Retaining VA Women's Health Primary Care Providers: Work Setting Matters

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BACKGROUND: When an experienced provider opts to leave a healthcare workforce (attrition), there are significant costs, both direct and indirect. Turnover of healthcare providers is underreported and understudied, despite evidence that it negatively impacts care delivery and negatively impacts working conditions for remaining providers. In the Veterans Affairs (VA) healthcare system, attrition of women's health primary care providers (WH-PCPs) threatens a specially trained workforce; it is unknown what factors contribute to, or protect against, their attrition.

OBJECTIVE: Based on evidence that clinic environment, adequate support resources, and workload affect provider burnout and intent to leave, we explored if such clinic characteristics predict attrition of WH-PCPs in the VA, to identify protective factors.

DESIGN: This analysis drew on two waves of existing national VA survey data to examine predictors of WH-PCP attrition, via logistic regression.

PARTICIPANTS: All 2,259 providers from 140 facilities VA-wide who were WH-PCPs on September 30, 2016.

MAIN MEASURES: The dependent variable was *WH-PCP attrition* in the following year. Candidate predictors were *clinic environment* (working in: a comprehensive women's health center, a limited women's health clinic, a general primary care clinic, or multiple clinic environments), availability of co-located *specialty support resources* (mental health, social work, clinical pharmacy), *provider characteristics* (gender, professional degree), and *clinic workload* (clinic sessions per week).

KEY RESULTS: Working exclusively in a comprehensive women's health center uniquely predicted significantly lower risk of WH-PCP attrition (adjusted odds ratio 0.40; CI 0.19–0.86).

CONCLUSIONS: A comprehensive women's health center clinical context may promote retention of this specially trained primary care workforce. Exploring potential mechanisms—e.g., shared mission, appropriate support to meet patients' needs, or a cohesive team environment—may inform broader efforts to retain front-line providers.

KEY WORDS: workforce turnover; Veterans Health Administration; organizational context; women's health; burnout.

Abbreviations

WH-PCP	Women's Health Primary Care Provider
CWHC	Comprehensive Women's Health Center
WATCH	Women's Assessment Tool for Comprehensive Health survey
DAWC	Designated Women's Health Provider Assessment of Workforce Capacity survey

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BACKGROUND

Threats of worsening primary care provider (PCP) workforce shortages have led the Association of American Medical Colleges and others to call for action,[1] given projected unmet demands of an aging population[2] paired with fewer trainees choosing primary care professions.[3,4] Interventions to address primary care shortages have targeted recruitment strategies[5] and physician satisfaction,[6] with less attention to provider retention,[7] despite evidence that PCP turnover is associated with declines in care quality.[8] A review of healthcare worker "attrition" (exits from a healthcare workforce) reported annual attrition rates ranging broadly from 3 to 44%.[9] Healthcare worker attrition is under-recorded, variously defined, and understudied, particularly for voluntary attrition.[9] To retain front-line providers, health systems need information on how clinic characteristics, and the culture they create, affect PCP workforce attrition.

As the largest integrated healthcare system in the USA employing nearly 8,000 primary care physicians and nurse practitioners,[10] the Veterans Health Administration (VA) presents a unique context for examining PCP retention

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nationally. Of particular salience is the ability to retain designated Women's Health Primary Care Providers (WH-PCPs), who are preferentially assigned women veterans,[11] a population whose care requires distinct skills. While there is heterogeneity in WH-PCP role implementation,[12] WH-PCP designation is associated with an expectation for women's healthcare training and relevant continuing medical education.[11] VA WH-PCPs are considered "mission critical," but face professional challenges beyond the high demands of typical medical practice;[13] WH-PCPs must maintain WH content expertise on top of general primary care expertise and provide care for women veterans, a population with high clinical complexity.[14,15] These demands complicate recruitment and retention of these providers,[16] making it crucial to identify factors that influence their retention.

