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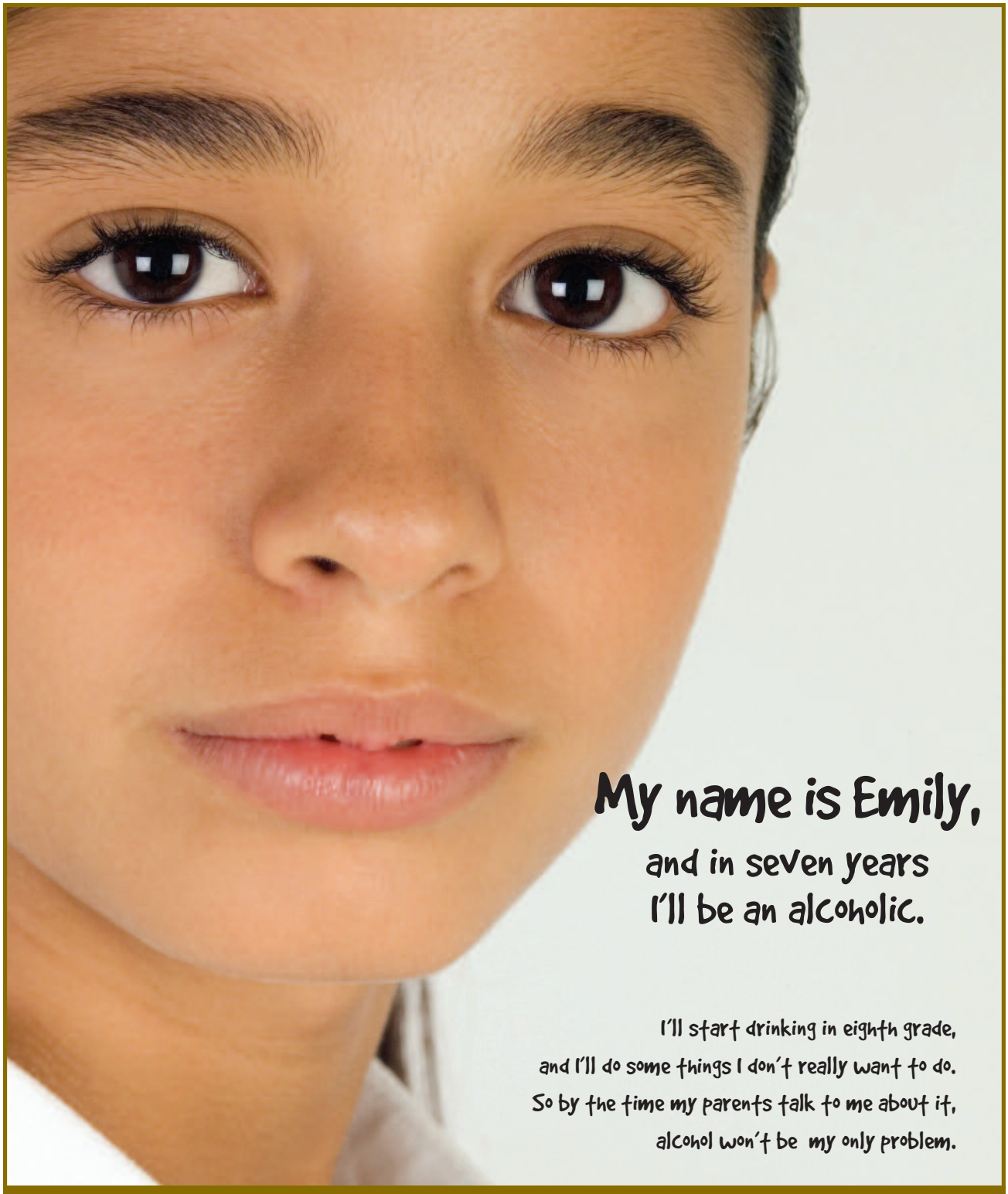

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CALL FOR SUBMISSIONS

The run up to the November election brought a lot of attention to health reform. Both major candidates presented relatively complete plans for major changes in the way we pay for health care and how we structure our health care delivery system. The appointments by President Obama point to a sustained effort to implement real change. This has prompted many experts and representatives of patients, providers, and payers to propose their own plans for reform. The *North Carolina Medical Journal* will be taking a part in this discussion with a section of the *Journal* devoted to articles and analyses that focus on reform. We would like to invite submissions that help the readership of the *Journal* understand why reform may be necessary, how the system should be changed, and how national reform will affect North Carolina. We invite scholarly discussions and analyses as well as commentaries that help illustrate the benefits as well as the problems that comprehensive change will bring to the costs, quality, and outcomes of health care and to the health of the people of North Carolina. The first installment of this new series starts on page 20 of this issue of the *Journal*.

North Carolina MEDICAL JOURNAL

Publishers of the *North Carolina Medical Journal*

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In 1983 the North Carolina General Assembly chartered the North Carolina Institute of Medicine as an independent, quasi-state agency to serve as a nonpolitical source of analysis and advice on issues of relevance to the health of North Carolina's population. The Institute is a convenor of persons and organizations with health-relevant expertise, a provider of carefully conducted studies of complex and often controversial health and health care issues, and a source of advice regarding available options for problem solution. The principal mode of addressing such issues is through the convening of task forces consisting of some of the state's leading professionals, policymakers, and interest group representatives to undertake detailed analyses of the various dimensions of such issues and to identify a range of possible options for addressing them.

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The *North Carolina Medical Journal* (ISSN 0029-2559) is published by the North Carolina Institute of Medicine and The Duke Endowment under the direction of the Editorial Board. Address manuscripts and communications regarding editorial matters to the managing editor. Address communications regarding advertising and reader services to the assistant managing editor. This publication is listed in *PubMed*.

Managing Editor: Christine Nielsen, MPH, 919.401.6599, ext. 25 or christine_nielsen (at) nciom.org. **Assistant Managing Editor:** Phyllis A. Blackwell, 919.401.6599, ext. 27 or phyllis_blackwell (at) nciom.org. **Graphic Design:** Angie Dickinson, angiedesign (at) windstream.net. **Printing:** The Ovid Bell Press, Inc, 1201-05 Bluff Street, Fulton, MO 65251, 800.835.8919. **Annual Subscriptions (6 issues):** Individual $42.80 ($40 plus 7% NC tax). Institutional: $64.20 ($60 plus 7% NC tax).

The *North Carolina Medical Journal* (ISSN 0029-2559) is published bimonthly: January/February, March/April, May/June, July/August, September/October, and November/December. Periodicals postage paid at Morrisville, NC 27560 and at additional mailing offices. **POSTMASTER:** Send address changes to the *North Carolina Medical Journal*, 630 Davis Drive, Suite 100, Morrisville, NC 27650. **Canada Agreement Number:** PM40063731. Return undeliverable Canadian addresses to: Station A, PO Box 54, Windsor, ON N9A 6J5, Email: returnsil (at) imex.pb.com

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Tarheel Footprints in Health Care

Recognizing unusual and often unsung contributions of individual citizens who have made health care for North Carolinians more accessible and of higher quality

Flo Stein, MPH

Don't let her small stature and soft-spoken nature fool you. Flo Stein leaves a large footprint wherever she goes as an innovator, leader, and advocate for people with substance abuse problems, as well as those with mental health concerns and developmental disabilities. As chief of Community Policy Management in the North Carolina Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMHDDSAS), Flo's responsibilities extend to all aspects of community services planning, development, and evaluation within the state's Local Management Entities (LMEs) and in the local provider system.

A proud Washington state native from a military family, Ms. Stein moved to Wilmington, North Carolina, and began her career here in 1971 as a substance abuse prevention specialist with the New Hanover County Drug Abuse Committee. She graduated with a BA degree in social sciences from the University of North Carolina at Wilmington and subsequently completed her master's of public health (MPH) degree in Health Policy and Administration from the University of North Carolina at Chapel Hill (UNC). Flo is a passionate UNC supporter and "bleeds blue" like most true Tarheels.

While completing her education, Flo founded and was the first director of Open House, Inc., a 24-hour crisis center providing counseling, shelter, and free medical care in New Hanover County. Flo subsequently served as the clinical director, deputy director, and executive director of Cape Fear Substance Abuse Center, Inc., a not-for-profit comprehensive drug prevention and treatment program where she developed the Treatment Accountability for Safer Communities (TASC) program and established a nationally recognized prison treatment program.

Moving her efforts to the state level in 1987, Ms. Stein began her work in DMHDDSAS's "Challenge 87" Substance Abuse Community Coalition Initiative and the early development of statewide adolescent substance abuse services. This work was closely coordinated with the work of Dr. Jonnie H. McLeod, chair of the Governor's Council on Alcohol and Drug Abuse and the Governor's Interagency Advisory Council on Alcohol and Drug Abuse among Children and Youth. Since then, Flo has taken on an ever-increasing amount of responsibility within DMHDDSAS from assistant chief to chief of the Substance Abuse Services Section to her current position as chief of the Community Policy Management Section. In this capacity, Flo is responsible for overseeing all aspects of community care for individuals and their families affected by substance abuse, mental illness, and developmental disabilities.

Flo has served on numerous statewide and national commissions, task forces, expert panels, and advisory groups, and has impacted services for persons with substance abuse and other disabilities, including funding and policy development, community corrections, AIDS services, welfare reform, women's services, and national outcomes measures. Within the state, Ms. Stein has been recognized for her leadership and service as a recipient of the Norbert L. Kelly Award, presented by the Addiction Professionals of North Carolina, as well as awards from the North Carolina Substance Abuse Professional Practice Board, the North Carolina Association of Behavioral Health Care, and the North Carolina Association of Drug Abuse Directors.

On the national level, Flo has provided outstanding leadership and advocacy for substance abuse, mental health, and developmental disabilities for many years. In November 2008, she was appointed by the Substance Abuse and Mental Health Services Administration (SAMHSA) to its National Advisory Council. The SAMHSA National Advisory Council is a 12-member panel of experts who advise the US Department of Health and Human Services Secretary and SAMHSA's administrator on a wide range of public health matters related to prevention, treatment, and recovery support services.

continued on page 6

North Carolina MEDICAL JOURNAL
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January/February 2009, Volume 70, Number 1 | Published by the North Carolina Institute of Medicine and The Duke Endowment

PEER-REVIEWED ARTICLES

POLICY FORUM

Substance Abuse in North Carolina

COMMENTARIES

DEPARTMENTS

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Throughout her career, Flo has prominently supported services to persons in the criminal justice system. She was awarded the 2003 State Leadership Award from National Treatment Alternatives for Safer Communities "for her exceptional leadership, unprecedented partnership, devoted service, and outstanding contributions to improve the lives of substance abusing individuals in the criminal justice system." Flo has been recognized repeatedly for her many years of service to the National Association of State Alcohol and Drug Abuse Directors (NASADAD) and currently serves as its president. NASADAD is the substance abuse single state authority membership organization that works to foster and support the development of effective alcohol and other drug abuse prevention and treatment programs across the nation. NASADAD also serves as the focal point of the states and territories in the examination of alcohol and other drug-related issues with federal agencies and other national organizations.

Two outstanding North Carolina women who have inspired Flo are Johnnie Horn McLeod, MD, of Charlotte, and Nancy Bryan "Lady" Faircloth. Dr. McLeod is a tireless advocate for drug treatment services in this state and recipient of the US National Library of Medicine "Local Legends Award: Celebrating America's Local Women Physicians." "Lady" Faircloth, a 1982 "Tarheel of the Week," mentored Flo in her early years within the North Carolina Department of Human Resources.

Flo is married to L. Worth Bolton, a fellow UNC graduate employed by the UNC School of Social Work and himself a longtime advocate and professional counselor for people with substance abuse problems and other disabilities. Flo is also the proud mother of one daughter, Kim Stein-Hoppin, a practicing attorney, and a granddaughter Emma, the charm of Flo's life. Flo loves to garden and is a long-time member of the Friends of the JC Raulston Arboretum at North Carolina State University. She celebrates her Danish heritage through involvement with Raleigh's Friends of Scandinavia, loves antiquing, and when traveling, loves to have the opportunity to visit local museums.

North Carolina is privileged to be the home of such a tireless and influential advocate for the citizens of our state and of our nation.

Contributed by
Spencer Clark, assistant section chief, and Joan Kaye, projects manager, of the Community Policy Management Section of the North Carolina Division of Mental Health, Developmental Disabilities, and Substance Abuse Services.

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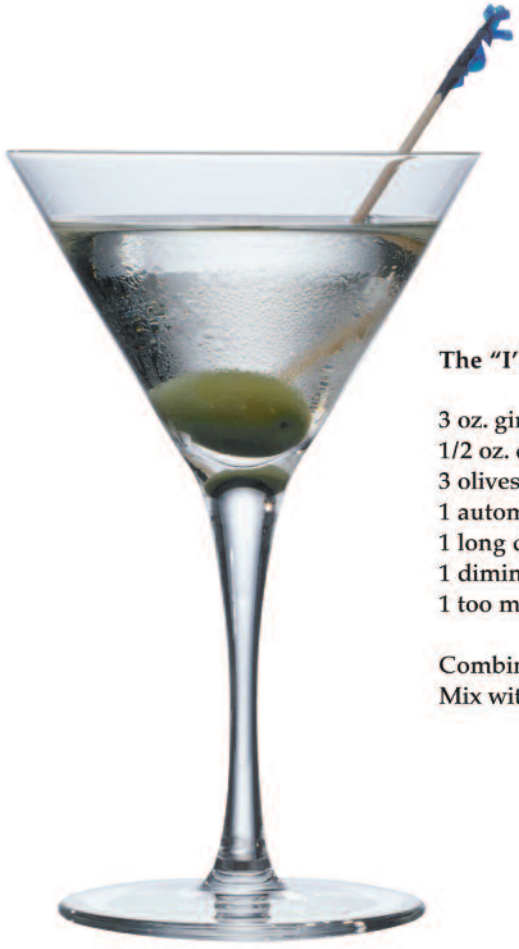

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Mix with sharp turn, telephone pole.

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Buzzed driving is drunk driving.

PEER-REVIEWED ARTICLE

Perceptions vs. Reality:
Measuring of Pleural Fluid pH in North Carolina

Mark R. Bowling, MD; Arjun Chatterjee, MD, MS; John Conforti, DO; Norman Adair, MD; Edward Haponik, MD; Robert Chin Jr, MD

Abstract

Background: *Pleural fluid pH anaerobically handled and measured by a blood gas analyzer (BGA) is used to define a pleural space infection as complicated and predict the life expectancy of patients with malignant pleural effusions. Pleural fluid pH can also be measured by other less accurate methods. It is unknown whether physicians who use pleural fluid pH measurements are aware of the method used by their laboratories.*

Methods: *We surveyed 90 pulmonary physicians in North Carolina about their use of pleural fluid pH and their hospital laboratory's approach (pH indicator stick, pH meter, or BGA). We then contacted their hospital laboratories to determine the actual method of pH measurement.*

Results: *Twenty-eight (31%) pulmonologists in 11 North Carolina hospitals responded on their use of pleural fluid pH. Of the 20 pulmonologists who order pleural fluid pH, 90% reported that their hospital measures pleural fluid pH via BGA, but the majority (72%) were inaccurate. Only two of 11 hospitals reported that they measure pleural fluid pH with a BGA.*

Conclusion: *Almost two-thirds of the chest physicians that order pleural fluid pH to help manage pleural effusions were using information that is not substantiated by the literature and, despite previous reports, hospitals still use suboptimal methods to measure pleural fluid pH. Further information is needed concerning the barriers to physicians and laboratory practices concerning the use of BGA for the measurement of pleural fluid pH.*

Keywords: *pleural effusion; pleural fluid pH; complicated parapneumonic effusion; malignant pleural effusion*

It is estimated that there are four million cases of community-acquired pneumonia in the United States annually with one-quarter requiring hospitalization.[1] Parapneumonic effusions complicate the course of 57% of patients with bacterial pneumonia.[2-4] Coupled with other clinical information, the measurement of the pleural fluid pH is important in the management of pleural space infections and malignant pleural effusions.[2-17] Appropriate management using pleural drainage may decrease hospitalization, prolonged systemic toxicity, ventilatory impairment, further spread of the inflammatory reaction, and possible mortality.[6] Light and Sahn reported that a pleural fluid pH of less than 7.1 defined the pleural effusion as complicated and predicted that pleural drainage would be necessary to avoid pleural fibrosis and resolve pleural sepsis, whereas a pH ≥ 7.3 would predict resolution with systemic antibiotics alone.[12,17] Jiménez Castro and colleagues have demonstrated that pleural fluid pH has the highest diagnostic accuracy for identifying complicated parapneumonic effusions.[11] The most recent American College of Chest Physicians (ACCP) consensus panel on the medical and surgical management of parapneumonic effusions recommends that pleural fluid pH is the preferred

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pleural fluid chemistry test and should be measured via blood gas analyzer.[6] In patients with a malignant pleural effusion, a pleural fluid pH of less than 7.3 may suggest that the patient has a limited life expectancy from the time of diagnosis and may fail chemical pleurodesis.[8,10,18-21] Although the accurate measurement of pleural fluid pH is relevant to the care of patients with complicated pleural fluid infections and malignant pleural effusions, there has been little reported about the use and knowledge of this measurement by chest physicians.

Three methods with unique performance characteristics are commonly used to measure pleural fluid pH: blood gas analyzer (BGA), pH meter, and pH indicator stick.[22,23] Cheng and Lesho have demonstrated that the measurement of pleural fluid pH with a blood gas analyzer is the most accurate of these, but other methods are used widely.[22,23] Chandler and associates reported that 68% of hospital laboratories in the southeastern United States measured the pleural fluid pH with either pH indicator stick or pH meter and not by BGA.[24] In a similar national survey of 220 hospital laboratories, Kohn and colleagues also reported varied approaches: pH meter (35%), BGA (32%), and pH indicator stick (31%).[25]

The laboratory measurement of pleural fluid pH with any method other than a BGA poses problems for the practicing physician. If the sample is not measured by a method that is validated in the literature, then the resulting data may not be appropriate to guide clinical decisions. The use of pH meter or indicator stick can overestimate pH.[22] This may lead to a diagnostic misclassification of the effusion, a potential underestimation of the gravity of the problem, and under-treatment of the condition. Furthermore, if the physician believes that the sample is being measured by the standard method that has been validated in the literature (BGA), but in fact it is not, then an inappropriate clinical decision may be made.

The goal of this study was to determine the knowledge of practicing pulmonologists about the measurement of pleural fluid pH by hospital laboratories and the actual methods used to measure pleural fluid pH by their own hospital laboratories.

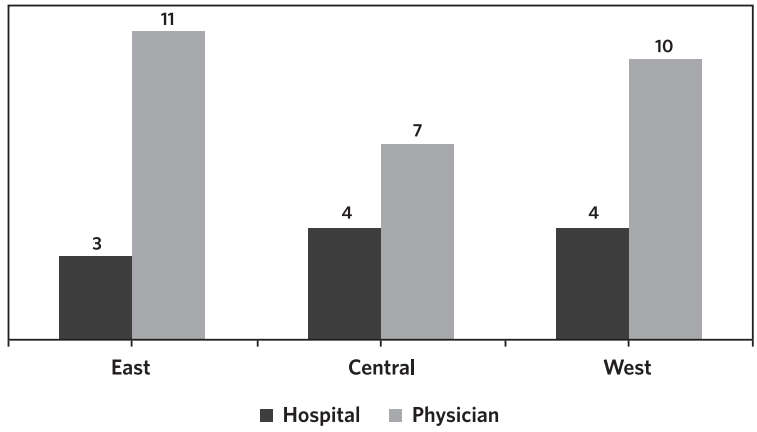
Methods

From July of 2006 to September of 2006 we contacted 90 pulmonary physicians in North Carolina, identified by registration with the North Carolina Medical Board and membership with the American College of Chest Physicians (ACCP), via email, fax, or telephone. We then asked them to complete a survey concerning their use of pleural fluid pH in patients with pleural effusions and to report how their hospital laboratory measures pleural fluid pH from a list of three methods: pH indicator stick, pH meter, or BGA. We then contacted the individual hospital laboratories (within 30 days of receiving the physician's responses) used by these pulmonologists and asked what method they used to measure pleural fluid pH: pH indicator stick, pH meter, or BGA. Each laboratory and physician was contacted only once. This study was approved by the Wake Forest University School of Medicine Institutional Review Board.

Results

Thirty-one percent (28/90) of the surveyed North Carolina pulmonary physicians responded to our questionnaire and practiced at 11 different North Carolina hospitals (100% of the hospitals were contacted; 11/11), including 2 university medical centers. Physicians and hospitals were distributed across the state (see Figure 1). Proportions of responses by physicians and laboratories were calculated reported, and compared to one another (see Table 1). The responses to each question are summarized below.

Figure 1.
Number of North Carolina Hospital Laboratories and Pulmonologists Surveyed Per Region



Do you order pleural fluid pH?

Seventy-one percent (20/28) of respondents reported that they order pleural fluid pH and 28.6% (8/28) reported they do not.

To your knowledge, how does the hospital laboratory measure the pleural fluid pH: pH indicator stick, pH meter, or through a blood gas analyzer?

Seventy-five percent (21/28) of responding pulmonologists reported that their hospital laboratory measures pleural fluid pH by BGA, 3.6% (1/28) by pH indicator stick, 3.6% (1/28) by pH meter, and 17.9% (5/28) did not know how their hospital measures the pleural fluid pH (see Figure 2).

Pleural fluid pH measurement by North Carolina hospitals

Eighteen percent (2/11) of the hospitals surveyed (one of two of the university medical centers) reported that they measure pleural fluid pH by BGA, 36.4% (4/11) by pH meter, and 45.5% (5/11) by pH indicator stick (see Figure 2).

Table 1.
Pulmonologist Perception of pH Measurement in 11 North Carolina Hospitals

Hospital	Pulmonologists surveyed	Perceived method of pH measurement	Actual pH measurement	Percentage of physicians who were correct in their perception of pH measurement
1	1	IS	IS	100%
2	1[a]	DNK	MT	0%
3	3	BGA	MT	0%
4	1	BGA	MT	0%
5	2	BGA	BGA	100%
6	1	BGA	IS	0%
7	3	BGA	IS	0%
8	1	BGA	IS	0%
9	3	BGA	BGA	100%
10	7[b]	5 BGA 1 MT 1 DNK	MT	14%
11	5[c]	2 BGA 3 DNK	IS	0%

a This physician did not order pleural fluid pH.
b Two out of these seven pulmonologists did not order pleural fluid pH.
c None of these pulmonologists ordered pleural fluid pH.

IS = Indicator stick DNK= Did not know BGA = Blood gas analyzer MT = pH meter

Accuracy of physicians perceptions of pleural fluid pH by North Carolina hospitals

Fifty-seven percent (16/28) of the respondents had inaccurate perceptions of how pleural fluid pH was measured by their hospital laboratory, 25% (7/28) were accurate, and 17.9% (5/28) did not know how the pleural fluid pH is measured by their hospital.

Of the physicians who order pleural fluid pH, 30% (6/20) had accurate knowledge of how their hospital measures pleural fluid pH (83% or 5/6 BGA; 17% or 1/6 pH indicator stick), and 70% (14/20) had inaccurate perceptions of how pleural fluid pH was measured. Most (18/20, or 90%) of the pulmonologists who ordered pleural fluid pH perceived that the hospital laboratory was using a BGA, but 72% (13/18) were inaccurate in this belief. For these physicians (those who order pleural fluid pH and perceived the measurement was by BGA), the hospitals (n = 8) had varying approaches: 24% (2/8) of the hospitals actually measured pleural pH with a BGA, 37.5% (3/8) with a pH meter, and 37.5% (3/8) with a pH indicator stick.

Among the eight physicians who reported they do not order pleural fluid pH, only one knew their hospital's approach (pH meter).

Discussion

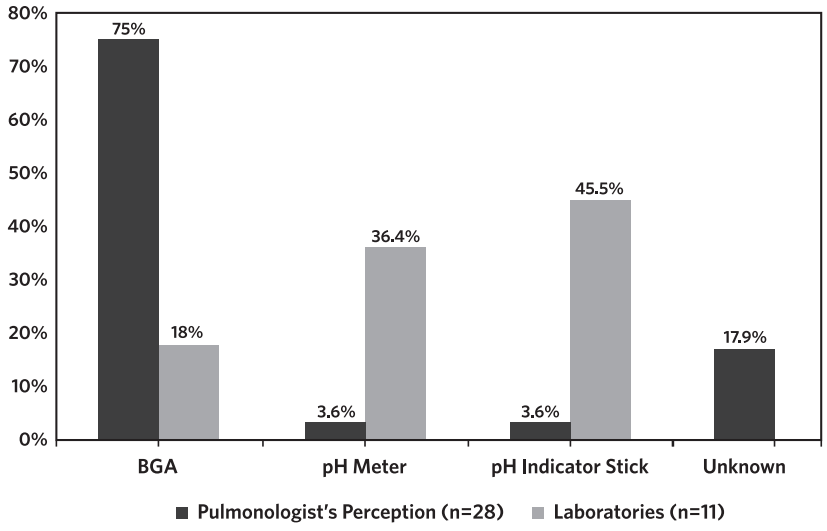
Our survey has demonstrated that the majority of responding pulmonary physicians in North Carolina order pleural fluid pH, but there is a substantial discrepancy between the clinicians' perceptions of the method measurement of pleural fluid pH by their hospital laboratories and the actual method; only 30% of the ordering pulmonary physicians knew the method used by their own hospital laboratory. Most of the surveyed physicians (75%) believed that the pH was being measured by BGA (the approach consistent with the literature[6,7,9-12,15-17,20,21]) but of these, 72% were mistaken about the method used. To our knowledge, this is the first report of discordance between pulmonologist perceptions and the reality concerning the measurement of pleural fluid pH. This implies that clinical decisions could be made based on data that is not supported by the literature. Furthermore, our data is consistent with previous reports that laboratories continue to use methods other than BGA to measure pleural fluid pH.[24,25]

Cheng and colleagues established the accuracy of the BGA in measuring the pH of pleural fluid handled in the ideal fashion (anaerobically with rapid measurement) and demonstrated that both pH meter and indicator stick significantly overestimated the pleural pH.[22] The mean pleural fluid pH measured by BGA was 7.42 ± 0.01 compared to the mean pleural fluid pH measured by a pH meter and indicator stick of 7.58 ± 0.02 and 8.23 ± 0.06 respectively. Cheng also reported that the 95% confidence interval for the precision of the pH meter and indicator stick was ± 0.26 and ± 0.80 respectively.[22] Since the clinically significant change in pleural pH is approximately 0.3 pH units (pH 7.4 to < 7.1), neither the pH indicator stick nor the pH meter are precise enough to be clinically accurate. Although other clinical indicators of complex pleural pathophysiology are available and useful, if the pulmonologist is unaware or mistaken about the method of measurement, a discordant pleural pH result can lead to confusion and the test will not be cost effective. Yet, by our survey, a majority of North Carolina pulmonary physicians place value in this measurement while the minority of pleural pH measurements is done by the recommended method (BGA).

