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### Authors

Rose, Danielle

Guo, Rong

Brayton, Catherine

et al.

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## Mental health care integration and primary care patient experience in the Veterans Health Administration

Lucinda B. Leung<sup>a,b,\*</sup>, Danielle Rose<sup>a</sup>, Rong Guo<sup>b</sup>, Catherine E. Brayton<sup>a</sup>, Lisa V. Rubenstein<sup>b,c,d</sup>, Susan Stockdale<sup>a</sup>

<sup>a</sup>Center for the Study of Healthcare Innovation, Implementation, & Policy, VA Greater Los Angeles Healthcare System, Los Angeles, CA, USA

<sup>b</sup>Division of General Internal Medicine and Health Services Research, UCLA David Geffen School of Medicine, Los Angeles, CA, USA

<sup>c</sup>RAND Corporation, Santa Monica, CA, USA

<sup>d</sup>Department of Health Policy & Management, UCLA Fielding School of Public Health, Los Angeles, CA, USA

### Abstract

**Background:** Mental health specialists and care managers facilitate comprehensive care provision within medical homes. Despite implementation challenges, mental health integration is thought to improve patient-centered primary care.

**Objectives:** To examine the relationship between primary care patient experience and mental health integration.

**Research design:** Cross-sectional surveys from 168 primary care clinicians (PCPs) (n = 226) matched with assigned patients' surveys (n = 1734) in one Veterans Health Administration (VA) region, fiscal years 2012–2013. Multilevel regression models examined patient experience and mental health integration, adjusting for patient and PCP characteristics.

**Measures:** Patient experience outcomes were (1) experience with PCP and (2) receipt of comprehensive care, such as talked about “stress”. Independent variables represented mental health integration— (1) PCP-rated communication with mental health and (2) proportion of clinic patients who saw integrated specialists.

**Results:** 50% and 43% of patients rated their PCPs 10/10 and reported receiving comprehensive care, respectively. Neither patient experience or receipt of comprehensive care was significantly associated with PCP's ratings of communication with mental health, nor with proportion of clinic patients who saw integrated specialists. Among a subsample of patients who rated their mental

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\*Corresponding author. Division of General Internal Medicine, UCLA/West Los Angeles VA Medical Center, 11301 Wilshire Blvd (111G), Los Angeles, CA, 90073, USA. lleung@mednet.ucla.edu (L.B. Leung).

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.hjdsi.2021.100587>.

health as poor/fair, however, we detected an association between proportion of clinic patients who saw integrated specialists and patient experience (odds ratio = 1.05, 95% confidence interval = 1.01–1.09,  $p = .01$ ).

**Conclusions:** No association was observed between mental health integration and primary care patients' reported care experiences, but a significant association existed among patients who reported poor/fair mental health. More research is needed to understand patient experiences with regard to care model implementation.

## Keywords

Patient satisfaction; Primary care; Mental health; Communication; Veterans

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## 1. Introduction

Health care systems worldwide have implemented patient-centered medical home – a framework of patient care that aims to co-locate and coordinate relevant specialty care (e.g. social work, pharmacy) within a single space, or medical home. Specific definitions and implementation strategies vary by health care system, but principles remain consistent. Medical homes are team-based and patient-centered, provide coordinated care and enhanced access to care, committed to quality improvement,<sup>1</sup> and very notably, prioritize mental/behavioral health treatment integration.<sup>2</sup> Medical homes have been extensively studied in both randomized trials and observational studies<sup>3,4</sup> and found to have generally positive effects. It has been shown to increase patient-reported positive changes in quality of care,<sup>5</sup> increase delivery of preventative care and reduce emergency room visits.<sup>3,4</sup>

