT
- **Improved satisfaction among ImPACT participants**
  - 96% reported they would recommend program to others
    - *Having a liaison between myself, my doctor, hospital and pharmacy is so very crucial to me and ImPACT fits the bill!*
  - Modest increase in satisfaction with VA care (2.90 to 3.16, $p = 0.04$)

Zulman DM, *et al. JAMA Internal Medicine*, 2017

Key Findings

- 2/3rds of invited patients engaged in ImPACT
- Improved satisfaction among ImPACT participants
- **There was no effect on mortality**



Zulman DM, *et al. JAMA Internal Medicine*, 2017

Key Findings

- 2/3rds of invited patients engaged in ImPACT
- Improved satisfaction among ImPACT participants
- There was no effect on mortality
- **Improved primary care access and continuity**
  - ImPACT patients had 3x more primary care (22 vs. 7 visits, $p < 0.001$)

Access and Continuity

	ImPACT (%)	Usual Care (%)	P-Value
% Primary care encounters with assigned provider	38	32	< 0.001*
% Primary care encounters conducted by telephone	44	24	<0.001*
Telehealth referral	15	6	< 0.001^
New My Health*e*Vet registrations	18	8	< 0.05^

* P-value reflects significant D-in-D (baseline rates not shown)
^ P-value reflects significant difference in follow-up values (among eligible patients)

Wu F, *et al.*, *Medical Care*, 2017

Key Findings

- 2/3rds of invited patients engaged in ImPACT
- Improved satisfaction among ImPACT participants
- There was no effect on mortality
- Improved primary care access and continuity
- **Improved end-of-life planning and care**

End-of-Life Planning and Care

	ImPACT (%)	Usual Care (%)	P-Value
New advance directive	24	6	< 0.001^
New advance directive completed or discussed	56	13	< 0.001^
Hospice referral (among patients who died, n = 19 ImPACT, n = 63 PACT)	74	45	< 0.05~

^ P-value reflects significant difference in follow-up values (among eligible patients)
~ P-value reflects significant difference among patients who died (n = 15 vs. 67)

