

SPECIAL REPORT

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An Analysis of the Mental Health Work Force in North Carolina



NORTH CAROLINA CENTER FOR PUBLIC POLICY RESEARCH

About the N.C. Center for Public Policy Research

The N.C. Center for Public Policy Research is an independent, nonpartisan, nonprofit research organization created in 1977 to evaluate state government programs and study important public policy issues facing North Carolina. The Center is supported in part by a grant for general operating support from the Z. Smith Reynolds Foundation in Winston-Salem, with additional support from 11 other private foundations, 100 corporate contributors, and about 500 individual and organizational members.

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An Analysis of the Mental Health Work Force in North Carolina

Phase I – The Work Force in the N.C. Division of Mental Health, Developmental Disabilities, and Substance Abuse Services and in State Facilities

by John Quintero

Imagine trying to build a company without basic work force information. The state employs more than 10,000 people in its mental health system, and yet until now basic data about the work force has been unavailable.

In 2008, the Workforce Development Initiative released its report on the mental health work force situation in North Carolina.¹ The report notes that information about the current work force was not available, and therefore the initiative was unable to compare the work force needs against the then-available staff and their skills. The report says: “Ideally, the following information would be available for staff of service providers, of LMEs [local mental health management entities], and the state-operated facilities and central office of the Division: the number of positions by title, number of vacancies, wage range, turnover rate, education/training and experience, and demographics of managerial, administrative, clinical, and direct support staff.”

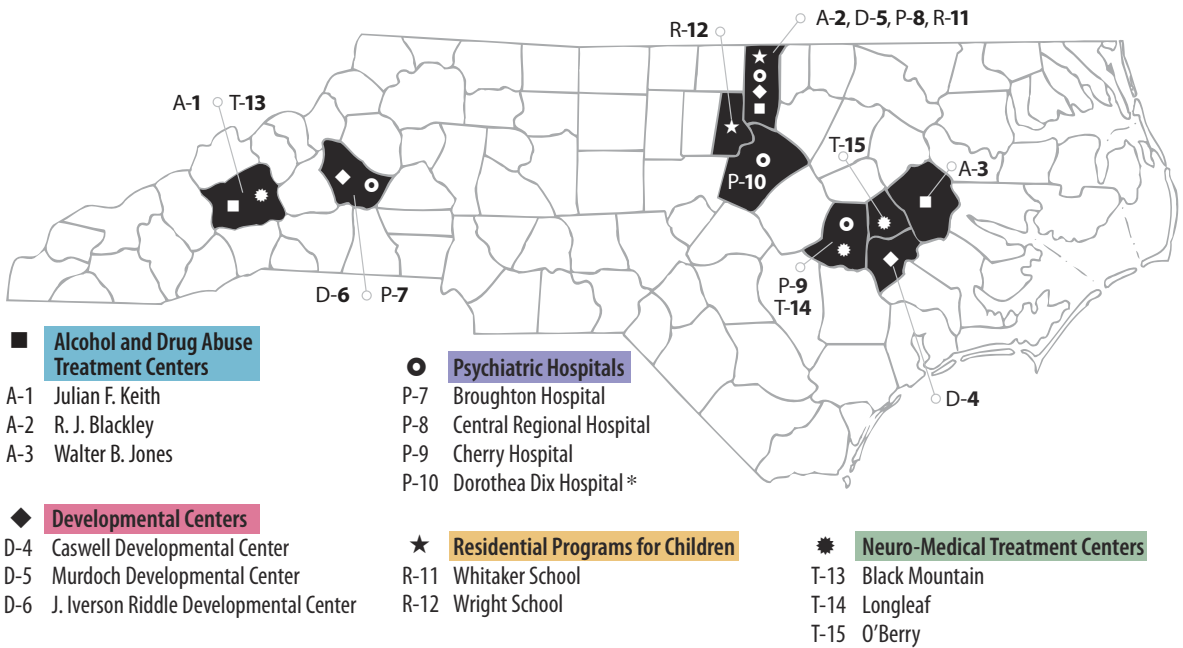
The Center’s analysis of the mental health work force in North Carolina is part of our five-year study of mental health reform in North Carolina.² It is being conducted in two phases. Phase I is an analysis of the work force of the N.C. Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (MH/DD/SAS) and also of the state facilities providing mental health, developmental disability, and substance abuse services. Even after mental health reform, the state has continued to operate inpatient facilities statewide, including three state psychiatric hospitals, three alcohol and drug abuse treatment centers (ADATC), three developmental centers for people with intellectual and developmental disabilities, two residential programs for children, and three neuro-medical treatment centers (NMTC).