As part of medical homes, integrated (or collaborative) care aims to co-locate mental health services within primary care and create a team-based approach where primary care clinicians and mental health providers work jointly to provide comprehensive care to patients. Integrated care has been shown to significantly improve depression and anxiety outcomes and is supported by high acceptability and satisfaction among patients and clinicians.<sup>6–8</sup> Despite the potential benefits to patients and providers not all efforts to implement medical home or integrated care are equally successful.<sup>9,10</sup> Systematic implementation that remains consistent across different health systems while accounting for variation in individual clinic procedures and patient needs remains a challenge.<sup>11</sup>

The Veterans Health Administration (VA) aimed to improve patients' physical and mental health wellbeing by redesigning primary care practices through two national initiatives: (1) Primary Care Mental Health Integration (PC-MHI)<sup>12</sup> and (2) Patient Aligned Care Team (PACT).<sup>13</sup> Beginning in 2007, VA used evidence-based collaborative care models, which included integrated mental health specialists and care managers, to support management of mental and behavioral health conditions directly in primary care (i.e. PC-MHI). This was followed, in 2010, by PACT implementation across all VA clinics nationally. PACT is VA's adaption of the patient-centered medical home model and enhanced primary care team staffing to further support delivery of comprehensive care. VA sites with more extensive implementation of medical homes, were found to have better clinical quality outcomes and

patients who reported higher medical-related quality of life than sites with less successful implementation.<sup>10,14</sup>

Integrating mental health specialists and care managers into primary care medical homes may not only improve comprehensiveness of care, but may also play a role in improving patient satisfaction.<sup>15</sup> We previously found that, within VA healthcare system, having PC-MHI care managers was associated with greater primary care clinician (PCP) satisfaction with mental health services.<sup>16</sup> While there is evidence to suggest that patient-centered medical home model implementation is linked with patient satisfaction,<sup>10</sup> we do not yet know if Veterans similarly report higher satisfaction and better care experiences with mental health integration in VA care models as locally implemented. We hypothesize that PCPs may be more attune to mental or emotional health, knowing that PC-MHI support is readily available in clinic. Further, we expect that patients may perceive greater overall satisfaction from PCPs' comprehensive commitment to their whole health and well-being. This study examines the relationship between primary care patient experience and mental health integration, as characterized at both the clinician- and clinic-level.

## 2. Methods

As part of the evaluation of medical home implementation in one administrative region,<sup>17</sup> the Veterans Assessment and Improvement Laboratory (VAIL) administered surveys to PCPs (physicians, nurse practitioners, or physician assistants) from November 30, 2011 to March 30, 2012 (wave 1,  $n = 134$ , response rate = 54%) and August 1, 2013 to January 15, 2014 (wave 2,  $n = 92$ , response rate = 48%). We also obtained national VA Survey of Patient Healthcare Experiences Patient-Centered Medical Home (SHEP/PCMH) (FY12–13 response rates = 43–44%) data,<sup>18</sup> which includes Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey items<sup>19</sup> during a similar time period. We then linked VAIL's PCPs' survey data with their patients' reported experience survey data from SHEP/PCMH. We merged PCP-patient responses from both waves, since there were no overlapping patient surveys and no significant effect from overlapping PCP surveys. The final analytical sample included cross-sectional surveys from 1734 patients (wave 1  $n = 1021$ ; wave 2  $n = 713$ ) and 168 PCPs (226 PCP surveys total) representing 17 clinics within four Southern California VA healthcare systems (Appendix 1).

We examined two outcomes that are established measures of patient care experience. First, patients rated satisfaction with PCP on a 10-point scale. Given a heavily right-skewed distribution, we dichotomized the outcome as 10 (high) or less than 10 (low), per prior research.<sup>20</sup> Second, we used a composite measure of patient-reported receipt of comprehensive care, as defined by SHEP/PCMH<sup>18</sup> and CAHPS.<sup>19</sup> Comprehensiveness is comprised of three dichotomous (yes/no) mental/behavioral health-related items: Did anyone in the clinician's office in the last 12 months –“ask you if there was a period of time when you felt sad, empty, or *depressed*”; “talk about things in your life that worry you or cause you *stress*”; and “talk about a *personal problem*, family problem, alcohol use, drug use, or a mental or emotional illness.” Alternate specifications for both outcomes were examined, including PCP satisfaction ratings dichotomized at various cut points (and

analyzed as a continuous outcome [0–10]) and separate analyses of each comprehensiveness item (“*depressed*,” “*stress*,” “*personal problem*”).

