
Factors Associated with Homelessness Among US Veterans

Supplemental Materials

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VA



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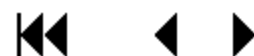
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APPENDIX A: SEARCH STRATEGY

SYSTEMATIC REVIEWS

1. Search for systematic reviews: Among Veterans and other adults, what factors during childhood and adolescence are associated with homelessness during adulthood?			
Date Searched: 03-14-2023			
A. Bibliographic Databases:	#	Search Statement	Results
MEDLINE: Systematic Reviews Ovid MEDLINE(R) and Epub Ahead of Print, In-Process, In-Data-Review & Other Non-Indexed Citations and Daily 1946 to March 13, 2023	1	Ill-Housed Persons/ or (homeless* or ill-housed or shelterless or unsheltered or unhoused).ti,ab,kf.	15520
	2	Risk Factors/ or Protective Factors/ or (associat* or caus* or connect* or correlate* or effect* or expos* or factor* or impact* or indicator* or influenc* or lead* or link* or predict* or protective or relat* or risk*).ti,ab,kf.	20098231
	3	1 and 2	11331
	5	(systematic review.ti. or meta-analysis.pt. or meta-analysis.ti. or systematic literature review.ti. or this systematic review.tw. or pooling project.tw. or (systematic review.ti,ab. and review.pt.) or meta synthesis.ti. or meta-analy*.ti. or integrative review.tw. or integrative research review.tw. or rapid review.tw. or umbrella review.tw. or consensus development conference.pt. or practice guideline.pt. or drug class reviews.ti. or cochrane database syst rev.jn. or acp journal club.jn. or health technol assess.jn. or evid rep technol assess summ.jn. or jbi database system rev implement rep.jn. or (clinical guideline and management).tw. or ((evidence based.ti. or evidence-based medicine/ or best practice*.ti. or evidence synthesis.ti,ab.) and (((review.pt. or diseases category/ or behavior.mp.) and behavior mechanisms/ or therapeutics/ or evaluation studies.pt. or validation studies.pt. or guideline.pt. or pmcbook.mp.)) or (((systematic or systematically).tw. or critical.ti,ab. or study selection.tw. or ((predetermined or inclusion) and criteri*).tw. or exclusion criteri*.tw. or main outcome measures.tw. or standard of care.tw. or standards of care.tw.) and ((survey or surveys).ti,ab. or overview*.tw. or review.ti,ab. or reviews.ti,ab. or search*.tw. or handsearch.tw. or analysis.ti. or critique.ti,ab. or appraisal.tw. or (reduction.tw. and (risk/ or risk.tw.) and (death or recurrence).mp.)) and ((literature or articles or publications or publication or bibliography or bibliographies or published).ti,ab. or pooled data.tw. or unpublished.tw. or citation.tw. or citations.tw. or database.ti,ab. or internet.ti,ab. or textbooks.ti,ab. or references.tw. or scales.tw. or papers.tw. or datasets.tw. or trials.ti,ab. or meta-analy*.tw. or (clinical and studies).ti,ab. or treatment outcome/ or treatment outcome.tw. or pmcbook.mp.))) not (letter or newspaper article).pt.	572201
	6	4 and 5	462
	7	limit 6 to english language	452
	8	limit 7 to last 7 years	331
	CDSR: Protocols and Reviews	1	MeSH descriptor: [Ill-Housed Persons] this term only
2		(homeless* or ill-housed or shelterless or unsheltered or unhoused):ti,ab,kw	1154



	3	#1 OR #2	1154
	4	MeSH descriptor: [Risk Factors] this term only	32657
	5	MeSH descriptor: [Protective Factors] this term only	222
	6	(associat* or caus* or connect* or correlat* or effect* or expos* or factor* or impact* or indicator* or influenc* or lead* or link* or predict* or protective or relat* or risk*):ti,ab,kw	1531568
	7	{OR #4-#6}	1531568
	8	#3 AND #7	1042
	9	limit #8 to reviews	13
	10	limit #9 to English language	13
Ovid APA PsycInfo 1806 to February Week 4 2023	1	exp Homeless/ or (homeless* or ill-housed or shelterless or unsheltered or unhoused).ti,ab.	13184
	2	Risk Factors/ or Protective Factors/ or (associat* or caus* or connect* or correlat* or effect* or expos* or factor* or impact* or indicator* or influenc* or lead* or link* or predict* or protective or relat* or risk*):ti,ab.	4055329
	3	1 and 2	10621
	4	"Systematic Review"/ or Meta Analysis/ or Treatment Guidelines/ or (systematic review or meta-analys* or systematic literature review or meta-synthes* or drug class review* or practice guideline*).ti. or (this systematic review or pooling project or data pooling or integrative review or integrative research review or rapid review or umbrella review or ((inclusion or predetermined or pre-determined or exclusion) adj3 criter*)).tw. or "jbi database of systematic reviews and implementation reports".jn.	83183
	5	3 and 4	230
	6	limit 5 to English language	205
EBSCO SocIndex with Full Text	1	(DE "Homeless Persons" OR DE "African American Homeless Persons" OR DE "Hispanic American Homeless Persons" OR DE "Homeless Children" OR DE "Homeless Families" OR DE "Homeless Men" OR DE "Homeless Students" OR DE "Homeless Veterans" OR DE "Homeless Women" OR DE "Homeless Youth" OR DE "Native American Homeless Persons" OR DE "Older Homeless Persons" OR DE "Rogues & Vagabonds" OR DE "Tramps" OR DE "Homeless Camps" OR DE "Homeless Shelters" OR DE "Homelessness" OR DE "Squatters") OR TI (homeless* or ill-housed or shelterless or unsheltered or unhoused) OR AB (homeless* or ill-housed or shelterless or unsheltered or unhoused)	10314
	2	DE "Protective Factors" OR TI (associat* or caus* or connect* or correlat* or effect* or expos* or factor* or impact* or indicator* or influenc* or lead* or link* or predict* or protective or relat* or risk*) OR AB (associat* or caus* or connect* or correlat* or effect* or expos* or factor* or impact* or indicator* or influenc* or lead* or link* or predict* or protective or relat* or risk*)	1399661
	3	S1 AND S2	6435
	4	TI ("systematic review" or "meta-analysis" or "systematic literature review" or "meta-synthesis" or "drug class review" or "practice guideline" OR "practice guidelines") OR AB ("this	8704

		systematic review" or "pooling project" or "data pooling" or "integrative review" or "integrative research review" or "rapid review" or "umbrella review" or ((inclusion or predetermined or pre-determined or exclusion) N3 criter*)))	
	5	S3 AND S4	66
	6	limit 5 to English language	65

1. Search for current systematic reviews		
Date Searched: 03-14-2023		
B. Non-bibliographic databases	Evidence	Results
AHRQ: evidence reports, technology assessments, U.S Preventative Services Task Force Evidence Synthesis	Search: homeless* OR housing OR ill-housed OR shelterless OR unhoused OR unsheltered	0
CADTH	Search: homeless* OR ill-housed OR shelterless OR unhoused OR unsheltered	0
ECRI Institute	Website unavailable.	n/a
HTA: Health Technology Assessments (UP TO 2016)	Search: homeless* OR ill-housed OR shelterless OR unhoused OR unsheltered	0
NHS Evidence	Search: homeless* OR ill-housed OR shelterless OR unhoused OR unsheltered	0
EPPI-Centre	Search: homeless* OR ill-housed OR shelterless OR unhoused OR unsheltered	0
NLM	Search: (homeless* OR ill-housed OR shelterless OR unhoused OR unsheltered) AND (associat* or caus* or connect* or correlat* or effect* or expos* or factor* or impact* or indicator* or influenc* or lead* or link* or predict* or protective or relat* or risk*) <ul style="list-style-type: none"> • Who Are the Rural Homeless? From Homelessness, Health, and Human Needs • A Critical Review of the Literature Regarding Homelessness Among Veterans 	2
VA Products - VATAP, PBM and HSR&D publications	A. http://www.hsr.d.research.va.gov/research/default.cfm <ul style="list-style-type: none"> • Identifying and Measuring Risk for Homelessness Among Veterans 	8

	<p>B. http://www.research.va.gov/research_topics/</p> <ul style="list-style-type: none"> • Risk Factors for Homelessness Among US Veterans • Military Misconduct and Homelessness Among US Veterans Separated from Active Duty, 2001-2012 • One-Year Incidence and Predictors of Homelessness Among 300,000 US Veterans Seen in Specialty Mental Health Care • Differential Risk for Homelessness Among US Male and Female Veterans With a Positive Screen for Military Sexual Trauma <p>C. https://va.dimensions.ai/discover/publication</p> <ul style="list-style-type: none"> • Risk and Resilience Factors in Youth Homelessness in Western Countries • Homelessness Among Female Veterans • Risk Factors for Homelessness Among US Veterans 	
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2. Search for systematic reviews currently under development (includes forthcoming reviews & protocols)		
Date Searched: 03-14-2023		
D. Under development:	Evidence:	Results:
AHRQ topics in development (EPC Status Report)	Email Charli Armstrong Charlotte.Armstrong1@va.gov	0
PROSPERO (SR registry)	<ul style="list-style-type: none"> • ADHD and Autism in the Homeless Population <ul style="list-style-type: none"> ○ See review question 2. • Estimating Rates of Intellectual Disability and Borderline Intelligence in English-Speaking Populations of Individuals Experiencing Homelessness • Predictors for Homelessness and Predictors for Getting Out of Homelessness • Prevalance of Adverse Childhood Experiences (ACEs) and Associations with Health and Functioning Among Adults Experiencing Homelessness • Prevalance of Mental Disorders Among Homeless Youth • The Association of Traumatic Brain Injury with Neurologic and Psychiatric Illness Among Individuals Experiencing Homelessness • The Prevalance of Adverse Childhood Experiences (ACEs) Among Homeless Youth • The Prevalance of Mental Disorders Among Homeless People in Western Countries • Traumatic Brain Injury in Homeless and Marginally Housed Individuals 	9

PRIMARY STUDIES

5. Search for primary literature: Among Veterans, what factors during in-service and post-service periods are associated with post-service homelessness?		
Date searched: 03-14-2023		
MEDLINE		
#	Search Statement	Results
1	Ill-Housed Persons/ or (homeless* or ill-housed or shelterless or unsheltered or unhoused).ti,ab,kf.	15520
2	Veterans/ or veteran*.ti,ab,kf.	46611
3	1 and 2	830
4	limit 3 to English language	830
Cochrane		
#	Search Statement	Results
1	MeSH descriptor: [Ill-Housed Persons] this term only	434
2	(homeless* or ill-housed or shelterless or unsheltered or unhoused):ti,ab,kw	1154
3	#1 OR #2	1154
4	MeSH descriptor: [Veterans] this term only	1449
5	veteran*.ti,ab	6740
6	#9 OR #10	6849
7	#3 AND #11	95
8	limit #8 to English language	95
PsycInfo		
#	Search Statement	Results
1	exp Homeless/ or (homeless* or ill-housed or shelterless or unsheltered or unhoused).ti,ab.	13184
2	Military Veterans/ or veteran*.ti,ab.	26549
3	1 and 2	694
4	limit 3 to English language	669
SocIndex		
#	Search Statement	Results
1	(DE "Homeless Persons" OR DE "African American Homeless Persons" OR DE "Hispanic American Homeless Persons" OR DE "Homeless Children" OR DE "Homeless Families" OR DE "Homeless Men" OR DE "Homeless Students" OR DE "Homeless Women" OR DE "Homeless Youth" OR DE "Native American Homeless Persons" OR DE "Older Homeless Persons" OR DE "Rogues & Vagabonds" OR DE "Tramps" OR DE "Homeless Camps" OR DE "Homeless Shelters" OR DE "Homelessness" OR DE "Squatters") OR TI (homeless* or ill-housed or shelterless or unsheltered or unhoused) OR AB (homeless* or ill-housed or shelterless or unsheltered or unhoused)	10304
2	DE "Veterans" OR TI veteran* OR AB veteran*	7614
3	S1 AND S2	225
4	DE "Homeless Veterans"	64
5	S3 OR S4	236
6	limit 5 to English language	235

APPENDIX B: EXCLUDED STUDIES

Exclude reasons: 1=Ineligible population, 2=Ineligible exposure, 3=Ineligible comparator, 4=Ineligible outcome, 5=Ineligible timing, 6=Ineligible study design, 7=Ineligible publication type, 8=Outdated or ineligible systematic review, 9=Non-English language, 10=Unable to locate full-text.

Citation	Exclude Reason
Acre A. Self-perceived precipitants of veteran homelessness. <i>Dissertation Abstracts International: Section B: The Sciences and Engineering</i> . 2020;81(2-B):No-Specified.	E10
Amosu OG. Service members' perspectives on veteran homelessness in Maryland and Virginia. <i>Dissertation Abstracts International: Section B: The Sciences and Engineering</i> . 2022;83(4-B):No-Specified.	E4
Blodgett JC, Avoundjian T, Finlay AK, et al. Prevalence of mental health disorders among justice-involved veterans. <i>Epidemiologic reviews</i> . 2015;37:163-176.	E8
Brignone E, Fargo JD, Blais RK, Gundlapalli AV. Applying Machine Learning to Linked Administrative and Clinical Data to Enhance the Detection of Homelessness among Vulnerable Veterans. <i>AMIA Annual Symposium proceedings AMIA Symposium</i> . 2018;2018:305-312.	E4
Brignone E, Fargo JD, Blais RK, Gundlapalli AV. Chronic Health Conditions Among US Veterans Discharged From Military Service for Misconduct. <i>Preventing chronic disease</i> . 2018;15:E122.	E4
Byrne T, Montgomery AE, Dichter ME. Homelessness among female veterans: A systematic review of the literature. <i>Women & Health</i> . 2013;53(6):572-596.	E8
Carlson EB, Garvert DW, Macia KS, Ruzek JI, Burling TA. Traumatic stressor exposure and post-traumatic symptoms in homeless veterans. <i>Military Medicine</i> . 2013;178(9):970-973.	E4
Creech SK, Johnson E, Borgia M, Bourgault C, Redihan S, O'Toole TP. IDENTIFYING MENTAL AND PHYSICAL HEALTH CORRELATES OF HOMELESSNESS AMONG FIRST-TIME AND CHRONICALLY HOMELESS VETERANS. <i>Journal of Community Psychology</i> . 2015;43(5):619-627.	E3
Cusack M, Montgomery AE. Examining the bidirectional association between veteran homelessness and incarceration within the context of permanent supportive housing. <i>Psychol Serv</i> . 2017;14(2):250-256.	E4
Denkin R. Trauma and posttraumatic stress disorder (PTSD) among a sub-sample of homeless veterans. <i>Dissertation Abstracts International: Section B: The Sciences and Engineering</i> . 2004;64(9-B):4610.	E10
Edwards ER, Barnes S, Govindarajulu U, Geraci J, Tsai J. Mental health and substance use patterns associated with lifetime suicide attempt, incarceration, and homelessness: A latent class analysis of a nationally representative sample of U.S. veterans. <i>Psychological Services</i> . 2021;18(4):619-631.	E2
Gamache G, Rosenheck R, Tessler R. The proportion of veterans among homeless men: A decade later. <i>Social Psychiatry and Psychiatric Epidemiology: The International Journal for Research in Social and Genetic Epidemiology and Mental Health Services</i> . 2001;36(10):481-485.	E4
Hamilton AB, Poza I, Washington DL. "Homelessness and trauma go hand-in-hand": Pathways to homelessness among women veterans. <i>Women's Health Issues</i> . 2011;21(4, Suppl):S203-S209.	E4

