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What Is Known about Substance Use in Hawai'i: A Scoping Review

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Abstract

Substance use is a significant public health and social welfare issue in the state of Hawai'i. Literature and data about the most affected populations and geographies in Hawai'i are scattered. A scoping review was conducted to assess the extent of available information about substance use in Hawai'i. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Scoping Reviews (PRISMA-ScR) Checklist was used as a guide, using 3 databases: PubMed, Web of Science, and CINAHL for publication years 2010-2023. A manual search was conducted to identify other reports. A total of 21 documents were included in the synthesis. The synthesis revealed a large focus on substance use among Native Hawaiians and adolescents. The granularity of geographical data was found to be at island-level and the 3 most common substances reported were alcohol, marijuana, and methamphetamine. There were data for a wide range of racial and ethnic groups, which is unique due to the diversity in the state of Hawai'i. Most documents used national datasets for reporting substance use in Hawai'i. The findings identified gaps in the literature that can be filled by future research such as focusing on the rise of substance use among older adults, disaggregating data on Pacific Islander populations in Hawai'i, reporting substance use data in geographical areas smaller than island-level, increasing the collection of data on groups that have a high risk for health problems or are underserved by health services, and intensifying collection of data about fentanyl use in Hawai'i.

Abbreviations

ADAD = Hawai'i State Department of Health, Behavioral Health Administration, Alcohol and Drug Abuse Division
ATOD = Hawai'i Student Alcohol, Tobacco, and Other Drug Use
HPSAs = Health Professional Shortage Areas
HRSA = Health Resources and Services Administration
NSDUH = National Survey of Drug Use and Health
SUDs = Substance Use Disorders
YRBSS = Youth Risk Behavior Surveillance System

Introduction

Substance use is a significant public health and social welfare issue in the state of Hawai'i.[1] Substance use is defined as the use of selected substances, including alcohol, illicit drugs, inhalants, and other substances that can be absorbed into the body with possible dependence and other harmful effects.[2] The usage of a substance can lead to a substance use disorder (SUD), which occurs when a person is unable to control their substance use, leading to changes in health and behavior.[3,4] According to the 2021-2022 National Survey of Drug Use and Health (NSDUH), the annual average prevalence of past-year substance use disorders (SUDs) in Hawai'i was 9.4% among individuals aged 12-17 years, slightly higher than the national average (9.0%), and 16.4% among individuals aged 18 years or older in Hawai'i, slightly lower than the national average (17.8%).[5]

Substance use in Hawai'i is evident across all counties. All counties of Hawai'i have high-need and high-demand areas, which are defined by the Health Resources and Services Administration (HRSA) as sites located within Health Professional Shortage Areas (HPSAs), mental HPSA facilities with a score of 16 or above, or within a geographical area considered rural as defined by the HRSA Federal Office of Rural Health Policy.[6,7] According to the 2022 Hawai'i State Department of Health, Alcohol and Drug Abuse Division (ADAD) Report to the Legislature, 7.5% (n=9690) of individuals aged 18 and over in Maui County (including the islands of Maui, Lāna'i, and Moloka'i) had a SUD in the past year – the highest of the counties in Hawai'i. The City and County of Honolulu follows with 7.4% (n=57 160), Hawai'i County with 7.3% (n=11 480), and Kaua'i County with 6.7% (n=3770) of individuals aged 18 and over having an SUD in the past year.[8]

The risk of SUDs may be higher among groups that have a high risk for health problems or are underserved by health resources. The Centers for Medicare & Medicaid Services has provided examples of groups that have a high risk for health problems or are underserved by health services, which include racial and ethnic minorities, children, older adults, sexual and gender minorities, homeless individuals, pregnant women, victims of abuse or trauma, and individuals with higher rates of mental health conditions, such as those who are justice-involved.[9,10] Substance use among youth is a major concern for the state of Hawai'i as demonstrated by ranking fourth highest in the nation for high school students reporting being offered, sold, or given an illegal drug by someone on school property, at 25.4% compared to the national average of 21.7% in 2015.[11] As previously noted, research indicates that youth who identify as sexual or gender minorities also exhibit higher rates of substance use and health risks compared to heterosexual and

cisgender youth. For example, the Centers for Disease Control and Prevention (CDC) noted that sexual minority youth engage in substance use at much higher rates than heterosexual youth.[12]

An estimated 24.2% of Hawai'i's population was multiracial (identifying as two or more races) in 2019.[13] This is drastically higher than the 10.2% multiracial population in United States (US) in 2020.[14] Hawai'i is unique in its population composition as it consists of 0.4% of the US population but accounts for 23.7% of the Native Hawaiian and other Pacific Islander population in the US. Native Hawaiians or Pacific Islanders were about 1.5 times less likely to complete substance use treatment as compared to Whites.[15] Native Hawaiians and Pacific Islanders have been shown to be disproportionately affected by substance use issues in the literature.[16-18] Among adults in Hawai'i who were admitted to ADAD-funded treatment, Native Hawaiians had the highest rates of admission for fiscal years 2021-2022 at 44.9%.[16] This disproportionate burden is further evidenced by a 2022 Office of Hawaiian Affairs report, which revealed that various substance use indicators (eg, consuming alcohol in the past 30 days, binge drinking in the past 30 days, currently using marijuana) were significantly higher for Native Hawaiian youth compared to youth of other ethnic groups in Hawai'i.[17] Additionally, 2019 data indicate that Native Hawaiian and Other Pacific Islander adults experienced alcohol use disorder 4-times greater than the US population of 5%.[18] According to Hawai'i's Emergency Medical Services, Native Hawaiians have the highest 7-year fatal and nonfatal rates of opioid poisoning compared to other ethnic groups.[16]

