

Outpatient Behavioral Health Provider Panel Size and Burnout in the Military Health System (MHS)

Deployment Health Clinical Center Rapid Reviews

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What is a rapid review?

Rapid reviews identify and summarize available evidence to help inform health care decisions when it is not feasible to conduct a systematic review. Rapid reviews employ strategic alterations to the systematic review methodology that enable production of an expedited report while maintaining methodology that minimizes the introduction of errors and biases. To provide a timely review, alterations are made in the areas of scoping the question, comprehensiveness of the search strategy, screening and selection of studies, assessments of evidence quality, and synthesis of results.

Rapid reviews include key findings from the research literature and other sources of evidence, but do not provide recommendations. Depending on the needs and timelines of the requesting party, rapid reviews can range from lists of available evidence to comprehensive reviews with only minor alterations to the methodology of a standard systematic review.

Disclaimer

This report is intended to provide stakeholders with an overview of available evidence. While DHCC has taken great care in its preparation, it is not guaranteed that the information contained in this report is a complete and current representation of the research, given the nature of rapid reviews.

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Executive Summary

Research Synthesis Objective

Identify and synthesize any evidence on outpatient behavioral health provider panel size as related to provider burnout, care quality, or other outcomes.

Research Questions

1. Is there a relationship between outpatient behavioral health provider caseload size and provider burnout?
2. Does the quality of evidence-based care provided by behavioral health providers vary based on their caseload size?

Key Messages

- Across studies, self-reported behavioral health provider workload was positively associated with provider burnout in military, veteran, and civilian samples.
- The only study identified that examined caseload size as related to quality of care found that higher outpatient clinical staff-to-patient ratio was associated with improved treatment access, continuity of care, and quality of care.
- Based on significant limitations to the current research, particularly the use of subjective self-report measurement of caseload across studies and a dearth of studies examining the relationship between caseload and quality of care, no strong conclusions regarding the optimal panel size for outpatient behavioral health providers can be made. Caution should be exercised when interpreting these findings.

Introduction

The aims of this rapid review were to identify and synthesize relevant literature on outpatient behavioral health provider panel size as it relates to provider burnout, quality of care, and other relevant outcomes that are identified within our search strategy. Here we define patient panel size as the number of patients assigned to the care of a single mental health provider. As defined, panel size is only one of the elements that may contribute to the practitioner's workload, with additional considerations including time needed for notes review and preparation, team meetings, clinical training, and other administrative responsibilities. Furthermore, practitioners' or patients' preferences and the type of patients on the caseload may dictate the frequency or regularity of appointments. The questions of scheduling and appointment type were outside the scope of this review. For example, the articles identified and reviewed in this report did not differentiate between scheduled and un-scheduled appointments, nor did they examine the frequency at which patients are seen. Based on the reviewed studies, workload or caseload is defined broadly and it captures both the panel size and the subjective perception of having too many clients. Several factors are relevant in determining optimal behavioral health panel sizes and include, but are not limited to: the demand for care, the psychotherapeutic needs of the targeted patient population, and considerations regarding the potential occupation stress for providers delivering the care.

To estimate mental health staffing levels for the Military Health System (MHS), the Department of Defense (DoD) utilizes the Psychological Health Risk Adjusted Model for Staffing (PHRAMS) that takes into consideration the prevalence of mental health diagnoses, the number of service members and beneficiaries who are projected to fall into those diagnostic categories, and the expected frequency with which those individuals would interact with a mental health provider (United States Government Accountability Office, 2015). The total number of encounter hours each provider can contribute is then used to determine the number of mental health providers needed across Military Treatment Facilities (MTF) to meet the population needs. For example, in fiscal year 2016 the PHRAMS algorithm estimated that a full-time military provider would have 1,190 hours available per year for clinical encounters and a full-time civilian provider would have 1,399 hours available (United States Government Accountability Office, 2015).