WH-PCPs practice in diverse VA clinic environments. In *general primary care clinics*, women receive care in a setting also serving men. In *limited women's health clinics*, women receive care in a separate space within or adjacent to general primary care areas.[11]In *comprehensive women's health centers (CWHCs)*, women receive care in a multi-specialty clinic with separate entrance and waiting rooms and augmented team staffing ratios.[11] Gynecology, mental health, social work, and clinical pharmacist services are expected to be co-located in CWHCs; limited women's health clinics are expected to have gynecology and mental health co-located, while general primary care clinics have mental health services co-located and referral pathways for other support services.[11] Some WH-PCPs work in *multiple clinic environments* (e.g., general primary care clinics plus either a limited women's health clinic or a CWHC).

Specialty support resources are another clinic characteristic that could influence attrition. Having adequate support to meet patients' needs improves provider satisfaction,[17–19] e.g., via having social worker or pharmacist support on the care team,[19] or via care coordination with social or other needed community services.[17] Availability of specialty support services may be key to addressing barriers that drive provider burnout, fuel moral distress,[20,21] and contribute to provider attrition.

Clinical workload could also influence attrition. Some VA PCPs work full time in clinic, but others spend time on administrative, quality improvement, inpatient, teaching or research activities, or work part-time. There is evidence that more time in clinic is associated with burnout in PCPs and other health professionals.[22–24]

While there is consensus that higher perception of workplace control and higher-quality teamwork are associated with decreased intent to leave,[25] previous studies exploring the effect of working conditions on PCPs' intent to leave have not yielded consensus on what factors promote retention.[26] We examined whether attrition from the VA WH-PCP workforce was associated with clinic environment, co-located specialty support services, and patient care workload, to identify factors that affect retention of critical front-line providers.

METHODS

Overview of Data Sources

Just after each fiscal year ends, the Women Veteran Program Manager at each VA facility completes the Designated Women's Health Provider Assessment of Workforce Capacity (DAWC) which lists every WH-PCP at the facility and includes provider characteristics, and the Women's Assessment Tool for Comprehensive Health (WATCH) which characterizes how care is organized for women at the facility (100% response rate for both surveys). We used 2016 DAWC data to identify the cohort of all WH-PCPs as of September 30, 2016, and 2017 DAWC data to assess attrition for each cohort member 1 year later; linkage of DAWC data to Patient Care Management Module national VA administrative data from the corresponding time point confirmed that each had an active primary care panel of patients. Clinic-level predictor variables came from 2016 DAWC data (clinic environment, workload) or 2016 WATCH data (availability of co-located specialty support services). This work, conducted for operational program evaluation purposes, received a Determination of Non-Research from VA Central Office.

Analytic Cohort

We included WH-PCPs who were medical doctors (MDs), doctors of osteopathy (DOs), nurse practitioners (NPs), and physician assistants (PAs). We excluded fellows (whose positions are time-limited) and those who were not active PCPs (no panel/no clinic sessions) in fiscal year 2016. We excluded those with expected turnover in fiscal year 2017 (retired, site stopped using contractors) or who continued within women's health but in a different role (not as a PCP) or at a different VA facility. There were 2,259 WH-PCPs in the final analytic cohort (Fig. 1).

Dependent Variable: Attrition

A cohort member was considered to have attrited from the WH-PCP workforce if he/she was not a WH-PCP on September 30, 2017, per DAWC data.

Predictor Variables: Clinic Characteristics

Clinic characteristics included clinic environment per 2016 DAWC data (CWHC, limited women's health clinic, general primary care clinic, multiple clinics), availability of co-located specialty support clinicians (social work, mental health, pharmacy) per 2016 WATCH data, and workload per 2016 DAWC data. Workload was defined as number of half-days

