Using Mental Health Data for Monitoring, Planning and Policy Development in Utah: Selected Examples

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Presented at the first National Meeting on State Mental Health Data Infrastructure Grants, Washington, D.C., October 3, 2002

Goal for Planning

- Use Knowledge Based on Data and Research to Drive Planning and Policy Development

We all have experience gathering and using data for planning and then executing and evaluating the events and outcomes that occur thereafter.

- For example, we are all here in Washington at this conference.
- Experience improves our abilities to interpret data for use in developing and executing plans and then evaluating the results/outcomes.

Background

- Utah Public Mental Health System
- Integrated Data Systems in Utah
- MH Performance Measures Used in Utah

Utah Public Mental Health System

- 10 Community Mental Health Centers (Local -- Most centers serve multiple counties.)
- Utah State Hospital (part of the State Mental Health Authority)

Utah Mental Health Integrated Data (Received from CMHCs and USH)

- Client information
- Services/encounters
- Symptom reduction/other outcomes
- Satisfaction

Client information includes:

- client identification number
- Social Security Number
- date of birth
- gender
- race
- Hispanic or non-Hispanic
- marital status
- diagnoses updated every 6 months (DSM Axis I & Axis II diagnoses up to 3 each)
- adults with SMI or children with SED
- living situation
- employment status
- expected payment source at admission (including Medicaid)

Client information (continued)

- marital status
- education
- income
- referral source at admission
- language other than English needed for treatment

Services/encounters include:

- Client ID number
- Date of service
- Program element, such as inpatient, residential treatment or support, partial hospitalization, outpatient, case management, emergency and family support.
- Type of service provided, such is screening/triage, assessment diagnosis, individual treatment, family, group, med. management, case management and other
- Duration of treatment
- Medicaid - pay source

Symptom Reduction and Other Outcomes include:

- Symptom reduction -- General Well-being Scale(GWB) for adults at the CMHCs or
- the Brief Psychiatric Rating Scale (BPRS) for patients in the State Hospital
- YOQ-30 Youth Outcome Questionnaire for Youth/Parents
- client perception of outcomes -- MSHIP Consumer Satisfaction Questionnaires for Adults and Youth/Parents
- other outcome items living situation, employment
- Mortality (health status)

Satisfaction

- MHSIP Adult Consumer Survey
- MHSIP Child/Youth Consumer Survey

Mental Health Performance Measures

- Utilization
- Penetration
- Consumer perception of access
- Consumer perception of Quality/Appropriateness
- Other MH performance measures

- Utah has adopted most of the MH performance measures from the 16 state study.

Development and growth of Mental Health integrated data systems in Utah have been facilitated by participation and collaboration in Federal grants and working with MHSIP. Association and sharing of ideas with colleagues continue to aid in the development and enhancement of the Systems.

Utah Examples of Using Mental Health Data for Monitoring, Planning and Development of State Policy

- Working with Stakeholders
- Annual Reports and Associated Presentations
- State MH Plan
- State Legislature and Olmstead Planning
- Mortality and Health Status

Stakeholders in focus groups received introductions to using Mental Health data and consensus building.

- Children's Stakeholders
- Families with children/youth
- Consumers
- Adult Families
- Planning Groups
- Management Team and Board Members

Stakeholder Focus Groups: Thinking and Learning Exercises with Data

- Stakeholders discussed uses of data for MH planning and policy development.
- Stakeholders discussed indicators useful for MH planning and policy development.
- Stakeholders selected the indicators that they thought would be most useful.

Stakeholder Focus Groups: Domains of Focus and Consensus

- Access, including transition of youth to adult clients
- Appropriateness
- Outcomes
- Client and Family Surveys
- Recovery Support
- Site Review Activities
- Special Studies
- Legal and Policy Issues

Annual Reports and Associated Presentations

- Consumer numbers and characteristics profile
- Services provided
- Outcomes
- Satisfaction
- Funding Availability
- Analyses made:
  - **Statewide**
  - **by 10 CMHCs and Utah State Hospital**
  - **by Wasatch Front vs. non Wasatch Front**

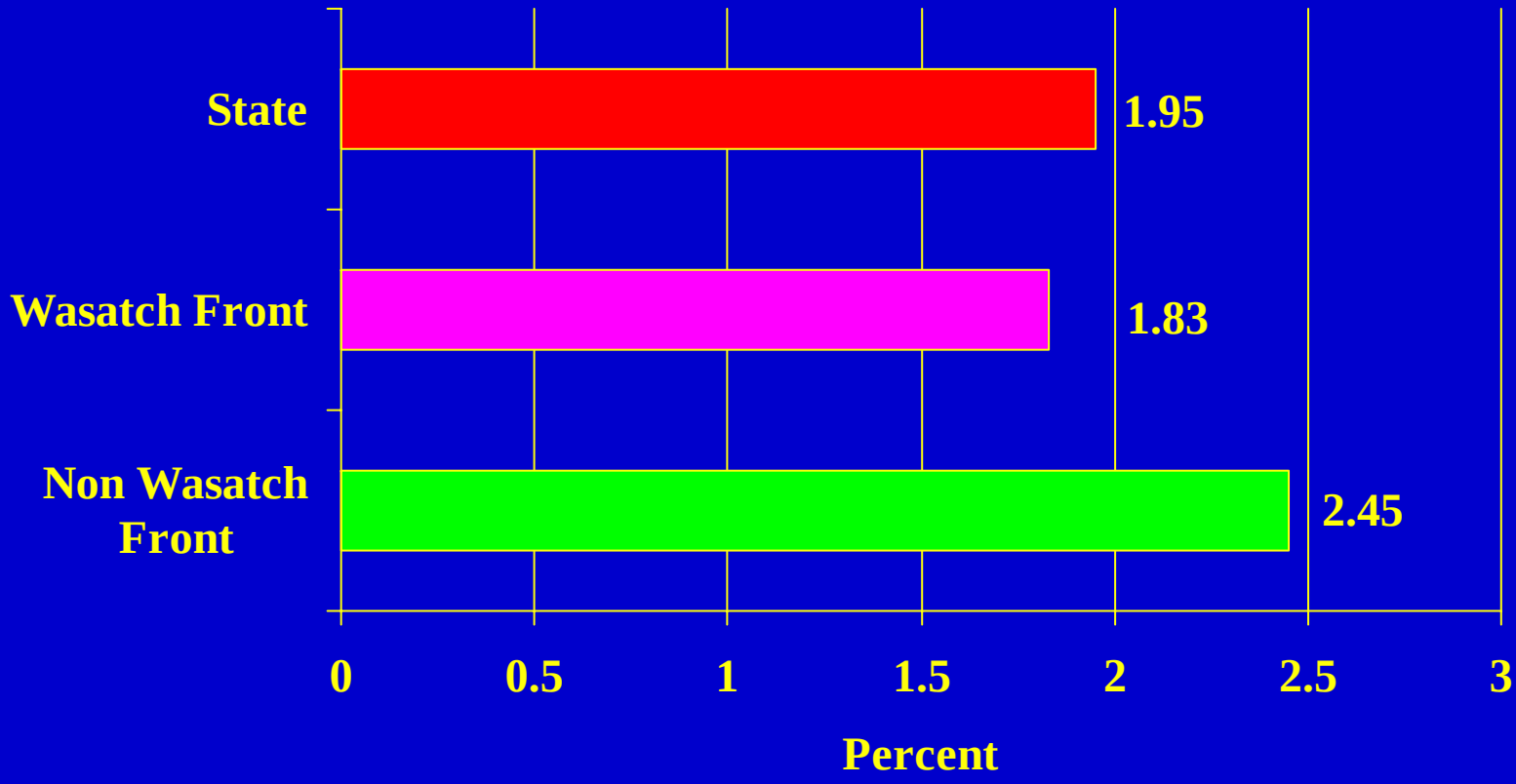
Example graphs and tables abstracted from presentations to the Utah State Mental Health Board and others during fall and winter 2001

near the time that the Annual Report for FY 2000 was completed

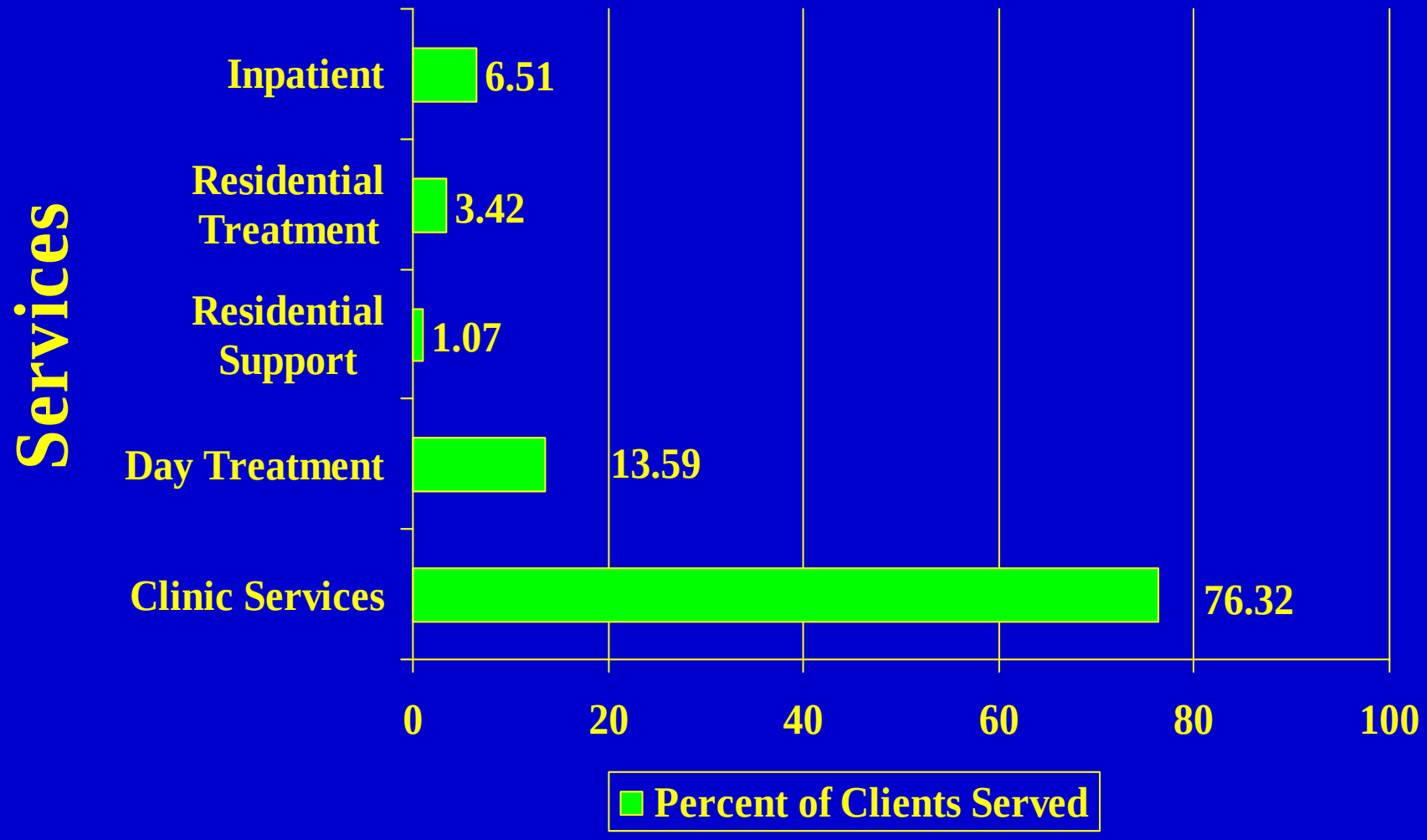
FY 2000 Mental Health Service Summary

• <u>Community Mental Health Centers</u>	(Number = 10)
• Unduplicated number served	41,566
• Clinic hours	670,554
• Day treatment	
– Hours	1,924,492
– Part-days	599,982
• Residential support days	179,894
• Residential treatment days	106,788
• Acute inpatient bed days (hospital)	27,387
• <u>Utah State Hospital</u>	
• Unduplicated number served	702
• Intermediate inpatient bed days	111,634

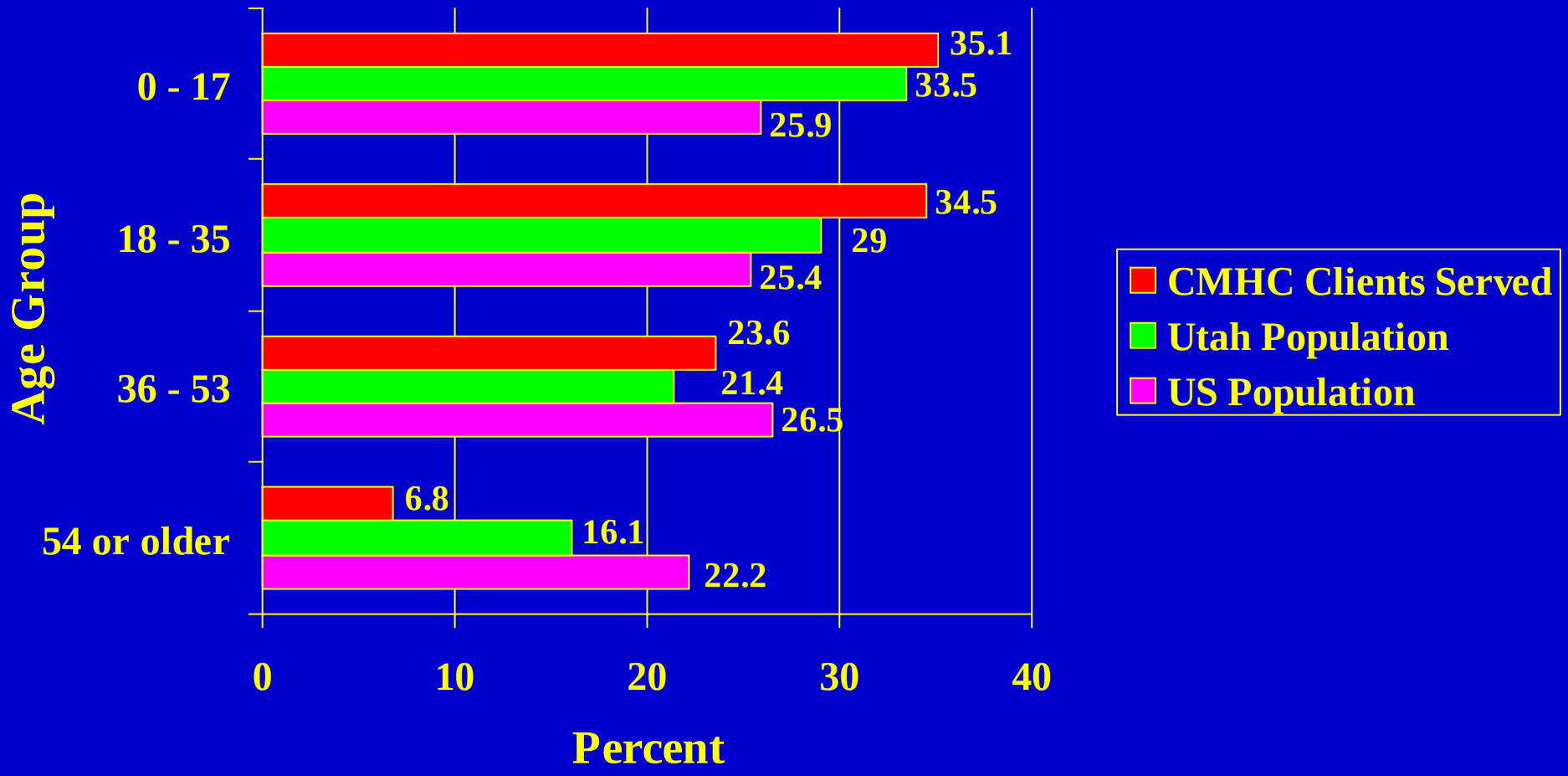
Percent of Area Population Served by CMHCs



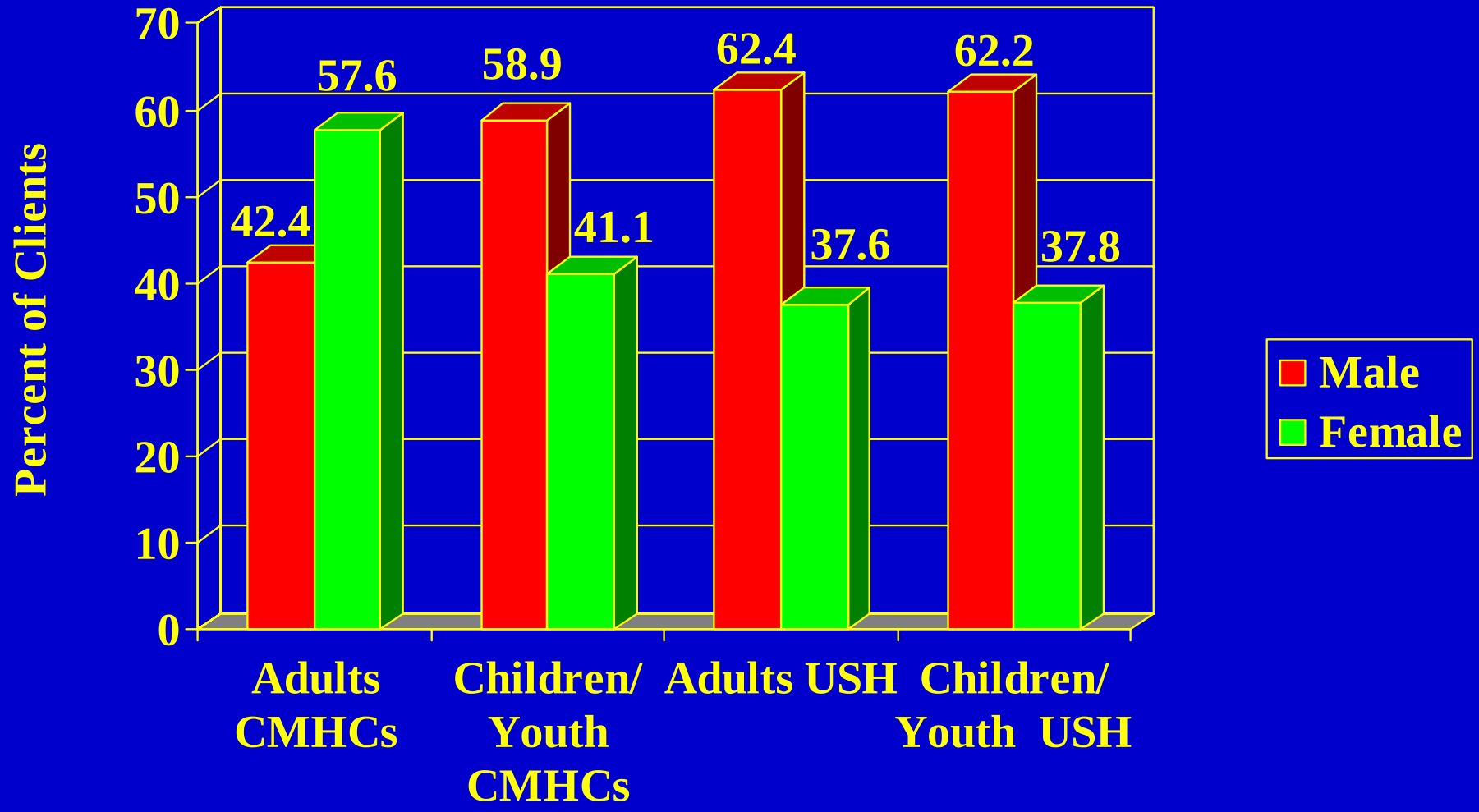
Client Use of Services



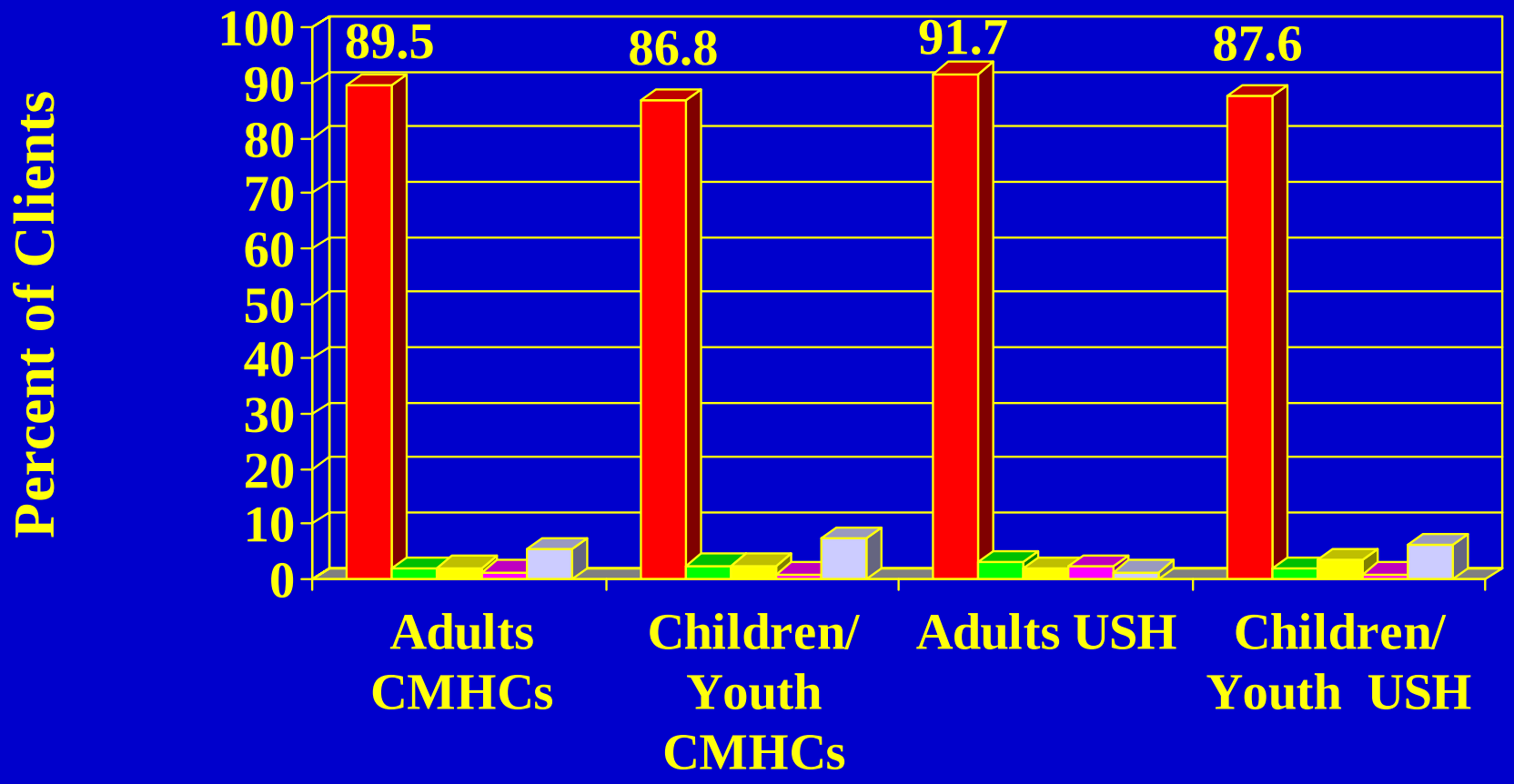
Age Group Comparisons: U.S., Utah & CMHC Number Served