Regarding the psychotherapeutic needs of patients presenting to behavioral health outpatient clinics, the DOD/VA Clinical Practice Guidelines (CPG) for psychotherapeutic treatments strongly recommend the use of evidence based treatments (VA/DoD Management of Post-Traumatic Stress Disorder Working Group, 2010). The most researched and recommended treatments (e.g., cognitive processing therapy and prolonged exposure therapy for PTSD) are relatively time-intensive, often requiring 10 or more weekly sessions of 60–90 minutes each, with research suggesting that shorter time intervals between sessions is associated with improved symptom reduction (Gutner, Suvak, Sloan, & Resick, 2016). Thus, determining behavioral health provider caseload for this particular population may require a scheduling process that allows those patients to be seen weekly and accommodates 90-minute sessions.

Finally, the occupational stress of behavioral health providers, especially as mental health services can involve intense patient interactions, has received increased attention. Specifically, the construct of burnout has been the subject of ongoing research. Burnout is conceptualized as a negative consequence of occupational stress and is characterized by provider experiences of work-related hopelessness and dissatisfaction (Stamm, 2005). Although some studies treat burnout as a unitary construct (Stamm, 2005), it can also be operationalized as a three-dimensional construct consisting of emotional exhaustion, depersonalization or cynicism, and reduced personal accomplishment or efficacy (Maslach & Jackson, 1981).

The primary objective of this rapid review was to identify and synthesize evidence on the effect of outpatient behavioral health provider panel size as it relates to provider burnout. A secondary aim was to synthesize any literature on the relationship between panel size and quality of care. Specifically, we sought to answer the following questions:

1. Is there a relationship between outpatient behavioral health provider caseload size and provider burnout?
2. Does the quality of evidence-based care provided by behavioral health providers vary based on their caseload size?

Methods

Based on the timeline and needs of the requester, the rapid review methodology included the following:

- A systematic search of two databases
- Additional hand searching
- English articles only
- Single-person abstract screening
- Single-person full-text screening
- Single-person data abstraction
- No formal assessment of quality
- No quantitative synthesis

Search strategies included both free text and Medical Subject Headings (MeSH) for the concepts of behavioral health providers and caseload. Searches were limited to two databases: the Cochrane Library and MEDLINE. Additional hand searching was conducted using Google Scholar and MHS-related websites to identify any additional, relevant peer-reviewed articles, government reports, or policies. All study designs were included.

Electronic Database Search

Population:

Concept: Mental Health Providers

Key Words: “mental health provider*”, “psychologist*”, “psychiatrist*”, “social worker*”, “therapist*”, “psychotherapist*”

MeSH Terms: Mental Health Services

Variable of interest:

Concept: Empanelment Size

Key Words: “patient panel”, “patient population”, roster, “case-mix”, “patient mix”, workload, caseload

MeSH Terms: “personnel staffing and scheduling”, workload

Records retrieved from database searches were downloaded into bibliographic database software and duplicates were removed. Titles and abstracts were screened by a single reviewer according to the following exclusion criteria:

- Not English language
- Protocol
- Not human study
- Not 18 or older
- Not mental health provider related
- Not psychotherapy provider workload related
- Inpatient/residential treatment
- Not common mental disorder treated in the MHS

Full-text articles were obtained for records not excluded, and were screened by one reviewer against the same exclusion criteria, with two additional criteria (review article; no panel-related outcomes reported). See the PRISMA diagram (Figure 1) for a detailed accounting of search results and exclusion reasons. For articles not excluded at this stage (13), two reviewers abstracted study characteristics (Table 1).

