This project is a collaboration between the North Carolina Area Health Education Centers (NC AHEC) Program, the Department of Psychiatry and Behavioral Sciences, Duke University School of Medicine and the Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

The Supply and Distribution of Psychiatrists in North Carolina: Pressing Issues in the Context of Mental Health Reform

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Introduction

Nearly one in three non-elderly adults experiences a mental disorder at some point during a one-year period.[1] A recent study of North Carolina pediatricians found that about 15% of children had a behavioral disorder such as attention deficit disorder, anxiety or depression.[2] Despite the high prevalence of mental illnesses in the general population, most individuals with a serious mental disorder do not receive treatment.[3] Barriers to care include inadequate insurance coverage, poor financial resources for patient co-payments and the perceived stigma of mental illness and its treatment. Another important barrier to care is an inadequate supply or poor distribution of mental health clinicians, especially psychiatrists. While many mental disorders can be treated by primary care providers and non-psychiatrist mental health clinicians, many disorders require consultation and treatment by psychiatrists.

This fact sheet analyzes the supply and distribution of psychiatrists in North Carolina and finds:

- A maldistribution of psychiatrists across North Carolina and the potential for an emerging shortage due to the state's rapid population growth.
- A critical shortage and maldistribution of child psychiatrists.
- Many counties facing a psychiatrist shortage also face a shortage of primary care providers—a situation that may jeopardize access to care for patients with mental disorders.

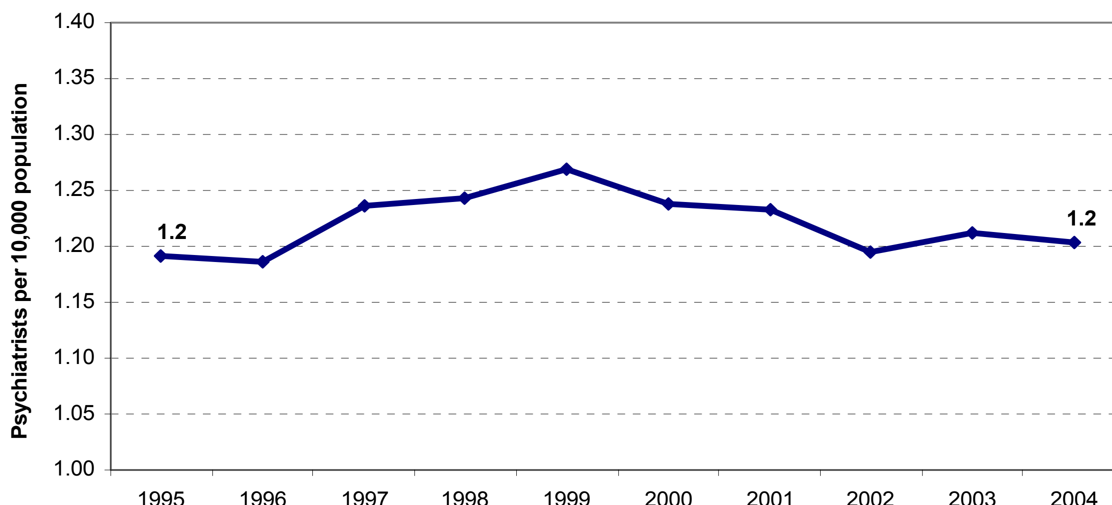
Why is it important for North Carolina to take stock of the psychiatry workforce now?

Before 2001, local community mental health programs employed salaried psychiatrists and other mental health clinicians committed to providing care to patients who could not afford or gain access to private psychiatric care. The salaries of mental health clinicians were largely not dependent on patient fees. Mental health reform, begun in 2001, called for these community programs—now called Local Management Entities (LMEs)—whenever possible to divest themselves of direct patient care responsibilities and assume the role of managers of care. The former clinicians of the LMEs were encouraged to form or join local provider groups to receive LME referrals and thereby create more choice for patients. These newly-independent mental health providers are supported by fees generated from patient care. Some have questioned whether this new fee-for-service payment system for publicly insured patients can provide adequate revenue to support the providers, especially psychiatrists. Others have suggested that providers, now at financial risk, may well re-direct their efforts to privately insured patients. This reorganization of the public mental health system raises a number of important questions that are the focus of this brief: Do LMEs have access to an adequate supply of psychiatrists to meet patient needs? Do particular counties, or regions of North Carolina, face a shortage of psychiatrists?