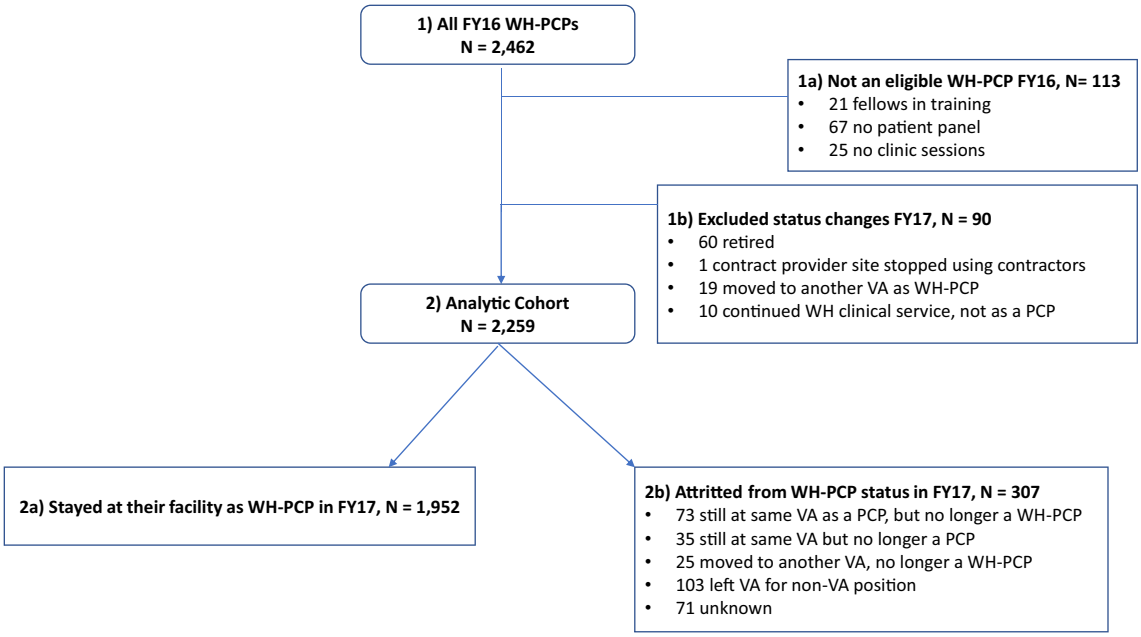

Figure 1 Cohort development process.

in clinic per week, and categorized as 1–4, 5–9, and 10 half-days.

Other Covariates: Provider Characteristics

We examined provider gender and professional background (MD/DO versus NP/PA) per 2016 DAWC data. We anticipated turnover might vary by these characteristics, as job turnover varies by professional degree,[27] and gender differences have been observed for burnout[28] and practice longevity.[29]

Statistical Analysis

In descriptive analyses, we characterized the WH-PCP cohort overall, and then, in a post hoc analysis driven by findings about predictors of attrition, stratified by clinic environment. We examined the unadjusted association between attrition (dependent variable) and each clinic/provider characteristic (via univariate unadjusted logistic regressions).

We then conducted an adjusted logistic regression to estimate the adjusted OR and 95% CI for the association between attrition (dependent variable) and the clinic and provider characteristic variables, in a single model. To address provider-level observations clustered within the same local healthcare system, we adjusted standard error terms using generalized estimating equations with independent covariance structures.

Sensitivity Analyses

We conducted four sensitivity analyses to explore robustness of main results. Sensitivity analysis 1: We excluded WH-PCPs (n = 114) who provided care in multiple sites, to assess sensitivity to how we operationalized clinic environment. Sensitivity analysis 2: We excluded WH-PCP workforce attritors remaining in VA in other roles (n = 133), for a narrower definition of attrition, i.e., completely leaving the VA system. Sensitivity analysis 3: We restricted our analysis to WH-PCPs practicing in VA Medical Centers, as opposed to those in smaller satellite locations; as major hubs, the former typically have more specialty care and clinical support services and may be better positioned to offer and support CWHCs. Sensitivity analysis 4: We adjusted our main model by including an indicator variable (fixed effects) for each of the VA's 18 geographic regions (known as "VISNs"), to account for possible regional policy or practice differences that might affect clinical demands in ways not captured by our covariates.

