VAIL
Veterans Assessment and Improvement Laboratory
VISN 22

PACT
PATIENT ALIGNED CARE TEAM

The Role of Practice Environment on PACT Provider and Staff Burnout

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PACT Cyberseminar
July 24, 2017

Task delegation among primary care providers and nurse care managers and burnout in PACT teams

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Burnout in Primary Care

- Psychological stress characterized by emotional exhaustion, lack of enthusiasm and feelings of ineffectiveness
- PCPs[1] and primary care nurses[2] experience high levels of burnout, and it negatively impacts:
  - Patient satisfaction[3]
  - Quality of care[4]
  - Turnover/Retirement[5]

[1]Shanafelt et al. *Arch Int Med* 2012, [2]McHugh et al. *Health Aff (Millwood)* 2011, [3]Haas et al. *IM* 2000, [4] Linzer et al. *Ann. Int Med* 2009, [5]Landon et al. *Med Care* 2006

PCMH and VA PACT

- PCMH conceptualizes PCPs and staff together as an interprofessional team.
  - PCPs delegate tasks to other team members
  - “Working at the top of their license”
- VA “Teamlet” model
  - PCP (Physician/NP/PA)
  - Nurse Care Manager (RN)
  - Clinical Associate (LPN/LVN)
  - Administrative Associate (Medical Assistant / Clerk)
  - Daily huddles
  - PACT Transformation Coaches

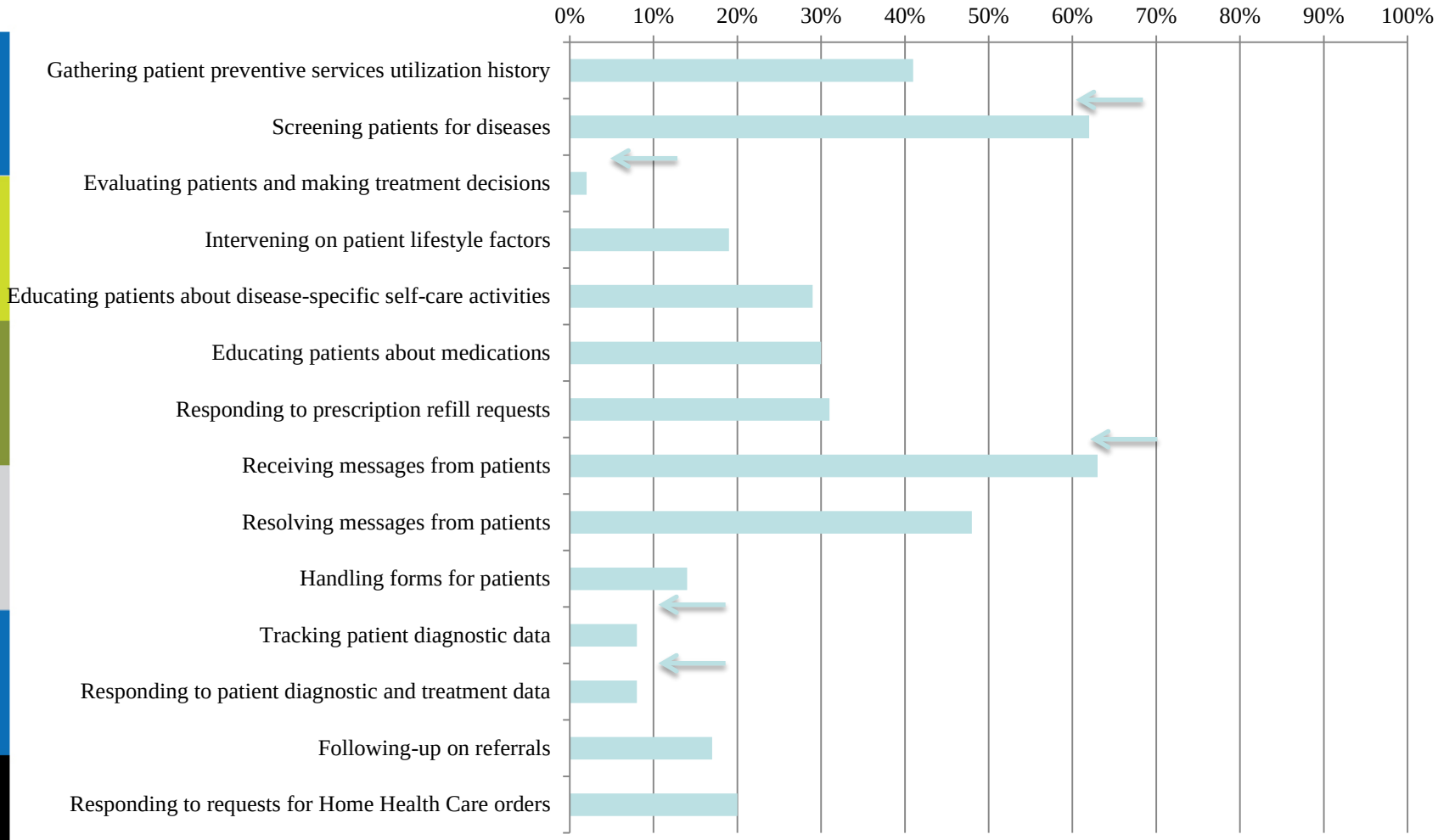
Who does what in primary care?