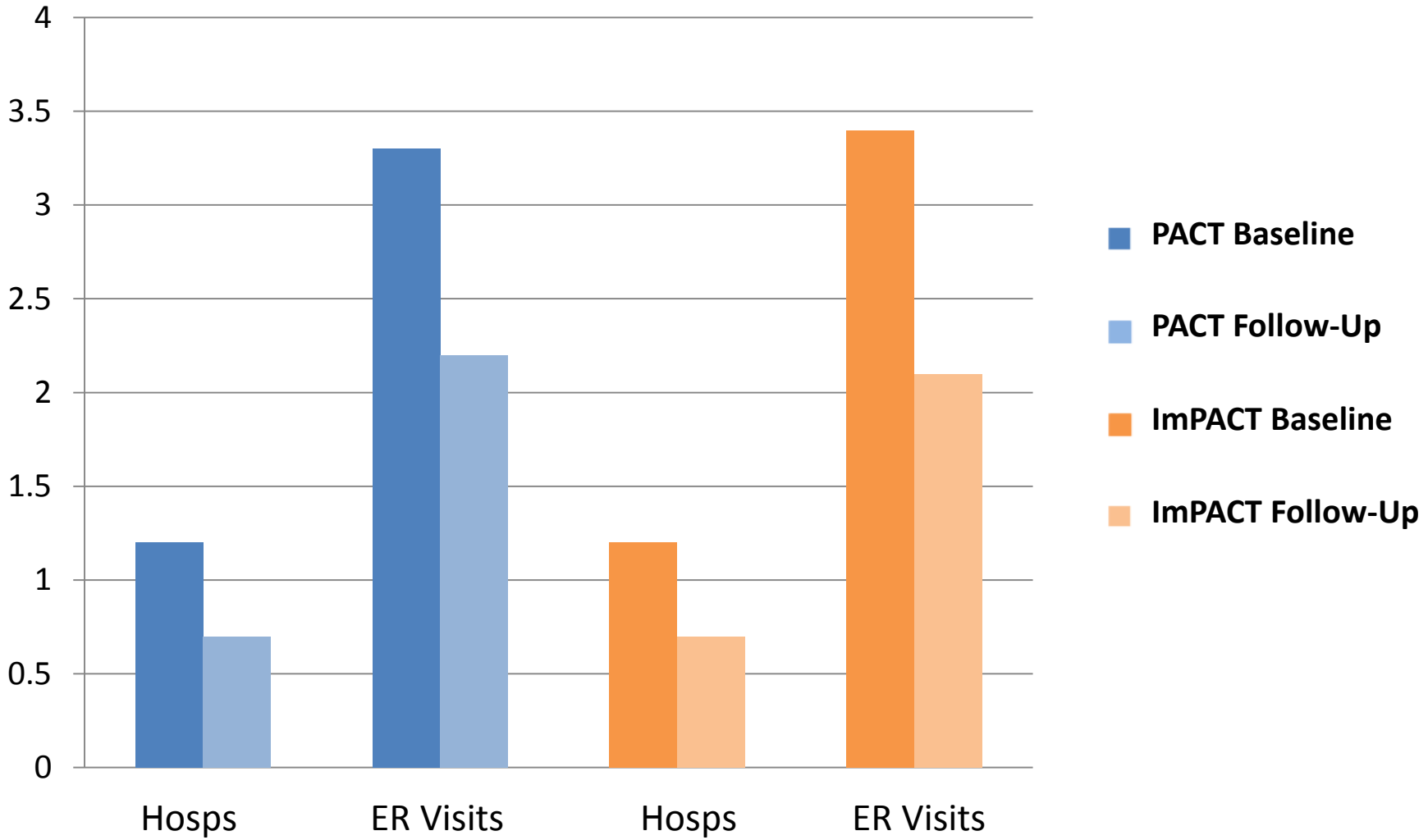
Wu F, *et al.*, *Medical Care*, 2017

Hummel D, *et al.*, *Journal of Nurse Practitioners*, 2017

Key Findings

- 2/3rds of invited patients engaged in ImPACT
- Improved satisfaction among ImPACT participants
- There was no effect on mortality
- Improved primary care access and continuity
- Improved end-of-life planning and care
- **Hospitalizations/ED visits declined at similar rates**

