The Behavioral Health Workforce in Hawai`i: A Status Report

Prepared by the Western Interstate Commission for Higher Education (WICHE) Mental Health Program
For: Hawai`i Behavioral Health Services Administration

January 2008

Executive Summary

In largely rural states, such as Hawai`i, there have been historical difficulties in recruiting and retaining an effective behavioral health workforce. Additionally, the recent report of the President's *New Freedom Commission on Mental Health* described in detail the significant problems facing mental or behavioral health systems throughout the country, particularly in rural areas. These include critical gaps in accessibility to services, critical shortages in the availability of providers and programs, impaired acceptability of care due to urban-based models and strategies, and establishing mental health policy without consideration of its rural impact.

The national, regional, and state efforts currently underway indicate significant momentum behind behavioral health workforce development, particularly in rural areas. Specifically, the creation of a national behavioral health workforce development strategy is being spearheaded by the Annapolis Coalition on Behavioral Health Workforce. Rural workforce development is a major component of this effort. Regionally, western states such as Alaska, Arizona, Nevada, and North Dakota have undertaken their own state-level workforce initiatives with the help of the Western Interstate Commission for Higher Education (WICHE) Mental Health Program. These activities provide a context in which the State of Hawai`i is now undertaking its own workforce development project.

WICHE has been asked to facilitate Hawaii's workforce development process, part of which is producing a report designed to present a picture of the current state of its behavioral health workforce. Specifically, this report will describe 1) activities at the federal, regional and state level that have set the groundwork for a more formal process of workforce development, 2) components of an effective workforce, 3) population trends and projections, 4) prevalence estimates of behavioral health disorders and unmet need, 5) the state's occupational forecast, and 6) existing behavioral health training programs in higher education.

National Issues for Rural Behavioral Health

- More than 60% of rural Americans live in mental health professional shortage areas.
- More than 90% of all psychologists and psychiatrists, and 80% of MSWs, work exclusively in metropolitan areas.
- More than 65% of rural Americans get mental health care from their primary care provider.
- Rural Americans travel further to provide and receive services.
- Comprehensive services are often not available.
- Few programs train professionals to work competently in rural places.

Hawai`i Behavioral Health Workforce Data

- Virtually the entire state is designated as a federal Mental Health Professional Shortage Area.
    - Ranked 9th among states in psychiatrists, **38th for psychologists** per capita and 17th among states in social workers per capita.
- The vast majority of providers are in the most densely populated areas.
- There is a significant amount of unmet need in Hawai`i.

Hawaii's Occupational and Population Trends and Projections

- Hawaii's retirement population is growing at a much higher rate than its workforce population (79.7% vs. 37.8%). In 2000, Hawaii's dependency ratio was 67.4. It is projected to rise to 83.3 by 2020 and 89.9 by 2030.
- Employment in Hawai`i is projected to grow by 14 percent from 2002 to 2012, growing the workforce from 558,220 to 636,480.
- On average, Hawai`i ranks 5th among the 15 WICHE states in actual numbers of professionals.

Hawaii's Education System

- The number of public high school graduates is expected to decrease to 8,962 in 2017-18, a 14.3% decline from 2001-2.
- Hawai`i ranked 34th in the nation in the high school graduation rate at 69%.
- Hawai`i has experienced the steepest decline in the nation of the percentage of high school students enrolling in college by age 19.
- Only 47% of full-time college students complete a Bachelor's degree within six years.
- Only 26.2% of the state's population aged 25-65 has attained a Bachelor's degree or higher.
- There are at least six behavioral health programs offered in the Hawai`i higher educational system (e.g., psychology, social work, etc).

Table of Contents

The Behavioral Health Workforce in Hawai`i 1
Executive Summary 2
Table of Contents 5
Table of Figures 6
Table of Tables 6
Introduction 7
Rural Behavioral Health Faces Persistent and Pervasive Issues 7
Behavioral Health Workforce Shortages are a National Issue 7
Federal, Regional and State Activities 9
Hawaii's Public Behavioral Health System 12
Components of a Strong and Effective Workforce 19
Hawaii's Population Demographics 20
Behavioral Health Disorder Prevalence Data for Hawai`i 26
Overview and Projections of the General and Behavioral Health Workforces 33
Hawaii's Education System 37
Summary 42
Appendices 43
Appendix A 44
Appendix B: 47
Appendix C: 48
Appendix D 49
Appendix E 50
Appendix F 51
Appendix G 52
Appendix H 53
Appendix I 54
Appendix J 56

Table of Figures

Figure 1: Designated Mental Health Professional Shortage Areas: Nationally 8
Figure 2: Core Services of AMHD 13
Figure 3: Core Based Statistical Counties 16
Figure 4: Workforce Components 19
Figure 5: US Census 2000 Hawai`i Profile 20
Figure 6: RUCA Designations of Rural Areas in Hawai`i 21
Figure 7: Population by Age 22
Figure 8: Population by Ethnicity 23
Figure 9: Hawai`i 2000 Breakdown of Asian Races 24
Figure 10: Hawai`i 2000 Breakdown of Native Hawaiian and Pacific Islander Races 24
Figure 11: US Census 2000 SF3: Child and Adult Poverty for Hawai`i by County 25
Figure 12: Population Trends by Age Group from 2000 to 2030 26
Figure 13: Map of Hawai`i CMHC Locations 27
Figure 14: Youth and Adult Binge Drinking in Hawai`i and US Populations 30
Figure 15: Hawai`i and US Youth, Young Adult and Adult Drug Use, 1999-2005 30
Figure 16: Adult Substance Abuse Prevalence Rates, 1991 and 1998 31
Figure 17: AMHD CAGEAID Score Breakdown by Case Management Type and County 32
Figure 18: Hawai`i Public High School Graduates 37
Figure 19: Educational Attainment in Hawai`i, Metro and Nonmetro Portions, 2000 38
Figure 20: University of Hawai`i System 39

Table of Tables

Table 1: Unmet Service Needs by County 18
Table 2: Hawai`i Population by Race, US Census 2000 22
Table 3: US Census Population Projections 2000 to 2030 and Percent Change 25
Table 4: Estimate of Statewide Prevalence for Adults with SMI and SPMI, FY 2005 27
Table 5: 2007 Adult Clients by Primary Diagnosis Reported 27
Table 6: 2007 Profile of Adults Served, All Programs by Age, Gender, and Race/Ethnicity 28
Table 7: Estimated Adult SMI and SPMI Prevalence by County, FY 2005 29
Table 8: 2007 Actual Numbers of Children Served by Gender and Race/Ethnicity 29
Table 9: Statewide Treatment Needs for Sixth, Eighth, Tenth, and Twelfth Graders, 2003 32
Table 10: Projections of the Working and Retirement Age Populations from 2000 to 2025. 33
Table 11: Western Regional Comparison of Hawaii's Behavioral Health Occupations in 2006 . 34
Table 12: Licensed Behavioral Health Professionals for Hawai`i, October 2007 35
Table 13: 13-Year Behavioral Health Occupation Projections for 2014 35
Table 14: Program and Degrees Offered by Institution 41

Introduction

Rural Behavioral Health Faces Persistent and Pervasive Issues

The April 2002 report of the President's *New Freedom Commission on Mental Health* described in detail the significant problems facing mental health systems throughout the country, particularly in rural areas. These include critical gaps in accessibility to services, shortages in the availability of providers and programs, limited acceptability of care due to stigma, and establishing mental health policy without consideration of its rural impact, to name just a few.

The President's *Commission* report acknowledged that incremental reform of the mental health system is no longer a viable option; a fundamental transformation is needed. As indicated in the "Vision Statement" of the report:

> "We envision a future when everyone with a mental illness will recover, a future when mental illnesses can be prevented or cured, a future when mental illnesses are detected early, and a future when everyone with a mental illness at any stage of life has access to effective treatment and supports — essentials for living, working, learning, and participating fully in the community" (p. 1).

A strong and stable behavioral health workforce is necessary in order to attain and maintain this vision.

Behavioral Health Workforce Shortages are a National Issue

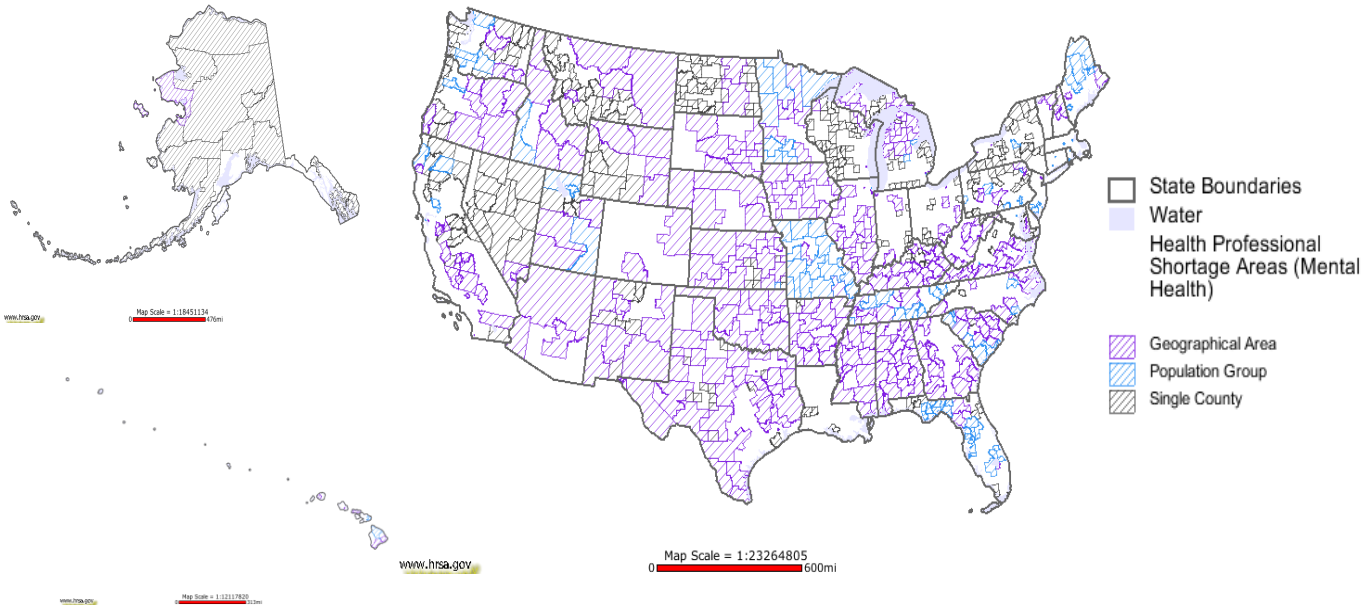
Multiple reports dating from the Eisenhower era Presidential Commission on Mental Health through today indicate that the behavioral health workforce shortage problem is persistent with little improvement.[1] This is particularly true in rural and frontier areas. For instance, the National Advisory Committee on Rural Health (1993) noted that across the 3,075 counties in the United States, 55% had no practicing psychiatrists, psychologists, or social workers, and *all* of these counties were rural. Additionally, over 85% of 1,669 federally designated Mental Health Professional Shortage Areas are rural[2] (refer to Figure 1; please see Appendix A for a definition of MHPSAs). The National Advisory Committee on Rural Health (2004) reported that the supply of psychiatrists is about 14.6 per 100,000 people in urban areas compared to 3.9 per 100,000 in rural areas. Similar shortages exist for other behavioral health professions as well, such as social work and counseling.

The ratio of behavioral health providers to the population worsens as rurality increases.[3] Holzer and colleagues studied the availability of health and mental health providers by population

[1] Bird et al., 1999; Flax et al., 1979; Larson et al., 1994; Murray & Keller, 1991
[2] Bird et al., 2001
[3] Holzer et al., 2000

density.[4] They found that only about 10% of frontier[5] counties had psychiatrists and less than 1% of very frontier[6] counties had any psychiatrists. These rates of psychiatrists per 100,000 people for frontier and very frontier counties are 1.3 and 0.1, respectively. Additionally, only 13.3% of very frontier counties had psychologists (13 per 100,000), although frontier counties had 43.1% (18.1 per 100,000). For very frontier counties, 18.5% had social workers (12.8 per 100,000), while 23.4% exist in frontier counties (9.1 per 100,000). This data shows the strong trend of sharply declining numbers of behavioral providers as one gets farther away from urban areas.

Figure 1: Designated Mental Health Professional Shortage Areas: Nationally



Due to these facts, accessing mental health services is difficult in rural America. Additionally, rural Americans have to travel further to provide or receive services, are less likely to have insurance benefits for mental health care, and are less likely to recognize mental illnesses and understand their care options. As a result, rural Americans enter care later in the course of their disorders, with more advanced symptoms, and require more intensive and expensive interventions. Compounding the problem is that there are few programs training professionals to work competently in rural places. Stigma is associated with having mental illness, and there is some professional misunderstanding about rural America, as indicated by the prevalent assumption that urban models of treatment and practice will work in rural areas.

[4] http://www.du.edu/frontier-mh/letter11.html
[5] The definition of "frontier" is based on that of the Frontier Mental Health Services Resource Network, which is a county with less than 7 persons per square mile (it is slightly altered to be 2 to 6.9 persons per square mile, to include the categorization "very frontier").
[6] "Very Frontier" is a county with 0 to 1.9 persons per square mile.

In summary, rural America needs, but does not have, an appropriate supply of technically competent and skilled professionals who have demonstrated knowledge and experience in rural/remote practice.

Federal, Regional and State Activities

Efforts to address behavioral health workforce shortages have been underway for several years. At present, there is a national endeavor to increase the workforce for all Americans, which includes rural as one of its primary focuses, as well as regional and state-level activities that have also primarily focused on rural workforce. These efforts will be briefly discussed here.

At the national level, the *Annapolis Coalition on Behavioral Health Workforce* led a multi-phase process to create a national strategic plan for behavioral health workforce development. The plan was sponsored by all SAMHSA Centers (i.e., CMHS, CSAT, CSAP) and encompasses workforce issues for a comprehensive range of specialty areas (e.g., rural, co-occurring disorders). A major goal was to focus on common issues, while respecting the unique needs of each specialty area.

The results from the multi-phase process included the following: 1) broad national consensus on mission, vision, and strategic directions; 2) a proposed plan of action for SAMHSA and its federal partners; 3) a set of high priority interventions; 4) new or strengthened partnerships to implement the interventions; 5) focused action at federal level; 6) focused action at the state and local levels; 7) focused action at the organizational level (providers, associations, educational); and 8) stimulate collective and individual action.

The phases of planning for development of the national strategy began at the start of 2005, with expert input from persons in recovery and their families, as well as specialists in the field, and consensus-building occurring from February to September, 2005. A draft plan was disseminated in early 2006, followed by public comment. The next step in developing the national strategic plan was to build on previous workforce initiatives and seek broad input from the field to identify a core set of strategic directions, specific, achievable goals, and a set of high priority *action* items for strengthening the workforce. The final plan is available on the Annapolis Coalition web site at: http://www.annapoliscoalition.org/national_strategic_planning.php.

On a regional level, the call for western states to engage in formal efforts to develop a strong and able behavioral health workforce occurred in September 2003, during a regional meeting in Reno, Nevada. The basic premise of the meeting was that behavioral health and higher education can collaborate to develop effective workforce development strategies. This required a discussion of the multilevel contexts in which workforce shortages exist, the implications of these shortages, and possible solutions.

Top educators, providers, and legislators attended the Reno Meeting from western states, including representatives from Nevada. The Western Interstate Commission (WICHE) Mental Health Program facilitated the meeting for Higher Education. WICHE's mission includes 1)

assisting states in the improvement of systems of care for consumers and their families and 2) advancing the preparation of a qualified workforce in the West.

The Reno Meeting identified a number of factors and issues that confront behavioral workforce development in rural and frontier areas, including:

1. Components of a transformed rural and frontier mental health shortage initiative;
2. Strengths of the region;
3. Regional barriers/challenges;
4. Academic Assets.[7]

Following the Reno Meeting, the WICHE Mental Health Program received funding from SAMHSA to sponsor a second conference to bring together the public behavioral health system and higher education stakeholders to continue the efforts of the Reno Meeting. "Building Partnerships in Rural Mental Health Workforce Development Meeting" was held in Mesa, Arizona in March 2005.[8] WICHE collaborated with the *Annapolis Coalition* to merge efforts and inform the national strategy on issues germane to rural behavioral health.