¹ The N.C. Commission for Mental Health, Developmental Disabilities, and Substance Abuse Services and the N.C. Division of Mental Health, Developmental Disabilities, and Substance Abuse Services, *The Workforce Development Initiative*, April 15, 2008, p. 22. On the Internet at <http://www.ncdlhhs.gov/mhdd-sas/statpublications/reports/workforcedevelopment-4-15-08-initiative.pdf>, accessed on Jan. 3, 2013.

² The Center released a special report entitled *The History of Mental Health Reform in North Carolina* in March 2009, an assessment of the state’s mental health reform strategy in March 2011, and an issue of its journal, *N.C. Insight* on the state of mental health reform in North Carolina in December 2012. These reports are available on the Center’s website <http://www.nccppr.org>.

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Figure 1:
State of North Carolina Facilities for Treatment of MH/DD/SAS



**Dix Hospital has transferred most of its services to Central Regional Hospital.*

Research for Phase II of the Center’s work force analysis will be conducted in 2013 and will include a survey of the state’s managed care organizations (MCOs) as well as of mental health providers.

Technical Notes

The raw data for this analysis comes from a database prepared by the N.C. Division of MH/DD/SAS based on administrative records. The database merged data from two internal human resource systems.

Database preparation began in summer 2012. The files were submitted to South by North Strategies, Ltd. (SBN) at the end of August 2012. SBN coded and analyzed the data in September 2012. Data review and revision by the Division, SBN, and the Center occurred from December 2012 to February 2013.

In principle, the database provides a count of every employee working in the state facilities and central office and functions like an administrative census; of course, the quality of the data in the database depends on the quality of the underlying databases. As with any census, the data are for one moment in time; in short, they are a snapshot of the N.C. Division of MH/DD/SAS and Division of State Operated Healthcare Facilities (DSOHF) human resource landscape in summer 2012.³

³ The state did not break out data for the work force at the Whitaker Psychiatric Residential Treatment Facility in Butner, which is a long-term treatment program for emotionally handicapped adolescents aged 13–17. The work force data for the Whitaker PRTF was reported as state central office, since the central office staff provides most of the administrative support for the facility.

System Overview

As of summer 2012, the N.C. Division of MH/DD/SAS employed 10,564 persons in 13 of the state-operated facilities and in the state central office (SCO). Table 1 presents a count by facility.

Type	Facilities	Number Employed
A-1	Keith ADATC	203
A-2	Blackley ADATC	149
A-3	Jones ADATC	145
D-4	Caswell Developmental Center	1,488
D-5	Murdoch Developmental Center	1,634
D-6	Riddle Developmental Center	924
P-7	Broughton Hospital	1,150
P-8	Central Regional Hospital	1,909
P-9	Cherry Hospital	931
R-11 *	Whitaker School *	-
R-12	Wright School	39
T-13	Black Mountain NMTC	409
T-14	Longleaf NMTC	477
T-15	O'Berry NMTC	890
SCO*	DMH/DD/SAS & DSOHF *	216

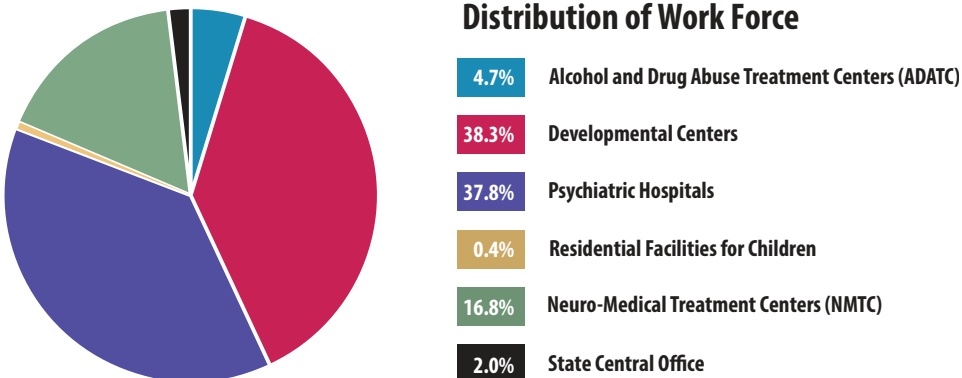
**Table 1:
Distribution
of Work Force**

Notes:
ADATC=Alcohol and Drug Abuse Treatment Center
NMTC=Neuro-Medical Treatment Center
DMH/DD/SAS= Division of Mental Health, Developmental Disabilities, and Substance Abuse Services
DSOHF=Division of State Operated Healthcare Facilities
SCO=State Central Office
* See footnote 3