Gender of Clients



Race of Clients

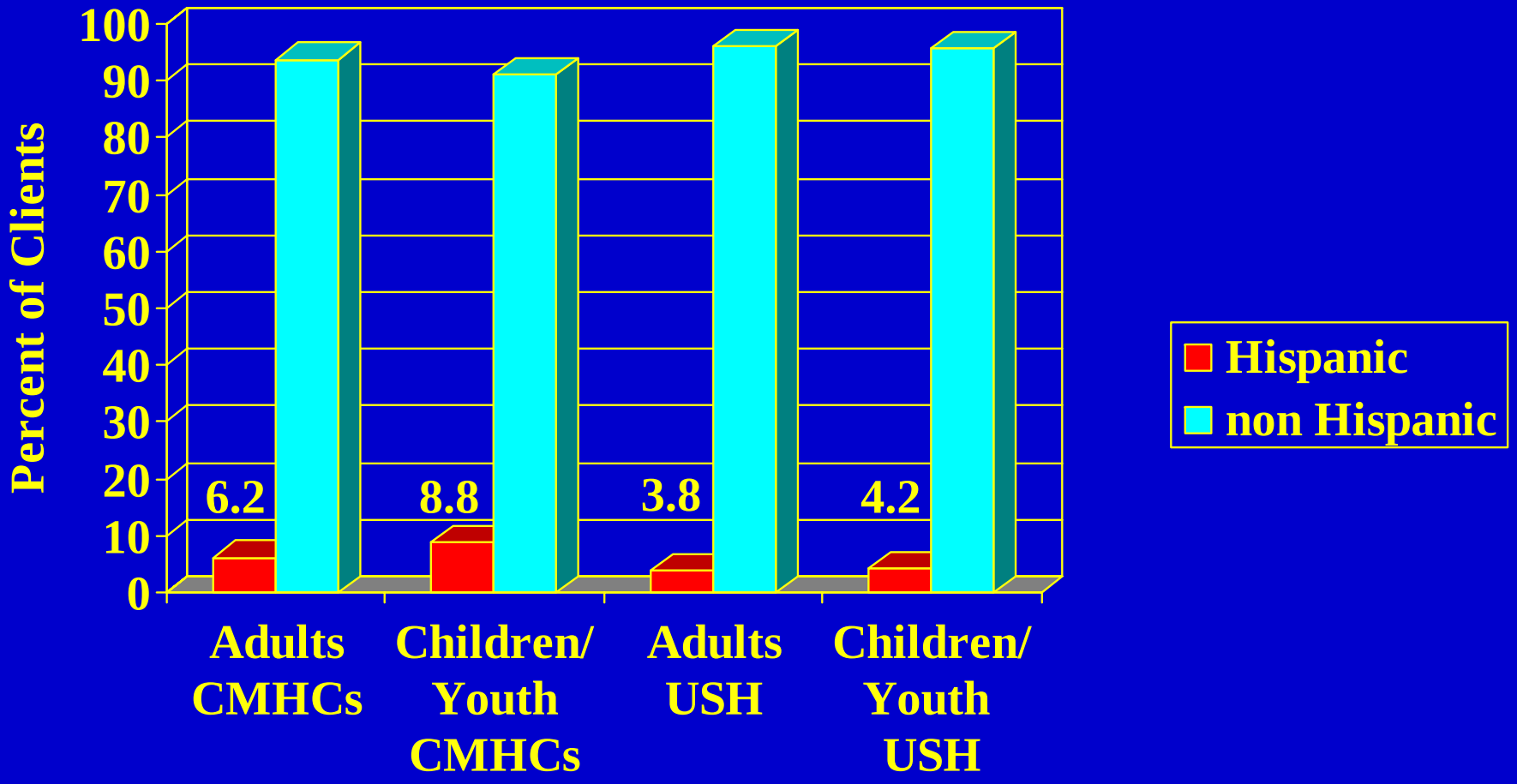


Race of residents in Utah's San Juan County and the race of clients served by the local San Juan CMHC

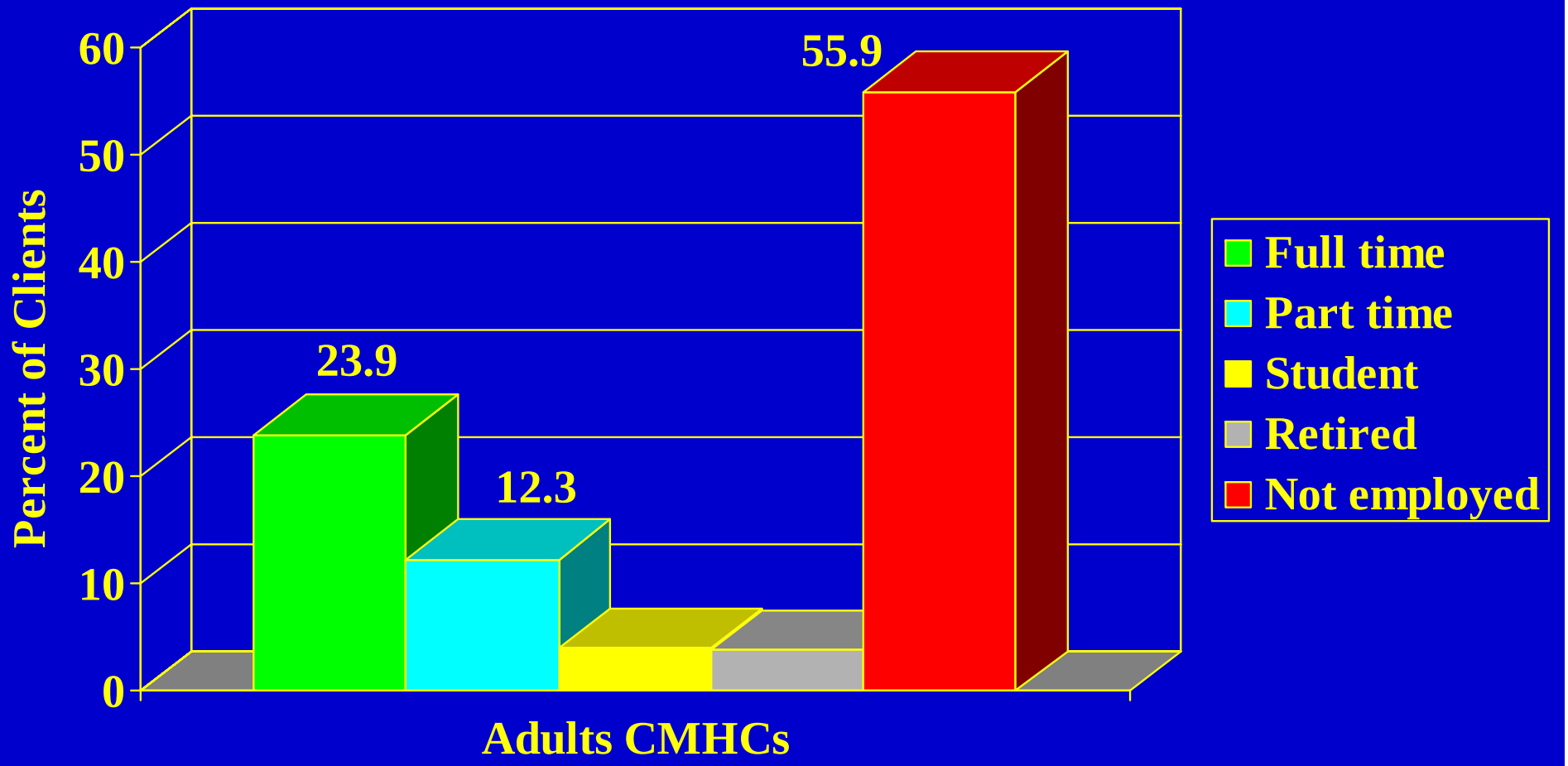
County residents -- Slightly over half are from American Indian tribes.

Clients served by the CMHC -- Slightly over half are from American Indian tribes.

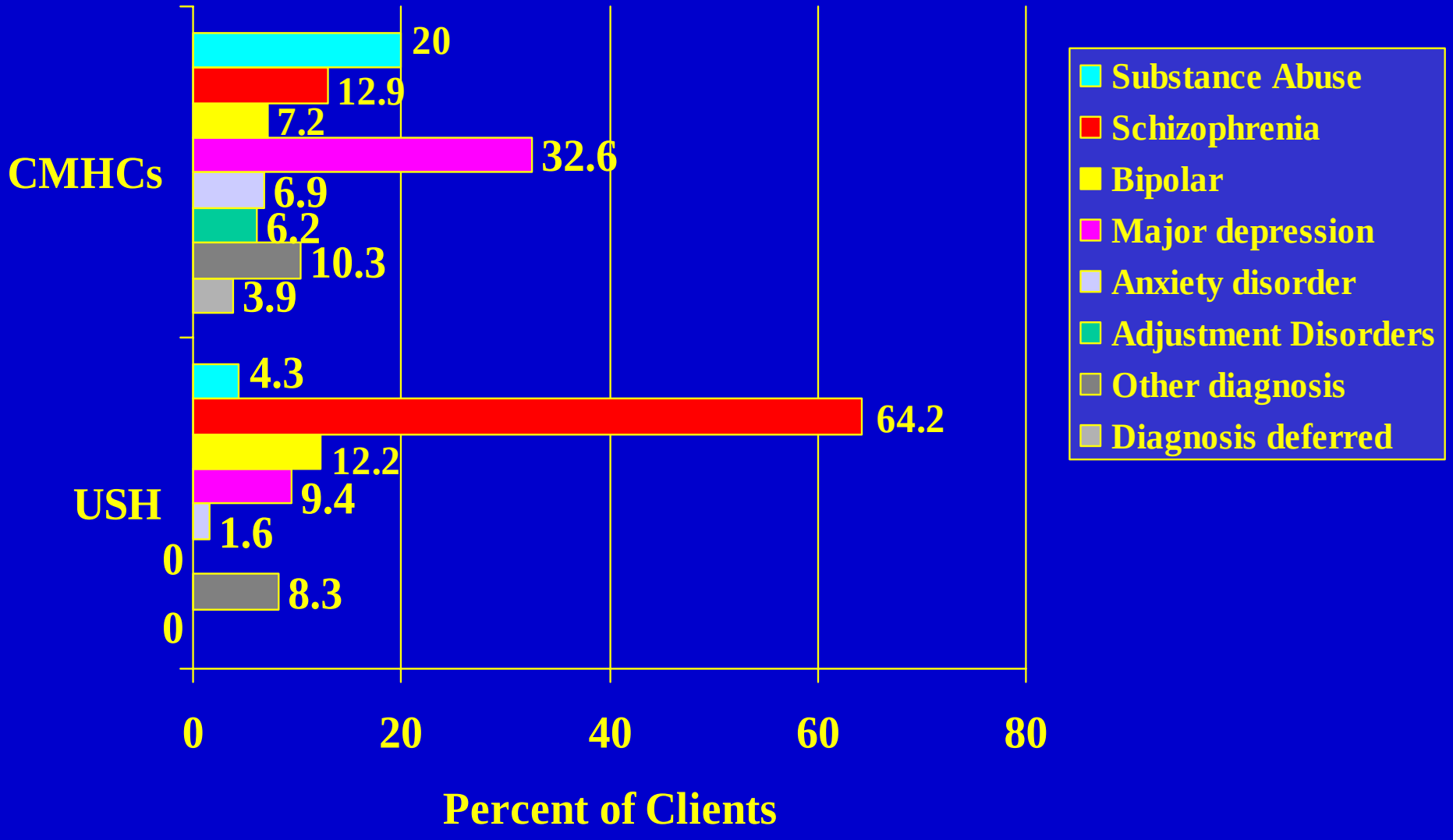
Hispanic Clients



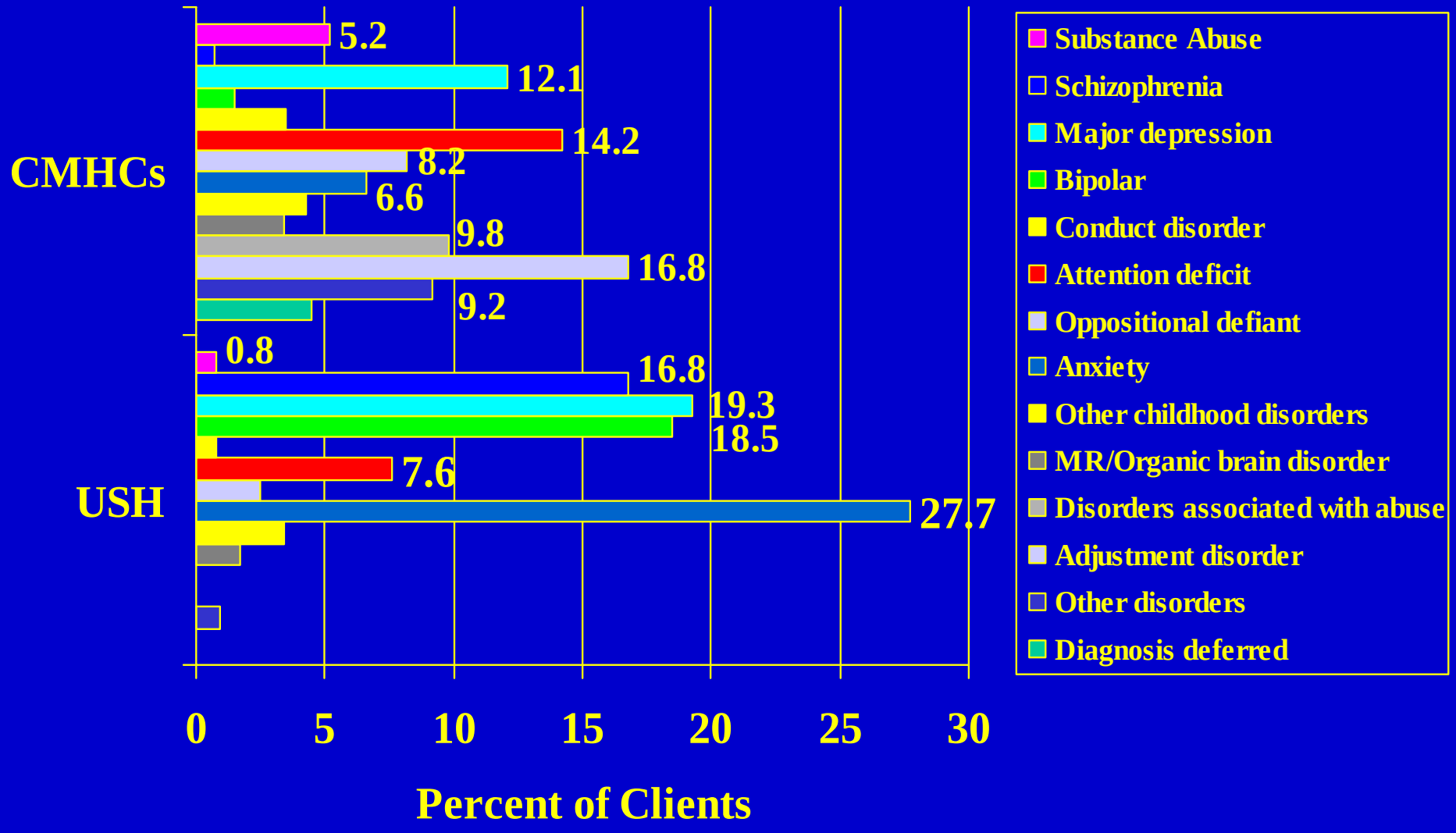
Employment of Adults Clients at Admission to a CMHC



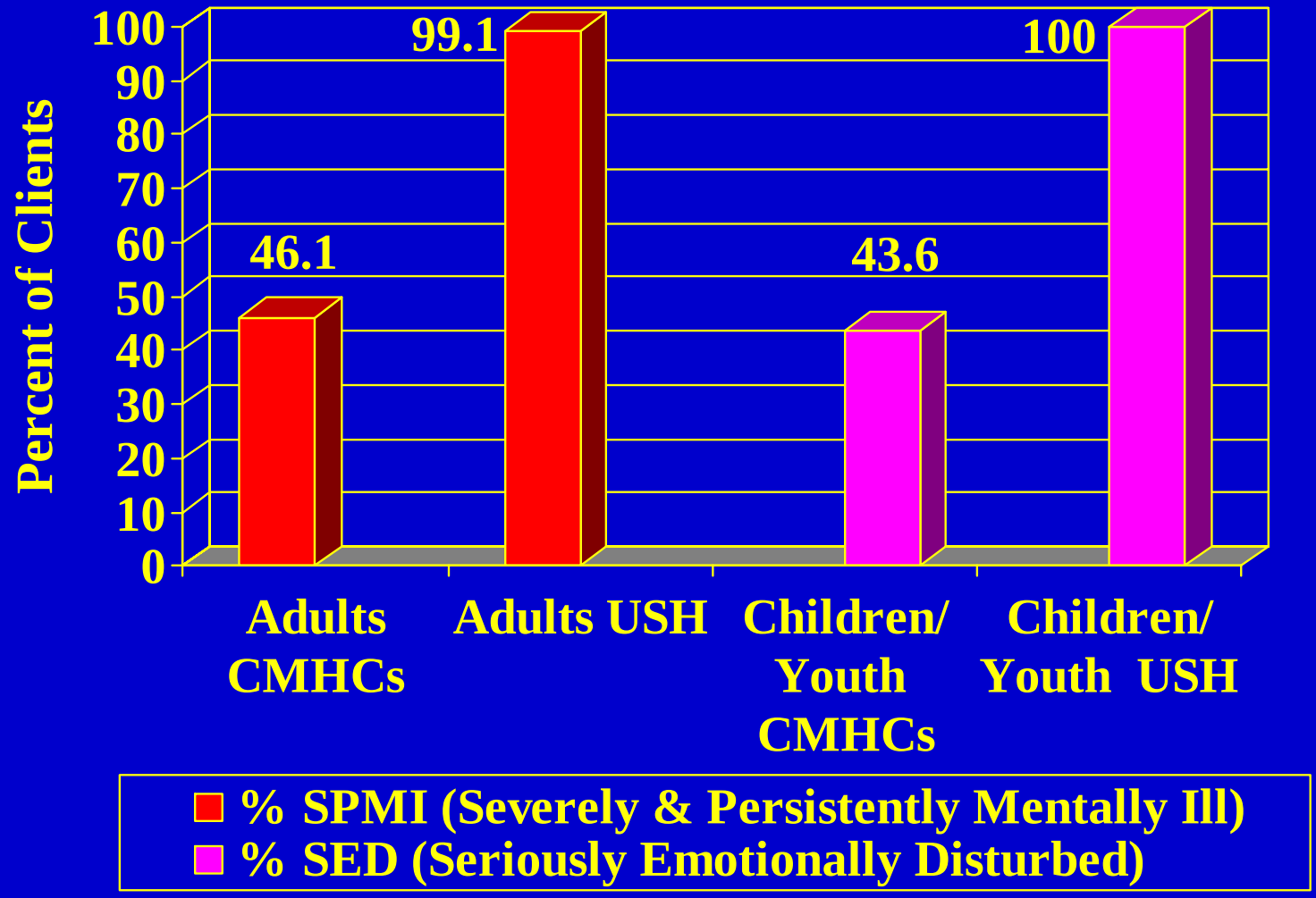
Principal Diagnosis of Adult Clients at Admission