Psychiatrists

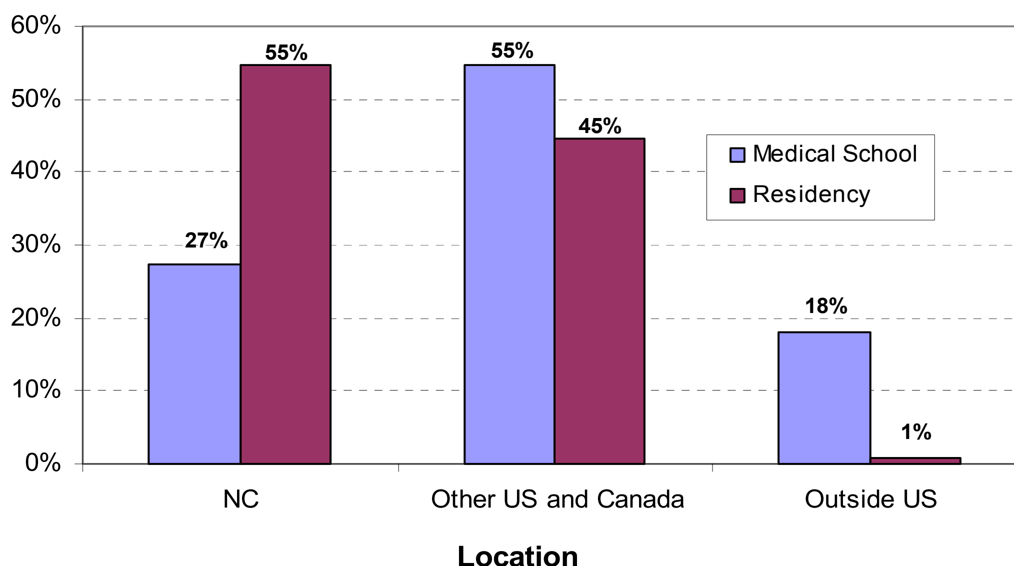
According to national statistics, North Carolina ranks 20th in the nation with a ratio of 1.05 psychiatrists per 10,000 population.[4] Relative to its neighbors, North Carolina is worse off than Virginia (1.24 psychiatrists per 10,000 population) but better off than South Carolina (.98 psychiatrists per 10,000 population), Georgia (.92 psychiatrists per 10,000 population) and Tennessee (.83 psychiatrists per 10,000 population).

Figure 1: Physicians with a Primary Care Specialty in Psychiatry per 10,000 Population, North Carolina Psychiatrists, 1995-2004



Relative to population growth, the supply of psychiatrists in the state has remained fairly constant over the past 10-year period, although recent growth has slowed slightly (**Figure 1**). North Carolina's relatively good supply is due, in part, to past investments in medical education and residency training programs in the state. **Figure 2** shows that 27% of the state's psychiatrists went to a North Carolina medical school while 55% completed their residency in North Carolina. While the retention rate of residency programs is typically greater than that of medical schools, psychiatrists are even more likely than all physicians to have completed a North Carolina residency program (55% versus 35% respectively).[5]

Figure 2: Location of Medical School and Residency, North Carolina Psychiatrists, 2003