Information about substance use in Hawai'i are scattered and limited. The purpose of this scoping review is to identify journal articles and reports that focus on substance use in Hawai'i and to describe the data available by age, race/ethnicity, geographies, groups that have a high risk for health problems or are underserved by health services, substances and data sources. There have been past literature reviews focused on drug use among Native Hawaiian youth and culturally grounded and relevant prevention interventions among Native Hawaiians and ethnic minority youth populations. Edwards et al published a comprehensive literature review in 2010 on Native Hawaiian youth and substance use.[19] In 2016, Lauricella et al published a systematic review on culturally grounded interventions for minority youth populations, and in 2021, McLean et al published a systematic literature review on culturally grounded prevention interventions for Native Hawaiians.[20,21] These reviews have yielded valuable findings on Native Hawaiians and prevention programs. These reviews, however, have not focused on the availability of substance use information for the state of Hawai'i in general. The information collected from this scoping review will help to provide recommendations for future research and data collection on substance use in Hawai'i.

Methods

A scoping review was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Scoping Reviews (PRISMA-ScR) Checklist to standardize reporting and transparency methodologies. The team searched 3 databases: PubMed, Web of Science, and CINAHL. For all 3 databases, the article search was filtered to publication years 2010-2023. Additional filters were added for each database (PubMed: Text availability = Full text; Web of Science: Document types = Article, Review Article; CINAHL: Limit To = Full text). The article titles and abstracts were searched between January 26, 2024 and January 30, 2024, using the following keywords: Drug use, drug abuse, drug misuse, drug, alcohol use, alcohol abuse, alcohol misuse, alcohol, substance use, substance abuse, substance misuse, substance, behavioral health, methamphetamine, marijuana, cocaine, heroin, ecstasy, hallucinogens, inhalants, prescription drugs, opioid, opioids, meth, addiction, Hawaii, Hawai'i, and Hawai'i. In addition to the 3 databases, government and college/university reports were identified through a manual search.

The journal article references were extracted and uploaded into Covidence systematic review software (Veritas Health Innovation, Melbourne, Australia) for screening. The titles and abstracts of journal articles were screened and removed if the exclusion criteria were met. The exclusion criteria for all documents (journal articles and reports) were: the absence of a focus on substance use as an outcome; absence of an abstract; absence of Hawai'i-specific information/data; studies conducted outside of the US or written in a language other than English; documents formatted as protocols, brochures, or newsletters; documents with a focus on e-cigarette usage or smoking, policies, perceptions, strategies, histories, theories, or pharmacology; documents whose full-text article was inaccessible; and documents with no mention of substance use.

Figure 1 displays the flow diagram. Three authors screened the documents. If there was a situation where 2 authors could not decide on whether the document should be included in the full-text review, 3 authors met to discuss its contents to come to a decision. For each document included in the full-text review, information such as author/organization, publication year, location, age/age group, race/ethnicity, groups that have a high risk for health problems or are underserved by health services, data source, substance(s), description, and document type, were collected in a spreadsheet. Documents could be excluded after full-text review if they met the exclusion criteria specified during screening. This study did not require institutional review board approval because it did not involve human subjects.

Results

The online database search yielded 688 articles, with 13 reports identified through a manual search. After 268 duplicates were removed, 433 documents remained for title and abstract screening. A total of 409 documents were excluded

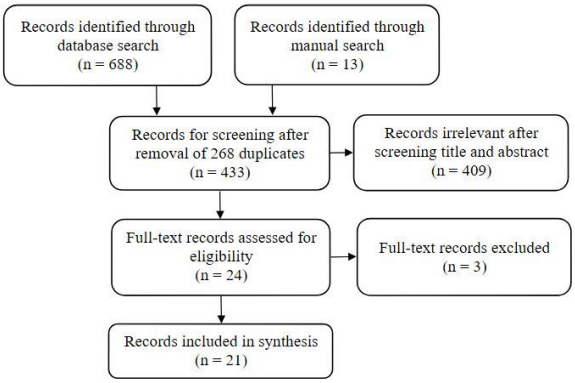

Figure 1. Flow diagram for Scoping Review of Substance Use in Hawai'i Synthesis

from subsequent procedures. A total of 24 documents were assessed for eligibility, and 3 records were excluded. A total of 21 documents were included in the final synthesis. Of these 21 documents, 9 were journal articles and 12 were reports (government, legislative, and organizations).

Characteristics of Reviewed Documents

Characteristics of the 21 reviewed documents are summarized in **Table 1**, which includes information such as author/organization and publication year, age/age group, race/ethnicity, geography, groups that have a high risk for health problems or are underserved by health services, substances, data sources, and brief description/purpose of the document.