Changes in 16-month hosp/ER visit rates

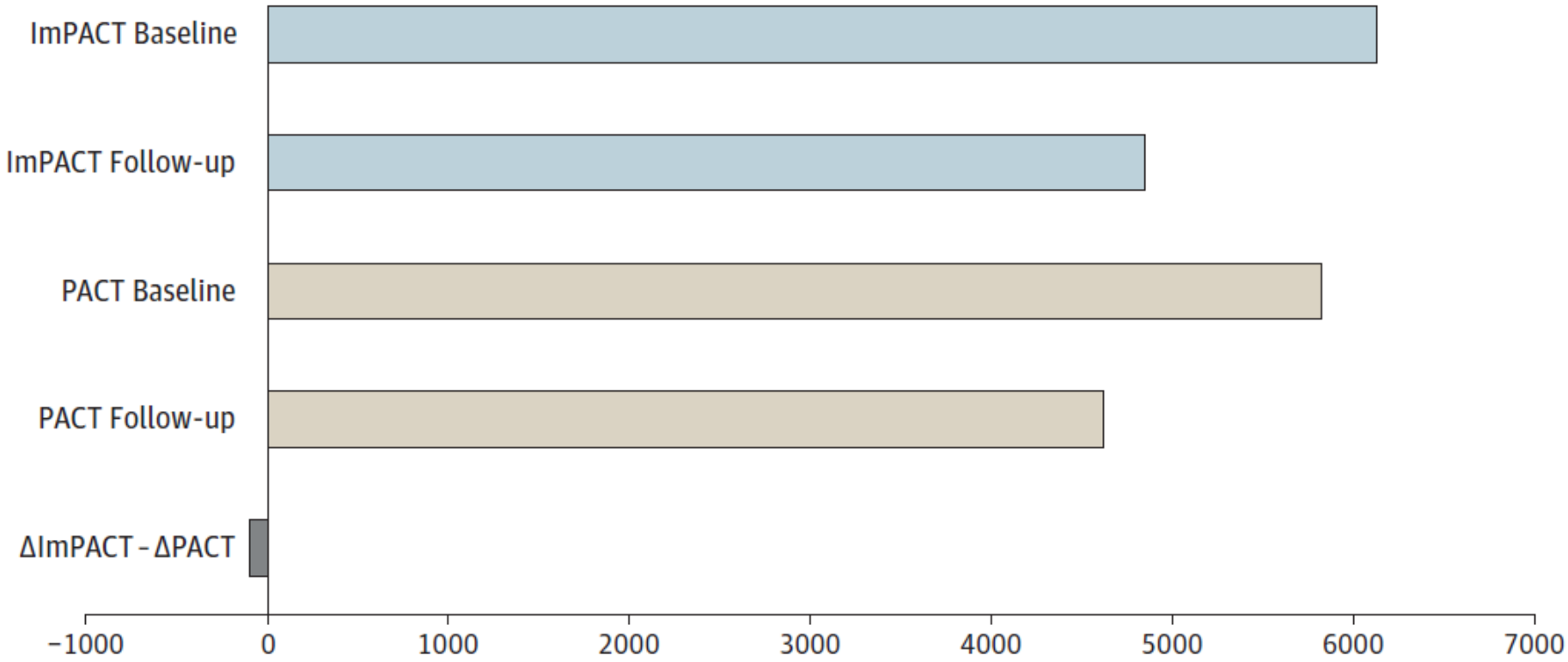


Zulman DM, *et al. JAMA Internal Medicine*, 2017

Key Findings

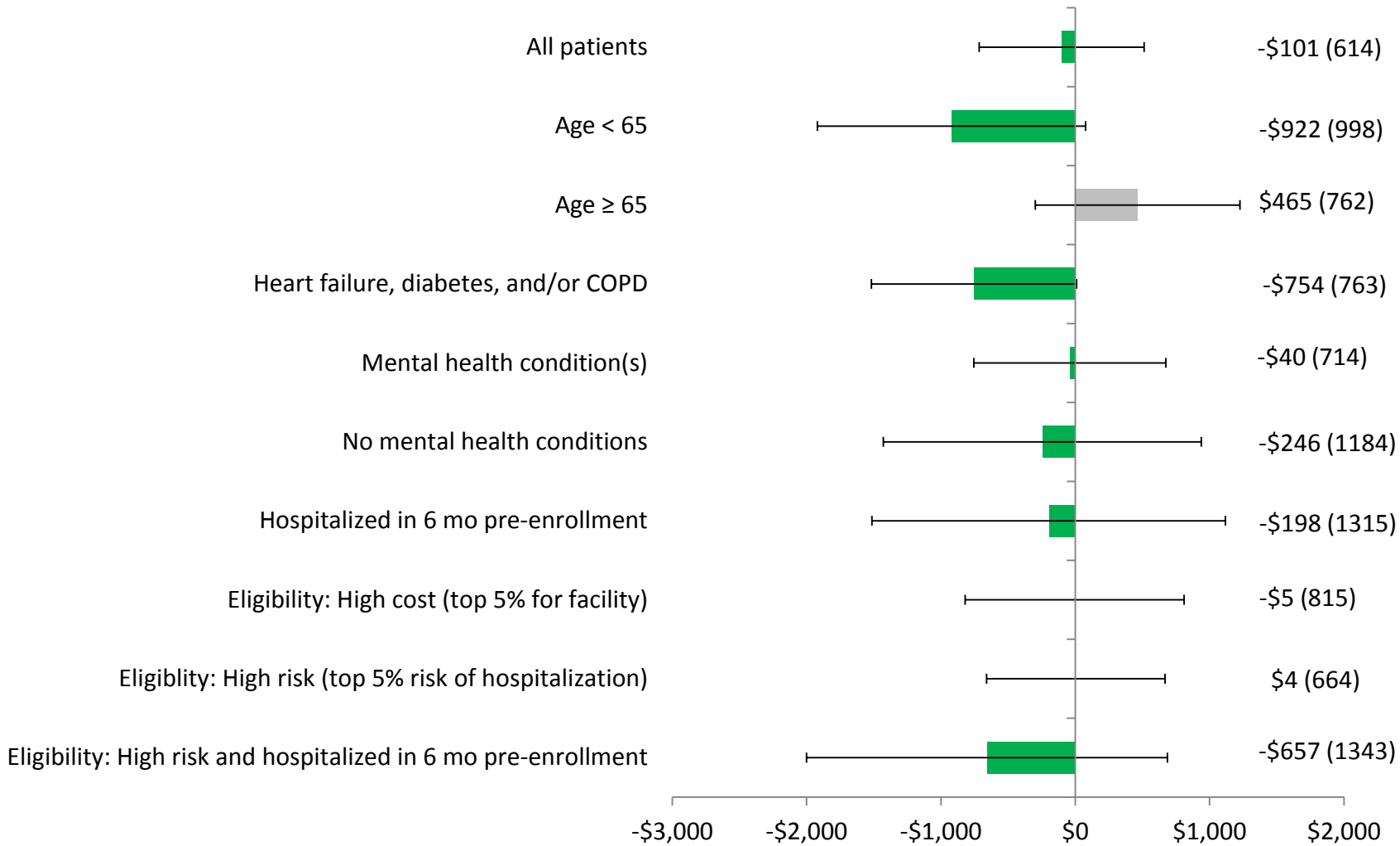
- 2/3rds of invited patients engaged in ImPACT
- Improved satisfaction among ImPACT participants
- There was no effect on mortality
- Improved primary care access and continuity
- Improved end-of-life planning and care
- Hospitalizations/ED Visits declined at similar rates
- **ImPACT paid for itself, but did not significantly reduce costs**