- Unknown how tasks are delegated among teamlet members in VA PACT.
- Do PCPs and staff share an understanding of task assignment?

- Survey of PCPs and PC staff in VISN 22
  - Asked PCPs and staff: Do PCPs perform specific tasks alone, or do they rely on staff for help?
  - Administered 11/30/11 – 3/30/2012
  - 419/697 surveys completed: 60% response rate

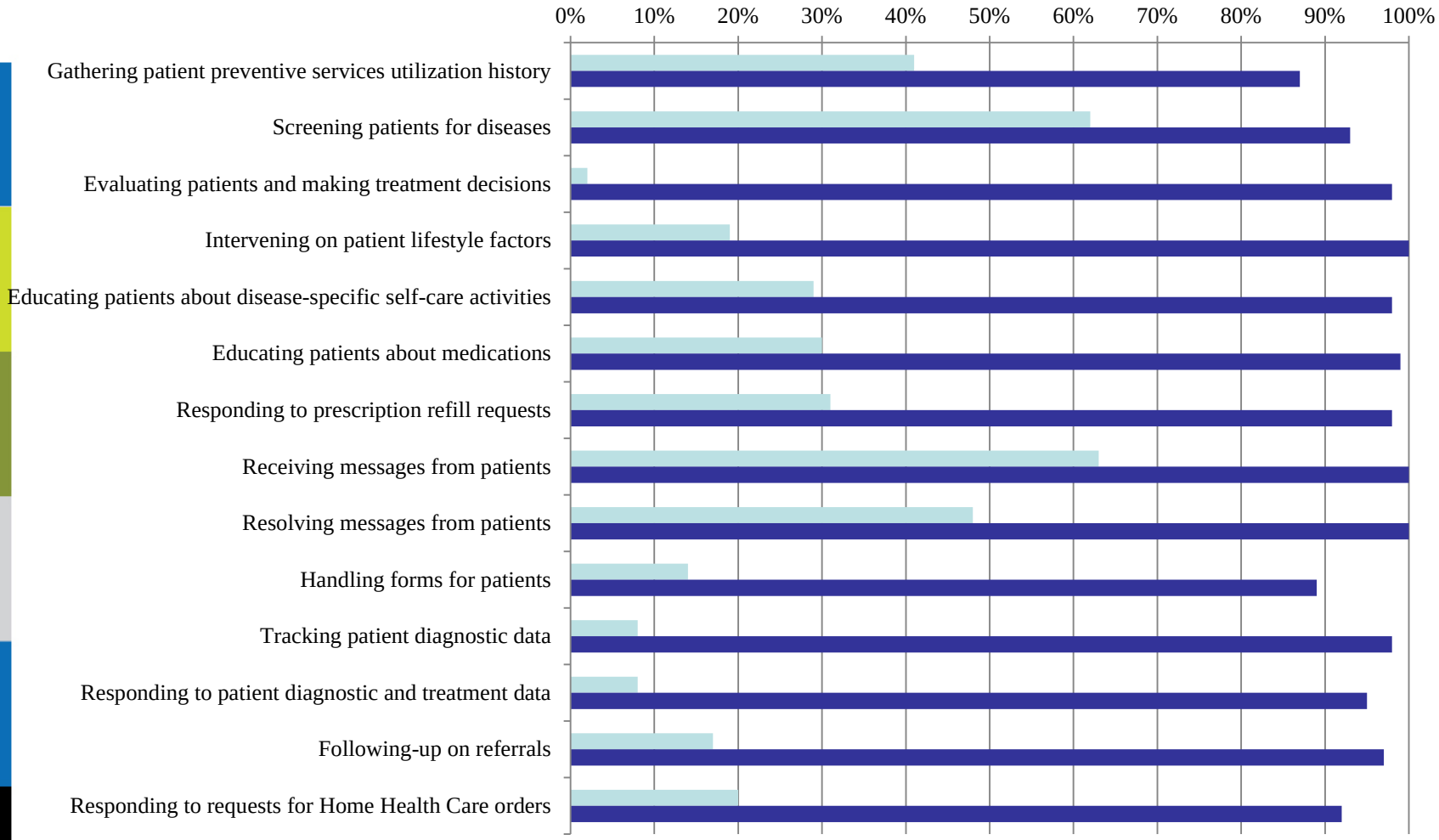
Results: PCPs

Proportion reporting reliance on staff



Results: PCPs, RNs

Proportion RNs reporting relied on by PCPs



Edwards et al. *Healthcare* 2015

Study Questions

- Is perceived task delegation among PCPs and NCMs associated with burnout?
- Is the difference between perceived task delegation between PCPs and NCMs on the same team associated with burnout?