Citation	Exclude Reason
Hilferty F, Katz I, Hooff M, Lawrence-Wood E. How many Australian veterans are homeless? Reporting prevalence findings and method from a national study. <i>Australian Journal of Social Issues (John Wiley & Sons, Inc)</i> . 2021;56(1):114-127.	E1
Hines VA. Homelessness: Women veterans' perspective. <i>Dissertation Abstracts International Section A: Humanities and Social Sciences</i> . 2010;70(9-A):3638.	E10
Jorden BJ. Rural veterans: Pathways to homelessness. <i>Dissertation Abstracts International Section A: Humanities and Social Sciences</i> . 2019;80(1-A(E)):No-Specified.	E4
Keene RE. The meaning of homelessness to homeless women veterans. <i>Dissertation Abstracts International: Section B: The Sciences and Engineering</i> . 2013;73(11-B(E)):No-Specified.	E4
Kuehn BM. Research on homeless vets suggests ways to target services based on risk factors. <i>JAMA</i> . 2013;309(22):2313-2314.	E7
Macia KS, Blonigen DM, Shaffer PM, Cloitre M, Smelson DA. Trauma-related differences in socio-emotional functioning predict housing and employment outcomes in homeless veterans. <i>Social Science & Medicine</i> . 2021;281:N.PAG-N.PAG.	E10
Marcus SM, Weaver J, Lim S, Duan N, Gibbons RD, Rosenheck R. Assessing the causal effect of Section 8 housing vouchers as the active ingredient for decreasing homelessness in veterans with mental illness. <i>Health services & outcomes research methodology</i> . 2012;12(4):273-287.	E2
Metraux S, Cusack M, Byrne TH, Hunt-Johnson N, True G. Pathways into homelessness among post-9/11-era veterans. <i>Special Issue: Homelessness Among Veterans, Other Adults, and Youth</i> . 2017;14(2):229-237.	E2
Montgomery AE. Understanding the dynamics of homelessness among veterans receiving outpatient care: Lessons learned from universal screening. <i>Annals of the American Academy of Political and Social Science</i> . 2021;693(1):230-243.	E7
Montgomery AE, Fargo JD, Byrne TH. Impact of community investment in safety net services on rates of unsheltered homelessness among veterans. <i>Journal of Sociology and Social Welfare</i> . 2015;42(4):23-36.	E2
Montgomery AE, Fargo JD, Byrne TH, Kane V, Culhane DP. Universal Screening for Homelessness and Risk for Homelessness in the Veterans Health Administration. <i>American Journal of Public Health</i> . 2013;103(S2):S210-211.	E2
Pavao J, Turchik JA, Hyun JK, et al. Military sexual trauma among homeless veterans. <i>Journal of General Internal Medicine</i> . 2013;28(Suppl 2):S536-S541.	E4
Pettey WBP, Toth DJA, Redd A, Carter ME, Samore MH, Gundlapalli AV. Using network projections to explore co-incidence and context in large clinical datasets: Application to homelessness among U.S. Veterans. <i>Journal of biomedical informatics</i> . 2016;61:203-213.	E4
Ramchand R, Rudavsky R, Grant S, Tanielian T, Jaycox L. Prevalence of, risk factors for, and consequences of posttraumatic stress disorder and other mental health problems in military populations deployed to Iraq and Afghanistan. <i>Current psychiatry reports</i> . 2015;17(5):37.	E8
Rivera-Rivera N, Villarreal AA. Homeless veterans in the Caribbean: Profile and housing failure. <i>Rev Puertorriquena Psicol</i> . 2021;32(1):64-73.	E4
Rosenheck R, Frisman L, Fontana A, Leda C. Combat exposure and PTSD among homeless veterans of three wars. <i>Posttraumatic stress disorder: Acute and long-term responses to trauma and disaster</i> . 1997:191-207.	E10

Citation	Exclude Reason
Rosenheck R, Leda C, Gallup P. Combat stress, psychosocial adjustment, and service use among homeless Vietnam veterans. <i>Hospital & Community Psychiatry</i> . 1992;43(2):145-149.	E2
Sundin EC, Baguley T. Prevalence of childhood abuse among people who are homeless in Western countries: A systematic review and meta-analysis. <i>Social Psychiatry and Psychiatric Epidemiology: The International Journal for Research in Social and Genetic Epidemiology and Mental Health Services</i> . 2015;50(2):183-194.	E8
Szymkowiak D, Montgomery AE, Tsai J, O'Toole TP. Frequent Episodic Utilizers of Veterans Health Administration Homeless Programs Use: Background Characteristics and Health Services Use. <i>Journal of public health management and practice : JPHMP</i> . 2022;28(1):E211-E218.	E4
Tessler R, Rosenheck R, Gamache G. Comparison of Homeless Veterans with Other Homeless Men in a Large Clinical Outreach Program. <i>Psychiatric Quarterly</i> . 2002;73(2):109.	E4
Tsai J, Pietrzak RH, Szymkowiak D. The Problem of Veteran Homelessness: An Update for the New Decade. <i>American journal of preventive medicine</i> . 2021;60(6):774-780.	E4
Tsai J, Kaspro WJ, Kane V, Rosenheck RA. National comparison of literally homeless male and female VA service users: Entry characteristics, clinical needs, and service patterns. <i>Women's Health Issues</i> . 2014;24(1):e29-e35.	E4
Tsai J, Rosenheck RA. Risk factors for homelessness among US veterans. <i>Epidemiologic reviews</i> . 2015;37:177-195.	E8
US Department of Veterans Affairs. Homeless incidence and risk factors for becoming homeless in veterans. In: Office of Inspector General Washington, DC; 2012.	E7
van den Berk-Clark C, McGuire J. Elderly Homeless Veterans in Los Angeles: Chronicity and Precipitants of Homelessness. <i>American Journal of Public Health</i> . 2013;103(S2):S232-S238.	E4

APPENDIX C: EVIDENCE TABLES

CHARACTERISTICS OF INCLUDED PRIMARY STUDIES

Longitudinal Cohort Studies

Author, Year	Study Design	Population	Data Source(s)	Definition of Homelessness
N	Follow-up	Participant Characteristics	Data Timeframe	
Brignone 2016 ¹	Retrospective cohort	OEF/OIF Veterans separated between 2001 and 2011	2011 OEF/OIF official DoD roster file and VHA data	ICD-9 code or non-ICD VHA clinic or specialty code related to receipt of homeless services
N=601,892	5 years	39.2 yrs 87.6% male 50.2% White	2004-2013	
Brignone 2018 ²	Retrospective cohort	Deployed to post-9/11 conflicts in Iraq and Afghanistan and misconduct-discharged through 2012	DoD and VHA data	ICD-9 code or non-ICD VHA clinic or specialty code related to receipt of homeless services
N=19,794	1 year	26.8 yrs 91.9% male 59.3% White	2012-2015	
Byrne 2015 ³	Retrospective cohort	Veterans responding the homelessness screening clinical reminder (HSCR) at VHA health care facilities	VHA data	Positive screen on HSCR
N=17,720	6–12 months	NR	2012-2013	
Elbogen 2013 ⁴	Retrospective cohort	Iraq and Afghanistan War era Veterans	National Post-Deployment Adjustment Survey	Study survey question
N=1,090	1 year	34.4 yrs (median) 84.5% male 72.8% White	2009-2011	

Author, Year	Study Design	Population	Data Source(s)	Definition of Homelessness
N	Follow-up	Participant Characteristics	Data Timeframe	
Fargo 2017 ⁵ N=449,329	Retrospective cohort 5 yrs	OEF/OIF Veterans discharged as of Dec. 2011 38.4 yrs 89.7% male 38.4% White	VHA data and OEF/OIF roster 2005-2013	ICD-9 codes and receipt of VHA homeless services
Ghose 2013 ⁶ N=28,383	Prospective cohort 1 yr	HIV infected and uninfected patients seen in VA infectious disease and general medical clinics 50.2 yrs 94.9% male NR	Veterans Aging Cohort Study 2002-NR	Survey: homeless for at least 1 night in 4 weeks prior to survey
Gundlapalli 2014 ⁷ N=31,260	Retrospective cohort 2 yrs	OEF/OIF/OND Veterans NR	DoD and VHA data 2001-2011	ICD-9 code or receipt of VA homeless services
Jutkowitz 2021 ⁸ N=383,478	Retrospective cohort NR	Veterans with a diagnosis of Alzheimer's disease or related diagnosis 78.5 yrs 97.5% male 77.2% White	Medicare and VHA data 2010-2019	ICD-9 and ICD-10 codes
Metraux 2013 ⁹ N=310,685	Retrospective cohort 5 yrs	Veterans discharged between 2005-2006 NR 84.8% male NR	OIG LC database, VHA and DoD data 2005-2010	ICD-9 code or receipt of VA homeless services

Author, Year	Study Design Follow-up	Population Participant Characteristics	Data Source(s) Data Timeframe	Definition of Homelessness
Montgomery 2020 ¹⁰ N=4,633,069	Retrospective cohort 4 yrs	Veterans responding to the HSCR at VHA healthcare facilities NR 92.8% male 76.9% White	VHA data 2012-2016	Positive screen on HSCR
Mulcahy 2021 ¹¹ N=194,330	Retrospective cohort NR	Female Veterans responding to HSCR 3 or more times with initial housing stability 49.6 yrs 100% female 61.1% White (non-Hispanic)	VHA data 2013-2016	Positive screen on HSCR
Naifeh 2022 ¹² N=6,837	Prospective cohort NR	Veterans responding to 2 Army STARRS surveys NR 82.6% male 67.3% White (non-Hispanic)	STARRS survey and Defense Manpower Data Center 2016-2019	STARRS survey question modified from HCSR
Rosenheck 1994 ¹³ N=1,523	Retrospective cohort NR	Male Vietnam War era Veterans NR	National Vietnam Veterans Study data	Study survey question
Tsai 2017 ¹⁴ N=306,351	Retrospective cohort 1 yr	Referred to specialty mental health clinics NR (27% 56-55 yrs) 93.7% male 60.3% White	VHA data 2008-2012	ICD-9 code, participation in VA homelessness services, or specialty bed selection codes for homeless Veterans

Abbreviations. Dec.=December; DoD=Department of Defense; HIV=human immunodeficiency virus; HOMES=Homelessness Operations Management and Evaluation System; HSCR=homelessness screening clinical reminder; HUD-VASH=Housing and Urban Affairs Veterans Affairs Supportive Housing;



ICD=International Classification of Diseases; NR=not reported; OEF=Operation Enduring Freedom; OIF=Operation Iraqi Freedom; OIG=Office of Inspector General; OND=Operation New Dawn; STARRS=Study to Assess Risk and Resilience in Servicemembers; VA=Veterans Affairs; VHA=Veterans Health Affairs; yrs=years.

Cross-sectional Studies With Unique Risk Factors Examined by at Least 2 Studies

Author Year	Study Design	Population Participant Characteristics	Data Sources Data Timeframe	Definition of Homelessness
Brown 2016 ¹⁵ N=20,540	Retrospective case-control	Transgender Veterans and matched controls 55.8 yrs 69.3% male 80.2% non-Hispanic White	VHA EHR databases 1996-2013	ICD-9-CM diagnosis of V60.0 (lack of housing) or received services designated for homeless patients
Byrne 2019 ¹⁶ N=5,784,692	Retrospective cross-sectional	Veteran first time respondents to the HSCR 61.1 yrs 92.8% male 76.1% White	VHA HSCR data 2012-2015	Housing instability: No to 1. In the past 2 months, have you been living in stable housing that you own, rent, or stay in as part of a household? OR yes to 2. Are you worried or concerned that in the next 2 months you may NOT have stable housing that you own, rent, or stay in as part of a household?
Byrne 2022 ¹⁷ N=19,668	Retrospective cross-sectional	Veteran respondents to the HSCR NR	Linked sex offender registry data and VA data 2012-2016	Positive response on VA’s national homelessness screener as well as a living situation consistent with the official federal definition of homelessness
Carter 2019 ¹⁸ N=22,850	Cross-sectional	Transgender and cisgender Veterans 58.2 yrs 71.5% male (at last medical encounter) 77.3% White	VA Corporate Data Warehouse 2013-2016	Positive response to VA screen for housing instability or participation in VA homeless services



Author Year	Study Design	Population Participant Characteristics	Data Sources Data Timeframe	Definition of Homelessness
Copeland 2009 ¹⁹ N=435	Cross-sectional	VA patients with bipolar disorder 49.4 yrs 86% male 77.3% White	Survey 2004-2006	Either (1) being without a permanent home or (2) staying overnight in a shelter, park, or abandoned building, or on the street
Edens 2011 ²⁰ N=1,120,424 (109,056 cases and 1,011,368 controls)	Retrospective case-control	VA mental health specialty services users NR 90.8% male 25.3% White	VHA data 2009	Used specialized VA homeless program services and/or received a V60.0 ICD-10 diagnostic code (indicating lack of housing)
Edwards 2022 ²¹ N=4,069	Cross-sectional	US military Veterans 62.2 yrs 90.2% male 78.1% White	National Health and Resilience in Veterans Study 2019-2020	Positive response to "In your entire adult life, have you ever been homeless (<i>ie</i> , stayed in a shelter, transitional housing, outdoors, or some other unstable housing situation)?"
Fletcher 2022 ²² N=8,872,793	Cross-sectional	VA outpatients screened for unhealthy alcohol use with the AUDIT-C 61.2 yrs Gender NR 71.5% White non-Hispanic	VA Corporate Data Warehouse 2009-2017	Social/economic stressors were identified from a combination of outpatient clinic stop codes, inpatient specialty codes, templated social work referral assessments, ICD-9 and ICD-10 codes, and clinical screening questions
Harris 2017 ²³ N=1,356	Cross-sectional	Los Angeles County Veterans 44.9% 61 or older 86.5% male 34% White	Survey NR	Nights of homelessness in the past 12 months (1 month or less, 2 to 6 months, and more than 6 months)



Author Year	Study Design	Population	Data Sources	Definition of Homelessness
N		Participant Characteristics	Data Timeframe	
Iheanacho 2018 ²⁴ N=256,404	Retrospective cross-sectional	Veterans who were homeless and/or had OUD 51.9 yrs 91.9% male 57.1% White	VHA data FY 2012	At least 1 clinic stop code or bed section discharge code representing service from a specialized homeless program, receipt of services from a non-VA contract residential care program for homeless Veterans, or a V-60 code indicating homelessness on at least 1 patient encounter
Lim 2006 ²⁵ N=157,628	Cross-sectional	Participants of the Health Care for Homeless Veterans program NR	Health Care for Homeless Veterans program 1997-2001	Received an intake assessment at one of the Health Care for Homeless Veterans program sites
Lin 2022 ²⁶ N=204,414	Retrospective matched cross-sectional	Veterans with and without schizophrenia 57.2 yrs 91% male 61% White	VHA Community Data Warehouse 2013-2019	NR
Montgomery 2015 ^{27,28} N=1,582,125	Cross-sectional	Completed VA Homelessness Screening Clinical Reminder during study period 23.2% under 55 yrs 93.2% male 69.1% White	VHA administrative data 2012-2013	Answered no to screening question "In the past 2 months, have you been living in stable housing that you own, rent, or stay in as part of a household?" or yes to "Are you worried or concerned that in the next 2 months you may NOT have stable housing that you own, rent, or stay in as part of a household?"