Unadjusted costs declined by ~20% in ImPACT and PACT



Zulman DM, *et al. JAMA Internal Medicine*, 2017

Stratified Analyses of Subgroups



Zulman DM, *et al. JAMA Internal Medicine*, 2017

Where did modest savings come from?

	ImPACT		PACT		
Utilization	Baseline	Follow-up	Baseline	Follow-up	ΔImPACT-ΔPACT
Acute Med/Surg Admissions	1.3	0.7	1.3	0.7	0.06
Acute Med/Surg Days	7.0	3.2	7.1	4.1	-0.73
Acute MH Admissions	0.3	0.1	0.3	0.1	-0.03
Acute MH Days	3.3	1.7	3.8	1.8	0.38
Extended Med Admissions	0.2	0.2	0.1	0.1	-0.02
Extended Med Days	8.4	11.5	4.2	8.4	-1.08
Extended MH Admissions	0.1	0.1	0.1	0.04	0.04
Extended MH Days	9.3	4.3	11.9	4.9	1.97
ED Visits	3.4	2.1	3.3	2.1	-0.12
Primary Care Visits	10.9	21.8	10.6	7.4	14.04*
Specialty Care Visits	14.5	12.0	14.8	11.4	0.97
MH Outpatient Visits	10.1	8.0	10.0	9.3	-1.34

Zulman DM, *et al. JAMA Internal Medicine*, 2017

Key Findings

- 2/3rds of invited patients engaged in ImPACT
- Improved satisfaction among ImPACT participants
- There was no effect on mortality
- Improved primary care access and continuity
- Improved end-of-life planning and care
- Hospitalizations/ED Visits declined at similar rates
- ImPACT paid for itself, but did not significantly reduce costs

Potential explanations for modest cost impact

- Evaluation focused on program's first year- establishing best practices and relationships with other VA services takes time
- Benefits of intensive management may require longer enrollment (e.g., to build trust, change behavior and chronic condition management, decrease complication rates).
- Program may increase utilization for some patients (e.g., identifying unmet needs, shifting care into VA for older adults).
- Focusing on highest-risk/highest cost patients may not be the ideal target for cost savings

Outline

- High-risk & high-need patients: definitions and characteristics
- Subgroups of high-risk Veterans with distinct clinical risk factors and utilization patterns
- Findings from a randomized evaluation of intensive primary care for high-risk Veterans
- Ongoing VA research/operations partnerships to improve care for high-risk Veterans

VA PACT-Intensive Management (PIM) Demonstration Sites

PIM Partnered Initiative

PIM Demonstration Site Leads: Parag Dalsania, Jessica Eng, Nate Ewigman, Deborah Henry, Jeff Jackson, Neha Pathak, Brook Watts