Source:
Work Force Database, North Carolina DMH/DD/SAS and DSOHF, Summer 2012

When viewed in terms of broad facility types, 38.3 percent of the work force is in the developmental centers, 37.8 percent in the state psychiatric hospitals, 16.8 percent in neuro-medical treatment centers, 4.7 percent in alcohol and drug abuse treatment centers, 2 percent in the state office, and 0.4 percent in residential facilities for children (see Figure 2).

**Figure 2:
Distribution of Work Force**

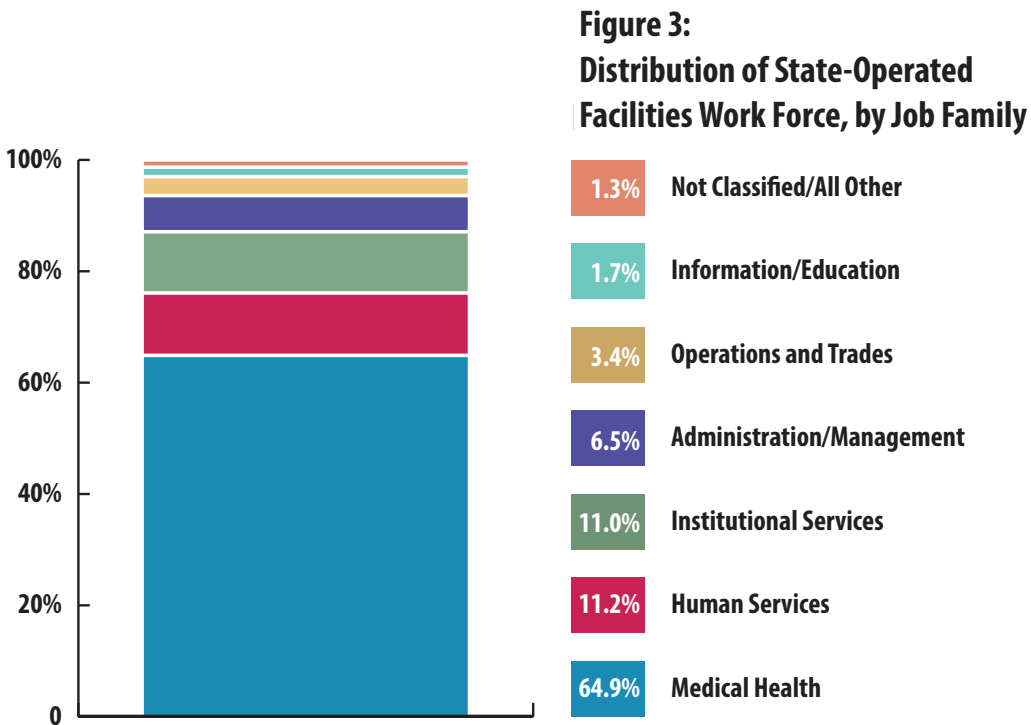


Job Functions

Of the 10,348 persons directly employed in state-operated facilities (excluding state central office employees), 10,018 (96.8 percent) held **full-time** posts, and 330 persons (3.2 percent) held **part-time** posts.