Principal Diagnosis of Children/Youth at Admission

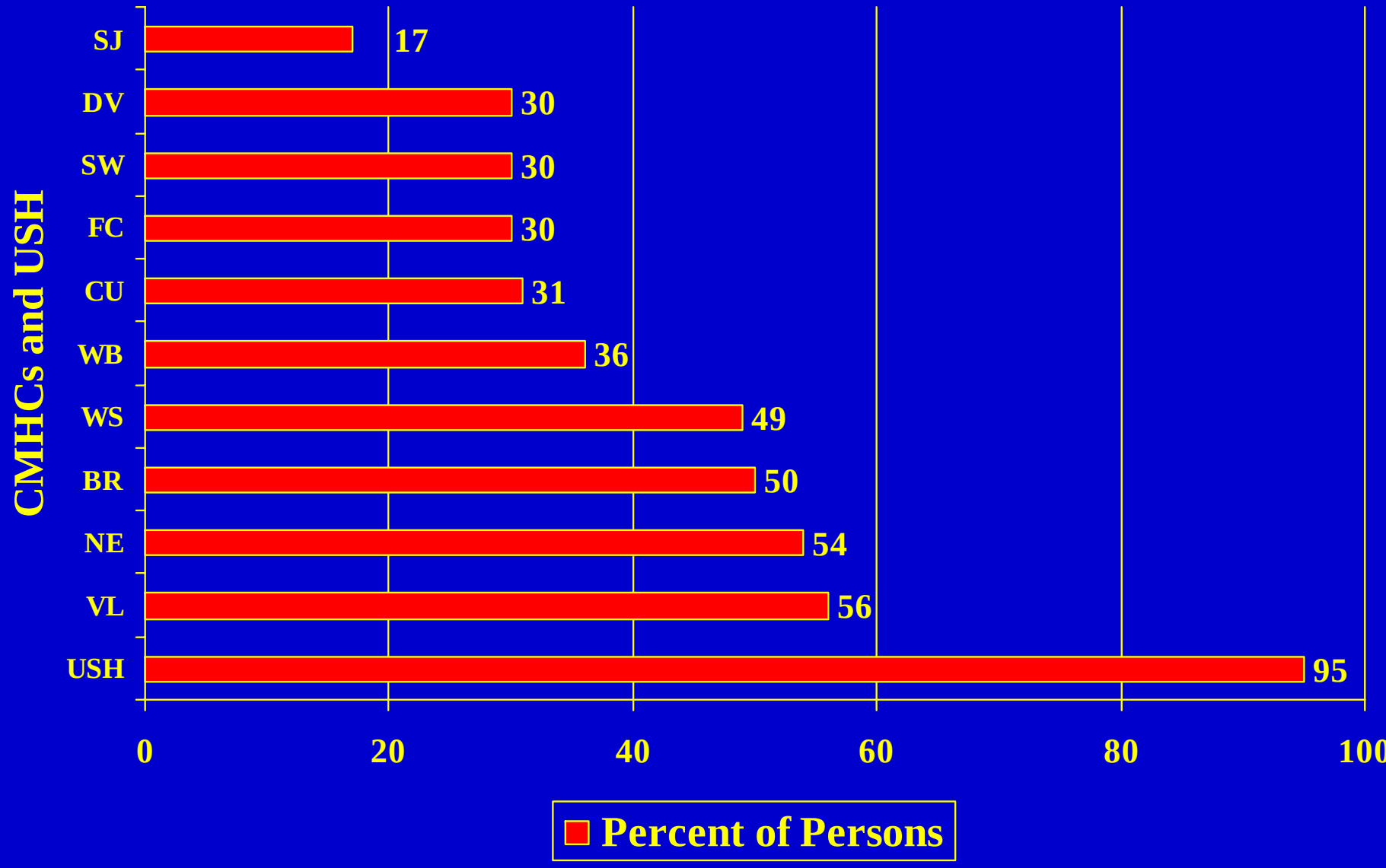


Severity of Illness at Admission SPMI/SED (Statewide)

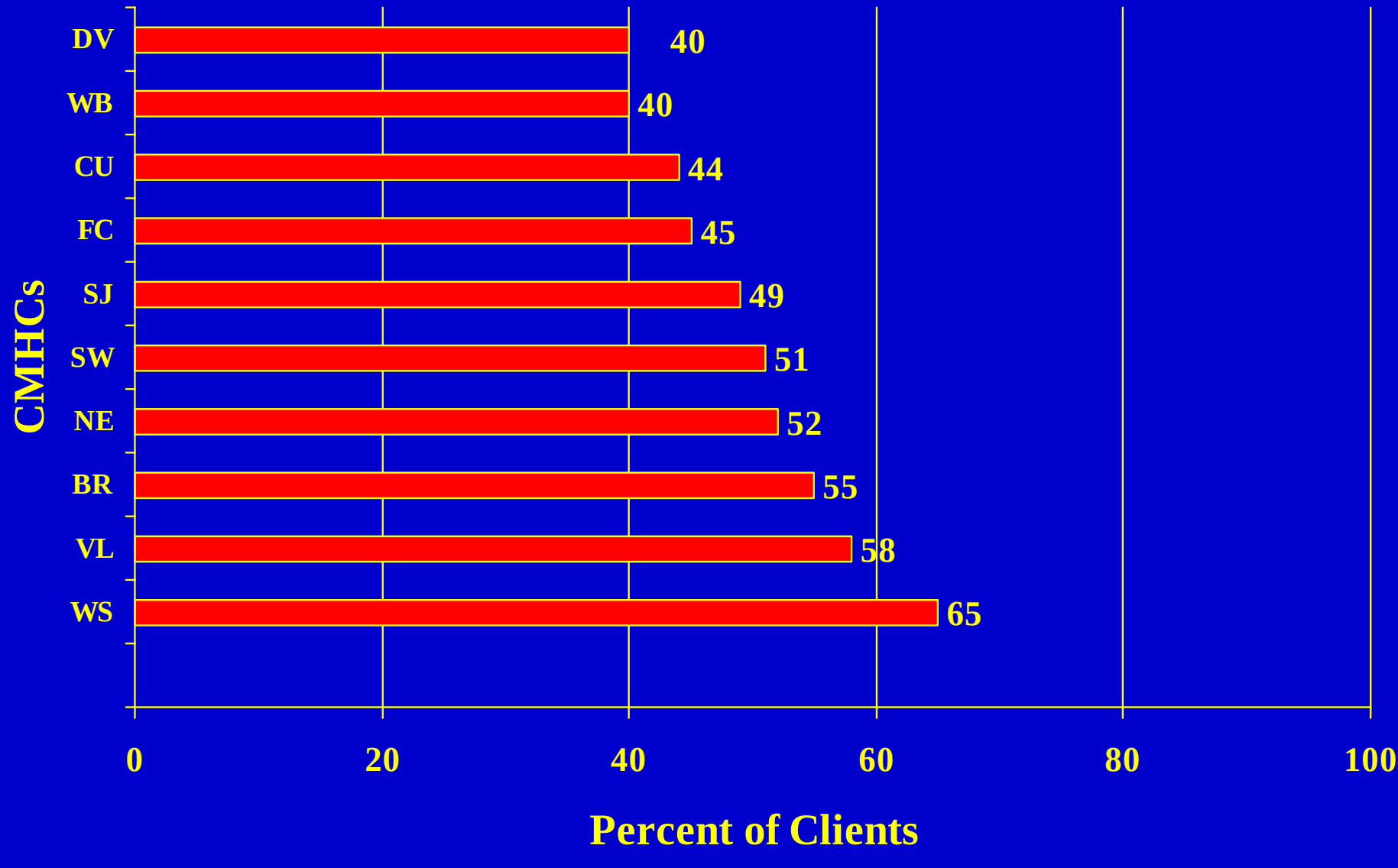


Severely and Persistently Mentally Ill Adults

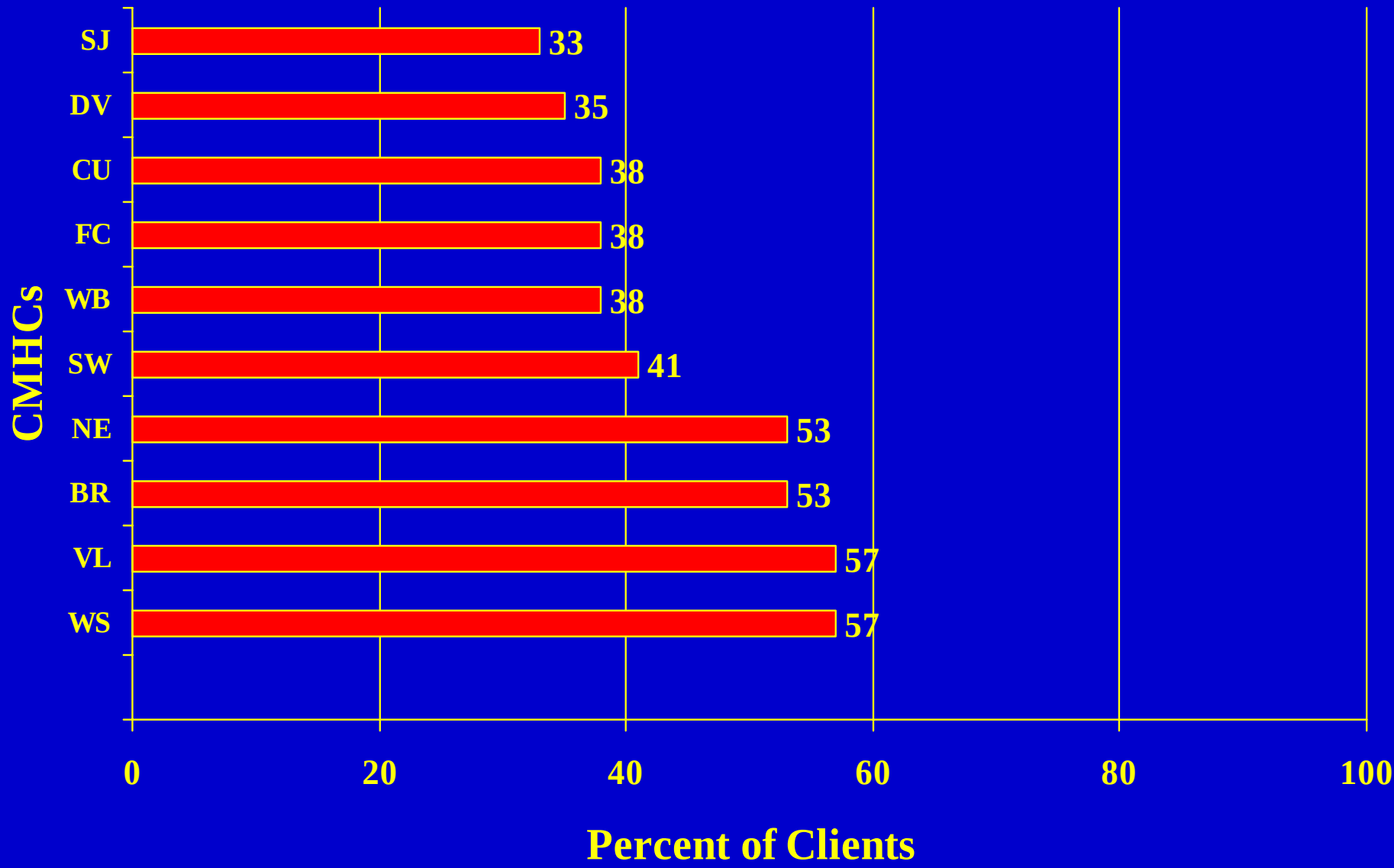
Reported as SPMI by CMHCs and USH



Adults with Major Mental Illness at CMHCs Based on Diagnosis



Adjusted Severity of Mental Illness (Adults)
Based on Reported SPMI and MMI (Diagnosis)



OUTCOMES

Measured Outcome - GWB

Perceived Outcomes

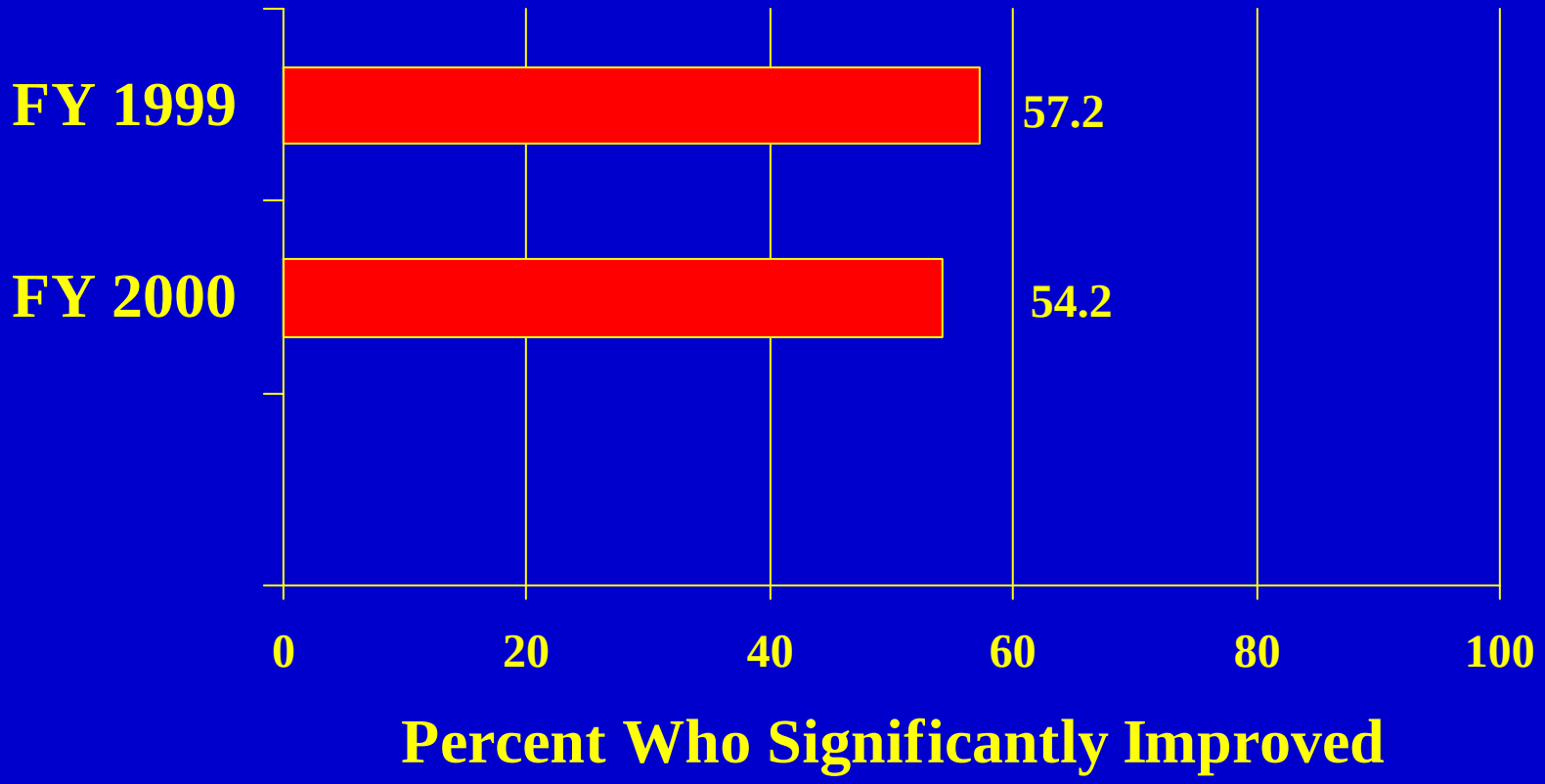
GWB - General Well Being Scale

10 item scale for reporting psychological symptoms.

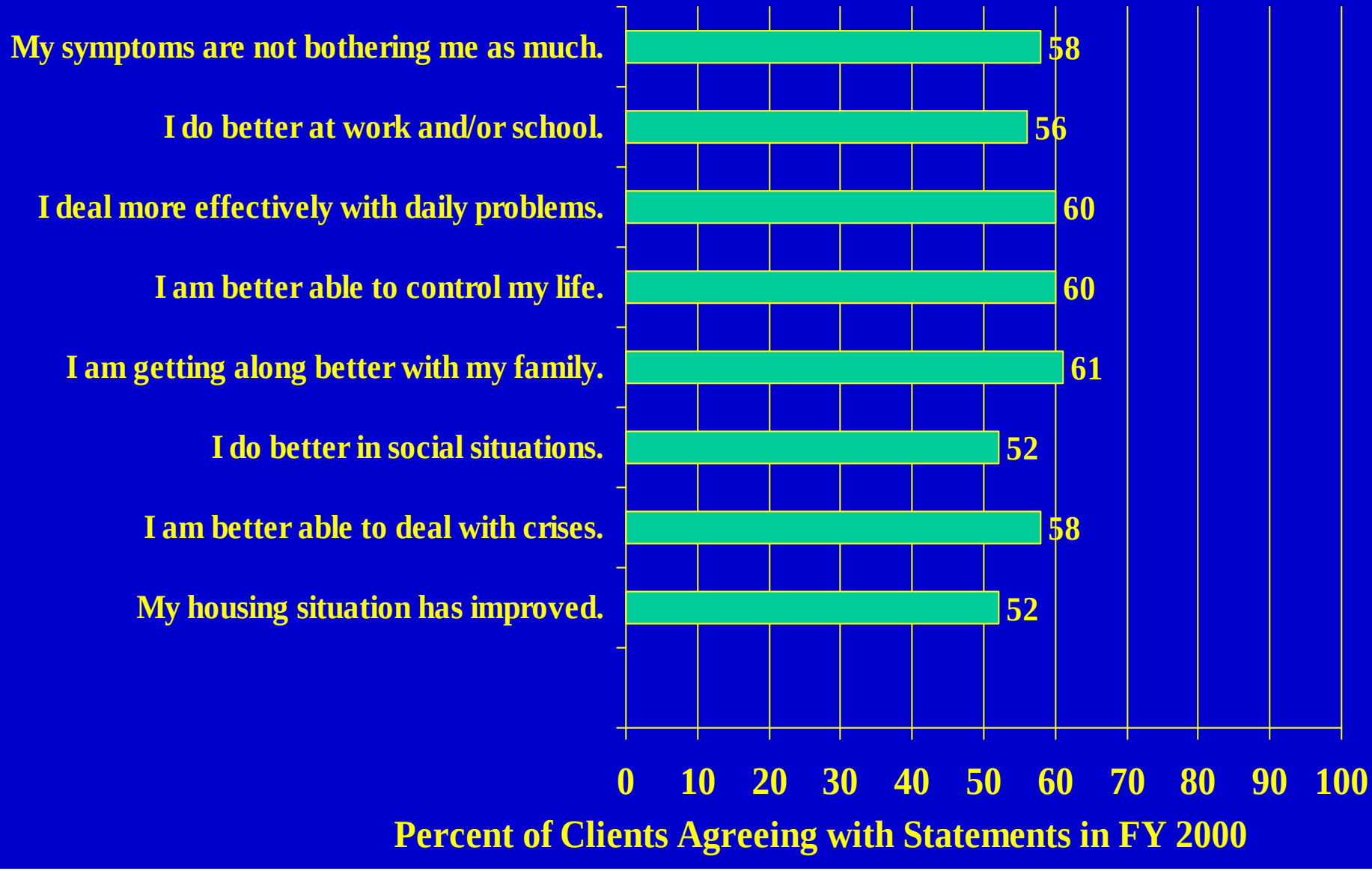
Completed at admission.
Completed again about 90 days later.

Differences calculated.
Significant improvement defined as a 4-point change.