Eight of the 28 responding chest physicians reported that they do not use the measurement of pleural fluid pH to

characterize pleural fluid. The reasons for the under use of this potentially helpful test are unclear and might reflect perceived technical difficulties or inconvenience in anaerobic handling of specimens; however we did not address this in our study. Additionally, three of these physicians (those that do not order pleural fluid pH) believed that their hospital laboratory used BGA to measure pleural fluid pH, which suggests that they may have had concerns other than the perceived inaccuracy of the approach to measurement. One can speculate that this may be due to their reliance upon other measures, perhaps substituting LDH or glucose instead of pH, in characterizing complicated pleural effusions or other undefined factors.[6,9] Heffner and colleagues reported that pleural fluid pH was measured in 28 of 38 patients with complicated parapneumonic effusions and in only 5 out of 10 patients who underwent "delayed" pleural fluid drainage.[2] More information is needed regarding barriers to physician's use of pleural fluid measurements.

Figure 2.
Comparison of Pulmonologist's Perception of Pleural Fluid pH Measurement by Their Hospital Laboratory and the Actual Method Used by Hospital Laboratories



Interestingly, only 2 of our 11 surveyed hospitals in North Carolina use a BGA to measure pleural fluid pH. This is consistent with Chandler's finding that 32% of laboratories in the Southeastern United States used a BGA to measure the pH of pleural fluid.[24] Selected laboratories we surveyed volunteered several concerns, although it was not a routine part of our formal questioning. These included reports that the protein content in the exudative pleural fluid possibly obstructed or damaged the BGA (a belief reported by Lesho and Chandler).[23,24] While it is clear that frank pus should not be evaluated for pleural fluid pH (nor should it be needed), it is unlikely that the protein content alone can damage these machines since the protein content of pleural fluid is less than whole blood.[24,26] Additionally, some of the laboratories volunteered that the manufacturers warn that the BGA is validated only for whole blood and that the measurement of pleural fluid pH by a BGA is not FDA-approved (except for one BGA by Roche, the OMNI). The measurement of pleural fluid pH by a non-FDA approved BGA is considered a complex test (defined by adherence to strict guidelines for precision and accuracy testing) by the Clinical Laboratory Improvement Amendments (CLIA). Further information is needed about barriers to BGA use by hospital laboratories but one may relate to the cost effectiveness to perform a complex test.

There are several limitations to our study. The number of pulmonologists we surveyed was small (28 of 90), and these findings may be biased by selective responses and may not be a valid estimate of North Carolina pulmonologists or chest physicians outside of North Carolina. However, our response rates are similar to those reported in literature.[27] We did not investigate why some pulmonologists do not order pleural fluid pH. Further, we did not examine how the sample was collected and if it is handled and processed in an anaerobic manner, factors which influence the accuracy of the test. Venkatesh demonstrated that aerobic storage of pleural fluid resulted in a clinically important overestimation of pleural fluid by pH meter and BGA of 0.14 – 0.16 pH units ($p < 0.05$). He felt that both anaerobic handling of the specimen and rapid measurement throughout the process (albeit difficult in real practice) were the keys to accuracy especially if utilizing a pH meter to measure pleural pH.[28] We did not make a routine part of our questioning to the hospital laboratories as to why they use a particular method to measure pleural fluid pH as our goal was to determine the method used by the laboratories and if the pulmonologist was aware of the method of pH measurement. Only pleural fluid pH measured by BGA has been validated by clinical investigations.[2,5-7,9-12,15,16,18-21,29]

We found that the majority (75%) of pulmonologists either did not know how pleural fluid pH was measured by their hospital laboratory (17.9%) or had inaccurate perceptions concerning the measurement of pleural fluid pH by North Carolina hospitals (57%). Fundamentally, the clinical value of a test is in its validation in a particular clinical scenario. Pleural fluid pH is useful in the management of complex pleural effusions; however, its value is diminished when it is measured by methods other than a BGA which may lead to erroneous management decisions especially if the clinician is unaware of the inaccuracy of the test when a BGA is not utilized. This represents a lost opportunity to improve the care of patients with pleural effusions. If these findings are confirmed, the barriers to more optimum practices by physicians and laboratories should be identified and corrected. **NCMJ**

Acknowledgements: *The authors would like to thank Richard Light, MD, and Steven Sahn, MD, for their guidance and input with this research.*

Financial Disclosure: *This study did not receive any financial support, and the authors had no proprietary interest in any drug, device, or equipment mentioned in the submitted article.*

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PEER-REVIEWED ARTICLE

Postpartum Glucose Tolerance Screening in Women with Gestational Diabetes in the State of North Carolina

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Abstract

Objective: *To determine how frequently health care providers taking care of women with gestational diabetes mellitus (GDM) are screening for postpartum glucose tolerance and what practice approaches they are using to care for women with GDM.*

Methods: *A mailed survey assessed health care providers' knowledge of GDM and practice patterns. Factors influencing practice protocols for measuring glucose tolerance postpartum were identified.*

Results: *Of 1,002 eligible North Carolina health professionals, 399 responded (40%); 327 of these (82%) were providing prenatal and postpartum care and returned the completed surveys. Almost all providers (98%) screen for GDM, and the majority (97%) use the 50-gram one-hour glucose challenge test. Only 21% of respondents always screen for diabetes mellitus (DM) postpartum. The most common method for screening was the 75-gram two-hour glucose tolerance test (54%). The factors most commonly associated with failure to screen were patients lost to follow-up, patient inconvenience, and inconsistent screening guidelines. A majority (59%) stated that increased reimbursement would have little to no impact on their consistency in providing diabetic counseling.*

Conclusions: *The rate of postpartum glucose tolerance testing is low in this study of providers of postpartum care. Several modifiable barriers to screening were identified. There is a need for improved screening practices and early intervention that could help prevent the complications of DM and benefit subsequent pregnancies in this high risk population.*

Keywords: *gestational diabetes mellitus; diabetes mellitus; pregnancy*

The worldwide rise in the prevalence of diabetes mellitus (DM) has substantially affected women's health care. Up to 70% of women diagnosed with gestational diabetes mellitus (GDM) develop DM later in life.[1] Less than half of women with GDM will have a normal glucose tolerance test 24 months after delivery.[2] This has a substantial impact on future pregnancies in this high risk group, as rates of poor neonatal outcome are three to nine times higher in infants born to mothers with diabetes.[3] Not unexpectedly, there are signs that both the rate of GDM and postpartum DM are also on the rise.[1,4,5] Women diagnosed with GDM have a 36-70% risk of developing GDM in subsequent pregnancies.[6] Identifying this high-risk population sooner and providing closer follow-up care could have a positive impact on their long-term health.[7] Assessing glucose tolerance postpartum provides an opportunity to target individuals that would benefit from interventions such as exercise plans and dietary modifications with the goal of stopping or delaying the progression of diabetes.[8] In fact, a recent large randomized trial showed a significant reduction in progression to diabetes in patients with glucose intolerance with either lifestyle modifications or metformin compared to placebo.[9]

Postpartum glucose tolerance testing is supported and recommended by the American Diabetes Association (ADA)

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in women whose pregnancies are complicated by GDM.[10] The American College of Obstetricians and Gynecologists (ACOG) recognizes the importance of such testing but does not endorse any specific recommendations for follow-up.[11] Despite this fact, there continues to be a large proportion of women with GDM that fail to be screened for glucose tolerance in the postpartum period. In addition, the women that are screened are not always tested with the optimum methods.[12,13] In this study, we will determine how often health care providers are screening for postpartum glucose tolerance in women with GDM and identify potential barriers to screening.

Methods

A list of 1,085 active, in-state practitioners (who provided prenatal care) was compiled from public access state licensure files and primary care association membership rolls in the state of North Carolina. After excluding those who had retired, moved out of state, or had an incorrect address, a final list of 1,002 practitioners was made. In 2005-2006, we mailed a questionnaire to this group that included physicians and practitioners in obstetrics and gynecology, family practice, and midwifery who had a complete address. Based on a review of the literature, the lead author developed a questionnaire that sought to determine screening status for patients with GDM. Items were then reviewed by coauthors for face validity. The finalized three-page, 28-item questionnaire required approximately 10 minutes to complete. We remailed the survey to each eligible practitioner that did not reply to the first request. Questionnaires were excluded from analysis if the answers were incomplete or if the practitioner was not currently providing prenatal and/or postpartum care. A cover letter stressed the importance of accurate reporting for the purpose of improving the GDM screening process in North Carolina women's health clinics and private practice centers and to potentially increase the number of perinatal services provided to all women in North Carolina. No incentive was offered for completion of the survey.

The University of North Carolina Institutional Review Board approved the study. The survey was endorsed by the North Carolina chapter of the American College of Nurse-Midwives, the North Carolina Academy of Family Physicians, the North Carolina section of the American College of Obstetricians and Gynecologists, and the North Carolina Department of Health and Human Services.

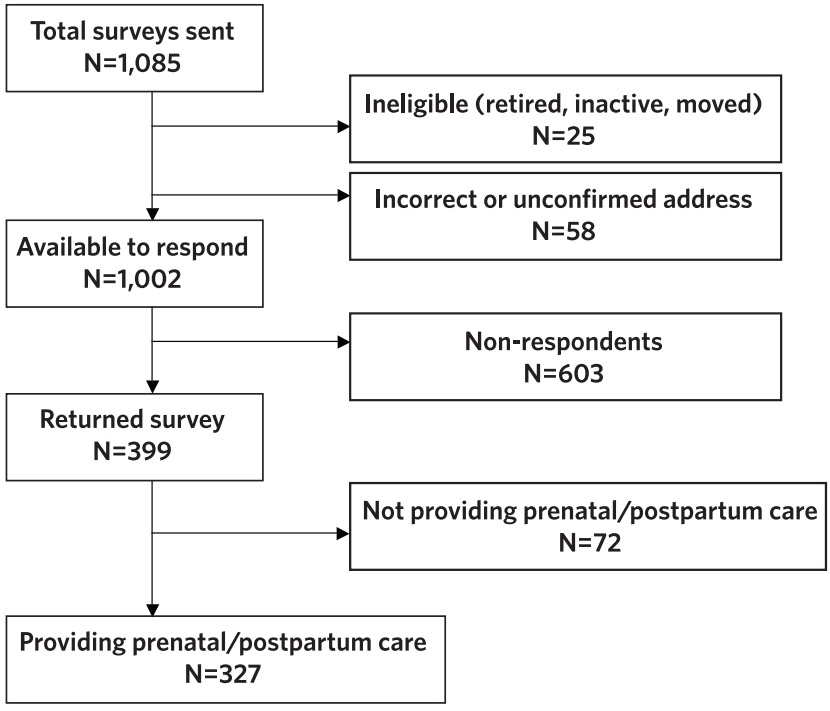
The first part of the survey consisted of questions regarding the demographics of the practitioners, practice type, and the patient population. Providers estimated both the proportion of their patients diagnosed with GDM and the average number of postpartum patients seen monthly. The goal of the survey was to assess how frequently providers screened for DM in the postpartum period in women diagnosed with GDM in their practice. This was assessed utilizing a Likert scale from 1 (never) to 5 (always). The rest of the survey had to do with how providers cared for their patients with GDM. Specific areas addressed in these questions concerned basic knowledge of GDM and its long-term risks, screening methods for GDM and for postpartum glucose tolerance, its impact on future health, and factors influencing the follow-up care.

Returned surveys were coded and double-entered by staff, and patterns in the missing observations were assessed. We performed descriptive statistics and univariate analysis. The chi-square test assessed bivariate associations for the main outcome.

Results

Of the 1,002 eligible practitioners to whom surveys were mailed, 399 were returned completed for an overall response rate of 40% (see Figure 1). When asked whether or not they provide prenatal and/or postpartum care, 327 (82%) answered yes and were asked to complete the remainder of the survey. If respondents replied no, they were instructed

Figure 1.
Participation in the North Carolina Collaborative Survey on Gestational Diabetes Mellitus



to return the survey, leaving the remaining questions unanswered. The average age of all respondents was 48 years with 51% being male. Most respondents were white (90%). On average, they completed their residency or clinical training 17 years ago. When asked about their practice specialty, just over one-half (55%) stated it was obstetrics and gynecology. The next most common answers were midwifery (20%) and family practice (20%). The remaining 5% that responded included maternal fetal medicine specialists, family planning providers, and other women's health-related clinicians. About one-half (58%) of respondents stated their practice consisted of 2-10 providers. Within this subset, 87% report that their practice is single specialty only. Table 1 summarizes descriptions of the patient load for each practitioner.

An overwhelming majority of respondents (98%) report screening all pregnant women for GDM. Out of this number, 97% use the 50-gram one-hour glucose challenge test (50 grams of glucose administered in 150 mL of fluid with blood sugar checked at one hour; cutoff ≥ 130 mg/dL). Other methods included fasting and postprandial blood sugar, urine glucose, and glycosylated hemoglobin (HgA1c). Almost all respondents (96%) that screen for GDM do so between 25-29 weeks. Half of those surveyed (48%) indicated that 6-10% of their patients were diagnosed with GDM. When asked from whom their patients with GDM received care, 49% stated that it was their usual prenatal care provider. One-fourth (25%) obtained a consultation from a specialist before resuming care of their patients. Other common answers included transfer of care to either a specialist within their practice or referral to a specialist outside of their practice. Additionally, 20% use a nutritionist or diabetes care team within their own practice to assist in management.

When asked about postpartum care of patients with GDM, only 21% of respondents always screen for DM. Another 43% usually screen, and 20% reported only screening sometimes. Sixteen percent rarely or never screen. Primary specialty did not have an impact on the likelihood of postpartum DM screening.

Of those that do screen for DM in women with a history of GDM, the most common time to screen was four to six weeks postpartum (45%) followed by seven to eight weeks (29%). Only 54% of those who screen for DM postpartum use the 75-gram two-hour glucose tolerance test to screen patients in the postpartum period that had GDM (75 grams of glucose with blood sugar checked fasting and then at two hours; cutoff ≥ 126 mg/dL for fasting and ≥ 200 at two hours). The other common screening methods reported included random blood glucose (19%), postprandial glucose (11%), and the 50-gram one-hour glucose challenge test (8%).

Table 1.
Patient Demographics Reported by Respondents

	Frequency (N)	Percent (%)
Postpartum patients seen each month		
<5	43	13
6-10	130	40
11-20	118	36
21-30	24	7
>30	12	4
Proportion of postpartum patients on Medicaid		
<20	114	35
21-40	78	24
41-60	69	21
61-80	43	13
>80	23	7
Proportion of African American postpartum patients		
0	3	1
<10	50	15
10-25	128	39
26-50	104	32
51-75	33	10
76-95	6	2
96-100	3	1
Proportion of Latino postpartum patients		
0	1	<1
<10	165	50
10-25	117	36
26-50	25	8
51-75	8	2
76-95	11	3
96-100	0	0

After the postpartum period in patients with GDM, 35% of providers assess for glucose tolerance every year, and 14% screen every three years. A high number of respondents (47%) indicated that they do not perform any routine screening.

Respondents were also asked what systematic approach they use for postpartum follow-up of patients with GDM. Just over half (55%) responded that they primarily depend on counseling by physician. Other approaches included a method for documenting screening in the medical record (21%) and counseling by staff (14%). One-fifth (20%) reported that they did not have a specific approach.

When asked what proportion of women with a history of GDM develops GDM in a subsequent pregnancy using pre-set categories, a plurality (44%) believed it to be between 31-60%, which was followed by 1-15% (23%). Another 21% believed that the number is greater than 60%. Respondents were also questioned as to what percentage of patients with GDM will develop overt DM later in life. A majority (58%) believed this number to be anywhere from 31-60%, with 13% stating the number was greater than 60%.

Finally, we identified factors that respondents felt influenced practice protocols for assessing glucose tolerance postpartum (see Table 2). Respondents were asked to list all of the factors that affected their practice of screening women with a history of GDM. The most commonly reported factor was that patients were lost to follow-up (50%); the next most common factors were patient inconvenience (32%) and inconsistent guidelines (27%). Other responses included patient refusal (18%), patient cost (17%), and reimbursement (16%); 9% of those responding stated that assessing glucose tolerance postpartum was not considered necessary. When asked if increased reimbursement would affect the consistency with which providers would provide diabetic counseling, 59% said it would have little to no impact while 19% said it would have a substantial to very substantial impact.

Table 2.
Factors Influencing Practice Protocols for Assessing Postpartum Glucose Tolerance

Factor	Responding Providers (N)	Percent (%)
Lost to follow-up	165	50
Patient inconvenience	104	32
Inconsistent guidelines	87	27
Patient refusal	59	18
Patient cost	56	17
Reimbursement	53	16
Practice too busy	43	13
Inadequate prenatal/ delivery information	42	13
Collaboration with specialists	42	13
Availability of continuing medical information on subject	37	11
Not considered necessary	31	9
Breast-feeding	8	2

Discussion

We found that in a diverse group of North Carolina practitioners responsible for managing women with GDM, only one-fifth routinely screen for glucose tolerance postpartum. Of those that do screen, only one-half do so with the 75-gram two-hour glucose tolerance test, the method recommended by the ADA and supported by ACOG. These organizations also state that postpartum testing is best performed at least six weeks after delivery to allow the effects of pregnancy on glucose metabolism to resolve.[10,11] Approximately three-fourths of the respondents in our survey indicated that they screen between four to eight weeks postpartum. This low screening rate conflicts with the acknowledgement by a majority of the providers that the recurrence rate for GDM is high and a large number of patients will go on to develop overt diabetes.

The low rate of postpartum glucose tolerance assessment in patients with GDM noted in our study is consistent with several other recent studies.[12-14] Smirnakis and colleagues reported that 67% of the women with GDM in their observational cohort study received some form of screening postpartum. However, only 37% of this population had the method of testing recommended by the ADA (75-gram two-hour glucose tolerance test). In a retrospective cohort study by Russell and colleagues, only 45% of women had postpartum glucose tolerance testing consisting of a 75-gram two-hour glucose tolerance test or a fasting plasma glucose. Finally, Kim and colleagues reported that only 38% of patients with GDM reported some form of glucose testing, with only 23% tested with the current recommended methods.

Despite the low rate of postpartum glucose tolerance screening in women with GDM reported by our respondents, an overwhelming majority (98%) screen for GDM in pregnancy. This is consistent with the finding of a study by Gabbe and colleagues that found that 96% of their survey population endorsed universal screening for GDM. In their study, 95% used the 50-gram glucose challenge test, which is recommended by both the ADA and ACOG.[15] Our respondents indicate that they use this test 97% of the time. In addition, almost all of those surveyed screen at the correct time of 25 to 29 weeks gestation.

There are several factors noted in our study that influence postpartum glucose tolerance testing. The reason most frequently given by our respondents was that patients did not return for their follow-up visit. This is supported by another one-third of those surveyed stating that patient inconvenience was an

important factor. This is in keeping with other studies that have noted that attendance at the postpartum visit is a major factor in glucose testing.[13,16] Employing strategies that improve attendance at the postpartum visit may increase testing rates and provide another opportunity to counsel and educate women concerning the implications GDM can have on their future health.

Inconsistent guidelines with respect to assessing glucose tolerance postpartum is also a significant barrier to testing. The ADA provides recommendations and gives clear guidelines as to methodology of screening and long-term follow-up in these women.[10] In ACOG's current practice bulletin concerning GDM, no specific endorsement of such testing and follow-up is given.[11] Other studies have called for ACOG to make formal recommendations in this matter in hopes of increasing the rates of testing.[12] However, there is evidence to suggest that this may not help as much as one would think. Clark and colleagues showed that even after the Canadian Diabetes Association published specific guidelines for postpartum glucose tolerance assessment, the rate of testing did not improve in subsequent years.[17] Despite this conflicting evidence, it seems reasonable that clearer guidelines could have a measurable impact on testing rates.

We specifically addressed concerns regarding provider reimbursement in our study to assess its impact on postpartum glucose testing. Only 17% of respondents felt it was a significant factor, and over one-half stated that increasing reimbursement would have minimal to no impact on the consistency with which they provide diabetes counseling. Only one-fifth commented that this would have a significant impact with respect to providing this service. From the results of this survey, it is difficult to conclude whether or not increased reimbursement would have a beneficial effect on postpartum glucose testing rates.

This study has several potential limitations. Our response rate is somewhat low at slightly less than 40%, and our findings may not reflect actual practice patterns of providers in the state of North Carolina. The characteristics of nonresponders were not available to this project, and these practitioners' practices may differ from those that responded. The responses in this self-reported data may reflect the desire to provide the correct and accepted answer and may therefore actually overestimate the true rate of screening for DM in the postpartum state. Also, we decided to include all providers responsible for providing care to women with GDM, including family practitioners and midwives. However, despite the diversity of our respondents, the high rate of screening for GDM in pregnancy with the guidelines recommended by ACOG and the ADA was similar to a large survey that only included obstetricians.[15] The low rates of postpartum glucose tolerance screening that we report are also noted in several other studies.[12-14] The consistency of our findings with these other studies indicates that our results may reflect actual practice patterns.

The increasing rate of both GDM and DM poses a significant threat to the health of both pregnant and nonpregnant women. There is growing evidence that women with GDM are not receiving optimum follow-up after delivery. Strategies to improve postpartum glucose tolerance testing are needed. Further investigation is warranted given that an earlier diagnosis of DM could reduce the complications of this disease in women. In addition, there is potential benefit to the future pregnancies in this high-risk population. **NCMJ**

Funding: *Funding for this study was received from an educational grant from Matria Healthcare.*

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HEALTH REFORM IN NORTH CAROLINA

Lessons from the Past and Prospects for the Future

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"It is the intent of the General Assembly to: develop a universal health care program to provide all North Carolina residents access to quality health care that is comprehensive and affordable."

House Bill 729, Ratified July 14, 1993

We are now entering a time when health reform has become a very popular if unresolved issue. In 2008, both presidential candidates made promises that they would bring significant change to the way we pay for and organize health care. Candidate McCain spoke of major changes in how insurance was to be regulated and health benefits taxed with the goal of ensuring that all Americans would be covered by some form of insurance or would have a safety net system available to them. Candidate Obama had a different approach to achieving many of the same goals. The campaign discussions around health reform were often accompanied by warnings to both candidates to avoid the failures of the early 1990s when President Clinton tried to push comprehensive reform.

Meanwhile, several states have been pushing ahead with reforms of their own—Massachusetts has passed a broad mandate, California considered but defeated one—however North Carolina is not among those considering comprehensive change. This may be the case because North Carolina, like the nation, thought seriously about major reform in the early 1990s but gave up on the effort, and that shift has kept us from trying again. In the current discussion of reform, especially given the focus in the presidential campaign, we ought to reflect on the past and learn from what was effective and produced genuinely positive results. When state level reformers come together today, they spend a great deal of effort looking to Massachusetts and California. But there is a lot to learn from our own experience in North Carolina.

Health reform in North Carolina in the 1990s was the product of a relatively small group of legislative leaders who tried to capture the impetus of national reform efforts to change the way health care was organized, paid for, and delivered in the state. The North Carolina Health Planning Commission was created by the General Assembly at the close of the 1993 session and passed as Chapter 529 of 1993 Session HB 729, the Jeralds-Ezzell-Fletcher Health Care Reform Act. The Commission was given a high profile as it was chaired by Governor Hunt with Speaker Dan Blue and President Pro-Tempore Marc Basnight serving as vice-chairs. The other 13 members included Lieutenant Governor Dennis Wicker, and influential members of the Assembly including Senators George Daniel, James L. Forrester, Ted Kaplan, Beverly Perdue, and Sandy Sands along with House members Dub Dickson, Karen Gottovi, Joe Mavretic, Richard Moore, and Thomas Wright. Secretaries Robin Britt of Human Resources and Jonathan Howes of Environment, Health, and Natural Resources were also members of the Commission.

The Commission was charged by law with "developing a universal health care program to provide all North Carolina residents access to quality health care that is comprehensive and affordable." The Commission was to create that plan and present it to the General Assembly in its 1995 session. There were some caveats in the bill that made the implementation of a "universal health care program" contingent upon a "national mandate for universal coverage," or appropriate waivers from the Employee Retirement Income Security Act (ERISA), Medicaid and Medicare rules, or if the General Assembly determined it could implement a program within existing law. Still, it operated under an expression of anticipated, broad scale reform of the health care system.

The mechanism for generating the plan for reform was to create 17 separate committees charged with developing specific and actionable recommendations for the General Assembly. Those committees were co-chaired by a full member of the Commission along with a member of the public or a recognized expert in state government. They were created to represent the wide range of stakeholders who would have to be called upon to ensure the passage of system-wide reform legislation.

The Health Planning Commission made a number of specific recommendations that fell into seven major categories: (1) expanding coverage to the uninsured; (2) controlling rising health care costs; (3) expanding services in rural and urban medically underserved areas; (4) changing the focus of the current health system from a curative medical system to one that focuses on keeping people healthy; (5) ensuring high quality services; (6) establishing a data and information system capable of meeting the health information needs of the future; and (7) ensuring that the health needs of at-risk populations are met. There were many specific recommendations included in the final reports of the 17 separate advisory committees that met during 1994.