Four specific recommendations for rural behavioral health initiatives were produced by the attendees to be included in the National Strategy for Workforce Development:

1. Distance Learning: Use Distance Education as a strategy to deliver seamless training across the rural behavioral health care career ladder. (Each State will identify their unique needs.)
2. Community-Specific Needs: Consult communities about their specific needs as defined by the community itself.
3. Include "Rural" in Cultural Competence: Determine ways to introduce "rural" and "cultural humility" into cultural competence (i.e., unique aspects of rural; no one "rural;" values of individual and community, spirituality, and linguistics).
4. Training in Model Rural Treatment Programs: Promote the adoption of rural training programs by identifying model programs and replicating and tailoring them to other rural communities.

Finally, the WICHE Mental Health Program has worked with four of its member states (Alaska, Arizona, Nevada, and North Dakota) on projects specifically focused on developing the rural behavioral health workforce. The first project occurred in Alaska shortly after the Reno meeting. In December 2003, faculty in behavioral health disciplines from the University of Alaska, Fairbanks and Anchorage campuses met to discuss important issues and goals related to developing the workforce. The WICHE Mental Health Program conducted key informant surveys of faculty and facilitated the December meeting, then helped organize and facilitate the Alyeska summit in May 2004, which resulted in the identification of specific workforce development goals and support of 1.178 million dollars for these efforts.

A particular strength of the Alaska approach was using a data-driven decision making process. University faculty involved in the partnership, with the help of WICHE, synthesized data

[7] The "Reno Report" can be seen at http://ruralhealth.hrsa.gov/pub/WicheMH.asp
[8] The "Mesa Report" can be obtained by contacting WICHE directly at www.wiche.edu

regarding behavioral health professional shortage areas, workforce projections, student totals in each of the behavioral health programs and projected graduates, as well as macro-level trends such as the number of people projected to enter versus leave the workforce by 2025. The use of data helped clarify areas of need, present and future workforce trends, and focused decision-making.

The State of Arizona began its behavioral health workforce development initiative in April 2004 to integrate higher education behavioral health curricula with state practice models and the reality of practice in the public behavioral health system. This partnership has involved a number of meetings of faculty, CMHC staff, consumers and consumer advocates, as well as state personnel. WICHE facilitated the meetings which focused on developing mission statements and specific, concrete, and achievable goals. In addition to the goal of integrating clinical practice models with higher education curricula, Arizona is ultimately trying to develop and recruit a workforce that is representative of the local communities, using a "grow your own" approach. Although the project continues, a major event was a one-day conference held in April 2005 to disseminate the project to university faculty and enlist their help in making it a reality. North Dakota completed a similar process in the summer of 2007.

The most current state that WICHE is working with on workforce initiatives is Nevada. Nevada is in the beginning stages of this process and recently convened an information-gathering meeting in Las Vegas. Nevada commissioners, the Director of Mental Health, and numerous representatives from higher education institutions attended this meeting. Nevada is one of the fastest growing states in the country and is facing a severe shortage of mental health professionals. Nevada is proactively working with its colleges and universities to develop an integrated system of graduate programs based on the Alaska model and specifically tailored to meet the growing mental health needs of its diverse rural population.

* * *

The national, regional, and state efforts currently underway indicate significant momentum behind behavioral health workforce development, particularly in rural areas. These activities provide a context in which the State of Hawai`i is now undertaking its own workforce development project. Hawai`i already has initiated some focus on mental health workforce issues. Plans are in the works to conduct a Health Workforce Summit and/or Search Conference. Ideas and activities produced from the summit and conference will likely be very informative to the current behavioral health workforce project. This report presents a picture of the current state of Hawaii's behavioral health workforce. Specifically, this report will describe 1) activities at the federal, regional and state level that have set the groundwork for a more formal process of workforce development, 2) components of an effective workforce, 3) population trends and projections, 4) prevalence estimates of behavioral health disorders and unmet need, 5) the state's occupational forecast, and 6) existing behavioral health training programs in higher education, including enrollment trends where available.

This report is an initial step in synthesizing relevant information that can inform future discussions and activities. However, it is beyond the scope of this report to describe all possible factors that impact workforce development. Instead, it looks at four key areas that have arisen in

similar work in other states that bear most directly on behavioral health workforce. It is assumed that those in Hawai`i working in the system understand issues that also affect the workforce but that are not described fully here.

Hawaii's Public Behavioral Health System

The Hawai`i Department of Health is committed to "protect and improve the health and environment for all people in Hawai`i." To accomplish this mission in the behavioral health field, the Department established the Behavioral Health Services Administration (BHSA) to oversee four Divisions, 1) the Alcohol and Drug Abuse Division (ADAD), 2) the Child and Adolescent Mental Health Division (CAMHD), 3) the Adult Mental Health Division (AMHD) and 4) the Developmental Disabilities Division (DDD). Each one is described briefly below. The four Divisions utilize a strong collaboration structure, which facilitates communication and the ongoing development of a solid community-based system of mental health care throughout the state. However, the BHSA also recognizes that there are issues present that hinder the full accomplishment of their respective and collective missions. This report presents the major barriers and provides a platform for the stakeholders in the state to design and implement responses to address those barriers.

The ADAD "aims to reduce the severity and disability effects related to alcohol and other drug use by assuring access to an integrated, high quality, public/private community-based system of prevention strategies and treatment services designed to empower individuals and communities to make health-enhancing choices regarding the use of alcohol and other drugs."

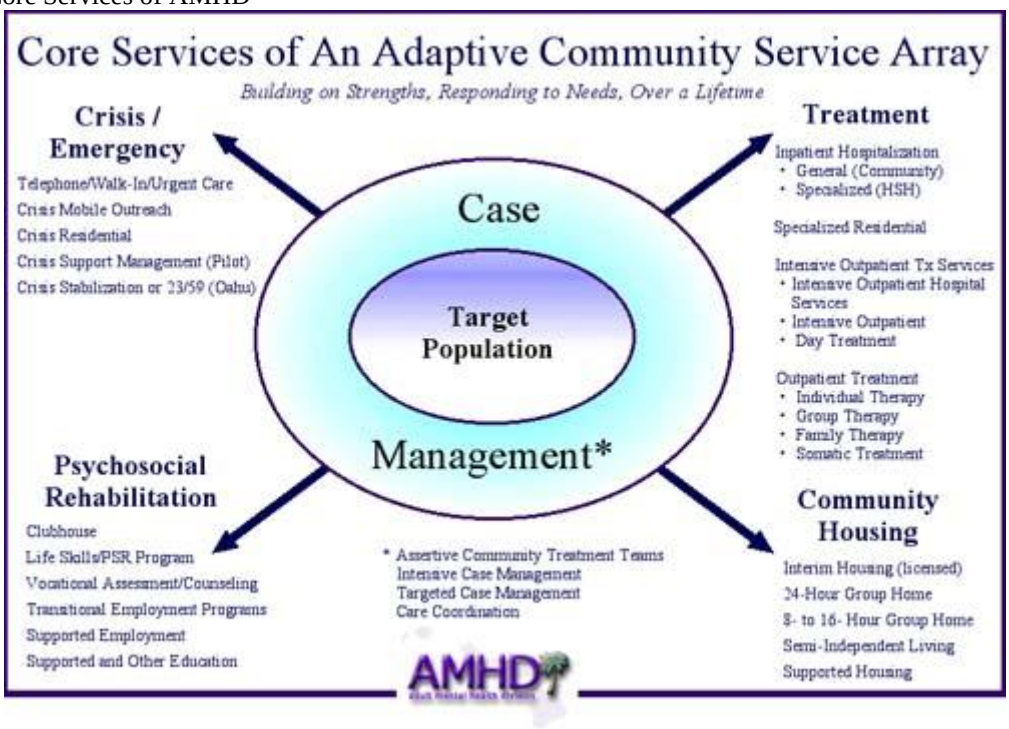
The CAMHD "aims to improve the emotional well-being of children and adolescents, and to preserve and strengthen their families by assuring early access to a child and adolescent-centered, family-focused community-based coordinated system of care that addresses the child's and adolescent's physical, social, emotional, and other developmental needs within the least restrictive environment." There are a total of seven Family Guidance Centers (FGCs) spread out across the islands (please see Appendix B for a listing of FGC locations). Additional mental health services are provided by community agencies under Purchase of Service (POS) contracts.

The AMHD "seeks to provide a comprehensive, integrated mental health system supporting the recovery of adults with severe mental illness." Services include mental health education, treatment and rehabilitation through community-based mental health centers, and an in-patient state hospital facility for persons with mental illnesses, including those referred through courts and the criminal justice system. Most community health centers contain an interdisciplinary team consisting of a psychologist, masters-degreed social worker, psychiatrist, and/or a licensed addiction counselor. Figure 2 lists the core services provided by AMHD. Additional mental health services are provided by community agencies under Purchase of Service (POS) contracts. In addition, the Hawai`i State Hospital provides total care to individuals with mental illness and/or substance abuse issues consisting of physical, medical, psychological, rehabilitative, social, recreational, and spiritual services.

The DDD aims "to prevent institutionalization of people with developmental disabilities through community-based services." The Division provides support through two branches, the Disability Supports Branch and the Case Management and Information Services Branch.

BHSA supports these four agencies as they provide a network of services across the state that encompasses the spectrum of necessary mental health care. Through the collaborative efforts of the BHSA, consumers and family members, private providers, consumer advocate groups, local representatives, and many other mental health stakeholders, the community-based mental health delivery system continues to grow and thrive. Please see Appendix C for a complete list of the community mental health centers.

Figure 2: Core Services of AMHD[9]



Ongoing and New Activities in Hawai`i at the State Level

Listed below are some of the initiatives undertaken in collaboration with the BHSA:

- Three divisions (ADAD, CAMHD, AMHD) have contracts with the University of Hawaii's Departments of Psychiatry (Substance Abuse and Psychopharmacology), Social Work, and the School of Social Sciences (Evaluation) to provide faculty positions, resident trainings, and internship positions[10]. These positions were designed to encourage future professionals to enter the workforce and reduce shortages, as well as to to improve system accountability and workforce quality. The UH John A. Burns School of Medicine,

[9] http://www.amhd.org/Consumer/ServiceArray.asp
[10] Personal Communication with Dr. Thomas Hester, Chief, Adult Mental Health Division, January 09, 2008.

Department of Psychiatry has implemented a new track that provides students with exposure to telehealth and rural mental health issues encouraging young professionals to adopt the use of this technology and information in their future practices. This extends the reach of mental health services to underserved areas. DDD previously had a contract with the School of Social Work, which ended recently in June 2007. There are currently no plans for a new contract.

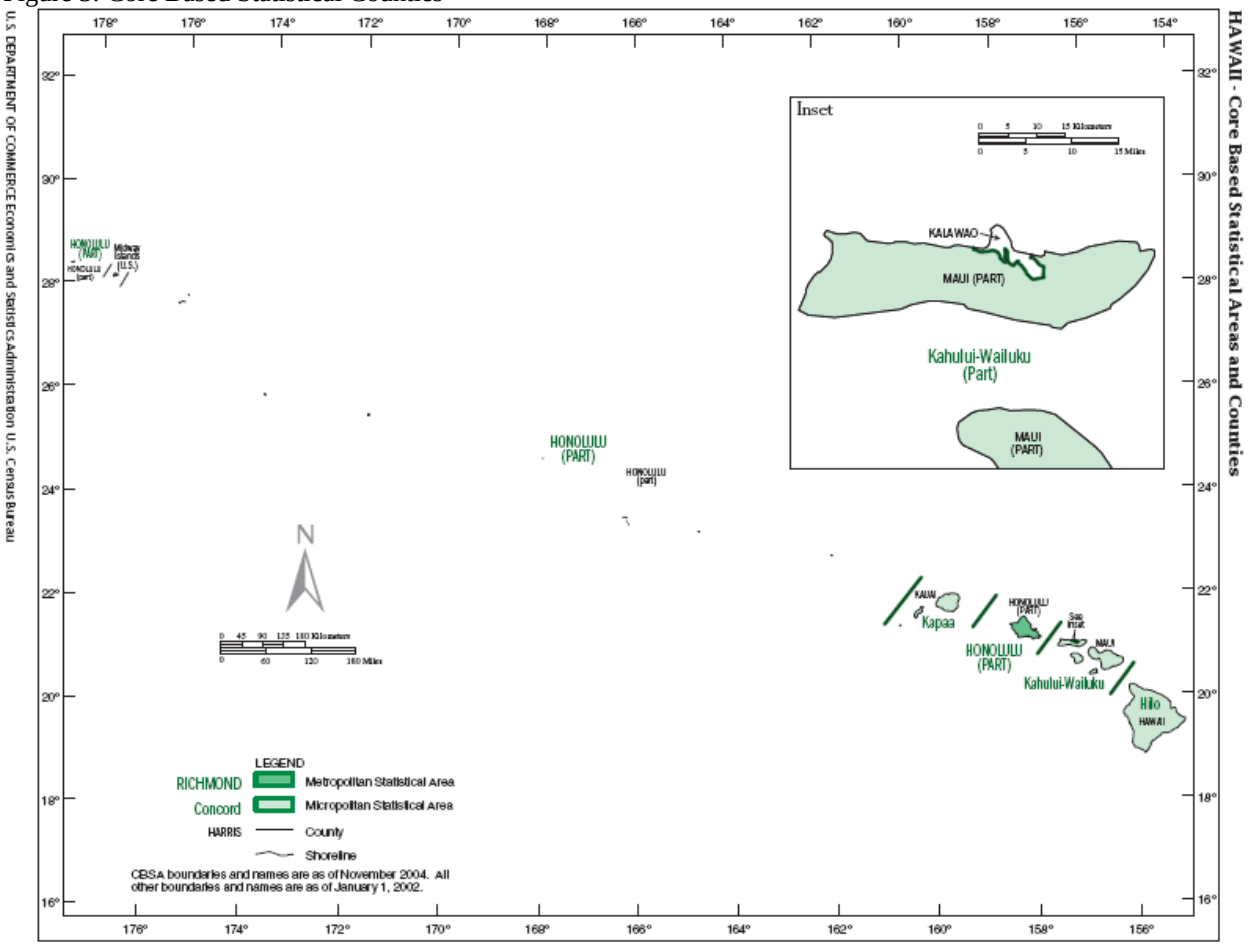
- The AMHD also provides incentives for undergraduate students to pursue advanced psychiatric and nursing degrees.
- The Hawai`i Center for Evidence-Based Practice (HI CEBP) was established in August, 2003 to encourage wider use of evidence-based practices, for residents aged 18 and above, in Hawaii's public mental health system[11]. The HI CEBP is a collaboration of the Hawai`i Department of Health, its Adult Mental Health Division, and the University of Hawaii's (UH) School of Nursing, School of Social Work, Department of Psychology, Social Sciences Research Institute, and the School of Medicine's Department of Psychiatry. The HI CEBP is a virtual center guided by a coordinator in concert with an interdisciplinary consortium of representatives from the AMHD and UH collaborating programs.
    - The AMHD was successful in obtaining a SAMHSA funded grant in the amount of $940,000 for the introduction of two EBPs, the treatment of co-occurring disorders and illness management and recovery. The EBPs will be implemented in six community mental health centers and the impact of the EBPs and their changes upon consumers' outcomes and their satisfaction with the services that they received will be evaluated. The grant will also provide funding to train providers and other involved stakeholders in the selected EBPs.
- All of the psychiatrists at the Hawai`i State Hospital are UH faculty members. This dual role provides a strong link between training and practice and ensures clients reap the benefits of up-to-date practices. It also provides a venue for UH to provide its students with hands-on training via rotations and encourages them to consider state employment upon graduation.
- In 2003, a Center for Nursing was established within UH to ensure the quality of healthcare by addressing the current and future shortage of registered nurses and others within the healthcare workforce that provide nursing care[12].
- The AMHD is currently working with APRNs with prescriptive authority to integrate physical and mental health across the eight state community health centers.
- In an effort to boost the behavioral health workforce in underserved areas, the BHSA has increased:
    - The salary range of nurses and psychiatrists at the state hospital as well as the medical directors of the community mental health centers;
    - The salary ranges for the psychiatrists on the main island of Hawai`i since it is the most challenging part of the state to recruit and retain psychiatrists; and
    - The capacity for recruiting additional psychiatrists, which was recently approved by the Department of Health.