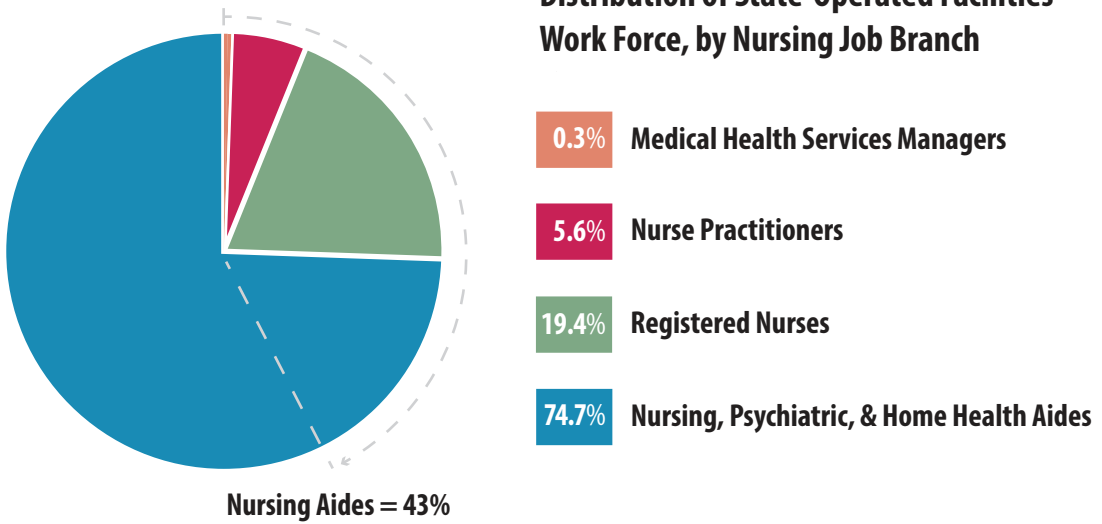
Of the 10,348 persons directly employed in state-operated facilities (excluding state central office employees), 9,553 (92.3 percent) were **non-supervisory** employees, 772 (7.5 percent) were **supervisory employees**, and the remaining 23 positions (0.2 percent) were **unclassified**.

The work force in the state-operated facilities (excluding central administration) divides into eight broad **job families**. The largest family is medical health, which contains 64.9 percent of the work force (see Figure 3).



Source: Work Force Database, North Carolina DMH/DD/SAS and DSOHF, Summer 2012

**Figure 4:
Distribution of State-Operated Facilities
Work Force, by Nursing Job Branch**



The Division of MH/DD/SAS divides the broad **job families** in the state-operated facilities into 25 **job branches**. The single largest job branch is the nursing job branch (57.8 percent).

The nursing job branch encompasses 10 job titles: five job titles pertain to aides, three to registered nurses, one to nurse practitioners, and one to nurse managers.

Overall, nursing aides account for 43 percent of all employees (see Figure 4).

Source: Work Force Database, North Carolina DMH/DD/SAS and DSOHF, Summer 2012

Work Force Demographics: Age

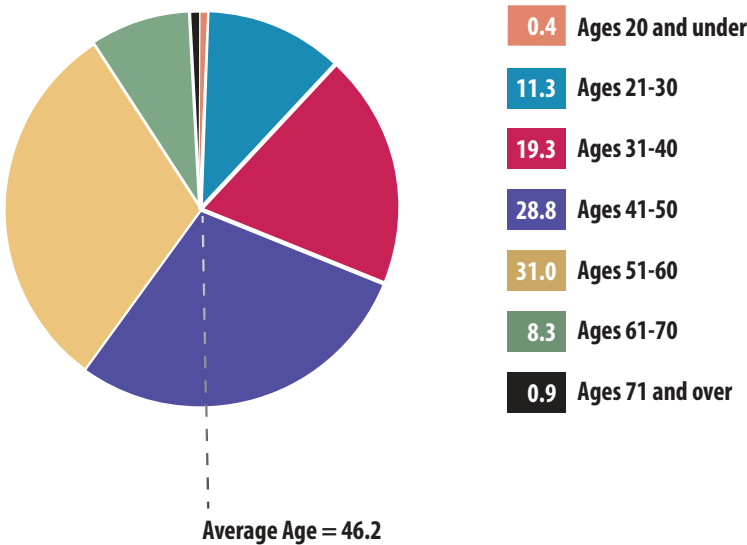
The **median age** of the entire work force (state-operated facilities and central administration) is 48, with an **average age** of 46.2. The **mode** or most typical age is 48.

Thirty-one percent of the work force is between ages 51 and 60, and another 8.3 percent is between ages 61 and 70; altogether, 40.2 percent of the work force is age 51 and older.

Another 28.8 percent of the work force is between ages 41 and 50.