2014 PACT Provider Survey

- Sample: All VA Primary Care Providers and Staff
- Fielded online 8/1/14-11/30/14, concurrent with VA all employee survey.
- Of 8,114 teamlets surveyed, in 2,809 at least one team member responded, a 34.6% teamlet level response rate, approximately 21% individual response rate.
- Subset: PCPs and NCMs on **same teamlet**
  - **777 complete PCP/NCM dyads**

"To what extent *do you rely on your teamlet* OR *does your teamlet rely on you* to accomplish the following primary care activities?"

- Not at all (1) / a little (2) / somewhat (3) / a great deal (4)

Data Collection	Gathering patient preventive services utilization history Screening patients for diseases Assessing patient lifestyle factors
Counseling/Education	Encouraging lifestyle modifications Educating patients about disease-specific self-care activities Educating patients about medications
Messages	Responding to prescription refill requests Receiving messages from patients Resolving messages from patients
Tracking Data	Tracking patient diagnostic data Following-up on referrals
Decision Making	Evaluating patients and making treatment decisions Completing forms for patients Responding to requests for Home Health Care orders Responding to patient diagnostic and treatment data

PCP Delegation / NCM Reliance

$$\frac{1}{N}\sum_{i=1}^{N=15}(\text{PCP delegation}_{task\ i})$$

Dyad Task Discordance

$$\frac{1}{N}\sum_{i=1}^{N=15}\left|\text{PCP delegation}_{task\ i} - \text{NCM reliance}_{task\ i}\right|$$

Questions: Covariates

- Is your PACT staffed at the recommended 3.0 FTE team members to each PCP? (yes/no)
- Has your teamlet had any changes in or loss of staff in the last 12 months? (yes/no)
- How much time do you spend on meeting with your teamlet/clinic to discuss patient care (e.g. in huddles)?
- Did your PACT have a coach? (yes/no)

Outcome: Burnout

- "Based on your definition of burnout, how would you rate your level of burnout at work?"
  - I enjoy my work, I have no symptoms of burnout
  - Occasionally I am under stress, and I don't always have as much energy as I did, but I am not burned out
  - **I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion.**
  - **The symptoms of burnout I am experiencing won't go away. I think about frustration at work a lot.**
  - **I feel completely burned out and often wonder if I can go on. I am at the point where I may need to make some changes or may need to seek some kind of help.**

Linzer et al. *JGIM* 2000

Methods

- Generalized linear mixed model (GLIMMIX) at respondent level, adjusting for teamlet level clustering
  - Linear: delegation/reliance
  - Logistic: burnout

N = 777 dyads	Primary Care Provider (PCP)	Nurse Care Manager (NCM)
All task delegation mean (SD)	2.97 (0.64)	3.26 (0.50)
Data Collection	3.31 (0.71)	3.40 (0.66)
Messages	3.47 (0.62)	3.66 (0.56)
Counseling/Education	3.05 (0.82)	3.60 (0.53)
Decision Making	2.53 (0.86)	2.76 (0.85)
Tracking data	2.48 (1.01)	2.99 (0.91)
Appropriate Staffing	64.3%	66.4%
Turnover	54.4%	54.9%
Minutes Spent in Huddles	13.3 (10.9)	14.3 (11.6)
Presence of PACT coach	45.3%	50.6%
Years at VA	8.5 (6.4)	8.61 (6.9)
Burnout	48.6%	34.8%

Delegation/Reliance

	PCPs		NCMs	
	β	p	β	p
Appropriate Staffing	**0.179**	**0.001**	**-0.119**	**0.011**
Staff Turnover	**-0.123**	**0.018**	0.013	0.765
Minutes in Huddle	**0.012**	**<.0001**	**0.006**	**0.002**
Presence of PACT Coach	-0.005	0.917	-0.026	0.546
Years at VA	0.004	0.351	0.005	0.132

Delegation and Burnout

	PCPs		NCMs	
	OR	95% CI	OR	95% CI
Task Delegation (1 unit)	**0.62**	**(0.49-0.78)**	**1.66**	**(1.33-2.51)**
Appropriate Staffing	**0.46**	**(0.34-0.63)**	**0.68**	**(0.47-0.88)**
Staff Turnover	**1.99**	**(1.49-2.65)**	**1.42**	**(1.14-2.08)**
Minutes in Huddle	**0.98**	**(0.97-1.00)**	1.00	(0.99-1.02)
Presence of PACT Coach	**0.62**	**(0.44-0.86)**	0.83	(0.57-1.13)
Years at VA	**1.05**	**(1.02-1.07)**	**1.00**	**(1.00-1.04)**