Author Year	Study Design	Population Participant Characteristics	Data Sources Data Timeframe	Definition of Homelessness
Nichter 2022 ²⁹ N=4,069	Cross-sectional	Nationally representative Veteran sample 62.2 yrs 90.2% male 78.0% White	Survey 2019-2020	Answered yes to question "In your entire adult life, have you ever been homeless (<i>ie</i> , stayed in a shelter, transitional housing, outdoors, or some other unstable housing situation)?"
Spinola 2021 ³⁰ N=833	Cross-sectional	National sample of OEF/OIF/OND Veterans 35.2 yrs 58.5% male 65.1% White	Survey 2011-2014	Answered yes to question "Have you ever been homeless?"
Stefanovics 2019 ³¹ N= 5,427,838 (24,470 cohort of HIV+ veterans)	Cross-sectional	Users of VHA services in FY 2012. Some factors examined here are among a subset of Veterans with HIV diagnoses. All veterans: 62.3 yrs 87.3% male 79.8% white HIV+ cohort: 54.48 yrs 97.8% male 44.78% White	VHA administrative data 2011-2012	Used specialized VA homelessness program services in FY2012 and/or has a V60.0 ICD-10 diagnostic code that reflected a lack of housing during FY2012

Author Year	Study Design	Population Participant Characteristics	Data Sources Data Timeframe	Definition of Homelessness
Tsai 2016 ³² N=1,533	Cross-sectional	Nationally representative sample of US Veterans 62.15 yrs 89.9% male 76.8% White	Survey 2011-2015	Answering yes to “In your entire adult life, have you ever been homeless (<i>ie</i> , not had permanent housing and stayed in a shelter, transitional housing, outdoors, or some other unstable or non-permanent situation)?”
Tsai 2022 ³³ N= 1,004 (963 in homelessness table)	Cross-sectional	Nationally representative sample of those 18+ yrs who served in the US Armed Forces and had household income >\$300K in 2021 64.7 yrs 90.3% male 74.2% White	Survey 2021	Regarding any lifetime history of homelessness, participants were asked to respond yes/no to the following: “In your entire adult life, have you ever been homeless (<i>ie</i> , stayed in a shelter, transitional housing, outdoors, or some other unstable housing situation)?”
Twamley 2019 ³⁴ N=503	Retrospective cross-sectional	OEF/OIF/OND Veterans with a history of traumatic brain injuries 33.9 yrs 93.2% male 65.4% White	VHA medical records 2007-2015	Lifetime homelessness, verified by a thorough clinical records review using relevant search terms (<i>eg</i> , home, homeless)
Washington 2010 ³⁵ N=198	Historical case-control	Women Veterans 47.9 yrs 0% male 50.5% White	Interview 2005-2006	Spending at least 1 night of the prior 30 in a shelter or transitional housing facility, hotel paid for with a voucher, a car, an abandoned building, a nonresidential building, or another non-dwelling, or on the street

Abbreviations. AUDIT-C=Alcohol Use Disorders Identification Test; EHR=electronic health record; FY=fiscal year; HIV=human immunodeficiency virus; HSCR=homelessness screening clinical reminder; ICD=International Classification of Diseases; NR=not reported; OEF=Operation Enduring Freedom; OIF=Operation Iraqi Freedom; OND=Operation New Dawn; OUD=opioid use disorder; US=United States; VA=Veterans Affairs; VHA=Veterans Health Affairs; yrs=years.



OUTCOME DATA OF INCLUDED PRIMARY STUDIES

Longitudinal Studies

Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
<i>Exposures Across Timeframes</i>						
Brignone 2016 ¹ N=601,892	Sociodemographic	Male gender	Female gender	Adjusted OR	Sociodemographics, military-related, mental health, substance use	Within 30 days of 1st VHA encounter: 1.12 [95% CI 1.01, 1.25] Within 1 yr: 1.04 [95% CI 0.97, 1.12] Within 5 yrs: 1.02 [95% CI 0.95-1.09]
		Beyond HS	HS	Adjusted OR	Sociodemographics, military-related, mental health, substance use	Within 30 days of 1st VHA encounter: 0.76 [95% CI 0.67, 0.85] Within 1 yr: 0.82 [95% CI 0.76, 0.88] Within 5 yrs: 0.76 [95% CI 0.67, 0.81]
		Married	Never married	Adjusted OR	Sociodemographics, military-related, mental health, substance use	Within 30 days of 1st VHA encounter: 0.89 [95% CI 0.83, 0.96] Within 1 yr: 0.92 [95% CI 0.88, 0.96] Within 5 yrs: 0.77 [95% CI 0.74, 0.81]
		Black race	White race	Adjusted OR	Sociodemographics, military-related, mental health, substance use	Within 30 days of 1st VHA encounter: 3.25 [95% CI 2.99, 3.53] Within 1 yr: 2.86 [95% CI 2.71, 3.01] Within 5 yrs: 2.21 [95% CI 2.09, 2.34]

Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
		Hispanic ethnicity	White	Adjusted OR	Sociodemographics, military-related, mental health, substance use	Within 30 days of 1st VHA encounter: 1.74 [95% CI 2.58, 1.92] Within 1 yr: 1.40 [95% CI 1.31, 1.49] Within 5 yrs: 1.21 [95% CI 1.13, 1.29]
Brignone 2018 ²	Sociodemographic	Female gender	Male gender	Adjusted OR	Sociodemographics, military-related, mental health, substance use	1.22 [95% CI 1.06, 1.41]
N=19,794		No HS diploma	HS diploma	Adjusted OR	Sociodemographics, military-related, mental health, substance use	1.4 [95% CI 1.28, 1.52]
		Race (Black)	Race (White)	Adjusted OR	Sociodemographics, military-related, mental health, substance use	2.04 [95% CI 1.88, 2.22]
Byrne 2015 ³	Sociodemographic	Age	Age 18-29	Adjusted OR	Sociodemographics, military-related	30-39yrs: 0.63 [95% CI 0.43, 0.94] 40-49 yrs: 0.74 [95% CI 0.50, 1.09] 50-59 yrs: 0.97 [95% CI 0.67, 1.41] 60-69 yrs: 0.63 [95% CI 0.43, 0.92] ≥ 70 yrs: 0.51 [95% CI 0.32, 0.81]
N=17,720		Gender (female)	Gender (male)	Adjusted OR	Sociodemographics, military-related	0.47 [95% CI 0.36, 0.63]
		Hispanic/Latino ethnicity	White race	Adjusted OR	Sociodemographics, military-related	1.02 [95% CI 0.77, 1.34]
		Black race	White race	Adjusted OR	Sociodemographics, military-related	1.25 [95% CI 1.05, 1.48]



Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
Ghose 2013 ⁶ N=28,383	Sociodemographic	Female gender	Male gender	Adjusted OR	Sociodemographics, military, mental health, substance use, economic vulnerability	0.18 [95% CI 0.04, 0.77]
		Black race	Non-Black race	Adjusted OR	Sociodemographics, military, mental health, substance use, economic vulnerability	1.28 [95% CI 0.94, 1.74]
Jutkowitz 2021 ⁸ N=383,478	Sociodemographic	Older age	Younger age	Adjusted HR	Sociodemographics, military, mental health, general health, substance use	0.94 [95% CI 0.93, 0.94]
		Male gender	Female gender	Adjusted HR	Sociodemographics, military, mental health, general health, substance use	1.34 [95% CI 1.13, 1.59]
		Marital status (not married)	Married	Adjusted HR	Sociodemographics, military, mental health, general health, substance use	3.30 [95% CI 3.04, 3.58]
		Black race	White race	Adjusted HR	Sociodemographics, military, mental health, general health, substance use	1.67 [95% CI 1.52, 1.82]

Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
Metraux 2013 ⁹ N=310,685	Sociodemographic	Age	18-24 yrs	Adjusted HR	Sociodemographics, military	<p>OEF/OIF</p> <p>25-43: 1.2 [95% CI 1.1, 1.3] male; 1.5 [95% CI 1.2, 1.88] female</p> <p>35-44: 1.26 [95% CI 1.12, 1.42] male; 1.57 [95% CI 1.12, 2.22] female</p> <p>45-54: 1.37 [95% CI 1.14, 1.64] male; 1.34 [95% CI 0.75, 2.4] female</p> <p>55-64: 0.64 [95% CI 0.36, 1.13] male; 3.45 [95% CI 1.04, 11.45] female</p> <p>Not OEF/OIF</p> <p>25-34: 1.36 [95% CI 1.2, 1.54] male; 1.37 [95% CI 1.1, 1.7] female</p> <p>35-44: 1.46 [95% CI 1.21, 1.77] male; 0.92 [95% CI 0.64, 1.32] female</p> <p>45-54: 1.32 [95% CI 0.99, 1.77] male; 1.06 [95% CI 0.62, 1.8] female</p> <p>55-64: 0.83 [95% CI 0.4, 1.7] male; 0.35 [95% CI 0.05, 2.6] female</p>
Montgomery 2020 ¹⁰ N=4,633,069	Sociodemographic	Age	Age 18-34 yrs	Adjusted OR	Sociodemographics, military, mental health, general health, substance use	<p>34-44 yrs: 0.95 [95% CI 0.92, 0.98]</p> <p>45-54 yrs: 0.94 [95% CI 0.91, 0.97]</p> <p>55-64 yrs: 0.69 [95% CI 0.67, 0.71]</p> <p>>65 yrs: 0.31 [95% CI 0.30, 0.32]</p>

Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
		Female gender	Male gender	Adjusted OR	Sociodemographics, military, mental health, general health, substance use	0.75 [95% CI 0.73, 0.78]
		Hispanic ethnicity	Non-Hispanic ethnicity	Adjusted OR	Sociodemographics, military, mental health, general health, substance use	1.28 [95% CI 1.24, 1.32]
		Marital status (not married)	Married	Adjusted OR	Sociodemographics, military, mental health, general health, substance use	2.55 [95% CI 2.5, 2.6]
		Black race	White race	Adjusted OR	Sociodemographics, military, mental health, general health, substance use	1.57 [95% CI 1.54, 1.60]
Mulcahy 2021 ¹¹	Sociodemographic	Marital status	Married	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	Single: 2.08 [95% CI 1.84, 2.36] Divorced/separated: 1.95 [95% CI 1.69, 2.25] Widowed: 1.40 [95% CI 1.07, 1.82]
N=194,330						
Rosenheck 1994 ¹³	Sociodemographic	Marital status (not married)	Married	Risk ratio	Unclear	4.4 [95% CI 3.1, 6.3]
N=1,523		Minority ethnic/racial group	Non-minority ethnic/racial group	Risk ratio	Unclear	1.0 [95% CI 0.7, 1.4]
Tsai 2017 ¹⁴	Sociodemographic	Age (46-55 yrs)	Other age groups	Adjusted OR	Sociodemographics, substance use, mental health	1.45 [95% CI 1.38, 1.53]
N=306,351		Marital status (not married)	Married	Adjusted OR	Sociodemographics, substance use, mental health	2.20 [95% CI 2.09, 2.30]

Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
		Race: Black	White, other race	Adjusted OR	Sociodemographics, substance use, mental health	1.60 [95% CI 1.53, 1.68]
<i>Pre-service</i>						
Rosenheck 1994 ¹³ N=1,523	ACE	ACEs	No ACEs	Risk ratio	Unclear	Childhood poverty: 1.9 [95% CI 1.3, 2.7] Parental mental illness: 1.3 [95% CI 0.9, 1.9] Childhood physical/sexual abuse: 3.1 [95% CI 2.0, 4.6] Other childhood trauma: 2.3 [95% CI 1.4, 3.6] Childhood psychiatric treatment: 6.5 [95% CI 1.9, 22.5] Foster care: 5.3 [95% CI 2.0, 14.2] Conduct disorder: 2.7 [95% CI 1.8, 4.0]
<i>During Service</i>						
Brignone 2016 ¹ N=601,892	Military service-related	Military sexual trauma	No military sexual trauma	Adjusted OR	Sociodemographics, branch, mental health, substance use	Within 30 days of 1st VHA encounter: 1.62 [95% CI 1.36, 1.93] Within 1 yr.: 1.49 [95% CI 1.33, 1.66] Within 5 yrs.: 1.39 [95% CI 1.24, 1.55]
		Officer	Enlisted	Adjusted OR	Sociodemographics, branch, mental health, substance use	Within 30 days of 1st VHA encounter: 0.33 [95% CI 0.22, 0.43] Within 1 yr.: 0.28 [95% CI 0.23, 0.34] Within 5 yrs.: 0.41 [95% CI 0.34, 0.50]

Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
		Military branch	Army	Adjusted OR	Sociodemographics, branch, mental health, substance use	Within 30 days of 1st VHA encounter: Navy: 1.43 [95% CI 1.31, 1.55]; Marines: 0.62, [95% CI 0.56, 0.69]; Air Force: 0.83 [95% CI 0.73, 0.94] Within 1 yr.: Navy: 1.33 [95% CI 1.26, 1.41]; Marines: 0.61 [95% CI 0.58, 0.65]; Air Force: 0.75 [95% CI 0.64, 0.82] Within 5 yrs.: Navy: 1.32 [95% CI 1.24, 1.40]; Marines: 0.69 [95% CI 0.65, 0.73]; Air Force: 0.82 [95% CI 0.76, 0.90]
Brignone 2018 ²	Military service-related	Combat exposure	No combat exposure	Adjusted OR	Sociodemographics, military, mental health, substance use	1.33 [95% CI 1.24, 1.44]
N=19,794		Disability rating	No SC disability	Adjusted OR	Sociodemographics, military, mental health, substance use	0-49%: 0.88 [95% CI 0.8, 0.97] 50-100%: 0.51 [95% CI 0.46, 0.56]
		Military branch	Army	Adjusted OR	Sociodemographics, military, mental health, substance use	Navy: 0.9 [95% CI 0.82, 0.99] Marines: 0.92 [95% CI 0.79, 1.06] Air Force: 0.71 [95% CI 0.6, 0.84]
		Military sexual trauma	No military sexual trauma	Adjusted OR	Sociodemographics, military, mental health, substance use	1.65 [95% CI 1.4, 1.95]
		Pay grade (office/warrant)	Enlisted	Adjusted OR	Sociodemographics, military, mental health, substance use	0.32 [95% CI 0.18, 0.57]



Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
Byrne 2015 ³ N=17,720	Military service-related	Disability rating	SC disability ≥50%	Adjusted OR	Sociodemographics, military	NSC: 1.79 [95% CI 1.49, 2.15] VA pension: 3.09 [95% CI 2.36, 4.05] SC <50%: 1.44 [95% CI 1.17, 1.77]
		OEF/OIF	Not OEF/OIF	Adjusted OR	Sociodemographics, military	0.82 [95% CI 0.6, 1.12]
Fargo 2017 ⁵ N=449,329	Military service-related	Disability rating (Low <50%; High ≥50%)	No SC disability	Adjusted HR	Sociodemographics, military, mental health	First encounter - 1 yr: Low: 0.62 [95% CI 0.56, 0.68]; High: 0.5 [95% CI 0.44, 0.57] 1-5 yrs: Low: 0.72 [95% CI 0.68, 0.77]; High: 0.71 [95% CI 0.67, 0.76]
		Discharge status (disability)	Routine discharge	Adjusted HR	Sociodemographics, military, mental health	First encounter - 1 yr: 0.86 [95% CI 0.70, 1.06] 1-5 yrs: 1.41 [95% CI 1.11, 1.79]
Gundlapalli 2015 ³⁶ N=448,290	Military service-related	Discharge status (disability)	Normal military separation	Adjusted OR	Sociodemographics, rank, combat exposure, branch, service-related disability	1st VHA encounter: 0.6 [95% CI 0.4, 0.8] Within 1 yr of 1st encounter: 1.3 [95% CI 1.1, 1.4] Within 5 yrs of 1st encounter: 1.6 [95% CI 1.4, 1.7]
		Discharge status (misconduct)	Normal military separation	Adjusted OR	Sociodemographics, rank, combat exposure, branch, service-related disability	1st VHA encounter: 4.7 [95% CI 4.1, 5.5] Within 1 yr of 1st encounter: 6.9 [95% CI 6.4, 7.5] Within 5 yrs of 1st encounter: 6.3 [95% CI 5.7, 6.9]

Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
Jutkowitz 2021 ⁸ N=383,478	Military service-related	Combat exposure	No combat exposure	Adjusted HR	Sociodemographics, military, mental health, general health, substance use	0.69 [95% CI 0.62, 0.78]
		Disability rating (SC, priority 1)	Other than priority 1 SC disability	Adjusted HR	Sociodemographics, rank, combat exposure, branch, service-related disability	0.54 [95% CI 0.49, 0.60]
Metraux 2013 ⁹ N=310,685	Military service-related	Discharge status	Honorable discharge	Adjusted HR	Sociodemographics, military	OEF/OIF Dishonorable/bad conduct: 1.79 [95% CI 0.25, 12.7] male; female NR Other than honorable: 2.37 [95% CI 1.93, 2.92] male; 0.76 [95% CI 0.11, 5.42] female Not OEF/OIF Dishonorable/bad conduct: 8.18 [95% CI 4.07, 16.45] male; 3.4 [95% CI 0.47, 24.41] female Other than honorable: 5.39 [95% CI 4.23, 6.86] male; 2.91 [95% CI 1.43, 5.95] female



Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
		Military branch	Army	Adjusted HR	Sociodemographics, military	<p>OEF/OIF: Air Force: 0.52 [95% CI 0.42, 0.62] male; 0.67 [95% CI 0.48, 0.94] female Marines: 0.83 [95% CI 0.75, 0.93] male; 0.8 [95% CI 0.48, 1.34] female Navy: 1.2 [95% CI 1.07, 1.35] male; 1.05 [95% CI 0.79, 1.38] female</p> <p>Not OEF/OIF: Air Force: 0.75 [95% CI 0.62, 0.89] male; 0.94 [95% CI 0.72, 1.22] female Marines: 0.81 [95% CI 0.68, 0.96] male; 0.75 [95% CI 0.46, 1.21] female Navy: 1.35 [95% CI 1.18, 1.56] male; 1.65 [95% CI 1.32, 2.08] female</p>
		Pay grade	E1-E4	Adjusted HR	Sociodemographics, military	<p>OEF/OIF: E5-E9: 0.4 [95% CI 0.37, 0.44] male; 0.33 [95% CI 0.26, 0.42] female 01-0101: 0.13 [95% CI 0.09, 0.2] male; 0.14 [95% CI 0.06, 0.34] female</p> <p>Not OEF/OIF: E5-E9: 0.27 [95% CI 0.23, 0.32] male; 0.43 [95% CI 0.32, 0.56] female 01-010: 0.23 [95% CI 0.16, 0.35] male; 0.24 [95% CI 0.13, 0.46] female</p>



Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
Montgomery 2020 ¹⁰ N=4,633,069	Military service-related	Combat exposure	No combat exposure	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	0.87 [95% CI 0.84, 0.89]
		Disability rating	VA pension (non-SC disability)	Adjusted HR	Sociodemographics, military, mental health, general health, substance use	NSC: 0.68 [95% CI 0.66, 0.71] SC <50%: 0.46 [95% CI 0.44, 0.48] SC ≥50%: 0.56 [95% CI 0.52, 0.61]
		Military sexual trauma	No military sexual trauma	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	1.63 [95% CI 1.58, 1.68]
		OEF/OIF/OND	Not OEF/OIF/OND	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	1.02 [95% CI 0.99, 1.05]
Mulcahy 2021 ¹¹ N=194,330	Military service-related	Combat exposure	No combat exposure	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	0.98 [95% CI 0.80, 1.19]
		Disability rating	No SC disability	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	SCD 10-40%: 1.11 [95% CI 0.97, 1.27] SCD 50-100%: 0.74 [95% CI 0.67, 0.85]
		Discharge status (honorable)	Non-honorable discharge	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	0.63 [95% CI 0.49, 0.82]
		Military sexual trauma	No military sexual trauma	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	1.57 [95% CI 1.42, 1.75]

Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
		OEF/OIF/OND	Not OEF/OIF/OND	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	1.08 [95% CI 0.93, 1.26]
Naifeh 2022 ¹² N=6,837	Military service-related	Discharge status	Honorable discharge	Adjusted RR	Sociodemographics, military	General: 1.4 [95% CI 0.8, 2.3] Uncharacterized: 1.4 [95% CI 0.9, 2.3] Other than honorable/bad conduct/ dishonorable: 4.4 [95% CI 2.3, 8.3]
Rosenheck 1994 ¹³ N=1,523	Military service-related	Combat exposure (high)	No high combat exposure	Risk Ratio	Unclear	2.1 [95% CI 1.5, 3.0]
		Participation in atrocities	No participation in atrocities	Risk ratio	Unclear	2.7 [95% CI 1.9, 3.8]
<i>Post-service</i>						
Brignone 2016 ¹ N=601,892	Mental health	Any mental illness	No mental illness	Adjusted OR	Sociodemographics, military-related, mental health, substance use	Within 30 days of 1st VHA encounter: 3.91 [95% CI 3.67, 4.16] Within 1 yr: 5.31 [95% CI 5.08, 5.54] Within 5 yrs: 8.15 [95% CI 7.64, 8.70]
Brignone 2018 ² N=19,794	Mental health	MH clinic usage (90 days)	No MH clinic usage	Adjusted OR	Sociodemographics, military-related, mental health, substance use	1.85 [95% CI 1.69, 2.02]
		PTSD diagnosis	No PTSD diagnosis	Adjusted OR	Sociodemographics, military-related, mental health, substance use	1.25 [95% CI 1.14, 1.36]
	Substance use	Substance use clinic usage (90 days)	No substance use clinic usage	Adjusted OR	Sociodemographics, military-related, mental health, substance use	2.38 [95% CI 2.12, 2.67]

Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
Elbogen 2013 ⁴	Mental health	Mental health diagnoses	No mental health diagnoses	Adjusted OR	Mental health, income, money mismanagement	2.59 [95% CI 1.26, 5.33]
N=1,090	Other	History of incarceration	No history of incarceration	Adjusted OR	Mental health, income, money mismanagement	2.65 [95% CI 1.33, 5.29]
	Sociodemographic	Income (annual income ≥\$50,000)	Annual income <\$50,000	Adjusted OR	Mental health, income, money mismanagement	0.32 [95% CI 0.13, 0.76]
		Income (money mismanagement)	Money mismanagement	Adjusted OR	Mental health, income, money mismanagement	4.29 [95% CI 1.94, 9.49]
Fargo 2017 ⁵ N=449,329	Mental health Substance use	Mental health or SUD	No mental health or SUD	Adjusted HR	Sociodemographics, military, mental health	First encounter - 1 yr: 3.66 [95% CI 3.36, 3.99] 1-5 yrs: 4.78 [95% CI 4.23, 5.15]
Ghose 2013 ⁶ N=28,383	General health	HIV+	HIV-	Adjusted OR	Sociodemographics, mental health, substance use, economic vulnerability	0.97 [95% CI 0.72, 1.32]
	Mental health	PTSD diagnosis Schizophrenia Depression	No mental health diagnoses	Adjusted OR	Sociodemographics, mental health, substance use, economic vulnerability	PTSD: 1.03 [95% CI 0.59, 1.72]
						Schizophrenia: 1.27 [95% CI 0.6, 1.75]
						Depression: 1.55 [95% CI 1.01, 2.36]
Sociodemographic	Income (below federal poverty level)	Above federal poverty level	Adjusted OR	Sociodemographics, mental health, substance use, economic vulnerability	1.98 [95% CI 1.36, 2.89]	
Substance use	Hazardous alcohol use Alcohol dependence	No alcohol use or dependence	Adjusted OR	Sociodemographics, mental health, substance use, economic vulnerability	Hazardous alcohol use (baseline): 1.39 [95% CI 1.02, 1.88] Alcohol dependence: 1.72 [95% CI 1.06, 2.81]	



Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
		Weekly illicit substance use	No illicit substance use	Adjusted OR	Sociodemographics, mental health, substance use, economic vulnerability	1.54 [95% CI 1.08, 2.19]
Gundlapalli 2014 ⁷ N=31,260	Substance use	Alcohol/substance use VA encounter	Substance use encounters in first 30 days of time period since 1 st VA encounter	Mean (increase in encounters)	Unclear	Time to homelessness: 61-90 days: 1.00 (NS) 91-180 days: 1.86, <i>p</i> <0.001 180-365 days: 1.94, <i>p</i> <0.001 1-2 yrs: 1.98, <i>p</i> <0.001
Jutkowitz 2021 ⁸ N=31,260	General health	Rheumatic disease Renal disease Liver disease Diabetes Hypertension CHF Lung disease TBI Valvular disease Stroke	No comorbidity	Adjusted HR	Sociodemographics, military, mental health, general health, substance use	Rheumatic disease: 0.99 [95% CI 0.073, 1.34] Renal disease: 0.78 [95% CI 0.67, 0.90] Liver disease [95% CI 1.24, 1.06, 1.45] Diabetes: 1.08 [95% CI 0.98, 1.18] Hypertension: 1.22 [95% CI 1.12, 1.33] CHF: 0.95 [95% CI 0.82, 1.11] Lung disease: 1.12 [95% CI 1.02, 1.24] TBI: 0.98 [95% CI 0.86, 1.13] Valvular disease: 0.91 [95% CI 0.74, 1.11] Stroke: 0.95 [95% CI 0.85, 1.05]



Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
	Mental health	Depression PTSD Psychoses	No mental health diagnoses	Adjusted HR	Sociodemographics, military, mental health, general health, substance use	Depression: 1.41 [95% CI 1.30, 1.53] PTSD: 1.26 [95% CI 1.13, 1.40] Psychoses: 1.63 [95% CI 1.49, 1.77]
	Sociodemographic	Rural	Not rural	Adjusted HR	Sociodemographics, military, mental health, general health, substance use	0.67 [95% CI 0.62, 0.73]
	Substance use	AUD SUD	No AUD or SUD	Adjusted HR	Sociodemographics, military, mental health, general health, substance use	AUD: 1.87 [95% CI 1.67, 2.10] SUD: 2.15 [95% CI 1.84, 2.53]
Metraux 2013 ⁹ N=310,685	General health	TBI	No TBI	Adjusted HR	Sociodemographics, military	OEF/OIF 1.2 [95% CI 0.98, 1.46] male; 1.23 [95% CI 0.54, 2.79] female Not OEF/OIF 1.59 [95% CI 1.18, 2.15] male; 1.64 [95% CI 0.85, 3.2] female
	Mental health	Adjustment disorders	No adjustment disorder	Adjusted HR	Sociodemographics, military	OEF/OIF 1.53 [95% CI 1.37, 1.71] male; 1.28 [95% CI 0.96, 1.71] female Not OEF/OIF 1.45 [95% CI 1.23, 1.72] male; 1.6 [95% CI 1.27, 2.05] female

Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
		Anxiety disorders	No anxiety disorder	Adjusted HR	Sociodemographics, military	OEF/OIF 1.03 [95% CI 0.9, 1.18] male; 0.92 [95% CI 0.65, 1.31] female Not OEF/OIF 1.38 [95% CI 1.15, 1.67] male; 1.02 [95% CI 0.77, 1.36] female
		Mood disorders	No mood disorder	Adjusted HR	Sociodemographics, military	OEF/OIF 1.41 [95% CI 1.25, 1.59] male; 1.31 [95% CI 0.96, 1.77] female Not OEF/OIF 1.62 [95% CI 1.37, 1.92] male; 1.79 [95% CI 1.4, 2.29] female
		Personality disorders	No personality disorder	Adjusted HR	Sociodemographics, military	OEF/OIF 1.46 [95% CI 1.24, 1.72] male; 1.49 [95% CI 1.0, 2.22] female Not OEF/OIF 1.39 [95% CI 1.12, 1.73] male; 1.05 [95% CI 0.74, 1.49] female
		Psychotic disorders	No psychotic disorder	Adjusted HR	Sociodemographics, military	OEF/OIF 1.57 [95% CI 1.22, 2.04] male; 4.22 [95% CI 2.16, 8.23] female Not OEF/OIF 2.66 [95% CI 2.04, 3.47] male; 3.18 [95% CI 1.87, 5.39] female

Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
		PTSD	No PTSD	Adjusted HR	Sociodemographics, military	OEF/OIF 1.24 [95% CI 1.09, 1.41] male; 1.57 [95% CI 1.09, 2.26] female Not OEF/OIF 0.78 [95% CI 0.54, 1.13] male; 0.86 [95% CI 0.55, 1.34] female
	Substance use	Substance use	No substance use	Adjusted HR	Sociodemographics, military	OEF/OIF 2.59 [95% CI 2.33, 2.87] male; 1.85 [95% CI 1.28, 2.67] female Not OEF/OIF 2.72 [95% CI 2.34, 3.16] male; 2.03 [95% CI 1.47, 2.82] female
Montgomery 2020 ¹⁰	General health	Chronic medical condition	No chronic medical condition	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	0.88 [95% CI 0.81, 0.90]
N=4,633,069	Mental health	Depression PTSD Schizophrenia Other Psychoses	No mental health diagnoses	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	Depression: 1.36 [95% CI 1.33, 1.39] PTSD: 1.11 [95% CI 1.08, 1.14] Schizophrenia: 1.02 [95% CI 0.99, 1.06] Other psychoses: 1.32 [95% CI 1.28, 1.35]
		Suicide or self-harm	No suicide or self-harm	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	1.21 [95% CI 1.16, 1.27]



Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
	Sociodemographic	Rural	Not rural	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	0.90 [95% CI 0.88, 0.92]
	Substance use	AUD Drug use disorder OUD	No SUD	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	AUD: 1.26 [95% CI 1.22, 1.30] Drug use disorder: 1.50 [95% CI 1.45, 1.55] OUD: 2.22 [95% CI 2.04, 2.41]
Mulcahy 2021 ¹¹ N=194,330	General health	Chronic medical condition	No chronic medical condition	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	1.03 [95% CI 0.91, 1.16]
	Mental health	Depression PTSD Psychoses	No mental health diagnoses	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	Depression: 1.74 [95% CI 1.52, 1.99] PTSD: 1.49 [95% CI 1.27, 1.75] Psychoses: 1.37 [95% CI 1.06, 1.78]
		Suicide or self-harm	No suicide or self-harm	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	0.93 [95% CI 0.64, 1.33]
	Substance use	AUD Drug use disorder	No AUD or drug use disorder	Adjusted OR	Sociodemographic, military, mental health, general health, substance use	AUD: 1.49 [95% CI 1.13, 1.98] Drug use disorder: 1.77 [95% CI 1.34, 2.35]
Rosenheck 1994 ¹³ N=1,523	Mental health	PTSD Psychiatric disorder	No mental health diagnoses	Risk ratio	Unclear	PTSD: 5.0 [95% CI 3.5, 7.2] Psychiatric disorder: 3.7 [95% CI 2.6, 5.4]
	Other	Adult non-military trauma	No non-military trauma	Risk ratio	Unclear	1.5 [95% CI 1.0, 2.3]

Author Year	Exposure Type	Exposure	Comparison	Outcome Type	Adjustments	Homelessness Outcome
	Substance use	Substance use	No substance use	Risk ratio	Unclear	3.4 [95% CI 2.3, 4.9]
Tsai 2017 ¹⁴ N=306,351	Mental health	Major depression/dysthymia	No major depression	Adjusted OR	Sociodemographics, substance use, mental health	1.21 [95% CI 1.16, 1.26]
	Sociodemographic	Income (under \$25,000)	Income over \$25,000	Adjusted OR	Sociodemographics, substance use, mental health	1.66 [95% CI 1.58, 1.75]
	Substance use	AUD	No AUD	Adjusted OR	Sociodemographics, substance use, mental health	1.48 [95% CI 1.40, 1.56]
		Drug use disorder	No drug use disorder	Adjusted OR	Sociodemographics, substance use, mental health	2.48 [95% CI 2.34, 2.62]

Abbreviations. ACEs=adverse childhood experiences; AUD=alcohol use disorders; CHF=coronary heart failure; CI=confidence interval; HIV=human immunodeficiency virus; HR=hazard ratio; HS=high school; MH=mental health; OEF=Operation Enduring Freedom; OIF=Operation Iraqi Freedom; OND=Operation New Dawn; OR=odds ratio; PTSD=posttraumatic stress disorder; SC=service connected; SUD=substance use disorder; TBI=traumatic brain injury; US=United States; VA=Veterans Affairs; VHA=Veterans Health Affairs; yrs=years.

Cross-sectional Studies With Unique Risk Factors Examined by at Least 2 Studies

Author Year	Exposure Type	Exposure	Comparator	Outcome Type	Homelessness Outcome
Brown 2016 ¹	Gender identity and/or sexual identity	Transgender identity	Cisgender identity	Adjusted OR	3.23 [95% CI 2.95, 3.54]
Byrne 2019 ¹⁶	Sociodemographic	Asian race	NA	Proportion comparison and Chi square test	0.9% of Veterans who screened negative for housing instability vs 1% of those screened positive



Author Year	Exposure Type	Exposure	Comparator	Outcome Type	Homelessness Outcome
		Geographic location	NA	Proportion comparison and Chi square test	Screened in West: 20.8% of negative vs 31.6% of any housing instability South: 26.2% of negative vs 22% of any housing instability Midwest: 36.4% of negative vs 31.6% of any housing instability Northeast: 16.6% of negative vs 14.8% of any housing instability
	General Health	Inpatient medical days in the prior 18 mos.	No inpatient days in the prior 18 mos.	Proportion comparison and Chi square test	0.6% of negative vs 0.8% of any housing instability
		Outpatient medical visits in prior 18 mos.	No outpatient medical visits in prior 18 mos.	Proportion comparison and Chi square test	10.7% of negative vs 10.2% of any housing instability
		Obesity	No obesity	Proportion comparison and Chi square test	6.3% of negative vs 5.9% of any housing instability
	Substance use	Inpatient substance abuse days in prior 18 mos.	No inpatient substance abuse days in prior 18 mos.	Proportion comparison and Chi square test	0% of negative vs 0.3% of any housing instability
Byrne 2022 ¹⁷	Other	Use of VHA Justice programs	No prior use of VHA Justice programs	Adjusted OR	0.84 [95% CI 0.28, 2.49]
Carter 2019 ¹⁸	Gender identity and/or sexual identity	Transgender identity	Cisgender identity	Adjusted OR	2.32 [95% CI 2.09, 2.57]
Copeland 2009 ¹⁹	Sociodemographic	Unemployed	Employed	Adjusted OR	Lifetime: 1.20, 95% CI [0.72, 2.0] Recent: 2.91, 95% CI [1.09, 7.72]
Edens 2011 ²⁰	General health	Dementia	No dementia	OR	0.4

Author Year	Exposure Type	Exposure	Comparator	Outcome Type	Homelessness Outcome
Edwards 2022 ²¹	Adverse childhood experiences	ACEs score	Continuous	Correlation	0.35, $p < 0.001$
	Military service	Years of service	Continuous	Correlation	-0.08, $p < 0.001$
		Deployment frequency	Continuous	Correlation	-0.03
Fletcher 2022 ²²	Gender identity and/or sexual identity	Transgender identity	Cisgender identity	Proportion comparison/Chi square test	14.5% transgender, 5.1% cisgender, $p < 0.001$
Harris 2017 ²³	Substance use	Tobacco use	No tobacco use	Adjusted OR	Homelessness <1 mo.: 1.46, [95% CI 0.95, 2.23]
					Homelessness 2-6 mos.: 3.57, [95% CI 1.90, 6.71]
					Homelessness 6 mos.-1yr: 2.29, [95% CI 1.42, 3.69]
Iheanacho 2018 ²⁴	General health	Emergency room visits	No emergency room visits	Adjusted OR	1.071 [95% CI 1.065, 1.076]
		Medical surgical visits	Continuous	Cohen's <i>d</i>	$d = 0.18$
		All outpatient visits	Continuous	Cohen's <i>d</i>	$d = 0.79$
	Substance use	Substance use inpatient treatment	No substance use inpatient treatment	Risk ratio	2.61
	Other	Veteran justice outreach service use	No Veteran justice outreach service use	Risk ratio	4.47
Lim 2006 ²⁵	Sociodemographic	Asian-American race	White race	Risk ratio	0.266
Lin 2022 ²⁶	Sociodemographic	Geographic region	South	Adjusted OR	Midwest 1.19, [95% CI 1.15, 1.24]
					Northeast 1.29 [95% CI 1.24, 1.33] West 2.39 [95% CI 2.31, 2.48]
	Mental health	Trauma	No trauma	Adjusted OR	2.41 [95% CI 2.23, 2.61]

Author Year	Exposure Type	Exposure	Comparator	Outcome Type	Homelessness Outcome
Montgomery 2015 ^{27,28}	General health	Obesity	No obesity	Adjusted OR	Among female Veterans: 1.04 [95% CI 0.82, 1.32] Among male Veterans: 0.75 [95% CI 0.69, 0.82]
		Adverse childhood experiences	ACEs score	Continuous	ANOVA
Nichter 2022 ²⁹	Military service	Number of lifetime traumas	Continuous	ANOVA	11.58, $p < 0.001$
		Years of service	Continuous	ANOVA	14.06, $p < 0.001$
Spinola 2021 ³⁰	Adverse Childhood Experiences	2+ deployments	<2 deployments	Chi square statistic	5.23, $p < 0.001$
		Adverse childhood events	Continuous	Adjusted OR	1.033 [95% CI 1.016, 1.051]
Stefanovics 2019 ³¹	General health	Dementia	No dementia	Adjusted OR	HIV+ VHA users: 1.91 [95% CI 1.05, 3.49]
	Substance use	Tobacco dependence	No tobacco dependence	Adjusted OR	All VHA users: 1.53 [95% CI 1.51, 1.54]
Tsai 2016 ³²	Sociodemographic	Education	NA	Chi square statistic, Cramer's V	28.68, $V = 0.14$
	Military service	Years of service	Continuous	t test statistic, Cohen's d	2.58, $d = 0.24$
		Enlistment status	Drafted	Chi square statistic, Cramer's V	8.77, $V = 0.08$
	Other	MOS social support scale	Continuous	MANOVA	$F(1,1365) = 1.71$, $p = 0.05$
Tsai 2022 ³³	Sociodemographic	Education level	NA	Adjusted OR	0.93 [95% CI 0.77, 1.14]
		Private insurance	No private insurance	Adjusted OR	0.44 [95% CI 0.28, 0.69]
		Geographic region	Northeast	Adjusted OR	Midwest 0.73 [95% CI 0.39, 1.38] South 0.90 [95% CI 0.51, 1.57] West 0.71 [95% CI 0.37, 1.34]

Author Year	Exposure Type	Exposure	Comparator	Outcome Type	Homelessness Outcome
Twamley 2019 ³⁴	Sociodemographic	Years of education	Continuous	<i>t</i> test	<i>t</i> =1.18, <i>p</i> =.240
		Employment status	Not currently working	Wald test	Wald = 4.66, <i>df</i> =1, <i>p</i> =0.038
Washington 2010 ³⁵	Sociodemographic	Education level	Less than college graduation	Adjusted OR	0.2 [95% CI 0.04, 0.9]
		Unemployed	Employed	Adjusted OR	13.1 95% CI [2.7, 63.0]
		Health insurance	No health insurance	NR	ns
	General Health	Ambulatory care or emergency department visit in prior 12 mos.	No ambulatory care or emergency department visit in prior 12 mos.	Chi square test	100% of homeless vs 94.6% of housed pts, <i>p</i> =0.36
		Outpatient VA health care use in prior 12 months	No outpatient VA health care use in prior 12 months	Chi square test	100% of homeless vs 58.2% of housed pts, <i>p</i> <.0001
	Substance use	Tobacco use	No current tobacco use	Chi square test	ns

Abbreviations. ACEs=adverse childhood experiences; CI=confidence interval; HIV=human immunodeficiency virus; MOS=mean opinion score; mos.=months; NA=not applicable; NR=not reported; ns=not significant; OR=odds ratio; pts=patients; VA=Veterans Affairs; VHA=Veterans Health Affairs.

Risk Factors Examined by a Single Cross-sectional Study

American Indian/Alaskan Native race – Byrne 2019¹⁶
Native Hawaiian/Pacific Islander race – Byrne 2019¹⁶
Neurological disorder – Byrne 2019¹⁶
Metastatic tumor – Byrne 2019¹⁶
Solid tumor without metastasis – Byrne 2019¹⁶
Weight loss – Byrne 2019¹⁶
Peripheral vascular disease – Iheanacho 2018²⁴
Myocardial infarction – Iheanacho 2018²⁴
Pain - Iheanacho 2018²⁴
Seizures – Stefanovics 2019³¹
Pruritis – Stefanovics 2019³¹
Post-concussive syndrome – Twamley 2019³⁴
Pregnant past 12 months – Washington 2010³⁵
Hospitalization – Washington 2010³⁵
Outpatient primary care visits – Byrne 2019¹⁶
Has a usual care provider – Washington 2010³⁵
Unmet need for health care – Washington 2010³⁵
Pathological gambling – Edens 2011²⁰
PTSD multimorbidity – Hefner 2019³⁷
Problematic anger – Adler 2022³⁸
Bipolar disorder – current manic episode – Copeland 2009¹⁹
Bipolar disorder – current mixed state – Copeland 2009¹⁹
Bipolar disorder – current depression episode – Copeland 2009¹⁹
Binge drinking – Copeland 2009¹⁹
Inpatient mental health days – Byrne 2019¹⁶
Psychiatric inpatient visits – Iheanacho 2018²⁴
Therapeutic alliance – Copeland 2009¹⁹
Any psychotropic medication - Iheanacho 2018²⁴
Antidepressant – Iheanacho 2018²⁴
Anticonvulsant or mood stabilizer – Iheanacho 2018²⁴
Sedative hypnotic or analgesic – Iheanacho 2018²⁴
Stimulant – Iheanacho 2018²⁴
Opiates – Iheanacho 2018²⁴
Antipsychotic – Iheanacho 2018²⁴
Medication adherence – Copeland 2009¹⁹
Meredith Medication Beliefs Score – Copeland 2009¹⁹
Buprenorphine – Iheanacho 2018²⁴
Methadone – Iheanacho 2018²⁴
Buprenorphine or methadone – Iheanacho 2018²⁴
Era of Service – Mares 2004³⁹
Era of Service – Vietnam – Rosenheck 1991⁴⁰
Era of Service – Post-Vietnam – Rosenheck 1991⁴⁰
Era of Service – Vietnam or earlier – Tsai 2016³²
Era of Service – Persian Gulf – Tsai 2020⁴¹
Exposure to hostile or friendly fire – Mares 2004³⁹
Disabling illness or injury – Ackerman 2018⁴²

Other tragic loss – Ackerman 2018⁴²
Moral injury – Edwards 2022²¹
Deployed time – Ackerman 2018⁴²
Ending period of military service – Washington 2010³⁵
Age at discharge – Mares 2004³⁹
Perceived effect of military experience – Edwards 2022²¹
Vocational service use – Iheanacho 2018²⁴
Residential rehabilitation visits – Iheanacho 2018²⁴
Community integration – Edwards 2022²¹

Cross-sectional Studies Without Unique Risk Factors

Ackerman 2018⁴²
Bachhuber 2015⁴³
Brown 2014⁴⁴
Dichter 2017⁴⁵
Dunne 2015⁴⁶
Elbogen 2012⁴⁷
Fargo 2012⁴⁸
Gamache 2000⁴⁹
Ghose 2011⁵⁰/Ghose 2015⁵¹
Haque 2021⁵²
Hefner 2019³⁷
Ho 2018⁵³
MacLean 2018⁵⁴
Manhapra 2021⁵⁵
Montgomery 2013⁵⁶
Rosenheck 1991⁴⁰
Rosenheck 2021⁵⁷
Tsai 2021⁵⁸
Tsai 2020⁴¹
Yaekel-Black Elk 2009⁵⁹
Yoon 2015⁶⁰