RESULTS

Descriptive Analyses

Among the 2,259 WH-PCPs in the cohort, 159 (7.0%) worked in a CWHC only, 94 (4.2%) worked in a limited women's health clinic only, 1,892 (83.8%) worked in a general primary care clinic only, and 114 (5.0%) worked in multiple clinic environments (i.e., in a comprehensive or limited women's clinic and in a general primary care clinic). As Table 1 shows, the vast majority of WH-PCPs who worked in women's health (comprehensive or limited) clinics (95–98%) or general primary care clinics (70%) were women. The majority were physicians. Integrated social work and mental health support was available to most. Across environments, close to half of WH-PCPs had clinic workloads of 5–9 half-days per week.

Table 1 Provider and Clinic Characteristics of WH-PCPs, Overall and Stratified by the Clinic Environment Where the WH-PCP Works

	Overall (*N* = 2,259)	Comprehensive women's health center only (*N* = 159)	Limited women's health clinic only (*N* = 94)	General primary care clinic only (*N* = 1,892)	Multiple clinics (*N* = 114)
	N (%)	*N (%)*	*N (%)*	*N (%)*	*N (%)*
Clinic environment					
Comprehensive women's health center only	159 *(7.0)*	-	-	-	-
Limited women's health clinic only	94 *(4.2)*	-	-	-	-
General primary care clinic only	1,892 *(83.8)*	-	-	-	-
Multiple clinics[a]	114 *(5.0)*	-	-	-	-
Integrated specialty support services available in clinic					
Social work					
No	226 *(10.0)*	29 *(18.2)*	14 *(14.9)*	177 *(9.4)*	6 *(5.3)*
Yes	2,033 *(90.0)*	130 *(81.8)*	80 *(85.1)*	1,715 *(90.6)*	108 *(94.7)*
Mental Health					
No	182 *(8.1)*	24 *(15.1)*	16 *(17.0)*	141 *(7.5)*	1 *(0.9)*
Yes	2,077 *(91.9)*	135 *(84.9)*	78 *(83.0)*	1,751 *(92.5)*	113 *(99.1)*
Clinical pharmacist					
No	598 *(26.5)*	46 *(28.9)*	19 *(20.2)*	524 *(27.7)*	9 *(7.9)*
Yes	1,661 *(73.5)*	113 *(71.1)*	75 *(79.8)*	1,368 *(72.3)*	105 *(92.1)*
Clinic workload, per week					
1–4 half-days	267 *(11.8)*	51 *(32.1)*	10 *(10.6)*	183 *(9.7)*	23 *(20.1)*
5–9 half-days	1,071 *(47.4)*	67 *(42.1)*	49 *(52.1)*	900 *(47.6)*	55 *(48.2)*
10 half-days	921 *(40.8)*	41 *(25.8)*	35 *(37.2)*	809 *(42.8)*	36 *(31.6)*
Provider characteristics					
Provider gender					
Male	586 *(26.0)*	4 *(2.5)*	5 *(5.3)*	573 *(30.3)*	4 *(3.5)*
Female	1,672 *(74.0)*	155 *(97.5)*	89 *(94.7)*	1,318 *(69.7)*	110 *(96.5)*
Provider professional background[b]					
NP/PA	653 *(29.3)*	36 *(23.1)*	35 *(37.2)*	563 *(30.2)*	19 *(16.7)*
MD/DO	1,573 *(70.7)*	120 *(76.9)*	59 *(62.8)*	1,299 *(69.8)*	95 *(83.3)*

Italicized numbers reflect percentages
P values are not presented in this descriptive table
[a]*Multiple clinics refers to providers who work in either a comprehensive women's health center or a limited women's health clinic, and who also work in a general primary care clinic*
[b]*Provider professional degree information was not available for 34 providers*

Attrition Rate and Predictors of Attrition, Unadjusted

Among the cohort of WH-PCPs, 307 (13.6%) met the definition of attrition. The most common type of attrition was leaving VA for a non-VA position ($n = 103$), followed by continuing at the same ($n = 73$) or different ($n = 25$) VA as a PCP but shedding the WH-PCP role, or leaving the PCP role entirely ($n = 35$); for 71, the reason for attriting was unknown (Fig. 1).

