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RESEARCH BRIEF

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Patient experience of health care system hassles: Dual-system vs single-system users

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Abstract

Objective: To compare health care system problems or "hassles" experienced by Veterans receiving VA health care only versus those receiving dual care from both VA and non-VA community providers.

Data Sources: We collected survey data in 2017-2018 from 2444 randomly selected Veterans with four or more primary care visits in the prior year at one of 12 VA primary care clinics located in four geographically diverse regions of the United States.

Study Design: We used baseline surveys from the Coordination Toolkit and Coaching quality improvement project to explore Veterans' experience of hassles (dependent variable), source of health care, self-rated physical and mental health, and sociodemographics.

Data Collection: Participants responded to mailed surveys by mail, telephone, or online.

Principal Findings: The number of reported hassles ranged from 0 to 16; 79 percent of Veterans reported experiencing one or more hassles. Controlling for sociodemographic characteristics and self-rated physical and mental health, zero-inflated negative binominal regression indicated that dual care users experienced more hassles than VA-only users (adjusted predicted average 5.5 [CI: 5.2, 5.8] vs 4.3 [CI: 4.1, 4.6] hassles [$P < .0001$]).

Conclusions: Anticipated increases in Veterans accessing community-based care may require new strategies to help VA primary care teams optimize care coordination for dual care users.

KEYWORDS
baseline survey, care coordination, patient experience, primary care, Veteran

1 | INTRODUCTION

Over the past decade, many health care systems have embraced the patient-centered medical home (PCMH) to improve care coordination and provide team-based, patient-centered, longitudinal care.[1] Research, however, suggests that PCMH implementation has been challenging, with only moderate improvements in quality and persistent gaps in communication and care coordination processes.[2-5]

As the largest integrated health care system in the United States, the Veterans Health Administration (VA) faces unique challenges in coordinating care mandated for its enrollees, who experience a higher disease burden than non-Veterans.[6,7] In 2010, the VA adopted and began implementing a PCMH model, called Patient-Aligned Care Teams (PACT), in its primary care clinics.[8,9] Similar to other health care organizations, optimal care coordination has remained elusive for the VA despite these efforts.[6,10,11]

Prior work suggests that dual care use, or use of both VA and non-VA-based health care, is associated with care fragmentation, duplication of services, and quality gaps.[12-16] Dual care use can occur for several reasons, such as when Veterans who are enrolled in VA routinely make their own decisions to obtain non-VA care through Medicare, or through private insurance from their or their spouse's employer.[12] Dual use can also occur when VA purchases or pays for non-VA care for its enrollees from academic affiliates or as has occurred under recent legislation facilitating Veterans' access to community care (ie, the 2014 Veterans Access, Choice, and Accountability (Choice) Act,[13] and the VA Maintaining Internal Systems and Strengthening Integrated Outside Networks (MISSION) Act of 2018).[17] The MISSION Act, which aims to augment Veterans' access to community care when timely care is unavailable through VA facilities, has prompted concerns about future requirements for coordinating care between VA and non-VA providers in the community.[15,18] To explore care coordination challenges that Veterans experienced under community access standards prior to MISSION Act implementation, we compared health care problems or "hassles" experienced by Veterans who receive care from VA providers only versus those who received dual care from both VA and non-VA providers in the community.

What is Already Known on this Topic

- The US Veterans Health Administration is increasingly paying for care to be provided to its patients by non-VA providers in the community, which may improve access to care, but could complicate care coordination.
- Earlier work showed that combined use of both VA and non-VA-based care is associated with care fragmentation, duplication of services, and quality gaps.

What This Study Adds

- Patient experience questionnaires from 2017 to 2018 show that compared with users of VA care only, users of both VA and non-VA-based care experienced significantly more health care system hassles.
- This finding suggests the need to complement initiatives designed to increase access to non-VA care with strategies to enhance care coordination with non-VA providers.

2 | METHODS

2.1 | Data

Our data are based on baseline patient surveys collected during 2017-2018 for the Coordination Toolkit and Coaching (CTAC) project, a quality improvement initiative to improve patients' experience of care coordination within VA primary care and between VA primary care and other outpatient (including non-VA community) settings.[19] CTAC cluster-randomized matched pairs of VA clinics to one of two implementation strategies: a passive strategy with access to the CTAC online Care Coordination Toolkit,[20] versus an active strategy augmenting the toolkit with distance-based quality improvement coaching. The VA Office of Patient Care Services and the VA Greater Los Angeles Healthcare System's Institutional Review Board determined that the CTAC project was non-research.