Discordance and Burnout

	PCPs		NCMs	
	OR	95% CI	OR	95% CI
Task Discordance	**1.77**	**1.27 - 2.47**	1.00	0.71 - 1.40
Appropriate Staffing	**0.46**	**0.34 - 0.63**	**0.64**	**0.47 - 0.88**
Turnover	**1.99**	**1.49 - 2.65**	**1.54**	**1.14 - 2.08**
Huddle Time	**0.98**	**0.97 - 0.99**	1.00	0.99 - 1.02
PACT Coach Present	**0.62**	**0.44 - 0.86**	**0.80**	**0.57 - 1.13**
Time at VA	**1.05**	**1.02 - 1.07**	**1.02**	**1.00 - 1.04**

Limitations

- Low response rate
- Cross-sectional
- Difference Scores
- Investigated perceptions of task responsibility, not actual practices, or opinions of how tasks should be delegated

Conclusions

- Increased huddle time is associated with
  - **more** task delegation/reliance for PCPs/NCMs

- Appropriate staffing is associated with
  - **more** task delegation for PCPs but
  - **less** task reliance NCMs

- Increased task delegation/reliance is associated with
  - **less** burnout for PCPs but
  - **more** burnout for NCMs

- Increased task discordance is associated with
  - **less** burnout for PCPs but
  - **no association** with burnout in NCMs

Implications

- Increasing huddle time may increase task delegation
- Appropriate staffing allows for less task reliance on NCMs
- Increasing task delegation from PCPs to NCMs may increase burnout among NCMs

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What are the Implications for Task Sharing Between Interprofessional Team Members?

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Task Sharing: Key Aspect of PCMH

- Team-based approach:
  - Shared responsibilities for longitudinal, coordinated care
  - Interprofessional team
  - *Key aspect of patient-centered medical homes (PCMH)*

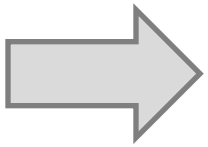
Task Sharing and Burnout

- Effective task sharing between PCMH team members:
  - Potentially reduces primary care provider (PCP) burnout
- Lack of studies that:
  - Empirically test the relationship between task sharing and PCP burnout
  - Which tasks performed independently by PCPs are associated with higher levels of burnout

Study Aim

Tasks performed independently by PCP

(without reliance on team)



↑ PCP Burnout

Methods

- Study Design:
  - Secondary data analysis:
    - Cross-sectional data from 2 time points
- Data Source:
  - VAIL-PCC* Clinician Survey
  - 327 PCP (MD, NP, PA) Respondents:
    - 2011-2012: n=191 (54% response rate)
    - 2013-2014: n=136 (39% response rate)
- Setting:
  - 23 Primary care practices in 1 VA regional network

*VAIL-PCC: Veterans Assessment and Improvement Laboratory-Patient Centered Care

Key Variables

DV: Burnout

- Maslach's Burnout Inventory
  - Emotional exhaustion subscale
    - 9 items

IV: PCP Tasks

- VAIL-PCC Clinician Survey
  - 14 task items:
    - Dichotomized:
      - "1"= performed on their own
      - "0"= relied on team

Primary Care Tasks

1. Gathering pt history
2. Screening for diseases
3. Evaluating pts & making treatment decisions
4. Intervening on lifestyle factors
5. Edu pts: disease specific self-care activities
6. Edu pts: medications
7. Responding to prescription refill requests
8. Receiving messages from pts
9. Resolving messages from pts
10. Handling forms
11. Tracking pt diagnostic data
12. Responding to pt diagnostic and treatment data
13. Following-up on referrals
14. Responding to requests for home health

Other Independent Variables

- Team function:
  - Team communication, team skills & process, satisfaction with team
- Clinic characteristics:
  - 5 healthcare systems, clinic type
- PCP characteristics:
  - Age, gender, race/ethnicity, VA tenure, PCP type

Data Analysis

- Bivariate analysis:
  - PCP burnout and all independent variables

- 4 Multivariable Linear Regression Analysis:
  - 4 Discrete tasks and other indep. variables:
    - Significantly associated with PCP burnout ($p<0.05$) from bivariate analysis
  - Adjusted for:
    - Time (wave)
    - Individuals (>1 observations)

PCP Characteristics

	N=258 (%)*	*M (SD)*
PCP Burnout (score 0-54)		23 (13.1)
Mean Age (yrs.)		50 (9.7)
VA Tenure (yrs.)		11 (8.5)
PCP Type MD (vs. DO, NP, PA)	69%	
Race/ Ethnicity		
Non-Hispanic White	58%	
Female Gender	57%	