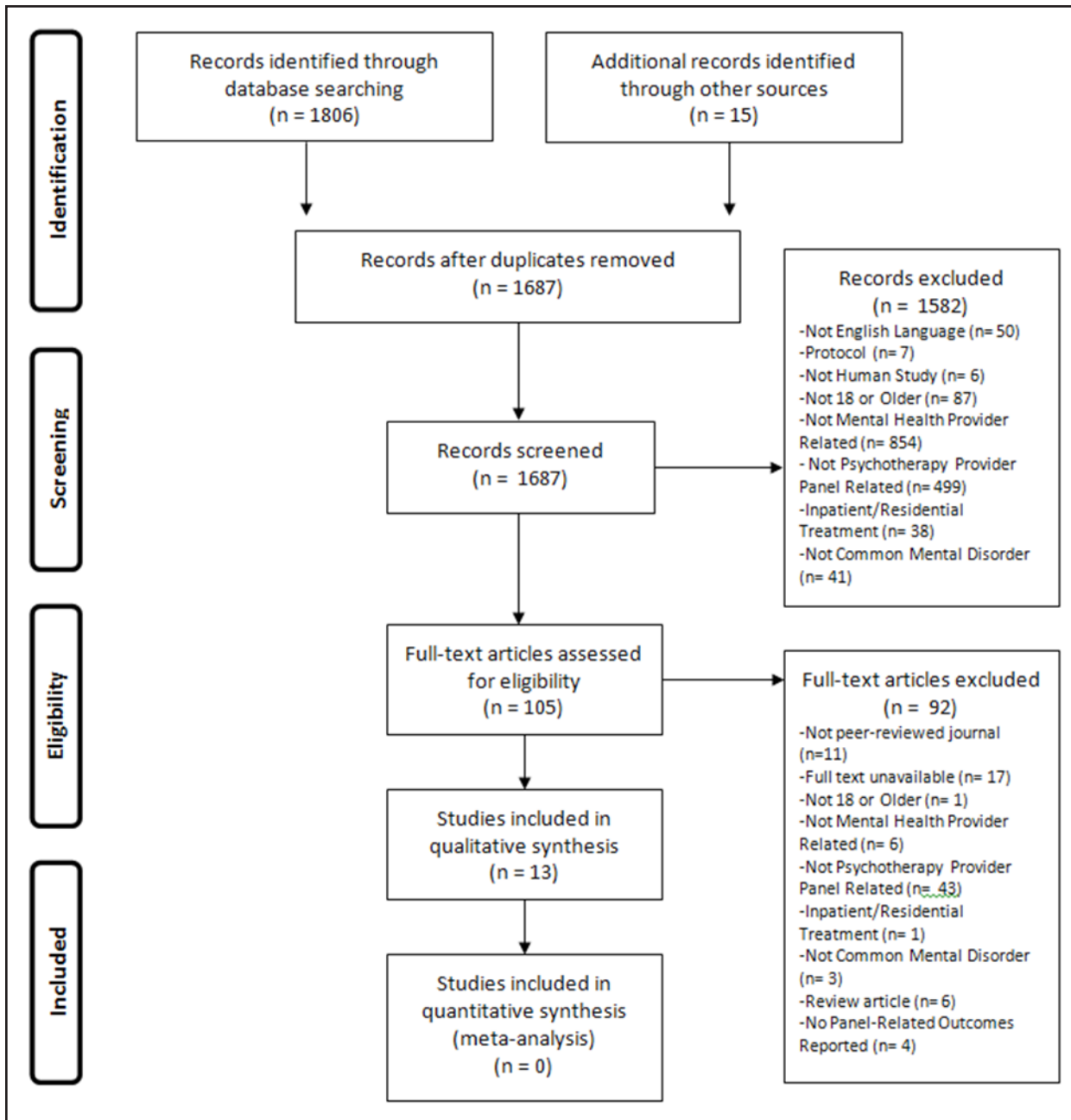


Figure 1. PRISMA Literature Flow Diagram

Evidence

Key Question 1: Is there a relationship between outpatient behavioral health provider caseload size and provider burnout?

Two studies examined burnout among mental health providers working in military settings. Findings indicated that the prevalence of burnout ranged from 21% among a sample of Army mental health care service providers (N = 488; Kok, Herrell, Grossman, West, & Wilk, 2016) to 28% among a convenience sample of providers at a Naval and Marine treatment facility (N = 97; Ballenger-Browning et al., 2011). Due to different methodologies between studies, these percentages cannot be directly compared. Perceived caseload was linked to reported burnout in both of these studies. Specifically, Kok et al. (2016) determined that working more than 44 hours per week and having a caseload of 20 or more clients were both significantly associated with higher burnout levels. Ballenger-Browning et al. (2011) did not evaluate burnout as a unitary construct but evaluated the specific dimensions of burnout among military providers. The authors found that working more hours per week was associated with greater emotional exhaustion, whereas seeing more clients per week was linked to lower sense of personal accomplishment.