PIM Executive Committee: Gordon Schectman, Kathy Corrigan, Tim Dresselhaus, David Atkins, Carrie Patton, Belinda Black (Velazquez)

PIM National Evaluation Committee

Lisa Rubenstein (CSHIIP, Los Angeles)
Steve Asch (Ci2i, Palo Alto)
Evelyn Chang (CSHIIP, Los Angeles)
Donna Zulman (Ci2i, Palo Alto)
Jean Yoon (HERC, Palo Alto)
Michael Ong (CSHIIP, Los Angeles)
Susan Stockdale (CSHIIP, Los Angeles)
Marian Katz (CSHIIP, Los Angeles)
Elvira Jimenez (CSHIIP, Los Angeles)
Mingming Wang (CSHIIP, Los Angeles)
Ava Wong (PIM NEC, VA Palo Alto)
Angel Park (HERC, Palo Alto)
Karen Chu (CSHIIP, Los Angeles)
Andrew Lanto (CSHIIP, Los Angeles)
Shoutzu Lin (Ci2i, Palo Alto)
Cindie Slightam/Terri Rogers (ImPACT, Palo Alto)
Alissa Simon (CSHIIP, Los Angeles)
Debbie Delevan (CSHIIP, Los Angeles)
Lisa Tarr (CSHIIP, Los Angeles)