Age/Age Group

Approximately 29% of documents included persons of all ages, 81% of documents included specified age groups, and 19% of documents did not report age or reported average age as identified in **Table 1**. About 81% of documents included adolescent groups, such as those aged under 18 or in grades 6-12 and 29% of documents included all ages with specific age categories. The highest age category among the documents with specific age groups was for those 75 and over and mentioned in 3 documents. The data for this age group referred to the usage of a prescription opioid pain reliever in the past year and annual drug poisoning fatality rates involving opioid pain relievers. A single document from the synthesis solely focused on older adults (aged 50 and over).[33]

Race/Ethnicity

There were a variety of race/ethnicity categories reported across documents as seen in **Table 2**. About 67% of documents had a specific category for Native Hawaiian, Hawaiian, or part-Hawaiian, which are categorized as Native Hawaiian, and 19% of documents had a category for Native Hawaiian or Pacific Islander. Approximately 33% of documents had a category for Sāmoan, and 48% of documents had a category for Other Pacific Islanders. Among the documents, 19% included a category for multiple races, 24% included a category for Mixed – Not Hawaiian, and 14% included categories for 2 or more ethnicities with Native Hawaiian and 2 or more ethnicities without Native Hawaiian.

About 29% of documents included a category for Portuguese, 43% of documents included Hispanic/Latino/Spanish, and 71% of documents had a category for White, and 5% of documents had a category for White/Hispanic. The team found that 33% of documents had a category for Black or African American, and 10% of documents had a delineation for American Indian/Alaska Native. Over half of the documents (57%) included a category for Other. Among documents that included specific categories for Asian ethnicities, about 67% included Filipino, 52% included Japanese, 19% included Chinese, 10% included Korean, and 5% included Vietnamese or Indian.

Geographic Level

The geographic levels reported in each document ranged from state, county, and island. Approximately 81% of documents reported data at the state level, 62% at the county level, and 19% at the island level. There were no journal articles or reports that presented information on geographic areas smaller than island, such as communities, towns, and cities.

Groups that have a High Risk for Health Problems or are Underserved by Health Services

Table 3 displays the groups that have a high risk for health problems or are underserved by health services identified among the documents in this synthesis. The search yielded the following groups: Native Hawaiians (86%), adolescents (81%), older adults (38%), sexual and gender minorities (29%), homeless individuals (29%), justice system-involved (24%), pregnant and parenting women (19%), and victims of sexual and intimate partner violence (10%).

Substances

The top 3 reported substances among the documents were alcohol, marijuana, and methamphetamine, as seen in **Table 4**. All but 1 document (95%) included alcohol, 86% of documents included data on marijuana, and 62% of documents included data on methamphetamine. Over half of the documents (57%) reported data on cocaine, 48% included data on heroin, 48% included data on opioids, and 24% of documents included data on fentanyl.

Data Sources

A total of 12 data sources were identified in documents. The Youth Risk Behavior Surveillance System (YRBSS) was found to be the most used data source as it was reported in 33% of documents. The National Survey on Drug Use and Health (NSDUH) was the second most cited data source, followed by the Hawai'i Student Alcohol, Tobacco, and Other Drug Use (ATOD). There were other data sources reported

Table 1. Characteristics of 21 Reviewed Documents Synthesized in a Scoping Review on Substance Use in Hawai'i from 2010-2023