Status of psychological symptoms admission vs follow-up for clients (GWB) Utah CMHCs during FY 1999 and FY 2000



Perceived Outcome
-- retrospective perception --



Perception of Services

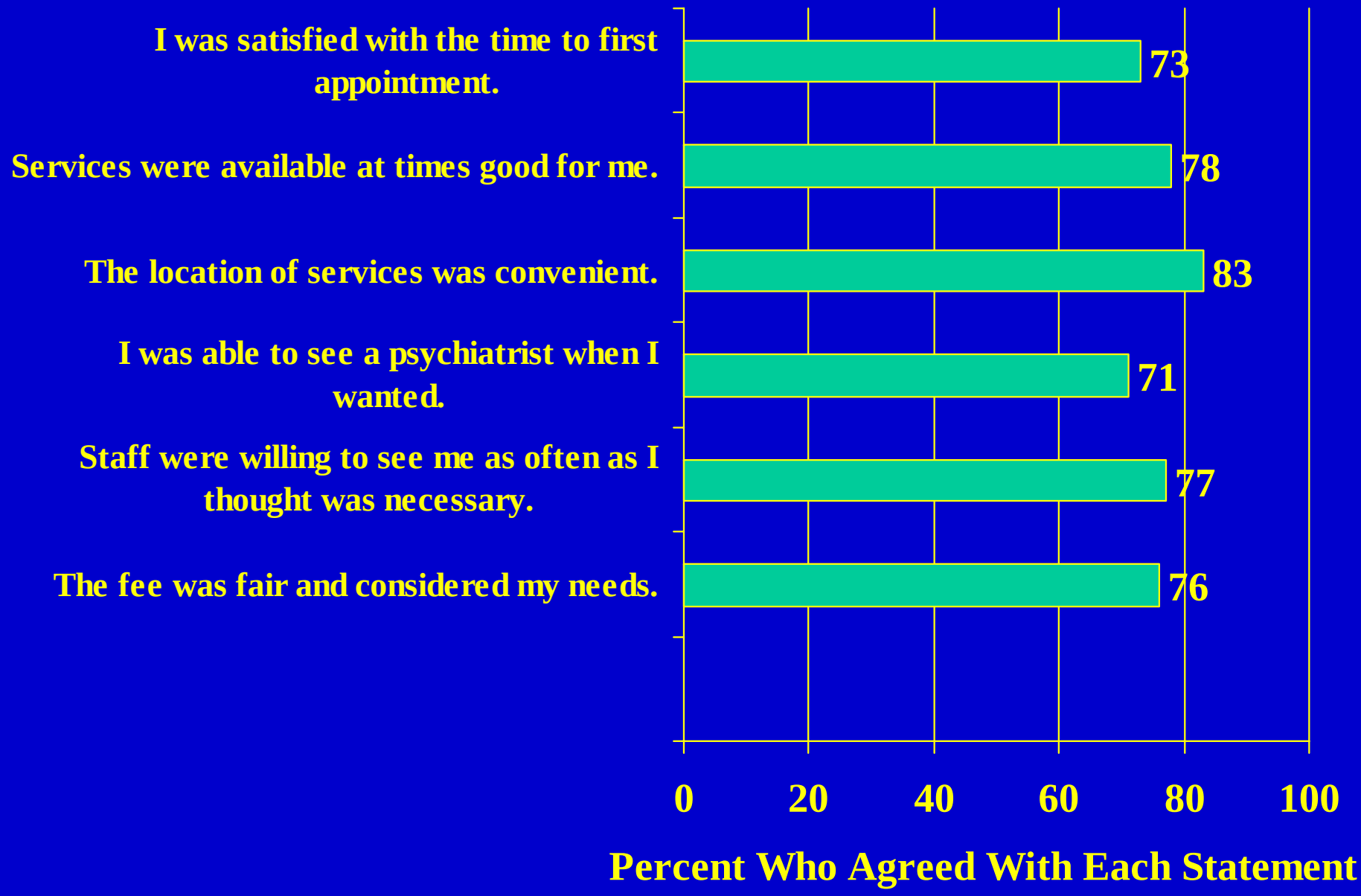
Access

Quality/Appropriateness

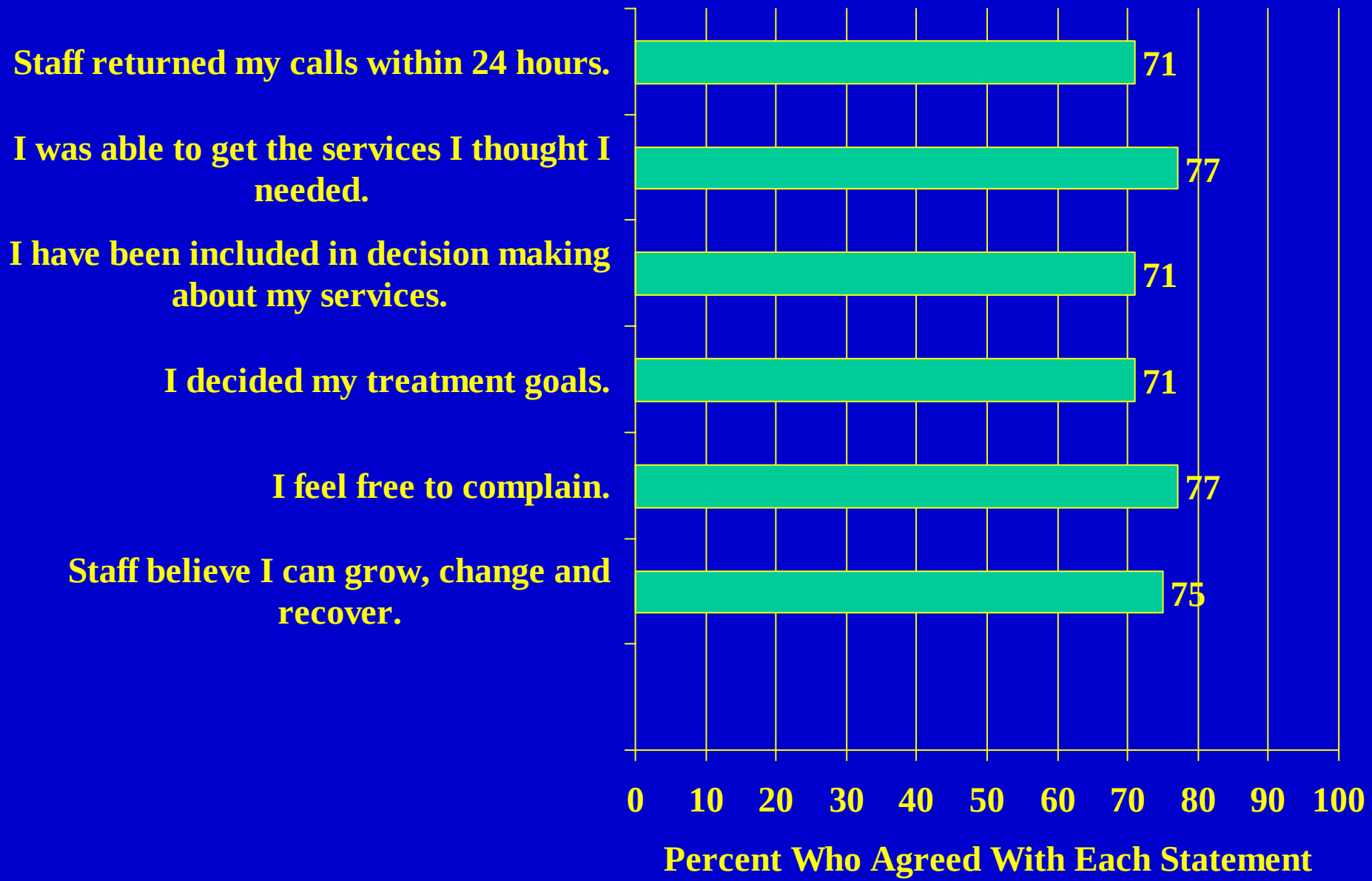
Outcomes/Effectiveness

Satisfaction

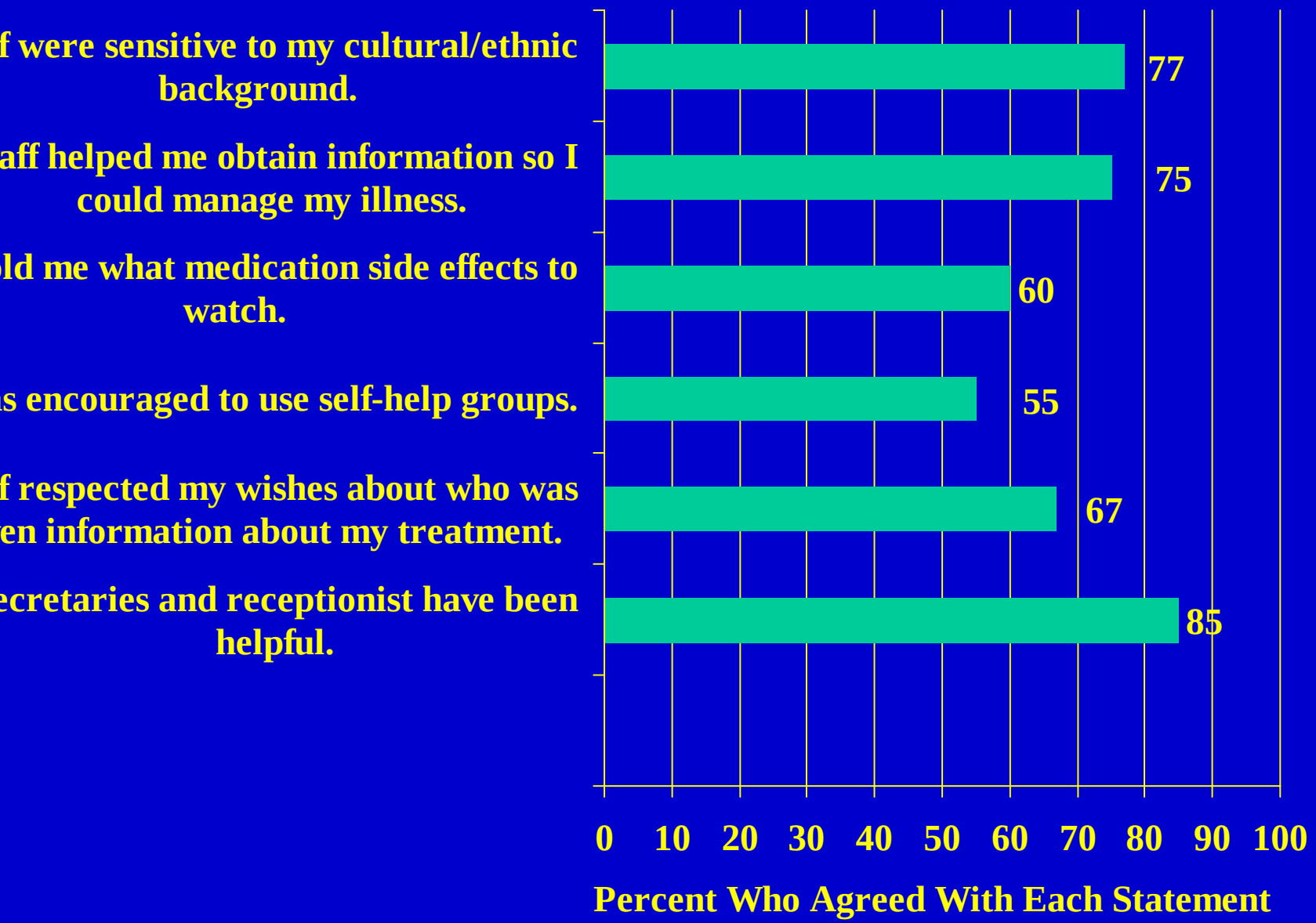
Access


I was satisfied with the time to first appointment.
73
Services were available at times good for me.
78
The location of services was convenient.
83
I was able to see a psychiatrist when I wanted.
71
Staff were willing to see me as often as I thought was necessary.
77
The fee was fair and considered my needs.
76
0
20
40
60
80
100
Percent Who Agreed With Each Statement

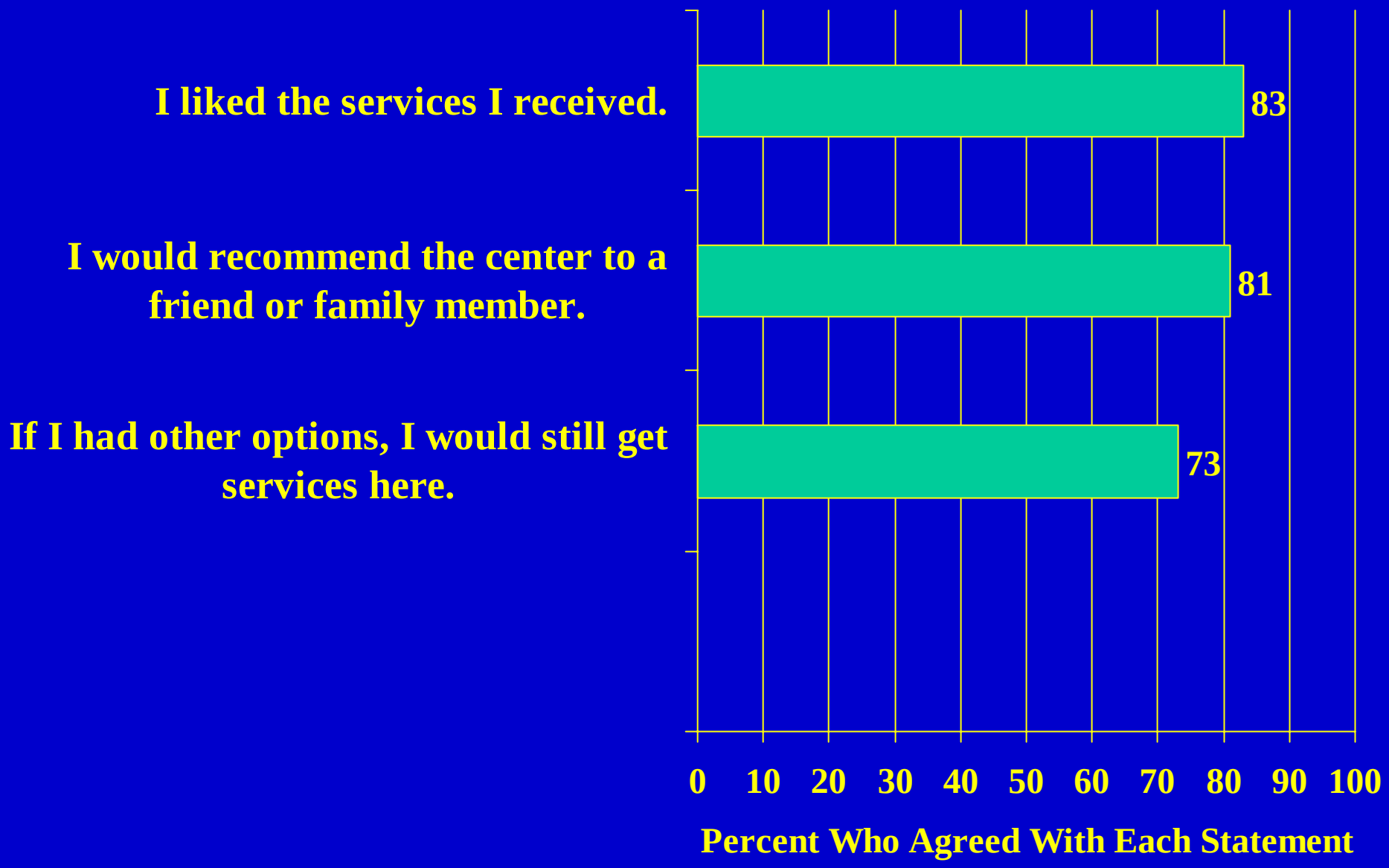
Quality/Appropriateness



Quality/Appropriateness



Satisfaction



State Mental Health Plan, Block Grant, and Demonstrations

- Use Performance Indicators to measure accomplishment of Goals.
- For adults.
- For children/youth.

- NOW for clients transitioning from youth to adult services.

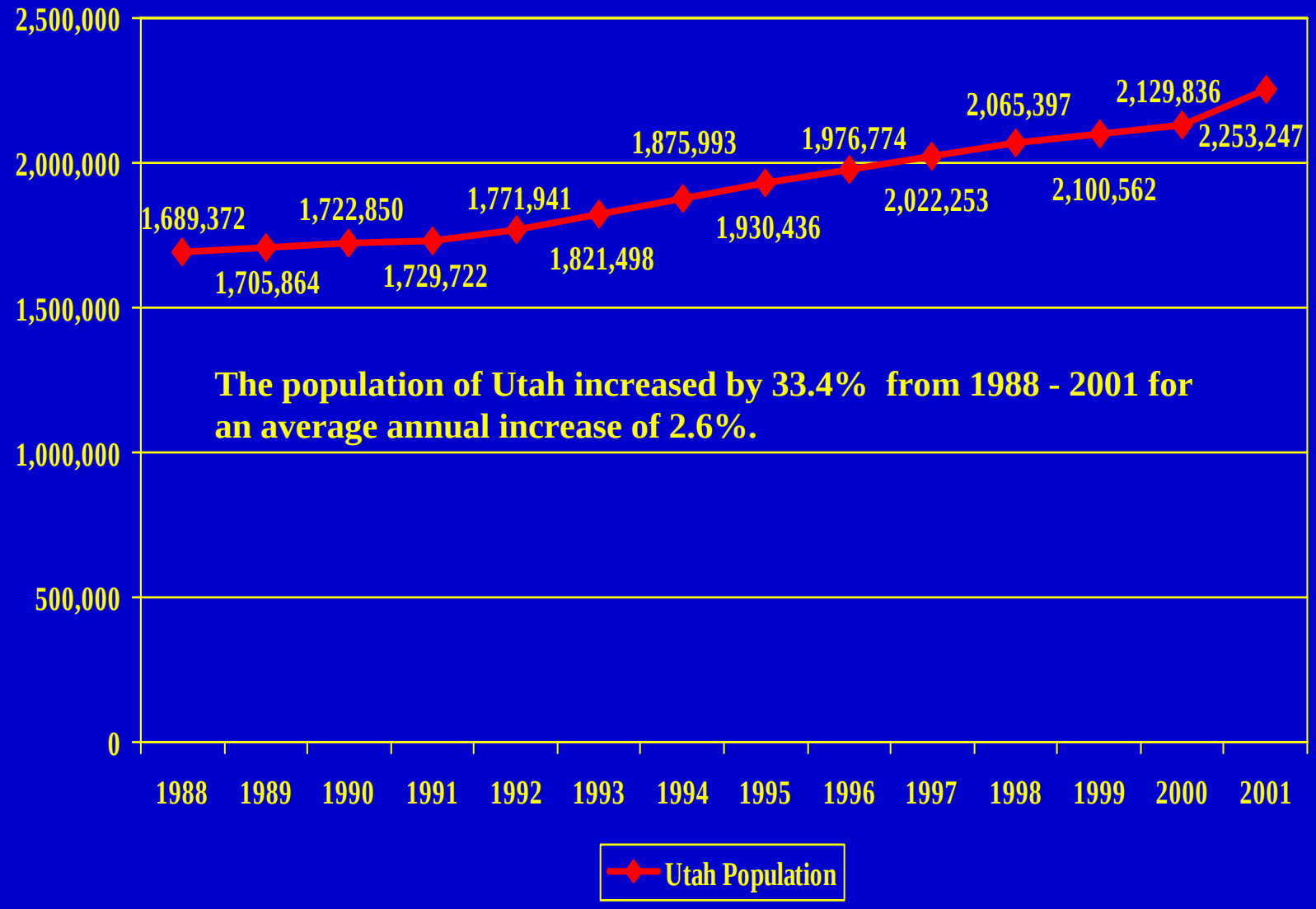
Special Analyses for the

State Legislature

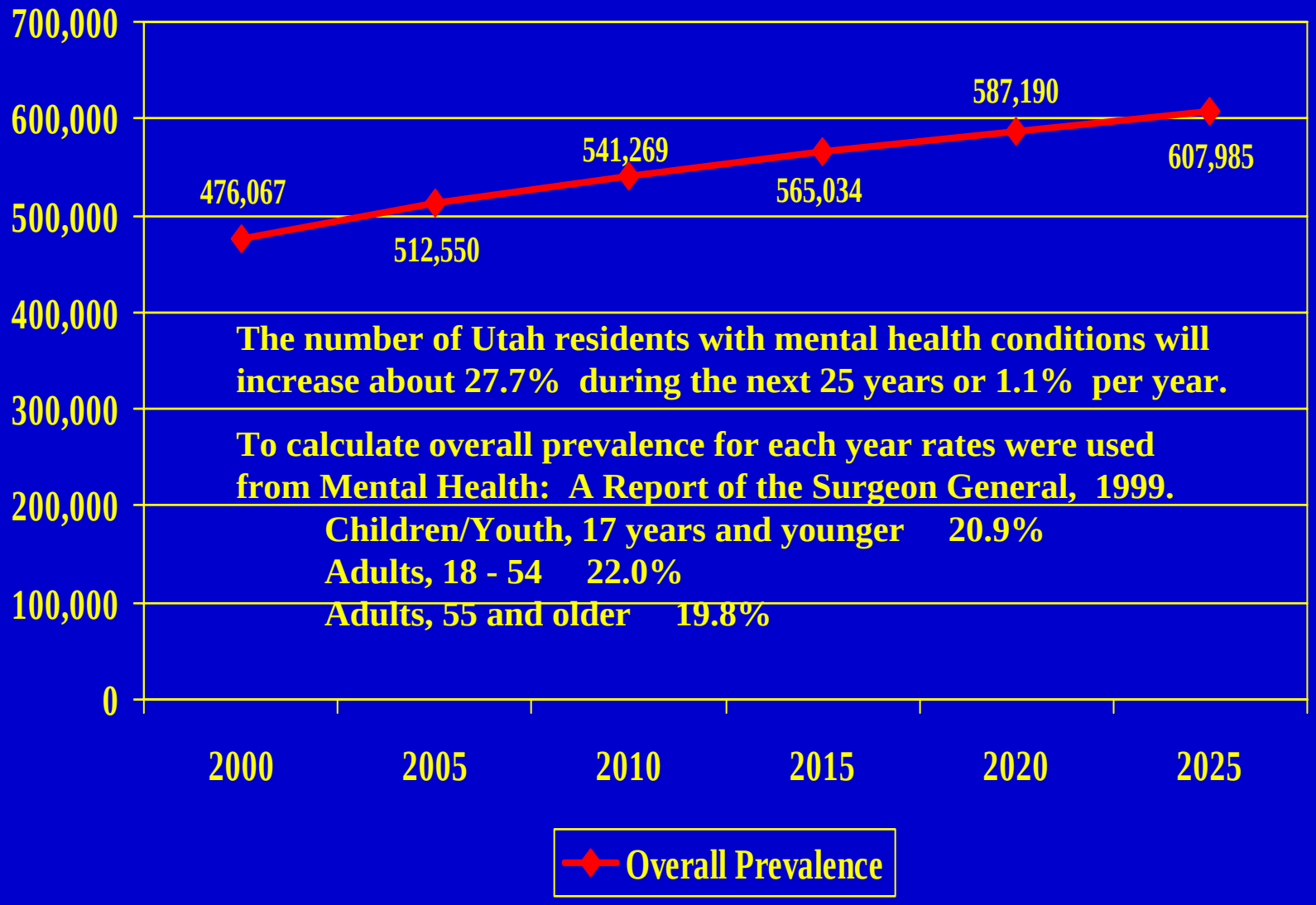
and also used for

Olmstead Planning

Utah Population Growth, 1988 - 2001



Projected Overall Prevalence of Mental Health Conditions Among Utah Residents, 2000-2025