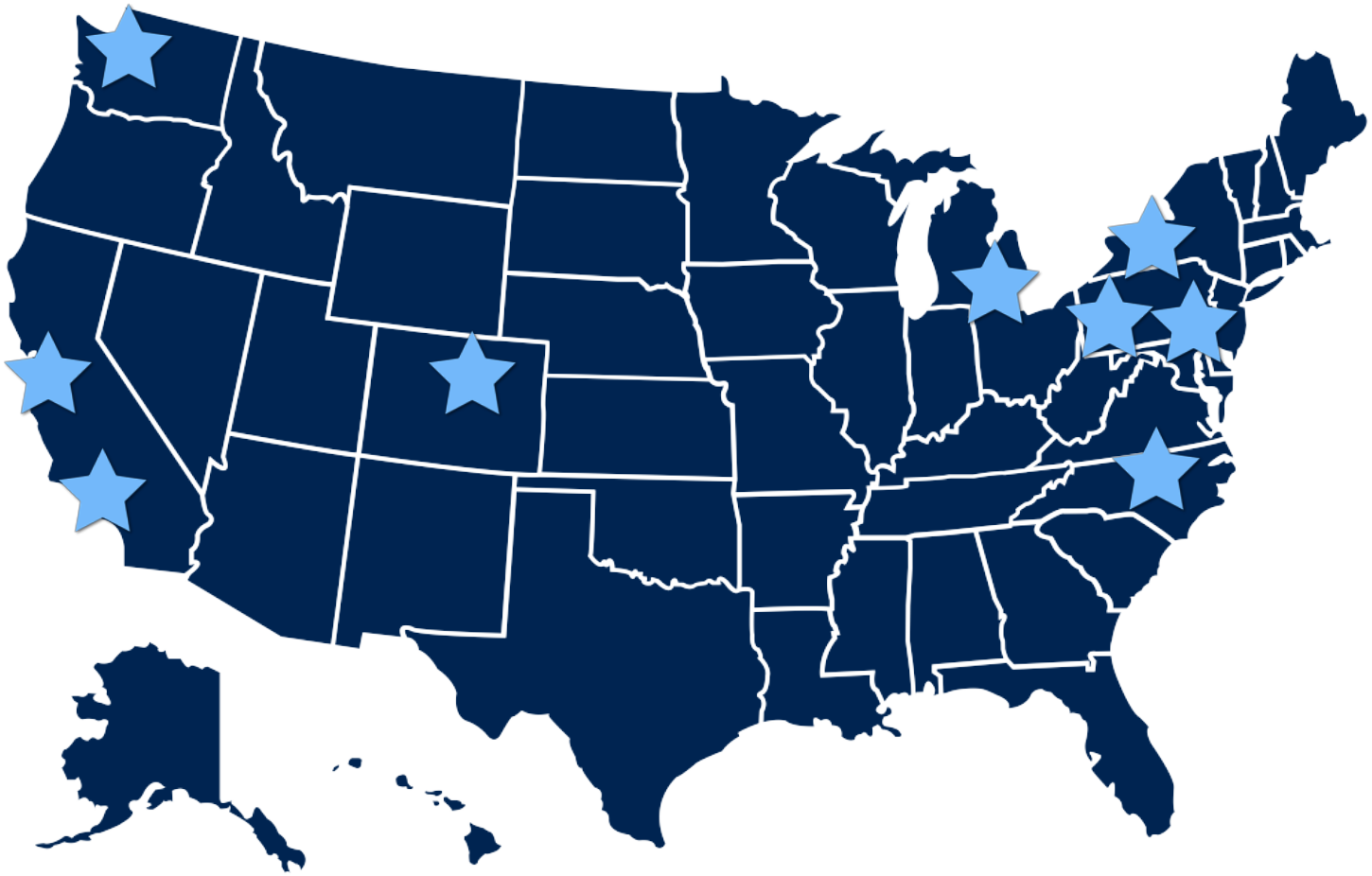
PACT-Intensive Management Sites

PIM Site	Distinguishing Elements	Team
San Francisco	Incorporates elements of GRACE (for frail older adults) & MHICM, includes home visits	SW, RN, psychiatrist
Milwaukee	Patients enrolled during hosp, emphasizes post-discharge care and patient goals	RN, clinical educator, psychologist