Doc No.	Author/ Organization, Publication Year	Geography	Age/Age Group(s)	Race/Ethnicity[a]	Groups that have a High Risk for Health Problems or are Underserved by Health Services	Substance(s)[b]	Data Source(s)[c]	Description/ Purpose
1	Hawai'i State Department of Health Alcohol and Drug Abuse Division, 2020[22]	State, County, Island	All Ages (Adults aged 18 and over, adolescents aged under 18 (Adolescents Grades 6 through 12), and specific age groups (1-14y, 15-24y, 25-34y, 35-44y, 45-54y, 55-64y, 65-74y, 75+y))	Native Hawaiian, Sāmoan, Other Pacific Islander, Japanese, Filipino, Portuguese, White, Black or African American, Other, Mixed - Not Hawaiian, Hispanic/Latino, 2 or more ethnicities	Native Hawaiians, adolescents, sexual and gender minorities, pregnant and parenting women, homeless, justice system involved, older adults	Methamphetamine, Alcohol, Marijuana, Cocaine, Heroin, Opioids, Stimulants, Other Stimulants, Other Hallucinogens, Other Opiates/Synthetics, Other amphetamines, Benzodiazepines, Over the counter, Fentanyl, Other	NSDUH, TEDS, ATOD	Report: Annual report covering Fiscal Year 2019-20
2	Hawai'i State Department of Health Alcohol and Drug Abuse Division, 2021[8]	State, County, Island	All Ages (Adults aged 18 and over, adolescents aged under 18 (Adolescents Grades 6 through 12), and specific age groups (1-14y, 15-24y, 25-34y, 35-44y, 45-54y, 55-64y, 65-74y, 75+y))	Native Hawaiian, Sāmoan, Other Pacific Islander, Japanese, Filipino, Portuguese, Hispanic/Latino/Spanish, White, Black or African American, Other, Mixed - Not Hawaiian, 2 or more ethnicities with Native Hawaiian, 2 or more ethnicities not Native Hawaiian	Native Hawaiians, adolescents, sexual and gender minorities, homeless, justice system involved, older adults	Methamphetamine, Alcohol, Marijuana, Cocaine/Crack, Heroin, Stimulants, Other Stimulants, Fentanyl, Other, Opioids	NSDUH, ATOD	Report: Annual report covering Fiscal Year 2020-21
3	Hawai'i State Department of Health Alcohol and Drug Abuse Division, 2022[16]	State, County	All Ages (Adults aged 18 and over, adolescents aged under 18 (Adolescents Grades 6 through 12))	Native Hawaiian, Sāmoan, Other Pacific Islander, Japanese, Filipino, Portuguese, Hispanic/Latino/Spanish, White/ Caucasian, Black, Other, Mixed - Not Hawaiian 2 or more ethnicities with Native Hawaiian, 2 or more ethnicities not Native Hawaiian	Native Hawaiians, adolescents, sexual and gender minorities, homeless, justice system involved, older adults	Methamphetamine, Alcohol, Marijuana, Cocaine/Crack, Heroin, Stimulants, Other Stimulants, Fentanyl, Other, Opioids	NSDUH, ATOD	Report: Annual report covering Fiscal Year 2021-22
4	Guo et al, 2022[23]	State	All Ages and specific age groups (0-9, 10-19, 20-29, 30-39, 40-49, and 50+ years)	Native Hawaiian or Pacific Islander, East Asian, Other Asian, White/Hispanic, Other	Native Hawaiians, adolescents, victims of sexual assault or intimate partner violence, older adults	Alcohol, Cannabis, Cocaine/Crack, Opioids, Other	HCUP, Other	Journal article: Relationship between substance use (S sexual violence (SV) in Hawai'i by looking at ED dischar survivors of SV are more likely to develop SUD, and tho reporting SV have a greater proportion of SUDs than th general population
5	Hawai'i State Epidemiological Outcomes Workgroup, 2018a[24]	State, County	Specific Age Categories (Grade 9, 10, 11, 12, and 18 and older)	Native Hawaiian, Other Pacific Islander, Chinese, Japanese, Filipino, Other Asian, White, Black, American Indian/Alaska Native, Other	Native Hawaiians, adolescents, sexual and gender minorities, pregnant women	Alcohol, Marijuana	YRBSS, NSDUH, BRFSS, FARS, PRAMS, UCR, Other	Report: Selected indicators for alcohol use in adults an
6	Hawai'i State Epidemiological Outcomes Workgroup, 2018b[11]	State, County	Specific Age Categories (Grade 9, 10, 11, 12, and 18 and older)	Native Hawaiian, Other Pacific Islander, Japanese, Filipino, Other Asian, White, Other	Native Hawaiians, adolescents, sexual and gender minorities, pregnant women	Marijuana, Cocaine, Heroin, Methamphetamine, Opioids, Alcohol, Other, Stimulants, Other Stimulants	YRBSS, NSDUH, BRFSS, FARS, PRAMS, UCR, Other	Report: Selected indicators for drug use in adults and y