The WH-PCP attrition rate varied significantly by clinic environment, and was lowest among WH-PCPs working exclusively in CWHCs (6% versus 11–15% in other settings; unadjusted OR 0.40 (95% CI 0.20–0.82) versus those working in a general primary care clinic only). No other clinic/provider characteristic had a statistically significant unadjusted association with attrition (Table 2).

Predictors of Attrition: Adjusted Analysis

Controlling for all factors, the adjusted odds ratios of attrition as a function of working exclusively in a CWHC environment remained stable at 0.40 (CI 0.19–0.86) and the adjusted OR for working in multiple clinics remained non-significant and changed little from the unadjusted model (Table 2). The next largest effect sizes were for having social work support, and working 5–9 clinical shifts (versus < 5 shifts) (adjusted OR 0.75 [0.44–1.28] and 0.78 [0.53–1.15], respectively), but, as in unadjusted analyses, did not reach statistical significance.

Sensitivity Analyses

Sensitivity analysis 1: Removing the 114 providers who worked in multiple clinics had no meaningful effect: adjusted OR for attrition as a function of working exclusively in a CWHC was still 0.40 (0.19–0.86). Sensitivity analysis 2: Excluding the 133 no longer in the WH-PCP workforce but remaining in VA in other roles, the effect size for working exclusively in a CWHC remained essentially unchanged, adjusted OR 0.46 (0.20–1.06), though unsurprisingly the confidence interval no longer quite reached statistical significance due to smaller sample size. Sensitivity analysis 3: restricting to the 806 WH-PCPs at VA Medical Centers (36% of main analytic cohort), working exclusively in CWHC was associated even more strongly with lower attrition (adjusted OR 0.33, CI 0.13–0.81). Sensitivity analysis 4: When we added an indicator variable for VA's 18 geographic regions, odds of attrition as a function of working exclusively in a CWHC did not appreciably change: adjusted OR 0.39 (0.18–0.84).

Table 2 Predictors of Attrition from the Women's Health PCP Workforce, from 2016 to 2017

	Attrition rate from WH-PCP Workforce, by characteristic	Unadjusted[a]	Adjusted model[b]
	Total n = 307	n = 2,259	n = 2,225[b]
	n (%)[c]	*OR* (95% CI)	*OR* (95% CI)
Clinic environment			
General primary care clinic only	271 *(14.3)*	Reference	Reference
Comprehensive women's health center only	10 *(6.3)*	*0.40* (0.20–0.82)*	*0.40* (0.19–0.86)*
Limited women's health clinic only	14 *(14.9)*	*1.05* (0.59–1.87)	*1.05* (0.58–1.89)
Multiple clinics[d]	12 *(10.5)*	*0.70* (0.42–1.18)	*0.74* (0.43–1.25)
Integrated specialty support services available in clinic			
Social work services			
No	39 *(17.3)*	Reference	Reference
Yes	268 *(13.2)*	*0.73* (0.48–1.09)	*0.75* (0.44–1.28)
Mental health services			
No	29 *(15.9)*	Reference	Reference
Yes	278 *(13.4)*	*0.82* (0.51–1.31)	*0.96* (0.49–1.88)
Clinical pharmacist services			
No	85 *(14.2)*	Reference	Reference
Yes	222 *(13.4)*	*0.93* (0.70–1.23)	*1.03* (0.74–1.44)
Clinic workload, per week			
Half-days			
1–4 half-days	36 *(13.5)*	Reference	Reference
5–9 half-days	132 *(12.3)*	*0.90* (0.62–1.30)	*0.78* (0.53–1.15)
10 half-days	139 *(15.1)*	*1.14* (0.81–1.61)	*0.96* (0.66–1.40)
Provider characteristics			
Provider gender			
Male	89 *(15.2)*	Reference	Reference
Female	218 *(13.0)*	*0.84* (0.62–1.12)	*0.95* (0.70–1.30)
Provider professional background[e]			
NP/PA	96 *(14.7)*	Reference	Reference
MD/DO	204 *(13.0)*	*0.87* (0.64–1.17)	*0.89* (0.64–1.25)