QUALITY ASSESSMENT

Systematic Reviews

Author Year	Study Eligibility Criteria (Low, Unclear, High)	Identification and Selection of Studies (Low, Unclear, High)	Data Collection and Study Appraisal (Low, Unclear, High)	Synthesis and Findings (Low, Unclear, High)	Overall Risk of Bias (Low, Unclear, High)
Liu, 2021 ⁶¹	Low Reasonable and clearly defined eligibility criteria	Low Multiple databases searched, plus forwards and backwards citation searching of studies. Dual independent study selection.	Low Dual independent data abstraction and quality assessment. Unclear which specific quality tool was used, appears to be based off another SR.	Low Appears all data were included. Sensitivity analyses and test for heterogeneity performed.	Low
Nilsson, 2019 ⁶²	Low Reasonable and clearly defined eligibility criteria	Low Multiple databases searched. No non-database searching, but broad search so unlikely to impact results. Dual independent study selection.	Low 1 author abstracted data, unclear if it was checked. Dual independent quality assessment done on half of the studies.	Low Appears all data were included. Sensitivity analyses and test for heterogeneity performed.	Low

Longitudinal Cohort Studies

Author Year	Study Participation (High, Moderate, Low)	Study Attrition (High, Moderate, Low)	Prognostic Factor Measurement (High, Moderate, Low)	Outcome Measurement (High, Moderate, Low)	Study Confounding (High, Moderate, Low)	Statistical Analysis and Reporting (High, Moderate, Low)	Overall Risk of Bias (High, Moderate, Low)
Brignone 2016 ¹	Low Included all patients separated from military during timeframe with VHA data	Moderate 23% not included in sample w/o MST screen. Unclear why screening may not have taken place.	Low VHA screen for MST in all participants	Low ICD-9 codes or specialty codes used for all participants	Low Adjusted for a wide range of variables	Low Adequate analysis and reporting	Moderate
Brignone 2018 ²	Low Included all patients with misconduct discharge during timeframe with VHA data	Moderate Excluded about 23% for those w/o 90-days follow-up for some clinical variables but did analysis with full data set as well.	Low Exposures taken from same sources for all participants	Low ICD-9 codes or specialty codes used for all participants	Low Adjusted for a wide range of variables	Low Adequate analysis and reporting	Moderate
Byrne 2015 ³	Low Included all with complete responses to VA homelessness screen during timeframe	Moderate 34% who were eligible for a rescreen were excluded because they did not have an outpatient visit. Homelessness may influence ability to rescreen.	Low Exposures taken from same sources for all participants	Low VA homelessness screen responses used for all participants and “rescreen” was defined and consistently applied	Moderate Adjusted for demographics and military characteristics, but not mental health or SUD	Low Adequate analysis and reporting	Moderate



Author Year	Study Participation (High, Moderate, Low)	Study Attrition (High, Moderate, Low)	Prognostic Factor Measurement (High, Moderate, Low)	Outcome Measurement (High, Moderate, Low)	Study Confounding (High, Moderate, Low)	Statistical Analysis and Reporting (High, Moderate, Low)	Overall Risk of Bias (High, Moderate, Low)
Elbogen 2013 ⁴	Moderate Initial survey had 47% response rate, may underrepresent those at risk for homelessness.	Moderate Follow-up had 79% retention rate, may under-represent those at risk for homelessness.	Low Exposures taken from same sources for all participants	Low Same survey question for all participants	Moderate Only adjusted for mental health and money management variables, other variables not significant in bivariate analyses	Low Adequate analysis and reporting	Moderate
Fargo 2017 ⁵	Low Included all patients separated from military during timeframe with routine or disability discharge with VHA data	Low Includes all Veterans who became homeless over during 1st year of follow-up.	Low Exposures taken from same sources for all participants	Low ICD-9 codes or specialty codes used for all participants	Moderate Adjusted for a wide range of variables, but not SUD	Low Adequate analysis and reporting	Moderate
Ghose 2013 ⁶	Moderate VACS study overrepresents Black and older Veterans, and over half the sample lives in poverty which may impact outcome.	Low Appears data are complete for 1-year follow-up	Low Exposures taken from same sources for all participants	Low Same survey question for all participants	Moderate Model 1, which has the most exposures, does not control for homelessness at baseline.	Low Adequate analysis and reporting	Moderate
Gundlapalli 2014 ⁷	Low Includes all with VHA data and homelessness during timeframe.	Moderate Veterans with less than 60 days' time to homelessness excluded in order to assess outcome	Low Exposures taken from same sources for all participants	Low ICD-9 codes or specialty codes used for all participants	High Says p-values are adjusted, but unclear if that is just for multiple tests	Low Adequate analysis and reporting	High

Author Year	Study Participation (High, Moderate, Low)	Study Attrition (High, Moderate, Low)	Prognostic Factor Measurement (High, Moderate, Low)	Outcome Measurement (High, Moderate, Low)	Study Confounding (High, Moderate, Low)	Statistical Analysis and Reporting (High, Moderate, Low)	Overall Risk of Bias (High, Moderate, Low)
Gundlapalli 2015 ³⁶	Low Included all patients separated from military during timeframe with VHA data	Low Analyses at different timeframes with available data	Low Exposures taken from same sources for all participants	Low ICD-9 codes or specialty codes or participation in VA homelessness program used for all participants	Moderate Does not adjust for mental health or SUD factors	Low Adequate analysis and reporting	Moderate
Jutkowitz 2021 ⁸	Low Included all patients with ADRD diagnosis during specific timeframe with VHA data	Low Appears data are complete for follow-up	Low Exposures taken from same sources for all participants	Moderate ICD-9 codes only used for all participants, may miss some with outcome	Low Adjusted for a wide range of variables	Low Adequate analysis and reporting	Moderate
Metraux 2013 ⁹	Low Included all patients separated from military during timeframe with VHA data	Low Included 63% of LC cohort, excluded based on homelessness before separation and use of VA/DoD services	Low Exposures taken from same sources for all participants	Low ICD-9 codes or use of VHA services used for all participants	High Did not adjust for race and ethnicity due to missing data, which are associated with outcome	Low Adequate analysis and reporting	High
Montgomery 2020 ¹⁰	Low Included all with 2 or more VA homelessness screens during timeframe	Low Appears data are complete for follow-up	Low Exposures taken from same sources for all participants	Moderate VA homelessness screen responses used for all participants, but included recent housing instability as well as homelessness	Low Adjusted for a wide range of variables	Moderate Included multiple pairs of observations per Veterans, used GLM to account for correlations between Veterans with repeat screens	Moderate

Author Year	Study Participation (High, Moderate, Low)	Study Attrition (High, Moderate, Low)	Prognostic Factor Measurement (High, Moderate, Low)	Outcome Measurement (High, Moderate, Low)	Study Confounding (High, Moderate, Low)	Statistical Analysis and Reporting (High, Moderate, Low)	Overall Risk of Bias (High, Moderate, Low)
Mulcahy 2021 ¹¹	Low Included all females with 3 or more VA homelessness screens during timeframe	Low Appears data are complete for follow-up	Low Exposures taken from same sources for all participants	Moderate VA homelessness screen responses used for all participants, but included recent housing instability as well as homelessness	Low Adjusted for a wide range of variables	Low Adequate analysis and reporting	Moderate
Naifeh 2022 ¹²	Moderate Used STARRS surveys, corrected for oversampling of mental disorders and under-representation of difficult-to-recruit patients	Low 83.7% of initial survey respondents completed 2nd survey	Low Exposures taken from same sources for all participants	Low Same survey question for all participants	Moderate Only adjusted for sociodemographics and military factors	Low Adequate analysis and reporting	Moderate
Rosenheck 1994 ¹³	Moderate National Vietnam Veterans Readjustment Study was comprehensive, but this only included those discharged through 1978	Low 96% of sample had data for analysis	Low Exposures taken from same sources for all participants	Low Homeless-ness services forms used for all records	Moderate Unclear adjustment with risk ratios	Low Adequate analysis and reporting	Moderate

Author Year	Study Participation (High, Moderate, Low)	Study Attrition (High, Moderate, Low)	Prognostic Factor Measurement (High, Moderate, Low)	Outcome Measurement (High, Moderate, Low)	Study Confounding (High, Moderate, Low)	Statistical Analysis and Reporting (High, Moderate, Low)	Overall Risk of Bias (High, Moderate, Low)
Tsai 2017 ¹⁴	Low Includes all Veterans referred to specialty mental health clinics over timeframe	Moderate Sample sizes not available for multivariate analysis	Low Exposures taken from same sources for all participants	Low ICD-9 codes or specialty codes used for all participants	Moderate Adjusted for demographics, mental health, and SUD, but not military characteristics	Low Adequate analysis and reporting	Moderate

Abbreviations. ADRD=Alzheimer’s disease and related dementias; DoD=Department of Defense; GLM=generalized linear model; HUD-VASH=Housing and Urban Affairs Veterans Affairs Supportive Housing; ICD=International Classification of Diseases; MST=military sexual trauma; STARRS=Study to Assess Risk and Resilience in Servicemembers; SUD=substance use disorder; VA=Veterans Affairs; VACS=Veteran Aging Cohort Study; VHA=Veterans Health Affairs; w/o=without.



STRENGTH OF EVIDENCE FOR INCLUDED STUDIES

Strength of Evidence

Risk Factor	Relevant Studies	Limitations	Directness	Consistency	Precision	Reporting Bias	Rating and Summary of Evidence
<i>Sociodemographics</i>							
Race	1 prospective ⁶ and 7 retrospective ^{1-3,8,10,13,14} cohort studies	Moderate	Direct	Inconsistent	Precise	Not detected	Low SOE Black Veterans may be more likely to experience homelessness, but there is some inconsistency across studies.
Income	1 prospective ⁶ and 3 retrospective ^{4,14,47} cohort studies	Moderate	Indirect	Consistent	Precise	Not detected	Moderate SOE Lower financial status is likely associated with an increased risk of experiencing homelessness, but measures of income varied across studies.
Geographic area	2 retrospective cohort studies ^{8,10}	Moderate	Direct	Consistent	Precise	Not detected	Moderate SOE Living in rural areas is likely associated with at a decreased risk of experiencing homelessness.

Risk Factor	Relevant Studies	Limitations	Directness	Consistency	Precision	Reporting Bias	Rating and Summary of Evidence
<i>Military Related</i>							
Military sexual trauma	4 retrospective cohorts ^{1,2,10,11}	Moderate	Direct	Consistent	Precise	Not detected	Moderate SOE Military sexual trauma is likely associated with an increased risk of experiencing homelessness.
OEF/OIF/OND service	3 retrospective cohorts ^{3,10,11}	Moderate	Indirect	Consistent	Precise	Not detected	Low SOE There may be no difference in risk of experiencing homelessness between OEF/OIF/OND Veterans and Veterans of other eras.
Pay grade	3 retrospective cohorts ^{1,2,9}	High to moderate	Indirect	Consistent	Precise	Not detected	Low SOE Higher military pay grade may be associated with decreased risk of experiencing homelessness.
<i>General Health</i>							
Any condition	2 retrospective cohorts ^{10,11}	Moderate	Indirect	Inconsistent	Precise	Not detected	Low SOE It is unclear whether having medical conditions influences risk of experiencing homelessness.
HIV	1 prospective cohort ⁶	Moderate	Direct	Unknown	Precise	Not detected	Insufficient SOE It is unclear whether HIV status influences risk of experiencing homelessness.

Risk Factor	Relevant Studies	Limitations	Directness	Consistency	Precision	Reporting Bias	Rating and Summary of Evidence
TBI	2 retrospective cohorts ^{8,9}	High to moderate	Direct	Inconsistent	Precise	Not detected	Low SOE It is unclear whether TBI influences risk of experiencing homelessness.
Specific conditions	1 retrospective cohort ⁸	Moderate	Direct	Unknown	Precise	Not detected	Insufficient SOE It is unclear whether the various specific diagnoses influence risk of experiencing homelessness.
<i>Mental Health</i>							
Adjustment disorders	1 retrospective cohort ⁹	High	Direct	Unknown	Precise	Not detected	Insufficient SOE It is unclear whether adjustment disorders influence risk of experiencing homelessness.
Anxiety disorders	1 retrospective cohort ⁹	High	Direct	Unknown	Precise	Not detected	Moderate SOE PTSD is likely associated with an increased risk of experiencing homelessness, although there is some inconsistency among studies.
PTSD	1 prospective ⁶ and 6 retrospective ^{2,8-11,13} cohorts	High to moderate	Direct	Consistent	Precise	Not detected	Moderate SOE PTSD is likely associated with an increased risk of experiencing homelessness, although there is some inconsistency among studies.

Risk Factor	Relevant Studies	Limitations	Directness	Consistency	Precision	Reporting Bias	Rating and Summary of Evidence
Depression	1 prospective ⁶ and 4 retrospective ^{8,10,11,14} cohorts	Moderate	Direct	Consistent	Precise	Not detected	Moderate SOE Depression is likely associated with an increased risk of experiencing homelessness.
Psychoses or psychotic disorders	1 prospective ⁶ and 4 retrospective ⁸⁻¹¹ cohort studies	High to moderate	Direct	Consistent	Precise	Not detected	Moderate SOE Psychoses or psychotic disorders are likely associated with an increased risk of experiencing homelessness.
Mental health clinic usage	1 retrospective cohort study ²	Moderate	Direct	Unknown	Precise	Not detected	Insufficient SOE It is unclear whether mental health clinic use influences risk of experiencing homelessness.
Mood disorders (any)	1 retrospective cohort ⁹	High	Direct	Unknown	Precise	Not detected	Insufficient SOE It is unclear whether mood disorders influence risk of experiencing homelessness.
Personality disorders (any)	1 retrospective cohort ⁹	High	Direct	Unknown	Precise	Not detected	Insufficient SOE It is unclear whether personality disorders influence risk of experiencing homelessness.
Psychiatric disorder (any)	1 retrospective cohort study ¹³	Moderate	Indirect	Inconsistent	Imprecise	Not detected	Insufficient SOE It is unclear whether psychiatric disorders influence risk of

Risk Factor	Relevant Studies	Limitations	Directness	Consistency	Precision	Reporting Bias	Rating and Summary of Evidence
							experiencing homelessness.
Suicide or self-harm	2 retrospective cohort studies ^{10,11}	Moderate	Direct	Inconsistent	Precise	Not detected	Low SOE Suicide or self-harm may be associated with an increased risk of experiencing homelessness, but there was some inconsistency across studies.
Mental health diagnoses (any)	3 retrospective cohort studies ^{1,4,5}	Moderate	Indirect	Consistent	Precise	Not detected	Low SOE Any mental health diagnosis may be associated with an increased risk of experiencing homelessness.
Substance Use							
Substance use clinic use	2 retrospective cohort studies ^{2,7}	High to moderate	Indirect	Consistent	Precise	Not detected	Low SOE Alcohol or substance use clinic use may be associated with an increased risk of experiencing homelessness.
Alcohol use	1 prospective ⁶ and 4 retrospective ^{8,10,11,14} cohort studies	Moderate	Direct	Consistent	Precise	Not detected	Moderate SOE Alcohol use disorder and/or alcohol dependence is likely associated with an increased risk of experiencing homelessness.
Drug use disorder (including opioid use disorder)	1 prospective ⁶ and 3	Moderate	Direct	Consistent	Precise	Not detected	Moderate SOE Drug use disorder is likely associated with an

Risk Factor	Relevant Studies	Limitations	Directness	Consistency	Precision	Reporting Bias	Rating and Summary of Evidence
	retrospective ^{10,11,14} cohort studies						increased risk of experiencing homelessness.
Substance use	3 retrospective cohort studies ^{8,9,13}	High to moderate	Indirect	Consistent	Precise	Not detected	Low SOE SUD and/or substance abuse may be associated with an increased risk of experiencing homelessness.
<i>ACEs and Other</i>							
Adult non-military trauma	1 retrospective cohort study ¹³	Moderate	Direct	Unknown	Precise	Not detected	Insufficient SOE It is unclear whether adult non-military trauma influences the likelihood of experiencing homelessness.
History of Incarceration	1 retrospective cohort study ⁴	Moderate	Indirect	Unknown	Precise	Not detected	Insufficient SOE It is unclear whether a history of incarceration is associated with an increased risk of experiencing homelessness.
ACEs	1 retrospective cohort study ¹³	Moderate	Direct	Unknown	Precise	Not detected	Low SOE History of adverse childhood experiences may be associated with an increased risk of experiencing homelessness.