We recruited VA clinics for the study using a multipronged approach, including presentations at national and regional teleconferences, and direct outreach to VA regional and health system leaders and managers. Pairs of clinics within the same health care system were eligible if they shared similar panel sizes, number of primary care teams, and types of outpatient services offered. Six matched pairs of clinics (n = 12) from four states agreed to participate. All clinic sites were considered urban as classified by RUCA Codes[21] and were geographically located in the Pacific, West South Central, South Atlantic, and New England US Census Divisions.[22] Based on full-time provider equivalent time, two of the clinics were large (13-19 providers), five were medium (8-12 providers), three were small (3-7 providers), and two were very small (1-2 providers).

2.2 | Participants

We conducted baseline patient surveys prior to the start of clinic-level intervention activities after obtaining permission from the parent health systems' leadership. Because frequent users of primary care are more likely to have multimorbidity, require greater care coordination, and experience greater health care system hassles, we restricted our sample to high primary care utilizers defined as at least four visits based on prior work in the VA and our preliminary data for this project.[23,24] For 10 of the 12 clinics, we randomly selected 480 patients (n = 4800) who had four or more primary care visits to the VA clinic during the preceding 12 months using data from the VA's Corporate Data Warehouse. From the two remaining clinics, which were relatively smaller and provided comprehensive women's health services, we selected all patients (n = 295) who had four or more VA primary care visits in the preceding 12 months that included at least one visit to the women's health clinic at their facility as indicated by VHA primary care stop codes for General Internal Medicine, Comprehensive Women's Health, and Primary Care/Medicine. This yielded a total sample of 5095 patients.

2.3 | Data collection

We mailed survey packets that included letters of invitation, a printed copy of the survey, and a pre-addressed, prepaid envelope to return the survey by mail, as well as optional instructions for taking the survey online or by telephone. After a second mailed invitation, we attempted to reach individuals who did not respond up to six times by telephone, leaving up to two voice messages. Patients were not offered an incentive to participate.

2.4 | Study variables

We asked participants to report their source of health care in the past 12 months from VA health care providers only, both VA and non-VA providers, non-VA providers only, or no health care providers. Covariates assessed by the survey included participants' sociodemographic characteristics (sex, age group, race/ethnicity, education, and marital status) and ratings of overall physical and mental health status using 5-point scales ranging from 1 = Poor to 5 = Excellent adapted from the Medical Outcomes Study Short Form-36 (MOS SF-36).[25]

We also included the 16-item Health Care System Hassles Scale.[26] Recognized as a measure of care coordination,[27] the Hassles scale lists problems that patients, especially those with greater medical complexity, may encounter with their general health care, as opposed to their care experience during one specific visit or with one specific provider.[26] Prior work suggests that patients with multimorbidity report higher levels of health care hassles.[26] Hassles are also negatively correlated with patient self-monitoring and self-reported medication adherence.[28]

For the present study, we asked patients to "Please tell us about your experiences with these problems when you got healthcare during the past 12 months, either at VA or outside of VA," prompting patients to indicate how much each of the situations such as "lack of information about why you've been referred to a specialist" had been a problem. Response options used a 5-point scale ranging from 0 = "Not a problem at all for you" to 4 = "A very big problem for you." Ratings can be dichotomized (0 = "Not a problem at all for you" vs 1 = any level of problem indicated) and summed to yield a count of hassles ranging from 0 to 16, with higher scores indicating more hassles.[26]

2.5 | Analyses

We computed descriptive statistics for patient-reported sociodemographic characteristics, health status, and source of care variables. We also assessed bivariate associations between patients' source of care (VA care only vs dual care) and sociodemographic characteristics and self-rated physical and mental health. We calculated Hassles scores using hot deck multiple imputation for missing values only if individuals responded to at least 80 percent of the items comprising the scale. We assessed the association between patients' source of care and total count of hassles.

We used multivariate regression to examine our dependent variable, the count of self-reported hassles, comparing Veterans who received VA care only versus dual care, adjusting for their sociodemographic characteristics, self-rated physical and mental health, and clustering of Veterans within their assigned VA clinic. Due to the high number of zero scores (ie, no hassles) noted among respondents in the Hassles count data, we used zero-inflated negative binomial (ZINB) regression.[29,30] Zero-inflated models simultaneously estimate separate logit and count regression models.[31,32] For the count (negative binomial) results, we calculated incidence rate ratios (IRRs) to measure the effect of the covariates on hassles (ie, the change in hassles count as a percentage increase or decrease). We also calculated predictive margins and associated 95 percent confidence intervals (CIs) using Stata (StataCorp)[33] to estimate the predicted number of hassles for Veterans who received VA care only versus those who received dual care.