**Significant at $P < 0.05$*

[a]Unadjusted odds ratios displayed in this column reflect unadjusted regressions examining attrition as a function of the variable listed, with the reference group as specified

[b]Adjusted odds ratios displayed in this column reflect a single multivariable logistic regression examining attrition as a function of all variables displayed, included in a single model

[c]Percentages in this column reflect attrition rate among the subset of WH-PCPs with the characteristic listed in the row

[d]Multiple clinics refers to providers who work in either a comprehensive women's health center or a limited women's health clinic, and who also work in a general primary care clinic

[e]Provider professional degree information was not available for 34 providers; they are excluded from the adjusted model

DISCUSSION

In an analysis of the relationship between VA clinic characteristics and Women's Health Primary Care Provider (WH-PCP) attrition, we found that only clinic environment—specifically, working exclusively in a comprehensive women's health center (CWHC)—was associated with significantly lower odds of WH-PCP attrition. While recent research emphasizes the need to address team-based elements of primary care delivery to improve job satisfaction and reduce intent to leave,[30,31] our findings address an important gap: the dearth of literature on clinic-level drivers of PCP attrition. Our findings suggest that clinic environment may influence retention of front-line care providers, aligning with calls for systems approaches to addressing provider burnout.[32]

In our cohort of 2,259 WH-PCPs, those working exclusively in a CWHC had 60% lower odds of leaving the VA women's health primary care workforce. This apparently protective effect of working in a CWHC remained robust after accounting for co-located specialty support services, provider professional degree, gender, and clinic work volume. Moreover, in a sensitivity analysis analyzing the third of WH-PCPs who practice in VA Medical Centers (as opposed to smaller clinic outposts), the effect was even more pronounced. This might have policy relevance, given VA Medical Centers are likely best positioned to be able to support specialty programs, yet per 2016 DAWC data, only 42% (68/161) of VA Medical Centers have CWHCs. Finding that at VA Medical Centers, WH-PCPs in CWHCs had nearly threefold lower odds of leaving the WH-PCP workforce than general primary care clinic peers warrants further exploration to learn what aspects of this clinic environment should be adopted elsewhere to support provider retention.

Given the structure and function of the CWHC model, it is plausible that this clinic environment may facilitate providers' ability to deliver care that they feel meets their patients' needs. Prior evidence shows that specialty support resources that allow providers to adequately meet patients' social needs mitigate provider burnout.[17–19] Our analysis was not inconsistent with such findings, as we found similar, but non-significant, trends for co-located social work. We observed high rates of co-located support

resources, e.g., on-site social work was available for 90%: this lack of variation likely contributed to our inability to detect a significant effect.

The mechanisms by which CWHCs link to lower attrition rates require further investigation. It is possible that CWHCs provide greater workplace "match" between care delivery processes and individual WH-PCPs' values.[32] Having a self-contained clinic staffed by providers committed to a shared mission may potentially reduce workplace chaos, increase provider satisfaction[30] and team cohesion, and strengthen professional identity, all factors recognized as key to PCP retention.[33,34]

CWHCs were staffed almost entirely by women providers. Cultivating predominantly female clinic environments may alter clinic interactions in a manner that better supports, and retains, women providers, since women providers are known to experience greater sexual harassment, workplace incivility, and moral distress relative to male peers.[35–38] Another factor warranting further investigation is whether CWHCs more consistently provide for extended visits that, per policy, are required for sex-specific exams (e.g., a Pap smear).