7	Hawai'i HIDTA, 2019[25]	State, County	Not Reported or Average Age Reported	N/A	None	Alcohol, Fentanyl, Heroin, Opioids, Methamphetamine, THC, Cocaine/Crack, Other	Other	Report: Annual reports, compiled into charts and graph analysis, are made public to better serve our law enforcement, criminal justice, treatment and prevention disciplines. Methamphetamine produces the highest level of drug- deaths and overdose deaths in Hawai'i
8	Kim et al, 2017[26]	State, County	All Ages and specific age groups (17 years and younger, 18 to 49 years, and 50 years and older)	Native Hawaiian, Sāmoan, Other Pacific Islander, Japanese (including Okinawan), Filipino, Other Asian, Portuguese, Hispanic, White, Black, Other, Mixed - not Hawaiian	Native Hawaiians, adolescents, pregnant and parenting women, homeless, justice system involved, older adults	Alcohol, Methamphetamine, Marijuana, Other	WITS	Journal article: Alcohol and drug treatment services in for agencies that are funded by ADAD; for the State Fis 2015
9	Kim & Zhang, 2018[27]	State, County	All Ages and specific age groups (17 years and younger, and 18 years and older)	Native Hawaiian (including part-Hawaiian), Sāmoan, Other Pacific Islander, Japanese (including Okinawan), Filipino, Other Asian, Portuguese, White, Black, Other, Mixed - not Hawaiian	Native Hawaiians, adolescents, pregnant and parenting women	Alcohol, Methamphetamine, Marijuana	WITS	Journal article: Alcohol and drug treatment services in for agencies that are funded by ADAD; for the State Fis Years 2015, 2016, and 2017
10	Nigg et al, 2013[28]	State	Specific Age Categories (Grades 9-12)	Native Hawaiian, Japanese, Filipino, White, Other	Native Hawaiians, adolescents	Alcohol	YRBSS	Journal article: Recent trends in Adolescent Alcohol Us Hawaii: 2005-2011
11	Okamoto et al, 2016[29]	Island	Specific Age Categories (Average age: 11.7 years of age)	Hawaiian/Part-Hawaiian, Chinese, Filipino	Native Hawaiians, adolescents	Alcohol, marijuana	Other	Journal article: Hoʻouna Pono program evaluation; find may inform future curriculum; culturally relevant drug resistance strategies in alignment with the State of Ha academic standards
12	Okamoto et al, 2019[30]	Island	Specific Age Categories (Age 10, 11, 12, 13 or older)	Hawaiian/Part Hawaiian, Sāmoan, Other Pacific Islander, Chinese, Japanese, Korean, Filipino, Other Asian, Portuguese, Hispanic/Latino/Spanish, White	Native Hawaiians, adolescents	Alcohol, marijuana, methamphetamine, Other	Other	Journal article: Hoʻouna Pono program evaluation; foc substance use outcomes across a 2-year time frame as with the implementation of the curriculum, to complem findings from the earlier pilot study
13	Onoye et al, 2021[31]	State, County	Specific Age Categories (8th, 10th, and 12th grade)	Native Hawaiian, Other Pacific Islander, Japanese, Filipino, Other Asian, Hispanic/Latino, White, Other, 2 or more ethnicities with Native Hawaiian, 2 or more ethnicities not Native Hawaiian	Native Hawaiians, adolescents, sexual and gender minorities	Alcohol, Marijuana, Opioids, Heroin, Cocaine, Methamphetamine, Other	ATOD	Report: The report provides an assessment of the nature and s alcohol, tobacco, and other drug use among participati school students in grades 8, 10, and 12 throughout the state of Hawai'i
14	Pacific Health Analytics Collaborative, 2022[32]	State, County	Specific Age Categories (Ages 12 years or older)	Native Hawaiian, Sāmoan, Other Pacific Islander, Chinese, Japanese, Korean, Vietnamese, Filipino, Indian, Other Asian, Hispanic, White, Black or African American, American/Indian/Alaska Native, Unknown, Multiple Races, Two or More Races, Hispanic	Native Hawaiians, adolescents, sexual and gender minorities, pregnant and parenting women, homeless, justice system involved, older adults	Alcohol, Marijuana, Cocaine, Heroin, Methamphetamine, Opioids, Stimulants, Other Stimulants , Other	YRBSS, NSDUH, BRFSS, FARS, PRAMS, TEDS, WITS, HCUP, UCR, NIBRS, NVSS, Other	Report: Hawai'i State Plan for a Data-Driven System o Substance Use: 2022 Statistical Report
15	Phillips et al, 2022[33]	State	Specific Age Categories (Adults over age 50)	Native Hawaiian or Pacific Islander, Asian, Hispanic/Latino/Spanish, White, Other	Native Hawaiians, Older adults	Cannabis	Other	Journal article: Chronic health conditions, acute health and healthcare utilization among adults over age 50 in who use cannabis: A matched cohort study

16	Saka et al, 2021[34]	State, County	Specific Age Categories (Grades 6-12)	Native Hawaiian, Filipino, Other Asian/ Pacific Islander, Hispanic/Latino/Spanish, White, Multiple races	Native Hawaiians, adolescents, sexual and gender minorities	Alcohol, Marijuana, Cocaine, Heroin, Methamphetamine	YRBSS	Journal article: Results of the 2019 Hawai'i State and C Youth Risk Behavior Surveys (YRBS) and Cross-Year ar National Comparisons
17	Subica et al, 2023[35]	County	Not Reported or Average Age Reported	Native Hawaiian or Pacific Islander	Native Hawaiians, homeless	Cannabis, heroin, methamphetamines, Other	Other	Journal article: Unhoused individuals in Hawai'i are disproportionately indigenous NH/PI, physical and me health disparities; these disparities may be reduced by accessing community MH services
18	Substance Abuse and Mental Health Services Administration, 2023[36]	State	Not Reported or Average Age Reported	Native Hawaiian or Other Pacific Islander, Asian, Hispanic/Latino/Spanish, Not of Hispanic or Latino Origin, White, Black or African American, American Indian/Alaska Native, Other		Alcohol, Heroin, Cocaine, Other Stimulants, Methamphetamine, Marijuana/Hashish, Other	TEDS	Report: TEDS serves as a repository for treatment data routinely collected by states for the purposes of monit their substance use treatment systems. The Substance and Mental Health Services Administration uses TEDS enhance their understanding of publicly funded substa treatment services provided and monitor grantee and performance
19	Ta et al, 2010[37]	State	Specific Age Categories (Grades 9, 10, 11, and 12)	N/A (study limitation)	Adolescents	Alcohol	YRBSS	Journal article: Review of YRBSS data from 1993 and 2 identify trends in alcohol use indicators
20	Wills et al, 2019[38]	County	Not Reported/Average Age Reported (Mean age 12.49 years)	Native Hawaiian or Other Pacific Islander, Asian American (Chinese, Japanese, Korean), Filipino, White, Other (Hispanic, African American)	Native Hawaiians, adolescents	Alcohol, marijuana,	Other	Journal article: Risk and protective factors for Native H and Other Pacific Islander youth compared to other yo ethnic groups in Hawaii
21	Zaha et al, 2013[39]	State	Specific Age Categories (Grades 9, 10, 11, and 12)	Native Hawaiian, Asian, White, Other, Multiple Races	Native Hawaiians, adolescents, victims of sexual assault or violence and intimate partner violence	Alcohol, marijuana, cocaine, methamphetamine	YRBSS	Journal article: Relationship between adolescent subst use and intimate partner violence (IPV)

[a]Race/Ethnicity: Native Hawaiian includes Hawaiian, Hawaiian (including part-Hawaiian), and Hawaiian/Part-Hawaiian. Hispanic, Latino, Spanish includes Hispanic, Hispanic/Latino, and Latinx. Black or African American includes Black, Native Hawaiian or Pacific Islander includes Haw cific Islander and Native Hawaiian or Other Pacific Islander. Other includes All Other Races and Other Race. White includes Caucasian and White/Caucasian.