Cleveland	NP and military medics co-manage care, emphasizes reducing PACT provider burnout	NP, medics
Salisbury	PIM provider assumes care, emphasizes care coordination and patient engagement	PCP, SW, RN, psychologist, peer support
Atlanta	Incorporates home visits and telehealth, emphasizes patient activation	SW, NP

VA PACT High Risk Patient Workgroup

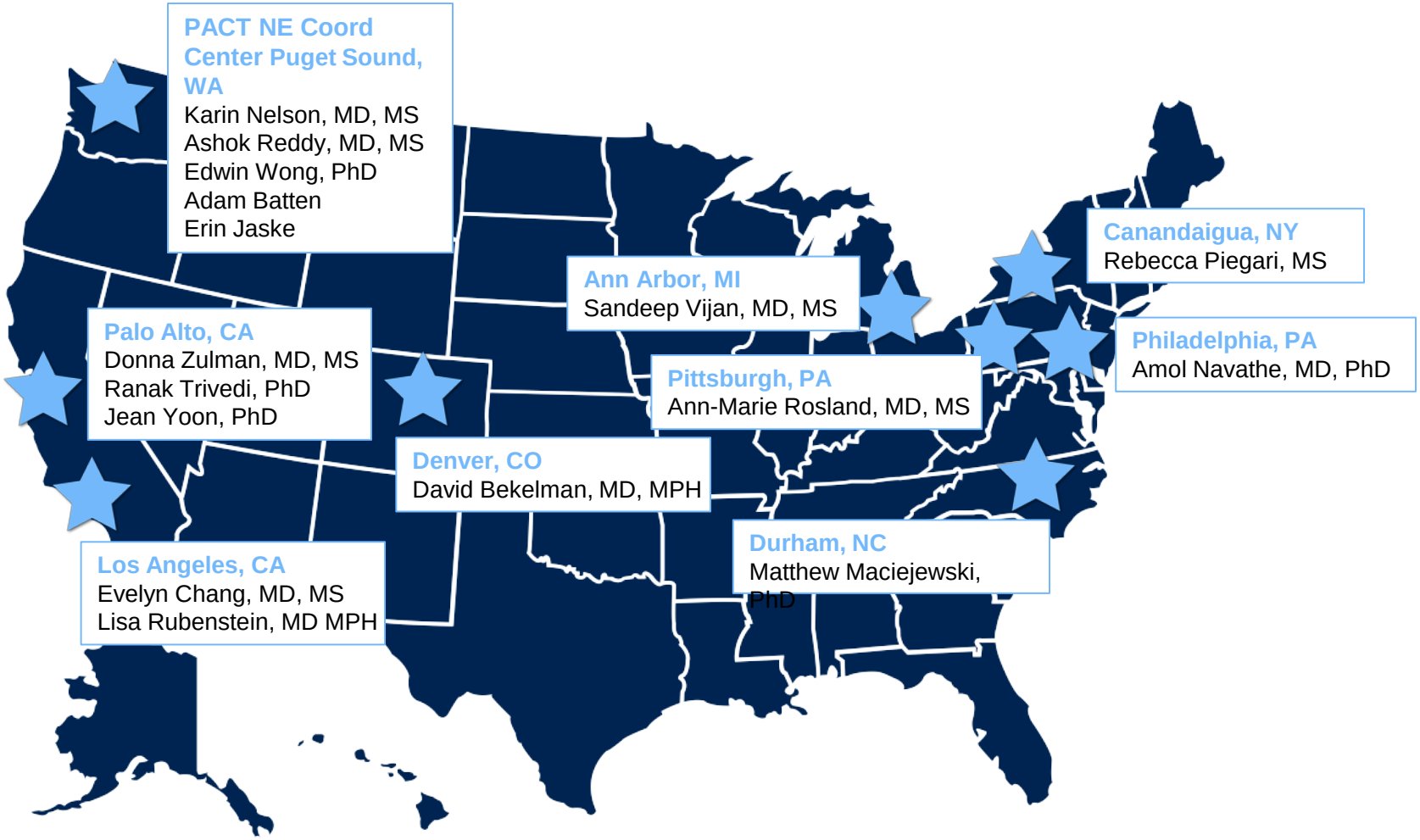
Part of the VA PACT National Evaluation Coordinating Center