[11] http://www.amhd.org/CEBP/
[12] http://www.hinursing.org/index.html

- The Psychiatric Access Collaboration was established two years ago as a joint venture between numerous partners including the Hawai`i State Hospital, the University of Hawai`i, and AMHD to identify needed systemic changes and effective immediate- to long-term solutions for sustainable access to psychiatric services with an emphasis on the specific needs of rural communities.
- In November 2007, the FCC awarded a $4.8 million grant to the Rural Health Care Division of the Universal Service Administrative Company (USAC)[13]. The application was submitted through the collaboration of UH, the Department of Health Sites, HI Health Systems Corporation, HI Public Health, VA Pacific Island Health Care System, American Samoa Medical Center, and STAN sites. Essentially, the grant will serve to develop a pilot program to examine how the rural health care funding mechanism can be used to enhance public and non-profit health care providers' access to advanced telecommunications and information services.
- The UH John A. Burns School of Medicine has begun a preliminary assessment of Hawai`i physicians to determine the supply, demand, and trends of employment[14].

[13] Information gathered from a Power Point presentation given on December 13, 2007 by Dr Norman Okamura from the Social Science Research Institute at the University of Hawai`i, entitled "Pacific Broadband Telehealth Demonstration Project: Status Report on Application to the FCC Rural Health Pilot Program."
[14] Power Point presented by Kelley Withy, MD, Ph.D and David Sakamoto, MD, MBA, of the John A. Burns School of Medicine, entitled "Hawai`i Health Workforce Assessment: Preliminary Findings."

Figure 3: Core Based Statistical Counties



According to the U.S. Department of Health and Human Services,[15] Hawai`i:

- Had 178 psychiatrists, 300 psychologists, and 2,280 social workers in 2000. This was equal to 15.0 psychiatrists, 24.7 psychologists, and 188.0 social workers per 100,000 population.
- Ranked 9th among states in psychiatrists per capita, 38th for psychologists per capita and 17th among states in social workers per capita.
- Employed more than 42,000 workers in the health sector in Hawai`i in 2000, 7.7% of Hawaii's total workforce, lower than the national rate of 8.8%. Hawai`i ranked 41st among states in per capita health services employment.
- Health services employment grew 40% between 1988 and 2000, while the state's population grew by 12% during that period, resulting in a net per capita growth of 24% in health services sector employment, slightly higher than the national rate of growth.

[15] http://bhpr.hrsa.gov/healthworkforce/reports/statesummaries/Hawai`i.htm

The National Alliance for Mental Illness' (NAMI) 2006 report 'Grading the States,' commends Hawai`i for the significant improvements in the mental health system in the past 16 years. In 1986, 1988, and 1990, Hawai`i ranked 51st behind all the other states and the District of Columbia in quality mental health services. In 1991, the Department of Justice entered the state to actively address and monitor state mental health improvements in all three areas:

- The Hawai`i State Hospital was under a US Department of Justice Settlement Agreement for 13 years.
- The Adult Mental Health Division was under a US Department of Justice Settlement Agreement for 3 ½ years.
- The Children and Adolescent Mental Health Division was under the Felix consent decree for many years.

As a result, significant changes have occurred over the last decade, including those noted in the NAMI report[16] and those noted in Hawaii's 2006 Statewide Comprehensive Integrated Service Plan[17]. Please see Appendix D for a listing of Legislative issues that were passed in fiscal year 2006. The following financial changes were noted in the 2006 Department of Health Financial and Compliance Audit:

> The Behavioral Health Services Administration expended a significant 39% of Departmental funds, an increase of $15.0 million from fiscal year 2005. This administration is responsible to provide available and coordinated mental health and substance abuse treatment and prevention programs…A portion of the increase in expenditures is attributed to the Adult Mental Health Division's continuing efforts to identify, place, and treat eligible clients. AMHD's Access Line continues to provide the community with a resource site for information as well as a referral point for possible clients. CAMHD responds to ongoing requirements of the settled Felix Case, and ADAD responds to the Administration's Ice (drug) initiative and the expenditure of the additional funds appropriated…The significant changes in our financial statements from 2005 to 2006 are generally attributable to the requirements of the mandated court settlements and other non-discretionary items. Of significance are the additional revenues and expenditures for the Adult Mental Health and Hawai`i State Hospital programs which successfully exited the last portion of the U.S. Department of Justice lawsuit effective November 30, 2006…It is noted that the Child and Adolescents Mental Health Division has stabilized its Felix client counts and reassigned autistic children to the Developmental Disabilities Division and to the Department of Education which have resulted in a significant reduction in this program's expenditures.

The 2006 NAMI report analyzes four main areas: Infrastructure, Information Access, Services, and Recovery Supports. Please see Appendix E for a complete listing of each of these components and their respective scores. In particular, under Infrastructure, Hawai`i scored a zero on Workforce Development and Strategic Plan. This report is designed to be an initial step in developing a strong workforce plan based specifically on the needs of the state.

Based on the self-identified areas of unmet need listed below, Hawai`i is implementing a number of remedial actions.

[16] http://www.nami.org/gtsTemplate.cfm?Section=Grading_the_States&lstid=676
[17] http://amhd.org/Plans/BlockGrantStatePlanFY2007.pdf

Table 1: Unmet Service Needs by County

Service Need	Hawai`i	Kauai	Maui	Oahu
Licensed Crisis Residential Shelter (LCRS) and 23/59 and 72 Hour Community Stabilization Beds	X		X	X
CMHC Case Management Staff to Meet Best Practice Ratios	X	X	X	X
Specialized Residential Services for MISA	X			
Jail Diversion			X	X
Homeless Shelter (West Hawai`i); Safe Haven in Kauai	X	X		
Interim Housing for Persons who are Homeless		X	X	
Homeless Outreach		X	X	
Supported Employment	X			X
Assessment Services			X	
Client Transportation			X	
Community Housing	X		X	X
ACT Team for Persons who are Homeless				X
Full Implementation of ACT (fidelity)	X			X
Specialized Residential		X		

To accomplish these and other workforce development goals in Hawai`i, collaboration among the following programs will be necessary: 1) Executive Branch of state government, including the Department of Health (DOH); 2) Legislative Branch of government, 3) University of Hawai`i System; 4) occupational and licensing boards; and 5) the Western Interstate Commission for Higher Education. Improving recruitment and retention will improve accessibility in Hawai`i. It is imperative to impress upon those who make systemic decisions and address unmet needs that Hawai`i programs can succeed only if they are developed and evaluated with a "rural yardstick" (not urban) and in an appropriate cultural context.

In addition to the potential strategies alluded to above, Hawai`i can choose from a wide variety of methods to develop the behavioral health workforce. However, some of the best strategies come from people working in the behavioral health system or higher education in Hawai`i, particularly those with training responsibilities. Thus, the WICHE Mental Health Program will help Hawai`i through facilitation of processes used successfully in other states for workforce development. The commendable changes occurring in Hawai`i demonstrate its serious dedication and commitment to improving the quality of behavioral health services.

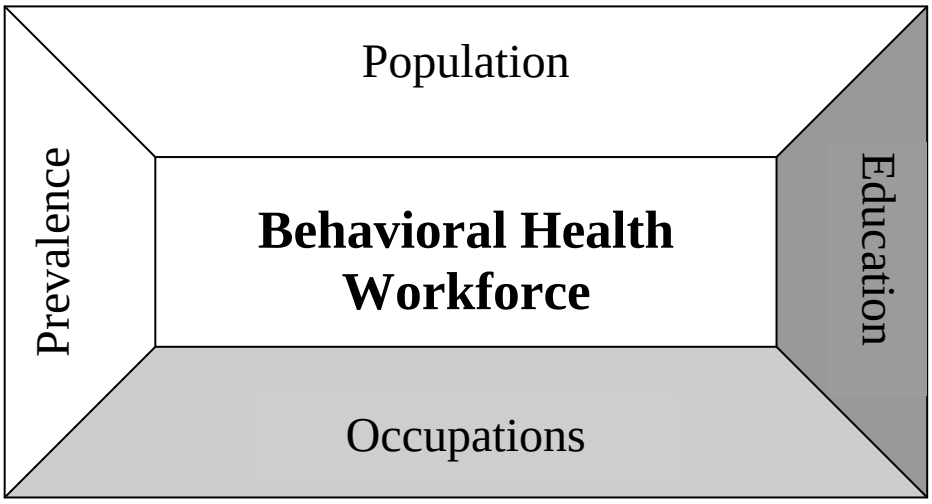
Components of a Strong and Effective Workforce

At any given time, the need for workforce development in behavioral health is determined by the prevalence of behavioral health disorders and the number and location of professionals to provide services. Prevalence rates are based on epidemiological studies of populations, while the number and location of clinicians is based on the interplay of education and occupation trends. Both are estimates, and there are multiple reasons beyond limited availability why those who need treatment do not seek it (e.g., lack of awareness of a problem, stigma, etc.). Additionally, a *competent* and *adequate* workforce has the right number of experienced and skilled people in the right jobs at the right time.

Thus, establishing and sustaining an effective mental health workforce involves several components:

- A profile of present *population* and demographics;
- An estimation of the *prevalence* of mental illness;
- An analysis of the professional *occupations* available to serve the community;
- A picture of the *higher education* programs designed to supply well-trained professionals.

Figure 4: Workforce Components



Each of these four components interrelates, and changes to one often affect the others. For instance, large and rapid increases in population can translate into greater numbers of people with a behavioral health problem (even if percentage remains the same). Nevertheless, it can also mean more people available to enter the behavioral health field as clinicians. Thus, it is important to study previous trends to project future courses. More importantly, these projections

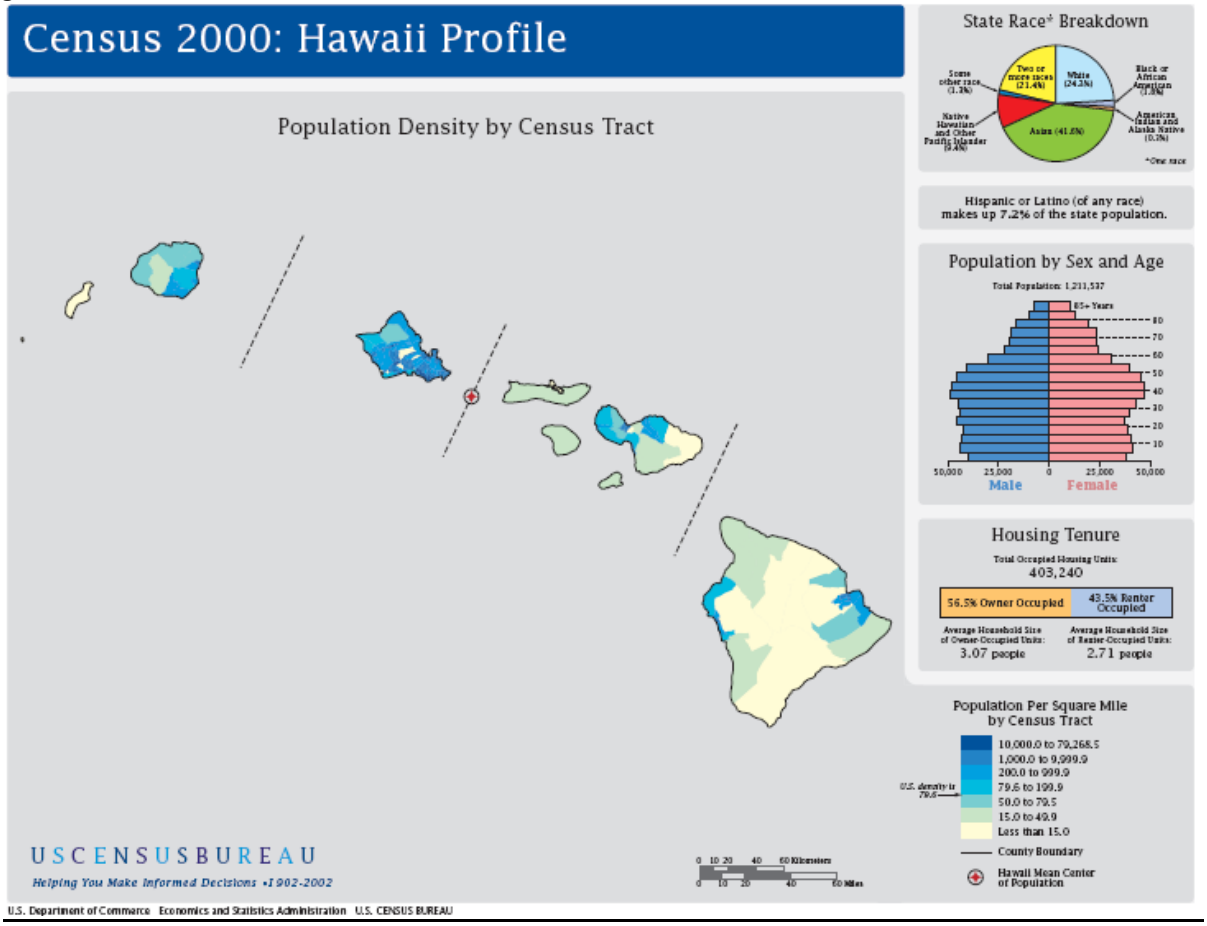
allow decision-makers to identify potential avenues of growth, as well as barriers and means of overcoming them. The sections that follow review relevant data in each of these four areas.

Hawaii's Population Demographics

Hawai`i is comprised of islands and atolls extending across a distance of 1,500 miles. Of these, eight islands are considered the "main islands." These islands are, in order from the northwest to southeast, Ni'ihau, Kauai, Oahu, Molokai, Lanai, Kaho'olawe, Maui, and Hawai`i. The only city is the capital, Honolulu, located along the southeast coast of the island of Oahu. For the purposes of this report we will use the five county designations, Hawai`i, Honolulu, Kalawao, Kauai, and Maui.

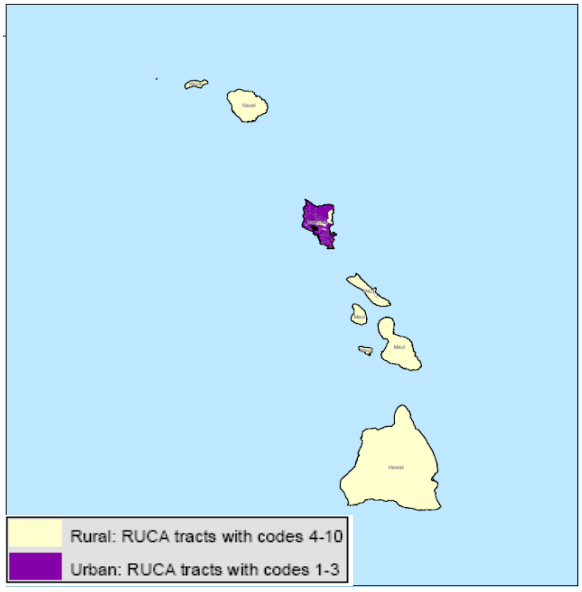
According to the 2005 US Census Bureau data, Hawai`i has an estimated 2006 population of 1,285,498, which is an estimated increase of 73,961, or 6.1%, since the US Census 2000. With a land area of 6,422.62 square miles, Hawai`i has an overall average of 188.6 persons per square mile, (please see Appendix F for a list of county populations and densities). As noted in Figure 5, Hawai`i County is classified as metropolitan, three counties are designated micropolitan and Kalawao County is designated as noncore.

Figure 5: US Census 2000 Hawai`i Profile



Based on these numbers, it would seem that Hawai`i is mostly an urban state. However, the Hawai`i Office of Rural Health uses the Research Service Rural-Urban Commuting Areas (RUCA) to determine the rural areas of the state (Please see Appendix G for a definition and explanation of RUCA codes). Figure 6 shows the RUCA rural designations for Hawai`i.