3 | RESULTS

3.1 | Survey response rate

Of the 5095 Veterans with four or more VA primary care visits in the past 12 months who were invited to participate in the baseline surveys, 2484 (48.8 percent) responded. These respondents completed 2032 (81.8 percent) surveys by mail, 256 (10.3 percent) by phone, and 196 (7.9 percent) online. We excluded 40 cases who failed to indicate that they had received VA health care in the prior 12 months (16 who left the item blank, 12 who indicated they saw non-VA providers only, eight who indicated they saw no providers, and four who indicated that they did not know), leaving 2444 eligible respondents (ie, those who reported receiving VA health care only or dual care [VA and non-VA health care]). Of these, 2274 (93 percent) had complete Hassles data, while 170 (7 percent) had one or more missing values. We imputed missing values for 141 respondents who completed 13 or more of the 16 Hassles items, resulting in a sample of 2415 for bivariate analyses. An additional 62 respondents had one or more missing covariates, yielding a final sample of 2353 for multivariable analyses.

3.2 | Patient characteristics

Table 1 reports respondents' sociodemographic characteristics, self-reported health, and source of health care. Respondents (n = 2444; 48 percent) were predominantly male (85 percent), age ≥ 65 (60

TABLE 1 Demographic characteristics, self-rated health, and primary care utilization for all survey respondents and by respondents' source of health care

		Source of health care (n = 2415)[c]		
Patient characteristics	**Survey respondents n = 2444[a] n (%)[b]**	**VA health care only n = 1141[c] n (%)[b]**	**VA and non-VA health care n = 1274[c] n (%)[b]**	***P****
Sex				
Male	2066 (84.5)	967 (84.8)	1080 (84.8)	.8907
Female	361 (14.8)	171 (15.0)	188 (14.8)	
Missing	14 (0.6)	3 (0.3)	6 (0.5)	
Other	3 (0.1)			
Age				
≥65 y	1463 (59.9)	659 (57.8))	782 (61.4)	.0667
<65 y	971 (39.7)	480 (42.1)	489 (38.4)	
Missing	10 (0.4)	2 (0.2)	3 (0.2)	
Race/Ethnicity				
Non-Hispanic White	1388 (56.8)	652 (57.1)	724 (56.8)	**.0003**
Black or African American	279 (11.4)	138 (12.1)	140 (11.0)	
Hispanic	324 (13.3)	176 (15.4)	144 (11.3)	
Asian or Asian American	117 (4.8)	36 (3.2)	81 (6.4)	
Multirace/ethnicity	140 (5.7)	56 (4.9)	82 (6.4)	
Other minority	40 (1.6)	21 (1.8)	18 (1.4)	
Missing race/ethnicity	156 (6.4)	62 (5.4)	85 (6.7)	
Married, in a civil union or domestic partnership, or living with a partner				
Yes	1502 (61.5)	660 (57.8)	832 (65.3)	**.0002**
No	897 (36.7)	461 (40.4)	423 (33.2)	
Missing	45 (1.8)	20 (1.8)	19 (1.5)	
High School Graduate or GED Equivalent				
Yes	2339 (95.7)	1085 (95.1)	1230 (96.6)	**.0128**
No	73 (3.0)	45 (4.0)	28 (2.2)	
Missing	32 (1.3)	11 (1.0)	16 (1.3)	
Self-rated physical health				
Good, Very Good, Excellent	1444 (59.1)	724 (63.5)	707 (55.5)	**.0001**
Fair, Poor	988 (40.4)	415 (36.4)	562 (44.1)	
Missing	12 (0.5)	2 (0.2)	5 (0.4)	
Self-rated mental health				
Good, Very Good, Excellent	1669 (68.3)	816 (71.5)	842 (66.1)	**.0050**
Fair, Poor	759 (31.1)	322 (28.2)	426 (33.4)	
Missing	16 (0.7	3 (0.3)	6 (0.5)	
Health care providers seen in prior 12 mo				
VA providers only	1158 (47.4)			
Both VA and non-VA providers	1286 (52.6)			

[a] Total survey respondents [n = 2444] exclude 40 cases who failed to indicate that they had received VA health care in the prior 12 mo.

[b] Due to rounding, percents for some subgroups do not sum to 100.

[c] Bivariate comparisons based on 2415 respondents who responded to ≥80% of Hassles items, but excludes subgroup comprising <0.01% of the sample (ie, other sex), as well as individuals with missing covariates (except for missing race/ethnicity).

*Values significant at *P* < .05 are bolded.