As in prior research,<sup>21</sup> we used two independent variables to characterize mental health integration at the clinician- and the clinic-levels. First, PCPs rated ease of communication with *mental/behavioral health specialists on a 3-point scale*.<sup>22</sup> Second, we used nationally designated electronic encounter codes to calculate a clinic’s engagement in PC-MHI programs, defined as the proportion of primary care patients who saw integrated mental health specialists during each FY.<sup>23,24</sup>

Using multilevel logistic regression models, we examined the relationship between both patient experience outcomes and our two mental health integration variables. Adjusted models controlled for patient (age, gender, race-ethnicity, number of PCP visits in past 12 months [  $\leq 3$  versus  $>3$ ], self-rated health) and clinician (age, gender) characteristics, as supported by prior research.<sup>25,26</sup> Our hierarchical models included clinician random effects to account for patients clustered by clinicians among clinics. We tested models with clinic and then with healthcare system fixed effects and controlled for known PACT quality improvement efforts<sup>17</sup>; however, we found no organizational level effects. To correct for non-response bias, survey weighting was applied to patient age, patient gender, and clinic site in patient and clinician surveys.

In subgroup analysis, we examined only patients reporting poor/fair mental health to assess the robustness of our findings for those with mental health needs. We determined significance using a two-tailed  $\alpha$  of 0.05 and analyzed data in SAS, version 9.4 (SAS Institute Inc, Cary, NC). The VA Greater Los Angeles Institutional Review Board approved this study (2017–020158).

### 3. Results

50% of surveyed patients rated their PCPs 10/10, which did not vary across healthcare systems (median = 10, interquartile range [IQR] = 8–10). Most patients reported that PCP discussed “depression”, with more than half reporting discussions around “stress” and “personal problems.” 43% of patients reported their PCPs provided comprehensive care (discussed all three mental/behavioral health items (median = 2; IQR = 1–3).

Participating PCPs were, on average, 49 years of age and were mostly female (54%). Approximately half reported that communication with mental health specialists was “very easy” (median = 3; IQR = 2–3). On average, 9% of primary care clinic patients saw integrated mental health specialists in our study clinics (median = 8.2%, IQR = 3–15%). Surveyed patients were, on average, 67 years old and were mostly men (94%), non-Hispanic White (65%), had  $\geq 3$  visits with PCP (53%), and reported good/very good/excellent health (65%) (Table 1).

In fully adjusted regression analyses, patient experience was not significantly associated with PCP-mental health communication ratings (odds ratio[OR] = .79, 95% confidence interval[CI] = 0.58–1.08,  $p = .14$ ), nor with clinic engagement in mental health integration (OR = 1.01, CI = 0.99–1.03,  $p = .16$ ). Similarly, receipt of comprehensive care was not

significantly associated with PCP-mental health communication ratings (OR = 0.95, CI = 0.65–1.39,  $p = .78$ ), nor with clinic engagement in mental health integration (OR = 0.99, CI = 0.97–1.00,  $p = .14$ ) (Table 2).

Among patients reporting poor/fair mental health, however, there was a small but significant association between patient experience and clinic engagement in mental health integration (OR = 1.05, CI = 1.01–1.09,  $p = .01$ ), in subgroup analyses.

Among model covariates, we consistently found positive associations with return visits (>3 visits to PCP) and patient experience (OR = 1.87, CI = 1.36–2.57,  $p < .001$ ), and receipt of comprehensive care (OR = 2.42, CI = 1.76–3.31,  $p < .001$ ). Patients with good/very good/excellent health had 62% higher odds of highly rating PCP than those with poor/fair health (CI = 1.17–2.25,  $p = .004$ ). Older patients had lower odds of receiving comprehensive care than younger patients (OR = 0.97, CI = 0.96–0.99,  $p < .0001$ ).