Figure 6: RUCA Designations of Rural Areas in Hawai`i



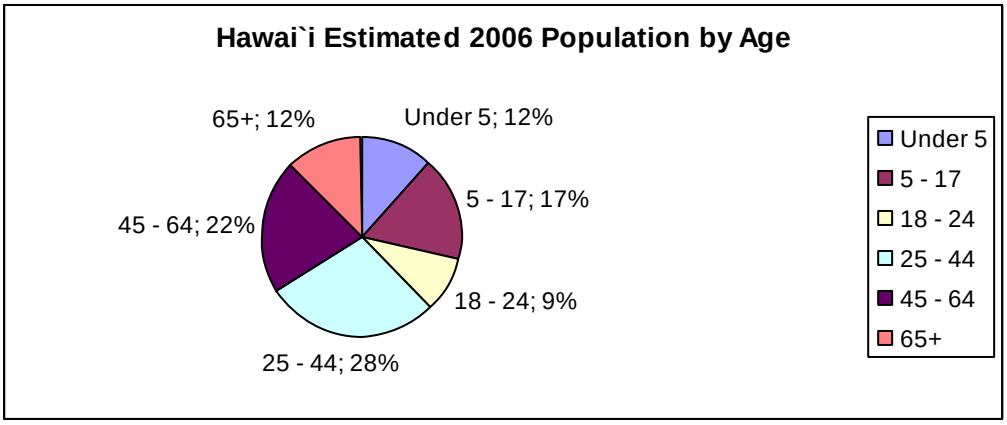
There are also a number of federally designated Mental Health Professional Shortage Areas[18] (MHPSA; please see Appendix H for a complete listing of MHPSAs in Hawai`i) including 1 rural health clinic, 13 community health centers, 6 geographic areas and 2 correctional institutions. In addition, the geographic conditions in Hawai`i create unique challenges to service provision, including isolated islands that make travel difficult and mountains that create underserved population pockets.

Population by Age

The total Hawai`i estimated population for 2006 is 1,285,498. The greatest population density by age in the State of Hawai`i is in the 25 to 44 age group, with 362,336 residents. The lowest density is in the 18 to 24 age group with 114,893 residents.

[18] *Health professional(s) shortage area* means any of the following which the Secretary determines has a shortage of health professional(s): (1) An urban or rural area (which need not conform to the geographic boundaries of a political subdivision and which is a rational area for the delivery of health services); (2) a population group; or (3) a public or nonprofit private medical facility. http://bhpr.hrsa.gov/shortage/hpsacrit.htm

Figure 7: Population by Age



Population by Gender and Race/Ethnicity

Hawaii's population consists of approximately 49.9% males and 50.1% females. Hawai`i is one of only four states in the nation which non-Hispanic whites do not form a majority. It is also the most ethnically diverse state in the nation. Hawaii's largest ethnic population reported is Asian, which represents 41.6% of the population. The second largest ethnicity reported is White, which represents 24.2% of the population. Of the remaining ethnic groups, Native Hawaiians represent 9.4%, Blacks represent 1.8%, and American Indians represent 0.2% of the population. Hawai`i also has the largest percentage of persons of mixed race, which represented 21.4% of the total population. Hawai`i is ranked 1st in the nation for highest population percentage of both Asians and Native Hawaiians. Hawai`i is ranked 49th in the nation for lowest population percentage of Whites (with DC being the lowest). The federal government considers race and Hispanic origin to be two separate and distinct concepts[19]. Thus, Hispanics and Latinos may be of any race. Of the 1,211,537 Hawaiians, 87,699 identified themselves as Spanish/Hispanic/Latino (7.2% of the total population).

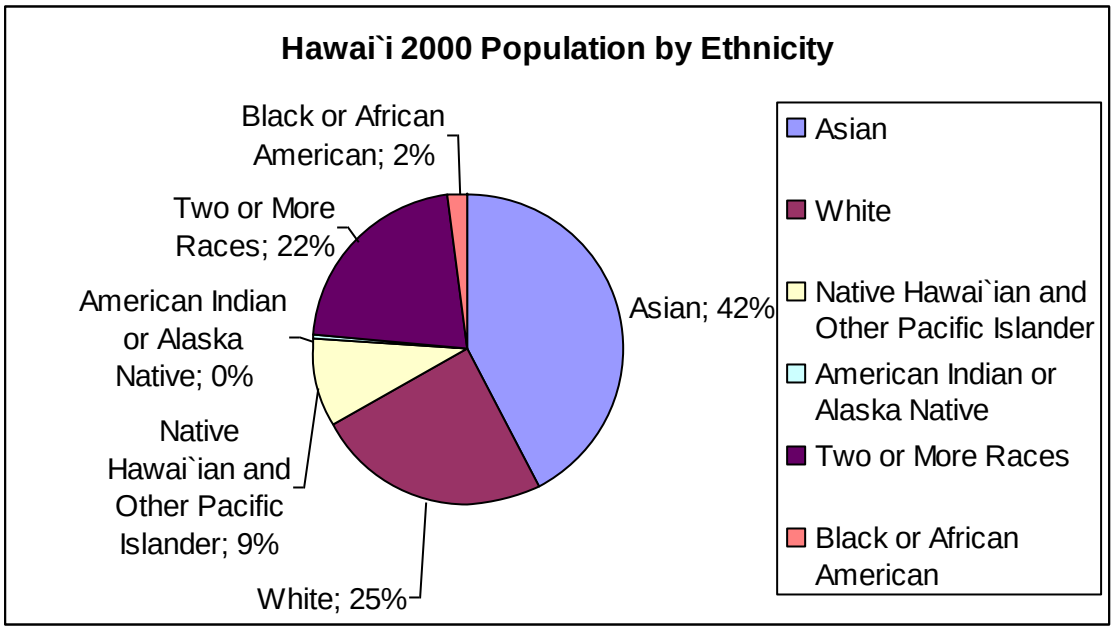
Table 2: Hawai`i Population by Race, US Census 2000

Hawai`i[20]		
Total	**1,211,537**	
Asian	503,868	41.6%
White	294,102	24.2%
Native Hawaiian and Other Pacific Islander	113,539	9.4%
Black or African American	22,003	1.8%
American Indian or Alaska Native	3,535	0.2%
Two or More Races	259,343	21.4%

[19] http://www.census.gov/prod/2001pubs/c2kbr01-3.pdf

[20] http://factfinder.census.gov/servlet/DTTable?_bm=y&-context=dt&-ds_name=DEC_2000_SF1_U&-CONTEXT=dt&-mt_name=DEC_2000_SF1_U_P003&-tree_id=4001&-redoLog=true&-all_geo_types=N&-_caller=geoselect&-geo_id=04000US15&-search_results=01000US&-format=&-_lang=en

Figure 8: Population by Ethnicity



The charts below break down both the Asian and the Native Hawaiian and Other Pacific Islander population groups. The Asian population consisted of sixteen different races with Japanese and Filipino being the largest (201,764 and 170,635, respectively). Those groups with a population smaller than 2,000 were not included in the chart (Laotian, Asian Indian, Thai, Indonesian, Cambodian, Malaysian, Sri Lankan, Pakistani, Hmong, and Bangladeshi). The Native Hawaiian and Other Pacific Islander population consisted of eight distinct groups. Native Hawaiian and Samoan were the two largest groups (80,137 and 16,166 respectively). Four groups had less than 1,000 people and were not listed in the chart (Other Pacific Islander, Other Polynesian, Fijian, and Other Melanesian).

Figure 9: Hawai`i 2000 Breakdown of Asian Races

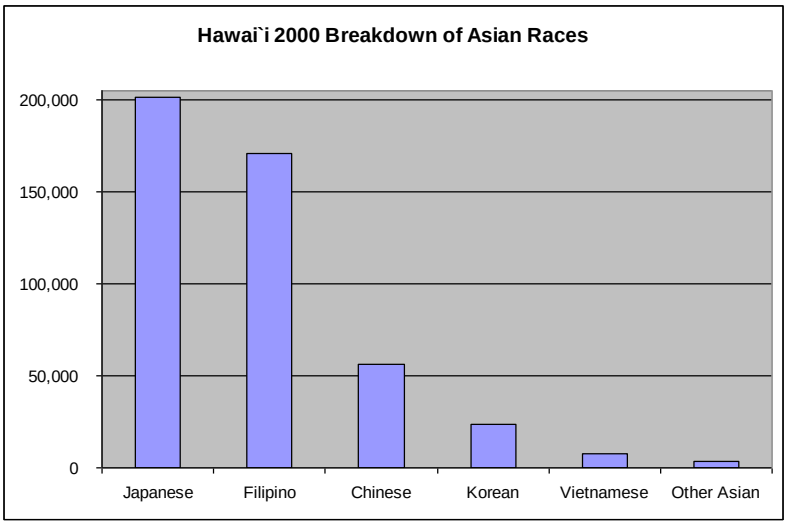
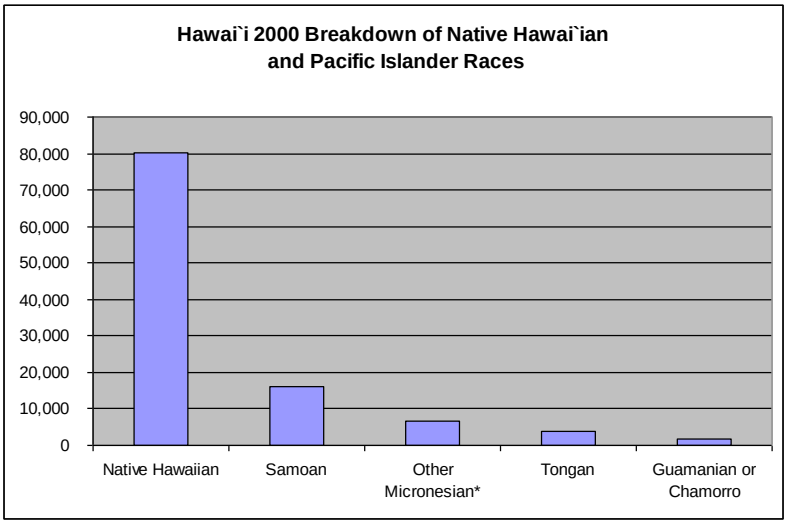


Figure 10: Hawai`i 2000 Breakdown of Native Hawaiian and Pacific Islander Races



* Excluding Guamanian or Chamorro

Population by Poverty

Hawaii's three- year average poverty level from 2004-2006 was 8.8%, below the national three year average of 12.5%[21]. Figure 11 shows the detailed breakdown of poverty levels by county in 2000. Three counties are in the 9-10 % range, whereas Hawai`i County had 13.5% and Kalawao County had 40.1 % poverty.

[21] http://www.census.gov/hhes/www/poverty/poverty06/state.html

Figure 11: US Census 2000 SF3: Child and Adult Poverty for Hawai`i by County[22]

	Population			Age 0-17			Age18+		
County	Total Age	Age 0-17	Age 18+	Below 100%	Above 100%	Percent below	Below 100%	Above 100%	Percent below
Hawai`i	**1,211,537**	**294,325**	**917,212**	**40,542**	**247,515**	**14.1%**	**85,612**	**805,126**	**9.6%**
Hawai`i	148,677	38,821	109,856	8,202	29,621	21.7%	14,619	93,310	13.5%
Honolulu	876,156	207,442	668,714	26,155	176,983	12.9%	57,782	587,320	9.0%
Kalawao	147	0	147	0	0	.	59	88	40.1%
Kauai	58,463	15,442	43,021	2,100	13,135	13.8%	3,985	38,696	9.3%
Maui	128,094	32,620	95,474	4,085	27,776	12.8%	9,167	85,712	9.7%

Population Trends

According to the Hawai`i Executive Office on Aging, Hawai`i currently has the longest life expectancy in the United States[23]. The US Census projects that over the next ten years significant increases in Hawai`i will occur in the 60+ age group while the 30-54 age groups will likely see declines in numbers. The state is also experiencing a steady increase in birthrates.

Table 3: US Census Population Projections 2000 to 2030 and Percent Change

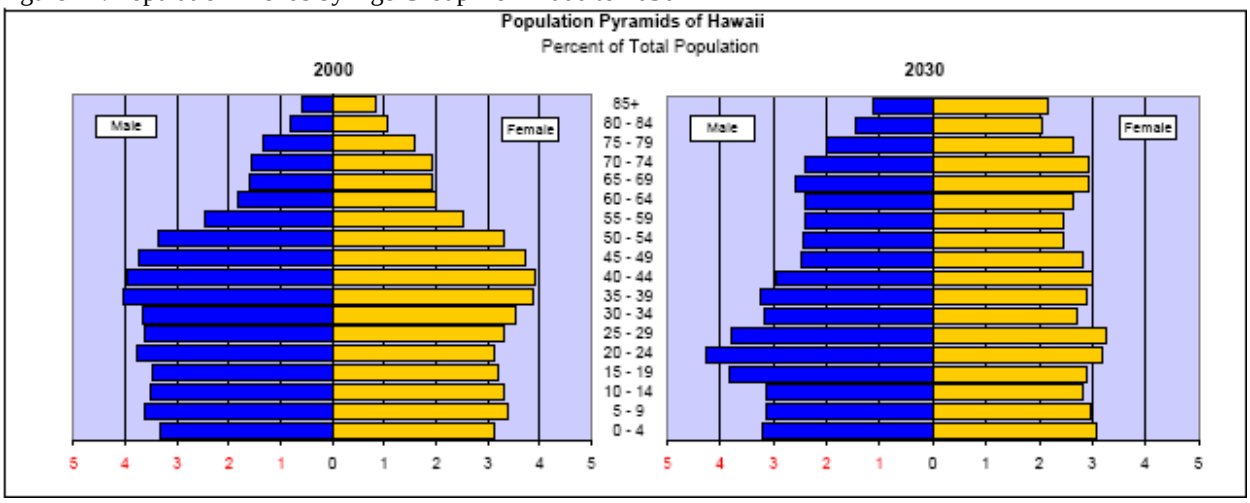
	Census 2000		Projection 2030		Change	
Age Group	**Total Number**	**Total Percent**	**Total Number**	**Total Percent**	**Number**	**Percent**
Under 18	295,767	24.4%	325,503	22.2	29,736	10.1
5-17	217,604	18.0%	233,221	15.9	15,617	7.2
18-24	114,893	9.5%	151,023	10.3	36,130	31.4
25-44	362,336	29.9%	367,925	25.1	5,589	1.5
45-64	277,940	22.9%	294,638	20.1	16,698	6.0
65+	160,601	13.3%	326,957	22.3	166,356	103.6

A population's dependency ratio is the combined child population (people under age 20) and elderly population (people ages 65 and above) per 100 people ages 21-64.[24] In 2000, Hawaii's dependency ratio was 67.4. It is projected to rise to 83.3 by 2020 and 89.9 by 2030. Thus, in 2030, for every 100 workers, there will be 89.9 people who depend on them. This is a significant increase from 2000, where there were only 67.4 dependant people for every 100 workers. This places an increasing burden on the working cohort to provide for proportionately larger retirement and dependent child groups.

[22] http://psy.utmb.edu/cen_htm/sf3_states/Hawai`i/hixx_kidpov2.htm
[23] www.co.maui.hi.us/departments/Housing/pdf/2007_2011ProposedStatePlanAgingExcerpts.pdf
[24] http://www.census.gov/ipc/www/idb/idbglossary.html

The combination of these two trends, the increase in the 65+ and under-20 age groups and the decrease in the 30-54 age groups, creates a serious unbalance. It will become increasingly difficult to find experienced caregivers to offset the increasing mental health needs of the elderly and youth in the state.

Figure 12: Population Trends by Age Group from 2000 to 2030[25]



Behavioral Health Disorder Prevalence Data for Hawai`i

The following section is divided into three areas: 1. Adults with Mental Illness, 2. Children and Adolescents with Emotional Distress, and 3. Adults and Adolescents with Substance Use or Abuse Disorders. The most current prevalence data is presented for all three areas and where available, treatment needs and prevalence trends are also included. Currently, no data is publicly available on the presenting problems or co-occurring disorders at each of the regional CMHCs in Hawai`i.