TABLE 2 Number and proportion of Veterans reporting any problem for each Hassles item by source of health care (n = 2415)

Hassle	VA Health care only (n = 1141) n (%)	VA and non-VA Health care (n = 1274) n (%)	*P*
Lack of information about your medical conditions	399 (35.1)	573 (45.1)	**<.0001**
Lack of information about which treatment options are best for your medical conditions	396 (34.9)	593 (46.8)	**<.0001**
Lack of information about why your medications have been prescribed to you	206 (18.1)	326 (25.7)	**<.0001**
Problems getting your medications refilled on time	298 (26.2)	362 (28.6)	.1787
Uncertainty about when or how to take your medications	106 (9.3)	165 (13)	**.0044**
Side effects from your medications	313 (27.7)	448 (35.6)	**<.0001**
Lack of information about why you've been referred to a specialist	151 (13.3)	237 (18.8)	**.0003**
Having to wait a long time to get an appointment for specialty providers or clinics	563 (49.5)	789 (62.2)	**<.0001**
Poor communication between different healthcare providers	398 (34.9)	647 (51)	**<.0001**
Disagreements between your providers about your diagnosis or the best treatment for you	263 (23.2)	421 (33.1)	**<.0001**
Lack of information about why you need lab tests or x-rays	149 (13.1)	221 (17.4)	**.0036**
Having to wait too long to find out about the results of lab tests or x-rays	309 (27.2)	457 (36)	**<.0001**
Difficulty getting questions answered or getting medical advice between scheduled appointments	387 (33.9)	583 (45.9)	**<.0001**
Lack of time to discuss all your problems with your healthcare provider during scheduled appointments	306 (26.9)	427 (33.6)	**.0004**
Having your concerns ignored or overlooked by your healthcare provider	348 (30.5)	484 (38.1)	**.0001**
Medical appointments that interfere with your work, family, or hobbies	231 (20.4)	305 (24.3)	**.0208**

Note: Values significant at *P* < .05 are bolded.

percent), non-Hispanic White (57 percent), and married or partnered (62 percent). Fifty-nine percent rated their overall physical health and 68 percent rated their overall mental health as "good," "very good," or "excellent." Fifty-three percent reported receiving dual care from both VA and non-VA providers.

Significantly higher proportions of Veterans who received their health care from only VA providers rated their health as "good," "very good," or "excellent" compared to Veterans who received dual care [physical health: 64 vs 56 percent, *P* = .0001; mental health: 72 vs 66 percent, *P* = .005]. Source of health care was also significantly associated with race/ethnicity, marital status, and educational status, but not age or gender.

3.3 | Hassles

The number of reported hassles ranged from 0 to 16. Seventy-nine percent of Veterans reported experiencing one or more hassles, with a median of four (interquartile range, IQR 1-8). The top five hassles were as follows: having to wait a long time to get an appointment for specialty providers or clinics (56 percent), poor communication between different health care providers (44 percent), lack of information about which treatment options are best for your medical conditions (41 percent), lack of information about your medical conditions (40 percent), and difficulty getting questions answered or getting medical advice between scheduled appointments (40 percent).

The number and proportion of Veterans who reported any hassles for each item by source of health care (ie, VA providers only vs both VA and non-VA providers) are reported in Table 2. For 15 of the 16 Hassles items, significantly higher proportions of Veterans who received dual care reported experiencing problems than Veterans who received care from VA only. Overall, Veterans who received their health care from both VA and non-VA providers reported experiencing significantly more hassles compared to Veterans who received VA care only (median [IQR] 4 [1.9] vs 3 [0.7]; *P* < .0001).

3.4 | Multivariate analyses

Table 3 presents the results of the ZINB. Veterans who received dual care, were age <65, and who reported their self-rated physical and mental health as either fair or poor were significantly less likely to report zero hassles, while Veterans who neither graduated from high school nor had a GED equivalent were significantly more likely to report zero hassles. Receipt of dual VA and non-VA health care was independently associated with higher counts of self-reported hassles [adjusted IRR = 1.15; CI: 1.07, 1.24; *P* = .0002]. In addition, age < 65, Hispanic or Asian ethnicity/race, and physical or mental health rated as either fair or poor were also independently associated with significantly higher counts of self-reported hassles. Adjusting for all covariates, Veterans who received dual care experienced a predicted average of 5.5 hassles (CI: 5.2, 5.8) compared to 4.3 hassles (CI: 4.1, 4.6) for Veterans who received VA care only (*P* < .0001).