[b]Substance(s): Other includes amphetamine, other amphetamines, antidepressants, barbiturates, combination of drug dependence excluding opioids, combination of opioid drugs with any other drug dependence, hallucinogens, ecstasy, MDMA, prescription pain medication, othe tion drugs, pain relievers, injection drugs, injectables, inhalants, tranquilizers, sedatives, illicit drugs, depressants, steroids without a prescription, steroids, hard drugs other than ice (crack, cocaine, speed, ecstasy, sniffing glue or paint), other opiates/synthetics, phencyclidine, benz azepines, prescription opioids, tranquilizers/sedatives, OTC (over-the-counter) drugs, prescription opioids, other prescriptions, miscellaneous, prescription drugs, and pain relievers.

[c]Data Source(s): Youth Risk Behavior Surveillance System (YRBSS), National Survey on Drug Use and Health (NSDUH), Hawai'i Student Alcohol, Tobacco, and Other Drug Use (ATOD), Behavioral Risk Factor Surveillance System (BRFSS), Fatality Analysis Reporting System (FARS), Pregn Assessment Monitoring System (PRAMS), Treatment Episode Data Set (TEDS), Uniform Crime Reporting (UCR), Web-based Infrastructure for Treatment Services (WITS), Healthcare Cost and Utilization Project (HCUP), National Incident-Based Reporting System (NIBRS), and the Natio tistics System (NVSS), High Intensity Drug Trafficking Areas (HIDTA), Other is considered surveys developed for a specific study, Kaiser Permanente Hawai'i Electronic Health Record System data, Coroners of Hawaii/ Physicians/ Medical Examiner data.

Table 2. Race/Ethnicity Among 21 Reviewed Documents Synthesized in a Scoping Review on Substance Use in Hawai‘i from 2010-2023

		Document Number																			
	N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Native Hawaiian[a]	14	X	X	X		X	X		X	X	X	X	X	X	X		X				
Native Hawaiian or Pacific Islander[d]	4				X											X		X			X
Sāmoan	7	X	X	X					X	X			X		X						
Other Pacific Islander	10	X	X	X		X	X		X	X			X	X	X						
Asian	2															X					
Asian American (Chinese, Japanese, Korean)	1																				X
Chinese	4					X						X	X		X						
Japanese	11	X	X	X		X	X		X	X	X		X	X	X						
Korean	2												X		X						
Vietnamese	1														X						
Filipino	14	X	X	X		X	X		X	X	X	X	X	X	X		X				X
Indian	1														X						
East Asian	1				X																
Other Asian	8				X	X	X		X	X			X	X	X						
Other Asian/Pacific Islander	1																X				
Portuguese	6	X	X	X					X	X			X								
Hispanic/Latino/Spanish[b]	9	X	X	X					X				X	X	X	X	X				
White[f]	15	X	X	X		X	X		X	X	X		X	X	X	X	X				X
White/Hispanic	1				X																
Black or African American[c]	7	X	X	X		X			X	X					X						
American Indian/Alaska Native	2					X									X						
Other[e]	12	X	X	X	X	X	X		X	X	X			X		X					
Other (Hispanic, African American)	1																				X
Mixed - Not Hawaiian	5	X	X	X					X	X											
Multiple races	4	X													X		X				
2 or more ethnicities with Native Hawaiian	3		X	X										X							
2 or more ethnicities, not Native Hawaiian	3		X	X										X							

[a]Native Hawaiian includes Hawaiian, Hawaiian (including part-Hawaiian), and Hawaiian/Part-Hawaiian.
[b]Hispanic, Latino, Spanish includes Hispanic, Hispanic/Latino, and Latinx.
[c]Black or African American includes Black.
[d]Native Hawaiian or Pacific Islander includes Hawaian/Pacific Islander and Native Hawaiian or Other Pacific Islander.
[e]Other includes All Other Races and Other Race.
[f]White includes Caucasian and White/Caucasian.