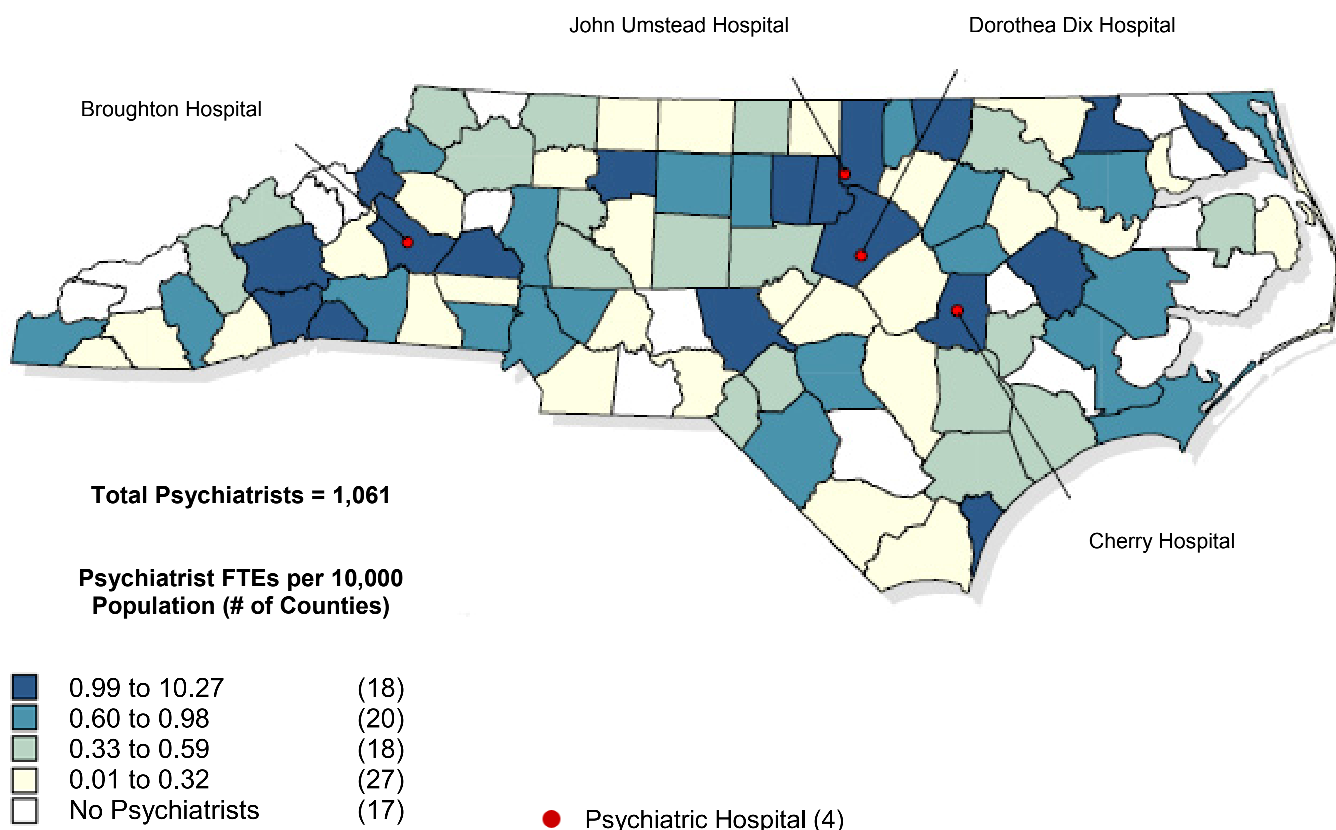
Psychiatry residency programs in the state are located at the four academic medical centers of

- ECU/Pitt County Hospital,
- Wake Forest University/Baptist Hospital,
- UNC-Chapel Hill/UNC Hospitals, and
- Duke University Medical Center.

Residents at all four programs receive part of their training in public community mental health settings around the state through the NC AHEC Program. These AHEC rotations give residents exposure to community mental health issues and opportunities to work with community psychiatrist preceptors.