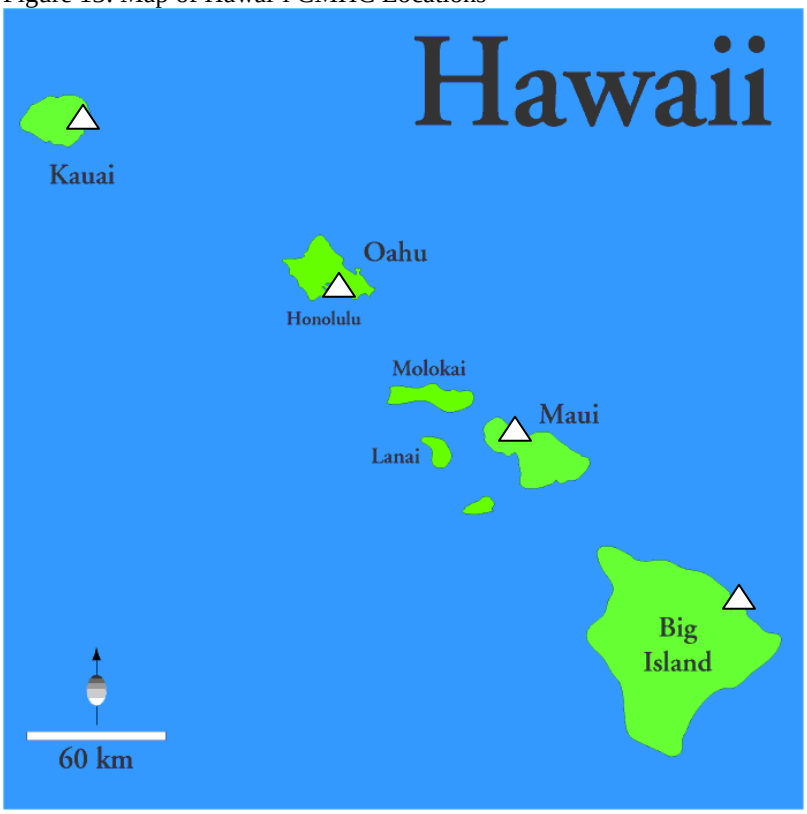
Adult Mental Illness Prevalence Rates

Hawai`i does not collect formal estimates of prevalence of Serious Mental Illness (SMI), or of Serious and Persistent Mental Illness (SPMI) for the state. Thus, the following information is based upon the established prevalence percentages provided by the Substance Abuse and Mental Health Services Administration (SAMHSA). According to SAMHSA, the prevalence rate for SMI is 5.4% of the population and the prevalence rate for SPMI is 2.6%. Please note that the numbers for SMI include the numbers for SPMI, rather than being separate populations. Table 4 is reported in the FY 2007 Hawai`i Mental Health Block Grant, which provided estimated prevalences and actual numbers served within the state in 2005. Table 6 is taken from the 2007

[25] http://www.census.gov/population/www/projections/statepyramid.html

Center for Mental Health Services/SAMHSA Uniform Reporting System Tables Report. The following map is provided as a reference to the Hawai`i CMHC locations.

Figure 13: Map of Hawai`i CMHC Locations



Statewide, there are an estimated 52,064 adults with SMI and 25,068 adults with SPMI, based on the 2000 US Census data. Of these adults, 14,276 received services from AMHD in 2007 (see Table 6). This represents a potential gap of 37,788 adults not receiving services through the state. Of the SPMI adults receiving services in 2005, the penetration rate was 40.4% with a remaining unmet need of 59.6%.

Table 4: Estimate of Statewide Prevalence for Adults with SMI and SPMI, FY 2005

County	Adult Population	Estimated Adult SMI Prevalence 5.4%	Estimated Adult SPMI Prevalence 2.6%	Number Served FY 2005	Percent SPMI Prevalence Served 2005
Statewide Total	964,147	52,064	25,068	**10,136**	**40.4%**

Table 5: 2007 Adult Clients by Primary Diagnosis Reported

Primary Diagnosis	Total
Schizophrenia and Related Disorders	3934

Bipolar and Mood Disorders	5135
Other Psychoses	241
All Other Diagnoses	1237
No Diagnosis and Deferred Diagnosis	4029
Diagnoses Total	14576

Table 6: 2007 Profile of Adults Served, All Programs by Age, Gender, and Race/Ethnicity

	18-20			21-64			65-74			75+			NA			
	F	**M**	**NA**	**F**	**M**	**NA**	**F**	**M**	**NA**	**F**	**M**	**NA**	**F**	**M**	**NA**	**Total**
American Indian or Alaska Native	0	1	0	36	32	0	0	0	0	0	1	0	1	0	1	**72**
Asian	33	46	0	851	1,045	1	81	65	0	58	22	1	9	7	47	**2,266**
Black or African American	0	7	0	69	106	0	2	2	0	1	0	0	0	0	6	**193**
Native Hawaiian or Pacific Islander	55	74	0	1,409	1,444	5	43	41	0	18	13	0	9	11	73	**3,195**
White	49	52	0	1,573	1,970	5	66	58	0	32	11	0	10	13	142	**3,981**
Hispanic or Latino Origin	24	38	-	419	456	1	27	17	-	5	8	-	6	2	16	**1,019**
More than One Race Reported	66	109	0	610	709	2	23	26	0	19	6	0	2	6	18	**1,596**
Race Not Available	127	134	3	1,154	1,255	13	46	35	0	37	21	0	34	41	73	**2,973**
Total	**330**	**423**	**3**	**5,702**	**6,561**	**26**	**261**	**227**	**0**	**165**	**74**	**1**	**65**	**78**	**360**	**14,276**
Not Hispanic or Latino	183	261	-	4,267	4,964	12	194	180	0	124	48	1	25	36	283	10,578
Hispanic or Latino Origin	24	38	-	419	456	1	27	17	-	5	8	-	6	2	16	1,019
Hispanic or Latino Origin Not Available	123	124	3	1,016	1,141	13	40	30	-	36	18	-	34	40	61	2,679

As shown in Table 7, across counties in 2005, the penetration rate in the SPMI population ranges from a low of 33.9% (Oahu) to a high of 76.1% (Hawai`i). According to AMHD, there was an estimated 4,500 clients served in 2000. Of these, 3,886 were served at the CMHCs, 310 were served at the state hospital, and an estimated 800 were served through contracted providers. This suggests a penetration rate by AMHD of 17.95% among SMPI adults in 2000. Based on these numbers, AMHD experienced a 125% increase in the number of clients served between 2000

and 2005 and an increase of 41% between 2005 and 2007. There are a number of explanations for these increases, including but not limited to: changes in the definition of 'client served', changes in the collection and reporting of services, expansion of services provided and an increase in the number of clients seeking services.

It is important to exercise caution in interpreting treated prevalence and unmet need based only on AMHD service numbers. Approximately 66% of Hawaii's population is covered by commercial health plans, another 33% are covered by public insurance, and a final 10% are uninsured. Prevalence rates include the total population, whereas the bulk of AMHD's target population is uninsured or covered by public insurance. However, individuals with SPMI often need a greater range of care than what is provided by private companies, and are likely to utilize AMHD services regardless of type of coverage.

Table 7: Estimated Adult SMI and SPMI Prevalence by County, FY 2005

County	Adult Population 2004	Estimated Adult SMI Prevalence 5.4%	Estimated Adult SPMI Prevalence 2.6%	Percent Estimated Adult SPMI Prevalence by County	Number SPMI Served FY 2005	Percent SPMI Served of SPMI Prevalence
Oahu	691,459	37,339	17,978	71.7%	6,090	33.9%
Hawai`i	121,106	6,540	3,149	12.6%	2,395	76.1%
Kau`ai	46,707	2,522	1,214	4.8%	557	45.9%
Mau`i	104,875	5,663	2,727	10.9%	1,094	40.1%
Statewide	**964,147**	**52,064**	**25,068**	**100%**	**10,136**	

Child and Adolescent Mental Illness Prevalence Rates

CAMHD does not provide formal prevalence numbers of children with Serious Emotional Disturbance (SED) in Hawai`i; however, the following table was published in the 2007 Center for Mental Health Services/SAMHSA Uniform Reporting System Tables Report. These unduplicated numbers may seem low due to the role of the Department of Education serving children with low to moderate emotional problems. CAMHD is developing a strategy to increase the number of children they serve by accepting more than just the most severe cases.

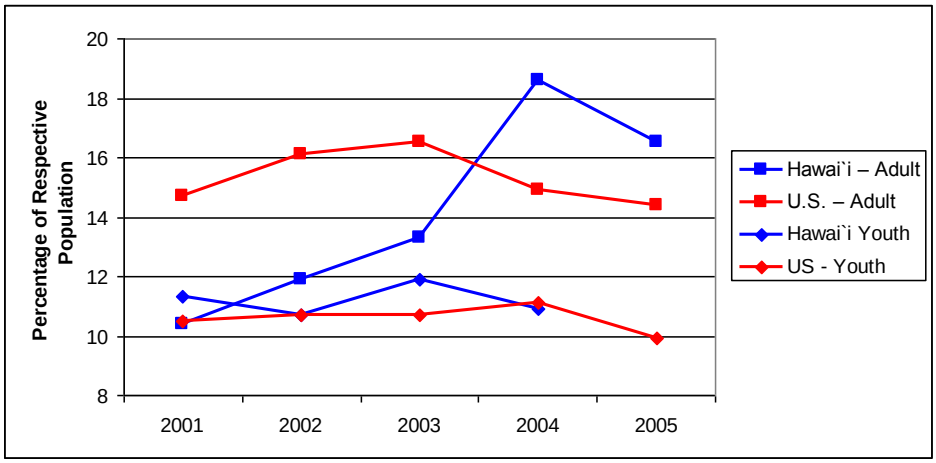
Table 8: 2007 Actual Numbers of Children Served by Gender and Race/Ethnicity

	Female	Male	NA	Total
American Indian or Alaska Native	3	4	0	**7**
Asian	54	71	1	**126**
Black or African American	9	16	0	**25**
Native Hawaiian or Pacific Islander	78	117	0	**195**
White	99	130	0	**229**
More than One Race Reported	251	449	0	**700**
Race Not Available	603	982	4	**1589**
Total	1097	1769	**5**	**2871**
Not Hispanic or Latino	388	612	1	**1001**
Hispanic or Latino Origin	115	191	-	**306**
Hispanic or Latino Origin Not Available	594	966	4	**1564**

Listed in Appendix I are the estimated numbers of children with SED in each state in 2004 by the NASMHPD Research Institute (NRI). NRI estimates the number of children with SED in Hawai`i was between 13,415 and 16,396 in 2004. These numbers cannot be matched up to the actual service numbers to obtain penetration rates due to the mismatch in age categories. Thus, a good picture of the penetration rate and unmet need for children with SED in Hawai`i is not available from this data source.

Alcohol and Drug Use Prevalence Rates and Trends – Adults, Young Adults, and Adolescents
Alcohol: In 2005, 16.5% of Hawaiian adults and 11% of Hawaiian youth reported binge drinking. These rates are higher than that reported by U.S. adults (14.4%) and about the same as U.S. youth (9.9%). For adults, Hawaii's binge drinking rate jumped by 5.3 points between 2003 and 2004 and 8.2 points between 2001 and 2004.

Figure 14: Youth and Adult Binge Drinking in Hawai`i and US Populations

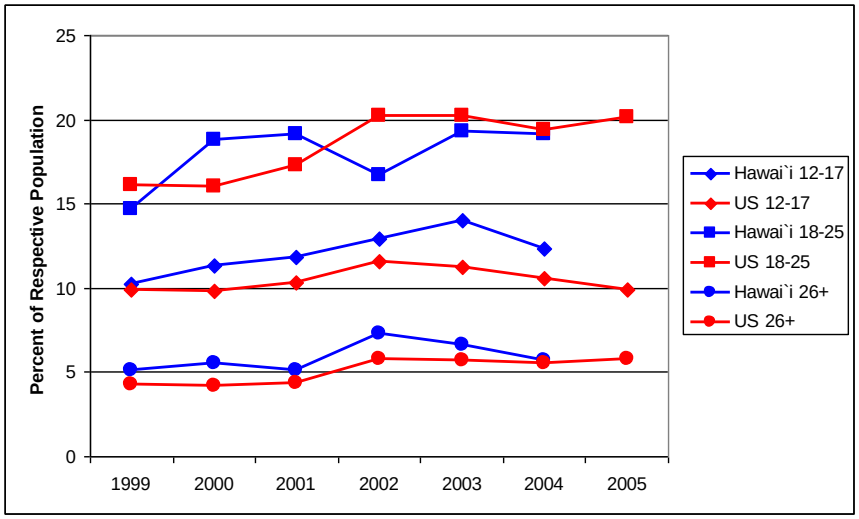


Drug Use: Adult and youth drug use in Hawai`i is increasing. Hawaii's adult drug use is consistently above the US rates; however, the youth rates are similar to that of the US rates.

Drug use among Hawaii's youth has increased by 20% (compared to a 7% U.S. increase during the same time period). In 2004, the rate of Hawaii's youth reporting drug use was 16% higher than for the nation. Prevalence rates are not yet available for 2005.

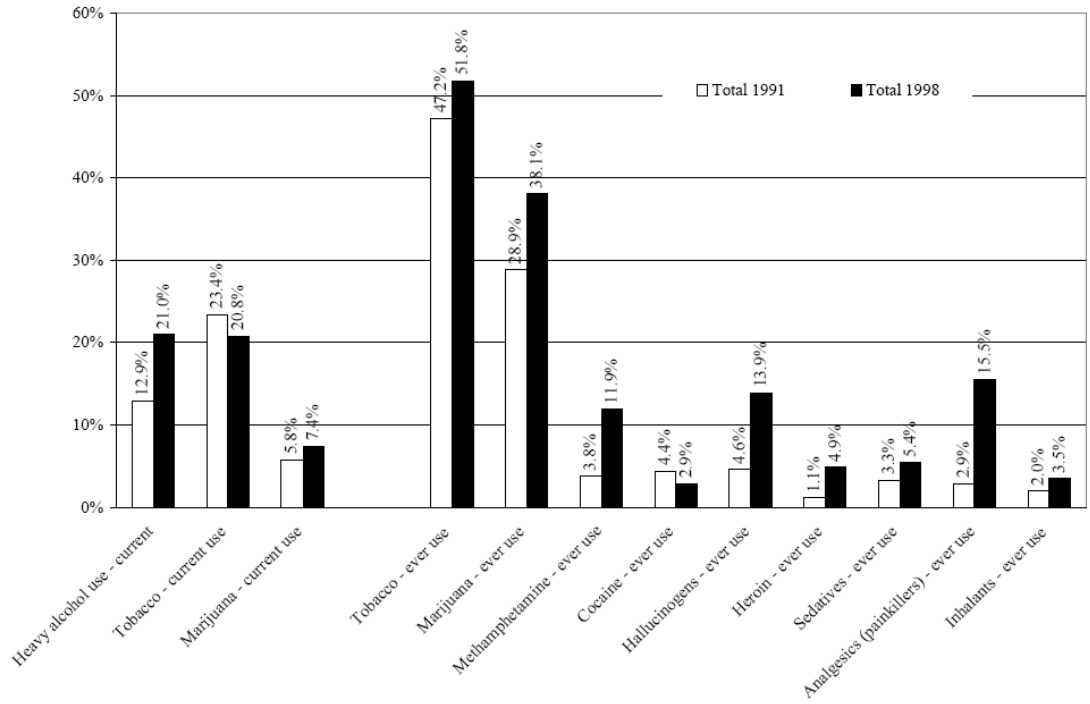
Figure 15: Hawai`i and US Youth, Young Adult and Adult Drug Use, 1999-2005[26]

[26] Source: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies, State Estimates of Substance Abuse.



The most recent substance abuse and treatment needs survey for Hawaiian adults was conducted in 1998 and reported in 2000[27]. Figure 16 provides prevalence rates in Hawai`i between 1991 and 1998, broken down by substance.

Figure 16: Adult Substance Abuse Prevalence Rates, 1991 and 1998



The following information was gathered from the 2003 Hawai`i Student Alcohol, Tobacco, and Other Drug Use Study (1987-2003) Executive Summary, 2003[28]. The rate of 6th grade students needing treatment ranged from 0.3 to 0.5%. That rate jumped to 12.8-16.3% of 12th graders.