The Commission delivered its final report in December of 1994, but the General Assembly it reported to had a different party in control, new leadership, and no appetite for comprehensive reform. The election of November 1994 changed the landscape for national health reform as well as reform in North Carolina. Still, the Commission was able to promote some substantive changes in North Carolina law and actually held on through 1996 in a slightly revised form as the paradoxically renamed North Carolina Health Care Reform Commission. That Commission was charged by the General Assembly in its 1995 session to become a body that would "...monitor, evaluate, address, and study a variety of issues relating to...the health care delivery system in North Carolina...with the goal of improving the health status of all North Carolina citizens."

The first commission did generate positive legislative action, but it did so with an expectation that broader changes would come eventually. A general conclusion of the Health Planning Commission was that any reform would have to be incremental. For example, they recommended that a data council should be created to coordinate the complex adoption of electronic medical records—one of many specific recommendations that did not result in action but is still discussed and relevant today.

There were recommendations that did find their way into legislation that eventually passed, including expansion of health insurance coverage for children up to 200% FPG (through Medicaid and then later, the NC Health Choice program), expansion of Medicaid coverage for the elderly and disabled up to 100% FPG, expansion of home and community based services to enable persons to remain in their home or in community-based settings, expanding portability of health insurance coverage in the group and non-group market, tort reform (including pretrial screening by a qualified expert before filing a complaint), antitrust protection for providers, and improvements for rural health access. These were largely adjustments to the existing system and not what might be called broad reform.

Despite the fact that there was little actual reform legislation passed in 1994, the extensive hearings and working sessions that resulted in the sweeping array of proposals for health system improvement was testament to the utility of this form of participatory structure for giving useful guidance for policy. When the Commission reported in the fall of 1994, it was anticipated that further changes would be made in the next session of the General Assembly. However the 1994 election changed that landscape dramatically.

The "re-established" commission had a very different structure than the original body. The 12 members of the new commission was appointed by the Speaker of the House and the President Pro-Tem of the Senate and included as co-chairs Carmen Hooker Buell, then a government affairs representative for Carolinas Medical Center, Zeno L. Edwards Jr, a state representative from Washington, North Carolina, and a dentist. The members were drawn from the House (3), the Senate (2), and major stakeholder groups in health care in the state including the North Carolina Medical Society, Blue Cross and Blue Shield of North Carolina, and the North Carolina Academy of Family Physicians.

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The Health Care Reform Commission chose to limit its meetings and the topics it would cover to a list that included primary care, children and special populations, data collection, the Department of Health, rural health, allied health issues, network issues, and long-term care. These topics were discussed in a market context as the Commission felt that their task was to provide advice and information to assist market forces to restrain increases in health care costs and improve access.

The Health Care Reform Commission submitted its final report on December 31, 1996 after receiving a six-month extension on its charter. That report included some broad recommendations, such as, "by January 1, 2000, every child in North Carolina [should] have health insurance coverage," to very specific, "state employees should be allowed to purchase group rate long-term care insurance with flex accounts." The former recommendation has not yet been achieved but led to actions that would become part of the Children's Health Insurance Program, passed in 1998. The flex program recommendation eventually became available via the State Teachers and Employees Health Plan.

Since 1996, the General Assembly has not embarked on any further broad scale legislation for health care delivery and financing but has instead tended to respond to national trends and specific state issues. As the new national administration begins to turn its attention to health financing reform, if not system restructuring, the General Assembly may find that it too wishes to address a broader set of issues in a coordinated way. What we learned from the organization and operation of the two commissions was that the broad scale involvement of over 300 citizens and leaders in the committee process could develop realistic proposals that could make it through the General Assembly. We also learned that these needed more coordination and integration. There was not enough effort put into bringing all the specific parts together. We also developed good baseline information about the problems that still face us: information systems were key in 1993 and remain so in 2009 we still are faced with a need to develop and make use of electronic health records and other forms of health information technology. We learned that changes in health insurance regulation, especially those that affected networks of providers, must be coordinated with the realities of the delivery system. We also learned that we must shore up resources in prevention and primary care to make our health system effective. Many of the hearings and testimony in the summer of 1993 and through 1994 will be germane and instructive in the coming months if North Carolina chooses to embark on a broad scale improvement of our health system. **NCMJ**

POLICY FORUM

Substance Abuse in North Carolina

"The failure to properly recognize and address the needs of people with substance abuse disorders creates considerable problems for the individual, his or her family, employers, and society as a whole."

Introduction

POLICY FORUM:
Substance Abuse in North Carolina

A fine line exists between use and abuse, between attraction and addiction. When confronting abuse of or addiction to legal substances—such as alcohol and nicotine—this fine line can be blurry and difficult to detect. Crossing the line with illegal substances—such as cocaine or methamphetamines—is clearer to determine, as society has already deemed these substances too dangerous for any use at all, and there is a perception that use of these substances often leads to addiction.

Whatever the substance of choice may be, the underlying biological mechanisms for the substance that is abused and causes addiction remain the same. These substances create short-term perceived benefits that can generate dangerous behavioral change and long-term cravings and needs. The contributors in this issue teach us that addiction is a chronic brain disease and that the time has come for us to leave behind the myth that substance abuse is simply bad behavior stemming from moral failures.

Substance abuse poses a substantial public health challenge. It generates significant population morbidity and mortality for abusers as well as for others who are not users, such as victims of car accidents where the driver was impaired. Like any other chronic disease, its initiation, progress, and treatment are complex. Due to centuries of stigma and ignorance about the disease, much of what most people believe about substance abuse is incorrect. We must seek to understand the real causes and real solutions of this problem if we are to prevent this disease and improve our health. It is not enough simply to tell someone to "quit using." The reality of someone with a substance abuse problem runs much deeper than sheer willpower or preventive policies. This is a significant challenge for health policy.

The consequences of living with a substance abuse disorder can be detrimental. Social consequences may include inability to hold a job, interpersonal conflicts, or legal troubles. Further, substance overuse can wreak havoc on the body, including doing permanent damage to the brain, heart, liver, and lungs.

Most observers see that we have an inadequate system of care that exists for treating this condition. Not enough people are accessing treatment and often, when they do, they find themselves jumbled in a broken system of care. Our current system of care for people with substance abuse problems is largely disjointed, underfunded, and ill-prepared to meet current need. The stigma associated with substance abuse has significantly contributed to this problem. There are also economic factors that contribute to the problem, as alcohol and tobacco are legal commercial products that support the livelihoods of a substantial number of people.

This issue of the *Journal* takes a look at various aspects of this problem in North Carolina. We look at the state as a whole but also provide insight into the unique needs for some high-risk populations: offenders, veterans, and those with mental illness. But the overriding message here is that this is a disease that can truly affect anyone.

Effective prevention and treatment programs do exist, and we have invited experts and advocates to describe how they work and what they can do. There is a common theme to all of these solutions: there is no one way that will reduce substance abuse to its irreducible minimum, and it takes a collaborative approach to keeping people from becoming abusers and recovering them from that state.

The lessons that are offered in our collection of articles are simple: we need to connect people with services; we need to raise public awareness and personal understanding; we need to foster a culture of recovery that includes reducing stigma and blame. Taken together, these lessons offer a comprehensive response to the face of addiction.

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ISSUE BRIEF

Substance Abuse in North Carolina

Pam C. Silberman, JD, DrPH; Representative Verla Insko; Senator Martin L. Nesbitt Jr, JD; Dewayne Book, MD; Kimberly Alexander-Bratcher, MPH; Berkeley Yorkery, MPP; Jennifer Hastings, MS, MPH; Daniel Shive, MSPH; Jesse Lichstein, MSPH; Mark Holmes, PhD

Addiction to alcohol, tobacco, and other drugs is a chronic illness, much like many of the other chronic illnesses that health care professionals regularly treat. About one-half of people with addiction disorders have a genetic predisposition to addiction, similar to people with asthma, diabetes, and hypertension.[1-3] Additionally, adherence and relapse rates are similar across these chronic illnesses. Researchers and health care professionals who study brain chemistry and addiction disorders recognize that addiction is a chronic, relapsing disease with no complete cure. The goal of treatment should be to help the individual manage their chronic condition. Yet, as a society we often view addiction as a moral failure and blame the person for his or her dependence—making it difficult for people to seek care. As a result, we have a system that is largely unresponsive to the needs of people with addiction disorders.

The failure to properly recognize and address the needs of people with substance abuse disorders creates considerable problems for the individual, his or her family, employers, and society as a whole. In North Carolina, there are approximately 642,000 people age 12 or older who used illicit drugs in the past month (7.7%) and more than 1.6 million people (19.5%) who reported binge drinking.[a,4] However, not everyone who uses alcohol or illicit drugs is addicted to these substances. Nor does the occasional or moderate use of some of these substances automatically lead to poor health outcomes. For example, some data suggest that moderate consumption of certain types of alcoholic beverages (e.g., a glass of red wine) may be protective for certain types of health problems.[5,6] Occasional use in moderate amounts must be distinguished from abuse or dependence. Abuse refers to misuse of a substance (usually in terms of frequency or quantity), which puts a person at heightened risk for adverse outcomes such as injury, motor vehicle accidents, job loss, family disruption, sexual assault, or a variety of medical conditions.

"In North Carolina, 8.5% of the population age 12 or older—more than 700,000 people—are addicted to alcohol, drugs, or both."

a Binge drinking is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a few of hours of each other) on at least one day in the past 30 days.

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Dependence or addiction connotes an emotional or physiological dependence on alcohol or drugs, where the individual loses control over his or her consumption despite the adverse and often very serious consequences in his or her life. In North Carolina, 8.5% of the population age 12 or older—more than 700,000 people—are addicted to alcohol, drugs, or both.[4]

Despite the large number of people who report addiction disorders, few people in North Carolina are receiving treatment. The 2005-2006 National Survey of Drug Use and Health reported that there were more than 550,000 people in North Carolina who reported alcohol dependence or abuse in the last year, and more than 250,000 who reported illicit drug use or abuse (see Table 1).[7,8] Yet fewer than 5% of all people age 12 or older who reported alcohol addiction or abuse, and only about 10% of the people addicted to illicit drugs, received treatment.[4] A slightly lower percentage of children age 12-17 receive treatment (5% of those with alcohol addiction and 9% of those who are addicted to illicit drugs). Even fewer young adults ages 18-24 receive treatment (3% of people with alcohol dependence or abuse and 7% of those who report illicit drug dependence).[4]

The failure to adequately reach and treat people with substance abuse disorders has significant societal implications. Alcohol and drug abuse was estimated to cost the North Carolina economy more than $12.4 billion in direct and indirect costs in 2004.[9] In 2005, more than 5% of all traffic accidents in the state were alcohol related, as were more than one-fourth (26.8%) of all traffic-related deaths.[10] Almost 90% of prisoners entering the prison system have substance abuse disorders requiring treatment, with 63% needing residential substance abuse treatment services.[11] Similarly, 43% of juveniles in the juvenile justice system are in need of substance abuse treatment services.[12] Moreover, national data suggest that alcohol and/or drug abuse are contributing factors to the placement of 75% of children who enter the foster care system.[13]

The North Carolina Division of Mental Health, Developmental Disabilities, and Substance Abuse System (DMHDDSAS), within the North Carolina Department of Health and Human Services, is charged with providing and ensuring that substance abuse prevention and treatment services are available throughout the state. Most of the direct provision of publicly-funded services is managed by local governmental agencies, called Local Management Entities (LMEs). Overall, North Carolina spent $138 million in 2006 on publicly-funded substance abuse services, a sum that left the North Carolina substance abuse system underfunded in relation to other states.[14]

The North Carolina General Assembly asked the North Carolina Institute of Medicine (NCIOM) to create a task force to study these problems and to determine why the state's substance abuse system was unable to serve more of the people in need.[b] The NCIOM Task Force on Substance Abuse Services was chaired by Representative Verla Insko, Senator Martin L. Nesbitt Jr, JD and Dewayne Book, MD, medical director for Fellowship Hall. It included 63 additional members including legislators, state and local agency officials, substance abuse providers, health professionals, consumers, educators, and other knowledgeable and interested individuals. The Task Force met a total of 15 times over 16 months. A listing of Task Force and Steering Committee members is included in the acknowledgement section at the end of this issue brief. A full report detailing the work and recommendations of the Task Force is available on the North Carolina Institute of Medicine's website, www.nciom.org. In this issue brief, priority recommendations of the Task Force are presented in bold.

Comprehensive System of Care

As noted above, many North Carolinians use, abuse, or are dependent on alcohol, tobacco, or other drugs. Some are already physically or psychologically addicted, while others engage in risky or abusive behaviors that may later result in an addiction. Reducing substance use, abuse, and dependence requires a comprehensive system of care that starts with prevention,

Table 1.
Estimates of North Carolina Population Age 12 or Older with Addiction Disorders who Receive Treatment

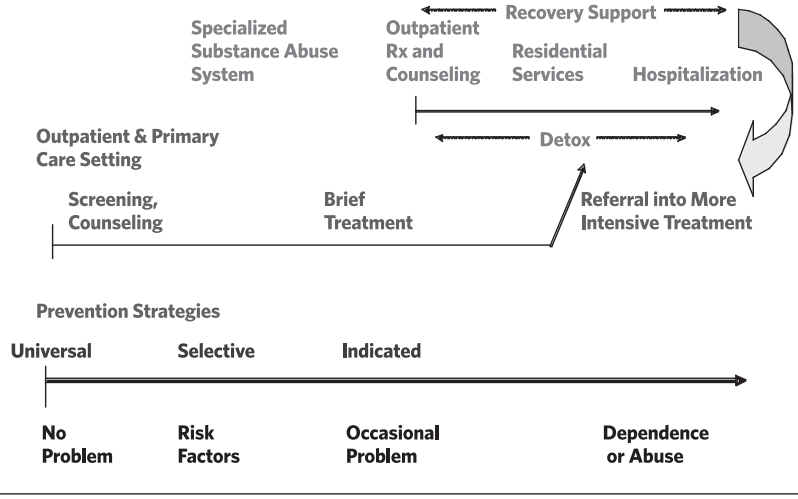
	Number	Percent
Dependence on or abuse of illicit drugs or alcohol in the past year	709,000	8.5%
Alcohol dependence or abuse in past year	551,000	6.6%
Of this, the number and percentage who report needing and receiving treatment	*25,000*	*(4.5%)*
Illicit drug dependence or abuse in past year	250,000	3.0%
Of this, the number and percentage who report needing and receiving treatment	*25,000*	*(10.0%)*

Source: Substance Abuse and Mental Health Services Administration, US Department of Health and Human Services. National Survey on Drug Use and Health, 2005-2006. Estimates of North Carolina population based on 8.3 million people age 12 or older (2008).

b §10.53 of Session Law 2007-323.

offers early intervention services before people become dependent, provides a range of treatment options that can appropriately address a person's needs, and includes recovery supports to help people with addiction disorders manage their chronic condition (see Figure 1).

Figure 1.
Comprehensive Substance Abuse Services System



Prevention

A comprehensive system of care should begin with prevention and should focus on youth and adolescents. These individuals are particularly susceptible to addiction disorders, as the prefrontal cortex region of the brain—the part of the brain associated with long-term decision-making and the ability to balance trade-offs—does not fully develop until around age 25. Early use of tobacco and/or alcohol can impact the structure and functioning of the developing brain.[15,16] David Friedman discusses the impact of substance abuse on brain development in this issue of the *Journal*. Studies show that of the adults who reported alcohol abuse or dependence in the last year, approximately one-sixth (14.7%) first began using alcohol at age 14 whereas less than 3% first began using alcohol after age 21.[17] Similarly, adults who first smoked marijuana at age 14 or younger were more likely to report being addicted to illicit drugs (15.9%) than were those who first smoked marijuana after age 18 (2.7%).[17]

Targeting youth and adolescents with evidence-based prevention strategies should be a top priority for the state. North Carolina high school students reported in the 2007 Youth Risk Behavior Survey that almost 40% of high school students had at least one drink in the last 30 days, more than 20% reported binge drinking, and almost 20% have used marijuana in the last month.[18] Further, a sizable proportion of middle school students have also used these substances. In the 2007 Youth Risk Behavior Survey, 33.6% of North Carolina middle school students reported having drunk alcohol (more than a few sips) and 11.9% of middle school students reported ever having used marijuana.[19] To be effective, communities should develop multifaceted prevention efforts that target the general population ("universal"), people at increased risk ("selective" populations), and people who have already begun to use or misuse tobacco, alcohol, or other drugs ("indicated" populations). The state has already implemented a similar multifaceted approach to reduce underage smoking. Although youth smoking is still far too high, the smoking rate has declined in recent years. Smoking among high school students has declined from 27.8% in 2001 to 19% in 2007.[20,21] There has also been a decline in smoking among middle school students. The state can build on these strategies by targeting efforts to reduce the use of tobacco, alcohol, and other drugs among youth. **The Task Force recommended that the General Assembly provide funding to pilot six comprehensive community-wide prevention efforts, prioritizing efforts to reach children, adolescents, young adults, and their parents. The communities must involve multiple community partners including: schools, community colleges, universities, LMEs, public health, social services, juvenile justice, and other community groups. Communities that are selected must conduct a local needs assessment to prioritize prevention goals and develop a plan to implement a mix of evidence-based prevention programs, policies, and strategies aimed at delaying initiation and reducing the use of tobacco, alcohol, and other drugs among children, adolescents and young adults.[c] The Task Force also recommended funding to expand campus and community coalitions aimed at reducing underage drinking.** Phillip W. Graham and Phillip A. Mooring describe successful community-based prevention campaigns in their commentary.

Public policies aimed at reducing youth smoking or drinking can also help support broader community-based prevention activities, as both tobacco and alcohol can be precursors to other illegal drug use.[22] Increasing the tax on tobacco products and alcohol has led to decreased consumption of these substances, particularly among youth who are more price-sensitive. Thus, the Task Force recommended that North Carolina increase the cigarette tax and the tax on other tobacco products to the national average, increase the excise tax on malt beverages (including beer), and periodically update the taxes for tobacco products, malt beverages, and wine. Funding generated from these increased taxes should be used for prevention programs aimed at changing the cultural norms to prevent initiation, to reduce use, and to help people stop using tobacco, alcohol

c SAMHSA has a registry of evidence-based programs (NREPP) that is searchable based on targeted populations, intervention points, and types of evaluation studies. The information is available at http://www.nrepp.samhsa.gov.

and other substances. **The Task Force also recommended prohibiting smoking in all public buildings in order to further reduce cigarette smoking and exposure to secondhand smoke.**

Early Intervention

Comprehensive prevention efforts will help reduce the number of people who use, abuse, or are dependent on tobacco, alcohol, and other drugs. However, it is unlikely that a comprehensive prevention effort will eliminate all abuse of these substances. Thus, we also need to develop early intervention programs to target the occasional user before they become dependent on these substances.

Because of the stigma associated with addiction disorders, many people with problems are reluctant to seek care from specialized substance abuse professionals. In contrast, visiting a primary care practice does not carry the same social stigma. Nationally, more than one-half of the US population visited a primary care provider in one year, compared to less than 1% of people who seek care for substance abuse services from office-based providers.[d] Primary care providers need to be able to identify both people with and at-risk of addiction disorders so they can appropriately treat their underlying health condition. Certain drugs that are appropriate to the general population are contraindicated for people with addiction disorders. Primary care providers are well situated to screen people to identify those who are using tobacco, alcohol, and other drugs, and to provide counseling and brief interventions, including medication assisted treatment. There are many new forms of medication management that are appropriate for people with substance use disorders, such as methadone, buprenorphine and naltrexone for people with opiod addictions, or disulfiram, naltrexone, and acamprosate for people with alcohol addictions.

Substance abuse screening, brief intervention, and referral to treatment (SBIRT) has been studied for over 20 years in a number of populations and settings and has been found to be effective. SBIRT has been used in rural and urban primary care practices, emergency departments, federally-qualified health centers, public health departments, and school-based health centers, and has been successful in helping reduce consumption among people who abuse alcohol and/or illegal drugs.[23-26] New federal monies are providing grants to study the effectiveness of SBIRT in prescription drug abuse.

The SBIRT model is similar in many ways to recommended clinical guidelines to screen and counsel people who use tobacco products.[27] Under SBIRT, providers screen patients to determine the severity of their use of alcohol or other drugs, provide brief counseling for those who are not yet addicted, and refer others into appropriate levels of substance abuse treatment services. The success of this model is contingent on three key factors: (1) trained primary care providers or others who can appropriately screen, provide brief interventions, and when necessary, refer to specialty treatment; (2) accessible substance abuse providers who can provide an array of treatment services and recovery supports for people with more extensive needs; and (3) coordination of care and a bi-directional flow of information between primary care providers and qualified substance abuse professionals. In her commentary, Sara McEwen discusses the elements needed to successfully implement SBIRT.

To encourage early intervention, the Task Force recommended that the General Assembly appropriate $1.5 million in recurring funds to DMHDDSAS to work with other appropriate organizations to educate health care professionals about the SBIRT model. This would include education on substance use disorders, screening tools, brief intervention/motivational counseling, referral, and treatment options. The initiative could involve a range of primary care and other ambulatory care providers. The focus, however, would be to involve primary care providers who participate in Community Care of North Carolina to facilitate the development of more comprehensive medical homes that integrate physical health, mental health, and substance abuse services. Primary care professionals would be trained to use evidence-based screening tools, offer counseling and brief intervention, and refer patients to more intensive substance abuse services when appropriate. **In addition, the Task Force recommended that public and private payers/insurers pay for substance abuse services in parity with other illnesses, as well as pay for screening and brief intervention in different health care settings.[e] The state, local LMEs, and other partners should develop systems that facilitate bi-directional transitions and coordination of care between the primary care providers and substance abuse providers.**

Recovery-Oriented System of Care

While prevention and early intervention will be sufficient to help reduce the number of people with addiction problems, there will be some people who need more intensive services. In most state level estimates of alcohol and drug use (2005-

d These data are based on NCIOM calculations using 2005 MEPS, Agency for Healthcare Research and Quality. Substance abuse visits are defined as visits for people with a substance abuse diagnosis using ICD-9 codes 303, 304, or 305. This estimate is low, as both patients and providers may face incentives to use diagnosis codes other than substance abuse.

e Subsequent to the release of the interim report from the NCIOM Task Force on Substance Abuse Services, Congress enacted a mental health parity bill. This legislation, the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008, was part of the Emergency Economic Stabilization Act of 2008, Public Law 110-343 codified at 29 USC §11815a, 42 USC §300gg-5. The new law requires businesses of 50 or more employees to provide the same coverage of mental health and substance abuse services as is provided for other illnesses—if the employer offers a plan with any coverage of mental health or substance abuse services. However, state mental health parity applies to all health insurance plans of any size. NCGS § 58-51-50; 58-65-75, 58-67-70. Similar state substance abuse parity laws should be enacted to extend parity to groups of less than 50.

2006), 8.5% of North Carolinians age 12 or older reported that they abused or were addicted to alcohol or drugs.[28] Yet few of these individuals receive treatment. Several studies suggest that the primary reasons people fail to seek or stay in treatment has more to do with the system's inability to meet the client's needs rather than the individual's lack of desire to seek help.[8,29-33] Focus groups conducted in two counties in North Carolina (Dare and Rockingham) reached similar conclusions.[34]

North Carolina needs to create a recovery-oriented system of care that includes a comprehensive array of substance abuse services and recovery supports needed to meet the clinical needs and desires of the clients. A recovery-oriented system of care begins with screenings, assessments, and brief intervention services but also offers a range of specialized substance abuse services for people with more severe addiction disorders. These services include outpatient services, medication management, intensive outpatient and partial hospitalization, clinically-managed low-intensity residential services, clinically-managed medium-intensity residential treatment, inpatient services, and crisis services (including detox). Dewayne Book discusses the array of services and medication management that is needed to effectively address underlying addiction disorders.

Many individuals with addiction disorders will also need an ongoing support system to help them manage their addiction disorders, including case management, relapse prevention, self-help, and support groups. This is similar in concept to chronic disease management provided to people with chronic illnesses. In addition to these services, some people with severe addiction disorders need other services to help address the adverse consequences resultant from years of addiction. People who have achieved sobriety may soon return to alcohol or drugs if they also fail to address issues such as homelessness, loss of employment, and/or marital or family strife. Thus, a recovery-oriented system of care should include linkages to a broader array of services such as employment services or job skill training for people who lost their jobs, or housing for homeless individuals. Others may also need help with family or marital counseling in order to stay in recovery. Donna M. Cotter more fully explains recovery-oriented systems of care in her commentary, and Kathleen Gibson describes her personal path to recovery in her commentary. **To ensure that these services are available statewide, the Task Force recommended that the state develop a plan organized around a recovery-oriented system of care that ensures an appropriate mix of services and recovery supports is available throughout the state for adults and adolescents.**

Our current publicly-funded system of care includes some of the elements needed for a recovery-oriented system of care. Prior to mental health reform, area programs (now called Local Management Entities or LMEs) provided services directly. After reform, LMEs stopped providing these services directly. Instead, LMEs contract with local substance abuse providers to provide services. LMEs are responsible for ensuring that individuals obtain services and that they receive services at an intensity level appropriate to their needs. Yet most individuals who need services are not able to access them. LMEs serving the highest percentage of the estimated need served 11% of adults and a similar percentage of children (fourth quarter, SFY 2008), whereas the LMEs serving the lowest percentage of estimated need only reached 5% of adults and 4% of children.[35]

Not only do LMEs assist few of the people with addiction disorders, state data show that many of the people who seek care through LMEs are not receiving it within the appropriate time standards. For example, individuals who need emergent care should be able to access it within two hours of first seeking treatment, urgent care within 48 hours, and routine care within 14 calendar days.