Interestingly, we observed a trend toward lower attrition for WH-PCPs working in multiple clinic environments. This runs counter to studies showing increased burnout and decreased quality of care for providers belonging to multiple clinic teams.[39,40] Our findings suggest it may be the *nature* of the care teams, not the number, that matters most; perhaps even a small dose of working in a clinic that is more aligned with a provider's mission may protect against attrition. Alternatively, it may be that working in multiple settings offers variety that increases job satisfaction; a study of VA internists showed work variability predicted lower burnout, higher satisfaction, and lower intent to leave.[41] Conversely, those working in general medical clinics (where, on average, less than 10% of patients are women) may not have a sufficient volume of women in their practice to feel fully competent in their care or to feel like the ongoing continuing medical education necessary to maintain their skills is worthwhile.[42]

We found no significant effect of clinic work volume upon attrition. Work volume may have complex effects, meriting more study. For example, one study of academic primary care faculty linked working more clinical shifts with burnout.[18] However, a study of VA physicians, which found quantity of administrative time was not predictive of satisfaction, burnout, or intention to leave,[43] was more aligned with our results.

Finally, without qualitative inquiry to examine the reasons behind WH-PCPs' career decisions, provider retention must not be equated with provider wellbeing and satisfaction. Many may continue even in work environments not conducive to professional fulfillment or wellbeing. Further inquiry into factors promoting PCP wellbeing is needed.

Limitations

Our cross-sectional analysis may not account for self-selection of providers into clinic environments, or the possibility that unmeasured characteristics of these clinical settings or of the WH-PCPs who choose (or are chosen) to work in these settings drive observed associations, and thus cannot establish causation. Our use of half-days of clinic to estimate clinic workload is unlikely to correlate precisely with patient volume, which has possible regional variation. However, the VA does have national standards for target PCP panel size per half-day clinics; moreover, in our sensitivity analysis adjusting for VA's 18 regions, the main effect upon attrition was robust. Still, we cannot distinguish between low clinic half-days representing a part-time employee versus one with VA responsibilities outside primary care.

Our analysis relied on Women Veteran Program Manager report; we cannot exclude the possibility of some misclassification of clinic environment, or that some providers could have lost WH-PCP status for administrative reasons. This program evaluation was not designed to be generalizable outside of VA, since the focus was to examine how specific clinic characteristics may influence attrition from the WH-PCP workforce, and these factors are institution-bound. However, these principles could be explored in other settings. Within VA, this is a critical issue, as VA serves a half million women veterans (with their numbers growing[44]), and needs to retain its WH-PCP workforce to care for them.

Data on provider age, years in workforce, and years in current position were unavailable. The association between age and provider attrition is unclear; in some studies, older age and longer tenure predict attrition[45] and higher burnout[46] (an attrition risk factor[47–49]) while others have found lower job satisfaction (a risk factor for burnout and reduced work hours[50]) among younger female physicians.[50,51] Lastly, in 2016, half of VA healthcare systems had a CWHC, and a third had a Limited Women's Health Clinic; CWHCs were typically (71%) located at the main VA Medical Center, while only half of limited clinics were on VA Medical Center campuses. Given this differential distribution, the lower attrition we saw at CWHCs might be confounded by the broader work setting. However, sensitivity analysis 3 (restricting to WH-PCPs located at VA Medical Centers) accounts for this. Additional exploration, ideally involving qualitative inquiry, into the mechanisms by which CWHCs protect against attrition from the specialized WH-PCP workforce is needed.

CONCLUSION

The structure of women's health primary care delivery is associated with provider retention. We suspect that the significantly lower odds of attrition observed for CWHC-based WH-PCPs stem from multiple factors, such as staffing and processes designed specifically to meet women veterans'

comprehensive care needs, enhanced relationship quality with colleagues, potentially lower workplace harassment risk due to staff being comprised almost entirely of women, and a common shared goal of serving women's health. Further inquiry could identify clinic characteristics, culture, and practices that could more broadly be adopted to retain the WH-PCP workforce.

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Compliance with Ethical Standards:

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