Table 3. Groups that have a High Risk for Health Problems or are Underserved by Health Services Among 21 Reviewed Documents Synthesized in a Scoping Review on Substance Use in H from 2010-2023

Doc No.	Author/Organization, Publication Year	Native Hawaiians (n = 18)	Adolescents (n = 17)	Older adults (n = 8)	Sexual and gender minorities (n = 6)	Homeless (n = 6)	Justice system involved (n = 5)	Pregnant and parenting women (n = 4)	Victims of Sexual Assault or Int Partner Violence (n = 2)
1	Hawai'i State Department of Health Alcohol and Drug Abuse Division, 2020	X	X	X	X	X	X		
2	Hawai'i State Department of Health Alcohol and Drug Abuse Division, 2021	X	X	X	X	X	X		
3	Hawai'i State Department of Health Alcohol and Drug Abuse Division, 2022	X	X	X	X	X	X		
4	Guo et al, 2022	X	X	X					X
5	Hawai'i State Epidemiological Outcomes Workgroup, 2018a	X	X					X	
6	Hawai'i State Epidemiological Outcomes Workgroup, 2018b	X	X	X				X	
7	Hawai'i HIDTA, 2019								
8	Kim et al, 2017	X	X	X		X	X	X	
9	Kim & Zhang, 2018	X	X						
10	Nigg et al, 2013	X	X						
11	Okamoto et al, 2016	X	X						
12	Okamoto et al, 2019	X	X						
13	Onoye et al, 2021	X	X		X				
14	Pacific Health Analytics Collaborative, 2022	X	X	X	X	X	X	X	
15	Phillips et al, 2022	X		X					
16	Saka et al, 2021	X	X		X				
17	Subica et al, 2023	X				X			
18	Substance Abuse and Mental Health Services Administration, 2021								
19	Ta et al, 2010		X						
20	Wills et al, 2019	X	X						
21	Zaha et al, 2013	X	X						X

Table 4. Substances Among 21 Reviewed Documents Synthesized in a Scoping Review on Substance Use in Hawai‘i from 2010-2023

Doc No.	Author/ Organization, Publication Year	Alcohol (n = 20)	Marijuana, Cannabis, Hashish, THC (n = 18)	Methamphetamine, Crystal Methamphetamine, Ice (n = 13)	Cocaine, Crack (n = 12)	Heroin (n = 10)	Opioids (n = 10)	Fentanyl (n = 5)	Stimulants, Other Stimulants (n = 5)
1	Hawai‘i State Department of Health Alcohol and Drug Abuse Division, 2020	X	X	X	X	X	X	X	X
2	Hawai‘i State Department of Health Alcohol and Drug Abuse Division, 2021	X	X	X	X	X	X	X	X
3	Hawai‘i State Department of Health Alcohol and Drug Abuse Division, 2022	X	X	X	X	X	X	X	X
4	Guo et al, 2022	X	X		X		X		
5	Hawai‘i State Epidemiological Outcomes Workgroup, 2018a	X							
6	Hawai‘i State Epidemiological Outcomes Workgroup, 2018b	X	X	X	X	X	X		
7	Hawai‘i HIDTA, 2019	X	X	X	X	X	X	X	
8	Kim et al, 2017	X	X	X					
9	Kim & Zhang, 2018	X	X	X	X				
10	Nigg et al, 2013	X							
11	Okamoto et al, 2016	X	X						
12	Okamoto et al, 2019	X	X	X	X				
13	Onoye et al, 2021	X	X	X	X	X	X		
14	Pacific Health Analytics Collaborative, 2022	X	X	X	X	X	X	X	X
15	Phillips et al, 2022		X						
16	Saka et al, 2021	X	X	X	X	X			
17	Subica et al, 2023	X	X	X		X	X		
18	Substance Abuse and Mental Health Services Administration, 2021	X	X	X	X	X	X		X
19	Ta et al, 2010	X							
20	Wills et al, 2019	X	X						
21	Zaha et al, 2013	X	X						

[a] Other column includes amphetamine, other amphetamines, antidepressants, barbiturates, combination of drug dependence excluding opioids, combination of opioid drugs with any other drug dependence, hallucinogens, ecstasy, MDMA (3,4-methylenedioxymethamphetamine tion pain medication, other prescription drugs, pain relievers, injection drugs, injectables, inhalants, tranquilizers, sedatives, illicit drugs, depressants, steroids without a prescription, steroids, hard drugs other than ice (crack, cocaine, speed, ecstasy, sniffing glue or paint), other op thetics, phencyclidine, benzodiazepines, prescription opioids, tranquilizers/sedatives, OTC (over-the-counter) drugs, prescription opioids, other prescriptions, miscellaneous, prescription drugs, and pain relievers.

across the documents such as the Behavioral Risk Factor Surveillance System (BRFSS), Fatality Analysis Reporting System (FARS), Pregnancy Risk Assessment Monitoring System (PRAMS), Treatment Episode Data Set (TEDS), Uniform Crime Reporting (UCR), Web-based Infrastructure for Treatment Services (WITS), Healthcare Cost and Utilization Project (HCUP), National Incident-Based Reporting System (NIBRS), and the National Vital Statistics System (NVSS). Data sources such as surveys created for specific studies, electronic health record systems, and data from the Coroners of Hawai'i, Physicians, and Medical Examiner were classified as "Other."

Discussion

This scoping review has identified gaps in the literature and data collection for Hawai'i that can be addressed through additional research, such as attention to substance use among older adults, disaggregating data on Pacific Islander populations in Hawai'i, reporting substance use data according to geographical areas smaller than island-level to identify needs in specific communities, increasing the collection of data on groups that have a high risk for health problems or are underserved by health services, and focusing on data collection about fentanyl use in Hawai'i.