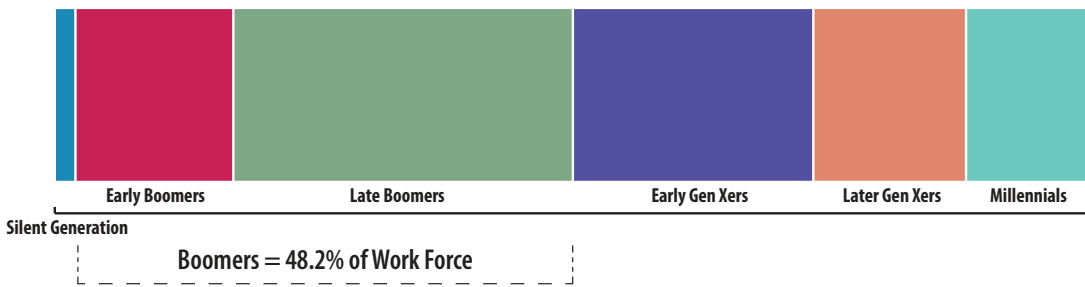
Thirty-one percent of the work force is age 40 or younger (see Figure 5).

**Figure 5:
Distribution of Work Force,
by Ten-Year Age Bands**

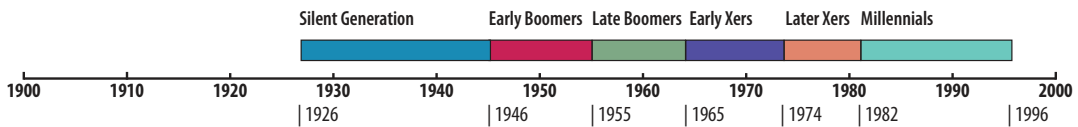


Source: Work Force Database, North Carolina DMH/DD/SAS and DSOHF, Summer 2012

**Figure 6:
Distribution of Work Force, by Generational Cohort**



Definition of Generational Cohort of Work Force



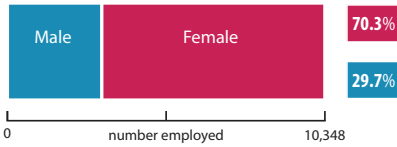
Another way of looking at the age of the work force is in terms of generational cohorts; seen that way, Baby Boomers account for 48.2 percent of the work force (Figure 6 and Table 2).

**Table 2:
Work Force by Generational Cohort**

Generation	<i>Number</i>	<i>Percent</i>
Silent Generation (b. 1926-1945)	211	2.0%
Baby Boomers (b. 1946-1964)	5,095	48.2%
Early Boomers (b. 1946-1954)	1,620	15.3%
Late Boomers (b. 1955-1964)	3,475	32.9%
Generation X (b. 1965-1981)	4,025	38.1%
Early Xers (b. 1965-1973)	2,459	23.3%
Late Xers (b. 1974-1981)	1,566	14.8%
Millennial Generation (b. 1982-1996)	1,233	11.7%
Totals	10,564	100.0%

Source: Work Force Database, North Carolina DMH/DD/SAS and DSOHF, Summer 2012

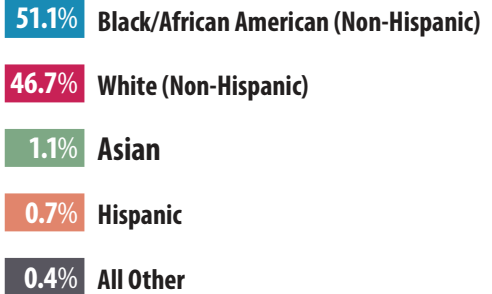
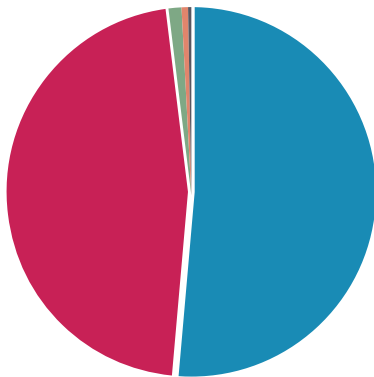
Work Force Demographics: Gender and Race/Ethnicity



In terms of **gender**, females comprise 70.3 percent of the work force in state-operated facilities (excluding state central office employees), while males comprise 29.7 percent.

In terms of race, 51.1 percent of the employees in state-operated facilities (excluding state central office employees) are non-Hispanic African Americans, followed by non-Hispanic Whites (46.7 percent). Asians are responsible for 1.1 percent of the work force, and Hispanics contribute 0.7 percent (see Figure 7).