Abbreviations. ACEs=adverse childhood experiences; AUD=alcohol use disorders; HIV=human immunodeficiency virus; ICD=International Classification of Diseases; OEF=Operation Enduring Freedom; OIF=Operation Iraqi Freedom; OND=Operation New Dawn; OUD=opioid use disorder; PTSD=posttraumatic stress disorder; RoB=risk of bias; SOE=strength of evidence; SUD=substance use disorder; TBI=traumatic brain injury.



APPENDIX D: PEER REVIEW DISPOSITION

Comment #	Reviewer #	Comment	Author Response
<i>Are the objectives, scope, and methods for this review clearly described?</i>			
1	1	Yes	None
2	2	Yes	None
3	3	Yes	None
4	4	Yes	None
5	5	<p>No - The review is, one discovers, focused narrowly on studies that produce relative risk estimates of homelessness at the individual level. This is a major choice. No one who thinks about homelessness would discount community factors, family wealth, rental markets, eviction rates, etc. These are "risk factors" at some conceptual level but they seem to sit outside the bounds of the review. It's possible to speculate that there is a reason, along the lines of "they aren't consistently measured at the individual level", but I don't really know that for sure. Ultimately I wind up with the sense that somehow the review focuses on "only things measured among individuals that can be squarely assigned to them and not their families or their communities or their housing opportunity structure" even though all those things matter a lot (and perhaps a lot MORE than the risk factors in this report).</p> <p>Therefore I can't fully say I understand why the scope of this review is what it is, save that it appears narrow, and so it's not "clearly described"</p>	<p>Thank you for this comment. We conducted a broad literature search with the intent of identifying studies of any factors associated with homelessness among Veterans, including population-level factors and individual-level factors. However, we found that the evidence base specific to Veterans is limited to studies of individual-level factors. We have substantially revised the Background and Discussion sections to make the aim of this review clearer and highlight identified gaps in the literature. We have also added detail to our presentation of the Key Questions and Eligibility Criteria.</p>
6	5	<p>Very secondary concern. Sometimes I think if "scope" as the timespan of the literature that was searched, ie back to 1946 or 1972 or 2010. I may have missed an account of this matter, but perhaps it should be affirmed in a few places.</p>	<p>Thank you for this comment. Our search timeframe is listed in our methods section and was not limited by date. We revised text in the Methods section to make this detail more evident.</p>
7	6	Yes	None
8	7	Yes	None
9	8	Yes	None

Comment #	Reviewer #	Comment	Author Response
<i>Is there any indication of bias in our synthesis of the evidence?</i>			
10	1	No	None
11	2	No	None
12	3	No	None
13	4	No	None
14	5	Yes - I will explain this in the detailed comments. Somehow this review narrows the question to "relative risk" and not "absolute risk" and it imposes a medicalizing framework on the problem of homelessness. Readers will be nudged to understand homelessness as a bit like diabetes, a disease or a trait that befalls certain individuals based on their bad experiences or medical diagnoses. There are a few passages that appear in the synthesis that suggest the authors understand this is something of a limitation, but they are modest and don't really expose just how great the distortion really is. The fact that this document bears the title "Evidence Synthesis Review" strongly conveys a notion that this is a true synthesis of a large problem, and perhaps under another title the apparent bias would seem less concerning.	Thank you for this comment. We provide a synthesis of the available evidence on this topic, according to the scope as defined by our Key Questions and study eligibility criteria. In response to this comment and similar comments made by this reviewer, we revised the Background and Discussions sections to more clearly state that population and individual-level factors impact homelessness risk (rather than individual factors alone) and that the lack of evidence regarding population-level factors among Veterans is an important gap.
15	6	No	None
16	7	No	None
17	8	No	None
<i>Are there any <u>published</u> or <u>unpublished</u> studies that we may have overlooked?</i>			
18	1	No	None
19	2	No	None
20	3	No	None
21	4	No	None
22	5	Yes - Many studies that attempt to look at community determinants of homelessness are absent. I have not attempted to review all such community determinant literature but cite several in the detailed comments. Obviously, if the "scope of work" assigned to the evidence synthesis team did NOT include community factors, then it's unfair to say they "overlooked" community factors.	Thank you for this comment. As discussed above, we would have included studies of community or population-level risk factors for homelessness among Veterans if we had found any. The lack of such studies is an important evidence gap.

Comment #	Reviewer #	Comment	Author Response
23	6	<p>Yes - Koh KA, Montgomery AE, O'Brien RW, et al. Predicting Homelessness Among U.S. Army Soldiers No Longer on Active Duty. <i>Am J Prev Med.</i> 2022 Jul;63(1):13-23. doi: 10.1016/j.amepre.2021.12.028. Epub 2022 Apr 14. PMID: 35725125; PMCID: PMC9219110.</p> <p>Koh et al 2022 used predictive modeling (with longitudinal cohort data) to identify premilitary, military, and postmilitary characteristics that predict homelessness among Army soldiers. Strengths include survey measures of mental health disorders (rather than diagnoses from administrative records) assessed prior to homeless experience, and the inclusion of community-level variables after military service. Koh et al's study found the most important predictors of homelessness were lifetime mental health disorders (e.g., depression, PTSD), lifetime trauma (i.e., loved one murdered), adverse childhood experiences (i.e., childhood homelessness), and criminal involvement. Because the findings differ a bit from the conclusions of the synthesis review, and the discussion mentions a need for predictive modeling studies, it seems worthwhile to include this study as part of the review. Alternatively, if the authors feel this study does not meet the scope of the review, it may be worthwhile to cite as an example of a predictive modeling study in the discussion.</p>	<p>Thank you for this comment. We now cite this study by Koh et al. in the Future Research section as an example of a study that integrates individual and community-level factors when discussing homelessness. The study did not meet our inclusion criteria for evidence synthesis because it lacks outcome data on the specific factors examined (i.e. a risk ratio, odds ratio, and/or hazard ratio for each measured factor).</p>
24	7	No	None
25	8	No	None
<p><i>Additional suggestions or comments can be provided below. If applicable, please indicate the page and line numbers from the draft report.</i></p>			
26	1	<p>Yes, I think the review was good. I do think it is hard to capture and measure mental health and substance use problems preceding episodes of homelessness. So many studies capture mental and substance issues concurrently or are based on cross-sectional studies. I felt the report underplayed the potential effects of MH and SUDs, which I understand is due to lack of prospective studies. The consistent factors they found may have the most evidence, but may not be the strongest risk factors for veteran homelessness. It would be good to do some type of file-drawer calculation or have some discussion about how some</p>	<p>Thank you for this comment. While we did not expand on our discussion of mental health and substance use disorders as risk factors for homelessness specifically, we have substantially revised the Discussion and Limitation sections to highlight the challenges of measuring certain exposures.</p>

Comment #	Reviewer #	Comment	Author Response
		risk factors are harder/easier to study than others so which factors are identified can be biased that way and they may not speak to the magnitude of these factors.	
27	2	When reading the Executive Summary, my automatic thought was where is the information on impact of such things as housing availability, housing policies, poverty, financial literacy, legal (such as felonies) and military service in general on homelessness risk? Please see my below recommendation to potentially address the reason why such findings weren't included.	Thank you for this comment. Please see our responses to comments from reviewer #5.
28	2	Is there enough data to make this conclusion that no association between medical conditions and homelessness exist?	Thank you for this clarifying question. We did not conclude that no association between medical conditions and homelessness exists. Rather, we state that the relationship is unclear due to mixed findings among studies.
29	3	Thank you for the opportunity to review this systematic review. Overall it is very well done. I found the tables particularly well laid out with valuable information.	Thank you.
30	3	you do a very nice job talking about implications for future research, but do you have any policy or practice recommendations for the discussion section?	Thank you. Because the focus of this review was not on homelessness policy, but rather risk and protective factors, we refrain from making policy or practice recommendations. We defer to subject matter experts who are using this review to make such recommendations.
31	3	page 15 paragraph 2 it talks about how homelessness was defined in the studies. It may be beneficial to say % of included studies that used this screening item/homeless service use/icd 10 codes to measure homelessness (i.e., x/62)	Thank you for this comment. We have added detail regarding how many of the longitudinal studies used ICD 9/10 codes to define homelessness.
32	3	page 15 paragraph 3 lists several factors identified from cross-sectional studies. It may be helpful to list in descending order of how many studies addressed them or include the number of studies in parentheses that examined these factors or list in descending order of strength of association with homelessness	Thank you for this comment. We added citations to the list to make it clearer which and how many studies examined the specific factors. Most of the factors were supported by 2-3 studies.

Comment #	Reviewer #	Comment	Author Response
33	3	in limitations section it may be helpful to add a sentence or two that most of the cohort studies were retrospective and used VA administrative data to identify information and because of this some confounding variables were not collected or the timing isn't as accurate	Thank you for this comment. We have added more detail to the Limitations section regarding the nature of the data obtained from medical records.
34	4	Thorough review. This reviewer was expecting some discussion about how these risk factors could be considered to prevent homelessness, such as screening during discharge from the military, which could be considered.	Thank you for this comment. Because the focus of this review was not on homelessness policy, but rather risk and protective factors, we refrain from making policy or practice recommendations including relating to screening. We defer to subject matter experts who are using this review to make such recommendations.
35	5	1. Major: This review is narrow in ways that might reflect what was requested of the ESP, but also generates an unhelpfully constricted and potentially consequential misunderstanding of homelessness. To be specific, the document analyzes individual “risk factors” for a social condition. Of course, homelessness is not a disease, and not a static trait. Rather, it’s a state, the state of lacking a home, and it’s extremely dependent on community context. Homelessness can easily happen in the absence of “risk factors”, if (a) one is kicked out of one’s home and (b) no one else in your social network has extra rooms. Further, reliance on “relative risk factors” tends to opacify and hide just how little those risk factors matter when the absolute risk is tiny. Yes, losing a home is more common to befall a person with a few ACES and a drug problem, but the absolute risk is infinitesimal and ignorable if that person is well-off, White and in a community with low-cost rentals. For such a person, the “relative risk factor” of 1.5 or 2 amounts to little more than a statistical curiosity with little relevance for any future VA efforts at prevention. Targeting prevention based on such relative risk factors could be a grievous misallocation of resources, and yet the concept of “absolute risk” is absent from the review. Therefore, while it is possible to summarize papers that offered “relative risk factors” I really fear that this document risks reinforcing a misunderstanding that involves medicalizing homelessness, overlooking absolute risk, and may well invite research and even resource investments that	Thank you for this comment. We agree and have made revisions throughout the text to underscore that homelessness cannot be examined through the lens of individual-level factors alone and must be viewed in the context of community factors. As discussed in our response to other comments above, we conducted a broad literature search and would have included studies of population-level factors if we had found any. We now explicitly highlight this important evidence gap.

Comment #	Reviewer #	Comment	Author Response
		<p>“target” based on relative risk, resulting in a misallocation of both attention and resources. The text of the review reflects some awareness of this problem, but I think it should be confronted more squarely.</p>	
36	5	<p>a. Right now, the final paragraph of the Discussion, before the Limitations, introduces something of what I laid out above as a “limitation”. However, I don’t think this is a “limitation” in the traditional sense of a limitation in available data or in methods of collection. In essence, the research team’s mandate to carry out a certain type of review imposed a conceptual framework on the problem itself. The imposition of a “relative risk factor” framework made a review of this nature achievable within a certain budget and time, but it also invites serious misunderstandings, both in regard to absolute risk and in regard to the intersection of community and personal risk. Because this is really a design feature adopted by the perspective of the project itself, I recommend explaining the situation very bluntly, in the Introduction. In essence, if one is about to hand viewers a kind of distorted lens for an “evidence synthesis review”, it’s just preferable to tell readers right up front what they are getting, as bluntly as possible</p>	<p>Thank you for this comment. As discussed in our response to other comments above, we conducted a broad literature search and would have included studies of population-level factors impacting Veteran homelessness if we had found any. We view the lack of such evidence as an important limitation.</p> <p>In response to this comment and similar comments made by this reviewer, we revised the Background and Discussions sections to more clearly state that population and individual-level factors impact homelessness risk (rather than individual factors alone) and that the lack of evidence regarding population-level factors among Veterans is an important gap.</p>
37	5	<p>b. Additionally, it may be possible to mitigate the limitations of the review’s “risk factors” approach by offering a paragraph or even an inset box in the introduction. That paragraph or inset box. It could review the more traditional conceptual framework. The simplest version would say community factors are more strongly associated with a community’s total level of homelessness, and personal risk factors are more likely to govern “who” becomes homeless (this is enunciated by Shinn’s book¹). A variation on this theme is to suggest that for any given person, their own homelessness is conceptually an interaction of “person” and “place”, which is introduced by O’Flaherty,² and partially tested in one VA study³). There is some literature (some conceptual, some statistical) that approaches area level homelessness focused on factors like eviction filings⁴ rents^{5,6} and efforts to analyze multiple factors in tandem.⁷</p>	<p>Thank for this comment and highlighting the citations. In response to this comment and similar comments made by this reviewer, we revised the Background and Discussions sections to more clearly state that population and individual-level factors impact homelessness risk (rather than individual factors alone) and that the lack of evidence regarding population-level factors among Veterans is an important gap. We now reference the article by O’Flaherty in the Background and Discussion sections.</p>