In one study of VA clinicians who provide treatment for posttraumatic stress disorder (PTSD), the perception of having more clinical work than one is able to accomplish was associated with emotional exhaustion and cynicism (Garcia, McGeary, McGeary, Finley, & Peterson, 2014). However, perceived workload was not related to accomplishment or efficacy. Among mental health providers in civilian settings, the research appears consistent with these previous findings and suggests that the perception of increased caseload size predicts emotional exhaustion, depersonalization, and burnout (Lasalvia et al., 2009; Macchi, Johnson, & Durtschi, 2014). **In sum, across the identified studies, higher levels of perceived behavioral health provider workload is associated with significantly increased levels of provider burnout (or its three dimensions) in the majority of military, veteran, and civilian samples.**

Limitations (also see Tables 2 and 3). Cohort studies on caseload sizes have the inherent limitation that relationships between caseload and care outcomes may not be identified if the observed cohort does not have sufficient variation in caseload to reveal significant effects. Studies controlling for caseload can resolve this limitation. Yet, there were no randomized controlled trials on provider panel size or caseload thus precluding recommendations for optimal provider panel size. The studies did not use objective measures of caseload size and providers' estimates of an average number of clients seen per week could have been inaccurate. The most commonly used measure was a subjective perception of having too many clients, yet research suggests that subjective perception of workload may not be consistent with objective measures of caseload size (see Raquepaw & Miller, 1989). Most of the studies focused on providers who treat trauma and it is unclear whether the results would replicate among providers who treat other mental health disorders. The studies typically relied on convenience samples and may not have been representative of providers in general.

Key Question 2: Does the quality of evidence-based care provided by behavioral health providers vary based on their caseload size?

Only one study was identified that examined the relationship between outpatient behavioral health provider caseload size and quality of care. This study surveyed patients and providers across nation-wide VA facilities to examine the relationship of staff-patient ratios to quality of care, with higher staff-patient ratios indicating that there were more staff available per 1000 patients. **Results indicated that a higher outpatient clinical staff-to-patient ratio was positively associated with patient-reported improved treatment access and continuity of care.** Higher outpatient clinical staff-to-patient ratios were also positively associated with provider-reported treatment access and quality of care (Schmidt et al., 2017).

Though subjective in nature, personal accomplishment or efficacy—a dimension of burnout—is potentially another proxy of care quality. The results regarding the relationship between caseload size and accomplishment are mixed. Although studies typically find no relationship between workload and personal accomplishment (Garcia et al., 2014; Lasalvia et al., 2009), the study of military providers found that seeing more clients per week was related to lower ratings of accomplishment (Ballenger-Browning et al., 2011). However, in one study of community providers, greater perceived caseload predicted higher scores on personal accomplishment (Raquepaw & Miller, 1989). Thus, no strong conclusions can be drawn from the literature as to the relationship of caseload size and perceptions of personal accomplishment.

Limitations (also see Tables 2 and 3). The studies on quality of care suffer some of the same limitations as the studies on burnout. Additionally, the scarcity of studies that used objective measures of treatment quality makes it difficult to draw any conclusions regarding caseload size and quality of treatment.

Other Findings

Several other potentially relevant outcomes were identified in the current literature search. Although these are briefly described in this section, given the methodological search strategies limited to Key Questions 1 & 2, the summary of the literature across these topics should not be considered comprehensive or systematic.