* N=258 due to exclusion of second set of responses from 69 PCPs who responded in both waves

PCP reports of performed tasks (N=327)

Top 3 tasks performed WITHOUT reliance	(%)
Evaluating pts. & making treatment decisions	96%
Tracking pt. diagnostic data	92%
Responding to pt. diagnostic & treatment data	92%

Mid 3 tasks performed WITHOUT reliance	(%)
Intervening on pt. lifestyle factors	77%
Educate pts: disease-spec. self-care activities	73%
Educate pts: medications	73%

PCP reports of performed tasks (N=327)

Lowest 3 tasks performed WITHOUT reliance	n (%)
Resolving messages from pts.	49%
Screening pts. for diseases	36%
Receiving messages from pts.	31%

Multivariable Linear Regression Analysis†

Factors Assoc. with Burnout (0-54)	Model 1	Model 2	Model 3	Model 4
Tasks PCPs Performed w/o Reliance				
Intervening on lifestyle factors	**3.80***	—	—	—
Educ. pts: disease-spec. self-care	—	**3.48***	—	—
Receiving messages from pts	—	—	1.02	—
Resolving messages from pts	—	—	—	0.50
Covariates				
Team Communication	**-6.67*****	**-6.16*****	**-6.10*****	**-6.40*****
Team Skills & Process	-2.25	-2.12	-2.58	-2.63
Satisfaction with Team	-3.21	-3.07	-2.82	-3.20
Age	-0.04	-0.07	-0.05	-0.05
Female	**3.47***	**3.39***	**4.08***	**3.61***
VA Tenure	-0.13	-0.10	-0.15	-0.15
R^2	0.21	0.19	0.18	0.19

† **Only stat. significant ($p \leq 0.05$) tasks & covariates from the bivariate analysis are listed in table. Adjusted for time and clustering within individuals (>1 observations). *p<0.05, **p<0.01, ***p<0.001.**

Key Findings & Implications

- Behavioral counseling tasks ↑ PCP burnout
  - Expand roles of team members to assume responsibility for behavioral counseling
- Quality team communication ↓ PCP burnout
  - Fully staffed teams
  - Various communication modes (i.e., instant message, email)
  - Allocate formal time for info. sharing (i.e., huddles)
- Female gender ↑ PCP burnout
  - Gender specific strategies
  - Workplace stress mgmt. & wellness programs

Limitations

- Task sharing analyses are based on PCP perceptions (vs. observations)
- Unable to determine:
  - If team fully staffed at 1 PCP: 3 staff ratio
  - Stability of team membership (vs. turnover)
  - Panel size
- Study sample from primary care clinics within one VA regional network

Conclusion

- Findings shed light on primary care tasks associated with higher levels of PCP burnout.
- Future studies:
  - Evaluate the effectiveness of strategies aimed at reducing PCP burnout
  - Identify best practices to promote effective team communication and collaboration

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Getting to Patient Centered Primary Care: The Role of Clinic Environment, Provider Burnout, and Patient-Provider Communication

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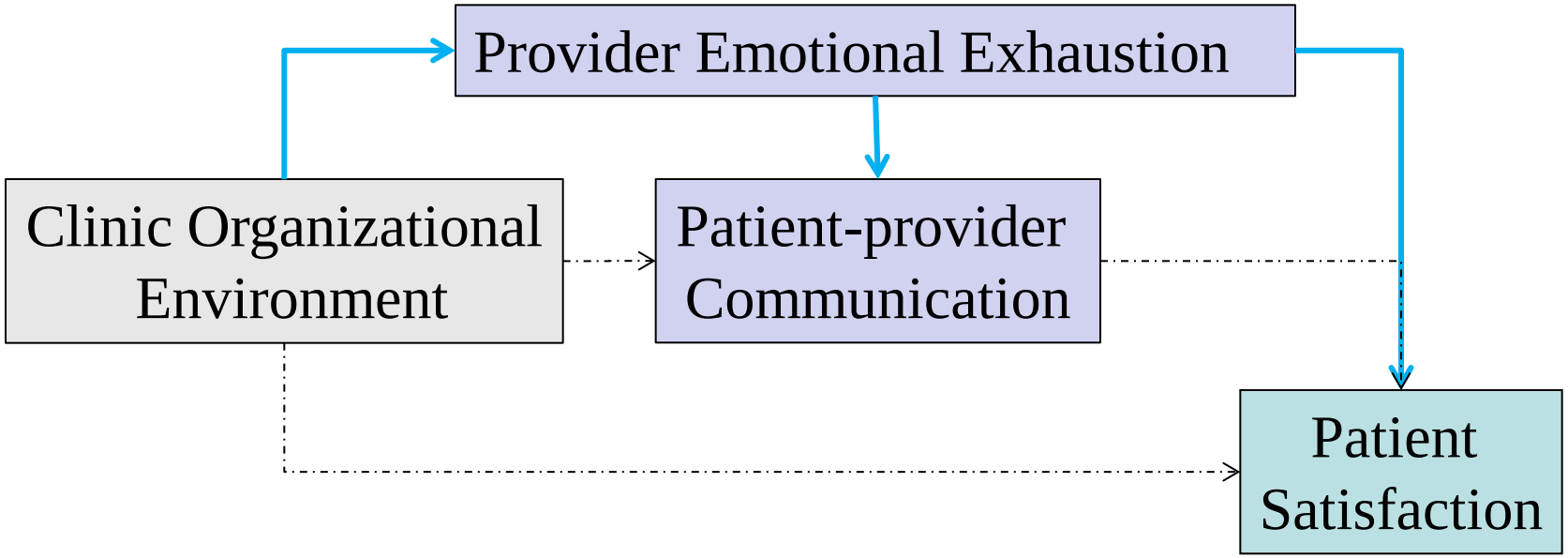
Background