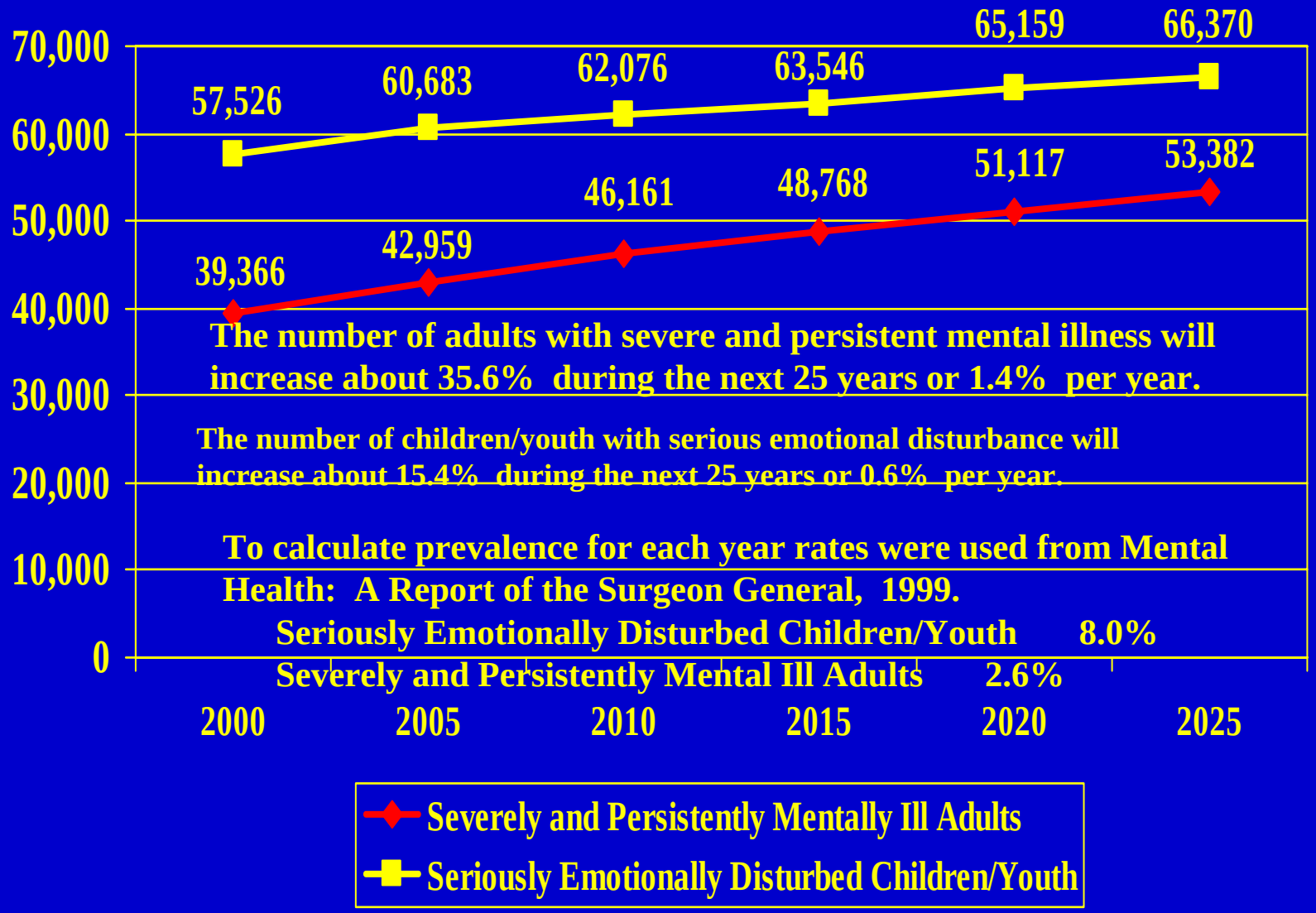


The number of Utah residents with mental health conditions will increase about 27.7% during the next 25 years or 1.1% per year.

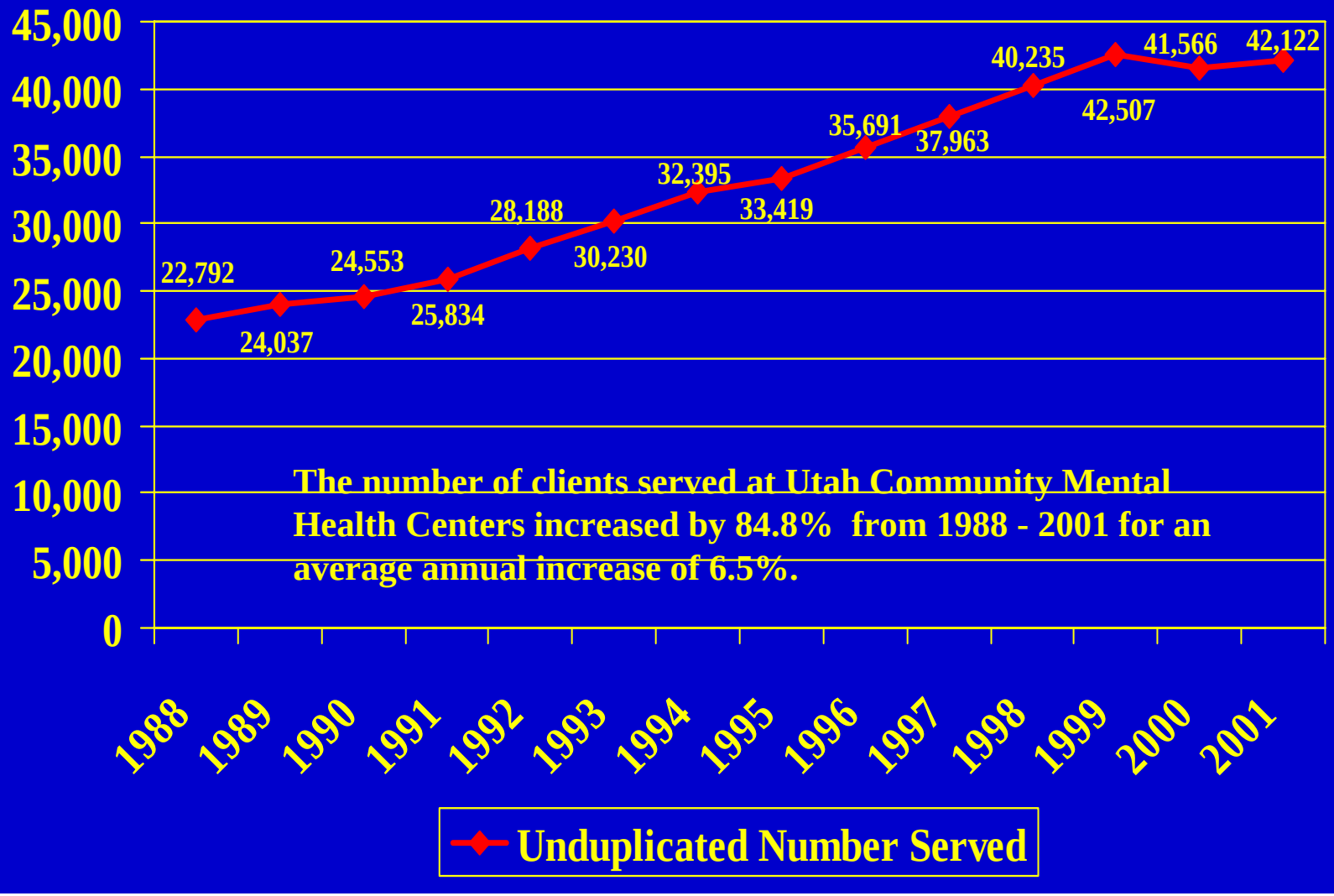
To calculate overall prevalence for each year rates were used from Mental Health: A Report of the Surgeon General, 1999.

Children/Youth, 17 years and younger 20.9%
Adults, 18 - 54 22.0%
Adults, 55 and older 19.8%

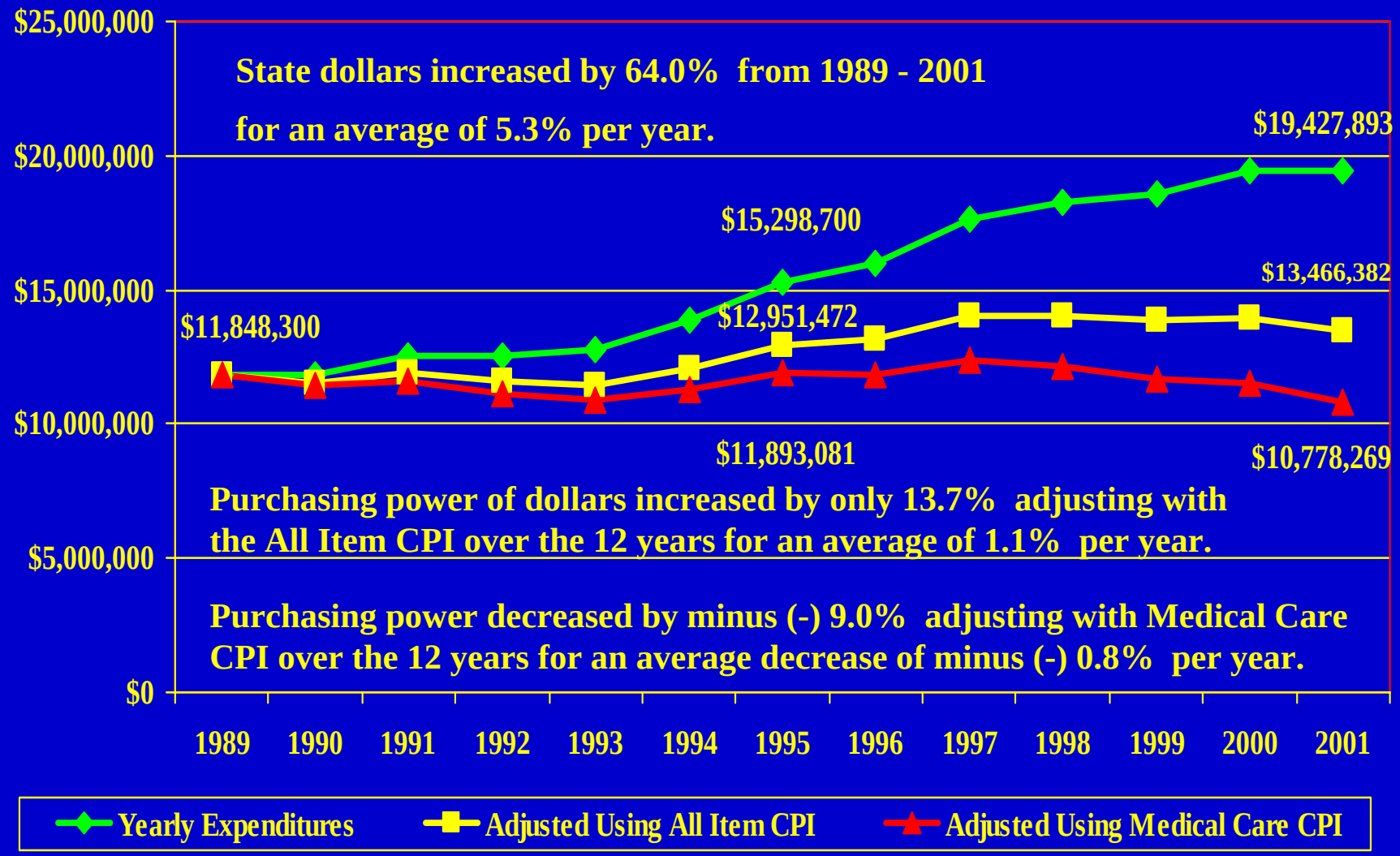
Projected Prevalence of Severe and Persistent Mental Illness Among Utah Adults and Serious Emotional Disturbance Among Utah Children/Youth, 2000 - 2025



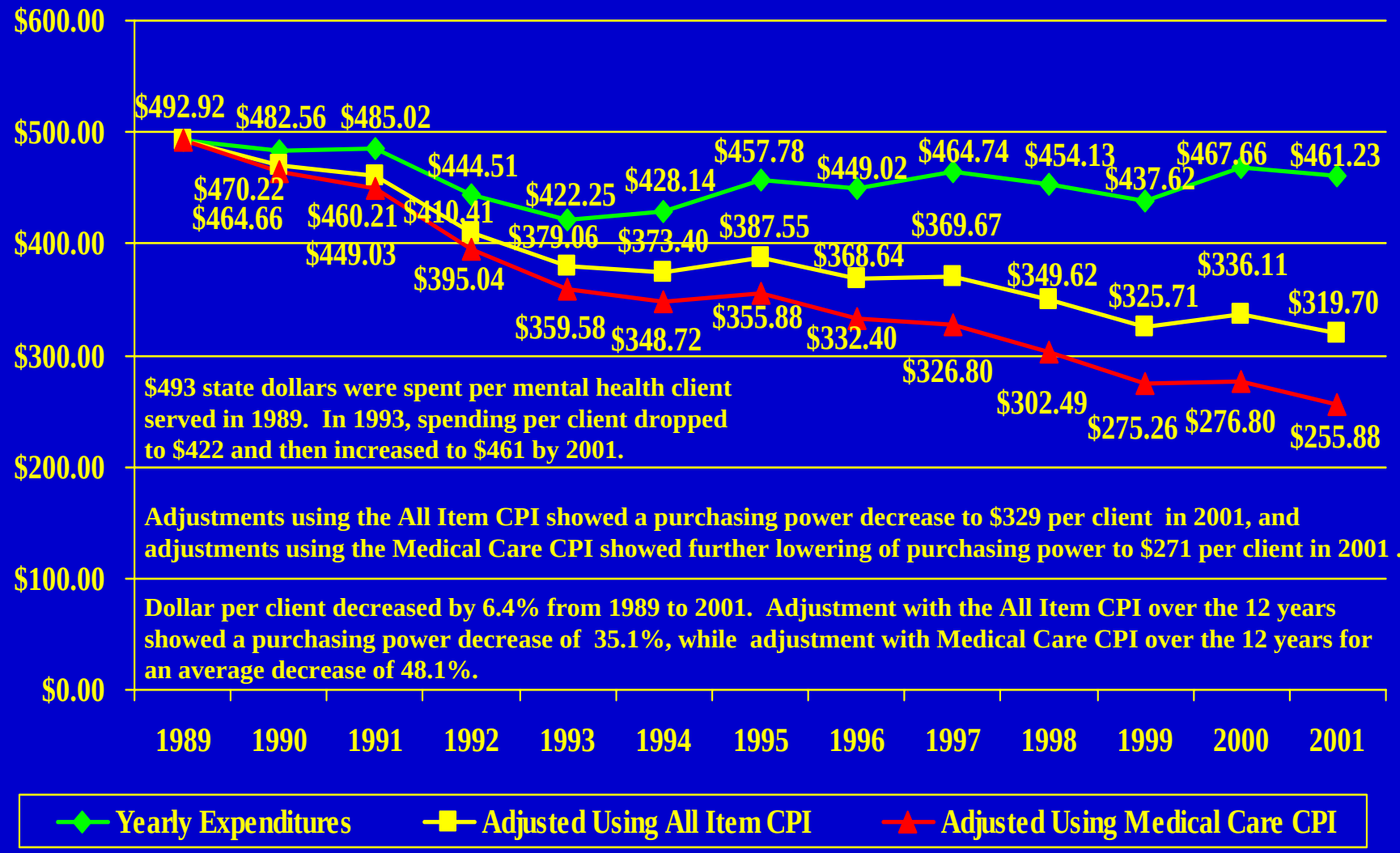
Growth in Unduplicated Number Served by Utah Community Mental Health Centers During Fiscal Years 1988 - 2001



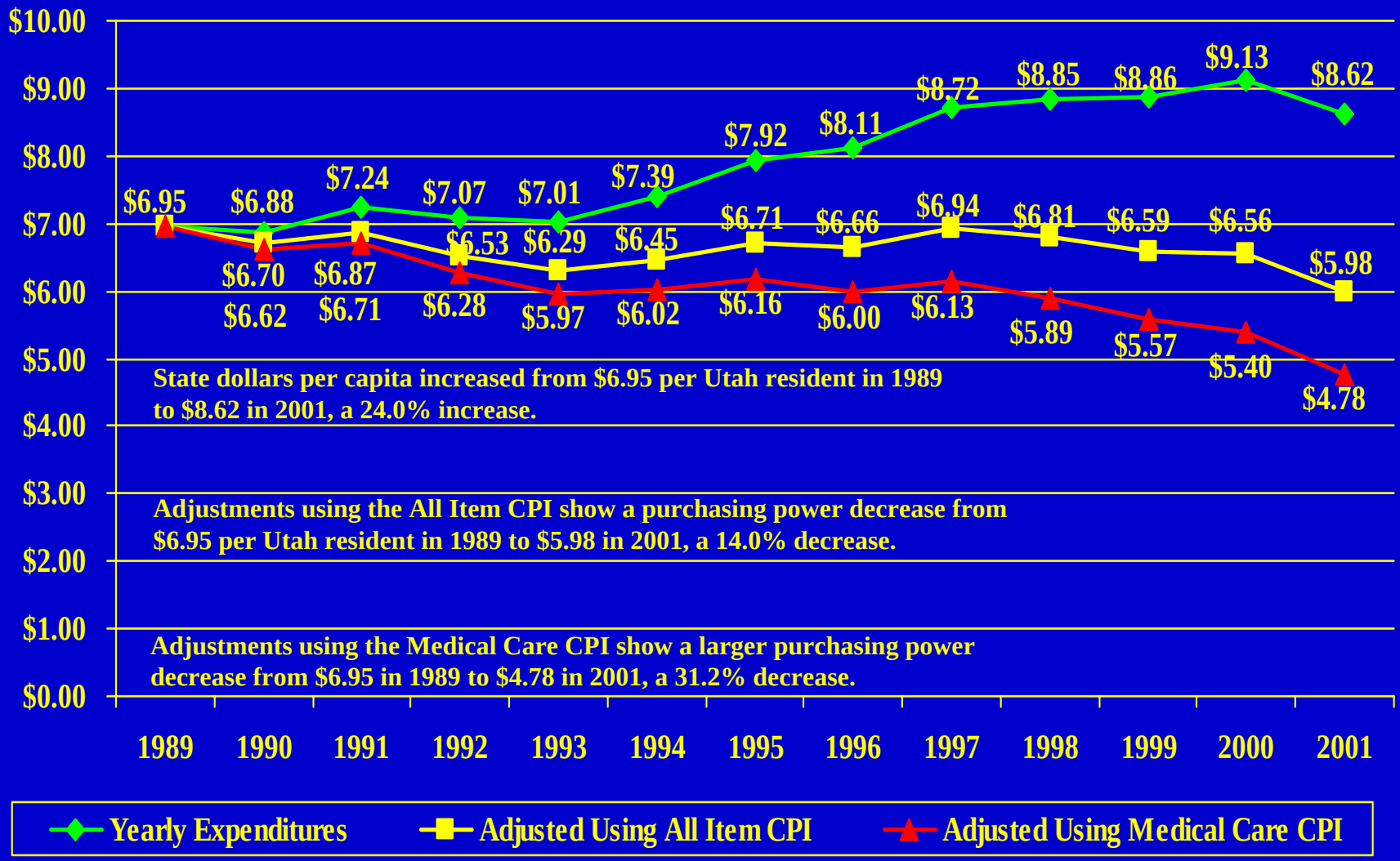
State Dollars Spent at Utah Community Mental Health Centers, 1989-2001 and Yearly Spending Adjusted Using All Item and Medical Care Consumer Price Indices (CPI), 1990-2001



State Dollars Spent per CMHC Client at Utah Community Mental Health Centers, 1989-2001 and Yearly Spending Adjusted Using All Item and Medical Care Consumer Price Indices (CPI), 1990-2001



State Dollars Spent per Utah Resident at Utah Community Mental Health Centers, 1989-2001 and Yearly Spending Adjusted Using All Item and Medical Care Consumer Price Indices (CPI), 1990-2001



MORTALITY: Multi-state analyses

Mortality is an indicator of the health status of clients served by public mental health organizations.

Rationale for use:

- Mortality rates are commonly used as global measures of health status for populations.
- They are increasingly being used as indicators of public health efforts.
- Persons with mental illness die at higher rates and at younger ages from nearly all causes, both natural and medico legal, i.e. homicide, suicide, or accidents/injuries.
- Research and practice provide compelling evidence for tracking mortality as a measure of health status.

Research Examples Relating Mental Illness and Mortality

- Nationally, over 90 percent of youth suicide completers had a psychiatric diagnosis. Most had been struggling for years. Few (5 to 20 percent) had been in treatment at the time of death.
- Depression linked to heart disease and stroke.
- Schizophrenia linked to increased risk of diabetes. Some medications increase risk.
- In Sweden, mortality among schizophrenic patients reflected changes in care.

MENTAL HEALTH AND PHYSICAL HEALTH ARE LINKED.

- Physical and mental are joined together in a complex adaptive system within each human being.
- The physical and the mental interact within this system.
- Physical health and mental health are interrelated.
- Mortality can be measured and quantified for these complex adaptive systems.

Special thanks to committee members and those who worked hard to submit data.