While most of the LMEs ensure that people needing emergent or urgent care receive treatment within the appropriate time standards, the LMEs have only a limited number of substance abuse providers who are actively engaging people in treatment (see Table 2). For example, individuals should receive four substance abuse visits within the first 45 days of initiating contact with the system. The state has established performance targets to ensure that at least 50% of people receiving substance abuse services through the LMEs receive the appropriate number of visits during this timeframe. Yet only six of the 24 LMEs that reported data provide four visits within the first 45 days to at least 50% of their clients. Some only meet this standard with as few as 27% of their clients. Studies show that people who stay in active treatment for longer periods of time have better treatment outcomes.[36-39]

The state's data suggest that people are not actively engaged for appropriate periods of time, and that consumers generally receive low-intensity services. For example, many people in North Carolina are receiving individual or group therapy services immediately after entry into the system. This level of treatment is not appropriate by itself for people with diagnosable addiction disorders, most of whom need some period of stabilization to address their addiction disorder. A more appropriately balanced system of care would ensure that people with addiction disorders immediately enter detox or other residential treatment program, or receive intensive outpatient services. Individual or group therapy services may be appropriate after the person has received more intensive services, if provided in conjunction with other services such as medication assisted therapies. In her commentary, Flo Stein focuses on ways to make the publicly-funded substance abuse system more accessible.

There are barriers in the current system that make it difficult for LMEs to appropriately engage people with addiction disorders. The lack of availability of a well trained workforce in many parts of the state hampers the delivery of appropriate services. Some LMEs face challenges finding providers willing to participate in the public system, given the funding levels and administrative complexities. Other states have begun to implement performance-based incentive contracts to improve the capacity of the substance abuse system.[40,41] **To address this concern, the Task Force recommended that**

Table 2.
Standards and Achievement of Care in LMEs in North Carolina (SFY 2008, 4th Quarter)

	Best Practices (State Established Performance Targets) [1]	Meeting Required Treatment Guidelines (Average LMEs)	Percentage of People who Received Recommended Treatment (LMEs)	Number of LMEs Meeting DMHDDSAS Performance Targets
Timely access to care				
Needing emergent care (statewide, 19% of people who seek services determined to need emergency care)[2]	Within 2 hours (100%)	100%	88-100%	22
Needing urgent care (statewide, 15% of people who seek services determined to need urgent care)[2]	Within 48 hours (88%)	79%	13-100%	9
Routine care (statewide, 62% of people who seek services determined to need routine care)[2]	Within 14 calendar days (69%)	68%	28-90%	13
Active participation in treatment, retention				
Number of visits when care initiated	Individuals receive 2 visits within 14 days (71%)	62%	36-82%	3
	Individuals receive 4 visits within 45 days (50%)	46%	27-63%	6
People discharged from Alcohol Drug Abuse Treatment Centers (ADATC) receiving care in community	Receive community-based service within 7 days of discharge (36%)	23%	0-53%	5

Table Notes: [1] Best practices for timely initiation of care have been adopted from the Healthcare Effectiveness Data and Information Set (HEDIS) performance measures. The best practices for active participation in treatment were adopted from the Washington Circle Public Sector Workgroup. www.washingtoncircle.org. The performance targets are set by the Division of Mental Health, Developmental Disabilities, and Substance Abuse Services to emphasize high priority areas, while trying to be realistic about what can be achieved in a single year. The goal is to continuously raise these targets as statewide performance increases. Over time, DMHDDSAS plans to establish best practice benchmarks.

[2] Timely access to care includes access for people with substance abuse problems, mental health problems, and developmental disabilities. Timely access measures are based on LME self-reported data. These data are not subject to external verification as there are no secondary data collected at the state level that records when the person first sought assistance. With other data, the state calculates the percentages based on claims data.

DMHDDSAS develop performance-based incentive contracts for LMEs to use with local substance abuse providers. The performance-based contracts should include incentives for active engagement, consumer outcomes, fidelity with evidence-based or best practices, client perception of care, and program productivity.

Specialized Services for Subpopulations

In addition to the services offered to the general public with substance abuse disorders, other services are available to certain subpopulations. Specialized services have been developed for: juvenile and adult offenders in the criminal justice system, adults in workforce settings, adults who are receiving Work First training and services or who are involved in the Child Protective Services system, and active and returning veterans and their families.

Some of the judicial districts across the state have developed specialized drug treatment courts to address the underlying substance abuse needs of people who appear in court. For example, there are currently 12 family drug treatment courts across the state. These courts oversee child abuse and neglect cases in which parents have either lost custody of their children

or are at risk of losing custody due to underlying addiction disorders. As one of the conditions of reunification, parents must agree to drug treatment and intensive monitoring. Similarly, adult drug treatment courts currently operate in 21 counties. These courts oversee the treatment of criminal offenders with addiction disorders who have been convicted of intermediate sanctions. As with the family drug treatment courts, offenders must participate in active treatment, be subject to random drug tests to determine compliance, and meet other court ordered requirements in order to stay out of prison. Kirstin Frescoln discusses the role of drug courts and challenges they face in her commentary.

In order for drug courts to be successful, the parents or criminal offenders must have access to available treatment services. Further, probation officers and/or Social Services staff must be available to monitor the individuals' compliance with the treatment regimen and other court ordered requirements. **Therefore, the Task Force recommended that whenever the General Assembly expands funding for additional drug courts, that it also provide funding for additional treatment services and needed staff.**

Approximately 90% of all prisoners entering the prison system need substance abuse services, and 63% need inpatient substance abuse services.[42] The Division of Alcoholism and Chemical Dependency offers different levels of substance abuse services to prisoners, including outpatient and residential treatment. However the North Carolina Department of Correction is only able to provide services to approximately one-third of the prisoners who need substance abuse treatment. Studies have shown that prisoners who receive treatment for appropriate lengths of time are less likely to be repeat offenders.[36-39] Further, offenders who are released on probation or parole need substance abuse services and ongoing monitoring. The Treatment Accountability for Safer Communities (TASC) program offers screening, assessment, and care management services for offenders with mental health or substance abuse services who have been placed on probation or released back into the community. TASC staff link these offenders to appropriate treatment services and work with probation officers to ensure that they stay in active treatment. But as with other services, TASC is unable to serve all those in need. Last year (SFY 2008), TASC served more than 18,000 people; however there may be as many as 75,000 people on probation who need TASC services. Additional funding will be needed to expand TASC services to more people on probation. Virginia Price provides more detailed information about available services and the gaps in treatment availability for incarcerated adult offenders in her commentary. Robert Lee Guy, Timothy Moose, and Catherine Smith discuss substance abuse issues for those on probation and parole in their commentary.

Many Active Duty and returning military personnel also use or abuse alcohol and other drugs. North Carolina currently has the fourth largest concentration of military personnel in the country. We have more than 100,000 Active Duty personnel in our seven military bases or deployed oversees and another 11,500 soldiers, marines, and airmen who serve in the National Guard or Reserves. In addition, there are more than 750,000 veterans who live in North Carolina. Almost one-fourth of all Active Duty military personnel and returning National Guard report alcohol dependence.

The Veterans Administration offers some services to returning veterans, but veterans must go to one of the 22 different Veteran Affairs (VA) medical centers or clinics to receive these services.[f] These services are not sufficient to meet the needs of all returning Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) personnel, particularly for those who are not located close to one of the VA centers. The state and federal government have collaborated with other community partners to create broader systems of care for returning veterans and their families, including mental health and substance abuse services. A. Meade Eggleston, Kristy Straits-Tröster, and Harold Kudler describe the services available through the VA and through this broader community collaboration in their commentary. One of the goals of the broader state-federal-local partnership is to create awareness and inform community practitioners about the behavioral health needs of returning veterans and their families. However more effort is needed to ensure that community health professionals check returning veterans and their families for depression, substance abuse disorders, or post-traumatic stress disorder.

Workforce

North Carolina needs an adequate supply of qualified substance abuse providers in order to be able to provide needed treatments and recovery supports. Over the last 15 years, the North Carolina General Assembly has passed several bills to enhance the skills of substance abuse professionals. In 1994, the General Assembly gave the North Carolina Substance Abuse Professional Practice Board (NCSAPPB) the statutory authority to credential different types of substance abuse professionals. Then in 2005, the General Assembly required substance abuse professionals to have appropriate training and credentials (licensure, registration, or certification)

f There are four VA medical centers, three outpatient clinics, six community-based outpatient clinics, and five Vet Centers in North Carolina. The VA medical centers are located in Asheville, Durham, Fayetteville, and Salisbury. The outpatient clinics are located in Charlotte, Hickory, and Winston-Salem. There are six community-based outpatient clinics located in Durham, Greenville, Jacksonville, Morehead City, Raleigh, and Wilmington. In addition, there are five Vet Centers located in Charlotte, Fayetteville, Greenville, Greensboro, Greenville, and Raleigh.

g NCGS 90-113.30.

from the NCSAPPB.[g] Currently, the NCSAPPB offers seven different types of substance abuse credentials, based on the person's education, hours of supervised experience, and successful completion of an exam: Licensed Clinical Addiction Specialists (LCAS); LCAS-Provisional (LCAS-P); Certified Clinical Supervisor (CCS); Certified Substance Abuse Counselor (CSAC); Certified Substance Abuse Prevention Consultant (CSAPC); Certified Substance Abuse Residential Facility Director (CSARFD); and Certified Criminal Justice Addictions Professional Credential (CCJP). People who are recognized by the board as a LCAS or CCS can practice independently and bill third-party payers. The other substance abuse providers can provide direct services to individuals under the supervision of another licensed substance abuse professional. Anna Misenheimer describes the state of the North Carolina substance abuse workforce in her commentary.

In addition to the substance abuse professionals credentialed by the NCSAPPB, other health care and counseling professionals can provide substance abuse services if allowed within their scope of license. For example, physicians, nurse practitioners, physician assistants, licensed clinical social workers, psychologists, licensed marriage or family therapists, or licensed professional counselors are authorized under their licensure laws to provide substance abuse services. Substance abuse, addiction, and dependence do not escape the health professional community. Warren Pendergast and Jim Scarborough discuss a unique program for health professionals needing substance abuse services in their commentary.

It is very difficult to ascertain the total number of people providing addiction services because of the different types of people who can provide services as part of their independent licensure, or licensure under the supervision of LCAS, CCS, clinical supervisor intern (CSI), or physicians. Nonetheless, available data about people licensed by the NCSAPPB indicate significant disparities in the availability of qualified substance abuse professionals. Eight counties lack any licensed or certified substance abuse counselors.[43] In the other counties, the ratio of people who are expected to seek services in the public system per substance abuse clinician varies from 1,465 people per one clinician in Pasquotank County to 30:1 in Polk County.[h] Although many people cross county lines to seek services, this wide disparity in the availability of qualified substance abuse counselors suggests a significant workforce shortage in many areas of the state.[i] The Task Force heard from many speakers about the shortage of qualified substance abuse professionals in our state. Thus, the Task Force recommended that the state create a substance abuse professional fellows program, similar to the teaching fellows programs. **The General Assembly should appropriate funds to start a scholarship program for individuals seeking two-year, four-year, or master's degrees in the substance abuse field. In return for the funding, students would be expected to work in North Carolina in a public or nonprofit substance abuse program for one year for every $4,000 in scholarship funding.**

As the Task Force members learned over the last 16 months, we cannot overestimate the need to reform our current substance abuse system. Our failure to adequately prevent, treat, and provide recovery supports to people with addiction problems has major adverse consequences in the state. It is one of the underlying causes of much of the social unrest we experience including crimes, motor vehicle accidents and deaths, child abuse and neglect, and family violence. We can no longer afford to stigmatize and ignore people with addiction problems. This will require a paradigm shift away from an acute care model that expects people to be "cured" after one course of treatment and from the traditional view of addiction as a moral failing. Rather, North Carolina should begin to manage dependence as any other chronic disease and provide ongoing care and support to help people remain in recovery. Creating this new model of care—with strong investments in prevention, early intervention, treatment, and recovery supports—will require the active involvement of many different agencies, providers, and treatment professionals. Services need to be available and accessible throughout the state and provided by a qualified substance abuse workforce. With relatively small investments, North Carolina can create an effective system of care that helps people reduce their reliance on tobacco, alcohol, and other drugs. **NCMJ**

Acknowledgements:

This Task Force was convened at the request of the North Carolina General Assembly and was funded by state appropriations to the North Carolina Institute of Medicine. The Task Force would not have been possible without the generosity of Task Force and Steering Committee members volunteering their time. **Co-chairs:** Dewayne Book, MD, Fellowship Hall; Representative Verla Insko, NC House of Representatives; Senator Martin L. Nesbitt Jr, JD, NC Senate. **Task Force Members:** Representative Martha Alexander, NC House of Representatives; Patrice Alexander, PhD, SPHR, Greenville Utilities; Robert H. Bilbro, MD, The Healing Place of

h This is a conservative estimate, as DMHDDSAS only anticipates that approximately 40% of youth and 48% of adults who need services will actually seek services through the public system.

i Physicians, nurse practitioners, physician assistants, and certain other licensed health professionals can also provide treatment, but available data suggest that few of these professionals do so. Data from the Health Professions Data System showed that 0.5% or less of the physicians, nurse practitioners, and physician assistants report that they practice addiction medicine or addiction psychiatry as their primary or secondary specialty area, and only about 0.2% of registered nurses report drugs or alcohol as their major clinical practice area. North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, with data derived from the North Carolina Medical Board, 2008. Data are not available about the number of licensed clinical social workers, psychologists, or psychology associates who practice in the addictions field.

Wake County; Senator Stan Bingham, NC Senate; Barbara Boyce, MA, NC Community College System; Sherry Bradsher, Division of Social Services; Carl Britton-Watkins, State Consumer and Family Advisory Committee; Anthony Burnett, MD, Julian F. Keith Alcohol Drug Abuse Treatment Center; Allen Burris, Dare County Commissioner; Dave Carnahan, MEd, Coastal Plain Hospital; Jay Chadhuri, JD, NC Department of Justice; Larry Colie, Freedom House; Chris Collins, MSW, Community Care of North Carolina; April E. Conner, Access II Care of Western North Carolina; Grayce M. Crockett, FACHE, Mecklenburg County Area Mental Health Authority; Debra DeBruhl, Division of Community Corrections; Leah Devlin, DDS, MPH, Division of Public Health; Anne Doolen, Alcohol and Drug Council of NC; Representative Beverly Earle, NC House of Representatives; Senator Tony Foriest, NC Senate; David P. Friedman, PhD, Wake Forest University School of Medicine; Misty Fulk, MEd, CSAPC, ICPS, Community Choices, Inc.; Irene Godinez, MIS, El Pueblo Inc.; Robert L. Guy, Division of Community Corrections; Robert "Bob" Gwyther, MD, University of North Carolina at Chapel Hill; Pastor Kenneth Ray Hammond, Union Baptist Church; Paula Harrington, University of North Carolina at Chapel Hill; Carol Hoffman, MS, LCAS, CCS, Sandhills Community College; Larry Johnson, ACSW, LCSW, Rockingham County Department of Social Services; Michael Lancaster, MD, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services; Tara Larson, MAEd, Division of Medical Assistance; Jinnie Lowery, MSPH, Roberson Health Care Corporation; Representative Mary McAllister, NC House of Representatives; Kevin McDonald, TROSA; Phillip A. Mooring, MS, CSAPC, LCAS, Families in Action, Inc.; Paul Nagy, MS, CSAC, CCS, Duke Addictions Program; Representative Wil Neumann, NC House of Representatives; Marguerite Peebles, MS, Department of Public Instruction; Senator William R. Purcell, MD, NC Senate; Honorable Judge James E. Ragan III, JD, Judicial District 3B; Thomas O. Savidge, MSW, Port Human Services; Jane Schairer, State Health Plan of North Carolina; DeDe Severino, MA, Wake County Human Services LME; Gregg C. Stahl, Administrative Office of the Courts; Reverend Steve Sumerel, Campbell University Divinity School; Anne B. Thomas, MPA, Dare County Department of Public Health; Karen Parker Thompson, United Family Services; David R. Turpin, MA, LCAS, CCS, SouthLight, Inc.; Leza Wainwright, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services; Michael Watson, Sandhills Center; Wendy Webster, MA, MBA, BCIAC, Duke University Hospital. **Steering Committee:** Bert Bennett, PhD, Division of Medical Assistance; Sonya Brown, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services; Spencer Clark, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services; JoAnn Lamm, MSW, Division of Social Services; Sara McEwen, MD, MPH, Governor's Institute on Alcohol and Substance Abuse; Janice Petersen, PhD, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services; Belinda Pettiford, MPH, Division of Public Health; Martin Pharr, PhD, Department of Juvenile Justice and Delinquency Prevention; Sharen Prevatte, Southeastern Regional Division of Mental Health, Developmental Disabilities, and Substance Abuse Services; Starleen Scott Robbins, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services; Flo Stein, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services; Cynthia "Syd" Wiford, MRC, CCS, CSAS, Jordan Institute for Families, University of North Carolina at Chapel Hill.

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Drug Addiction:
A Chronically Relapsing Brain Disease

David P. Friedman, PhD

Our understanding of drug addiction balances uneasily at the intersection of scientific and public knowledge. Few issues mix morality, science, public policy, and simple ignorance in such a volatile way. Older but entrenched views of addiction cast it as a moral failure, the result of weakness of will, or simply bad behavior.[1] Points of view like these logically led to the use of the criminal justice system as the solution to the addiction problem. Now, however, realizing this approach has failed, even law enforcement personnel are looking for ways to keep nonviolent drug abusers and addicts out of jail. In addition to failing to treat addiction, criminal justice approaches also reinforce the damaging stigma that surrounds addiction and which actually impairs a person's ability to seek and obtain treatment.

Recent approaches have emphasized psychological and social science hypotheses that trace the cause of addiction to a response to parental abuse or neglect or to unhealthy social conditions like poverty or inner city decay.[2] The solutions to these problems also seemed clear, though almost impossible to effectively achieve. Most recently, however, intensive neurobiological research has made an increasingly strong case that whatever other factors may play a role in the etiology of addiction, addiction itself is a brain disease.[3-5] Describing the evidence behind that conclusion will be the focus of this commentary.

The neurobiological perspective posits that whatever the initial cause of drug use or its escalation into abuse, addiction develops over time in response to repeated, high dose drug self-administration.[6] Such long-term drug abuse engages powerful conscious and unconscious learning mechanisms while at the same time altering the chemistry and microanatomy of the brain.[7,8] The resulting physical brain changes manifest themselves in changes of behavior, the most obvious being the loss of control over drug taking. While we have long known that addicts are compulsive drug users who seek and use drugs even in the face of negative personal, social, and legal consequences, the brain changes that underlie this behavioral syndrome have only recently become apparent to scientists. As a result, there is a disconnect between what the community believes about addiction and what scientists have discovered.

Recent findings indicate that the brain changes caused by long-term drug use continue to manifest themselves well into abstinence and may be a cause of the relapses into compulsive drug use that can occur long after the drug has been cleared from the body. That relapses can occur long after addicts have been detoxified is evidence of an enduring alteration of the brain, but much of the public has not yet come to clearly understand how the brain governs behavior and doesn't really understand why addicts can't simply stop, especially after they become aware of the dangers and negative consequences of drug use.

"... the more we allow our public policies to be influenced by the knowledge that science brings us, the more likely we are to develop policies that will be effective."

Why is this important? Simply put, the more we allow our public policies to be influenced by the knowledge that science brings us, the more likely we are to develop policies that will be effective. In 1973, the state of New York enacted the harsh Rockefeller drug laws, which included long, mandated prison sentences for drug possession and distribution. The logic behind these laws was that once people understood the devastating consequences of being caught with drugs, they would quickly conclude that drug use just wasn't worth it. Following New York's lead, many other states have imposed similarly severe penalties on both drug users and drug dealers.

Looking back 35 years later, however, it has become apparent that incarceration represents the worst kind of policy outcome: it is both ineffective and expensive. It has ruined far

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too many lives because of convictions for simple possession, and we have had to invest billions of dollars to build and maintain prisons in part for those caught up in the extensive sentences required by these laws. Worse, prison by itself does nothing to help or rehabilitate people addicted to drugs. Indeed, the relapse rate into drug abuse among those released from prison without treatment and follow-up care approaches 95%.[9] Because it is clear that drug users being released from prison understand that continued drug use will put them at risk for prison, it seems apparent that something is interfering with their ability to act rationally on that knowledge.

Understanding the neural basis for why drugs can overcome good judgment even in the face of harsh penalties has been the subject of intense scientific interest for only about 30 years, but we are now seeing an ever-increasing payoff from all that work. It is now clear that long-term use of addictive drugs, including alcohol and tobacco, alters the activity in and structure of a specific mesolimbic neural circuit commonly referred to as the "brain reward pathway."[4] This circuit, which comprises the neural substrate for motivation and reinforcement, includes limbic structures like the amygdala and hippocampus, the dopamine-containing neurons of the ventral tegmental area (VTA), the nucleus accumbens (NAS), and the prefrontal cortex, especially its orbital and medial portions (OMPFC). An acute effect that all addictive drugs share is to increase the release of dopamine from the terminals of VTA neurons into the nucleus accumbens and prefrontal cortex. This release of dopamine is highly correlated with reward value.[10]

Long-term use of addictive drugs has profound effects on this system. Chronic cocaine self-administration, for example, decreases the densities of dopamine receptors[11,12] and increases the density of dopamine transporters in the nucleus accumbens.[13] The decrease in the density of the D2 class of dopamine receptors appears to be a universal response to the long-term use of addictive drugs,[14] and may outlast the presence of the drug in the body by many months, if not years.[15] Moreover, drugs alter the microanatomy of neurons in the nucleus accumbens and prefrontal cortex,[16] changing the way they respond to other neural signals, including those having to do with learning and memory.

Another key region of recent interest is the OMPFC.[17] Among other functions, it helps to determine the valence (want or avoid) of potential actions and rewards and their hedonic value (strength of wanting). Drug craving induced in patients who are undergoing positron emission tomography (PET) or functional magnetic resonance imaging (fMRI) scans show that the OMPFC is particularly activated during drug craving, and that the intensity of craving is proportional to the metabolic activity in the OMPFC.[10,18] Injury to the OMPFC in non-drug users causes deficits in a person's ability to select a large reward that will be available in the future rather than a small one that is available immediately.[19] The inability to put off the short-term pleasure of immediate drug use in the face of knowledge that the future will be better without drugs is one of the characteristic deficits of addiction, and recent evidence indicates that long-term drug addicts are impaired in the same way brain-injured subjects are when trying to make this type of decision. MRI changes indicative of injury in the OMPFC have also been reported and may underlie the behavioral deficit.[20] Thus, the very ability of people addicted to drugs to make sound decisions about drug use may be undermined by drug-induced damage to the brain regions most essential in making those decisions.

Common chronic relapsing diseases have a variety of things in common. For example, atherosclerosis, type 2 diabetes, and hypertension are all characterized by:

- No cure
- Genetic risk factors
- Based in voluntary behaviors
- Cause biological changes in the body
- Can be treated with medications
- Require lifestyle changes for best control
- Relapses and treatment failures are common (due to failure to adhere to treatment regimen)

Atherosclerosis, for example, cannot be cured, but it can be controlled. There are clear genetic risk factors, and poor diet, failure to manage stress, and failure to exercise are all contributing factors. Arterial plaques are an eventual result, and while medications can reduce both the risk for and incidence of plaques, ultimate control requires changes in diet, exercise, and stress management. Less than 60% of those treated for atherosclerosis adhere to their medication or diet and exercise changes, and 30% will require retreatment within one year.

This is just like addiction. Most treatment experts agree that there is no cure, per se, but it can be controlled. Genetics account for 50-70% of the risk of addiction and, once addicted, people experience clear structural and functional changes in their brains. Medications, like methadone for heroin addiction or naltrexone for either heroin or alcohol addiction, can increase the probability of treatment success, but eventual control requires changes in lifestyle, the most important being the cessation of drug use. Relapses into drug use are a characteristic of recovery for many people.

All of these points hold true for type 2 diabetes and hypertension as well, so when we look at these key characteristics, addiction is nearly indistinguishable from other chronic diseases. A huge difference, however, occurs during treatment. Whereas failure of treatment of any of the classic diseases results in a switch to other treatment regimens or an increase in intensity of treatment, people with addictions who fail to progress or who relapse are often thrown out of treatment. Health insurance will cover multiple episodes of treatment for atherosclerosis, even treatment for multiple heart attacks, but insurance companies impose such restrictive limitations on treatment for addiction as to almost assure it will fail for most of the people who need it.[21]

The way treatment for addiction is delivered and paid for in our society reflects a failure of new scientific information to alter entrenched biases against people with addictions. Even

though their behavior is quite analogous to that of people with other chronic diseases that are brought on at least in part by lifestyle choices, people with addictions are stigmatized because a drug is involved. Because people generally don't understand how the brain controls behavior and how drugs change the brain, we shortchange treatment but pay for that many times over in downstream costs for broken families, crime, incarceration, and addiction-related diseases. We can only hope that a clearer understanding of the neurobiology of addiction and the other scientific findings about the cost effectiveness of prevention and treatment will lead to policy-making that is clear-headed and cost effective, with a focus on funding effective drug abuse prevention and addiction treatment. **NCMJ**

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Substance Abuse Screening and Brief Intervention in Primary Care

Sara McEwen, MD, MPH

Approximately 3 out of 10 US adults drink at levels that elevate their immediate and long-term risk for physical, mental, and social problems.[1] Few seek treatment from the specialty substance abuse (SA) treatment system that has traditionally targeted the very small percentage of alcohol-dependent patients (less than 5%) and does not address the needs of the 20% or so who are exceeding recommended limits.[a] These groups put themselves and others at risk of injury and increase their likelihood of developing alcohol dependence, chronic diseases, neurological impairments, and social problems (see Figure 1).[2]

In communities across North Carolina and the country, patients with SA issues are regularly presenting at local emergency departments (EDs) and the ED, in many instances, has become a default SA provider for the community. Clearly, patients are not receiving adequate identification, treatment, or support for their substance use disorders elsewhere in the community and, as a result, crises frequently bring them to the ED. This is not a good use of resources nor is it the means to providing high quality care.

If identified early and treated appropriately, substance use disorders can be successfully managed in the primary care setting without further progression. Because at-risk drinkers commonly present to primary care settings, practitioners at these sites can have significant impact in reducing the harm associated with at-risk drinking and can often motivate dependent individuals to seek treatment. This provides an opportunity for substance abuse identification and intervention that has yet to be optimally leveraged.