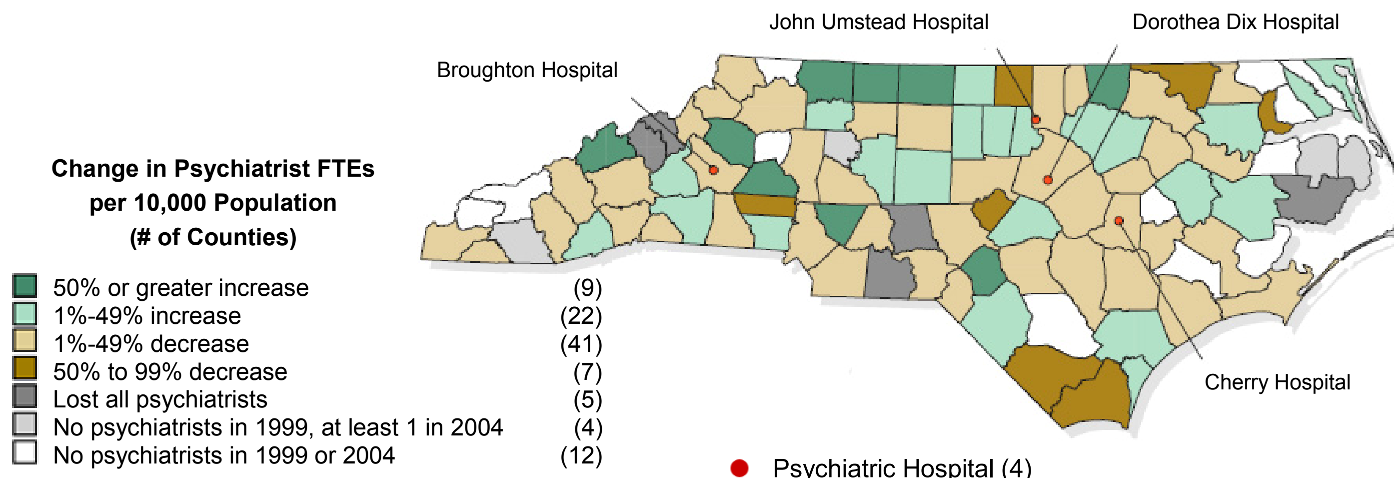
In 2004, there were 17 counties with no psychiatrists **(Figure 3)**. Another 27 counties have fewer than .33 psychiatrists per 10,000 population, the level required for federal designation as a mental health professional shortage area.[6] Generally, the supply of psychiatrists is greatest in areas surrounding the state's four mental health hospitals, in counties with major medical centers and in large metropolitan areas. When the data are aggregated by LME, they show that no LME is without a psychiatrist practice location but three LMEs—Lee/Harnett, Johnston and Rockingham—have fewer than .33 psychiatrists per 10,000 population, the federally designated shortage level (data not shown).

Figure 3: Psychiatrist Full-Time Equivalents per 10,000 Population, North Carolina, 2004



Although Figure 1 showed that the overall supply of psychiatrists per 10,000 population has not changed significantly in the past decade, examining the change in supply at the county level over the past five years reveals a different picture **(Figure 4)**. Between 1999 and 2004, 5 counties lost all their psychiatrists, 48 counties experienced a decline in their supply relative to population growth, and 12 counties had no psychiatrists in either 1999 or 2004. Taken together, these data mean that in the last five years nearly two-thirds of North Carolina's counties have experienced a decline in psychiatrist supply or have had no psychiatrists.

Figure 4: Change in Psychiatrist Full-Time Equivalents per 10,000 Population, North Carolina, 1999 to 2004



Psychiatrists are less likely than physicians with other specialties to locate their primary practice in a rural area or in a county that has been persistently designated as a primary care health professional shortage area (HPSA) (**Table 2**). In 2004, 15.6% of psychiatrists reported a primary practice in a rural area compared to 21.6% of physicians with other specialties. Nearly 29% of psychiatrists practiced in a part or whole county HPSA compared to about 38% of other physicians. After adjusting for population in 2004, metropolitan counties had about almost three times as many psychiatrists as non-metropolitan counties and counties not designated as HPSAs had nearly twice as many psychiatrists as part county HPSAs and more than five times as many psychiatrists as whole county HPSAs.