Caseload Characteristics and Secondary Traumatic Stress, Compassion Fatigue, and Vicarious Traumatization

Secondary traumatic stress involves experiencing symptoms of posttraumatic stress as a consequence of exposure to somebody else's trauma (Figley, 1993). A related concept—compassion fatigue—is reduced empathy as a result of secondary trauma exposure (Adams, Figley, & Boscarino, 2008). Unlike compassion fatigue, compassion satisfaction is a feeling of fulfillment one derives from one's work (Stamm, 2005). Vicarious traumatization is a change in therapists' cognitive schema or a worldview as a result of secondary trauma exposure (McCann & Pearlman, 1990).

In one study on military behavioral health providers, greater perceived caseload was associated with a higher frequency of secondary traumatic stress symptoms (Cieslak et al., 2013). **Consistent with this finding, caseload size was also found to be a predictor of secondary traumatic stress and compassion fatigue among behavioral health providers in civilian settings** (Devilley, Wright, & Varker, 2009; Macchi et al., 2014). The results regarding the relationship between caseload and vicarious trauma are mixed. One study found no links between caseload and vicarious trauma (Devilley et al., 2009), whereas another found that those providers seeing more clients reported less vicarious trauma (Baird & Jenkins, 2003). Two surveys conducted on civilian providers found that a greater proportion of PTSD cases on a provider caseload was positively associated with burnout and compassion fatigue, but was unrelated to compassion satisfaction (Craig & Sprang, 2010; Sprang, Clark, & Whitt-Woosley, 2007).

Finally, one study found that among a random, national sample of U.S. behavioral health providers, endorsement of practicing evidence-based practices (EBPs) was associated with significantly lower levels of burnout and compassion fatigue, and increased compassion satisfaction (Craig & Sprang, 2010).

Limitations (also see Tables 2 and 3). The studies described herein share some of the same limitations as the studies described in prior sections. Additionally, the degree to which compassion fatigue, vicarious traumatization, and secondary traumatic stress represent the same construct is unclear.

Table 1. Characteristics of Included Studies

Study	Study Design	Sample Size	Provider Population	Patient Population	Caseload Variable	Outcomes
Baird 2003	Survey	101	Sexual assault and domestic violence agency volunteer and paid counselors	Victims of sexual assault and/or domestic violence	Client exposure workload (hours/week in past month engaged in direct counseling (individual, group therapy, crisis intervention))	Vicarious trauma, secondary traumatic stress (compassion fatigue), burnout in relation to job role and degree of exposure to clients
Ballenger-Browning 2011	Survey	97	Military mental health providers	Military personnel	Average number of patients per week, diagnostic composition of providers' caseload, percent of patients with combat-related diagnoses	Burnout
Cieslak 2013	Survey	224	Mental/behavioral health providers	Military and veteran patients	Perception of workload, indirect trauma exposure	Secondary traumatic stress, vicarious trauma, workplace burnout, work satisfaction, empathy
Craig 2010	Survey	532	Trauma therapists (clinical psychologists and clinical social workers)	Mental health patients	Percentage of clients with PTSD on caseload	Burnout, compassion fatigue, compassion satisfaction
Devilly 2009	Survey	152	Mental health professionals engaged in clinical therapeutic work	Traumatized patients	Caseload, work stress, trauma patient caseload, time spent working with traumatized people	Secondary traumatic stress, vicarious trauma, workplace burnout, work satisfaction, empathy
Garcia 2014	Survey	138	VHA mental health clinicians providing evidence-based PTSD care	Patients diagnosed with PTSD	Workplace characteristics, including workload	Burnout, absenteeism, intent to leave VHA
Jerrell 1983	Survey	471	Clinical staff and supervisors	Not specified (caseload characteristics include various age groups, disability groups, and settings)	Caseload characteristics (incl. number in caseload)	Work Group Climate, Personal Job Satisfaction including employment status, educational, and caseload characteristics
Kok 2016	Survey	488	Army mental health care service providers	Military mental health patients	Caseload, hours worked per week	Burnout, job satisfaction
Lasalvia 2009	Survey	1328	Mental health staff employed in the public psychiatric sector	Individuals with first episode psychosis attending community mental health services	Perceived workload	Burnout
Macchi 2014	Survey	225	Licensed therapists prior to attending a training workshop related to delivering home-based family therapy	Mental health patients	Perceived workload	Professional quality of life
Raquepaw 1989	Survey	68	Psychologists or social workers who reported that they were practicing psychotherapists	Mental health patients	Caseload, perceived ideal caseload	Burnout, intention to leave psychotherapy profession
Schmidt 2017	Survey and admin. data	9980	Providers in VHA facilities	Mental health patients in VHA facilities	Productivity of clinicians, provider duties, staff-to-patient ratios	Job satisfaction, access, coordination, continuity, and quality of mental health treatment
Sprang 2007	Survey	1121	Licensed or certified mental health providers	Traumatized patients	Practice characteristics (caseload percentage of clients suffering from PTSD)	Compassion fatigue, compassion satisfaction, burnout