Integrated Physical and Behavioral Health Care

A number of health-related social and financial factors (including dissatisfaction with the carve-out model[b]) have resulted in a large-scale move to integrate physical health (PH) and behavioral health (BH), including mental health and substance use, a model known as integrated care. There are different levels and definitions in integrated care with varying dimensions and degree of integration; however a recent AHRQ study was unable to identify an optimal integration model as a number of different models were shown to be effective.[3] In other words, integrated care is widely considered the best way to ensure access to BH when it is needed, reducing the relative risk and the risk of progression to more hazardous and/or dependent use.

"If identified early and treated appropriately, substance use disorders can be successfully managed in the primary care setting without further progression."

Integrated care is a means for intervening earlier, reducing progression to more intensive disease, and obviating the need for more intensive treatment, thus reserving specialty BH care for those with more serious disorders. Integrated care reduces stigma and increases engagement in treatment.[4] In addition, approximately 70% of all primary care visits have psychosocial drivers, and the burden of BH markedly complicates the process and cost.[5] Thus, integrated care also leads to improved outcomes at a reduced cost.[4] Furthermore, integration is more person-centered and approaches depression and substance

a Maximum drinking limits are as follows: no more than 4 drinks in one day and no more than 14 drinks in one week for men and no more than 3 drinks in one day and no more than 7 drinks in one week for women.[1]

b The carve-out model is a managed care term for a program that separates mental health and substance abuse services from the mainstream medical system and provides them separately.

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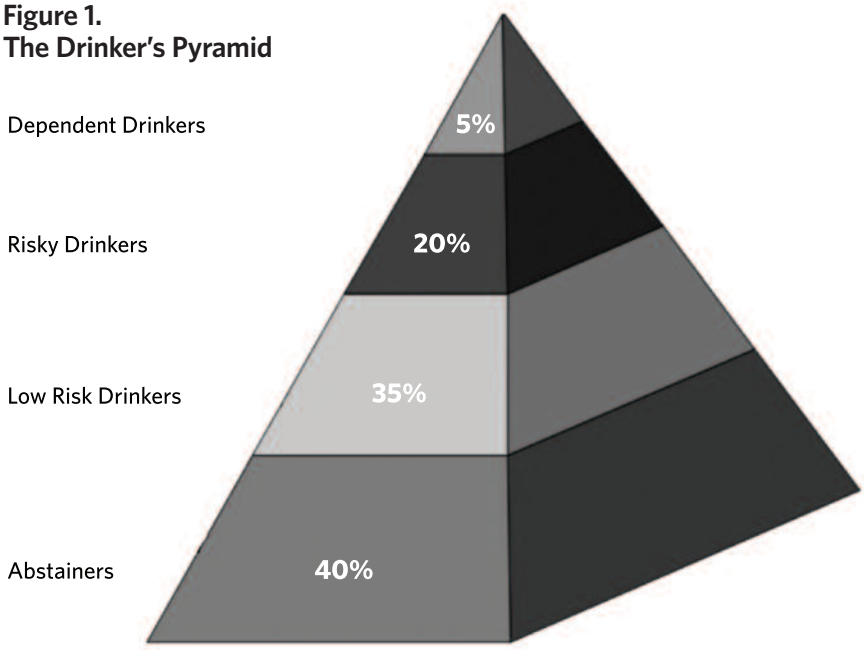
Figure 1.
The Drinker's Pyramid



Source: Babor T, Higgins-Biddle JC. *Brief Intervention for Hazardous and Harmful Drinking: A Manual for Use in Primary Care.* Geneva, Switzerland: World Health Organization; 2001.

abuse (and certain other BH conditions) as the chronic relapsing conditions that they are.

The movement toward integrated care is occurring locally, nationally, and internationally. In the groundbreaking *Crossing the Quality Chasm: A New Health System for the 21st Century*, the Institute of Medicine of the National Academies states that, "It is not possible to deliver safe or adequate healthcare without simultaneous consideration of general health, mental health, and substance abuse issues."[6] The Four Quadrant Model depicts the intersection between BH and PH and the recommended treatment setting (see Figure 2).[7] Quadrant one represents the large number of patients with nondependent, at-risk substance abuse and/or mild to moderate mental illness who can be successfully treated in the primary care setting.

Substance Abuse Screening, Brief Intervention, and Referral to Treatment (SBIRT)

There is good evidence that counseling by a physician does have an effect on subsequent drinking behavior.[3] SBIRT is a well-studied, cost-effective approach to integration of substance abuse identification, intervention, and primary health care.[8,9] Brief interventions (BIs) have been shown to be effective with smokers and drinkers. SBIRT for illicit drugs and prescription drugs is less well-studied, but there is an increasing evidence base that suggests SBIRT is effective for these disorders as well. SBIRT has been shown effective with both genders and diverse socioeconomic and ethnic populations.[10-12]

SBIRT interventions target two groups: those who meet criteria for dependence and need specialty treatment and those engaging in moderate or high risk substance use but who do not meet criteria for dependence. We now have over two decades of clinical research and program development, consensus from medical specialty groups, and effective screening, BI protocols, and training available.

Components of SBIRT

Screening

Screening identifies patients whose drinking puts them and others at risk and identifies patients who are likely dependent. There are several validated screening tools including AUDIT, ASSIST, MAST, CAGE-AID, DAST for adults, and CRAFFT for adolescents.

Brief Intervention

Conducting a brief intervention can help motivate behavior change by aiding the patient to see the connection between his or her drinking and his or her health problem. This is a "teachable moment." BIs are low-cost and time-limited (5-15 minutes in duration). BIs using motivational approaches are effective in terms of clinical effectiveness and cost.[8] The goals of BI are to reduce consumption and alcohol-related problems and/or facilitate treatment engagement by motivating patient to make a decision about decreasing his or her risky use. Specifically, a FRAMES approach is recommended: **F**eedback, **R**esponsibility, **A**dvice, **M**enu of strategies, **E**mpathy, and **S**elf-efficacy. BIs can also be useful in getting dependent patients to enter specialized substance abuse treatment.

Referral to Treatment

Patients who are likely dependent should be referred for further assessment and/or specialized treatment.

Follow-Up

Patient outcomes improve when follow-up is provided. This can be a phone call reinforcing the brief intervention, a referral to the patient's primary care physician, or attendance at a 12-step program in the community. After a formal substance abuse treatment episode, the patient is referred back to the primary care setting for follow-up care. Bi-directional communication and linkages between primary care and specialty SA care are important. Additionally, community peers who are in recovery can be a great asset in helping the patient get connected with resources in the community such as specialty SA treatment and self-help groups.

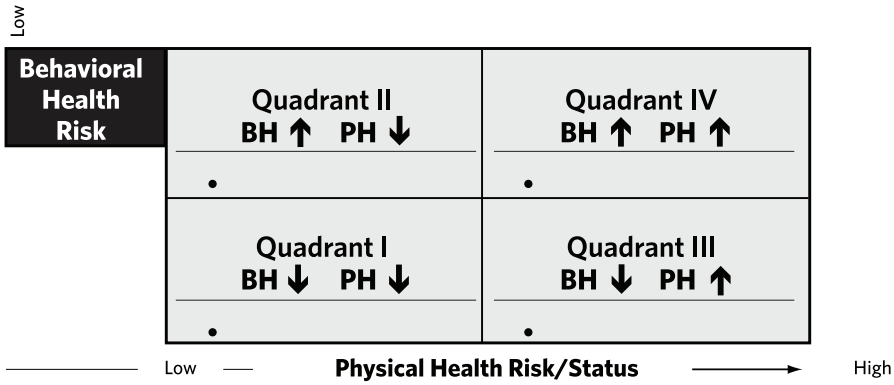
Outcomes Associated with SBIRT

SBIRT has been shown to decrease the frequency and severity of drug and alcohol use, reduce the risk of trauma, and increase the percentage of patients who enter specialized

substance abuse treatment. It is also associated with fewer hospital days and fewer emergency department visits. Cost-benefit and cost-effectiveness analyses have demonstrated net cost savings for this approach.[8-11]

The decreased ED and hospital usage payoff is estimated conservatively at 4:1; for every $1 used for SBIRT, there is a savings of at least $4 in reduced ED and hospital use.[13] Other estimates of cost effectives range from 4:1 to 7:1. Additional cost savings accrue due to the decreased costs to society (e.g. criminal justice).

Figure 2.
The Four Quadrant Clinical Integration Model



Source: Mauer B. *Behavioral Health/Primary Care Integration: The Four Quadrant Model and Evidence-Based Practice.* The National Council for Community Behavioral Healthcare website. http://www.thenationalcouncil.org. Accessed February 11, 2009.

Barriers to SBIRT

Despite strong support for SBIRT, a number of barriers stand in the way of widespread implementation. Our present health care system is largely focused on acute care; the transition to a more population-based care management/preventive system doesn't occur quickly. In addition, medical school and residency training about substance abuse is fairly cursory, and many physicians do not feel comfortable intervening. Many physicians are not knowledgeable about the chronic disease nature of substance abuse nor are they aware that treatment for SA is as effective as treatment for other chronic conditions such as asthma, diabetes, and hypertension (see Table 1).[14,15] Office systems (flow as well as billing) generally do not incentivize SA identification and intervention. Financial barriers are a major impediment, primarily because critical functions of integrated care (e.g. care management, consultation, and communication between providers) are not reimbursed by traditional fee-for-service.[3] Other financial, organizational, and administrative barriers also stand in the way.

Because of these obstacles, successful SBIRT implementation requires the following elements: (1) initial and ongoing training for clinical and administrative staff; (2) realignment of funding and reimbursement mechanisms with technical assistance for troubleshooting problems; and (3) incorporation into a larger health policy and legislative framework supported by leadership, adequate resources, and coordination of a network of services at different levels of care.[4]

Support for Integrated Care and SBIRT

There is general agreement that substance abuse is best understood and treated as a chronic, relapsing condition, and that there is a need to broaden the base of treatment to expand treatment and early intervention services. Screening and brief intervention in the primary care and emergency settings have been endorsed and recommended by all major primary care specialty and public health groups. These groups include the American Medical Association, American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, American Psychiatric Association, American College of Emergency Physicians, American College of Surgeons Committee on Trauma, American College of Obstetricians and Gynecologists, and the American Society of Addiction Medicine. Integrated care and SBIRT have international backing as well, with an endorsement from the World Health Organization.[4]

Integrating behavioral health and traditional physical health is an increasingly important priority at the federal level. The President's New Freedom Commission on Mental Health report has called for primary care screening for mental illness and co-occurring mental illness and substance use disorders.[16] The priority on integrated care is also evidenced by the number of large grants which include SBIRT and other behavioral health/primary health (BH/PH) integration efforts and the federal resources devoted to SBIRT by agencies such as the Substance Abuse and Mental Health Services Administration, the National Institute on Alcohol Abuse and Alcoholism, the National Institute on Drug Abuse, and the Health Resources and Services Administration's Bureau of Primary Care.

The federal government has also shown leadership in SBIRT financing and sustainability, establishing reimbursement codes for screening and brief intervention for both Medicaid and Medicare patients. Some private insurers have also started to reimburse for these services. These codes do not solve the reimbursement problem but they are a good start. George Washington University's Ensuring Solutions to Alcohol Problems project addresses the many financial and organizational barriers and is an invaluable resource for those wishing to adopt these approaches (see http://www.ensuringsolutions.org).

Table 1.
Comparisons Among Alcohol-Related Problems and Other Chronic Diseases

	Alcohol-Related Problems	Asthma	Diabetes	High Blood Pressure
Prevalence	13.8 million	17.6 million	10 million	50 million
Total economic costs	$185 billion	$111 billion	$98.1 billion	$40 billion
Health care costs	$26.3 billion	$7.5 billion	$44.1 billion	$29 billion
Other medical complications	Yes	No	Yes	Yes
Causes				
Controllable risk factors	Yes	Yes	Yes	Yes
Uncontrollable risk factors	Yes	Yes	Yes	Yes
Estimated genetic influence	50-60%	36-70%	30-55% - type I 80% - type II	15-50%
Treatment				
Cure	No	No	No	No
Research-based treatment guidelines	Yes	Yes	Yes	Yes
Effective patient/family education	Yes	Yes	Yes	Yes
Percentage of patients who follow treatment regimens faithfully	40-60%	30%	30%	30%
Percentage of patients who relapse within one year	40-60%	50-70%	30-5-%	50-70%

Source: Adapted from: The George Washington University Medical Center. *Costs and Benefits.* Ensuring Solutions to Alcohol Problems website. http://www.ensuringsolutions.org/resources. Accessed February 11, 2009.

The American College of Surgeons Committee on Trauma has also shown leadership by mandating in 2007 that all level I trauma centers be required to provide SBIRT services. In fact, it is trauma surgeons who are at the forefront of SBIRT promotion, leading with initiatives and research that demonstrates the importance of identifying patients with at-risk and dependent substance use and intervening appropriately with these patients. Brief interventions conducted in trauma centers have been shown to reduce trauma recidivism by as much as 50%.[17] In addition, screening in this setting allows for identification of at-risk use, which can often be modulated by brief intervention. It also allows for identification of dependent patients who need a more comprehensive assessment and/or specialty SA treatment.

Experience indicates that once introduced as standard practice into an emergency department, SBIRT often spreads throughout the hospital as its utility and value are recognized by physicians, nurses, and administrators. Washington State serves as one example. Until exposed to these interventions and initiatives, physicians are often unaware that SBIRT can be integrated into a busy practice and can facilitate management of other chronic diseases.[18]

SBIRT Efforts Underway in North Carolina

A number of SBIRT pilots and initiatives are underway in hospitals, emergency departments, and primary care settings across North Carolina. These include federally-funded, state-funded, and foundation-funded SBIRT grant projects as well as those funded by hospitals and physician practices. North Carolina's Area Health Education Centers Program (AHEC) and the ICARE partnership provide statewide training and technical assistance. The ICARE partnership is providing practice-based technical assistance around reimbursement and is currently running two pilot SBIRT projects with plans for additional pilots in the eastern part of the state (see http://www.icarenc.org). The ICARE partnership has led to vastly increased collaboration and visibility of integrated care efforts in the state.

In addition, the North Carolina General Assembly has provided nonrecurring funds that allowed Community Care of North Carolina (CCNC) to pilot stronger integration of mental health services into the primary care setting. In addition to promoting evidenced-based screening and brief interventions, CCNC applies its population-based chronic disease care model to mental illnesses such as depression. Evaluation will include clinical, functional, and financial outcomes. While ICARE has assumed the coordinating role around mental health and primary care integration, the Governor's Institute serves as a coordinator of SBIRT projects, initiatives, and training in the state (see http://www.governorsinstitute.org).

Our health care system does a poor job of identifying and intervening with alcohol and drug users who are exceeding recommended limits but who have not yet developed dependence. Similarly, specialty SA treatment has long been tailored to chronic, relapsing alcoholics. Much of the 25% of

the population who exceed drinking limits with or without dependence are more appropriately treated in the primary care setting. Many of these patients will benefit from one or more brief interventions that take place in the primary care setting. If identified early and treated appropriately, substance use disorders can be successfully managed without further progression. The limited resources of the specialty substance abuse treatment system can then be used in a manner that is more appropriate and cost-effective for patients requiring more intensive intervention. **NCMJ**

Table 2.
Recommended SBIRT Resources

SAMHSA/CSAT http://www.sbirt.samhsa.gov
NIAAA http://www.niaaa.nih.gov/Publications/EducationTrainingMaterials
Ensuring Solutions to Alcohol Problems http://www.ensuringsolutions.org
ICARE Partnership http://www.icarenc.org
American College of Surgeons http://www.facs.org/trauma/publications/sbirtguide.pdf

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Recovery-Oriented Systems of Care, the Culture of Recovery, and Recovery Support Services

Donna M. Cotter, MBA

Recovery-oriented systems of care shift the question from, "How do we get the client into treatment?" to "How do we support the process of recovery within the person's environment?"[1]

— H. Westley Clark, MD, JD, CAS, FASM

The past decade has been marked by a growing involvement of consumers in the management of their own health care. Individuals, in collaboration with their caregivers, have assumed responsibility for wellness management for a variety of conditions.

Over the past several years, a variety of groups have attempted to define recovery from drug and alcohol addiction with comparable results. In 2005, the Substance Abuse and Mental Health Services Administration's Center for Substance Abuse Treatment (SAMHSA/CSAT) held a National Summit on Recovery which convened over 100 individuals representing the treatment and recovery field. While it was acknowledged that individuals may chose to define recovery differently, a working definition of recovery, reflecting the tenor of the Summit deliberations, emerged: *Recovery from alcohol and drug problems is a process of change through which an individual achieves abstinence and improved health, wellness, and quality of life.*[2]

The addictions treatment field across the nation is undergoing a fundamental shift in the way we view the disease of addiction to drugs and alcohol and, consequently, a shift in the way we deliver services to those in need. For decades, an acute care model has been used to deliver episodic treatment to people when their symptoms are most severe. Clinical experience and studies conducted over several decades confirm that while some individuals can sustain long-term recovery through acute care treatment, over one-half of the clients entering publicly-funded treatment programs require many episodes of treatment over a period of several years to achieve and sustain recovery.[3,4] In addition, people have been assigned to available models of treatment without regard to their individual requirements or unique life circumstances.

The concept of recovery-oriented systems of care for people suffering from addiction to drugs and alcohol is not new to the addictions treatment field. However, the terminology has surfaced in recent years as a way of capturing the shift in practice from treating addiction as an acute, episodic disease to acknowledging the chronic, relapsing nature of the illness and the need for person-centered services over the continuum of the recovery process.

The participants in the SAMHSA/CSAT Summit, more than one-half of whom are in recovery from addiction, provided general direction to SAMHSA and other stakeholder groups to assist in developing and implementing recovery-oriented systems of care in the form of guiding principles and systems of care elements.

The guiding principles of recovery from addiction are:[2]

- There are many pathways to recovery.
- Recovery is self-directed and empowering.
- Recovery involves a personal recognition of the need for change and transformation.
- Recovery is holistic.
- Recovery has cultural dimensions.
- Recovery exists on a continuum of improved health and wellness.
- Recovery emerges from hope and gratitude.
- Recovery involves a process of healing and self-redefinition.
- Recovery involves addressing discrimination and transcending shame and stigma.
- Recovery is supported by peers and allies.

"For many, the recovery process is marked by cycles of treatment, recovery, relapse, and repeated treatment before resulting in long-term stable recovery."

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- Recovery involves (re)joining and (re)building a life in the community.
- Recovery is a reality.

Further, a recovery-oriented delivery system should contain the following system of care elements:[2]

- Person-centered
- Family and other ally involvement
- Individualized and comprehensive services across the lifespan
- Systems anchored in the community
- Continuity of care
- Partnership-consultant relationships
- Strengths-based
- Culturally responsive
- Responsiveness to personal belief systems
- Commitment to peer recovery support services
- Inclusion of the voices and experiences of recovering individuals and their families
- Integrated services
- System-wide education and training
- Ongoing monitoring and outreach
- Outcomes driven
- Research-based
- Adequately and flexibly financed

Across the country, states such as Connecticut, Arizona, and Michigan and the city of Philadelphia have over time successfully transformed their addiction treatment delivery systems into recovery-oriented systems of care. Their well-documented experiences of lessons learned along the path to transformation, serve as examples from which other states can benefit.[5-7]

During a SAMHSA-sponsored training session to assist states in planning and implementing recovery-oriented systems of care held in Charleston, South Carolina in January of 2008, the team of representatives from North Carolina concurred with and committed to using both the principles and systems of care elements developed at the 2005 National Summit on Recovery in the design of North Carolina's recovery-oriented systems of care.

Team members recognized the need to create a conceptual plan for the state, as well as review and modify planning related to funding. They further acknowledged the need to develop curricula to educate groups such as consumers, providers, funders, and policymakers. The team also stated the need to collaborate and get buy-in across systems such as housing, justice, employment, social services, and mental health, as well as to provide ongoing training to Local Management Entities, consumers, and the provider workforce.

Steps that North Carolina has already taken to implement recovery-oriented systems of care include:

- A state Substance Abuse Treatment Improvement Team has been activated in the Division of Mental Health, Developmental Disabilities, and Substance Abuse Services.
- A RecoveryNC campaign has been launched to reduce the stigma attached to persons in recovery and empower them to have a voice in matters that affect their recovery and the services they need.
- A Recovery Standing Committee is in place with the following vision and mission: *Vision:* North Carolinians will understand the value of recovery from drug and alcohol addiction and its significance to the well-being of our communities. *Mission:* To educate and advocate for recovery from drug and alcohol addiction in North Carolina.
- An Advocacy and Customer Service Section is in place within the North Carolina Department of Health and Human Services with a direct line of report to the Secretary.
- State and local Consumer and Family Advisory Councils have been established.
- A relationship has been established with the state leadership of Alcoholics Anonymous and Narcotics Anonymous, as well as an agreement to cooperate in the implementation of recovery-oriented systems of care.
- Training has been offered across the state regarding the legal rights and responsibilities of persons in treatment for and recovery from addiction.
- Initial surveys have been conducted and existing provider workforce and system components have been identified.

The Culture of Recovery

The pathways to recovery are as numerous and unique as the persons who travel them. Faces and Voices of Recovery, a national organization founded in 2001 to assist communities of people in recovery to advocate for their own needs, has prepared a document entitled *Pathways to Recovery*, which describes in detail the paths of treatment and sustained recovery available to people with addictions.[8]

For many, the recovery process is marked by cycles of treatment, recovery, relapse, and repeated treatment before resulting in long-term stable recovery.[9] Acknowledging this process, many people working through their own recovery feel the need to stay in touch with the recovery process as either a counselor or volunteer as a way of ensuring or protecting their recovery. In addition, remaining faithful to the traditions that brought many to recovery requires them to reach back and help others on their own paths to recovery. As a result, many people in recovery join the ranks of clinicians delivering treatment to people with addictions or become peer support specialists providing a variety of recovery support services.

Mutual aid or peer support groups have been shown to play a significant role in the process of recovery.[10-12] In fact there is a 250-year tradition of persons with drug and alcohol problems banding together for mutual support in recovery.[5] The most widely known peer support groups are the 12-step organizations Alcoholics Anonymous (AA) and Narcotics

Anonymous (NA). In North Carolina, most recovery support services are obtained through these organizations. They are self-run, self-sustaining, free from outside intervention, and receive no funding from outside sources.

There are also 129 Oxford House recovery homes in North Carolina with an average of nine residents per house (for more information on the Oxford House program, see the commentary by Kathleen Gibson in this issue). They, too, are self-managed and funded. Studies have shown that the support, guidance, and shared information that Oxford House residents obtain from fellow housemates help to enhance recovery and reduce relapse.[13]

Recovery Support Services

Recovery support services delivered within recovery-oriented systems of care are nonclinical services which may be provided to individuals not requiring or seeking treatment. They may also be provided during and after treatment. They may include:

- Transitional housing or recovery homes, such as Oxford Housing
- Transportation
- Life skills, parenting, employment, or vocational training and support
- Food, clothing, or other basic needs
- Child care
- Family and/or spiritual support
- Legal services
- Recreation
- Service brokerage
- Recovery coaching, mentoring, and checkups

There is not an exact count of treatment providers within North Carolina who also offer comprehensive recovery support services for their clients. Notable among those who do are First Step of Western North Carolina, with locations in Raleigh and Garner; TROSA in Durham; and First at Blue Ridge, Inc., in Ridgecrest. Efforts are also being made at the University of North Carolina to define roles for peer support specialists, and to prepare training materials to assist persons wanting to deliver these services to obtain certification to do so.

More work is necessary to prepare clear definitions and funding mechanisms for the delivery of all of the recovery support services mentioned above. As previously noted, North Carolina has already made initial steps and has put key committees in place to begin the transition to a comprehensive, recovery-oriented approach to the delivery of services for its residents who suffer from drug and alcohol addictions. **NCMJ**

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Making the Public Mental Health, Developmental Disabilities, and Substance Abuse System More Accessible:
An Invitation to Recovery

Flo Stein, MPH

Problems with accessing health care in both the public and private sectors has been documented in the United States and in North Carolina for a number of years. Substance abuse disorders afflict approximately 13 million individuals nationally. Of those 13 million individuals only about 3 million are receiving treatment, leaving approximately 10 million people stranded in the "treatment gap."[1] The data for the public Mental Health, Developmental Disabilities, and Substance Abuse System in North Carolina shows a similar pattern; approximately 8% of those who needed treatment in SFY 2007-2008 received it; 546,796 adults and 53,144 children were in need of treatment with 45,224 adults and 3,689 children receiving treatment services respectively.

In 1998, the US Substance Abuse and Mental Health Services Administration tasked the National Center for Substance Abuse Treatment to begin a national treatment plan initiative. The goal was to reach a working consensus on an improvement process for the addictions treatment system in the United States. Panels from across the nation were convened and agreed on a final vision statement:[1]

> We envision a society in which people with a history of alcohol or drug problems, people in recovery, and people at risk for these problems are valued and treated with dignity and where stigma, accompanying attitudes, discrimination, and other barriers to recovery are eliminated. We envision a society in which substance abuse/dependence is recognized as a public health issue, a treatable illness for which individuals deserve treatment. We envision a society in which high-quality services for alcohol and other drug problems are widely available and where treatment is recognized as a specialized field of expertise.

In 2007, the North Carolina Institute of Medicine (NCIOM) began an investigation of the barriers to accessing care for those individuals and families seeking services for substance abuse problems. This vision statement reflects the commitment of leaders from across the state to conduct an inventory of system issues and to identify ways to close the treatment gap in the state. There are many reasons why individuals fail to get treatment, including stigma associated with the disorder, cost of treatment, unavailability of support, and failure of systems to effectively identify individuals and direct them into treatment. The NCIOM Task Force on Substance Abuse Services made recommendations that may result in a new, more effective system of prevention, treatment, and recovery in North Carolina. Many of these recommendations are presented in this issue of the *Journal*, starting on page 27.