Figure 7:
Composition of State-Operated Facilities Work Force, by Race/Ethnicity



Source: Work Force Database, North Carolina DMH/DD/SAS and DSOHF, Summer 2012

Female	<i>Number</i>	<i>Percent</i>
Black, Non-Hispanic	3,735	36.1%
White, Non-Hispanic	3,397	32.8%
Asian	69	0.7%
Hispanic	40	0.4%
All Other/Unclassified	31	0.3%
Subtotals	7,272	70.3%

**Table 3:
Racial/Ethnic
Composition of
State-Operated
Facilities Work
Force, by Gender**

Male	<i>Number</i>	<i>Percent</i>
Black, Non-Hispanic	1,557	15.0%
White, Non-Hispanic	1,435	13.9%
Asian	49	0.5%
Hispanic	30	0.3%
All Other/Unclassified	5	0.0%
Subtotals	3,076	29.7%
Totals	10,348	100.0%

When gender and race are combined, the single largest component of the work force in state-operated facilities (excluding central administration employees) consists of African-American women (36.1 percent), followed by White females (32.8 percent). White and African-American men each contribute another 13.9 to 15 percent, respectively, of the work force (see Table 3).

Source: Work Force Database, North Carolina DMH/DD/SAS and DSOHF, Summer 2012

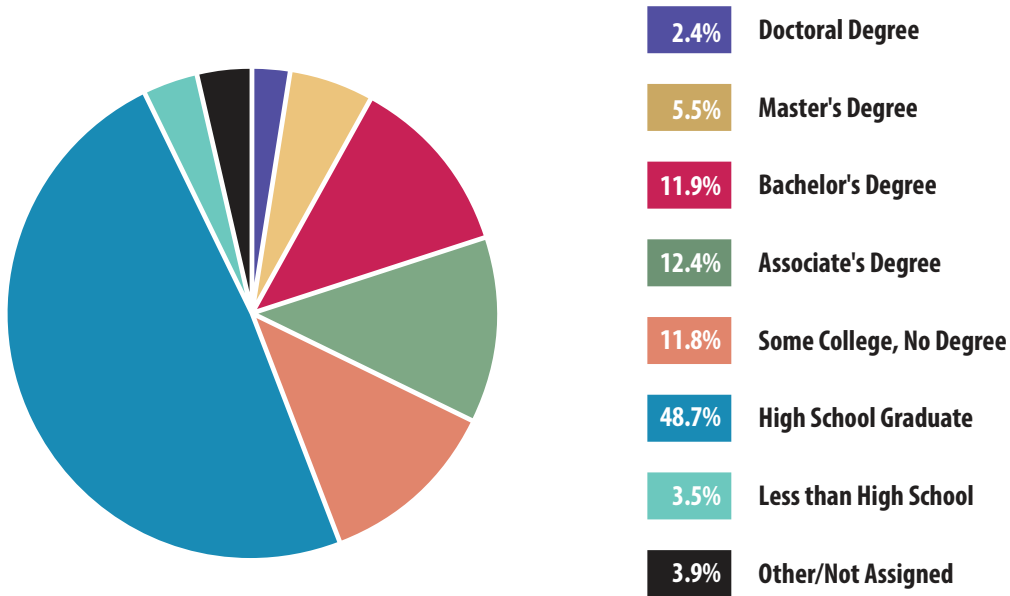
Work Force Demographics: Education



Due in part to the occupational composition of the work force, more than half of the work force in state-operated facilities (excluding central administration employees), or 52.2 percent, possesses no more than a **high school diploma** (see Figure 8).