- Bernadette Phelan, Arizona
- Connie Holstein, Arizona
- Patricia Dunston & others, D.C.
- Steve Reeves, Missouri
- Jim Davis, Missouri
- Steve Davis, Oklahoma
- Becky Moore, Oklahoma
- Jocelyn Letourneau, Rhode Island
- Sue Lummus, Texas
- David Lynch, Texas
- John Pandiani & team, Vermont
- Randy Koch, Virginia
- Kasey McCraken, Virginia
- Ellen Sparks, South Carolina
- Kitty Hepfer, South Carolina
- Eva Jakuba, Connecticut
- Bruce Dembling

Mortality Data from 9 States

- Arizona - 1999-2000, Matched
- D.C. - 1998-2000, Multiple Sources
- Missouri - 1997-2000, Matched
- Oklahoma - 1997-99, Matched
- Rhode Island - 2000, Matched
- Texas - 1997-1999, Matched
- Utah - 1998-1999, Matched
- Vermont - 1998-2000, Used Probabilistic Population Estimates
- Virginia - 1998-2001, Reported deaths in state hospitals/mh treatment

Mortality Data from the States

- Matching client records and death records often requires working with an agency other than the state mental health authority.
- Data submission range - 1997 - 2001
- All states did not submit data for every year.
- Additional data were needed to calculate mortality measures: number unduplicated clients by gender & age; age specific death rates by gender and age for state residents.
- State CMRs, Age Adjusted Rates, life expectancy - sources: CDC

Mortality Measures

- Crude Mortality Rate (CMR)
- Age Adjusted Mortality Rate
- Standardized Mortality Ratio (SMR)
- Average Number of Years of Life Lost (YLL) and Average age at time of death

Look for

Congruency

and

Patterns.

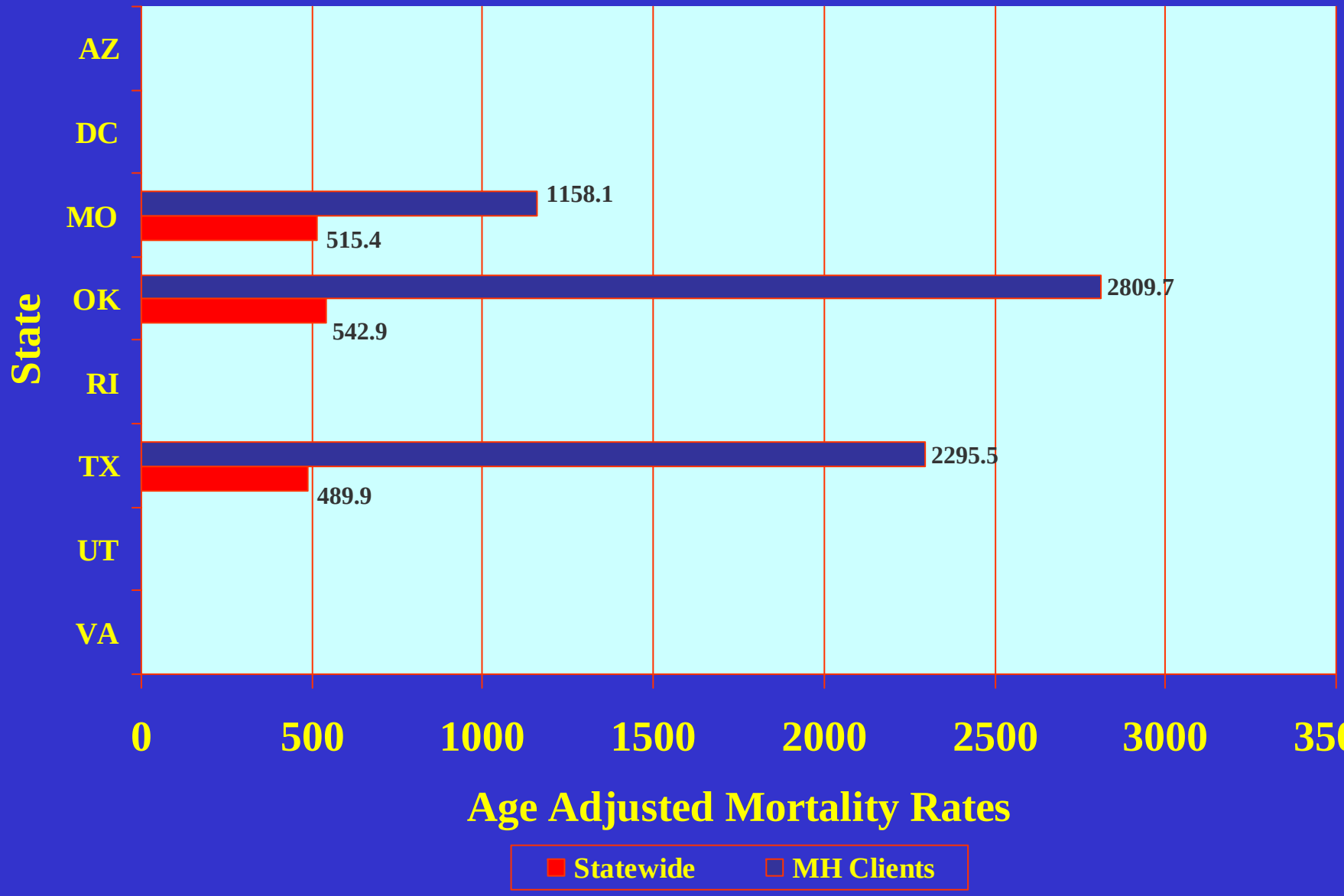
Age Adjusted Mortality Rate

- Age adjustment or standardization is used to compare different populations. Age is a main determinant of mortality.
- Age specific death rates from two populations with different age structures are applied to a third "standard" population, i.e. MH clients vs. state populations.
- Direct method of standardization

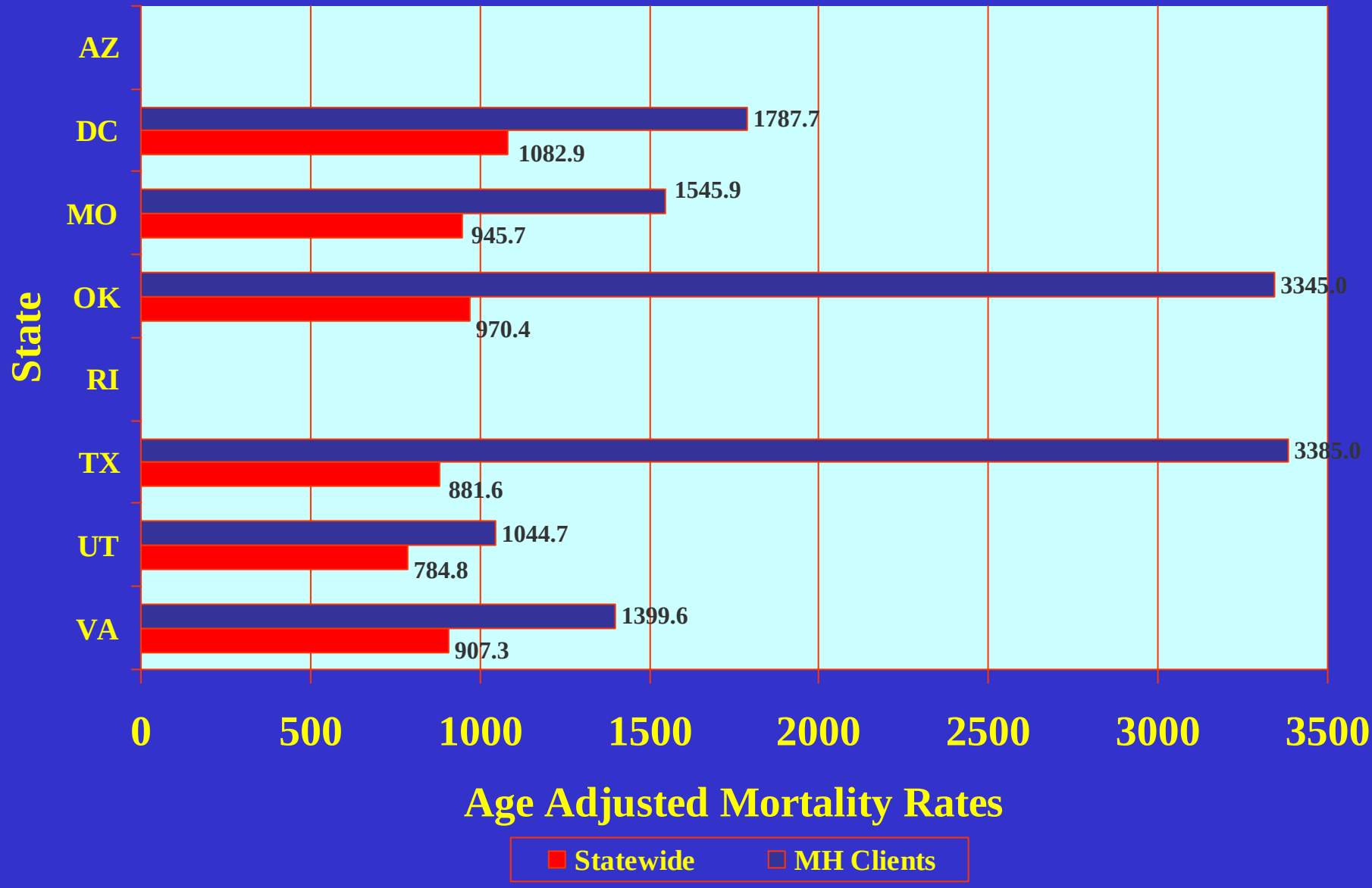
Age Adjusted Mortality Rate

- U.S. 2000 Standard population for 1998 and later
- U.S. 1940 Standard population for 1997
- For this study, Age Adjusted Mortality Rates show rates per 100,000 for MH clients and for the state general population.
- Vermont used probabilistic population estimation.

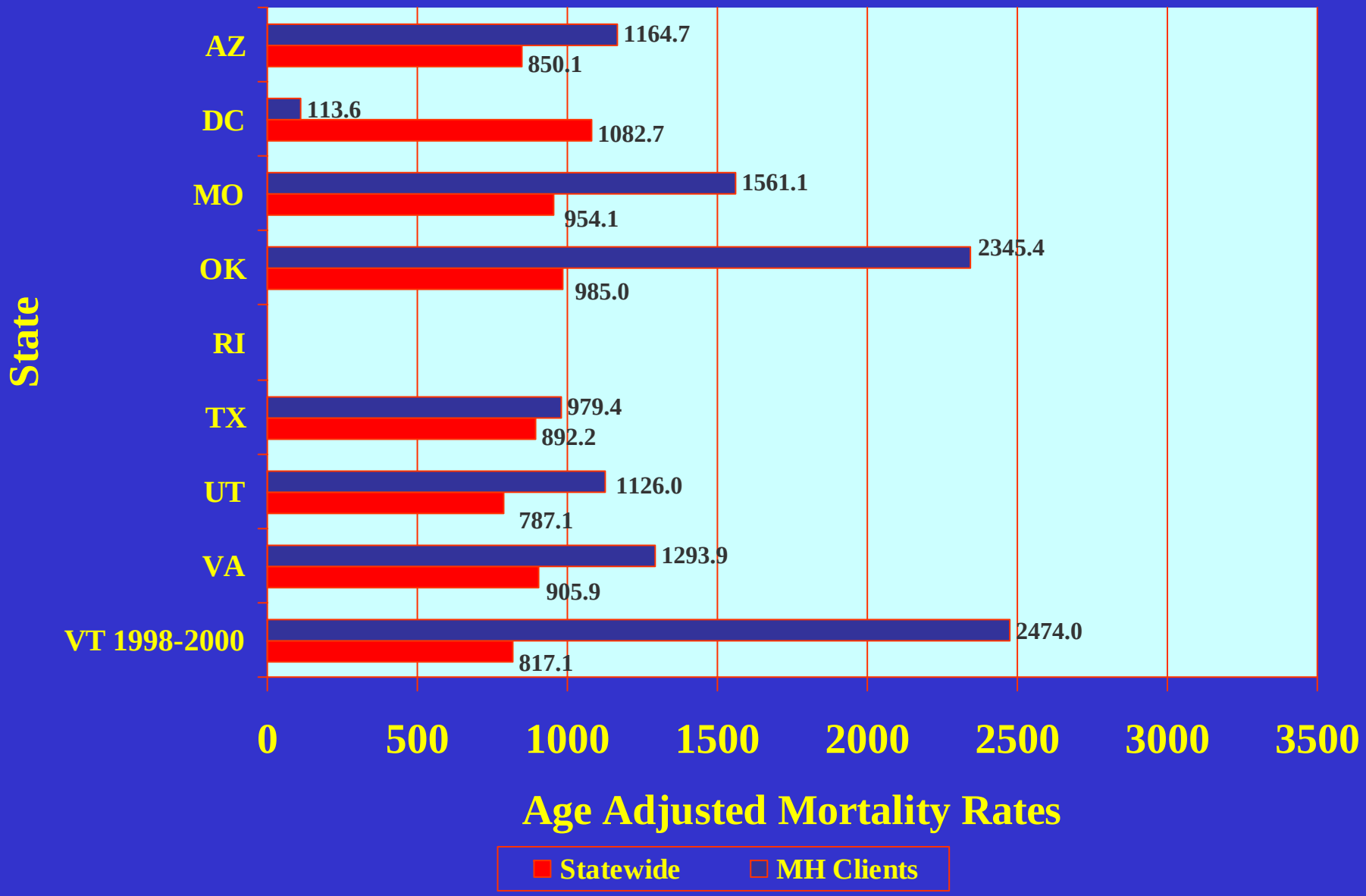
Year 1997 Age Adjusted Mortality Rates for Mental Health Clients and Statewide



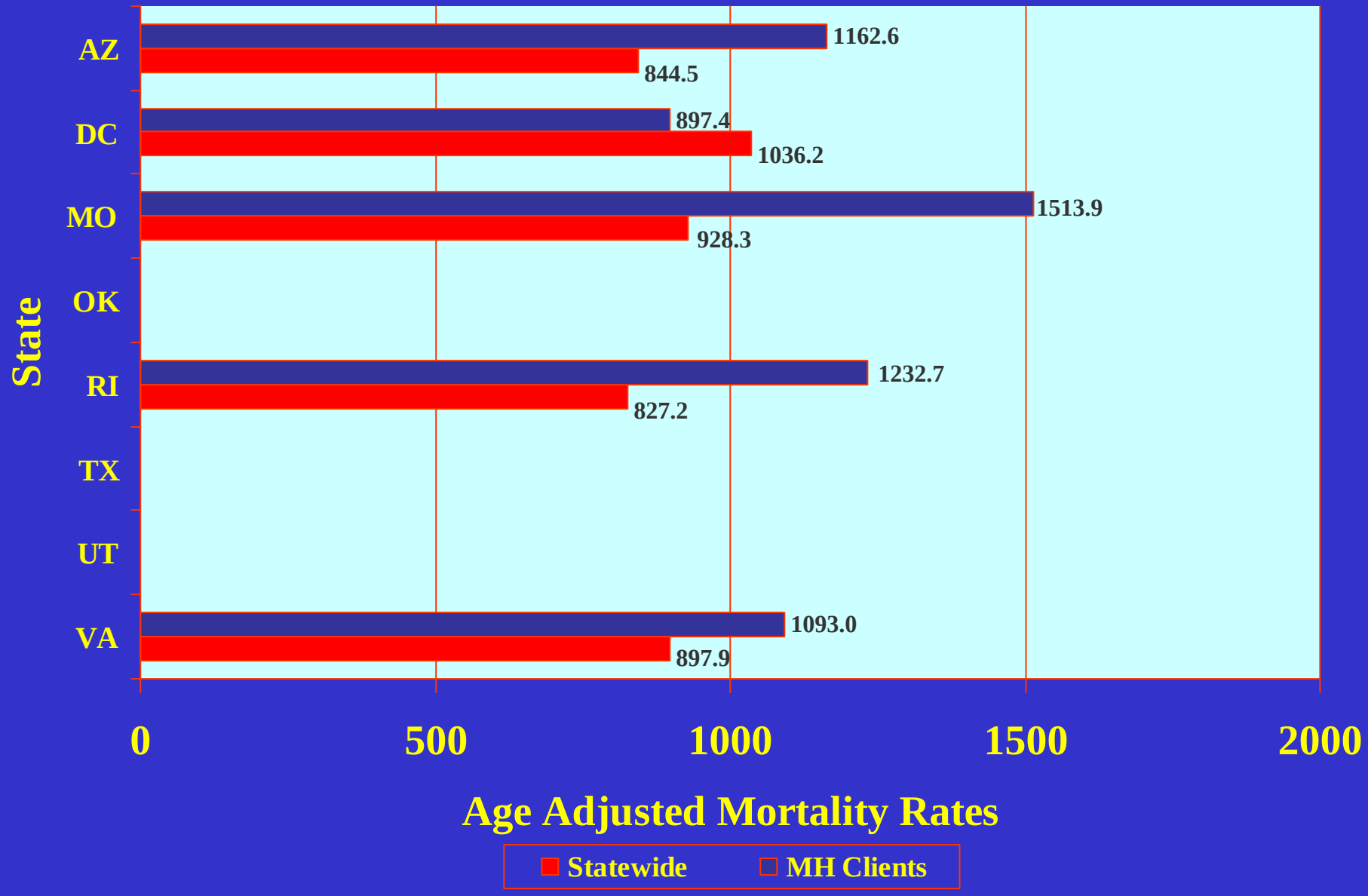
Year 1998 Age Adjusted Mortality Rates for Mental Health Clients and Statewide



Year 1999 Age Adjusted Mortality Rates for Mental Health Clients and Statewide



Year 2000 Age Adjusted Mortality Rates for Mental Health Clients and Statewide



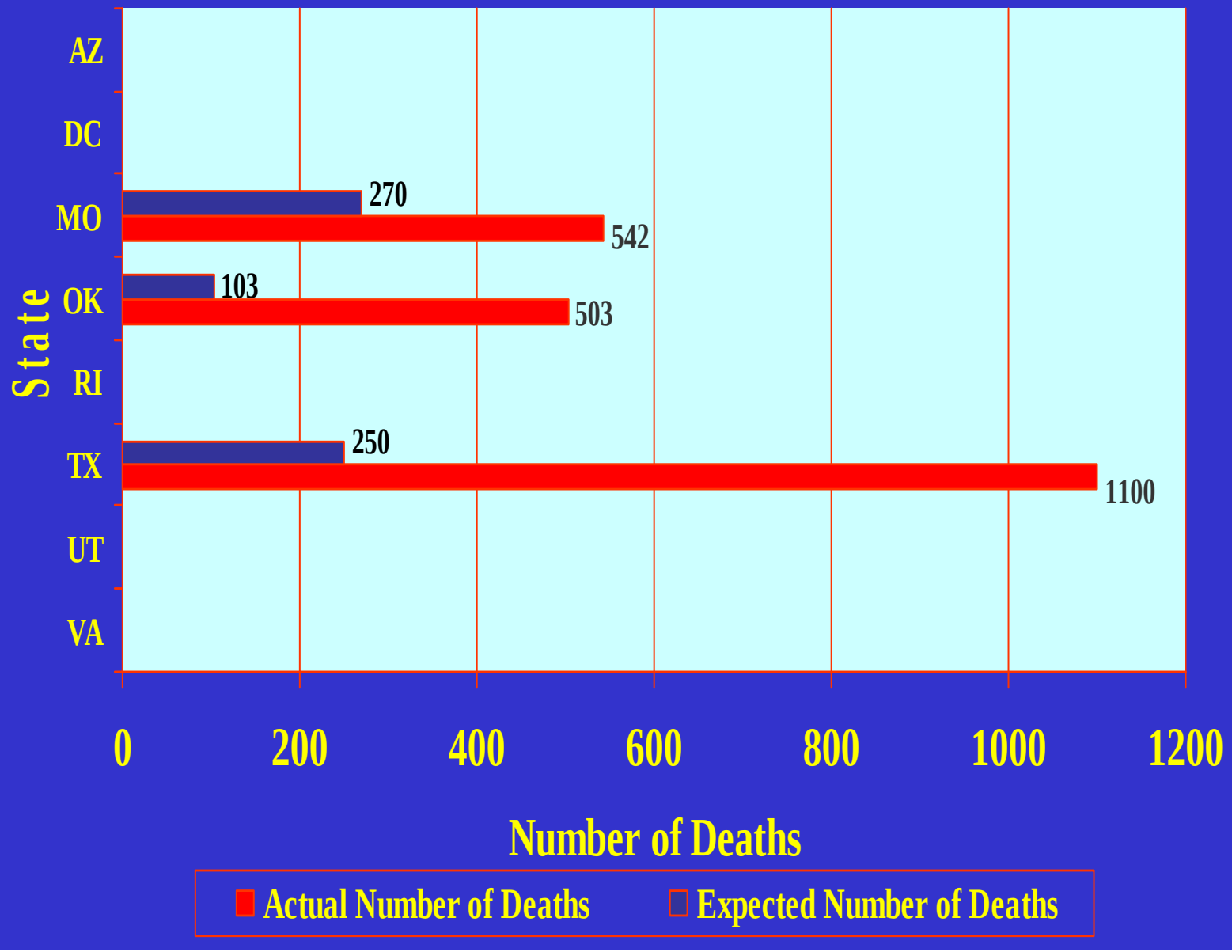
Age Adjusted Mortality Rates

- In 20 out of 22 comparisons, public mental health clients have higher age adjusted mortality rates than the general population of the state.
- All eight states have higher age adjusted rates for mental health clients during every year submitted.
- Only in Washington, D.C. did MH clients have lower rates than the general population. This occurred during 2 out of 3 years.

Standardized Mortality Ratio - SMR (Ratio: actual deaths/expected deaths)

- Numerator: Actual number of deaths among persons who received at least one mental health service during the year.
- Denominator: Number of deaths expected in the population of persons who received at least one service during the year, based on age and sex specific mortality rates of the overall population in a state.
- Indirect standardization method - Uses both age and sex.