"There are many reasons why individuals fail to get treatment, including stigma associated with the disorder, cost of treatment, unavailability of support, and failure of systems to effectively identify individuals and direct them into treatment."

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Treatment in the Context of the Recovery Community

In his monograph *Recovery Management*, William L. White outlines the history of the addictions field by describing its organizing principles.[3] Beginning in 1978, the pathology paradigm describes addiction as a disease and breaks with the previous moral and religious frameworks. This was followed in the 1990s by the intervention paradigm that was marked by public investment in prevention and professionally directed treatment. The model being proposed now is known as the recovery paradigm. Recovery advocates began to work for this change starting in the late 1990s and now, years later, they confront a misguided public perception that people with substance abuse disorders cannot recover. These advocates are joining with elected leaders, policymakers, and treatment professionals to shift the focus from "treatment works" to "recovery as a reality." The movement towards a recovery paradigm is underway.[4]

What many think about the process of addiction may be part of the problem, as many people have a poor understanding of addiction. As with other diseases, our historical understanding of the addictive process has changed over time. The definition that has been developed by the National Institute on Drug Abuse is the one operationalized in the NCIOM report. This defines substance abuse and dependence as a "biopsychosocial" disorder which means that the nature of the disorder is influenced by a combination of biological, medical, psychological, emotional, social, and environmental factors. The disorder is progressive, chronic, and relapsing. Often substance abuse dominates an individual's life, with a profoundly negative impact on the individual and those around him or her. Addiction is defined as a chronic, relapsing brain disease that is characterized by compulsive substance seeking and use, despite harmful consequences. It is considered a brain disease because drugs can change the brain's structure and function. These changes can be long lasting and can lead to the harmful behaviors seen in people who abuse drugs. As a result of research, we know that addiction is a disease that affects both brain and behavior. We have identified many of the biological and environmental factors and are beginning to search for the genetic variations that contribute to the development and progression of the disease through research supported by the National Institute on Drug Abuse.[5]

Access to care is greatly affected by both stigma and common misunderstandings of the addiction process and of people who have substance abuse disorders. Stigma is the negative labeling and stereotyping of a group of individuals that is based on some observable trait they share that leads to discrimination against the individuals or society at large. For centuries, society as a whole has stigmatized individuals with mental and substance use illnesses and discriminated against them socially, in employment, and in their efforts to secure necessities such as housing. Perhaps due to the misconception that substance abuse is due to a moral failing, substance use illnesses are often times more stigmatized than mental illnesses. The failure to understand the biological mechanisms and consequences of drug dependence interferes with these individuals' ability to participate in and receive care that may be most effective in treating their chronic condition.[7] Nontherapeutic clinician attitudes and behaviors may have several sources. Graduate medical education has been slow to shift from commonly held social beliefs and practice settings often reinforce stereotypes. The Institute of Medicine of the National Academies found that in addition to the personal consequences of ineffective, unsafe, or no treatment for substance abuse disorders, the consequences are felt directly in the workplace; in the education, welfare, and justice systems; and in the nation's economy as a whole.[7]

Inter-System Linkages

Because of the nature of the disorder, individuals in need of treatment might appear in various settings, including health care, the justice system, welfare and social services, and the juvenile or education system. Inter-systems linkages that could increase the number of individuals able to receive treatment as well as the resources available for treatment and prevention have to be developed. Where they already exist, they must be enhanced and maintained. All caregivers must have informed referral practices and share a common approach for identifying the problem and determining the most appropriate treatment. North Carolina has the opportunity to develop an interactive system that matches care to need, regardless of the point of entry.

Inter-system issues that contribute to the treatment gap are not limited to the inability of systems to identify and move individuals toward appropriate treatment. They also include the difficulty associated with transferring patient-specific information form one system to another. New technologies require new principals and policies to protect privacy and encourage the effective use of patient information to improve care. Individuals with addictive disorders need an easy–to-read, standard notice about how their personal health information is protected, confidence that those who misuse information will be held accountable, and the ability to choose the degree to which they want to participate in information sharing.[8]

Resource Allocation and Financing

There must be an improvement in the process of allocating current resources as well as new resources to make more effective treatment and prevention accessible to a larger number of people who experience or are affected by problems with alcohol or drugs. The development of a standard insurance benefit that provides for a full continuum of appropriate treatment and recovery maintenance will increase accesses as well as address the inappropriate cost shifting that now occurs between the private and public sectors. Until very recently the majority of prevention and treatment has been supported by and provided in the public sector. The recent passage in Congress of the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008 will permit the state to strengthen a third-party reimbursement

system, increasing access to care by both public and private practioners.

Expanding Treatment and Recovery Options

In an interview with William White, Westley Clark, director of the Center for Substance Abuse Treatment discussed the construct for the new focus on recovery: "Communities across the country have been concerned about the misuse of substances and the wide range of people affected by such misuse. National leaders and local community leaders recognize that we need the community benefits of recovery, and we need local communities to support people in recovery. And we want to provide a framework through which people in recovery can help others in need of recovery... We want people in every community to know that treatment works and that recovery is possible, and that long-term recovery is a reality."[9]

Not all alcohol and drug problems are chronic and many do not require specialized treatment. Effective prevention and early intervention services and programs are essential to the maintenance of a healthy community. One example of a model designed to target users who may have a problem but do not yet recognize it is providing significant opportunities in primary care and emergency department settings. Screening, Brief Intervention, and Referral to Treatment (SBIRT) is a tool developed for use by the medical community. Once a problem is identified, the medical professional conducts an immediate brief intervention and those individuals with dependence are referred for treatment.[10] This type of new program can reduce the treatment gap and ensure that there is no "wrong door," focusing on unidentified users as an important segment of the population to target.

Improving access to long-term recovery will, by necessity, require a partnership among the recovery community, families, professionals, and policymakers. I am urging a commitment by these partners to do the work to ensure the development of a new system of care, or treatment assisted recovery, that respects the individual taking responsibility for his or her recovery while providing the necessary services and supports for these individual efforts. A review of the history of the development of treatment is instructive as it indicates that much of the treatment in this country has been organized around an acute care model. The effort beginning in the 1940s to convince the public that alcoholism was a disease led to landmark legislation in the 1970s that set the stage for the rise of an acute care model of community-based, time-limited addiction treatment in the United States. The onset, course, and resolution of an acute disorder can be intense and disruptive, but it generally leaves no lasting disability or compromise in functional capabilities. Substance abuse disorders, however, are often not resolved so precisely. William L. White and A. Thomas McClellan, PhD, have written extensively about a more accurate description of addiction as a chronic disease whose treatment should mirror the treatment of other chronic diseases. They argue that the similarities between serious substance dependence and other chronic illnesses are striking.

The work of the Task Force on Substance Abuse Services under the direction of the NCIOM is being marked by a pilot effort to move addiction treatment in North Carolina beyond acute biopsychosocial stabilization and patient education and toward the goal of long-term recovery. This shift from an acute care model to a recovery management model will require changes in programmatic and service practices and will require new financing strategies. These changes will result in improved access to recovery for people in our state. These changes will focus on the following treatment system performance indicators:[11]

- ***Attraction:*** Identifying and engaging individuals and families at an earlier state of problem development (e.g., assertive community education, screening, and outreach programs).
- ***Engagement:*** Enhancing access, therapeutic alliance, and retention (e.g., expedited service initiation, focus on relationship building and re-motivation, altered policies related to administrative discharge).
- ***Assessment:*** Developing protocols that are global, family-centered, strengths-based, and continual.
- ***Service planning:*** Transitioning from professionally developed treatment plans to client-directed recovery plans.
- ***Service menu:*** Focusing on services elements that have measureable effects on recovery outcomes and expanding the service menu to include nonclinical, peer-based recovery support services.
- ***Service duration:*** Shifting from emergency room models that emphasize brief, crisis-oriented servicers to recovery models that emphasize long-term lower intensity recovery maintenance services.
- ***Service location:*** Extending the reach of services from institutional environments to the natural environments of individuals and families (e.g., expansion of neighborhood-based, work-based, and home-based services).
- ***Service relationship:*** Shifting from a professional expert model to a long-term recovery partnership/consultant model with a philosophy of choice for individuals and families.
- ***Continuing care:*** Shifting from follow-up care as an unfunded afterthought to assertive models of continuing care for all clients regardless of discharge status (e.g., post-treatment monitoring, stage-appropriate recovery education and coaching, personal linkages to communities of recovery, early re-intervention when needed, and expanded use of cell phones and internet for long-term monitoring and support).
- ***Relationship to the community:*** Increasing utilization of local recovery support resources in the community (e.g., recovery support groups, recovery community organizations, recovery support centers, recovery homes such as Oxford House, recovery schools, recovery industries, and recovery ministries).

We have a historic opportunity to work together toward a system that supports long-term recovery. Reform for mental health, developmental disabilities, and substance abuse services is flexible and can accommodate change and improvement. A recovery-oriented system of care invites individuals and families to a life of recovery in the community. **NCMJ**

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The Emerging Role of Prevention and Community Coalitions:
Working for the Greater Good

Phillip W. Graham, DrPH, MPH; Phillip A. Mooring, MS, CSAPC, LCAS

The economic cost of substance abuse in the United States is estimated to exceed $300 billion annually.[1,2] Estimates attempt to assess in monetary terms the damage that results from the use of alcohol (misuse by adults and any use among those under 21) and drugs. These costs include expenditures on alcohol- and drug-related problems, decreases in productivity, and opportunities that are lost because of substance abuse. Despite this economic burden, only $18 billion was devoted to treatment of substance use disorders in 2001. This amount constituted only 1.3% of all health care spending.[1] In North Carolina, about 5% of the total Division of Mental Health, Developmental Disabilities, and Substance Abuse Services funds is spent on treatment and prevention of substance abuse.[3]

The ubiquitous nature of substance abuse calls for a comprehensive approach inclusive of prevention, treatment, and relapse recovery. However, the central component of this continuum, prevention, is often underestimated, overlooked, and underfunded. Here we discuss the need for and importance of prevention, which preventive efforts work, the role of collaborative efforts in substance use, and how preventive efforts can best be implemented. Supporting prevention activities across the life span and in multiple setting represents an important opportunity to reduce substance abuse and its deleterious outcomes.

Why Do We Need Prevention?

Substance use and abuse impacts multiple sectors of daily living. A significant proportion of domestic violence, sexual assault, violent crime, child abuse and neglect, workplace injury, and other health outcomes are related to substance abuse.[2] For example, prior to the 2007 opening of a Sam's Club in eastern North Carolina, the national chain of membership-only retail warehouses received 4,000 applications for 160 positions. More than 2,000 applicants did not pass mandatory drug tests, thereby effectively reducing the prospective applicant pool by 50%. Twenty-two percent of the applicants did not pass criminal background checks and, coupled with applicants who were not hired due to availability (such as not being able to work on Saturday or Sunday) Sam's Club had difficulty filling its 160 positions from the pool of 4,000 applicants.[4] This story is not atypical. More and more, small and large businesses and industries along with local and state leaders are confronting the negative economic impact of substance abuse on the bottom line.

"The ubiquitous nature of substance abuse calls for a comprehensive approach inclusive of prevention, treatment, and relapse recovery."

The Sam's Club example demonstrates one of several compelling reasons why prevention must be the cornerstone of any effort to reduce substance abuse and its related consequences. The example also highlights the problem among adults and the need to promote prevention efforts beyond the classroom and into the workplace. At the same time, reported alcohol and drug use among our nation's youth continues to call for efforts to equip young people with the requisite skills needed to protect against myriad risk factors for substance use and other related behavior.

Due to the breadth of strategies and advances in the field, prevention efforts provide a unique opportunity to impact the negative consequences associated with substance abuse. For example, numerous strategies are designed at the individual level, but the application or implementation of these strategies can impact large numbers of youth through universal application among the general population. This is in direct contrast to individual treatment interventions that often focus on an

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individual patient or client. Prevention efforts, particularly those that are universal and population-based, are needed to combat the growing number of risk factors that increase the likelihood of substance use, but the adoption of prevention-oriented programs must occur with a clear understanding of what efforts have the best opportunities for success.

What Preventive Efforts Work?

The research to practice movement[a] and the continued growth of the prevention science field[5] have drastically changed how and what types of prevention programs, policies, and practices are implemented in communities across the United States. Unfortunately, however, the adoption and implementation of evidence-based strategies[5] is still in the early stages of diffusion.[6] Some studies suggest that only about 30% of middle schools implement evidence-based programs, despite evidence of improved academic performance and decreased substance use and antisocial behavior.[6]

Communities have access to several resources to inform their decision making regarding the appropriate selection of evidence-based prevention strategies. Both federal agencies and academic institutions including the Center for Substance Abuse Prevention (CSAP), the Department of Education (DE), the Office of Juvenile Justice Delinquency Prevention (OJJDP), and the University of Colorado at Boulder have developed and disseminated lists of prevention strategies that have been empirically shown to reduce substance use, violence, and other related behaviors.[6] Referenced strategies include individual, school, family, and community-focused interventions that address potential participants as a function of their risk.

Over the last decade, several reviews of prevention strategies (programs, policies, and practices) have been conducted examining their effectiveness in reducing substance use among young people.[7-10] Although the list of effective preventive efforts is too extensive to list here, effective prevention programs are characterized by social skills or competency-based, interactive delivery, cognitive-behavioral focus, complete dosage, and resistance training skills for teachers.

The degree to which the implementation of evidence-based prevention efforts is embraced in local communities can be measurably improved by the existence of early adopters[11] who embrace new innovations. Community coalitions can represent those early adopters who both promote and advocate for the selection and implementation of effective prevention efforts.

What is the Role of Collaborative Efforts in Preventing Substance Use?

One strategy being implemented across the nation to prevent the onset of drug abuse is the creation of community-level substance abuse prevention coalitions. The Community Anti-Drug Coalitions of America (CADCA), a national nonprofit organization founded in 1992 with a mission to "strengthen the capacity of community coalitions to create and maintain safe, healthy, and drug-free communities," defines these coalitions as formal arrangements for cooperation and collaboration between groups or sectors of a community, in which each group retains its identity but all agree to work together toward a common goal of building a safe, healthy, and drug-free community.[12] Coalitions are community-driven and aim to bring local people together to solve local problems.

Community coalitions are usually comprised of parents, teachers, law enforcement officials, religious leaders, health providers, and other community activists mobilizing at the local level. Although some coalitions may provide direct services, coalitions work to convene key stakeholders and to establish collaborative efforts among those stakeholders to address the broader environmental issues that contribute to drug abuse and underage drinking. Coalitions work to mobilize communities to develop community laws and policies that specifically discourage drug abuse and underage drinking, encourage the enforcement of existing laws and policies, disseminate information, increase media and public awareness, facilitate the implementation of evidence-based strategies, and encourage life and social skills training programs.

An increased recognition of the importance of coalitions is also reflected in North Carolina's substance abuse prevention efforts. During the 2006–2007 legislative session, the North Carolina General Assembly appropriated $800,000 over two years to support local substance abuse coalitions—a first for North Carolina.[13] The program is known as the North Carolina Coalition Initiative (NCCI), and grants are funded through the North Carolina Department of Health and Human Services, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMHDDSAS) to provide training and technical assistance to eight sub-recipient coalitions. The NCCI's mission is to reduce substance abuse in communities by building the capacity of community coalitions to implement evidence-based, population-level prevention strategies.

Although the reported effectiveness of community-level coalitions is mixed,[14-17] both anecdotal and empirical evidence suggest that they can be a viable and sustainable vehicle for community change. For example, the Community Round Table Coalition of Irmo, Dutch Fork, and Chapin, South Carolina reported an 18% reduction in binge drinking over a two-year period as a result of the coalition's work.[18] Similarly, Boyd and Greenup Champions for a Drug-Free Kentucky in Ashland, Kentucky, reported past 30-day marijuana use by 12th graders dropped from 33% in 1998 to 22% in 2004. In Lansing, Michigan, the CIRCLE Coalition saw rates of alcohol, tobacco, and other drug use decline by more than 50% between the 2001–2002 school year and the 2004–2005 school year.[12]

a The research to practice movement is an attempt to promote the implementation of evidence-based prevention strategies.

Coalitions also are getting support from nontraditional partners, including the business and industry communities. In Wilson, North Carolina, tire manufacturer Bridgestone-Firestone is actively involved in the Wilson County Substance Abuse Coalition. James S. Pridgen, manager of the Bridgestone-Firestone Wilson plant, says, "Finding qualified employees is a problem across eastern North Carolina. Sixty percent of potential employees cannot pass a drug test or 6th grade math equivalency test. I have 45 job openings, and I have a really difficult time filling them with qualified applicants. For us to survive, something like this coalition [Wilson County Substance Abuse Coalition] has to happen. Current estimates tell us that it costs us over $100,000 per person to find, hire, and train a new teammate for the Wilson Bridgestone-Firestone plant. While we hire locally, we compete globally. Our product quality and the safety of our teammates are non-negotiable. We have a zero tolerance policy for substance abuse. Despite the sizeable investment we make in our teammates, we will not accept drug abuse in our teammates. Drug free is a condition of employment."[19]

This example, like the previous Sam's Club example, illustrates how illicit substance use/abuse can impact the lives of local citizens and their community. It also reinforces the need for locally-driven prevention efforts facilitated by broad-based private-public community coalitions. We must begin to examine how prevention efforts can impact substance use across the life span and different settings (e.g., school, community, and the workplace).

How Do We Implement Prevention Efforts?

We have discussed the importance of selecting evidence-based prevention strategies and the use of community coalitions as viable implementation vehicles, but we have not offered an overarching approach suggesting how best to implement effective preventive efforts. Although several models exist,[20-22] many communities have not been systematic with regard to the manner in which they approach implementing prevention efforts. We offer the SAMHSA/CSAP's Strategic Prevention Framework (SPF) as an appropriate and effective approach to facilitate the implementation of preventive efforts in our local communities.

Strategic Prevention Framework is a "systematic community-based approach, which aims to ensure that substance abuse prevention programs can and do produce results... The idea behind the SPF is to use findings from public health research along with evidence-based prevention programs to build capacity within states and the prevention field."[23] The SPF uses a five-step data-driven process that includes community assessment, capacity building, planning, implementation, and evaluation, with sustainability and cultural competence being overarching elements. Underlying SPF is the assumption that prevention is not static; rather, it is an ordered set of ongoing steps.

This model provides a unique opportunity for members of community coalitions and other stakeholders to select and deliver the most appropriate evidence-based prevention strategies in their respective communities. The use of the SPF, evidence-based prevention strategies, and community coalitions represent a significant development for prevention in North Carolina. SPF helps move communities away from implementing strategies with limited evidence of success and focuses them on areas of real need and not perceived need.

In the coming year, the state will be faced with fewer state dollars for substance abuse services. At the same time, economic volatility and the stresses it will cause may exacerbate the need for more substance abuse services. The convergence of less resources and greater need should cause the cliché "an ounce of prevention is worth a pound of cure" to resonate with us all because preventive efforts are our best chance to improve the conditions of those who could become substance users in the future. Prevention practitioners, armed with solid evidence, need to vigorously advocate for and promote the merits of preventive efforts to reduce substance abuse. One of the best ways to accomplish this is at the local level with the aid of community coalitions. Local problems are best solved by local people. **NCMJ**

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Substance Use Treatment Needs Among Recent Veterans

A. Meade Eggleston, PhD; Kristy Straits-Tröster, PhD, ABPP; Harold Kudler, MD

United States combat veterans have historically been at risk for substance use disorders. Following 19th century medical advances in opiate anesthetics, many Civil War soldiers were routinely given opiate doses to manage their pain and fatigue; a great number of these soldiers subsequently developed a morphine addiction, commonly called the "Soldier's Disease."[1] About a century later, nearly 8% of Vietnam veterans tested positive for marijuana, opiates, and other substances at discharge.[2]

A new cohort of US combat veterans has emerged from Operation Enduring Freedom (OEF), located primarily in Afghanistan, and Operation Iraqi Freedom (OIF), located primarily in Iraq. As our nation's combat operations move into their seventh year—continuing longer than World War II—1.6 million men and women have served in Iraq or Afghanistan as part of America's all-volunteer fighting force.[3] Up to 75% of deployed troops have endured two or more deployments during the current conflict. Repeated and extended deployments have been associated with increased physical and mental health concerns.[4] As nearly 10% of all US Active Duty and 3% of all US Reserve military personnel reside in North Carolina,[5] the mental health needs of this growing veteran population is especially salient to the North Carolina mental health care community.

Substance Use Among OEF-OIF Veterans

Anecdotal accounts from clinicians and the media (for example, ABC's 20/20 series, *Coming Home: Soldiers and Drugs* and Usher, 2006[6]) allude to problematic alcohol consumption, tobacco use, and illicit substance use beginning during military training and increasing during combat deployment. Many military personnel see drinking heavily as a right of passage or as part of their military culture. Veterans commonly report steroid use in response to perceived challenges to meet physical performance measures, as well as use of illicit stimulant and sedatives to relieve boredom, cope with stress, and meet performance demands during deployment. Many describe smoking cigarettes as a way to pass time. Often, what may start as a social practice or coping strategy can become an addiction.

"Many military personnel see drinking heavily as a right of passage or as part of their military culture... Many describe smoking cigarettes as a way to pass time. Often, what may start as a social practice or coping strategy can become an addiction."

Post-deployment measures of mental health status completed by the Department of Defense (DoD) evidence problematic alcohol use following deployment. Pre-deployment data indicates that approximately 8% of military service members

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engage in heavy weekly drinking, 45% engage in binge drinking, and 11% report at least one alcohol-related problem.[7] Recent analysis of longitudinal data gathered by the DoD reveals that 12% of active military and 15% of National Guard and Reserve military service members drank more than they meant to drink or felt the need to cut down within six months post-deployment.[8] Furthermore, National Guard and Reserve military service members who deploy and report combat exposure are at significantly increased risk for new-onset, heavy weekly drinking, binge drinking, and alcohol-related problems.[7]

Alcohol and other substance use problems persist past the period of active military service. Among OEF-OIF veterans seen at Veterans Affairs (VA) hospitals and clinics in 2005, 40% screened positive for potentially hazardous alcohol use on a three-item alcohol consumption measure (AUDIT-C).[9] Among the nearly 350,000 OEF-OIF veterans who have presented to the VA between FY 2002 and FY 2008, approximately 16% received a provisional diagnosis of nondependent alcohol or other substance abuse, 4% of alcohol dependence, and 2% other substance dependence.[10] Another 11% of these veterans have a diagnosis of tobacco use disorder without other substance use diagnoses. A retrospective study examining confirmed mental health diagnoses in a sample of 103,788 OEF-OIF veterans seeking VA care found 5% received a substance use disorder diagnosis.[11] Neither of these studies included veterans who seek care through the Vet Centers, which operate independently from VA medical centers and VA community outpatient clinics. Moreover, OEF-OIF veterans who sought VA health care constitute only 40% of all OEF-OIF veterans eligible for care, so the true prevalence of substance abuse disorders among all OEF-OIF veterans is unknown.

While US national trends show decreasing tobacco use, higher rates of tobacco use have been reported both within OEF-OIF Active Duty cohorts and VA cohorts. In surveys of military personnel deployed to Iraq and Afghanistan, 39% smoked 10 or more cigarettes daily during their deployment and 42-48% either began smoking or resumed smoking during the deployment.[12,13] Initiating smoking during deployment was related to combat exposure, while smoking relapse was associated with combat exposure, multiple deployments, and deployments enduring longer than nine months.[13] Little research has been conducted on the use of smokeless tobacco.

Posttraumatic stress disorder (PTSD) and traumatic brain injury (TBI) are prevalent conditions in this veteran cohort and are likely to exacerbate the severity and course of substance use problems. PTSD is an Axis I mental health diagnosis, referring to its status as a clinical condition, versus Axis II diagnoses, which refer to underlying and pervasive conditions such as mental retardation. PTSD is the most common Axis I diagnosis among the OEF-OIF combat veterans, with prevalence estimates ranging from 13-22% of those presenting to VA.[10, 11] High rates of substance use disorders and PTSD comorbidity were first reported in war-related studies, in which as many as 75% of Vietnam war combat veterans with lifetime PTSD also met criteria for alcohol abuse or dependence.[14] Among men in the general population with a lifetime history of PTSD, 35% report drug abuse or dependence at some point in their lives versus 15% of men without PTSD. For women, 27% with a lifetime history of PTSD report drug abuse or dependence during their lives versus 8% of women without PTSD.[15] In a longitudinal study of Vietnam veterans, researchers found that the onset of alcohol abuse was associated with the onset of PTSD.[16] Increases in alcohol use paralleled the increase in severity of PTSD symptoms.

The combination of substance dependence and PTSD is a significant clinical problem. Substance dependent individuals with PTSD are more likely to report suicidality, aggression, and psychosocial impairment at treatment onset than are those with other Axis I conditions (excluding PTSD) or those suffering from substance dependence alone.[17] In a multisite, treatment outcome trial, Ouimette and colleagues found that male veterans with both PTSD and a substance use disorder required twice as much time to achieve equivalent improvements in substance use, other psychiatric symptom severity, and psychosocial functioning compared to those with other Axis I conditions (excluding PTSD) or those suffering from substance dependence alone.[18-20]

With improved military and medical technology, many of our recent veterans survive head injuries that would have killed veterans from previous cohorts. Consequently, TBI has been estimated to affect 20-30% of OEF-OIF surviving casualties.[3] Available findings suggest that rates of substance abuse increase among casualties over time since injury and pre-injury alcohol and other substance abuse substantially increases risk for subsequent substance use problems.[21] Although TBI injury areas vary with impact characteristics, combat and motor vehicle accident injuries typically involve the frontal lobes. This part of the brain influences impulse control, decision making, and emotional inhibition, among other significant functions. Injury-related cognitive deficits present a significant challenge in managing alcohol and other substance use. Moreover, emotional-behavioral vulnerabilities like PTSD and environmental stressors like the deployment cycle itself further complicate clinical presentation. Given that PTSD is strongly associated with even mild TBI (concussion) among OEF-OIF veterans,[22] clinical complications are to be expected.