#### 4. Discussion

Our study did not find that primary care mental health integration (PC-MHI), as locally implemented in one VA region, was associated with either patients' overall satisfaction ratings of their PCPs or patients' perceptions of receiving comprehensive care. No association was detected despite examining integration at both the clinician- and clinic-levels. Mental health integration models, as studied in research trials, have consistently reported positive effects on patient satisfaction.<sup>6,7</sup> In addition, large implementation efforts, such as the Depression Improvement Across Minnesota—Offering a New Direction (DIAMOND) initiative, also reported improvements to single-item patient satisfaction ratings. Our present assessment of VA PC-MHI implementation did not detect associations with patient experience (nor in receipt of comprehensive care), demonstrating how challenging dissemination and implementation are in real world practices.<sup>11</sup> Mental health integration constructs remain hard to measure, since specialty staffing, communication methods, etc. vary from VA clinics site-to-site.<sup>27</sup>

There remains a knowledge gap surrounding the patient perspective on mental health integration. The definitive effects of team-based care models, broadly, on patient experience of care remain elusive. For example, associations between medical homes and patient satisfaction have been found to be positive in VA<sup>10</sup> but mixed in other health systems, which is likely related to partial care model implementation.<sup>3,28</sup> While there is dearth of qualitative data on this subject matter, one study interviewed patients in community-based settings integrating behavioral health and primary care noted “benefits from integrated care related to personal growth, improved quality, and access to care”.<sup>29</sup> A systematic review of patient outcomes associated with primary care behavioral health services documented most of extant quantitative studies are limited by the lack comparison groups and reported results from fewer than a thousand patients.<sup>7</sup> To our knowledge, our study is among the largest examining patient care experiences related to integrated care models as implemented. While control groups are not often possible in real-world studies, it remains crucial to document program implementation and to evaluate the effects of team-based care models among large patient populations. We need to understand patient experience – whether to

optimize implementation of mental health integration models among primary care clinics or to simply ensure patients view integrated specialists as part of the primary care team.

This study also offers insight on who may need targeted intervention. We found a small but significant association between patient experience and clinic engagement with integration programs among patients reporting poor/fair mental health. This suggests the importance of collaborative care model implementation among clinics serving populations disproportionately burdened by mental health needs.<sup>30</sup> As in previous research, patients who rated their overall health as poor/fair reported worse experience with care than those with good/very good/excellent health.<sup>31</sup> Finally, our results again confirm that geriatric patients, for whom many of the initial collaborative care efforts were aimed,<sup>32</sup> deserve additional attention in order to truly provide comprehensive care. Results suggest a continued need to direct quality improvements efforts toward these vulnerable individuals.

This survey study is limited in that associations found in PCP and patient surveys are from one VA region at one point in time. Findings do not imply causality or direction of a relationship. While survey responses rates are comparable to other studies,<sup>33–35</sup> we do not have data on non-respondents, who may differ and report varying experiences than respondents. Even though we used established survey instruments to measure patient care experiences, responses to these simple measures may not completely capture complex constructs surrounding patients' satisfaction with PCP or patients' perceptions of comprehensiveness of care provided. Based on prior research,<sup>22–24</sup> we chose to examine mental health integration at both the clinician-level and the clinic-level, each with its own strengths and limitations. For example, the proportion of primary care patients who saw integrated mental health specialists may approximate the overall level of program engagement, which may be unevenly distributed across individual PCPs. Because we incorporated use of both survey and administrative data, the overlap in time periods is noted to be approximate, and not exact.

This study did not find an association between mental health integration and primary care patients' overall satisfaction ratings of their PCPs or patients' perceptions of receiving comprehensive care on the survey. in VA. We detected a potential association among patients reporting poor/fair mental health, suggesting that clinic integration efforts be prioritized based on patient demand for mental health services. The lack of an association in this critical patient outcome stresses the importance of more research to understand the patient perspective regarding integrated care model implementation.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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**Table 1**

Characteristics of VA primary care clinics, providers, and patients (FY12–13).