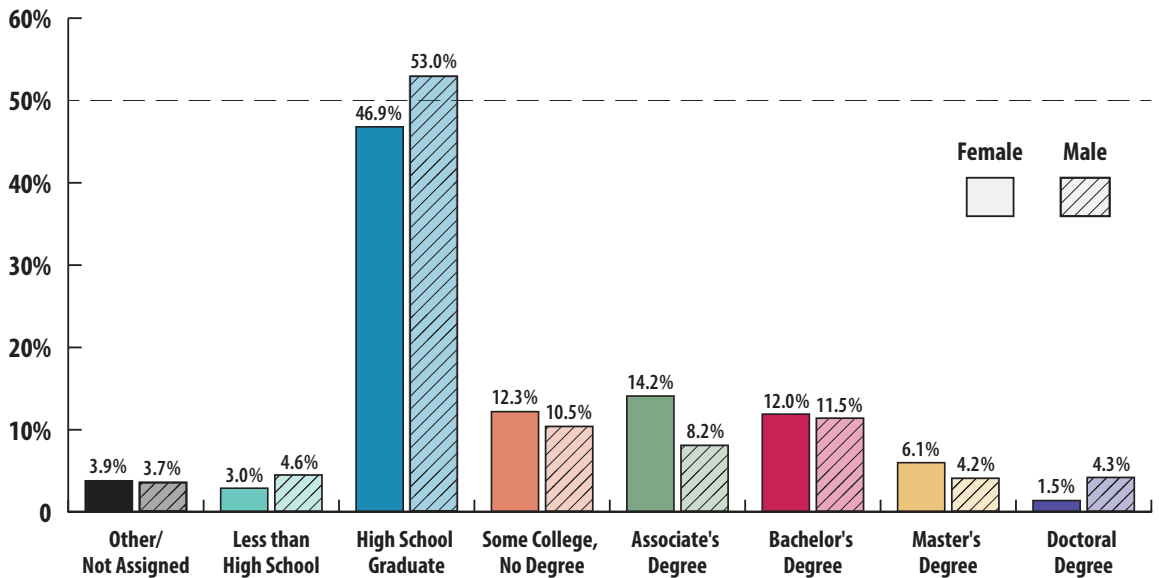
An additional 11.8 percent of the work force has some college education but no degree. Some 32.2 percent of the work force has at least an associate's degree or more.

Figure 8:
Composition of State-Operated Facilities Work Force, by Education Level



Source: Work Force Database, North Carolina DMH/DD/SAS and DSOHF, Summer 2012

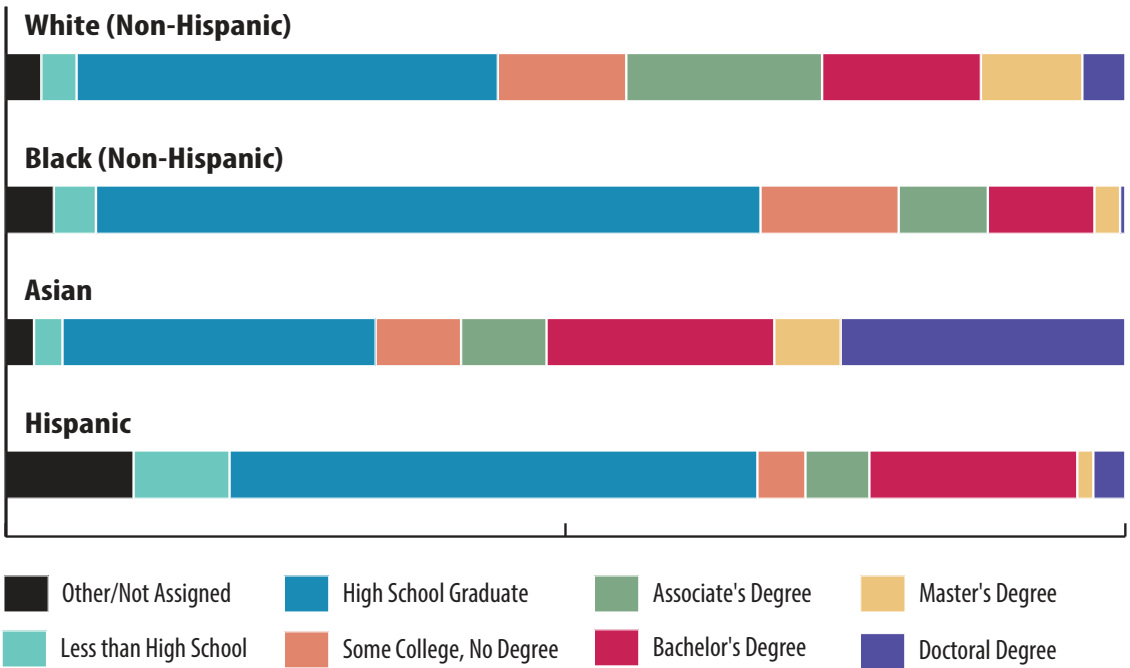
**Figure 9:
Educational Composition of State-Operated Facilities Work Force,
by Gender**



In terms of **gender**, higher proportions of the male work force in state-operated facilities (excluding central administration employees) have no more than a high school degree (53 percent of males versus 46.9 percent of females) and doctoral degrees (4.3 percent versus 1.5 percent) than the female work force (see Figure 9).