- Clinic organizational environment and PCP emotional exhaustion (EE; e.g., burnout)
- PCP EE and patient experience (patient-provider communication, patient satisfaction)
  - Research mixed
- Effect of clinic organizational environment may explain lack of consistent association between PCP EE and patient experience

Conceptual model



Background - Setting

- VHA's implementation of Patient Centered Medical Home called Patient Aligned Care Teams (PACT)
- Clinics reorganized into "teamlets" with continuity patients
- Training in patient-centered care, new roles/responsibilities
- VHA PCP burnout and turnover increasing

Methods - Data

- Surveys of PCPs and their patients
- Providers (MDs, NPs, PAs)
  - One VA region (So. California/Nevada)
  - 11/2011 – 3/2012, response rate 54% (191 of 354)
- Patients
  - VA's Survey of Healthcare Experiences of Patients
  - National survey, randomly sampled based on visits, fielded monthly
  - Selected patients with outpatient primary care visit Nov 2011 – Sept 2012

Methods - Measures

- Provider-level measures:
  - PCP Emotional Exhaustion (from Maslach Burnout Inventory)
    - 9 items, measured on 7-point frequency scale (never to every day)
    - Lower = less burnout
  - Perceptions of clinic organizational environment
    - Previously validated indices, adapted for VA PCMH
    - Supportive leadership context, communication within primary care practice, and implementation of patient-centered care principles
    - Higher = better

Methods - Measures

- Patient-level measures:
  - High patient satisfaction: PCP rating = 10 (very best) vs. 0-9
    - "Using any number from 0 to 10, where 0 is the worst personal doctor/nurse possible and 10 is the best, what number would you use to rate your personal doctor/nurse?"
  - CAHPS patient-provider communication index
    - Explain things, listen carefully, show respect, spend enough time (4-pt scale, never to always)
    - Higher = better communication
  - Demographics (education, race/ethnicity, age), self-rated health

Methods - Analysis

- Matched providers (n=129) with their patients (n=3298)
  - 129/191 PCPs ~ 67.5% with complete patient and provider data
- Multi-level models using mediator modeling approach

Results: Patient Characteristics

- Primarily male (95%), white non-Hispanic (62%), over 60 y/o (76%), with good to excellent self-rated health (65.1%)
- 3 or more visits past 12 mo. (57.9%)
- High patient satisfaction (52%, PCP rating=10)
- Mean Patient-provider communication: 86.2 (range=1-100)