[27] Please see the official report for a description of the methodology: http://www.Hawai`i.gov/health/substance-abuse/prevention-treatment/survey/report98/report98.pdf

[28] http://www.Hawai`i.gov/health/substance-abuse/prevention-treatment/survey/report2003/index.html

Table 9: Statewide Treatment Needs for Sixth, Eighth, Tenth, and Twelfth Graders, 2003

STATEWIDE TREATMENT NEEDS	6th Grade	8th Grade	10th Grade	12th Grade
Total Student Population	**16,649**	**17,127**	**15,921**	**12,824**
(a) Estimated # of Students Needing *Alcohol* Abuse Treatment	55	389	1,255	1,674
(b) Estimated # of Students Needing *Drug* Abuse Treatment	62	375	1,091	1,373
(c) Estimated # of Students Needing *Any* Substance Abuse Treatment	85	533	1,667	2,090

There is a significant amount of unmet need in Hawai`i. There are a number of Mental Health Professional Shortage Areas, including 1 rural health clinic, 13 community health centers, 6 geographic areas and 2 correctional institutions. The statewide penetration rate of SPMI populations is 40.4%. There is some notable variation among counties. Most counties fall within the 30 to 45% range. However, Hawai`i County shows a high penetration rate of 76.1%. There are numerous possible explanations for this range of penetration rates, including non-standard data collection, availability of private services, funding, geographical barriers, and accessibility. An in-depth review is recommended to determine the causational factors.

Co-Occurring Mental Health and Substance Use Prevalence Data

The following quote was taken from the 2006 AMHD Substance Use Screening: Administration Manual[29]:

> The AMHD (2004) found, 16 percent of consumers served in 2003 were identified as having a co-occurring substance use disorder. The prevalence of individuals with a co-occurring psychiatric and substance use disorder (ICOPSD) conflicted with feedback from providers when describing characteristics of their caseloads.

To gain a better picture of the incidence of substance use among AMHD clients, all incoming mental health clients are given a substance use screening assessment (CAGEAID) as part of their case management. The following table presents data gathered as of March 14, 2007.

Figure 17: AMHD CAGEAID Score Breakdown by Case Management Type and County

MH-Case Management Type	Hawai`i County	Honolulu County	Kauai County	Maui County	Total
Assertive Community Treatment	69.87% (109 of 156[1])	51.15% (133 of 260)	0% (0 of 0)	0% (0 of 0)	58.17% (242 of 416)
Intensive Case Management	72.18% (345 of 478)	66.04% (986 of 1493)	61.97% (44 of 71)	72.87% (180 of 247)	67.93% (1555 of 2289)
Targeted Case Management	52.99% (319 of 602)	42.55% (674 of 1584)	43.43% (109 of 251)	46.75% (151 of 323)	45.40% (1253 of 2760)
Care Coordination	21.43% (27 of 126)	6.54% (7 of 107)	19.51% (8 of 41)	27.38% (23 of 84)	18.16% (65 of 358)
TOTAL	**58.74% (800 of 1362)**	**52.26% (1800 of 3444)**	**44.35% (161 of 363)**	**54.13% (354 of 654)**	**53.49% (3115 of 5823)**

[29] http://amh.health.state.hi.us/Public/REP/EvaluationInstruments/MISA%20Screening%20Manual.pdf

No Case Management Provider	68.44% (334 of 488)				

[1](Percentage of Consumers with a CAGEAID score of >=1)

According to the AMHD table, Hawai`i County had the greatest prevalence of co-occurring disorders with 58.74% of mental health clients reporting positive scores on the CAGEAID at intake. The other counties ranged between 54.13% and 44.35%. These percentages are consistent with the national average of 51% of persons with mental illness reporting a substance abuse disorder.

Overview and Projections of the General and Behavioral Health Workforces

Hawai`i is one of the few western states projected to have more people entering the workforce than leaving it by 2025 (see Table 10 below). According to the WICHE Workforce Brief:

> Employment in Hawai`i (including hourly and salaried jobs and self-employment) is projected to grow by 14 percent from 2002 to 2012, adding over 78,000 new jobs to the state's economy and growing the workforce from 558,220 to 636,480. The rate of growth is slightly lower than the 15 percent increase projected for the nation as a whole.

However, Hawaii's retirement population is growing at a much higher rate than its workforce population (79.7% vs. 37.8%). Currently, according to the 2006 American Community Survey for Hawai`i, the statewide labor force participation was 66%. Maui was the highest county at 68.7%. The unemployment rate on Maui County was lowest as well with 2.8%. Both Honolulu and Hawai`i County had an unemployment rate of 4.7%. Hawai`i County had the highest poverty rates in the state (11.5% of families and 14.1% of the people). The state poverty averages were 7.1% for families and 9.3% for individuals.

Table 10: Projections of the Working and Retirement Age Populations from 2000 to 2025.[30]

State	Actual Pop. Ages 18-64 (2000)	Projected Pop. Ages 18-64 (2025)	% Change 2000 to 2025	Actual Pop. Ages 65+ (2000)	Projected Pop. Ages 65+ (2025)	% Change 2000 to (2025)	Entering (+) vs Leaving (-) workforce by 2025
CA	21,026,161	28,352,207	34.8	3,595,658	6,424,090	78.7	+4,497,614
HI	**755,169**	**1,040,295**	**37.8**	**160,601**	**288,581**	**79.7**	**+157,146**
NM	1,098,247	1,458,993	32.8	212,225	440,582	107.6	+132,389
AK	400,516	516,611	29.0	35,699	92,235	158.4	+59,559
WY	307,216	380,192	23.8	57,693	144,843	151.1	-14,174

[30] http://www.higheredinfo.org/

SD	444,064	469,081	5.6	108,131	186,629	72.6	-53,481
ND	386,873	392,293	1.4	94,478	166,611	76.3	-66,713
ID	779,007	940,187	20.7	145,916	374,410	156.6	-67,314
UT	1,324,249	1,559,168	17.7	190,222	494,003	159.7	-68,862
MT	551,184	599,757	8.8	120,949	274,424	126.9	-104,902
WA	3,718,130	4,477,116	20.4	662,148	1,580,554	138.7	-159,420
NV	1,267,529	13,44,107	6.0	218,929	486,854	122.4	-191,347
AZ	3,095,846	3,468,872	12.0	667,839	1,368,129	104.9	-327,264
OR	2,136,696	2,387,747	11.7	438,177	1,054,368	140.6	-365,140
CO	2,784,393	2,971,381	6.7	416,073	1,043,918	150.9	-440,857

The states in the Western Region are some of the most rural in the nation. Behavioral health data for comparing the states are drawn from the Bureau of Labor Statistics (BLS) website. The BLS maintains data for each of the 50 states regarding 11 behavioral health disciplines, including Clinical, Counseling, and School Psychologists; Substance Abuse and Behavioral Disorder Counselors; Educational, Vocational, and School Counselors; Marriage and Family Therapists; Mental Health Counselors; Child, Family, and School Social Workers; Medical and Public Health Social Workers; Mental Health and Substance Abuse Social Workers; Psychiatrists; Psychiatric Technicians; and Psychiatric Aides. Some professionals are grouped together even though they may have some differences in professional focus or activities (e.g., Clinical, Counseling, and School Psychologists). There was no data for Hawai`i regarding two professions, Psychologists, All Other, and Psychiatric Technicians, and so these will not be included in the table.

Table 11 below presents data from the Bureau of Labor Statistics for each of these disciplines in Hawai`i for 2006, including the number of employed professionals, number of professionals per 100,000 persons in the state, as well as the ranking of a given profession among the thirteen Western states. In terms of professionals per 100,000, Hawai`i ranks, on average, 5th in the West on professions with available data. The best rankings (2nd) are for Substance Abuse and Behavioral Disorder Counselors, Medical and Public Health Social Workers, and Psychiatric Aides, while the lowest rankings (9th and 12th) were for Clinical, Counseling, and School Psychologists and Mental Health and Substance Abuse Social Workers, respectively.

Table 11: Western Regional Comparison of Hawaii's Behavioral Health Occupations in 2006[31]

	Total Employment[a]	**Employment Per 100,000**	**Rank Among 13 Western Regional States[b]**
Clinical, Counseling, and School Psychologists*	420	32.7	9
Psychologists, All Other	N/A	N/A	N/A

[31] http://stats.bls.gov/oes/current/oes_nd.htm

Substance Abuse and Behavioral Disorder Counselors	510	39.7	2
Educational, Vocational, and School Counselors	1,030	80.1	5
Marriage and Family Therapists	50	3.9	6
Mental Health Counselors	510	39.7	5
Child, Family, and School Social Workers	1,430	111.2	4
Medical and Public Health Social Workers	530	41.2	2
Mental Health and Substance Abuse Social Workers	240	18.7	12
Psychiatrists*	120	9.3	3
Psychiatric Technicians	N/A	N/A	N/A
Psychiatric Aides	460	35.8	2

Note. Data were not available for all states.
[a]Estimates do not include self-employed workers. [b]Alaska, Arizona, California, Colorado, Hawai`i, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Several caveats should be kept in mind when considering these rankings. First, these comparisons are among the 13 Western states and rankings might be different if looking at the whole country. Second, data was not available for given professions (e.g., Marriage and Family Therapists) in all states, which could also affect rankings. In addition, there is a recognized discrepancy between the BLS data and the data reported by the state licensing board as shown in Table 12.

Table 12: Licensed Behavioral Health Professionals for Hawai`i, October 2007[32]

Occupation	**Total**	Oahu	Hawai`i	Maui	Kauai	Molokai	Lanai	Mainland	Foreign
Licensed Bachelor in Social Work	**14**	13	-	-	1	-	-	-	-
Licensed Clinical Social Worker	**433**	259	56	40	18	2	-	56	2
Advanced Practice Registered Nurse (Active) [1]	**814**	472	65	37	29	4	-	206	1
Licensed Social Worker	**1,230**	843	125	68	48	4	1	132	9
Marriage and Family Therapist	**160**	64	38	20	12	1	1	23	1
Mental Health Counselor	**171**	114	25	17	4	-	-	11	-
Psychologist (Active)	**746**	445	57	35	27	-	-	180	2
Psychiatry[2]	**233**	178	24	19	8	3	1	N/A	N/A
Certified Peer Specialists[3]	**112**	84	21	5	2	-	-	N/A	N/A
Totals	**3,913**	**2472**	**411**	**241**	**149**	**54**	**16**	**6,635**	**212**

[1] Since there is no reliable estimate of Psychiatric Nurses in the state; APRNs serve as the closest estimate.
[2] Gathered from the Hawai`i Psychiatrist Medical Association.
[3] Certified Peer Specialists are not licensed by the state.

Table 13 below shows data gathered from the Hawai`i Workforce Informer website[33] for behavioral health projections.

Table 13: 13-Year Behavioral Health Occupation Projections for 2014

Occupation	**Projected**	**Annual**	**Percent Change**

[32] Most recent data reported by the Department of Commerce and Consumer Affairs: http://www.Hawai`i.gov/dcca/areas/pvl/main/reports/
[33] http://www.hiwi.org/

	Employment 2014	Growth Rate	2000-2014
Clinical, Counseling, and School Psychologists	1,030	1.4	14.4
Substance Abuse and Behavioral Disorder Counselors	620	2.4	24.0
Marriage and Family Therapists	140	0.8	7.7
Mental Health Counselors	610	2.0	19.6
Rehabilitation Counselors	340	1.3	13.3
Child, Family, and School Social Workers	1,300	1.7	17.1
Medical and Public Health Social Workers	20	2.4	23.8
Mental Health and Substance Abuse Social Workers	360	2.4	24.1
Miscellaneous Counselors, Social, & Religious Workers	1,670	1.6	16.0
Psychiatric Aides	260	0.0	0.0

Additionally, although Hawai`i may rank highly for a given behavioral health occupation within the Western region, the trends of the state (based on data presented in earlier sections) suggests a decreasing workforce ratio, increasing number of people with mental health and/or substance use problems, and a fairly large percent of unmet need (i.e., the number of those estimated to have a given mental health problem vs. those being served). Thus, these trends strongly suggest the need to boost the state's workforce to meet growing demand.

There appears to be a sufficient number of psychiatrists in the state, higher than the national average. However, as is the case in other rural states, the psychiatrists are clustered around urban centers, leaving rural areas underserved. The DOH does a good job of providing psychiatric and psychological services in the state with the available financial resources, however, there are service gaps for certain populations, namely children/youth, MEDQUEST patients, un/underinsured, and rural populations. Factors contributing to these gaps are listed below.

- There are an inadequate number of positions to serve the high number of Medicaid and uninsured patients, especially in rural areas.
- Providers are not interested to serve these areas due to higher cost of living on rural islands and low reimbursements.
- Current staff in rural areas are overworked, risk burnout, and recruitment of new staff to support them is challenging.
- In rural areas, there are no salaried positions for the Medicaid or un/underinsured patients who do not meet the DOH SMI criteria.
- While training is scheduled to begin in 2008 for monitoring the capitated Medicaid insurance plan, the oversight program needs to be expanded to ensure quality access for rural areas.
- With the consent decree lifted, salary ceilings have been reinstated and some psychiatrists have left rural areas to go back to Oahu or moved out of state entirely.
- There is lack of child psychiatrists in rural Hawai`i. For example, in East Hawai`i, there are no private child psychiatrists making services difficult to access.

Increased funding for nationally competitive salaries and additional positions is a short-term solution. Long-term workforce solutions include increased culturally appropriate rural training programs, rural internships with university collaboration, development of local training centers specific to the needs of each area utilizing a 'grow-your-own' approach, and student loan forgiveness in exchange for rural work. Other long-term solutions include establishing oversight

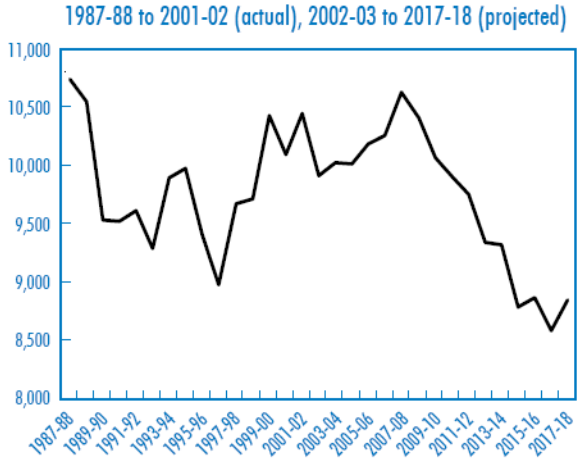
committees to review the companies contracted to provide Medicaid insurance to rural populations and to review the screening practices of the DOE.

Hawaii's Education System

In order to meet the current and future unmet needs of those with behavioral health disorders, a large number of professional positions in behavioral health need to be filled. Additionally, those trained to become behavioral health clinicians require exposure to issues facing island residents. Higher education behavioral health programs are a logical and important part of achieving these goals.

Recent research by the National Center for Public Policy and Higher Education suggests that demographic changes to the country's population could lead to decreases in high school and college diplomas, as well as personal income in the next 15 years.[34] Specifically, there are projected to be "substantial increases in America's young population with the lowest level of education, combined with the coming retirement of the baby boomers—the most highly educated generation in U.S. history..." (p. 1). The number of public high school graduates is expected to decrease to 8,962 in 2017-18, a 14.3% decline over 2001-02, as show by the figure below.