Source: Work Force Database, North Carolina DMH/DD/SAS and DSOHF, Summer 2012

Figure 10:
Educational Composition of State-Operated Facilities Work Force, by Race/Ethnicity



In terms of **race/ethnicity**, White non-Hispanic workers in state-operated facilities (excluding central administration employees) are more apt to have at least some college compared to Black, non-Hispanic workers (56.1 percent versus 32.6 percent).

Though very small in numbers, the Asian work force is at the higher end of the education spectrum; 51.6 percent have at least a bachelor’s degree, and a quarter hold doctorates (see Figure 10 and Table 4).

Though very small in numbers of workers, the proportion of the Hispanic work force with at least an associate’s degree exceeds the African-American share (28.6 percent versus 20.3 percent).

Source: Work Force Database, North Carolina DMH/DD/SAS and DSOHF, Summer 2012

Table 4:
Educational Composition of State-Operated Facilities Work Force, by Race/Ethnicity

	White (Non-Hispanic)	Black (Non-Hispanic)	Asian	Hispanic
Other/Not Assigned	3.2%	4.3%	2.5%	11.4%
Less than High School	3.1%	3.8%	2.5%	8.6%
High School Graduate	37.6%	59.4%	28.0%	47.1%
Some College, No Degree	11.5%	12.3%	7.6%	4.3%
Associate's Degree	17.5%	8.0%	7.6%	5.7%
Bachelor's Degree	14.2%	9.5%	20.3%	18.6%
Master's Degree	9.1%	2.3%	5.9%	1.4%
Doctoral Degree	3.8%	0.5%	25.4%	2.9%

Detailed Analysis for the Nursing Job Branch

The nursing job branch is the single largest category of employees. This branch employs 57.8 percent of the work force in state-operated facilities (excluding central administration employees).

The nursing job branch contains 5,982 employees divided into four broad occupational categories: nursing, psychiatric, and home health aides (4,469); registered nurses (1,641); nurse practitioners (335); and medical health services managers (17).

There is a racial pattern to employment within the nursing job branch employed in state-operated facilities (excluding central administration employees). African-American workers tend to cluster in the health care support occupations; in fact, African-American workers account for 69 percent of all aides. White workers account for much larger shares of the nurse practitioners (54.3 percent) and registered nurses (68.4 percent) categories.

Nursing, psychiatric, and home health aide positions tend to require little formal education and pay relatively low wages. According to the U.S. Department of Labor, the median hourly wage for aides in North Carolina in 2011 was \$10.64.

Postsecondary education is required for those in nursing positions (either licensed practical nurses or registered nurses).

Altogether, 74.8 percent of the aides in the system have no more than a high school diploma, while another 10.9 percent have some education beyond high school but less than an associate's degree.

Source: Work Force Database, North Carolina DMH/DD/SAS and DSOHF, Summer 2012

28 North Carolina Counties Do Not Have a Psychiatrist

The Sheps Center for Health Services Research at UNC-Chapel Hill recently released data for 2011 on the number of physician specialists by county. Twenty-eight counties do not have a psychiatrist (compared to 30 in 2010), and an additional 18 only have one psychiatrist. Seventy counties do not have a child psychiatrist, and an additional 14 only have one. Only six counties have a geriatric psychiatrist. Only five counties have addiction psychiatrists, and only 13 counties have physicians specializing in addiction and chemical dependency.

The 28 counties that do not have a psychiatrist include Alleghany, Anson, Ashe, Bertie, Bladen, Camden, Dare, Edgecombe, Franklin, Gates, Graham, Hoke, Hyde, Jackson, Jones, Macon, Madison, McDowell, Mitchell, Montgomery, Northampton, Pamlico, Scotland, Swain, Transylvania, Tyrrell, Warren, and Yancey.

Source: See the Excel spreadsheet for physician specialties at <http://www.shepscenter.unc.edu/hp/prof2011.htm>

Need for Additional Information

The N.C. Division of MH/DD/SAS was unable to provide data on job tenure and wages. This information is still unavailable and is needed to better understand trends in turnover. 