Discussion

In sum, across the identified studies, higher levels of perceived behavioral health provider workload were associated with significantly increased levels of provider burnout (or its three dimensions) in the majority of military, veteran, and civilian samples. Most pertinent to the key questions of this review, several studies evaluated outpatient providers treating military service members and Veterans. One study of Army mental health care service providers found that over 20% of providers experienced high or very high levels of job-related burnout, which was associated with working 45 hours or more per week and having a caseload of 20 or more patients per week (Kok et al., 2016). A study of mental health management across the VA found that a higher staff-to-patient ratio was associated with improved access to care, quality of care, and patient satisfaction (Schmidt et al., 2017).

Caution should be exercised when interpreting the results of this review. Although the studies differed in their definitions and measurement of caseload, all studies relied on provider's subjective estimation of caseload or perceptions of having too many clients. Notably, in one study examining burnout, the actual caseload size was not related to emotional exhaustion and depersonalization whereas the satisfaction with one's caseload size did demonstrate a significant effect on these variables (Raquepaw & Miller, 1989). Thus, there are potentially other important factors that account for provider perceptions of their caseload and sense of burnout, outside of the actual number of patients seen each week. As such, the current research does not permit any strong conclusion regarding the optimal panel size for outpatient behavioral health providers.

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Appendix A. Additional Tables

Table 2. Quality of Evidence Considerations

<p>Cross-sectional methodology All the research used cross-sectional methodology such that data was only collected for each study participant at 1 time point.</p>	<p>Limits the interpretation about the direction of the relationship. For instance, providers who begin feeling more emotionally exhausted might also perceive greater number of hour worked or number of patients seen throughout a week period.</p> <p>Only provides a snapshot of data, thus potentially limiting conclusion about chronic conditions or complex phenomenon that develop over time. As burnout is conceptualized as a chronic condition, results from the cross sectional research may reflect acute and transient feelings of exhaustion rather than the chronic experience of burnout.</p>
<p>Observational Data The primary variable of interest (caseload size) is not under the control of the researchers. Participants are not randomly assigned to different caseload sizes.</p>	<p>Without control of the independent variable (caseload size) and randomization of participants to different caseload sizes, any study inferences are likely to be biased as other (observed and unobserved) factors may be influencing the relationship between the independent variable and the outcome under study. For example, organizational characteristics, such as bureaucracy, might be influencing both the perception of caseload and the experience of burnout. Thus, the apparent relationship between caseload and burnout is a consequence of this third variable and it does not occur because caseload causes burnout.</p>
<p>Sampling Strategies Studies relied on convenience samples of providers from the same agency. Only few studies used random samples of providers.</p>	<p>Relying on convenience samples limits the generalizability of the results. Researchers may have inadvertently chosen agencies high in burnout. Additionally, providers from the same agency are likely not representative of the providers as a whole.</p>
<p>Lack of objective measures for caseload The primary variable of interest was determined using self-report measure across all studies.</p>	<p>Self-report measures are prone to biases. The participants could have overestimated their actual caseload size or they could have exaggerated their ratings of both perceived caseload and burnout. This could have inadvertently resulted in an inflated correlation between caseload and burnout.</p>
<p>Response Rate Survey response rates ranged from 19% to 66%.</p>	<p>Low response rates could bias the results and affect the generalizability of the results because those providers who respond to surveys may be different from those who choose not to respond to them. For example, the providers who experience high levels of burnout or are dissatisfied with their jobs may be more motivated to participate in a survey on burnout.</p>