Table 2. Primary Practice Location of Psychiatrists and Non-Psychiatrist Physicians, North Carolina, 2004

	Non-metropolitan counties	Metropolitan counties	Whole county HPSAs	Part county HPSAs	Not a HPSA
Psychiatrists (%)	15.6	84.4	2.1	26.4	71.5
All Other Physicians (%)	21.6	78.4	3.3	34.6	62.1
Ratio of Psychiatrists per 10,000 Population	0.58	1.49	0.30	0.83	1.63

Distribution of Psychiatrists Relative to Primary Care Physicians

Of the 17 counties in 2004 that had no psychiatrists in 2004, seven of these counties have also been designated as whole county primary care health professional shortage areas. Viewed from another angle, 19 counties in North Carolina face a persistent shortage of primary care physicians; 11 of these 19 counties qualify as having a psychiatrist shortage using federal designation criteria. Examining the supply of psychiatrists relative to primary care physicians is important because in the absence of psychiatrists, the burden of diagnosing and managing mental illnesses will likely fall on primary care or other physicians.

Child Psychiatrists

Relative to population, the supply of physicians with a primary specialty in child psychiatry has declined 24% over the past decade **(Figure 5)**.

Figure 5: Physicians with a Primary Specialty in Child Psychiatry per 10,000 Child Population, North Carolina, 1995-2004