Clinical Needs Among OEF-OIF Veterans

Increase and improve the capacity of the substance use treatment system in North Carolina to provide evidence-based care

The Veterans Health Administration (VHA) is a leader in promoting evidence-based treatment and, accordingly, VA substance use treatment guidelines for primary care and specialty clinics mandate provision of these treatments.[23] Although effective substance use disorder treatment is offered through the VA, there has been a substantial decline in the number of specialized VA substance use treatment programs and staff, from 389 programs and 4,718 staff in FY 1994 to 215 programs and 2,427 staff in FY 2003.[24] This decline

occurred during a period in which the number of VA patients diagnosed with substance use disorders increased.[25] Integration of substance services within VA primary care programs could potentially fill this service gap. A base of growing empirical literature supports the efficacy of brief alcohol misuse and tobacco screening and interventions within primary care settings.[26,27] Recent evidence suggests, however, that primary care providers feel ill-equipped to treat substance use disorders and typically refer such patients to specialty clinics.[28] In fact, data show that only 31% of the large portion (40%) of OEF-OIF veterans who screened positive for potentially hazardous alcohol use reported having been advised by their doctor to reduce their drinking.[9] Furthermore, there is no research supporting the efficacy of brief screening and interventions for illicit substance use within nonspecialty settings.

Since 2003, the number of VA specialized substance use treatment programs has grown but has not attained previous levels.[29] Data also suggest inadequate service delivery by private and public sectors, as only 9% of all people needing alcohol or other substance use treatment receive treatment.[30] Thus, an opportunity exists for VA and state substance use programs to work together to increase substance use capacity and access for OEF-OIF veterans and their families. While 2-5% of alcoholics, smokers, and other substance dependent patients remit each year, even without treatment, the rest continue to need substance use treatment.[31] The demand for substance use treatment services can only be expected to grow as OEF-OIF veterans age. Thus, long-term planning to support the needs of these veterans and their families should begin now as a separate component of a concerted VA/state plan. Provision of adequate substance use treatment services is cost-effective. Untreated alcohol or drug dependent people incur health care and other costs at nearly twice the rate of their age and gender peers; however this trend begins reversing at treatment initiation.[32,33] Intensive outpatient treatment has been shown across studies to demonstrate the greatest cost-benefit ratio. Moreover, and of particular relevance to OEF-OIF veterans, age differences in costs support the value of early intervention

Include tobacco cessation programming within primary care and substance use treatment

As tobacco abuse and dependence are the most lethal and costly substance use disorders in the US, routine tobacco use screening and effective smoking cessation treatment will also promote health and well-being among this cohort of veterans. As with alcohol and other substance use disorders, the VA mandates evidence-based treatment for tobacco users.[34] The VA has been particularly successful making tobacco cessation resources available. By integrating a clinical assessment reminder into the computerized medical records system, more than 95% of VA users who are smokers are screened annually for tobacco use and advised to quit.[35] VHA primary care and mental health providers must make smoking cessation medications, such as nicotine replacement therapies, available to veterans who want to stop quitting. Furthermore, a toll-free tobacco cessation support line (800.QUIT.NOW) is promoted and used throughout the VA system. In January 2006, the VA eliminated all copayments for smoking cessation counseling. The VA continues to expand services including telephone care for veterans willing to set a quit date with their primary care providers. Community providers could significantly improve OEF-OIF veteran care by assessing for tobacco use during routine exams and either mirroring these interventions or referring veterans using tobacco to the VA system for follow-up care as appropriate.

Provide integrated treatment for substance use disorders, PTSD, and TBI

Because of high rates of comorbid substance use, PTSD, and TBI expected in the OEF-OIF veteran cohort and the potential interactions between these problems, integrated treatments may provide better outcomes than treatment plans that address these problems separately and, typically, sequentially. A large body of evidence finds that untreated PTSD may adversely affect the treatment of substance use disorders (i.e. Brown et al, 1999 and Hien et al, 2000).[36,37] Moreover, integrated therapy for substance use disorders and PTSD may improve outcomes of both disorders.[38,39] No standardized or evidence-based treatment exists for treating all three conditions concurrently. Future investigations into their interplay and impact on treatment would advance the mental health field and veteran care.

Advance community partnerships with the DoD/VA continuum of care

Active Duty military members who separate from service and National Guard and Reserve service members who have returned from deployment are eligible for VA health care without copay for five years for any condition which their VA clinician deems likely to be related to their service in a combat area. Veterans whose medical problems are subsequently determined to be service-connected will continue to receive treatment without copay indefinitely. The VA, in collaboration with the DoD, has implemented outreach efforts to provide information about VA services to new veterans immediately prior to and following deployment and again 90-180 days after return from deployment as part of a routine Post-Deployment Health Reassessment (PDHRA).

While the DoD/VA care continuum provides a comprehensive range of substance use treatment and other medical services for military members and OEF-OIF veterans, partnerships between community health services and VA and DoD health care systems are still needed in order to maximize access to and quality of care for the men and women who have served our country. Notably, although family members of active component military members may obtain their medical services on base within the same facilities as do military members, the family members of Reserve component military members and veterans do not have this option. These divisions in the care of individual family members across systems pose an obstacle to integrated efforts to support the military member/veteran by

supporting his or her family. In addition, because of the powerful stigma associated with seeking mental health care in military settings,[4] many OEF-OIF veterans and their family members seek care through community mental health clinicians, primary care providers, or clergy.[40] These formidable and persistent obstacles to integrated care could be addressed through interagency training, cooperation, and communication. When clinicians and administrators coordinate efforts across systems, they significantly improve the quality and availability of services. North Carolina has already taken the lead in developing this kind of DoD/VA state and community partnership and now serves as a model for other states.[40] Among the key elements of this system are the toll-free, 24-7 telephone-based NC CareLine accessible at 800.662.7030 (English/Spanish) or 877.452.2514 (TTY) and the web-based NC CareLink at http://www.NCcareLINK.gov. Both resources offer OEF-OIF veterans and their families easy access to a broad array of services including substance use services.

Taken together, these steps comprise a multisystem, interdisciplinary, public health approach to the substance use and mental health problems of OEF-OIF veterans, which is informed by research on their psychosocial needs and evidence-based approaches to their treatment. Such measures are necessary to ensure that veterans of our most recent wars will, along with their families, gain from what has been learned in our nation's experience with past generations rather than simply repeat those experiences. **NCMJ**

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Physician Health vs. Impairment:
The North Carolina Physicians Health Program

Warren Pendergast, MD; Jim Scarborough, MDiv

Consider these scenarios:

- Colleagues in a large medical practice believe they smell alcohol on a physician's breath in the workplace.
- A physician with back pain reads an article in the North Carolina Medical Board Forum about the North Carolina Physicians Health Program (NCPHP), becomes concerned about her use of opiates, and realizes she needs help.
- A hospital reports a physician to the North Carolina Medical Board (NCMB) and to NCPHP because of ongoing sexual harassment of other staff.
- A physician assistant self-reports to NCPHP before his practice dismisses him for continual abusive comments and actions towards patients.

While the actual cases monitored by NCPHP are not usually this simple, all of these examples have in fact been seen many times. This is because the North Carolina General Assembly and a number of other visionary leaders in this state fought strong opposition to establish a peer assistance program in the 1980s for physicians who needed help.

The North Carolina Physicians Health Program is proud of its over 20 years of service. Since its founding on December 1, 1988, over 2,000 physicians, physician assistants, veterinarians, and registered veterinary technicians have been seen for substance abuse assessment. As a result, numerous practitioners seeking recovery are now visited regularly by field coordinators for urine drug screens and supportive services.

The first movement toward a physician's health program began in 1978 through the work and foresight of pioneers in this field. Dr. Ted Clark, Dr. Jonnie McLeod, Dr. Harold Godwin, and many others started the Physicians Health and Effectiveness Committee, part of the North Carolina Medical Society, in the mid-1970s. These individuals believed that many physicians suffering from substance use or mental health problems deserved help and treatment, not solely sanction or loss of a medical license. Significant resistance was encountered from many in the profession who did not understand that recovery from mental health and substance abuse problems is possible through treatment and monitoring. However, Ted Clark and his colleagues believed that the doctors who found recovery could be of greater service to patients, in part *because* they had suffered from a chronic but treatable disease.

From 1978 until 1988, Dr. Clark operated the Committee out of his home. It was during this time that attitudes toward treatment began to change. By 1987, the North Carolina General Assembly authorized the North Carolina Medical Board and the North Carolina Medical Society to create a peer-review process. Senate Bill 204, later to become part of NC General Statute 90-21.22, formalized the work of the Committee. NCPHP, first known as the Physicians Health and Effectiveness Program, was born.

Physicians and physician assistants (PAs) may seek services from NCPHP on their own or through a referral. Though many referrals come from the NCMB and hospitals, others come from a wide range of sources including residency directors, colleagues, treatment centers, and spouses. The types of interventions are related to the types of problems and they are broadly classified into five types (see Table 1).

> ***"We, as physicians and PAs, have a responsibility to ourselves, our profession, our colleagues, and to our patients to assist each other in getting timely help."***

Analysis of the chemical dependence files shows that NCPHP has an approximate 90% positive outcome rate at five years after intake. This exceeds or matches the national standard for chemical dependence monitoring.[1] These results speak for themselves.

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Table 1.
NCPHP Assessments 1988-2007

Chemical Dependence and Dual Diagnosis	59%
Psychiatric (Axis I)	12%
Behavioral (Axis II)	12%
Unsubstantiated and Other	12%
Professional Sexual Misconduct	5%

Dr. Jonnie McLeod, writing in the *North Carolina Medical Journal* in 1996, reflected on the first decade of work. She said, "...a large fraction of the medical community still insists that impaired physicians ought to be punished rather than helped to recover. Those of us who have seen the results know that despite the years of struggle, this program is more than worth it."[2]

So what *has not* changed in the last 20 years? The following problems remain largely unresolved:

- Physicians/PAs suffer from addiction at the same rate, or perhaps only slightly higher, as the general population.
- Denial and fear often prevent physicians/PAs from getting early treatment.
- Physicians/PAs continue to encounter external obstacles to treatment.
- A significant amount of the illness suffered by physicians and PAs results in relapse.
- Society remains ambivalent as to whether some conditions (especially substance abuse and perhaps depression) represent moral failing, weakness, or illness. This is an especially sensitive issue as it relates to health care professionals.

Many of the issues that have made it difficult to estimate the prevalence of psychiatric illness in the general population[3,4] also affect the accuracy of information about prevalence in professionals.[5] In addition, denial and fear of professional consequences in physicians not only interferes with access to treatment, but also makes the issue very difficult to study. The definition of a "good outcome" has been hotly argued. Some say that a single slip, relapse, or even the minimal presence of addiction in health care professionals is unacceptable. Others point to the 1956 and 1987 declarations by the American Medical Association that alcoholism and drug dependence are illnesses; they argue that addiction treatment should be approached like diabetes or heart disease, and be treated using a chronic disease management model. This dichotomy has existed in various forms throughout NCPHP's history.

What things *have* changed in the last 20 years?

- Physician health programs (PHPs) have become widespread throughout the US and Canada, now existing in some form in most states and provinces.
- Many PHPs have begun to address other psychiatric diagnoses, behavioral issues, and professional sexual misconduct.
- More research is available on factors leading to favorable addiction outcomes in physicians/PAs.[6]
- The definition of "acceptable risk" has shifted and/or narrowed.
- Regulatory, legal, and financial pressures in medicine have increased greatly, with increased calls for transparency in the regulatory process and greater pressure on medical boards and other regulatory bodies.
- Computers and the internet have markedly changed the collection and dissemination of information.
- Tension in medicine between "high-touch" and "high-tech" has increased.
- Use of medications for treatment of psychiatric illness and addiction has become more widespread and accepted.
- There is a greater understanding of the anatomy and physiology of addiction.
- Drug screening technology has advanced, as have methods for evasion of detection.
- Programs now exist for many other professionals in North Carolina, including nurses, attorneys, pharmacists, and dentists.

None of these changes have occurred overnight; all represent the evolution of trends that have developed over many years. While this slow process often makes it hard to see "the forest for the trees" at any given point in time, we ignore the trends at our peril.

Physician health programs throughout the US and Canada have operated under many different models: some have been operated by medical boards, some by medical societies, and others as independent programs. NCPHP was set up early in its history to be independent but with internal "checks and balances" involving the NCMB, NCMS, and other stakeholders. The underlying idea was to maximize both patient safety and physician/PA health.

NCPHP monitoring contracts are structured so that (for cases not known to the NCMB) anonymity is maintained as long as the participant is safe to practice. However, if the participant constitutes an imminent danger to the public or themselves, refuses to cooperate with the program, refuses to submit to treatment, is still impaired after treatment, or if it reasonably appears that there are other grounds for disciplinary action, their status is made known to the NCMB. Pursuant to longstanding NCPHP policy, and now due to changes in the NC General Statutes, professional sexual misconduct cases are only monitored with mandatory involvement of the NCMB.

Impairment has been defined by the Federation of State Medical Boards as, "the inability of a licensee to practice medicine with reasonable skill and safety by reason of: mental illness; physical illness or condition, including but not limited to those illnesses or conditions that would adversely affect cognitive, motor, or perceptive skills; habitual or excessive use

or abuse of drugs defined in law as controlled substances, alcohol, or other substances that impair ability."[7] By this definition, illness can lead to impairment but is not the same thing as impairment.

There will always be tension between the goal of getting practitioners to self-identify illness early and to seek help versus the desire of the public to know when their doctor is ill or impaired. The former emphasizes protection of the public through prevention, while the latter speaks to the empowerment of patients as consumers.

The lessons of the last 20 years have taught that PHPs must address both illness and impairment and, ideally, even conditions predisposing to illness. A prevention model will only work if practitioners feel safe in getting early preventive treatment and monitoring of *illness* through the PHP. If the definitions of *illness* and *impairment* become confused, that perception of safety will be eroded. The PHP will then get more and more referrals of those in late-stage addiction and hence those who are more likely to be impaired in the workplace. This becomes a vicious cycle that ultimately results in the inability of the PHP to function effectively, to the detriment of public safety.

Furthermore, if the bar to return to practice after addiction treatment is set too high, physicians and PAs will be even more reluctant to get treatment. If the bar is set too low, physicians and PAs will return to work too early and/or with inadequate treatment. NCPHP's role, in part, is to assess the severity of illness, help determine appropriate length of treatment, and to assess the potential to practice safely, and to do so in as unbiased and objective a manner as possible. The question is one of balance. A recent NCPHP participant was told by a colleague during his intervention, "You can make the decision to go to treatment now, or you will reach a point where others are making decisions for you, and you *won't* like the outcome."

In achieving this balance, physician health programs have a responsibility to carry out our mission as consistently and competently as possible. While it is not realistic to expect the complete absence of errors, policies must be in place to minimize the chance of errors taking place and to identify and correct mistakes when they occur.

How society treats its physicians and PAs will determine how those practitioners treat their patients. We, as physicians and PAs, have a responsibility to ourselves, our profession, our colleagues, and to our patients to assist each other in getting timely help. NCPHP has helped the profession do just that for 20 years and looks forward to the next 20 years and beyond. As an NCPHP participant recently said, "The value of a benevolent act such as this cannot be underestimated, and I continue to be grateful to those who made this miracle possible." **NCMJ**

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Substance Abuse Treatment Continuum in the North Carolina Department of Correction

Virginia Price

It may not be a surprise to learn that the majority of North Carolina's offender population has been identified as having problems associated with substance abuse.[1] Without professional intervention, using some potentially harmful substances often escalates into abuse and/or dependency and is a major factor in criminal behavior, leading to arrest, re-arrest, and incarceration. According to the Office of National Drug Control Policy, drug therapy while in prison and under post-incarceration supervision can produce a 50% reduction in criminal recidivism.[2] National studies indicate that more than 65% of released state prisoners are expected to be rearrested for a felony or serious misdemeanor within three years after release.[3] More than 95% of prisoners return to the community, usually within two years,[2] and often forego the opportunity to voluntarily engage in community-based substance abuse treatment service. Therefore, in the interest of public health and safety, and in an effort to reduce both the human and financial cost of incarceration, it is critical that North Carolina continue in its efforts to provide a comprehensive array of substance abuse treatment services for offenders and inmates within the North Carolina Department of Correction (NC DOC).

Creating a Substance Abuse Program

In 1987, a North Carolina Legislative Research Commission reported to the General Assembly that:[4]

- Over 67% of criminal offenses directly connect to alcohol and drug use.
- Treating addiction is imperative as most offenders eventually leave prison.
- Punishment alone does not work to prevent recidivism.

A resulting proposal by the Commission led to legislation that created the North Carolina Department of Correction's Division of Alcoholism and Chemical Dependency Programs (DACDP).

Organization and Mission

DACDP was established in 1988 and is one of four major divisions of the North Carolina Department of Correction. The Division is responsible for the delivery of comprehensive interventions, programs, and services to both male and female offenders who have alcohol and/or drug problems.

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The Division's programming reflects "best practices" for intervention and treatment, as established by the National Institute on Drug Abuse (NIDA) and the Substance Abuse and Mental Health Services Administration (SAMHSA). Its programs are based on proven cognitive-behavioral interventions, which challenge criminal thinking and confront the abuse and addiction processes as identified by program participants. In addition, the Division provides information and education on

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traditional recovery resources available to offenders both while in prison and upon return to the community.

Scope of the Problem

In 2003, the Division implemented the Substance Abuse Subtle Screening Inventory (SASSI), which was normed for the North Carolina prison population. DACDP uses this screening tool to identify inmates with a high probability of a substance use disorder and to assign a severity level. During FY 2006-2007, DACDP administered the SASSI to 23,111 newly-admitted inmates. Of the new admissions screened for this fiscal year, nearly 63% or 14,582 individuals were identified as in need of brief, intermediate, or long-term treatment services.[1]

Array of Services

The Division operates treatment programs in 18 minimum and medium security prisons and has contracts with two private providers. An additional facility serves 300 male probationers and parolees. The 21 programs provide 1,485 treatment slots, contained within program cycles that complete several times a year. In FY 2006-2007, 5,112 offenders successfully completed treatment programs offered by the Division and its contract partners. Many of those offenders continue their treatment in aftercare programs offered by the Division or in weekly self-help recovery groups within the prison.

Prison-Based Programs

DACDP administrative and clinical staff operate prison-based substance abuse treatment programs within selected minimum and medium custody prison facilities. Residential and program space for program participants is maintained separately from the regular prison population. DACDP administers the treatment program while the Division of Prisons (DOP) is responsible for all matters pertaining to custody, security, and administration of the prison facility.

Eligibility for DACDP prison-based treatment programs is established during diagnostic processing with the administering of the SASSI. Upon an inmate's admission to a treatment level, the DACDP staff also completes a thorough clinical assessment, which examines major life areas to further define the history and extent of the substance abuse problem. Together, these measures establish the final recommended treatment placement for program participants.

Programs are based on cognitive-behavioral interventions (CBI) and encompass three service levels: brief intervention, intermediate treatment, and long-term treatment services. DACDP brief intervention programs consist of 48 hours of intervention services over an eight-week period, introducing the recovery process to inmates. Intermediate treatment programs vary in length from 35-180 days and are located in 14 prison facilities across the state. Long-term treatment programs of 180 days to one year operate in four prisons and are designed to treat seriously addicted inmates who need intensive treatment within the prison system.

The Department has contractual agreements for the provision of long-term treatment with two private facilities: Evergreen Rehabilitation Center for males and the Mary Frances Center for females. Eligibility is more restrictive at the private facilities; inmates must be at least 19 years old, in good health, without detainers or assaultive crimes, and be infraction-free for 90 days prior to entry.

Ideally, long-term program completion coincides with the completion of the prison sentence, and the inmate is provided recommendations for community-based aftercare. When additional time remains on the sentence, the inmate completing treatment returns to the regular population and is encouraged to participate in DACDP aftercare. Operating in several prison locations, aftercare services offer a formal 8-12 week track designed to help the inmate transition to the general population and remain in recovery. An additional 12-week pre-release component is also available for inmates approaching release who indicate a need for renewed focus on recovery planning. Inmates learn that recovery does not come about as the result of treatment but as the result of hard work on real issues as treatment services decrease.

Community-Based Residential Treatment Programs

DACDP operates DART-Cherry (Drug and Alcohol Recovery Treatment), a residential treatment facility in Goldsboro for male probationers and parolees. Judges may order participation in this program as a condition of probation or the state's parole commission may order participation as a condition of parole or post-release supervision. It is mandated by statute (GS § 15A-1343(b3)) that participation by probationers in this residential program must be based on screening and assessment that indicate chemical dependency. Representatives from the state-funded Treatment Accountability for Safer Communities (TASC) programs complete the assessment in the community to determine appropriateness for treatment. This facility offers a 28-day program and a 90-day program. There are 100 treatment slots in the 28-day program, a facilitated cognitive-behavioral intervention, designed to impact criminal thinking in relation to substance abuse behavior in the community.

The 90-day program has two therapeutic communities in separate buildings, each with 100 treatment slots (a slot is equivalent to a full-time treatment opportunity for an individual). The therapeutic community model views drug abuse as a disorder of the whole person. Treatment activities promote an understanding of criminal thinking in relation to substance abuse behavior and engage the offender in activities that encourage experiential and social learning. The community of offenders is the main driving force in bringing about change. In response to an identified need, 10 treatment slots are designated as "priority" beds. These are available for probationers or parolees who are experiencing severe substance dependence-related problems and are in need of

immediate admission to the 90-day residential treatment program. Priority beds are not for detoxification purposes.

Upon completion of the DART-Cherry program, a comprehensive aftercare plan is developed by the offender's counselor. The aftercare plan is included in the case file material which is returned to the offender's supervising probation/parole officer to ensure continued treatment follow-up in the community and the completion of the aftercare plan.

The North Carolina Legislature approved approximately $1.9 million during its 2008 session for a substance abuse treatment program for female probationers and parolees. This will provide women the same treatment services now available to men at DART-Cherry in Goldsboro. Located in a recently vacated women's prison facility in Black Mountain, the program will have 50 treatment beds. Both 28-day and 90-day programs will be available to women on parole or probation from across the state. The facility should be staffed and ready to receive offenders by the second quarter of 2009.

Current Challenges

Prison Population Growth and Treatment Needs

The North Carolina prison population has grown at a steady rate over the past six fiscal years. However, the number of substance abuse treatment slots has decreased over the same period (see Figure 1). On June 30, 2001, there were 31,899 inmates in North Carolina prisons and 1,898 treatment slots in substance abuse programs available annually. Over the next six years, the total prison population increased by 6,524, but a total of 408 treatment slots were lost due to budget reductions.[1]

In FY 2006-2007, the Department of Correction, Office of Research and Planning, conducted an assessment of supply and demand for long-term substance abuse treatment within DACDP. The study included the five long-term (180-360 days) treatment programs located at four prisons and the two private treatment facilities, analyzing treatment severity and need for 63,632 people who were in prison at some point during the designated timeframe, and met the analysis criteria. The results indicated that long-term treatment need exceeds program supply by approximately 286%, as there were nearly three inmates meeting treatment criteria for each single program slot.[5]

According to the North Carolina Sentencing and Policy Advisory Commission, in conjunction with the Office of Research and Planning, the prison population will grow from 39,397 in 2008 to 46,801 by 2017, representing a projection of an additional 7,404 inmates.[6] Considering current limitations, and in the absence of additional resources, the anticipated gap between treatment need and treatment availability, as illustrated above, will continue to increase.

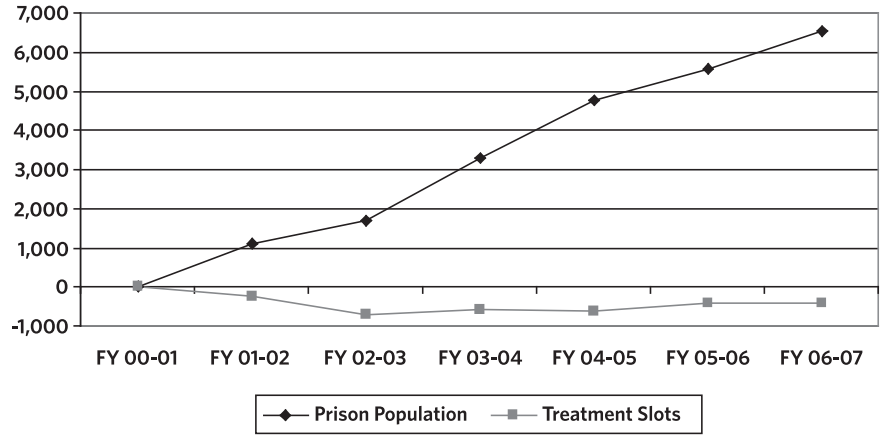
Clinical Workforce

In September 2005, DACDP staff and operations were directly affected by changes to state law (GS 90-113.40) regarding professional credentialing of clinical staff. The changes mandated certification/licensure for all substance abuse professionals; created a new credential, the Certified Criminal Justice Addiction Professional (CCJP); and established new clinical supervision requirements for clinical practice.

With the establishment of a clinical development team of certified clinical supervisors and trainers, the Division has effectively addressed the practice standards established in the legislation. In fact, DACDP is able to provide all clinical supervision and most training requirements for credentialing at no cost to the professional staff. However, competition has increased over the last five years among state and private providers for credentialed substance abuse professionals. Accordingly, it will continue to be a constant challenge for DACDP to remain an attractive employment option, as professionals consider work within the prison environment and limitations on compensation within the state personnel system.

Substance abuse treatment providers continue to face challenges addressing the diverse needs of the offender population in North Carolina. Budget constraints limit the Division from keeping pace with the treatment needs of all of the inmate population, and the needs of female probationers and parolees are only just beginning to be addressed. While great strides have been made to meet the mandates of professional credentialing, salaries still fall behind in comparison with other substance abuse providers in North Carolina. Current budget cutbacks have begun to affect all North Carolina state agencies and the economic outlook does not appear to show immediate improvement.