Table 3. Methodology Considerations across the Reviewed Studies

Sources	Research Aim	Method	Sample	Caseload Predictor	Outcome Measure	Key Finding
Baird 2003	To examine the degree of trauma-related and burnout symptoms in sexual assault and domestic violence agency staff as related to job role and client exposure workload.	Cross-sectional survey. 10 data gathering visits at the agencies and one mailing.	101 paid and volunteer trauma counselors (response rate not reported). 35% sexual assault counselors, 17% domestic violence counselors, 48% dual-purpose agency	Self-reported average number of clients per week; Average number of hours counseling clients per week.	Compassion Fatigue Self-Test for Psychotherapists TSI Belief Scale, Revision L Maslach Burnout Inventory	Average number of clients negatively associated with vicarious trauma. No relationship between workload and burnout among paid staff. No relationship between workload and compassion fatigue.
Ballenger-Browning 2011	To identify factors that affect burnout levels among military mental health treatment providers.	Cross-sectional, anonymous survey. Convenience sample of mental health staff attending mandatory meetings on improving patient care.	97 civilian and active duty mental health providers at 2 U.S. military treatment facilities (response rate not reported). 32% psychologists, 16% social workers, 14% psychiatrist or psychiatry resident	Self-reported estimated work hours per week; Self-reported estimated patients per week.	Maslach Burnout Inventory— Human Services Survey	Work hours/week positively associated with emotional exhaustion subscale. Patients/week negatively associated with personal accomplishment subscale.
Cieslak 2013	To evaluate indirect exposure to trauma and work-related demands on job burnout, work engagement and secondary traumatic stress in military mental health providers.	Cross-sectional anonymous survey. Link to online survey sent to on-post and off-post behavioral health providers.	224 behavioral health providers offering services to a military population (response rate not reported). 45% clinical psychologists, 31% counselors/ psychotherapists, 23% social workers	Self-reported Likert-rated items on providers' perception of workload.	Secondary Traumatic Stress Scale	Perceived caseload positively associated with the frequency of secondary traumatic stress symptoms.
Craig 2010	To examine the impact of using evidence-based practices on compassion fatigue, burnout and compassion satisfaction among trauma treatment specialists.	Cross-sectional survey. Random, national sample of licensed social workers and psychologists from two professional membership rosters.	532 practitioners in clinical psychology and clinical social work (27% response rate). 44% clinical psychologists, 46% clinical social workers, 9% missing data on discipline	Self-reported caseload percentage of clients with PTSD.	Professional Quality of Life Scale	Percentage of clients with PTSD positively associated with burnout and compassion fatigue, but not related to compassion satisfaction.
Devilly 2009	To perform an assessment of secondary traumatic stress, vicarious trauma and workplace burnout for Australian mental health providers involved in clinical practice.	Cross-sectional, survey. Multiple recruiting methods: directly by email or post; randomly selected from a database (victim support agency); ad in university online newsletter.	152 mental health professionals (32% response rate for the direct mail-out). 82% psychologists, 10% psychotherapists, 4% clinical social workers, 4% other	Self-reported average number of patients per week; Trauma patient caseload; Likert-rated item on providers' perception of work stress.	Copenhagen Burnout Inventory Secondary Traumatic Stress Scale TSI Belief Scale, Revision L	Caseload positively associated with secondary traumatic stress, but not related to vicarious trauma. Trauma patient caseload not associated with traumatic stress. Work stress positively associated with vicarious trauma, but not related to secondary traumatic stress.