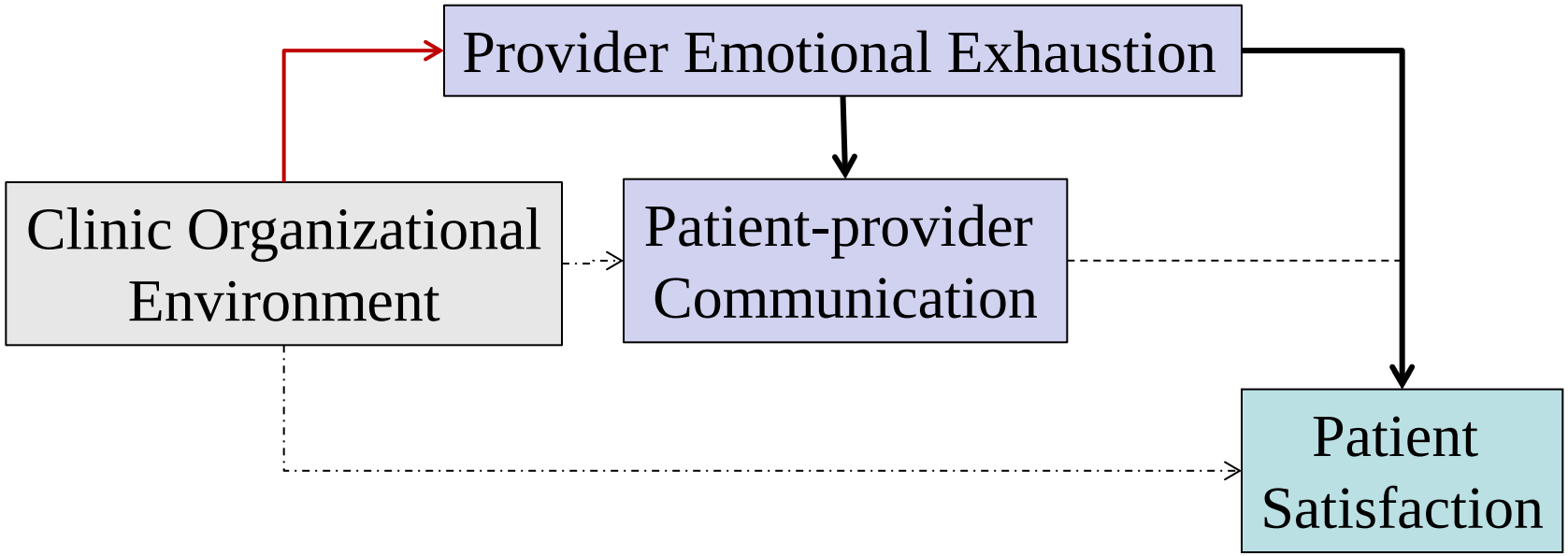
Results: Provider characteristics

- Primarily male (53.4%), white non-Hispanic (51.9%), employed by VA full-time (93%)
- Mean VA tenure: 11.5 years
- Mean supportive leadership context: 26.7 (range=8-40)
- Mean within clinic communication: 12.8 (range=4-20)
- Mean implementation of patient-centered care: 56.1 (range=0-100)
- Mean emotional exhaustion: 22.5 (range=1-54)

Clinic organizational environment associated with PCP emotional exhaustion

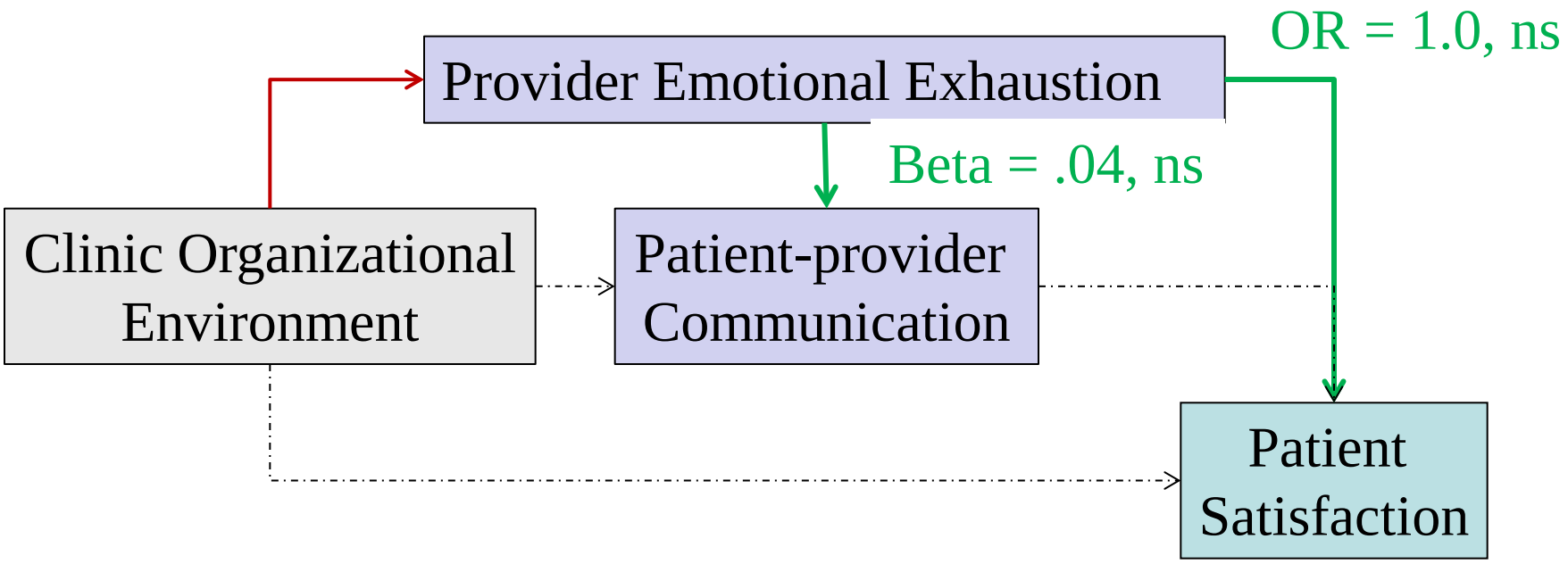
Supportive leadership context: beta = -.76***