	Patients (n = 1734 <sup>*</sup> )		Primary Care Clinicians(PCP)/Clinics (n = 226 <sup>†</sup> )	
	n	%	n	%
<b>Independent variables</b>				
Mental health communication (% <i>very easy</i> )			89 PCP surveys <sup>‡</sup>	46%
Proportion of clinic patients who saw integrated specialist (median)			17 clinics	8.2%
<b>Covariates</b>				
Clinician age (mean years[standard deviation])			141 PCPs <sup>‡</sup>	49 (11)
Clinician gender (% female)			79 PCPs <sup>‡</sup>	55%
Patient age (mean years[standard deviation])	1734	61 (15)		
Patient gender (% female)	108	6%		
Patient race-ethnicity White	1070	65%		
Hispanic	269	16%		
Black	218	13%		
Other	97	6%		
Number of visits to PCP (% >3)	802	47%		
Self-rated health (% <i>Good/Very Good/Excellent</i> )	1124	65%		
<b>Dependent Variables</b>				
Patient satisfaction with PCP (% 10/10)	868	50%		
Receipt of comprehensive care (% <i>Yes</i> )	634	43%		
Stress discussion (% <i>Yes</i> )	887	57%		
Depression discussion (% <i>Yes</i> )	1135	71%		
Personal discussion (% <i>Yes</i> )	779	52%		

\* n = number of patient surveys and respondents,

<sup>†</sup> n = number of PCP surveys collected across waves 1 and 2,

<sup>‡</sup> n = number of unique PCP respondents across waves 1 and 2. Percentages, means, and standard deviations are weighted.

**Table 2**

Adjusted associates between primary care patient experience and mental health integration.

	Patient Satisfaction (10 vs 1–9)		Receipt of Comprehensive Care (3 vs 0,1,2)	
	OR (95% CI)	p	OR (95% CI)	p
<b>Key independent variables</b>				
PCP-mental health communication (ref = <i>not very easy</i> )	0.79 (0.58–1.08)	0.14	0.95 (0.65–1.39)	0.78
Proportion of clinic patients who saw integrated specialist (ref=<9%)	1.01 (0.99–1.03)	0.16	0.99 (0.97–1.004)	0.14
<b>Patient characteristics</b>				
Age	1.01 (1–1.02)	0.14	0.97 (0.96–0.99)	<.001 <sup>‡</sup>
Gender (ref = men)	1.29 (0.63–2.63)	0.48	0.69 (0.36–1.35)	0.28
Race-ethnicity (ref = white) Hispanic	1.02 (0.67–1.55)	0.93	0.89 (0.58–1.36)	0.58
Black	1.07 (0.73–1.56)	0.74	1.12 (0.74–1.71)	0.58
other	0.97 (0.42–2.23)	0.95	1.04 (0.52–2.1)	0.91
Number of visits to PCP (ref = 3)	1.87 (1.36–2.57)	<.001 <sup>‡</sup>	2.42 (1.76–3.31)	<.001 <sup>‡</sup>
Self-rated health (ref = <i>Poor/Fair</i> )	1.6 (1.16–2.18)	<.01 <sup>‡</sup>	1.05 (0.73–1.5)	0.80
<b>Clinician characteristics</b>				
Age	0.98 (0.96–0.99)	<.01 <sup>‡</sup>	0.98 (0.97–1)	0.08
Gender (ref = men)	0.85 (0.61–1.17)	0.32	1.02 (0.73–1.43)	0.92

\* p &lt; .05,

<sup>‡</sup> p < .01,<sup>‡</sup> p < .001;

OR = odds ratio, CI = confidence interval. We reported odds ratios (and 95% confidence intervals) from multilevel logistic regression models that predicted patient experience of care using our two key mental health integration variables, controlling for all patient- and clinician-level covariates on the Table.