Figure 18: Hawai`i Public High School Graduates[35]



The Manhattan Institute reports that in 2001, Hawai`i ranked 34th in the nation in the high school graduation rate at 69%.[36] With over 45 private high schools, Hawaii has the distinction of educating more students in independent institutions of secondary education than any other state in the United States. Hawai`i also has four of the largest independent schools in the country: Iolani School, Kamehameha Schools, Mid-Pacific Institute, and Punahou School. According to the Hawai`i Council of Private Schools, there were 33,659 students enrolled in private (regular

[34] http://www.highereducation.org/reports/pa_decline/index.shtml
[35] http://wiche.edu/policy/Knocking/1988-2018/profiles/hi.pdf
[36] http://www.manhattan-institute.org/html/cr_baeo.htm

and special) schools[37] during the 2006-2007 school year.[38] During this same year, there were 11,264 students enrolled in Catholic schools, for a total of 44,923 students outside of the public school system. The National Center for Public Policy and Higher Education also notes that Hawai`i has experienced the steepest decline in the nation of the percentage of high school students enrolling in college by age 19.[39]

According to a WICHE Workforce Brief on Hawai`i:[40]

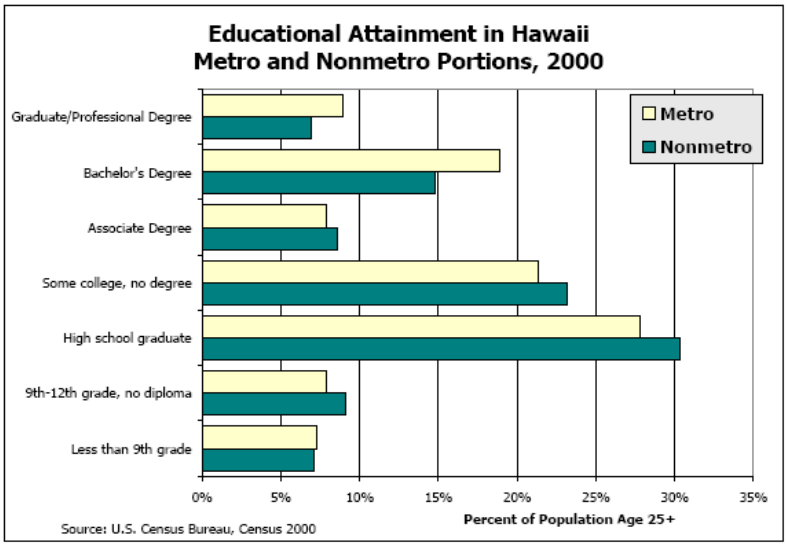
> Between 2002 and 2012, the rate of job growth in Hawai`i will be average: 14 percent annually... The demand for well-educated employees will only increase over the next several years. In the decade leading up to 2012, healthcare occupations will see growth of 21 percent: 900 new and replacement positions will have to be filled *each year*…The growth of these sectors is good news for Hawaii's citizens, since wages for jobs in these areas are significantly higher than the average for Hawai`i in general. But entry into these jobs comes with a price tag: most positions in these fields will require a bachelor's degree or higher. The question for Hawai`i and other states is how, in a time of tight budgets, to meet the increasing demands on higher education and thereby meet the needs of an increasingly sophisticated economy.

According to the Rural Policy Research Institute, the percent of the population that has earned a Bachelor's Degree or higher in the United States is 24.4 percent and 26.2 percent in Hawai`i.[41] Figure 19 shows the educational attainment between metro and nonmetro populations in the state. While the graduation rates are higher for nonmetro students at the high school level and first years of college, more students in metro areas go on to complete a bachelor's or other advanced degree.

Only 47% of full-time college students complete a bachelor's degree within six years. This places residents at a disadvantage when applying for the increasing number of jobs that require a higher education, weakening the state's economy.

Figure 19: Educational Attainment in Hawai`i, Metro and Nonmetro Portions, 2000[42]

[37] This total includes preschool, kindergarten, and all grade levels.
[38] http://www.hais.org/about_stats_hcpsenrollrpt.pdf
[39] http://measuringup.highereducation.org/_docs/2006/statereports/HI06.pdf
[40] http://wiche.edu/Workforce/2006/HI.pdf
[41] http://www.cdktest.com/rupri/Forms/Hawai`i.pdf
[42] http://www.cdktest.com/rupri/Forms/Hawai`i.pdf

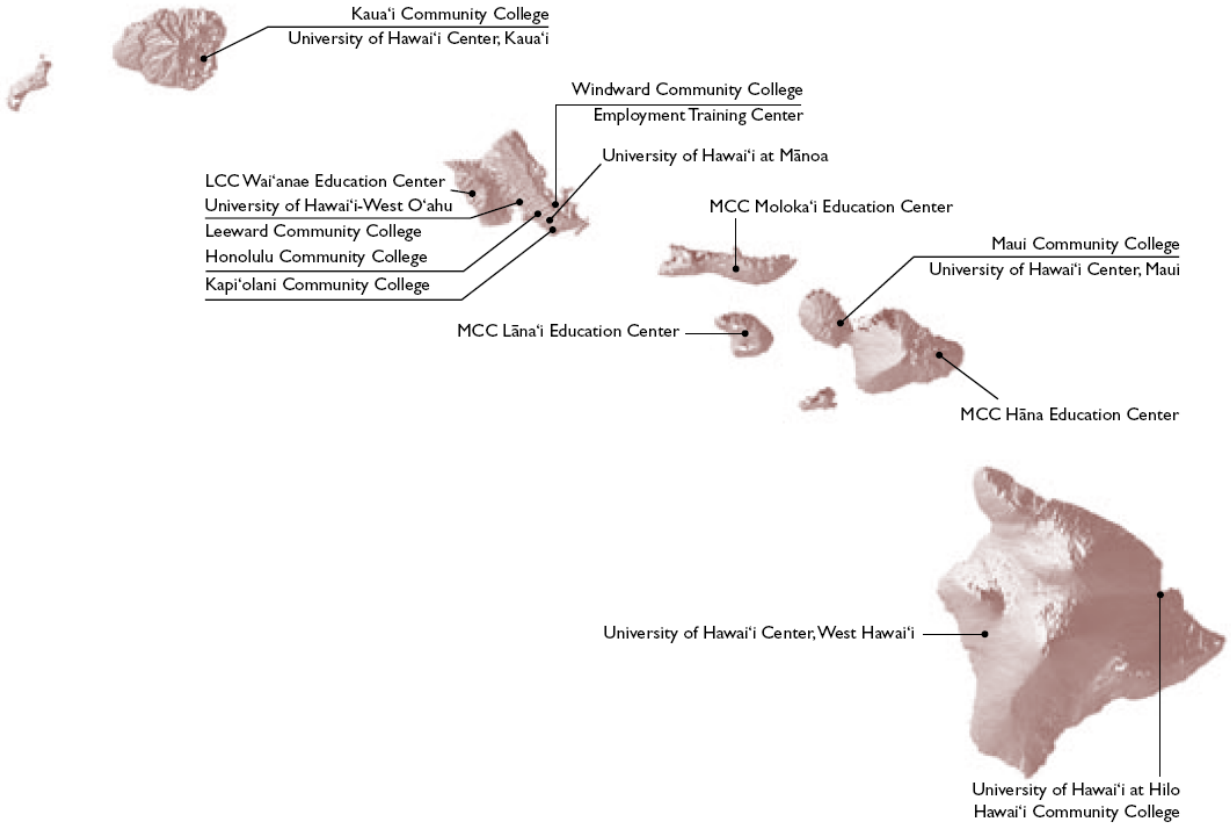


Hawaii's Higher Education System

The Hawai`i public higher education system, formally known as the University of Hawai`i System encompasses one university with two satellite campuses as well as seven community colleges. There are also eight private four-year institutions. (Please see Appendix J for a list of the institutions). Figure 20 shows a map of the locations of the higher education institutions in Hawai`i from the report Measuring Our Progress 2006 produced by the University of Hawai`i.

Figure 20: University of Hawai`i System[43]

[43] http://www.Hawai`i.edu/ovppp/mop/mop06.pdf



In addition, the report notes that the University of Hawai`i is one of the most ethnically diverse higher education systems in the nation with the following statistics:

> 21.7 percent of the students are Caucasian, 15.7 percent are Japanese, 13.8 percent are Hawaiian or Part-Hawaiian, 12.7 percent are Filipino, 5.4 percent are Chinese, and 11.5 percent report Mixed ethnicity.

This diversity in education leads to diversity in practicing professionals and is more likely to match the diversity of the client population. It is important to reflect this diversity in the training materials and internship opportunities as well. Another key focus of the UHS is workforce development. The UHS participates in the State Workforce Development Council to tailor their programs to match workforce shortages in Hawai`i. One model program is the nursing program. UHS works closely with healthcare agencies, the community, and the State Legislature to increase their nursing enrollment and to create multiple exit points for their students into the workforce. Since 2004, the nursing program has increased enrollment by 50% and graduations by 15%. This program provides a strong model to follow with the behavioral health programs to address the shortages in Hawai`i.

UHS Behavioral Health Programs

The University of Hawai`i System offers programs that range from certificates to doctoral and professional degrees. There are at least six behavioral health programs offered in the public higher educational system (e.g., psychology, social work, etc.). The following table provides a breakdown of the programs offered by institution.

Table 14: Program and Degrees Offered by Institution

	UH-Mānoa	UH- Hilo	UH – West O`ahu	Hawai`i CC	Honolulu CC	Kapi`olani CC	Kaua`i CC	Leeward CC	Maui CC	Windward CC
Adult Services								CC	CC	
Community Health Worker						CC				
Counseling and Guidance (Education)	MEd									
Human Services				CC	AAS, CA					
Nursing	PhD, MS, BS, GCert	BS								
Nursing, Associate				AS		AS	AS		AS	
Nursing, Practical				CA		CA	CA		CA	
Psychiatry	MD									
Psychology	Cert, BA, MA, PhD	BA								
Psychology, Clinical	GCert									
Psychology, Counseling		MA								
Psychology, Educational	PhD, MEd									
Social Welfare (Social Work)	PhD									
Social Work	Cert, BSW, MSW, Ph.D									
Substance Abuse			UCert	CC				CC	CA, AS, CC	

AAS – Associates of Arts and Sciences, AS – Associates of Arts, BA – Bachelors of Arts, BS – Bachelors of Science, CA – Certificate of Arts, CC – Certificate of Completion, Cert – Certificate, GCert – Graduate Certificate, MA – Masters of Arts, MD Medical Degree, MEd – Masters of Education, MS – Masters of Science, MSW, Masters of Social Work, PhD – Doctorate of Philosophy, UCert – Undergraduate Certificate

Summary

Over the past several years, significant momentum has formed behind behavioral health workforce development, particularly in rural areas. It is important to capitalize on this momentum, as largely rural states, such as Hawai`i, have had ongoing difficulties recruiting and retaining an effective behavioral health workforce. A limited workforce translates into critical gaps in the availability and, to some extent, accessibility of services. Hawaii's Behavioral Health Services Administration (BHSA) is undertaking a project to address these issues within the state. A successful workforce development project will increase the number of professionals available to provide services, thereby reducing the signficant unmet need in the state.

At present, most of Hawai`i is designated as a mental health professional shortage area and demand for services outstrips current capacity. The result is that those seeking services often have to wait longer and/or may have inconsistent treatment due to staff changes. As they wait, the severity of their problems often worsens, which can lead to mental health crises. Fortunately, the DOH is willing to initiate contact with various state officials, higher education training programs, and administrators in provider agencies to identify solutions to a range of these problems.

Workforce development strategies can take these data into account as they target the future generations of clinicians that will replace a now-aging healthcare workforce. The DHS can also work with higher education institutions to ensure that training curricula reflects the needs of the populations to be served and bring training opportunities to those who live and will likely stay in rural areas. This is often referred to as a "grow your own" approach, which is an adjunct to incentive-based programs, such as student loan repayment for working in rural areas. Supporting the "grow your own" approach is the strategy of including indigenous providers in these efforts.

The next step in developing a behavioral health workforce strategy in Hawai`i is to undertake a process, facilitated by WICHE, that brings together key stakeholders in the areas of state mental health, higher education, and provider agencies. The purpose of such a meeting is to identify specific goals that are realistic and achievable. The input of each of these primary groups is necessary so that all goals and strategies are developed and implemented collaboratively. However, it will also be important to include stakeholders from consumer advocacy organizations, as well as groups with expertise in cultural issues that bear on behavioral health services. This will provide a comprehensive set of perspectives from which to draw the most effective and reasonable strategies to achieve identified goals.

Appendices

Appendix A

Health Professional Shortage Area Criteria for Mental Health

General Criteria: *Health professional(s) shortage area* means any of the following which the Secretary determines has a shortage of health professional(s): (1) An urban or rural area (which need not conform to the geographic boundaries of a political subdivision and which is a rational area for the delivery of health services); (2) a population group; or (3) a public or nonprofit private medical facility. (http://bhpr.hrsa.gov/shortage/hpsacrit.htm)

Mental Health (http://bhpr.hrsa.gov/shortage/hpsacritmental.htm)

Part I -- Geographic Areas
A. Criteria: A geographic area will be designated as having a shortage of mental health professionals if the following four criteria are met:

1. The area is a rational area for the delivery of mental health services.

2. One of the following conditions prevails within the area:

(a) The area has --
(i) A population-to-core-mental-health-professional ratio greater than or equal to 6,000:1 and a population-to-psychiatrist ratio greater than or equal to 20,000:1, or
(ii) A population-to-core-professional ratio greater than or equal to 9,000:1, or
(iii) A population-to-psychiatrist ratio greater than or equal to 30,000:1;

(b) The area has unusually high needs for mental health services, and has --
(i) A population-to-core-mental-health-professional ratio greater than or equal to 4,500:1 and a population-to-psychiatrist ratio greater than or equal to 15,000:1, or
(ii) A population-to-core-professional ratio greater than or equal to 6,000:1, or
(iii) A population-to-psychiatrist ratio greater than or equal to 20,000:1;

3. Mental health professionals in contiguous areas are over-utilized, excessively distant, or inaccessible to residents of the area under consideration.

Part II -- Population Groups
A. Criteria: Population groups within particular rational mental health service areas will be designated as having a mental health professional shortage if the following criteria are met:

1. Access barriers prevent the population group from using those core mental health professionals which are present in the area; and

2. One of the following conditions prevails:

(a) The ratio of the number of persons in the population group to the number of FTE core mental health professionals serving the population group is greater than or equal to 4,500:1 and

the ratio of the number of persons in the population group to the number of FTE psychiatrists serving the population group is greater than or equal to 15,000:1; or,

(b) The ratio of the number of persons in the population group to the number of FTE core mental health professionals serving the population group is greater than or equal to 6,000:1; or,

(c) The ratio of the number of persons in the population group to the number of FTE psychiatrists serving the population group is greater than or equal to 20,000:1.

Part III -- Facilities

A. Federal and State Correctional Institutions
1. Criteria: Medium to maximum security Federal and State correctional institutions for adults or youth, and youth detention facilities, will be designated as having a shortage of psychiatric professional(s) if both of the following criteria are met:

(a) The institution has more than 250 inmates, and
(b) The ratio of the number of internees per year to the number of FTE psychiatrists serving the institution is at least 2,000:1.

Here the number of internees is defined as follows:

(i) If the number of new inmates per year and the average length-of-stay (ALOS) are not specified, or if the information provided does not indicate that intake psychiatric examinations are routinely performed upon entry, then -- Number of internees = average number of inmates.
(ii) If the ALOS is specified as one year or more, and intake psychiatric examinations are routinely performed upon entry, then -- Number of internees = average number of inmates + number of new inmates per year.
(iii) If the ALOS is specified as less than one year, and intake psychiatric examinations are routinely performed upon entry, then -- Number of internees = average number of inmates + 1/3 x (1 + (2 x ALOS)) x number of new inmates per year where ALOS = average length-of-stay (in fraction of year). (The number of FTE psychiatrists is computed as in Part I, Section B, paragraph 3 above.)

B. State and County Mental Hospitals.

1. Criteria: A State or county hospital will be designated as having a shortage of psychiatric professional(s) if both of the following criteria are met:

(a) The mental hospital has an average daily inpatient census of at least 100; and
(b) The number of workload units per FTE psychiatrists available at the hospital exceeds 300, where workload units are calculated using the following formula:

Total workload units = average daily inpatient census + 2 x (number of inpatient admissions per year) + 0.5 x (number of admissions to day care and outpatient services per year).

C. Community Mental Health Centers and Other Public or Nonprofit Private Facilities.
1. Criteria: A community mental health center (CMHC), authorized by Pub. L. 94 - 63, or other public or nonprofit private facility providing mental health services to an area or population group, may be designated as having a shortage of psychiatric professional(s) if the facility is providing (or is responsible for providing) mental health services to an area or population group designated as having a mental health professional(s), and the facility has insufficient capacity to meet the psychiatric needs of the area or population group.