Table 3. Continued

Garcia 2014	To assess burnout among VHA mental health clinicians providing PTSD care.	Cross-sectional, anonymous survey. Surveys advertised to VA PTSD providers using VA mailing list.	138 non-prescribing VHA mental health providers employed at least half-time in a PTSD clinic (response rate not reported). 64% doctoral-level providers	Self-reported, Likert-rated item regarding clinical workload.	Maslach Burnout Inventory—General Survey	Perceived workload positively associated with emotional exhaustion and cynicism subscales.
Jerrell 1983	To identify correlates of work satisfaction among clinical staff in rural mental health facilities.	Cross-sectional survey.	471 clinical staff employed in 54 rural mental health agencies (response rate not reported). 4% psychiatrists, 13% psychologists, 19% nurses, 5% social workers, 29% mental health counselors, 3% vocational rehabilitation counselors, 3% activities therapists, 25% not reported	Self-reported number in caseload.	Personal satisfaction and work group climate assessed on 11 Likert-rated items.	Less than average caseloads positively associated with personal satisfaction, but not related to work group climate.
Kok 2016	To examine the prevalence of and factors associated with professional burnout and job satisfaction among Army mental health service providers.	Cross-sectional survey. Recruitment emails sent to active duty, DoD civilian and contract-based Army mental health providers.	488 mental health clinicians working with military populations (23% response rate).	Self-reported number of patients per week; Self-reported hours worked per week.	5-point ordinal scale items	Working more than 40 hours per week and having a caseload of 20 or more clients associated with burnout.
Lasalvia 2009	To survey a representative sample of Italian mental health staff treating psychosis regarding predictors of burnout.	Cross-sectional, anonymous survey. Surveys sent out to 22 mental health community clinics across an Italian region.	1328 community mental health staff (66% response rate). 42% psychiatric nurses, 23% support workers, 11% psychiatrists	<i>The Areas of Worklife Scale</i> that includes 6 self-report questions on workload.	Maslach Burnout Inventory—General Survey	Perceived workload positively associated with emotional exhaustion subscale, cynicism subscale, and burnout cutoff score.
Macchi 2014	To study how workload and experience influence professional quality of life among home-based family therapists.	Cross-sectional online survey. Emailed to clinicians in a Midwestern state.	225 licensed therapists trained in HBFT (27% response rate). 59% LSW, 19% LMFT, 11% psychologists, 10% counselors	Self-reported Likert-rated item on perceived workload.	Professional Quality of Life Scale, fourth revision	Perceived workload positively associated with burnout and compassion fatigue and negatively associated with compassion satisfaction.
Raquepaw 1989	To assess the relations between demographics, work setting, caseload, intent to leave profession, and burnout among psychotherapists.	Cross-sectional survey. Surveys mailed to providers randomly selected from two professional membership rosters.	68 psychotherapists working in private practice and public agency settings (45% response rate). Psychologists or social workers with doctoral or masters degrees.	Self-reported Likert-rated items on providers' perceived ideal caseload; Number of clients.	Maslach Burnout Inventory—Human Services	Number of clients positively associated with personal accomplishment, but not related to emotional exhaustion and depersonalization subscales. Ideal caseload positively associated with emotional exhaustion and depersonalization subscales, but not related to personal accomplishment.

Table 3. Continued

Schmidt 2017	To describe the design and analysis of the Mental Health Management System used to increase the value of VHA mental health care.	Cross sectional survey and use of administrative data.	All of VHA facilities (141) considered for inclusion (99% had complete data).	Staff-to-patient ratio per facility.	Administrative data were used to calculate staff-to-patient ratios, access to care, and continuity of care; Self-reported Likert-type scale was used to assess veteran and provider satisfaction with quality of treatment.	Staff-to-patient ratio positively associated with access and continuity of care, and veteran and provider satisfaction with the quality of mental health treatment.
Sprang & Clark	To examine the relationship between compassion fatigue, compassion satisfaction and burnout and provider/setting characteristics in mental health providers.	Cross-sectional survey. Surveys mailed to providers' place of residence.	1121 licensed or certified behavioral health providers practicing in a rural southern state (20% response rate). 69% Master's degree	Self-reported caseload percentage of clients with PTSD.	Professional Quality of Life Scale	Percentage of clients with PTSD positively associated with burnout and compassion fatigue, but not related to compassion satisfaction.