Numbers of Expected and Actual Deaths Among Year 1997 Clients of State Public Mental Health Systems



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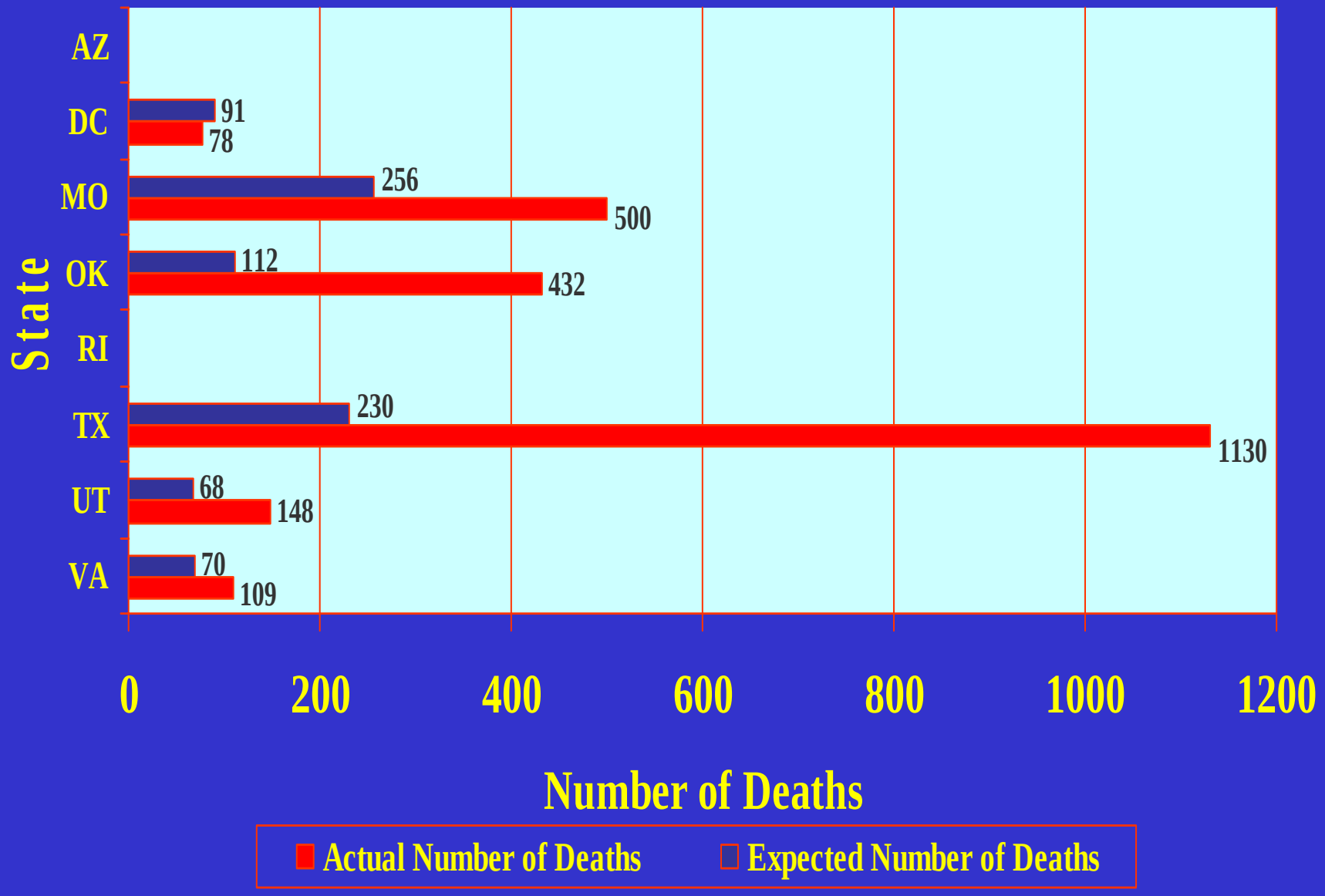

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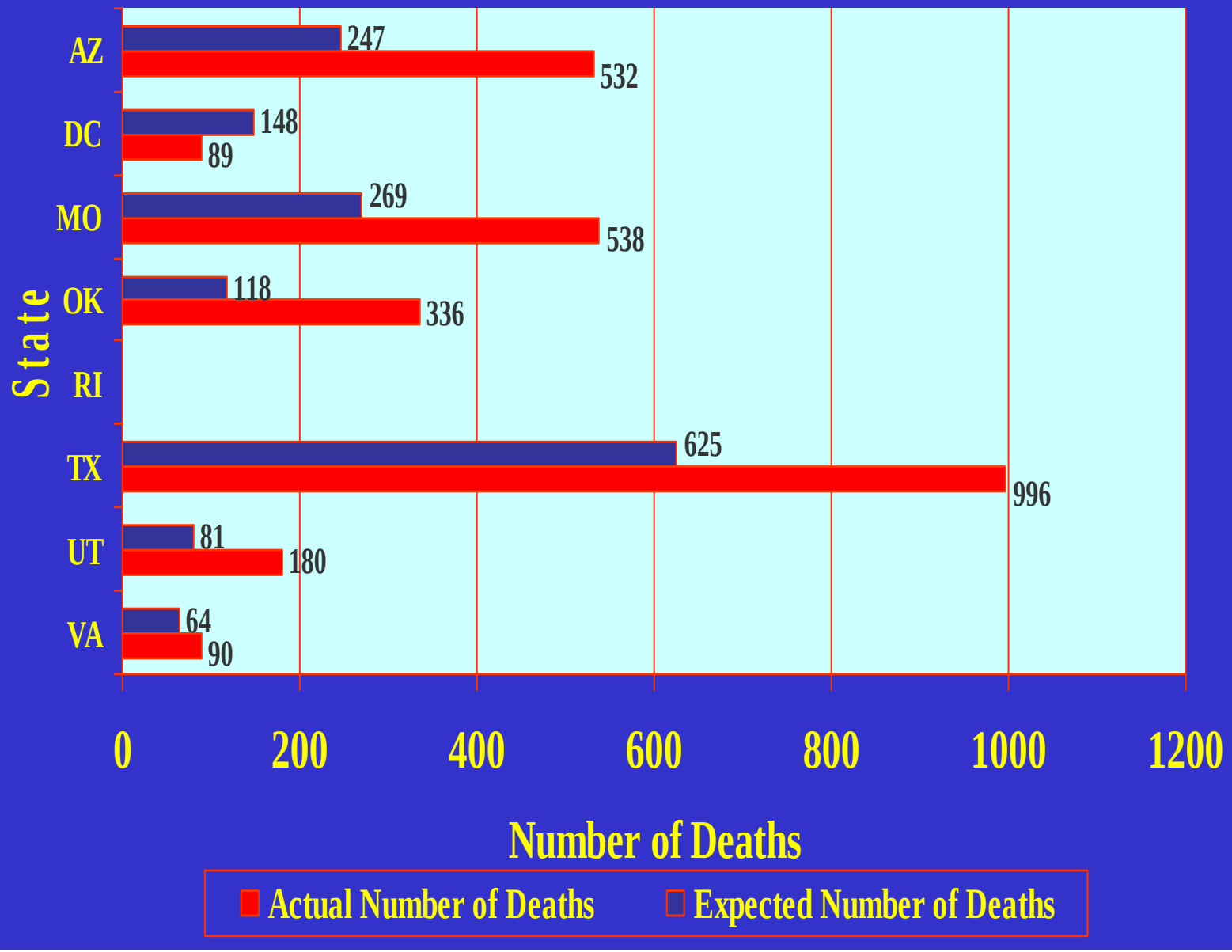
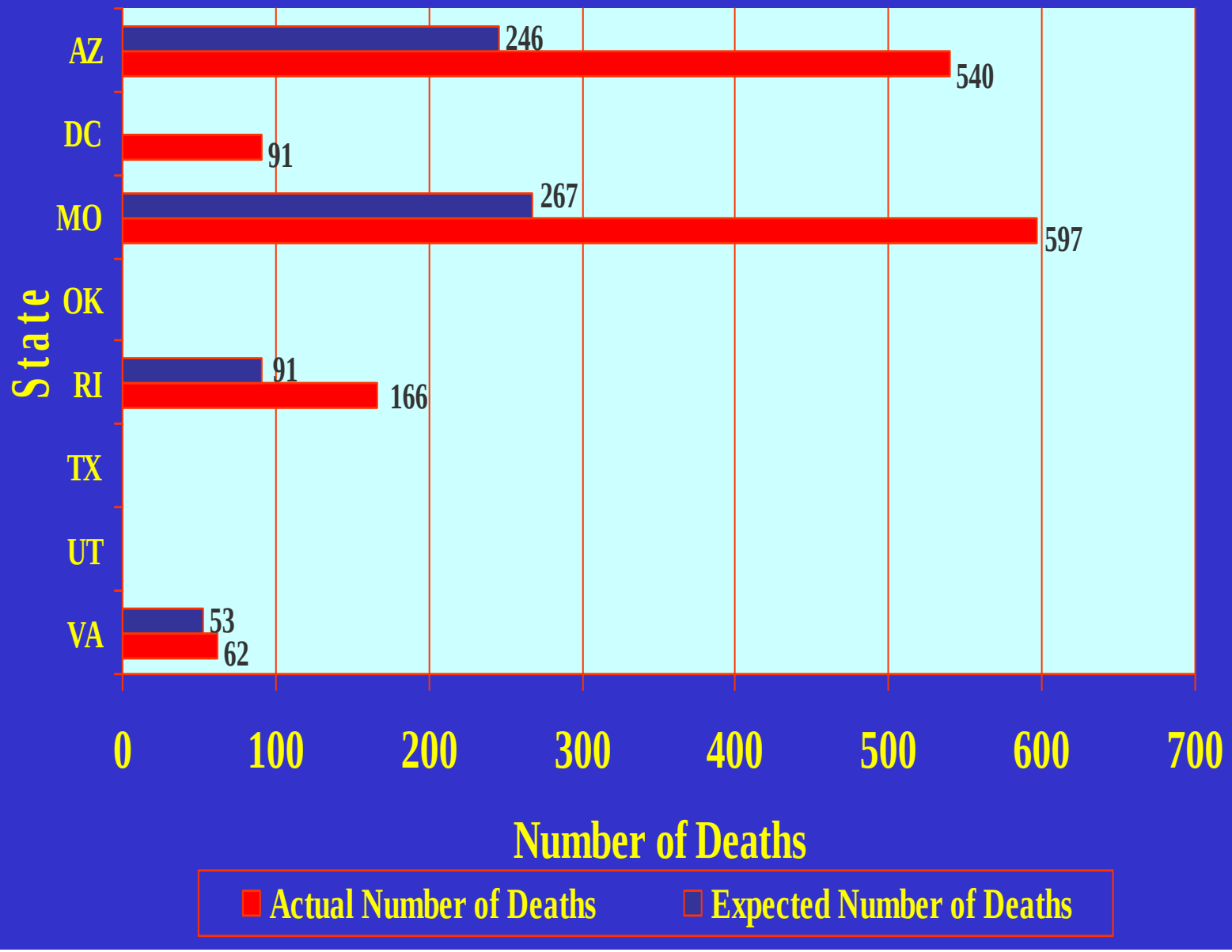
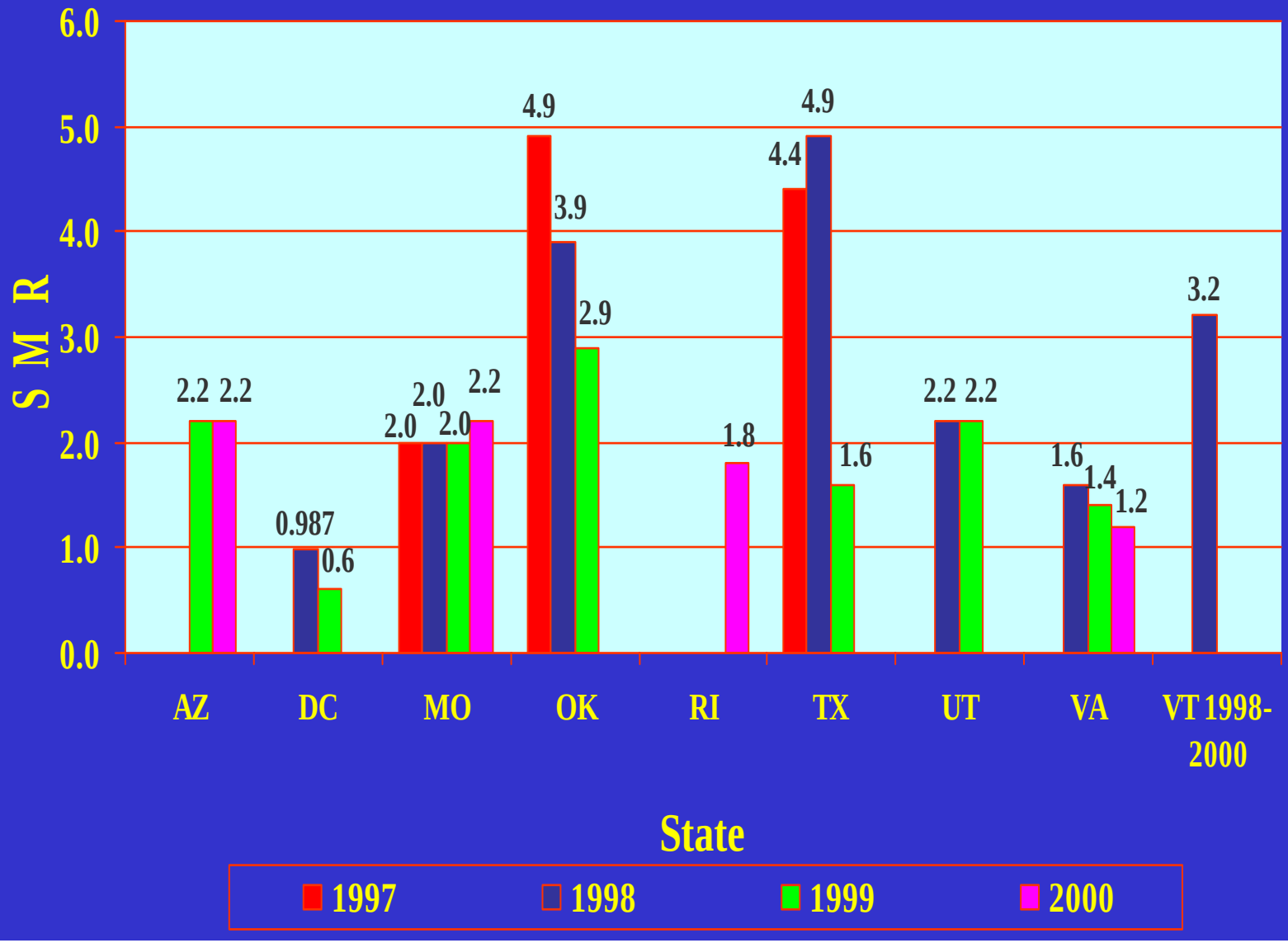


Numbers of Expected and Actual Deaths Among Year 2000 Clients of State Public Mental Health Systems



Standardized Mortality Ratios (SMR) Comparing the Number of Deaths of State Public Mental Health Clients to the Expected Number of Deaths for that Client Population (Based on State Age Specific Death Rates During the Year)



Standardized Mortality Ratio - SMR (Ratio: actual deaths/expected deaths)

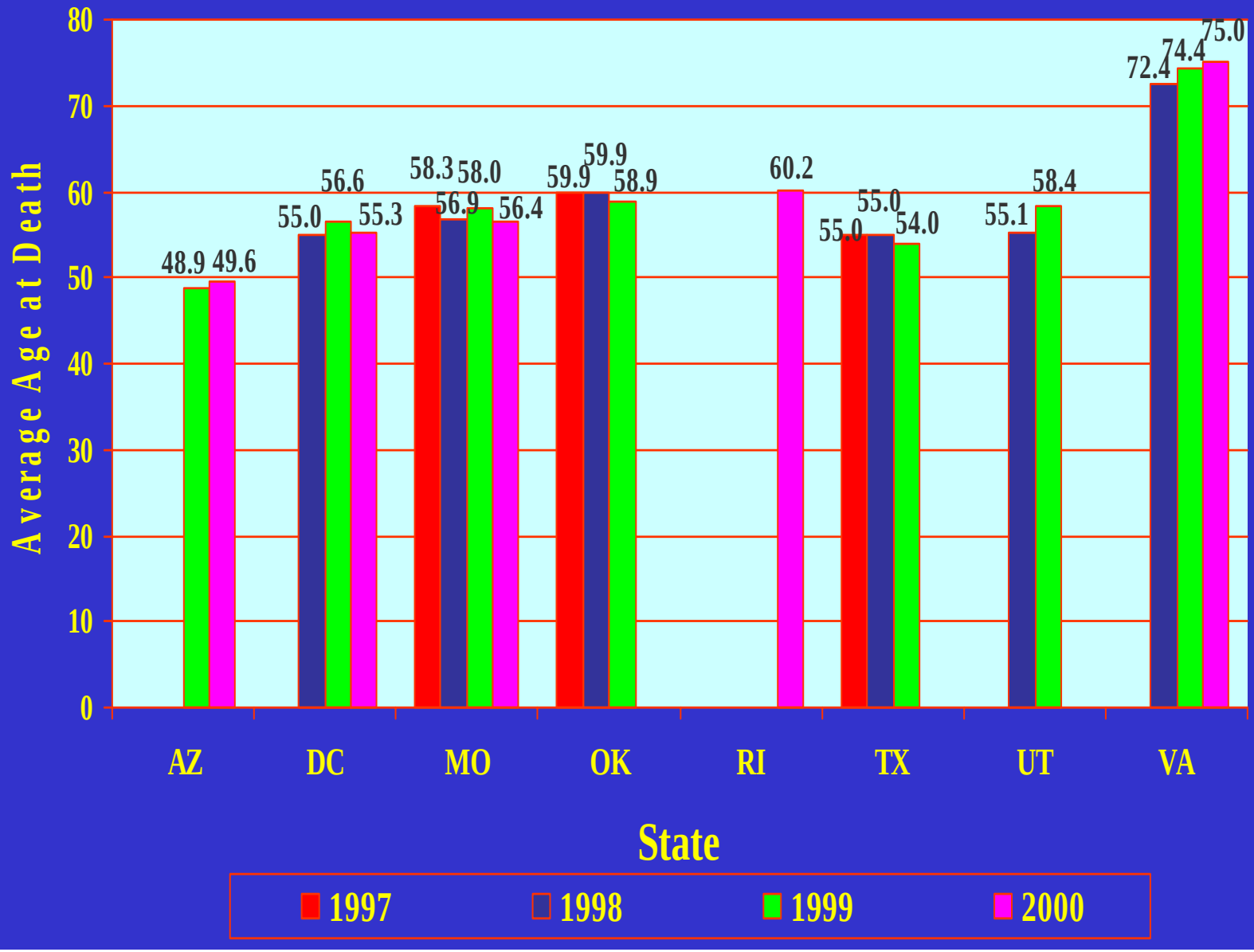
- In eight states across all years, the SMRs were greater than 1.0.
- When an SMR is greater than 1.0, the relative risk of death for mental health clients is higher than for the general population of the state.

- Only in D.C. were actual number of deaths lower than the calculated expected number.