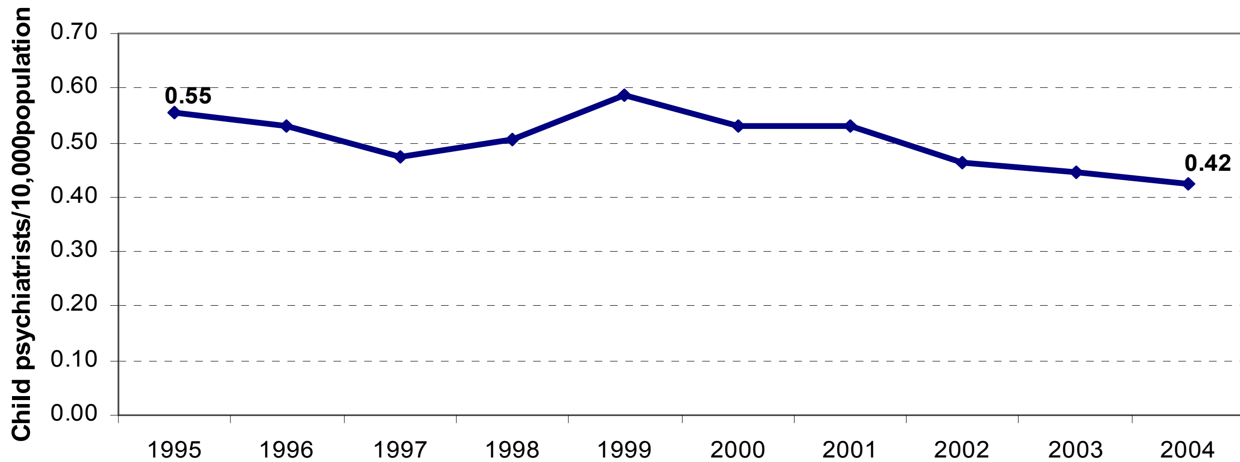
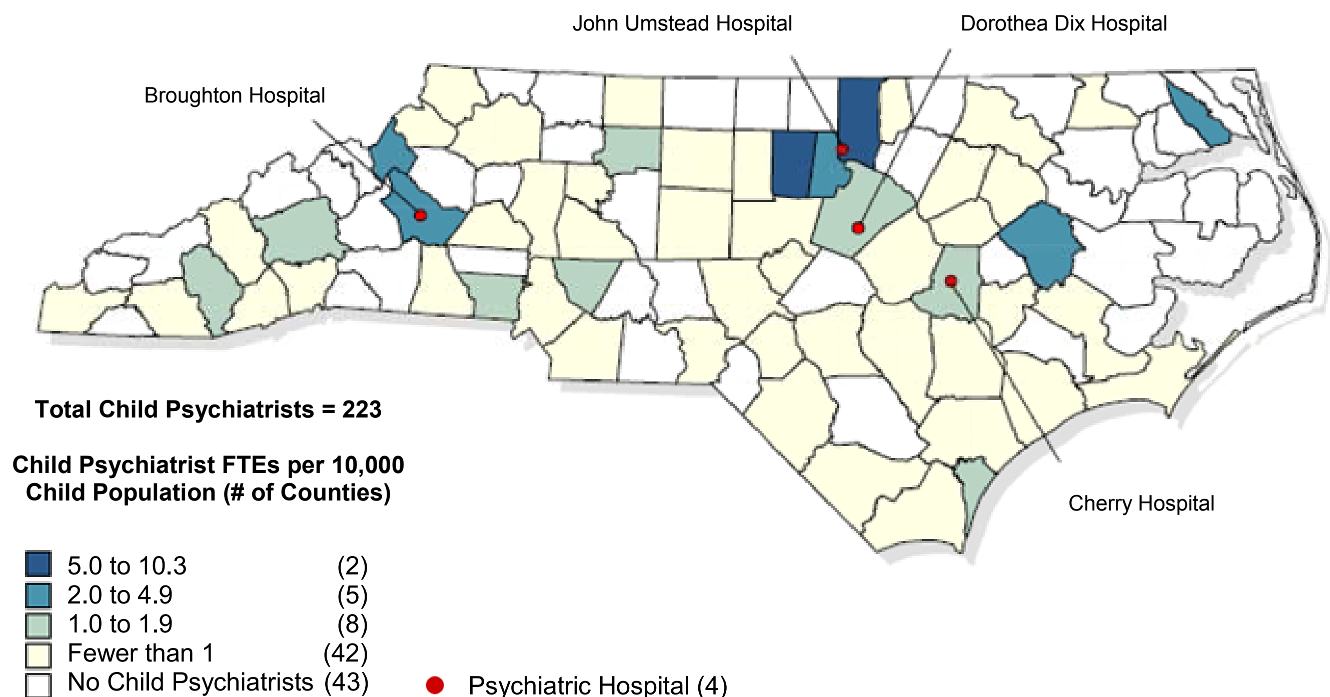


Figure 6: Child Psychiatrist Full-Time Equivalents per 10,000 Child Population, North Carolina, 2004

In 2004, 43 counties North Carolina had no child psychiatrists and another 42 counties had fewer than one child psychiatrist full-time-equivalent per 10,000 population age 18 and under **(Figure 6)**.



Summary and Conclusions

1. North Carolina currently ranks 20th in the nation in psychiatrists per 10,000 population; however, due to the state's rapid population growth, the situation may worsen unless action is taken to increase the supply of psychiatrists.
2. Forty-four counties in North Carolina have a shortage of general psychiatrists.
3. North Carolina faces a critical shortage of child psychiatrists—43 counties have no child psychiatrists.
4. Roughly two-thirds of North Carolina counties lost psychiatrists relative to population growth or had no psychiatrists in the past five years.
5. Primary care providers may be particularly hard-pressed to provide mental health care, even if only prescribing psychiatric medication, in the counties in which they and psychiatrists are in short supply.
6. Due to slowing growth in the supply of psychiatrists, public mental health provider groups and especially rural provider groups may face stiff competition in recruiting and retaining psychiatrists in their practices.
7. North Carolina psychiatric residency training programs and their Area Health Education Center community psychiatry rotations provide a relatively high yield in adding to North Carolina's psychiatric workforce. Given current shortages, it is important for psychiatry residencies to maintain or increase their number of graduates and for policy makers to explore mechanisms to encourage these graduates to enter practice in North Carolina.