4 | DISCUSSION

Veterans who navigate both VA and non-VA systems of care reported significantly more challenges than Veterans who use VA care only, experiencing an average of 1.2 more hassles. Dual care use can be challenging for Veterans and their VA primary care providers, who may be tasked with coordinating inpatient providers, outpatient specialists, and home and community-based providers, as well as other primary care providers across different health care systems.[12-16] Prior work indicates, however, that hassles are inversely associated with the degree to which patients perceive their primary care physicians effectively communicate and integrate information from various health care sources, suggesting possible targets for improvement efforts.[26]

Although derived from a large number of Veterans randomly sampled from VA primary care clinics, these observational findings should be interpreted with caution. The response rate was

TABLE 3 Zero-inflated negative binomial (ZINB) regression model[a]

	Logit		Negative Binomial	
Parameter	Estimate	*P**	IRR	95% CI
Intercept	−0.87	**.0007**	3.38	**2.91, 3.92**
Dual care (VA and non-VA health care) in prior 12 mo	−0.7556	**<.0001**	1.15	**1.07, 1.25**
Female Sex	0.18	.5040	1.06	0.93, 1.20
<65 y of age	−0.54	**.0018**	1.18	**1.09, 1.28**
Black or African American	0.24	.3008	1.00	0.88, 1.13
Hispanic	0.32	.1494	1.17	**1.04, 1.31**
Asian or Asian American	−0.19	.6621	1.26	**1.06, 1.49**
Other minority	−1.96	.3193	1.27	0.98, 1.65
Multirace/ethnicity	−0.14	.7139	1.10	0.93, 1.28
Unknown race/ethnicity	0.15	.6574	0.99	0.83, 1.17
Not a high school graduate or with GED equivalent	0.72	**.0321**	1.08	0.85, 1.37
Not married, in a civil union or domestic partnership, or living with a partner	0.00	.9845	1.00	0.92, 1.08
Self-rated physical health fair or poor	−0.64	**.0002**	1.27	**1.17, 1.38**
Self-rated mental health fair or poor	−0.57	**.0034**	1.25	**1.16, 1.36**

Abbreviations: CI, confidence interval; IRR, incidence rate ratios.

[a] The ZINB model (n = 2353) also adjusted for clustering of patients within clinics; parameter estimates and IRRs for clinics are not displayed. Parameter estimates generated by the logit component predict the likelihood of being an excess zero (ie, of always reporting no hassles). The count component includes the full range of values for the outcome (including zero) assuming a negative binomial distribution and yields parameter estimates expressed in natural log units. Incidence rate ratios (IRRs) are the exponentiated parameter estimates.

*Values significant at *P* < .05 are bolded.

comparable to those reported for other uncompensated mailed surveys,[34] but relatively low, raising the possibility of response bias. While participating clinics were diverse in size and geographic location, they may not be representative of VA primary care clinics nationwide. Because we restricted our sample to Veterans with four or more visits at VA primary care clinics, our findings may not generalize to less frequent users. There may have been unobserved characteristics that were confounded with dual care users' reports of more hassles. For example, patients with multimorbidity are more likely to experience health care system hassles[23,35]; it is inherently challenging to coordinate their care, especially if they have unrelated conditions,[24] but we were not able to assess this construct directly. We did control for self-rated health; dual care users in our sample reported worse physical and mental health. Although our multivariate analyses indicate that dual care use is independently associated with increased hassles, more work is needed to explore the role of multimorbidity in contributing to dual care use and service delivery problems. We also did not assess specific factors that may have contributed to Veterans' use of non-VA care, such as other forms of insurance, geographical access, wait times, or some other barrier. Due to the cross-sectional nature of the sample, we cannot rule out the possibility that Veterans' hassles caused them to seek non-VA care, rather than the opposite. Furthermore, our measure of health care system hassles may not have captured all issues relevant to cross-system care, such as acceptability of distance to care.[36] We were also unable to determine whether non-VA care received by these Veterans was paid for by the VA.

Nevertheless, our findings are consistent with other recent studies that suggest the majority of Veterans prefer to receive their health care in the VA and receive care that is generally equal to or better than care delivered in the private sector.[37-39] Some Veterans, however, face barriers to accessing VA care in a timely manner, especially in key medical specialties, while others prefer non-VA care.[37] The VA Choice and MISSION Acts have started to blur the boundaries between what is VA and non-VA care. In addition to being a provider of health care, VA is being redefined as a payer for health care wherever it occurs. Given congressional mandates, Veterans' use of non-VA care is likely to increase. Future research should clarify system and patient outcomes associated with different types of dual care use and strategies to optimize care coordination for dual care users.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

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