Based on the findings of this review, there is an apparent dearth of research focused on substance use among the aging population. This review yielded 1 document that focused exclusively on older adults (those who are over 50 in the study). Phillips et al assessed chronic health conditions, acute health conditions, and care utilization using electronic health record data of adults aged 50 and over in Hawai'i who use cannabis.[33] The average age of the sample was 62.8 and about 20.4% of the study's total sample (N = 550) were classified as having comorbid SUDs at baseline which included the usage of alcohol, opioids, sedatives, cocaine, other amphetamines, tobacco, inhalants, or other. Although this article did not primarily focus on SUDs, it provided a sliver of information about SUDs among older adults in Hawai'i. This study examined health care utilization, health outcomes, and acute medical events and reported that the baby boomer generation had relatively high rates of substance use compared to other cohorts.[33] Little is known about substance use among older adults in Hawai'i, and collecting this information may inform prevention, treatment, and recovery services specifically for this population.

The top 5 race/ethnicity from this synthesis were White, Native Hawaiian and Filipino tied for second, followed by Other, Japanese, and Other Pacific Islander, which demonstrates the diversity of individuals in Hawai'i. This result highlights the need for future research to continue disaggregating racial and ethnic groups such as Other Pacific Islanders and the need to add certain groups, such as Micronesians to obtain a clearer understanding about substance use among specific race/ethnicity in the state of Hawai'i. The disaggregation could provide new information about racial or ethnic groups previously overlooked and initiate targeted services for these groups.[40]

Most documents reported information at the state, county, and island levels. This underscores the need for data to be reported at smaller geographic levels such as communities, cities, and towns. The need for community-level data is pressing because communities represent a diverse range of racial/ethnic groups, ages, and cultures. Particularly in Hawai'i, it is necessary to identify community-level geographic data as there may be variation within counties regarding needs, risks, and available resources. The community-level geographic data would allow researchers, social workers, health/public health professionals, and community members to identify specific needs and resources, which would allow these professionals to develop tailored and culturally appropriate substance use prevention, treatment, and recovery services.[41]

This review also highlights the need for an increase in research on groups that have a high risk for health problems or are underserved by health services. The top 3 reported groups in this synthesis were Native Hawaiians, adolescents, and older adults. Although older adults are in the top 3 reported groups, it should be noted that documents in this synthesis often reported some data on older adults but lacked a specific focus on this group. In relation to adolescents, the team came across a Hawai'i State Department of Health legislative report that included 6-month follow-up data on adolescents who were discharged from treatment. There has been a decline in the percentage of adolescents who had not used substances in 30 days prior to their 6-month follow-up over the past 4 consecutive fiscal years, meaning that fewer adolescents were able to remain abstinent during the 6 months after their discharge.[16] It would be beneficial for future substance use research to be longitudinal and report information on relapse or re-admissions. Information about groups that have a high risk for health problems or are underserved by health services such as sexual and gender minorities, pregnant and parenting women, homeless, justice-involved, victims of sexual assault or intimate partner violence were reported in less than 30% of the documents, respectively.

The synthesis revealed that the top 3 reported substances were alcohol, marijuana, and methamphetamine. Methamphetamine is the leading cause of drug-related deaths in Hawai'i.[25] Less than 25% of the documents in this review mentioned fentanyl. Future substance use research and data collection should consider the inclusion of fentanyl, as it has been reported that the usage of fentanyl with methamphetamine is rising in the state.[42] Drug-related deaths due to fentanyl are increasing at a higher pace than methamphetamine deaths. In 2022, deaths due to fentanyl increased by 65%[42] and is the second most dangerous drug threat to Hawai'i.[1]

Among the documents, a variety of data sources were utilized for studies that focused on substance use in Hawai'i. The data source that was utilized the most was the YRBSS, which collects data on substance use behaviors from middle school and high school students in of Hawai'i public schools. The NSDUH was the second most frequently

used data source, followed by the ATOD Survey. The NSDUH collects substance use data from individuals aged 12 years or older in the United States. The ATOD is an assessment of alcohol, tobacco, marijuana, and other drug use among those in grades 8, 10, and 12 in the state of Hawai‘i. Upon looking into the ATOD, the ATOD offers substance use data by community regions (eg, Central O‘ahu, Leeward O‘ahu, Honolulu O‘ahu, and Windward O‘ahu), but these data were not reported in any of the documents in this review.

This scoping review has limitations. Articles or reports that included information on substance use in Hawai‘i but did not include search terms used for the synthesis and were not published between the years 2010-2023 may have been missed. If search terms did not appear in the titles or abstracts of relevant documents, and the year of the document was prior to the year 2010 or after 2023, they did not appear in search results. Search terms related to health, public health, social work, or primary care were not included. Including these search terms may have yielded additional relevant documents. However, the inclusion of broader search terms may yield too many results for conducting this type of scoping review. Documents written in languages other than English were not reviewed, which may have left out data about substance use in Hawai‘i considering the state’s diverse populations. This review excluded journal articles that did not have an abstract or were not available in full text, which may have left out journal articles that could have contributed information to this scoping review.

Conclusion

A scoping review was conducted to find available data on substance use in Hawai‘i relating to age/age groups, race/ethnicity, geographies, groups that have a high risk for health problems or are underserved by health services, substances, and data sources. This synthesis revealed that there are a fairly limited number of documents that provide information about substance use in Hawai‘i and accordingly, this study identified gaps in the literature and data collection that can be fulfilled by future research.

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