Comment #	Reviewer #	Comment	Author Response
38	5	<p>This would be a kind of mitigation so that what follows isn't taken the wrong way.</p> <p>2. Race is a powerful factor in determining absolute levels of homelessness nationally. Roughly 39-40% of the US Point-in-Time Count is African-American, even though they are 13% of the US population. It seems odd to only discuss this issue with no tables and as a short paragraph.</p>	<p>Thank you for this comment. We discuss race/ethnicity and other demographic factors in context of how included studies evaluated these factors as impacting homelessness risk.</p>
39	5	<p>3. Major: Risk of biased ascertainment or “cum hoc ergo propter hoc”; need to highlight VA service diagnosis-induced bias in estimates. Several sections appear to focus on correlation of exposure variables that are mostly or likely based on diagnoses assigned within VA health care (substance use on page 27, medical conditions on page 24, mental health conditions on page 25) and perhaps one based on a VA screener (military sexual trauma on page 23). These require clarification (at a minimum, a superscript in the tables, and a mention in the text when VA-record-derived diagnoses were used) because of this bias. Reliance on VA-assigned diagnoses introduces a bias in estimating the magnitude of association in ways that are not well explained in the “Limitations” (page 31, lines 9-14). In more traditional epidemiological studies, we might ascertain exposures by measuring (through survey or clinical examination) all members of a given population and then asking all members of that population, in the same way, whether they experienced homelessness (or better, observing them over time). Reliance on diagnostic codes from VA assures overdetection of certain diagnoses among persons who (a) have propensity to seek VA help for problems, and (b) have sought VA homeless assistance (which introduces a special increased likelihood of receiving addiction and mental health diagnoses).. In essence, if a homeless Veteran seeks VA help for their homelessness, they get an inflated opportunity to be designated as homeless and to be designated with various diagnoses, especially mental and addiction diagnoses (particularly if the VA they go to has a domiciliary, or RRTP). The differential application of medical and mental diagnoses to Veterans who seek VA help for homelessness likely biases the estimate of relative risk for homelessness</p>	<p>Thank you for this comment. Regarding the tables, we added a footnote to say that diagnoses were most often based on VA medical record data.</p> <p>We agree that data regarding Veterans accessing VA services may not be applicable to all Veterans. We previously discussed the applicability of available evidence as a limitation of the evidence base and have expanded on that text.</p> <p>While we agree with you that there is potential for overdiagnosis of some conditions among Veterans accessing VA housing services, we did not identify objective data to support that assertion and prefer to avoid speculating.</p>

Comment #	Reviewer #	Comment	Author Response
		<p>upward. After all, non-homeless VA users aren't going to be assessed nearly as intensively for addiction and mental health diagnoses, and they are unlikely to live in a VA building with VA doctors one hallway away, ready to diagnose at a moment's notice. It is quite hard to know how great the distortion actually is. So, I urge that relative risk analyses wholly reliant on VA-assigned diagnoses be annotated as such with an asterisk or superscript in the row of the table where they are listed (this would certainly apply to Tables 7, 8, 9 and perhaps 6). We have no method in large retrospective VHA databases to control for this bias. But we can help readers see it.</p>	
40	5	<p>4. If there was a early-bound on the time span restricting the literature search (2000? 1990?), I would suggest including mention of that boundary (or just state that there was no such boundary, and that all literature going back to ____ was searched) on the Data Sources page (p. 11, line 49). I did note that there seemed to be very literature cited I this report before 2010. It made me wonder if perhaps no one ever did a Veterans study before 2010, or if there was a boundary on the search</p>	<p>Thank you for this comment. Our search timeframe is listed in our methods section and was not limited by date. We revised text in the Methods section to make this detail more evident.</p>
41	5	<p>5. "More research is needed on the ability of predictive models to identify Veterans at risk for homelessness and whether use of such models can help to connect at risk Veterans to services" (p 6, line 31-33). Is this actually credible? The basic "relative risk" vulnerabilities associated with one individual being more likely to be homeless than another have been fairly clear for 25-35 years. The awareness of these risk factors has – in a common sense way- led to some programs focused on health, others on employment, others on addiction, and others on financial assistance and housing. Is it likely that a new statistical formula would lead to better help?</p>	<p>Thank you for this comment. We revised the language suggesting the development of predictive models as a needed area for future research, noting that data on structural factors would need to be included in such models to make them useful. In the Future Research section, we highlight the model described in Koh 2022 as one that integrates individual and community-level factors.</p>
42	5	<p>6. Pag 11: The account of Eligibility Criteria (line 28-29) says for KQ1 "US Veterans and other adults experiencing homelessness". I was puzzled if this means that studies of "other adults, absent veterans" were included, or not. The footnote (a) to that table (line 40) suggests that "systematic reviews" of non-Veterans were included. I'm unsure what</p>	<p>For Key Question 1 regarding exposures that occurred in childhood and adolescence, we included systematic reviews in non-Veteran populations. The footnote explains the minimum methodological criteria that a systematic review would have to meet to be included in this synthesis</p>

Comment #	Reviewer #	Comment	Author Response
		was the definition of systematic review. It was evident to me that some papers that attempt to synthesize multiple other papers were excluded,2 but the reason is unclear.	(the review would have to include a systematic search of multiple databases and an assessment of risk of bias or quality of the included studies). Reviews that did not meet these minimal criteria, such as narrative reviews, were excluded. The citation referenced in this comment by O’Flaherty was not included for either Key Question because it is not a study of populations or individuals and does not include data on our outcomes of interest. However, the article by O’Flaherty provides a helpful perspective regarding the challenges of studying homelessness and we now cite it in both the Background and Discussion sections.
43	5	7. Page 15 (line 35) mentions “geographic location”. This is the first hint that community variables were considered. As a reader, it’s unclear how community variables were defined or how vigorously they were considered in this ESP.	Please see our responses to similar comments above.
44	5	8. Page 12: The synthesis section seems well-written and clear	None
45	5	9. For Table 1 (pages 16-18) is a bit confusing. The summary of longitudinal studies states, in the right hand column, “exposures assessed”. Can that 2-word phrase be explained a bit more precisely (ie are these the ONLY exposures assessed? Or are the ones mentioned somehow “the ones of special interest”?). For example, in Table 1 the first line (Brignone, reference 3) states that they assessed “gender, military sexual trauma”. When I checked the Brignone paper, it appears that many other variables are included and would seem to count as “exposures”. (in fact, it did do so, but the table will leave most readers thinking it must not have done so). If the intention of the table is just to highlight a few exposures that the review authors felt were the “main ones of interest”, maybe just explain that in the table.	Table 1 is meant to include all exposures in the given studies. We missed a few exposures evaluated in Brignone 2016 as they were only reported in the supplement. Thank you for bringing that mistake to our attention. We have added all of the exposures in Brignone 2016 to the table and corresponding text.
46	5	10. For Table 2 (page 19) the expressions “Inception-Nov 2020” and “Inception-Jan.2-18” are listed under the heading “Search Timeframe”. I am not sure I understand what’s intended. Is it an effort to explain the “timeframe for eligible studies assessed in the cited source”? If that’s the case then	We have revised the wording in the table for clarity and corrected the typo of “2-18” which was intended to read “2018.”

Comment #	Reviewer #	Comment	Author Response
47	5	<p>it may be more explicit to say it that way. Also, what is “inception”? Is that a date? Finally the term “Jan.2-18” is not something I understand.</p> <p>References: 1. Shinn M, Khadduri J. In the Midst of Plenty: Homelessness and What to Do About It. Hoboken NJ: Wiley Blackwell; 2020. 2. O’Flaherty B. Wrong person and wrong place: for homelessness, the conjunction is what matters. Journal of Housing Economics 2004; 13(1): 1-15. https://doi.org/10.1016/j.jhe.2003.12.001. 3. Kertesz SG, deRussy AJ, Kim YI, Hoge AE, Austin EL, Gordon AJ, Gelberg L, Gabrielian SE, Riggs KR, Blosnich JR, Montgomery AE, Holmes SK, Varley AL, Pollio DE, Gundlapalli AV, Jones AL. Comparison of Patient Experience Between Primary Care Settings Tailored for Homeless Clientele and Mainstream Care Settings. Med Care 2021; 59: 495-503. 10.1097/MLR.0000000000001548. 4. Treglia D, Byrne T, Tamla Rai V. Quantifying the Impact of Evictions and Eviction Filings on Homelessness Rates in the United States. Housing Policy Debate 2023; 1-12. 10.1080/10511482.2023.2186749. 5. Hanratty M. Do Local Economic Conditions Affect Homelessness? Impact of Area Housing Market Factors, Unemployment, and Poverty on Community Homeless Rates. Housing Policy Debate 2017; 27(4): 640-55. 10.1080/10511482.2017.1282885. 6. Colburn G, Aldern CP. Homelessness is a housing problem : how structural factors explain U.S. patterns. Oakland, California: University of California Press; 2022. 7. Byrne T, Munley EA, Fargo JD, Montgomery AE, Culhane DP. New Perspectives on Community-Level Determinants of Homelessness. Journal of Urban Affairs 2013; 35(5): 607-25. 10.1111/j.1467-9906.2012.00643.x. 17.</p>	<p>Thank you for these citations. None of these references met our inclusion criteria for evidence synthesis. However, we now reference the article by O’Flaherty et al. in the Background and Discussion sections and reference the article by Byrne et al. in the Discussion.</p>
48	6	<p>I have no additional comments or suggestions. This is a well-written review that nicely synthesizes what is known about the drivers of homelessness among Veterans.</p>	<p>Thank you.</p>

Comment #	Reviewer #	Comment	Author Response
49	7	<p>Overall, this is a well-executed and thorough review of the literature on risk factors for homelessness among US Veterans. The methods, objectives, and scope were all clearly described. I especially appreciate the authors' acknowledgment of the critical limitations of this review. Namely, variability in definitions and methods used to estimate homeless prevalence, as well as the lack of studies integrating examination of individual and structural factors. The complex interplay between individual and structural factors has been previously described in a qualitative study of formerly homeless adults with serious mental illness and co-occurring substance abuse (Padgett DK, Tiderington E, Smith BT, Derejko KS, Henwood BF. <i>Complex Recovery: Understanding the Lives of Formerly Homeless Adults with Complex Needs</i>. <i>J Soc Distress Homeless</i>. 2016;25(2):60-70. doi: 10.1080/10530789.2016.1173817. Epub 2016 Jul 26. PMID: 28439191; PMCID: PMC5400368.) However, this study was not specific to veteran populations.</p>	<p>Thank you. We agree that the interplay between individual and structural factors is important and have highlighted it as an area for future research in Veterans. We also suggest conducting further qualitative research on this topic and cite the study by Padgett et al. as an example of a helpful study conducted in a non-Veteran population.</p>
50	7	<p>I had one question regarding the framing of the review and how the authors define "protective" factors. Were the factors detailed in these studies (e.g., completing more years of service) specifically identified in these studies as "protecting" the individual/population from becoming homeless or just found to be associated with NOT becoming homeless? I assume the latter. If so, I would suggest that the authors clarify this in the framing/wording of the review, or at the very least, provide a definition of "protective factors" at the beginning of the review.</p>	<p>Thank you for this comment. Yes, protective risk factors were those that were associated with not becoming homeless. We have revised text in the executive summary and discussion for clarity.</p>
51	8	<p>Thank you for the opportunity to participate in this review, which was very thorough and thoughtfully completed. I have some comments to strengthen the review below.</p> <p>-I would further explain in the first paragraph of the executive summary that homelessness also results from structural inequities to demonstrate the strong role of structural factors related to homelessness within the US. It seems important to acknowledge the structural factors contributing to homelessness (structural racism, poverty, unaffordable housing, lack of livable wages), so readers do not get the</p>	<p>Thank you. We agree and revised text in the Background and Discussion sections (and corresponding parts of the Executive Summary) to better frame homelessness as resulting from the conjunction of structural as well as individual factors. Please also see our responses to comments made by reviewer #5.</p>

Comment #	Reviewer #	Comment	Author Response
		wrong impression that homelessness comes from solely individual factors or that individual level interventions only are needed.	
52	8	For the bullet point in the executive summary about predictive models, it is not clear that the evidence synthesis supports the utility of predictive models at this point, or that this is a key take-away. Given that most studies look at individual factors, without incorporating greater ecological and structural factors, it is not clear if predictive models will be helpful or accurate in ending homelessness.	Thank you for this comment. We revised the language suggesting the development of predictive models as a needed area for future research, noting that data on structural factors would need to be included in such models to make them useful.
53	8	-For the sentence on page 9, lines 42-44, "Developing accurate predictive models is challenging, however, because homelessness is multicausal and results from a complex interplay of individual-level risk factors and exposures across an individual's lifespan," would explain that homelessness also results from longstanding structural inequities and structural racism affecting housing, wealth, and access to services. Otherwise, there is concern this report could emphasize addressing homelessness individually, instead of addressing the issue structurally	Thank you for this comment. As above, we revised the text suggesting the development of predictive models as a recommended area for future research. Throughout the report, we now emphasize the importance of examining both individual and population-level factors.
54	8	-On page 10, paragraph 2, would describe that the VA uses the definition of homelessness as established by the McKinney Vento Act, and cite the McKinney Vento Act.	Thank you for this comment. We have added a reference to the McKinney Vento Act and a citation in the Literature Overview section.
55	8	-In the discussion of ACES, it seems important to give context that poverty is associated with a higher risk of ACES, and that ACES are more prevalent among low-income families. It also seems important to point out the racial/ethnic disparities in ACES exposures. Given the link between ACES and homelessness risk, the association with higher ACES scores among people who are more impoverished, and among minoritized people, should be acknowledged. (Page 19)	Thank you for this comment. We added this context to the initial discussion of ACEs. We also used the example of ACEs to highlight limitations of current analyses of individual-level factors and associations with homelessness. This text is in the Limitations section.
56	8	-As the diagnosis of Conduct Disorder used for the Vietnam Veteran study cited is vastly different from today's diagnosis and the reported symptoms of conduct disorder such as poor school attendance and academic failure are tied to social risk factors, this statement about conduct disorder being associated with homelessness could be misleading. You did	Thank you for this comment. We added a sentence to state that findings from this study are likely not generalizable to those diagnosed with Conduct Disorder using the contemporary definition.

Comment #	Reviewer #	Comment	Author Response
		a nice job of noting the diagnosis is different now, but I may add more caveats here about drawing any conclusion from this association with Conduct Disorder in this study (Page 19).	
57	8	-You make strong points in the last paragraph on page 30 (line 45 onwards) about the lack of examining structural factors in the evidence. I recommend taking a key point from this paragraph and summarizing it as a bullet point in the executive summary key findings, particularly this point, "Indeed, it may be the case that many individual-level risk factors do not directly increase homelessness risk but instead make Veterans more susceptible to structural drivers of homelessness that undermine housing security or make stable housing difficult to obtain."	Thank you for this comment. We agree and have added a bullet point regarding structural factors impacting homelessness to the Key Findings section.
58	8	-For future research, I would consider advocating for research also examining local or regional housing policies, geographic factors, in addition to individual factors.	Thank you. We agree and have added this recommendation to the Future Research section.
59	8	-I would also consider advocating for more qualitative research to understand these protective and risk factors.	Thank you. We agree that qualitative data could provide helpful insights into the risk and protective factors discussed in this review. We have added a recommendation to the Future Research section.

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