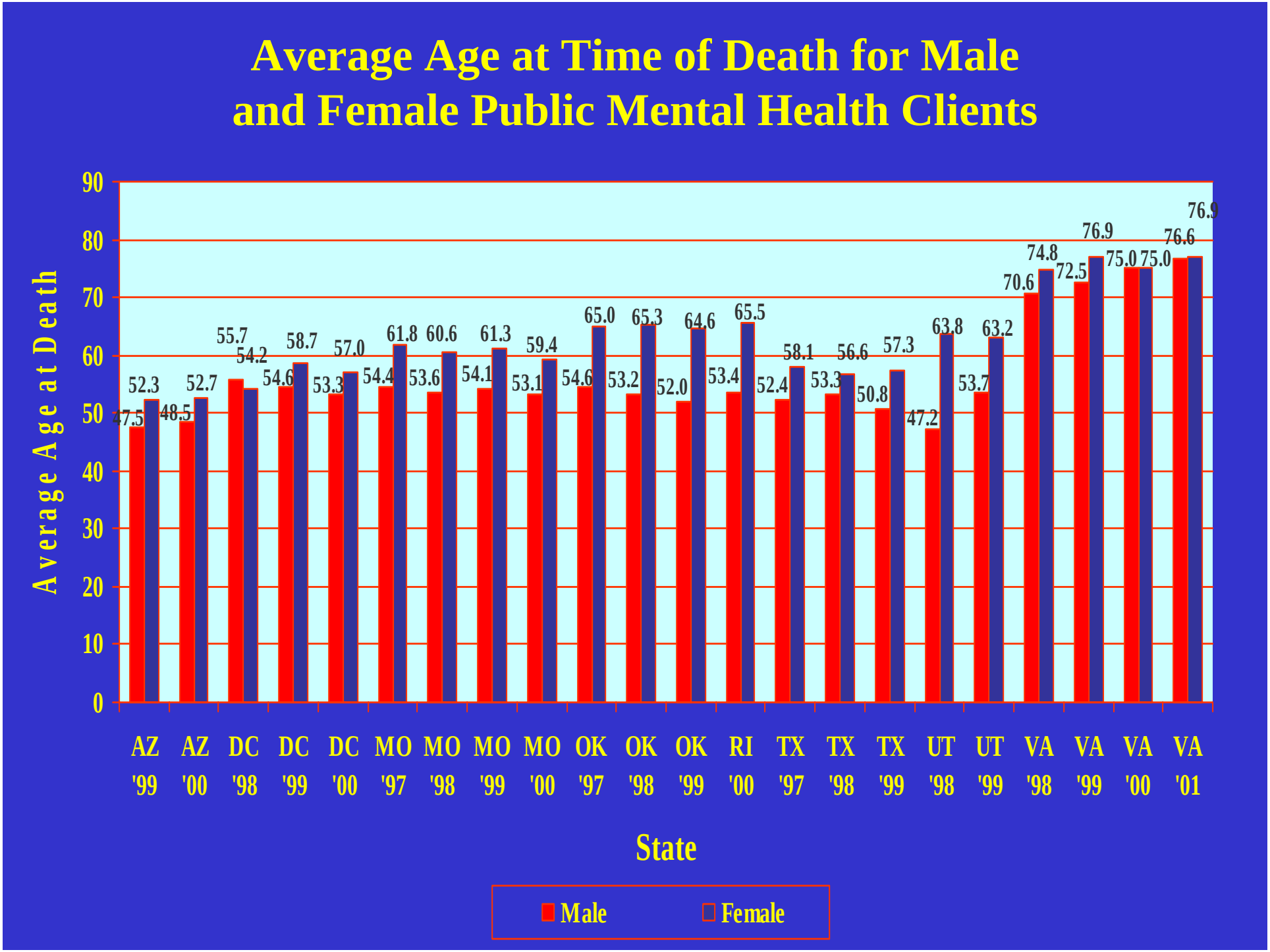
Average Number of Years of Life Lost (YLL)

- Numerator: The sum of the difference between the age of death and the current life expectancy for a person of that age who received at least one service during a certain year. (Used U.S. life expectancy tables published by CDC.)
- Denominator: The number of persons who received at least one service in that year who died and whose age of death was available.
- Average age at time of death

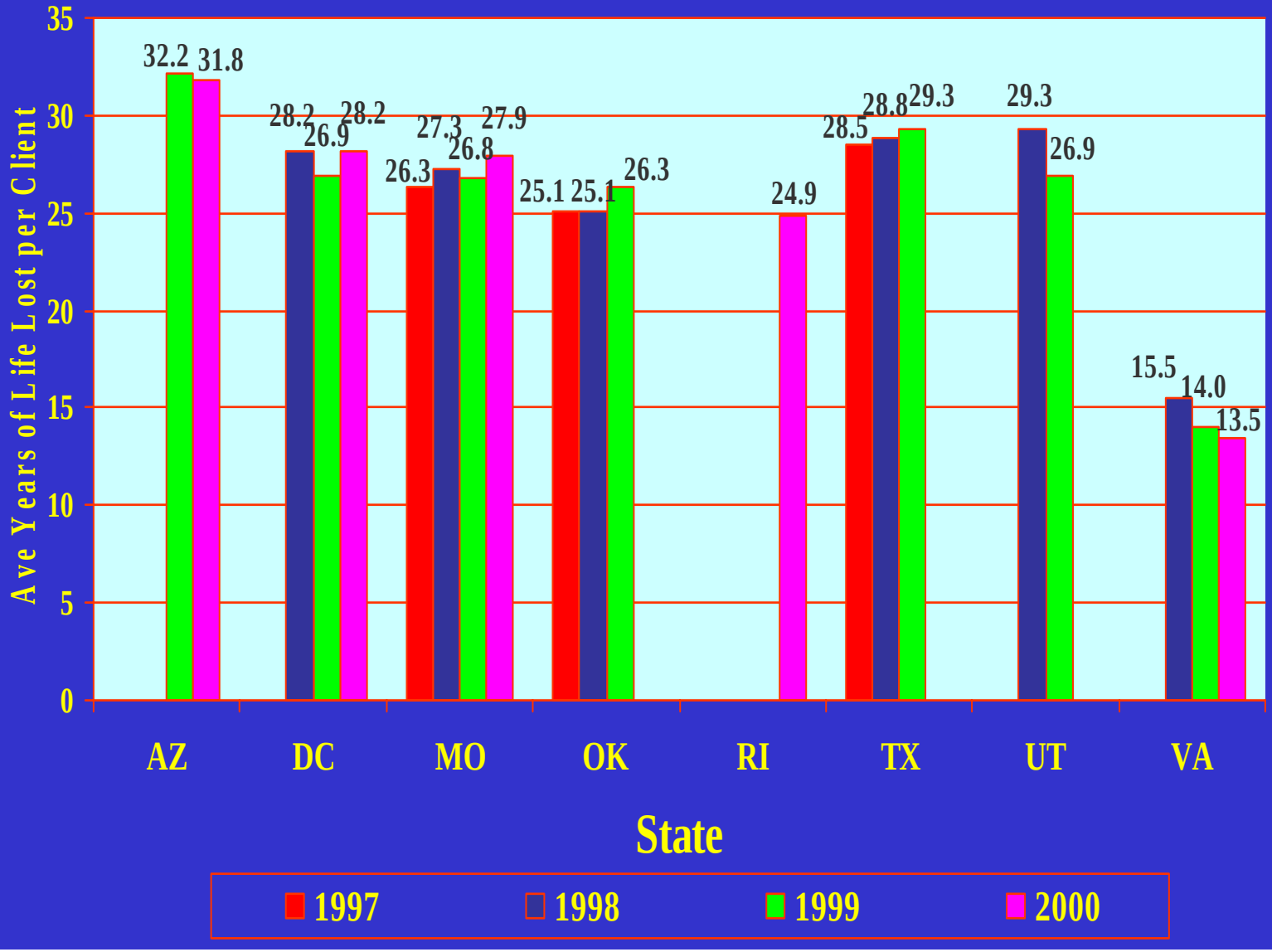
Average Age at Time of Death for Public Mental Health Clients



Average Age at Time of Death for Male and Female Public Mental Health Clients



Average Number of Years of Life Lost (YLL) per Public Mental Health Client Who Died During a Year in Which a Service Was Received



Average Number of Years of Life Lost (YLL) and Average Death Age

- Average death age for all MH clients ranged from 49 to 60, except in Virginia.
- Nationwide, the average death age is in the seventies.
- On the average, male MH clients almost always die at a younger age than female MH clients.
- 25 to 32 years of life were lost per client in every state, except Virginia (13 to 15 YLL per patient).

Causes of Death among Public Mental Health Clients

TEXAS

79 individuals who died while waiting for mental health service during a 32 month period, Jan 1, 1997 - Aug 31, 1999

Texas Comparison of Deaths
Major Causes of Death
Statewide and MH Clients

Cause of Death	Texas CY 1998		MH Clients	
Heart Disease	56,007	39.3%	25	31.6%
Liver-related	1,958	1.4%	1	1.3%
Kidney-related	1,096	0.8%	2	2.5%
Accidents	7,385	5.2%	14	17.7%
Suicides	2,131	1.5%	5	7.6%
Homicides	1,447	1.0%	0	0.0%
Other	72,365	50.8%	31	39.2%
Total Deaths	142,389	100.0%	79	100.0%

Massachusetts - Causes of Death

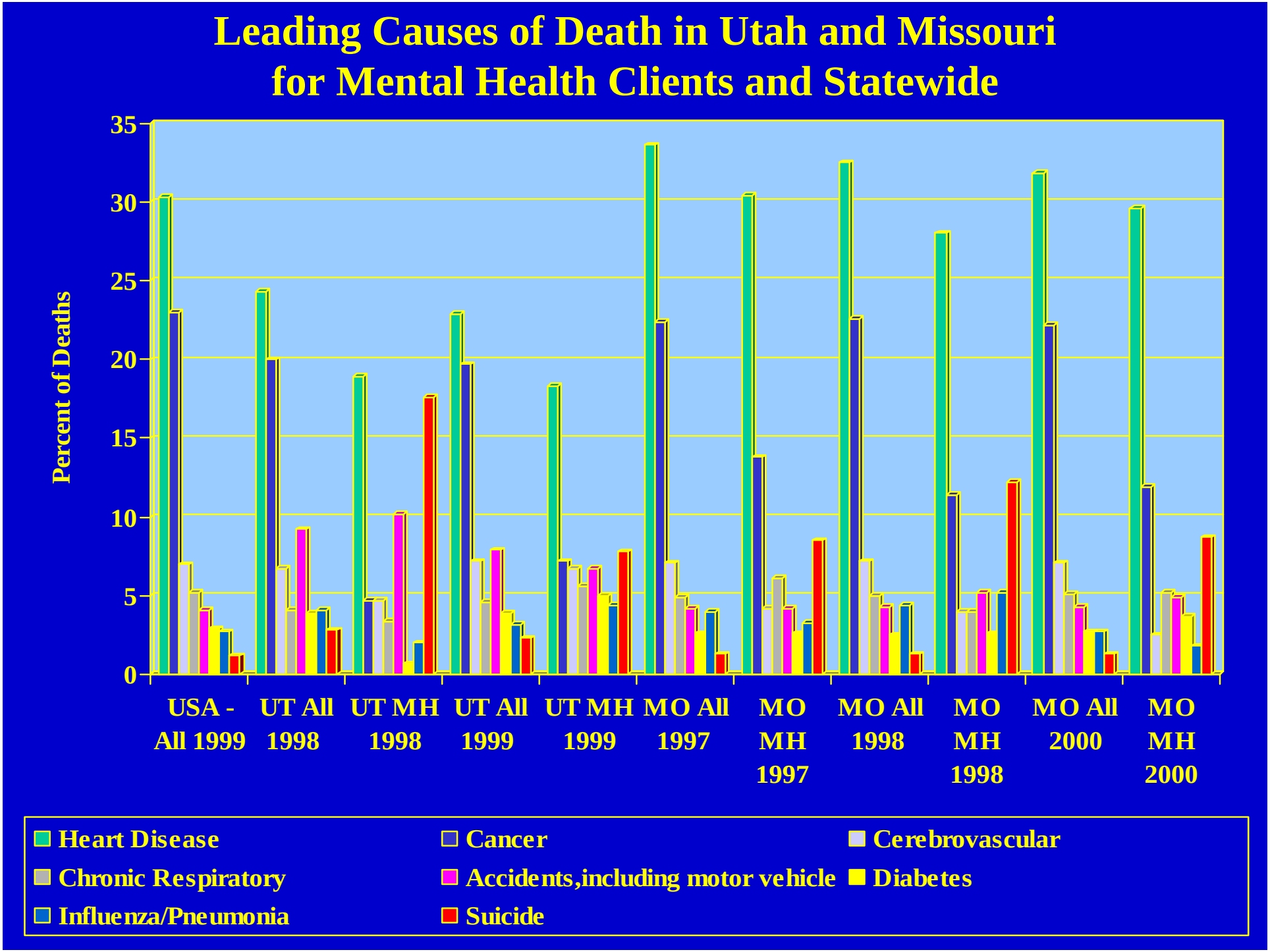
- Natural causes accounted for 72.7% of DMH clients.
- Cardiac disease was the leading cause of death for DMH clients and statewide in both 1998 and 1999.
- Statewide, Cancer was #2 in both 1998 and 1999. For DMH, Cancer was #3 in 1998 and #4 in 1999.
- For DMH clients, Injuries, including accidents, suicide, homicide, were #2 in both 1998 and 1999.
- DMH clients had higher proportions of deaths from heart and pulmonary diseases than the general population of the state, but DMH clients had lower proportions of deaths from cancer.

Massachusetts Additional Findings

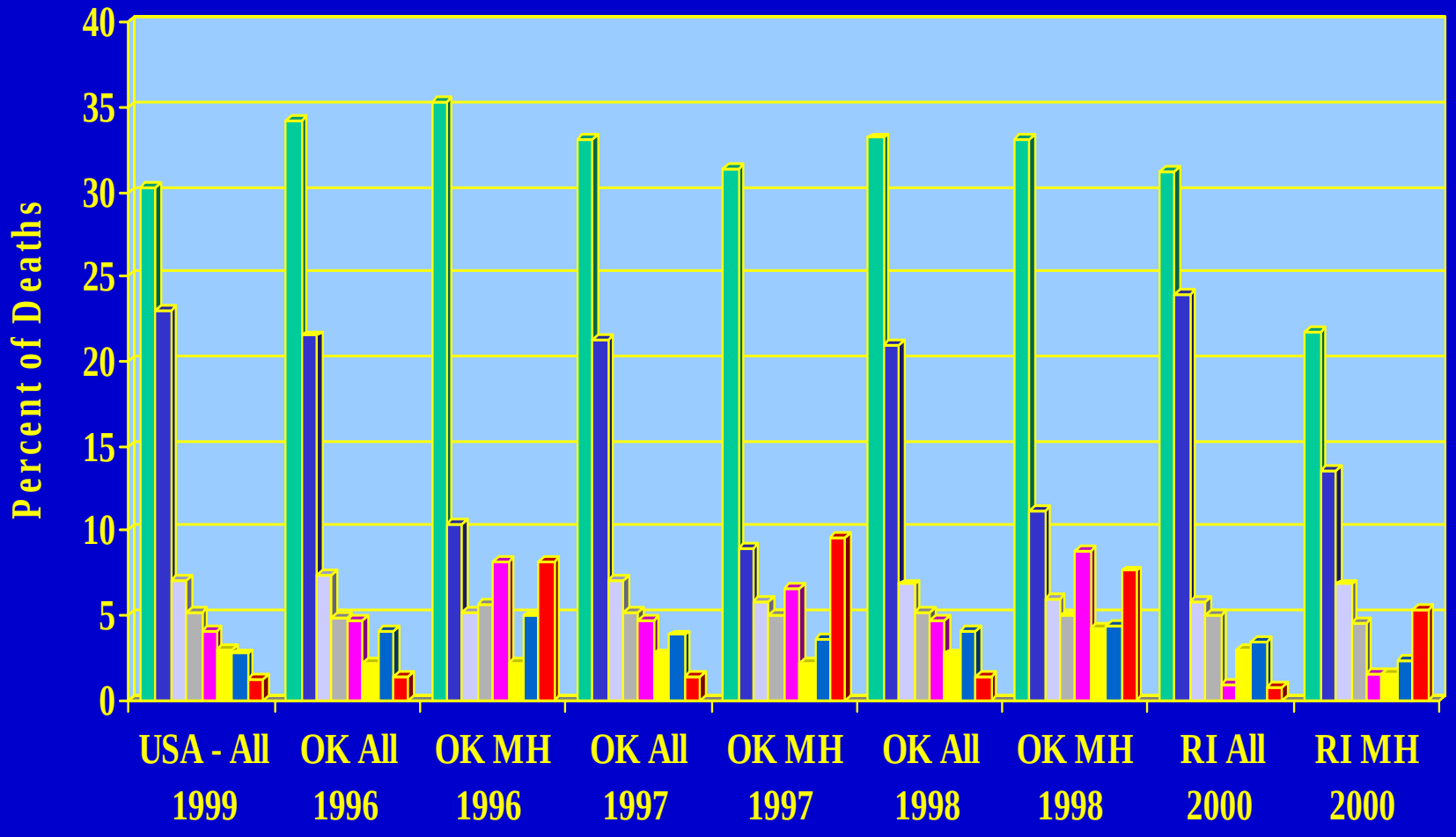
- Not only do DMH clients have higher proportions of deaths from heart and pulmonary diseases than the general population of the state, but:

- Cardiac events in the 25 - 54 age group are as much as six to seven times higher among DMH clients than for similar age individuals in the general population.
- Pulmonary disease is two to six times more problematic among DMH clients in the 25 - 64 age group than for similar age individuals in the general population.

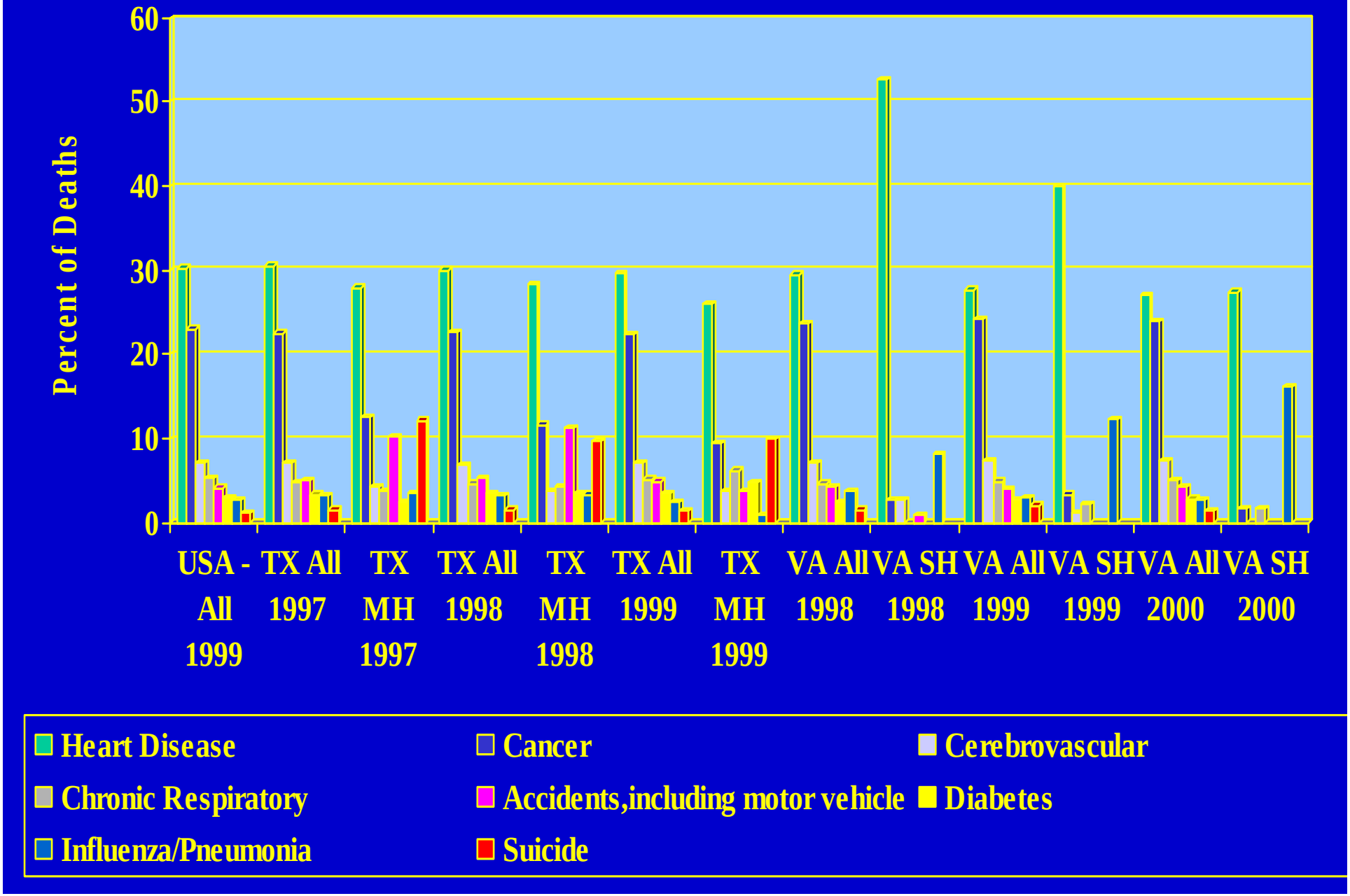
Leading Causes of Death in Utah and Missouri for Mental Health Clients and Statewide



Leading Causes of Death in Oklahoma and Rhode Island for Mental Health Clients and Statewide



Leading Causes of Death in Texas and Virginia for Mental Health Clients and Statewide



Diagnoses of Utah Mental Health Clients Who Committed Suicide

Number of 1998 Clients with Each Diagnosis	Number of 1999 Clients with Each Diagnosis
Substance Abuse – 3	Substance Abuse – 7
Other Mood Disorders – 3	Other MH Diagnoses – 7
Major Depression – 2	Major Depression – 6
Anxiety – 2	Other Mood Disorders – 2
Schizophrenia –1	Schizophrenia –1
Other Psychotic Disorders – 1	Other Psychotic Disorders – 1
Bipolar Disorder – 1	Bipolar Disorder – 1
Other MH Diagnoses -- 1	Dementia, Delirium and Related Disorders– 1
TOTAL SUICIDES - 14	TOTAL SUICIDES – 26

Conclusions About the Mortality of Mental Health Clients

- Leading causes of death for MH clients have similarities to those of individuals in state general populations.
- Age specific death rates are higher for MH clients at younger ages than for general state populations.
- Younger MH clients are dying of causes normally seen in the older population.
- PUBLIC MENTAL HEALTH CLIENTS ARE AT HIGHER RISK FOR DEATH AT AN EARLIER AGE THAN THE GENERAL POPULATION.

Montana Action in Progress

- The Western States Decision Support Group met in Helena during August 2002.
- Theme: How can mental health and public health interface? One of the topics was mental health clients and mortality.
- These data were presented along with mortality analyses from Montana and Nevada.
- Currently in Montana, a 1115b research and demonstration waiver concept paper is being submitted to Medicaid to help improve medical health care services for those being treated for mental illness.

Other States

- Hawaii and other states not shown here are analyzing the mortality of their mental health clients.
- They hope to improve care of their clients by increasing emphasis on physical health as well as mental health.

FUTURE ACTIONS

- Continue research to track mortality and primary care among mental health clients.
- Develop/continue research about diagnosis specific risk and evidence based interventions. Example - Schizophrenia and diabetes
- Develop awareness among clients and service providers of mental health services and primary care.
- Develop best practices for the prevention of physical illness in people with mental illness.

AN INTERNATIONAL THOUGHT:

Integration of mental health care and primary medical care is highly recommended.

- Quote from the World Health Organization (WHO) in NASW News, National Association of Social Workers, May 2002

Summary of Examples Showing Data Use

- Working with Stakeholders
- Annual Reports and Associated Presentations
- State MH Plan
- State Legislature and Olmstead Planning
- Mortality and Health Status

We can use knowledge based on data and research to drive planning and policy development in Mental Health.