Communication within practice: beta = -.98***



Analyses control for patient education, race/ethnicity, age, self-rated health, and provider gender

PCP emotional exhaustion not associated with patient experience



Analyses control for patient education, race/ethnicity, age, self-rated health, and provider gender

Does Emotional Exhaustion Explain Clinic Effect on Patient Experience?

- EE does not explain association between clinic environment and patient experience
  - Not significant for either patient-provider communication or patient satisfaction

Limitations

- Limited to one VHA region
- Cross-sectional data, cannot determine causality
- Response bias in PCP survey could cause undetectable bias in patient data
- PCMH implementation nationwide, lack of comparison group

Discussion

- Supportive clinic environment may be protective against burnout during large-scale organizational change
  - Leadership supportive of change, good communication among practice team members
- Unsupportive clinic environment associated with higher burnout, but does not translate into poor patient-provider communication or lower patient satisfaction

Implications

- Healthcare system leaders may need to work on providing an environment that supports change efforts and facilitates team communication
- These are factors that leaders can influence

Synthesis across 3 projects

PACT Practice Environment Factors That Reduce Provider Burnout	Stockdale	Edwards	Kim
Supportive leadership	x		
Adequate staffing		x	
Effective task delegation (e.g., pt. counseling/education)		+/-	x
Effective communication between team members within practice	x		x

Synthesis

- Supportive clinic environment may be protective against burnout during large-scale organizational change
  - Leadership supportive of change
  - Adequate staffing and resources
  - Effective communication (e.g., formal time for huddles, team meetings)
  - Effective task delegation (e.g., provider and staff training on team members' scope of practice)
- Impact of clinic environment not transmitted to patient experience through provider burnout

Acknowledgments

Funding for Stockdale and Edwards work provided by the VHA Office of Patient Care Services (XVA 65-018). SHEP data provided by VHA Office of Analytics and Business Intelligence.

Funding for Linda Kim's work provided by: VAIL-PCC PACT Demonstration Lab (#XVA 65-018), AHRQ LA Area Health Services Research Training Program (#T32HS00046), VA Quality Scholars Program/ VA Office of Academic Affiliations (#TQS 65-000)

Disclaimer: The views expressed in this presentation are those of the authors and do not reflect the position or policy of the Department of Veterans Affairs or the United States goverment.

Selected References

Edwards ST, Rubenstein LV, Meredith LS, et al. Who is responsible for what tasks within primary care: Perceived task allocation among primary care providers and interdisciplinary team members. *Healthcare.* 2015;3(3):142-149.

Helfrich CD, Dolan ED, Simonetti J, et al. Elements of team-based care in a patient-centered medical home are associated with lower burnout among VA primary care employees. *Journal of general internal medicine.* 2014;29 Suppl 2:S659-666.

Linzer M. Preventing Burnout in Academic Medicine. Arch Intern Med. 2009 May 25;169(10):927-8.

Linzer M, Manwell LB, Williams ES, et al. Working Conditions in Primary Care: Physician Reactions and Care Quality. Ann Intern Med. 2009 Jul 7;151(1):28-36, W6-9.

Maslach C, Jackson S. The Measurement of Experienced Burnout. *Journal of Occupational Behaviour.* 1981;2(2):99-113.

Meredith LS, Schmidt Hackbarth N, Darling J, et al. Emotional exhaustion in primary care during early implementation of the VA's medical home transformation: Patient-aligned Care Team (PACT). *Medical care.* 2015;53(3):253-260.

Nelson KM, Helfrich C, Sun H, et al. Implementation of the patient-centered medical home in the Veterans Health Administration: associations with patient satisfaction, quality of care, staff burnout, and hospital and emergency department use. *JAMA internal medicine.* 2014;174(8):1350-1358.

Shanafelt TD, Boone S, Tan L, Dyrbye LN, Sotile W, Satele D, West CP, Sloan J, Oreskovich MR. Burnout and Satisfaction with Work Life Balance Among US Physicians Relative to the General Population. Arch Intern Med. 2012 Oct 8;172(18):1377-85.

Simonetti J, Sylling P, Nelson K, et al. Patient-Centered Medical Home Implementation and Burnout among VA Primary Care Employees. *Journal of Ambulatory Care Management.* 40(2): 158-66

Questions/Comments?

THANK YOU!

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