Policy Considerations

One potentially fruitful policy option would be to convene a task force of key stakeholders to review existing data on the supply and distribution of psychiatrists and child psychiatrists in the state and develop a set of recommendations to address key areas of concern. This task force could develop a "North Carolina Plan" similar to those developed in other states to address these workforce shortages.[7] The charge of the taskforce could include:

- Targeted incentive plans to improve the supply and distribution of psychiatrists, such as a "Psychiatrist Service Corps", that would tie loan repayment to service in under-served areas.
- Exploring state and local mechanisms to provide stable employment settings for psychiatrists serving publicly-funded patients throughout the state.
- Exploring mechanisms to improve reimbursement for psychiatrists serving publicly-funded patients, including the Medicaid program.
- Exploring state and local mechanisms to address the pressing shortage of child psychiatrists.
- Fostering mechanisms to reduce the isolation of psychiatrists in practice settings. One mechanism to consider is strengthening the ties of psychiatrists to academic medical centers, their affiliated Area Health Education Centers, or other networks of colleagues.
- Developing financially viable models for integrating mental health professionals into primary care settings and integrating primary care services into mental health settings.
- Pursuing telemedicine and other psychiatric consultation models for primary care providers and other clinicians that are financially sustainable.
- Developing distance learning networks to strengthen and extend the competencies of primary care providers, psychiatrists and other mental health professionals in caring for mentally ill populations.
- Developing new educational programs for other health professionals (i.e. nurse practitioners and physician assistants) with competencies in mental health care.
- Developing innovative models of team-based psychiatric care to improve the efficiency of the existing psychiatric workforce.

Methodology

Psychiatrist data contained in this brief are from the North Carolina Health Professions Data System and are derived from licensure information collected by the North Carolina Medical Board. Physicians in North Carolina are required to renew their licenses annually and to report their specialty, practice locations and other employment characteristics. In this brief, the term "psychiatrist" refers to physicians reporting a specialty of psychiatry, child psychiatry, psychoanalysis, psychosomatic medicine, addiction/chemical dependency, forensic psychiatry or geriatric psychiatry. Child psychiatrists are those physicians reporting a specialty in child psychiatry.

In 2004, 1,030 physicians reported a primary specialty in psychiatry and an additional 31 physicians claimed a primary specialty in a non-psychiatric field but a secondary specialty in psychiatry (27), child psychiatry (2) or forensic psychiatry (2). In addition to their primary practice location, physicians can report up to three practice locations on their annual licensure form. Of the 1,061 physicians reporting a primary or secondary specialty in psychiatry, all had a primary practice location where they worked an average of 34.7 hours per week, 303 had a secondary practice location where they practiced an average of 13 hours per week and 81 had a tertiary practice location where they averaged 8 hours per week. In 2004, 93 physicians reported a primary specialty in child psychiatry and additional 130 reported a secondary specialty in child psychiatry. All 223 reported a primary practice location where they practiced an average of 35 hours per week, 68 had a secondary practice location in which they worked an average of 15 hours per week and 21 had a third location where they practiced an average of 8 hours per week.

All maps in this brief account for physicians with a primary or secondary specialty in psychiatry or child psychiatry and also for multiple practice locations. Full-time equivalents are calculated by allocating the proportion of each psychiatrist's total hours spent in each of three possible practice locations.

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Sources for Figures 1-6

LINC, 2005; NC DHHS, MHDDSAS, 2005. North Carolina Health Professions Data System, 2004, with data derived from the North Carolina Medical Board.

Data include active, instate, non-federal physicians claiming a primary specialty of psychiatry, child psychiatry, psychoanalysis, psychosomatic medicine, addiction/chemical dependency, forensic psychiatry or geriatric psychiatry.

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