Appendix B:

CAMHD Family Guidance Centers

Central Oahu Family Guidance Center	-	(808) 453-5900
Diamond Head Family Guidance Center	-	(808) 733-9393
Leeward Oahu Family Guidance Center	-	(808) 692-7700
Windward Oahu Family Guidance Center	-	(808) 233-3772
Hawaii Family Guidance Center	-	(808) 933-0610
Kauai Family Guidance Center	-	(808) 274-3883
Maui Family Guidance Center	-	(808) 873-3361

Appendix C:

AMHD Community Mental Health Centers

Web site: amh.health.state.hi.us

Oahu Community Mental Health Center
1700 Lanakila Avenue
Honolulu, HI 96817
Phone: 832-5770 (V)
Provides administrative oversight to a wide array of community based statewide mental health services.

Hawaii County Community Mental Health Center
37 Kekaulike Street
Hilo, HI 96720
Phone: 974-4300 (V)
Provides comprehensive services including outpatient psychiatric services, case management and counseling for persons with serious mental illness and individuals in crisis. Contact community mental health center for intake and screening.

Maui Community Mental Health Center
121 Mahalani Street
Wailuku, HI 96793
Phone: 984-2150 (V)
Provides psychiatric evaluations, counseling, psychological testing, medication evaluation, and prescription. Case management and bio-psychosocial rehabilitation services are available for persons who are seriously mentally ill. Services are available in Lahaina, Pukalani, and Hana by appointment.

Kauai Community Mental Health Center
3-3212 Kuhio Highway
Lihue, HI 96766
Phone: 245-1010 (V), 274-3190 (V) 274-3195 (TTY) (After-hour emergencies)
Provides mental health services, prevocational training and recreational/social activities for the seriously mentally ill. Provides outreach and crisis intervention on a 24-hour basis.

Hawaii State Hospital - (808) 247-2191

Appendix D

Hawaiian Legislative Initiatives

Bills of interest to the AMHD, consumers and mental health stakeholders passed in FY 2006 included:

- SB 3105 improves access for psychiatric medication for participants in Hawaii's Medicaid programs stating that "the department shall not impose any restriction or limitation on the coverage for, or a recipient's access to, psychotropic medication; provided that the psychotropic medication shall be prescribed by a licensed psychiatrist or by a physician duly licensed in the State".

- SB 2502 appropriates a small amount of funds ($19,309) to the Department of Health for the donated dental service program which benefits eligible individuals who are elderly or disabled.

- SB 3259 appropriates the amount of $90,000 to the Department of Health to provide:
  - an assessment of the status of the continuum of dental care, and
  - equipment and service delivery to establish community based dental health clinics operated by Federally Qualified Health Centers (FQHCs) to provide a continuum of dental care to Quest-eligible adults and children, people with developmental disabilities, and the uninsured.

- SB SCR117 is a resolution "requesting the governor to convene a task force to evaluate and recommend possible procedural, statutory, and public policy changes to minimize the census at Hawaii State Hospital and promote community based health services for forensic patients".

- ACT 14 amends the law to define "mental health counselor" and clarify the scope of practice for this profession.

Appendix E

NAMI's Grading the States, 2006[44]

Score Card: HAWAII				
Category		**Criteria**	**Actual Score**	**Possible Score**
Infrastructure	1	Prioritizing services -- Severe & Persistent Mental Illnesses (SPMI)	3	3
	2	Demonstrated innovation	2	2
	3	Health disparities program	0	2
	4	Studies regarding causes of death	2	2
	5	Workforce development & strategic plan	0	3
	6	Insurance parity for mental illness	1	2
	7	Cultural competence assessment & plan	2	2
	8	Unduplicated count & breakdown by race/ethnicity	2	2
Information Access	9	Consumer & Family Test Drive (CFTD)	6	10
	10	Consumer & Family (CF) monitoring teams	1	2
	11	Written mandate ensuring CF input	0	2
	12	CF involvement in EBP implementation	2	2
Services	13	No outpatient mental health co-pays	3	3
	14	No restrictions for antipsychotic medications	3	3
	15	No restrictions on prescriptions per month	3	3
	16	Benefit-service identification program	1	2
	17	Interagency cooperation between SMHA & Medicaid	2	2
	18	Wraparound coverage for benzodiazepines	2	2
	19	Feedback to doctors on prescribing patterns	0	2
	20	Integrated dual diagnosis treatment policies	3	3
	21	Assertive Community Treatment (ACT) teams	2	3
	22	Written ACT fidelity standards	2	2
	23	Family psychoeducation - SAMHSA model	1	2
	24	Illness management & recovery - SAMHSA model	2	2
	25	Jail diversion programs	2	3
	26	Restoration of benefits post-incarceration	0	2
	27	Psychiatric inpatient bed access	1	3
	28	Reduction in use of restraints & seclusion	2	3
	29	Accreditation of state hospitals/facilities	2	2
	30	Olmstead Plan	2	2
Recovery Supports	31	Supported employment	2	3
	32	SMHA-Division of Vocational Rehab	2	2
	33	Supported housing	4	4
	34	Efforts to reduce waiting lists for residential services	2	3
	35	Housing services coordinator	2	2
	36	Written plan for long-term housing needs	2	2
	37	Co-occurring disorders—No Wrong Door	2	2
	38	Financial-logistical support Family-to-Family education program	2	2
	39	Financial-logistical support Peer-to-Peer education program	2	2

44 http://www.nami.org/gtstemplate.cfm?section=grading_the_states&template=/ContentManagement/ContentDisplay.cfm&ContentID=30790

Appendix F

Hawai`i County populations, arranged in order of density

	Population, 2000 Census[45]	County land area in square miles	Persons per square mile	Percentage below poverty line, 2004	Estimated Population July 1, 2006
Hawai`i	1,211,537	6,422.62	188.6	9.0%	1,285,498
COUNTY					
Honolulu	876,156	599.77	1,460.3	8.8%	909,863
Maui	128,094	1,159.20	110.5	8.3%	141,320
Kauai	58,463	622.44	94.0	8.6%	63,004
Hawai`i	148,677	4,028.02	36.9	10.8%	171,191
Kalawao	147	13.21	11.3	0.0%	120

[45] http://quickfacts.census.gov/qfd/states/15/15001.html

Appendix G

Research Service Rural-Urban Commuting Areas (RUCA)

The following definition of rural is taken from: http://depts.washington.edu/uwruca/rural.html

The RUCAs are designed to define rural and urban based on the Census Bureau's carefully constructed definitions of Urbanized Areas and Urban Clusters, which are based on complex criteria including population density and population work commuting patterns. Thus, the RUCA taxonomy is based on the size of cities and towns and their functional relationships as measured by work commuting flows. Within this framework, they have been devised for many different applications. There are 33 separate codes to allow demographers, health care researchers, policy makers, and others to aggregate according to their needs. Generally it is expected that the codes will be aggregated; the large number of different codes allows great flexibility in these aggregations. For instance, the RUCAs can be used to target a federal health care program to the most appropriate subpopulation. Because the codes are based on Census tracts, they are geographically more specific than larger county-based definitions and avoid the problems associated with the heterogeneity of these large units (i.e., problems of under and over bounding the actual boundaries of cities and towns). To make the codes more useful for health care applilcations, a ZIP code version of the RUCAs was developed and is available on this web site. For additional information see, Hart LG, Larsen EH, and Lishner, DM. "Rural Definitions for Health Policy and Research." *American Journal of Public Health* 2005; 95(7): 1149-1155. Link to Pub Med.

Appendix H

Designated Mental Health Professional Shortage Areas in Hawai`i[46]

HPSA Name	Type
001 - HAWAI`I COUNTY	
PUNA	Geographic Area
KAU CA	Geographic Area
BAY CLINIC	Community Health Center
HAMAKUA HEALTH CENTER	Community Health Center
WEST HAWAI`I COMMUNITY HEALTH CENTER	Community Health Center
003 - HONOLULU COUNTY	
HALAWA CORR FAC	Correctional Institution
WOMEN'S COMM. CORRECTIONAL CTR	Correctional Institution
WAIANAE COAST CHC	Community Health Center
WAIMANALO HEALTH CENTER	Community Health Center
KOKUA KALIHI VALLEY HC	Community Health Center
KALIHI-PALOMA HEALTH CENTER	Community Health Center
WAIKIKI HEALTH CENTER	Community Health Center
KO'OLAULOA COMMUNITY HEALTH & WELLNESS	Community Health Center
005 - KALAWAO COUNTY	
ISLAND OF MOLOKAI	Geographic Area
007 - KAUAI COUNTY	
WAIMEA SA	Geographic Area
HO'OLA LAHUI HAWAI`I	Community Health Center
009 - MAUI COUNTY	
ISLAND OF MOLOKAI	Geographic Area
COMMUNITY CLINIC OF MAUI	Community Health Center
HANA COMMUNITY HEALTH CENTER	Community Health Center
MOLOKAI OHANA HEALTH CENTER	Community Health Center
HANA EAST MAUI	Geographic Area
MOLOKAI GENERAL HOSPITAL	Rural Health Clinic

Geographic Service Area - portions of a county, or portions of multiple counties, designated as a geographic HPSA
State Mental Hospitals - State run mental health inpatient facilities
Correctional Institutions - Federal and State prisons and youth detention facilities
Comprehensive Health Centers - entities receiving Section 330 funds to operate comprehensive health centers
Rural Health Clinic - certified as Rural Health Clinics by the Centers for Medicare and Medicaid Services

[46] http://hpsafind.hrsa.gov/

Appendix I

Estimated Number of Children and Adolescents, Age 9-17, with Serious Emotional Disturbance, by State, 2004[47]

State	Number of Youth 9-17	Age 5-17 % in Poverty	State Tier for % in Poverty	Level of Functioning Score = 50		Level of Functioning Score = 60	
				Lower	Upper	Lower	Upper
Alabama	565,553	218%	High	39,589	50,900	62,211	73,522
Alaska	99,885	98%	Low	4,994	6,992	8,990	10,987
Arizona	761,673	182%	High	53,317	68,551	83,784	99,017
Arkansas	344,715	257%	High	24,130	31,024	37,919	44,813
California	4,922,564	181%	High	344,579	443,031	541,482	639,933
Colorado	588,112	116%	Low	29,406	41,168	52,930	64,692
Connecticut	444,610	90%	Low	22,231	31,123	40,015	48,907
Delaware	99,297	115%	Low	4,965	6,951	8,937	10,923
DC	52,304	326%	High	3,661	4,707	5,753	6,800
Florida	2,069,055	184%	High	144,834	186,215	227,596	268,977
Georgia	1,156,628	168%	Mid	69,398	92,530	115,663	138,795
Hawaii	**149,058**	**113%**	**Low**	**7,453**	**10,434**	**13,415**	**16,396**
Idaho	189,062	120%	Mid	11,344	15,125	18,906	22,687
Illinois	1,651,648	175%	High	115,615	148,648	181,681	214,714
Indiana	821,286	117%	Low	41,064	57,490	73,916	90,341
Iowa	356,244	120%	Mid	21,375	28,500	35,624	42,749
Kansas	348,911	123%	Mid	20,935	27,913	34,891	41,869
Kentucky	502,246	175%	High	35,157	45,202	55,247	65,292
Louisiana	595,949	227%	High	41,716	53,635	65,554	77,473
Maine	157,335	138%	Mid	9,440	12,587	15,734	18,880
Maryland	728,441	93%	Low	36,422	50,991	65,560	80,129
Massachusetts	760,000	109%	Low	38,000	53,200	68,400	83,600
Michigan	1,345,538	139%	Mid	80,732	107,643	134,554	161,465
Minnesota	648,342	88%	Low	32,417	45,384	58,351	71,318
Mississippi	382,872	236%	High	26,801	34,458	42,116	49,773
Missouri	721,144	133%	Mid	43,269	57,692	72,114	86,537
Montana	113,369	170%	Mid	6,802	9,070	11,337	13,604
Nebraska	221,460	86%	Low	11,073	15,502	19,931	24,361
Nevada	300,584	137%	Mid	18,035	24,047	30,058	36,070
New Hampshire	168,743	56%	Low	8,437	11,812	15,187	18,562
New Jersey	1,110,976	88%	Low	55,549	77,768	99,988	122,207
New Mexico	256,227	251%	High	17,936	23,060	28,185	33,310
New York	2,367,018	199%	High	165,691	213,032	260,372	307,712
North Carolina	1,063,582	190%	High	74,451	95,722	116,994	138,266
North Dakota	74,470	115%	Low	3,724	5,213	6,702	8,192
Ohio	1,456,775	135%	Mid	87,407	116,542	145,678	174,813
Oklahoma	434,395	152%	Mid	26,064	34,752	43,440	52,127
Oregon	441,685	178%	High	30,918	39,752	48,585	57,419
Pennsylvania	1,530,449	147%	Mid	91,827	122,436	153,045	183,654

[47] http://www.nri-inc.org/SDICC/SDICC05/sed05.pdf Source: Population Estimates Program, US Bureau of the Census

Rhode Island	130,650	151%	Mid	7,839	10,452	13,065	15,678
South Carolina	529,233	172%	Mid	31,754	42,339	52,923	63,508
South Dakota	99,445	119%	Mid	5,967	7,956	9,945	11,933
Tennessee	710,234	177%	High	49,716	63,921	78,126	92,330
Texas	3,079,247	217%	High	215,547	277,132	338,717	400,302
Utah	343,422	100%	Low	17,171	24,040	30,908	37,776
Vermont	76,732	85%	Low	3,837	5,371	6,906	8,441
Virginia	924,235	110%	Low	46,212	64,696	83,181	101,666
Washington	780,486	147%	Mid	46,829	62,439	78,049	93,658
West Virginia	202,663	262%	High	14,186	18,240	22,293	26,346
Wisconsin	697,453	135%	Mid	41,847	55,796	69,745	83,694
Wyoming	62,276	98%	Low	3,114	4,359	5,605	6,850
US	37,638,281			2,384,776	3,137,541	3,890,307	4,643,073

Child SED Methodology
Col 1: 2004 Estimated Civilian Population Aged 9 - 17
Col 2: % of 2003 Related Youth aged 5 to 17 in Poverty (100% of Poverty Level)
Col 3: Which of 3 tiers is a state in terms of the % of Related Youths in Poverty in 2002.
Level of Functioning= or less than 50
Col 4: Lower Limit of Estimate
Col 5: Upper Limit of Estimate
Level of Functioning= or less than 60 (Official Estimate)
Col 6: Lower Limit of Estimate
Col 7: Upper Limit of Estimate

Note: SED Estimates are tied to the child poverty rate as follows:

	LOF = 50		LOF = 60	
	Lower	Upper	Lower	Upper
States 1 - 17	5%	7%	9%	11%
States 18 - 34	6%	8%	10%	12%
States 35 - 51	7%	9%	11%	13%

Appendix J

Hawaiian Colleges and Universities

State Institutions

Two-year-

* University of Hawaii
    - o Hawaii Community College, Hilo
    - o Honolulu Community College, Honolulu
    - o Kapiolani Community College, Honolulu
    - o Kauai Community College, Līhu'e
    - o Leeward Community College, Pearl City
    - o Maui Community College, Kahului
    - o Windward Community College, Kāne'ohe

Four-year-

* University of Hawaii
    - o University of Hawaii at Hilo, Hilo
    - o University of Hawaii at Manoa (main campus), Honolulu
    - o University of Hawaii-West Oahu, Pearl City

Graduate-

* University of Hawaii
    - o John A. Burns School of Medicine, Honolulu
    - o William S. Richardson School of Law, Honolulu

Private institutions

Four-year-

* Argosy University, Honolulu
* Atlantic International University, Honolulu
* Brigham Young University Hawaii, Lā'ie
* Chaminade University of Honolulu, Honolulu
* Hawaii Pacific University, Honolulu
* Honolulu University, Honolulu
* International College and Graduate School, Honolulu
* University of the Nations, Kailua-Kona

Graduate –

* Hawaii College of Pharmacy, Honolulu