Goal: Conduct and coordinate evaluations of the impact of PACT on the care and outcomes for complex patients nationally

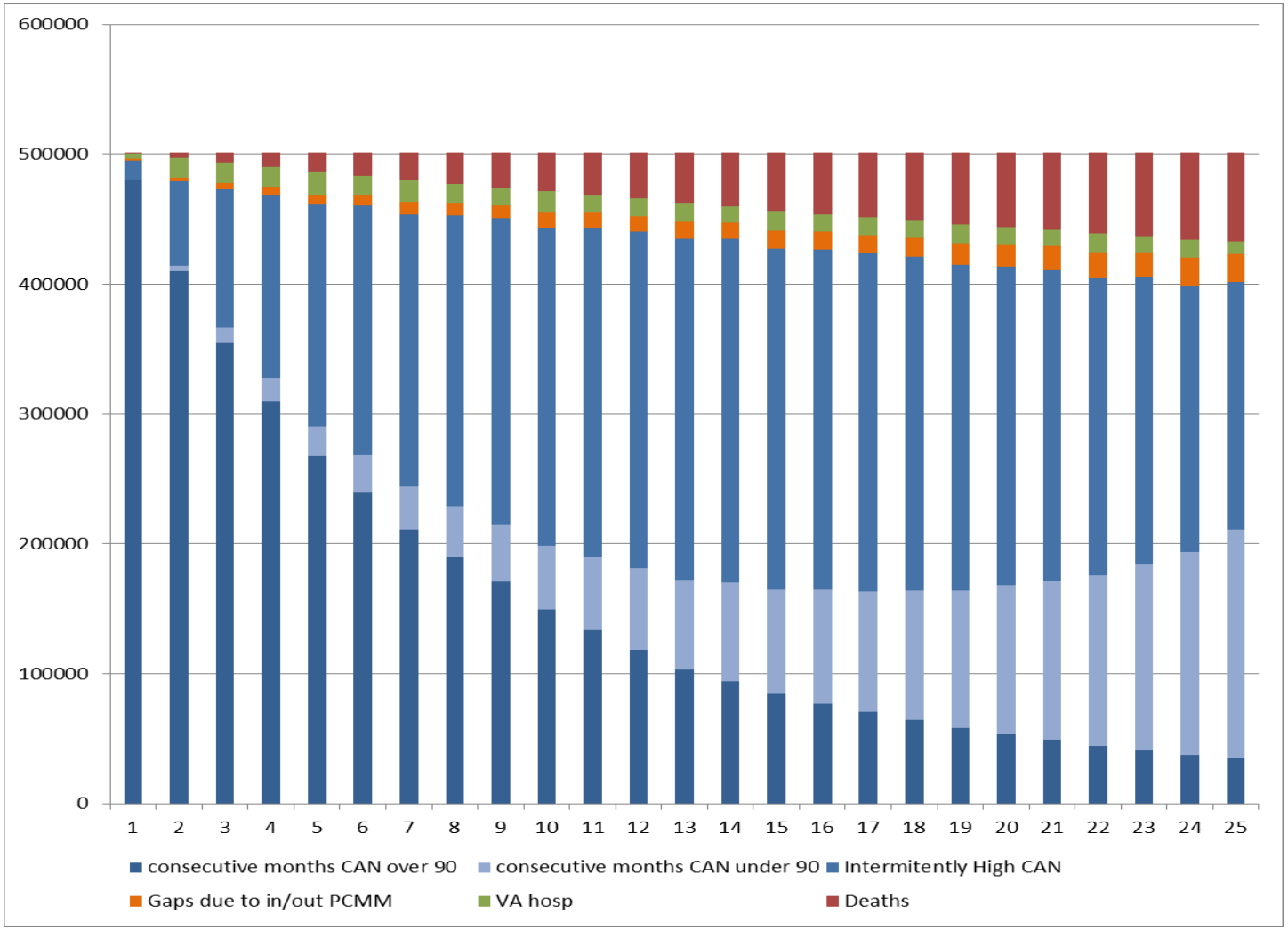


VA PACT High Risk Patient Workgroup

Goal: Conduct and coordinate evaluations of the impact of PACT on the care and outcomes for complex patients nationally



Observational CAN score trajectories



Credit: E. Chang, B. Piegari, E. Wong, J. Yoon

IF-THEN SURVEY

Interconnected Factors That Influence Health, Experiences and Needs (IF-THEN)

- 10,000 High Risk Veterans (CAN>75th%), nationally representative
- Social Det. of Health, Psychosocial, Functional, Behavioral measures linked to VA clinical records
- Which factors improve prediction of health outcomes, and segmenting of high-risk population?

Overall Goals / Future Vision

- How best to support Primary Care teams in caring for their high-risk patients
- How best to structure special Intensive-Primary Care teams
- How best to use (or enhance) Health System data and tools to support care management and coordination for complex patients

Acknowledgements - Dr. Zulman

CDA Mentors

Steve Asch, Mary Goldstein, Todd Wagner, Tom Houston

VA Palo Alto Ci2i Investigators and Staff

ImPACT Clinical Team & Advisors

Stephen Ezeji-Okoye, James Kahn, John Chardos, Jonathan Shaw, Debra Hummel, Katie Holloway, Sasha Smither, Miriam Trigueros, Ann Lindsay, Alan Glaseroff, Danielle Cohen, Valerie Meauoone, Ian Tong, Lien Nguyen, Terri Rogers

ImPACT Evalution

Steve Asch, Christine Chee, Jessica Breland, Cindie Slightam, Donn Garvert, Tyson Holmes, Frances Wu, Ava Wong

PIM Sites & Evaluation Team

Evelyn Chang, Lisa Rubenstein, Steve Asch, Michael Ong, Susan Stockdale, Jill Darling, Alissa Simon, Jean Yoon, Elvira Jimenez, Ava Wong, Martin Lee, Emily Wong

Research Support

VA HSR&D Career Development Award 12-173
VA HSR&D Pilot Grant (ImPACT evaluation) 13-117
VA Office of Specialty Care Transformation (ImPACT)
VA Office of Primary Care Services & HSR&D (PACT-IM NEC)

Acknowledgements - Dr. Rosland

CDA Mentors

John Piette, Michele Heisler, Eve Kerr

PACT High Risk Clinical Subgroups Team

Natalya Wawrin, Katherine Prenovost,
Adam Batten, Rebecca Piegari

Research and Evaluation Support

VA HSR&D Career Development Award 10-209-1
VA VISN 11 PACT Laboratory
VA PACT National Evaluation / Demo Lab Coordinating Center
VA Clinical Systems Development and Evaluation, Stephen Fihn Director
VA Office of Primary Care Services
VA HSR&D and VA QUERI
VA Ann Arbor and VA Pittsburgh HSR&D COINs

Questions/Comments?

Donna Zulman

donna.zulman@va.gov

Ann-Marie Rosland

ann-marie.rosland@va.gov

Twitter: @roslandam