Figure 1.
Cumulative Change in Prison Population and Treatment Slots



In spite of these factors, the Division of Alcoholism and Chemical Dependency Programs has made tremendous progress over the past few years in service delivery by implementing a standard cognitive-behavioral based curriculum, by establishing a certified cadre of counselors receiving training and clinical supervision, and by dedication to evidence-based practices in treatment delivery. With expanded programs and more competitive salaries, the Division will continue, with dedication and commitment, to strengthen and expand its substance abuse treatment to the offender population. **NCMJ**

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Drug Treatment Courts

Kirstin Frescoln

"It is the most satisfying thing I have ever done as a judge. I felt the courts did not adequately deal with drug abuse and addiction."[a]

The above statement, made by a North Carolina Drug Treatment Court judge, is typical of the responses shared by professionals involved in therapeutic courts. Most child welfare workers estimate that approximately 70% of all child abuse or neglect is due to one or both parent's alcohol or other drug abuse/addiction.[b,1] More than one-half of all criminal cases before the North Carolina courts involve people with alcohol and other drug (AOD) abuse and addiction. In 2008, 202,942 drug-related charges were brought before the North Carolina Criminal Courts and there were 72,867 DWI charges. These numbers do not include approximately one million additional criminal cases such as assault, breaking and entering, and larceny that were committed under the influence of drugs and/or alcohol or committed to support the offender's addiction. Two-thirds of all intimate partner abuse involves alcohol, 35% of all violent crime is committed under the influence of alcohol, and two-thirds of all simple assaults involve alcohol.[2] Because of the correlation between AOD abuse and crime, we must find a means of addressing the common cause—addiction—in an effective and cost-efficient manner.

The 1980s saw the explosion of crack cocaine use, and many courts around the country responded by creating "drug courts" designed to "fast-track" offenders through prosecution and into jail or prison. In 1989, however, a Miami judge and district attorney launched a very different kind of drug court.[3] Their hypothesis was that until individuals actually entered treatment and became clean and sober, they would continue to abuse drugs and alcohol, continue to break the law, and continue to be brought before the court and sent to prison. This experimental court worked to identify nonviolent drug addicts, get them assessed, get them into treatment, and then keep them in treatment. Proponents recognized that the problem was not always getting people into treatment but rather keeping them in treatment. The judge and the prosecutor designed their approach to leverage the strength of the courts in getting people to do things. In ordering people into treatment and then ordering them to return to the court to report progress (or lack of progress) every two weeks, the courts saw behaviors shift as offenders became more successful at entering and remaining in treatment. From that early beginning, drug courts and problem-solving courts began to grow exponentially. As of December 2007, there were 2,147 operational treatment courts across the nation.[3]

"[Drug Treatment Courts work] to identify nonviolent drug addicts, get them assessed, get them into treatment, and then keep them in treatment."

How are Drug Treatment Courts Different from Regular Courts?

Drug Treatment Courts (DTC), a form of therapeutic or problem-solving court, operate on the principle of coerced treatment through intensive judicial intervention. Studies have shown that coerced treatment—when an individual is forced into treatment by the courts, an employer, or family—

a Anonymous Drug Treatment Court judge, oral communication, August 2008.

b Due to differences in reporting requirements, the exact prevalence of parental AOD abuse/addiction in child maltreatment varies but practitioners report a high correlation.

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is as effective, and arguably more effective, than entering treatment voluntarily.[c,4] Not only are DTCs more effective at getting individuals to begin treatment, they are much more effective at keeping individuals actively engaged in treatment.[5] Research has demonstrated that the longer an individual remains actively engaged in treatment, the more likely that individual is to attain and maintain sobriety.[4] Three months in treatment is a minimum length of stay with one year or more recommended to produce truly effective results.[4]

Drug treatment courts represent the coordinated efforts of the judiciary, prosecution, defense bar, probation, law enforcement, treatment, mental health, social services, and child protection services to actively and forcefully intervene and break the cycle of substance abuse, addiction, and crime.[d] As an alternative to less intensive interventions, drug treatment courts quickly identify substance abusing offenders and place them under strict court monitoring and community supervision, coupled with effective, long-term treatment services. In this blending of systems, the drug court participant undergoes an intensive regime of substance abuse and mental health treatment, case management, drug testing, and probation supervision while reporting to regularly scheduled status hearings before a judge who has specialized expertise in the drug court model. In addition, drug courts often facilitate job skills training, family or group counseling, parenting classes, and many other life-skill enhancement services.

The North Carolina Drug Treatment Courts were established by statute in 1995 to enhance and monitor the delivery of treatment services to chemically dependent adult offenders while holding those offenders rigorously accountable for complying with their court-ordered treatment plans.[e] In 2001, the General Assembly formally authorized expansion of the DTCs to include substance abusing juvenile offenders and chemically dependent parents of neglected or abused children.[e] Today, there are 43 operational adult,[f] juvenile (JDTC),[g] and family (FDTC)[h] drug treatment courts in North Carolina.

The goal of the DTC is to break the cycle of addiction that gives rise to repeated law-breaking episodes. By enhancing the likelihood that the drug-driven offender will remain drug and crime free, as well as socially responsible, the DTC seeks to reduce justice system, health system, and other societal costs associated with continuing drug use and criminal involvement.

The objectives of North Carolina's Drug Treatment Courts are:

1. To reduce alcoholism and other drug dependencies among adult and juvenile offenders and defendants and among respondents in juvenile petitions for abuse, neglect, or both.
2. To reduce criminal and delinquent recidivism and the incidence of child abuse and neglect.
3. To reduce the alcohol-related and other drug-related court workload.
4. To increase the personal, familial, and societal accountability of adult defendants, juvenile offenders, and respondents in juvenile petitions for abuse, neglect, or both.
5. To promote effective interaction and use of resources among criminal and juvenile justice personnel, child protective services personnel, and community agencies.

North Carolina's drug treatment courts specifically target high-need, high-risk individuals. Drug treatment courts are an intensive community-based intervention. Research indicates that it is important to effectively target the level of need to the level of the intervention being provided.[6] High-need individuals are those who have been clinically assessed as addicted to drugs and/or alcohol as indicated by criteria described in the DSM-IV-TR.[i] High-risk means that the individual has a high likelihood of reoffending.[7] In the case of the highly-invasive and resource-intensive drug treatment courts, it is vital to admit only those high-need, high-risk individuals who would benefit from the intervention.

Success Rates

Drug treatment courts are making an impact in North Carolina communities. Across the three court types, participants

c The research regarding effectiveness of treatment and time in treatment has progressed through several important studies (Pescor, 1943; Simpson and Sells, 1983; Hubbard, et al., 1989). Clients in the national Drug Abuse Treatment Outcome Study reported significant overall improvements in drug use and related measures during a 12-month follow-up period. A quasi-experimental design was used to examine the relationship of treatment duration with outcomes in each of the three major modalities represented. Client subsamples with longer retention in long-term residential programs and in outpatient methadone treatment had significantly better outcomes than those with shorter lengths of stay.[4]

d Adult Drug Treatment Court members include a district or superior court judge, an assistant district attorney, a specialized probation officer, a TASC provider, a DTC coordinator, and a treatment professional. Family DTC members include a juvenile court judge, a Department of Social Services county attorney, a parent attorney, a guardian ad litem, Department of Social Services staff, an FDTC coordinator and treatment professionals. Juvenile DTC members include a juvenile court judge, an assistant district attorney, a defense attorney, a juvenile court counselor, a JDTC coordinator, and a treatment professional. Any of these teams may include professionals from other agencies or departments.

e NC Stat §7A-790 et seq.

f Adult DTCs are located in Avery, Buncombe, Brunswick, Burke, Carteret, Caswell, Catawba, Craven, Cumberland, Durham, Forsyth, Guilford, McDowell, Mecklenburg, New Hanover, Person, Pitt, Orange, Randolph, Rutherford, and Wake counties.

g JDTCs are located in Durham, Forsyth, Mecklenburg, Rowan, and Wake counties.

h FDTCs are located in Buncombe, Chatham, Cumberland, Durham, Gaston, Halifax, Lenoir, Mecklenburg, Orange, Robeson, Union, and Wayne counties.

i Adult Criminal and Family DTC participants must have a diagnosis of AOD dependence. Juvenile DTC participants must have a diagnosis of abuse as indicated by the DSM-IV-TR.

remained actively engaged in the court, treatment, and supervision for an average of 287 days during fiscal year (FY) 2007-2008.[j] In the same period, 38% of adult DTC participants, 49% of juvenile DTC participants, and 33% of family DTC participants successfully completed the program.[j] Of those parents who successfully completed the FDTC in FY 2007-2008, 89% regained custody of their children. In adult DTCs, 42% were employed while in the court.[8] The May 2008 North Carolina Sentencing and Policy Advisory Commission report on recidivism, found that, three years after entering DTC, only 29.4% of the DTC participants (completed and non-completed) were reincarcerated as compared to 45.2% of all intermediate punishment offenders.[k,7] The rearrest recidivism rates found in the study are within the expected range—lower than the intermediate offender rate and higher than the community offender rate.

Shared Responsibility and Shared Success

The growth of North Carolina's treatment courts has been made possible through the shared commitment and efforts of state and local stakeholders. At the state level, the North Carolina Department of Correction, Division of Community Corrections (DCC); the North Carolina Department of Health and Human Services, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMHDDSAS); and Division of Social Services (DSS) Child Welfare, have joined with the North Carolina Administrative Office of the Courts (AOC) to develop, implement, and fund the operation of the specialty courts. State and local memoranda of understanding have established roles and responsibilities for each of the state agencies and local DTC team members.[8] The DCC has made a commitment to place specially-trained probation officers with smaller case loads on each DTC team. The DMHDDSAS has lobbied for and received additional targeted treatment funds for adult DTC participants. The Department of Juvenile Justice and local Departments of Social Services have each made commitments to dedicate specially-trained staff with reduced case loads to the DTC team. The AOC funds a dedicated court coordinator, judge, assistant district attorney, guardian ad litem staff, and indigent defense services in addition to the technical assistance and training provided by the AOC state DTC staff.

Just as local DTC teams require a commitment to shared responsibility and shared resources, state-level stakeholders have agreed to joint accountability and have committed additional resources. Just as the local stakeholders share equal claim to the success of DTC graduates, state-level

"My Life Was a Wreck...

Six years ago, I started something that will never be finished. From the very first time I took a drink and used a drug, I engaged myself with addiction. I firmly believe that this is a disease and an incurable one because I have seen victims with my own eyes. When someone is involved in active addiction, they have no other reason for existing than to get drunk or high. This is my definition because this describes my own experience. I will be fighting my addictions for the rest of my life and that is okay by me. It is a much better option to fight than to give in.

I was a drug dealer and on more frequent occasions a user of many types of drugs. My life was a wreck. I never went to classes, my health was in a constant state of decline, and my only responsibilities were to drink, use, and sell. I lost the trust of everyone around me because I was leading a double and sometimes triple life. February 11, 2004 was the best and worst day of my life. I lost my brand new car, all of my money, and was charged with two felonies. But everything I had been doing to myself was going to come to a halt very soon. The Drug Treatment Court Program was described to me as an alternative to prison, so I took it thinking I would be able to stay out of prison and jail and keep selling drugs. I was dead wrong. In the beginning, I did most of the things I was supposed to do except for the main thing: I never stopped using. After numerous failed drug screens and two trips to jail, I was carted away to the Caldwell House residential home in Lenoir, North Carolina. I was court-ordered to remain in this halfway house for one year. I had been thrust into a situation where I was surrounded by alcoholics and drug addicts with a lot of pain in their eyes and all kinds of horrible stories. It took a little time, but I soon realized that I was one of these people and that I needed help. The year flew by, and I made many friends, some of whom I had to watch relapse and be kicked out.

I have now graduated from Drug Treatment Court and have over 600 days of sobriety. I am back in school and need only one more semester to graduate from the University of North Carolina at Chapel Hill. My life is more than worth living; it is worth enjoying. I have gained back the trust of the people who love me, and I have many people in my life that care about me. I am appreciative to the Drug Court Team for everything they have done for me, but most especially, for believing in me."

— North Carolina Adult Drug Treatment Court Graduate

j Information from preliminary FY 2007-2008 DTC outcome data based upon information included in the NC DTC MIS (Drug Treatment Court Management Information System).

k An intermediate punishment requires a period of supervised probation with at least one of the following conditions: special probation, assignment to a residential treatment program, house arrest with electronic monitoring, intensive probation, assignment to a day reporting center, and assignment to a drug treatment court program. Generally, offenders who have a significant prior record and commit Class H or I felonies and offenders who have little or no prior record and commit more serious non-violent felonies may receive an intermediate punishment.

stakeholders are able to point to drug treatment courts as an innovative and successful example of high-level collaboration. Working together not only improves outcomes for the DTC participants but also improves the practice and increases job satisfaction for the DTC team members. As one local DSS staff person said, "It is so easy to track what is going on with clients involved in DTC, easy to write a case plan, and easy to be consistent." An assistant district attorney assigned to a DTC said of his work with the courts, "I enjoy preventing further crimes from happening." A probation officer working with courts said she was involved because, "knowing you can make a difference while having the ability to impose immediate consequences and having teeth in what you do improves outcomes."

Since alcohol and other drugs are involved in a significant proportion of crime in North Carolina and traditional criminal justice systems are limited in their ability to address these chronic problems, we must respond more effectively. One in every 100 Americans is currently incarcerated. Disproportionately, one out of every 15 African American men and one out of every 36 Latino men are now behind bars. Despite the need these numbers create, drug treatment courts nationally serve only 5% of the adult offender population estimated to be in need of treatment court services. North Carolina DTCs perform a little better, serving about one-third of appropriate intermediate-level offenders but serve an exceptionally small portion of parent respondents who could benefit from the specialized courts. Drug treatment courts offer a combination of intensive judicial oversight, intensive treatment, intensive probation supervision, and frequent drug testing. North Carolina's operational drug treatment courts must expand to better meet the needs of their communities, and we must increase availability of drug treatment courts across the state to provide equal access.[9] Research has shown the effectiveness of coerced and evidence-based treatment. North Carolina has an opportunity, through drug treatment courts, to positively affect the lives of those addicted to alcohol and other drugs and the lives of their family members and children. We must embrace the challenge and meet the state's need. **NCMJ**

For more information on North Carolina Drug Treatment courts visit http://www.nccourts.org/Citizens/CPrograms/DTC.

Acknowledgements: *The author wishes to acknowledge the following individuals for their assistance in preparation of this article: Judge James E. Ragan III, JD, North Carolina Drug Treatment Court state advisory committee chair; Gregg Stahl, North Carolina Administrative Office of the Courts senior deputy director; and Sandy Pearce, court programs administrator.*

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Substance Abuse Services and Issues in Community Offender Supervision

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The North Carolina Division of Community Corrections has undergone a decade of change in achieving its mission to "Protect society by applying appropriate control over the offender while coordinating community resources that enables those under our supervision the opportunity to change their behavior, support their family, pay restitution and make reparation to their victims, and to become productive law abiding citizens."

In addition to our many initiatives and partnerships that address the risks and meet the needs of an ever-changing offender population, we have reached deep within our profession to overhaul our own 65 year-old probation and parole system. The philosophy and focus of this Division has changed from being solely on the offender to a focus on the community, the victim, and the offender as well. In order to be successful at impacting positive change, we must provide the opportunity for change for the offender. Increased treatment resources, job skills training opportunities, and support groups are necessary components of the success model. We have shifted from a one-on-one focus between the probation officer and the offender to a team supervision approach including probation officers, treatment providers, law enforcement, families, and the community as a whole. A balance of control and treatment is a must for community corrections to be successful in reducing repeat or future offenses and addressing relapse.

The Division of Community Corrections is one of the major operating arms of the North Carolina Department of Correction and is charged with the responsibility of providing supervision within our community of offenders who are placed on supervised probation or unsupervised probation with community service by the courts or who receive post release supervision or parole. The offender population includes those convicted of felonies, misdemeanors, and DWI offenses. Currently the Division supervises nearly 128,000 offenders across our state, which is a challenging responsibility. To put it into perspective, if all of the offenders were in one location, there would be only five cities and 20 counties in our state with a larger population.

During fiscal year 2007–2008, over 72,000 offenders were admitted to supervision with the Division. For those with felony offenses, over 37% had committed a drug-related offense. In the misdemeanor categories, 22% were DWI offenses and 15% were drug-related. In most other offense categories, substance abuse is often a behavioral issue for the offender. The North Carolina Department of Correction estimates indicate that over 60% of our offender population has some form of a substance abuse issue and need for services.

"...estimates indicate that over 60% of our offender population has some form of a substance abuse issue and need for services."

Currently the Division works closely with the Department of Health and Human Services, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services through a memorandum of agreement following an Offender Management Model. Part of the model requires offenders to be sent to the local Treatment Alternatives for Safer Communities (TASC) office for substance abuse assessments and placements. TASC provides a bridge between our criminal justice system agency and community-based treatment providers through coordination and oversight of services. TASC assesses and refers offenders to appropriate service providers and treatment while the Division's probation officers focus on supervision within the community and follow-up with the provider and TASC to determine progress within treatment. The Division is committed to the principles and practices of the Offender Management Model and has established standard operating procedures to support a better

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understanding of this process. The Offender Management Model has become the central theme of community corrections across the state.

Several more specialized areas also exist. Offenders sentenced within the intermediate grid of structured sentencing who, in theory, pose a higher risk, may be required to complete an intermediate sanction such as residential treatment, a day reporting center, or a drug treatment court program. All of these sanctions include strict supervision with treatment and have proven to be successful in reducing the risk of reoffending. There are only 21 day reporting centers[a] and 19 drug treatment courts operating in the state, and there are a limited number of residential treatment beds available. There are 130 residential treatment beds available through the department-operated Drug Alcohol Recovery Treatment (DART) program, as well as an additional limited amount that are provided through a few private nonprofit programs.

The majority of treatment services for offenders are provided on an outpatient basis at the local level, including those received in a drug treatment court or day reporting center. The Division's Criminal Justice Partnership Program, which provides funding for the day reporting centers, also provides funding for local satellite substance abuse programs and resource centers, programs which provide a one stop location for the outpatient providers to reach the offender population. The partnership program is one of the leading providers of funding for treatment services for offenders, but it has only $9 million in funds to reach this large and growing population.

With an ever-growing offender population, substance abuse services targeted to the offender population have been unable to meet the needs throughout the state; this has created a growing service gap. Particularly in many rural counties, the criminal justice partnership-funded programs are the only option to directly reach the offender population. Offenders, because of their conviction and past behavior, have shown the need for help, yet they are often overlooked in the face of many competing priorities. Consequently, since its inception in 1995, the criminal justice partnership has not received the funding growth to keep up with the growth in the offender population or for the cost increases associated with services. Funding for services has remained static. On April 1, 2008 a report was provided to the legislature on the criminal justice partnership program as part of the legislative review for continued funding. The report provided detail on how the program was able to reduce the risk of re-offense by 62% for offenders who complete one of the partnership programs. The report included a promising assessment of what the Division's supervision combined with treatment can do to change offender behavior towards the positive.

In order to continue the progress illustrated by the partnership report, a greater focus on the combination of supervision and treatment for offenders will be necessary. While successful, all partnership programs combined reach less than 7,000 in the offender population each year. While not all offenders are in need of this type of intense supervision and treatment, we must strive to reach all offenders in need with the appropriate level of service in order to reduce risk and reoffending behaviors.

The Division of Community Corrections' hardworking, dedicated probation officers are a vital key to changing behavior, but many other components are necessary in order to be successful. The assessment of offenders' risk and needs is a top priority of the Division, a project that began in 2008. However, if the Division and its community partners are not provided the treatment resources and other wrap-around services necessary to address the risk and needs identified then our goal to reduce reoffending may prove to be doomed from the beginning. **NCMJ**

a Reporting centers are restrictive, treatment-oriented facilities where substance abuse services, employment services, and educational services are provided on-site with strict requirements for offender attendance and accountability.

The Physician's Role in Treating Addiction as a Diagnosable and Treatable Illness

Dewayne Book, MD

Like millions of others, I watched with intense interest the pre-election news coverage, including the accusations regarding ACORN. I was particularly struck by the implications that ACORN had hired "homeless people, convicted felons, recovering alcoholics, and drug addicts—people who will do anything for money," at least according to CNN, CBS, NBC, ABC, and FOX news. Imagine the scandal if ACORN had stooped so low as to hire people with diabetes or asthma. It was quite sobering to realize how much education there is left to do for the general public regarding addictive diseases. Unfortunately, that same ignorance exists in the medical profession as well.

Alcoholism and Drug Addiction are Primary Illnesses

About 10-12% of the United States adult population has an addiction. This means that if you, as a physician, treat 1,000 patients, at least 100 are addicted. Do you know who they are? Probably not. Not knowing who they are means they are undiagnosed and untreated. The alcoholic or drug addict's self-assessment can make the diagnosis difficult. Alcoholics and addicts operate under a delusion that they are not addicted. This delusion is different from a lie. Alcoholics and addicts can describe their drinking or drug use in a way not even remotely resembling reality, and yet they can pass a lie-detector test. As a physician it is important that we are able to screen for addiction with every patient. It really is not that time-consuming. *How many days in the past month have you consumed an alcoholic beverage? How many ounces of alcohol do you consume per drinking episode? Have you ever blacked out?* And there are the CAGE questions[a] as well. *Have you ever felt you should cut down on your drinking? Have people annoyed you by criticizing your drinking? Have you ever felt bad or guilty about your drinking? Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover?* It is also a good idea to ask the spouse or significant other about the patient's alcohol use. Your efforts in treating other medical conditions will likely lead to great frustration and poor outcome if the addiction is undiagnosed. Patients with hypertension that is harder to control in the morning could be experiencing alcoholic withdrawal. Patients with chronic complaints of awakening in the early morning hours could be experiencing alcohol withdrawal. Psychiatric patients who complain of chronic anxiety during the day, punctuated with panic in the morning, could be experiencing alcohol withdrawal. Alcoholic patients present to their physicians complaining of depression, anxiety, and sleep disturbance. Unfortunately, these symptoms do not respond to traditional treatment if the drinking continues.

"As a physician it is important that we are able to screen for addiction with every patient... Your efforts in treating other medical conditions will likely lead to great frustration and poor outcome if the addiction is undiagnosed."

At Fellowship Hall,[b] I monitor patients' depressive symptoms by using Beck Depression Inventories. About 95% of patients have scores greater than 30 at admission, indicating severe depression. By day 21, only about 4% continue to have elevation

a The CAGE is a very brief screening tool that asks four direct questions. Any positive answer warrants investigation. The more answers endorsed the more likely that the patient is having problems with alcohol.

b Fellowship Hall, founded in 1971, is a 60-bed private nonprofit alcoholism and drug treatment facility providing medical detoxification and 12-step based treatment to adult men and women.

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in their Beck Depression Inventory scores. This is what is known as substance-induced mood disorder. The DSM-IV (*Diagnostic and Statistical Manual of Mental Disorders-IV*) clearly states for each diagnosis that the diagnosis should not be made if the symptoms can better be explained by a medical disorder or a substance use disorder. For example, cocaine-induced mania followed by alcohol-induced depression does not constitute bipolar disorder. More importantly, neither antidepressants nor mood stabilizers change the use patterns of alcoholics or addicts. There are some patients that are alcoholics who have comorbid psychiatric disorders. Unfortunately, the substance use must stop before symptoms of the psychiatric disorder will remit, even if the psychiatric intervention is appropriate. Regardless of which came first, the substance use must be in remission before the psychiatric symptoms can effectively be addressed. The same is true for conditions such as diabetes, hypertension, and hypothyroidism. Make addiction your first "rule out" in every patient.

Alcoholism is a primary illness, not the result of an underlying condition. There are structural differences in the brain in people with addictions prior to introduction of the addictive chemical, and certainly after repeated exposure. In addition, some people have a predisposition to addiction. Naïve drinkers with a family history of alcoholism experience greater euphoria when exposed to alcohol as compared to those without a family history. This partly explains why non-alcoholics cannot understand the drinking patterns of alcoholics. It is these brain differences that drive the compulsion to use the chemical despite negative consequences. This is the hallmark of addiction: continued use despite negative consequences. A person who is addicted may have, for example, multiple citations for driving while intoxicated (DWIs) or repeated elevated liver enzymes despite warnings from his physician about the adverse health consequences. Drinkers who can stop will stop when confronted with negative consequences. Alcoholics continue to drink despite these consequences and develop sophisticated rationalizations to continue.

Alcoholism and Drug Addiction are Diagnosable and Treatable Illnesses

The way physicians are trained to recognize and treat this population is fraught with problems. As medical students and residents, our exposure to alcoholics and addicts is generally in the emergency department (ED) with the patient being highly intoxicated and often belligerent. If you assess this patient appropriately, which rarely happens, and make an appropriate disposition, which also rarely happens, and the patient is compliant with that disposition, which, again, rarely happens, you will never see that patient in the ED again. Alcoholics are less likely than people with diabetes or asthma to re-present to the ED after appropriate treatment. If any of the three "ifs" fails, the patient will re-present. This may lead to the care provider developing the belief that alcoholics and addicts never get better. The reality, however, is alcoholics and addicts respond to appropriate treatment with greater success than most (other chronic illnesses).

Addiction is a chronic and often relapsing illness. Care providers see a relapse as a treatment failure. Imagine a diabetic patient who for six years closely follows his diabetic treatment plan of appropriate diet, exercise, and insulin. For six years his blood glucose is normal. Then for some reason the patient stops taking insulin and winds up in a diabetic ketoacidosis (DKA). The physician will attempt to reconvince the patient to be compliant with the insulin and may use the six-year success period as evidence that insulin is effective. The opposite is true with alcoholism. The alcoholic faithfully follows her 12-step recovery program for six years and then stops. Soon after, her Alcoholics Anonymous (AA) meeting attendance stops, and the alcoholic begins drinking again. Care providers use this as a demonstration that treatment doesn't work. In both instances, treatment worked as long as the patient was compliant.

Suppose tomorrow you see a patient in your practice with mildly elevated liver enzymes, and you talk to the patient about his drinking. Frequently, alcoholics are told to "cut down on your drinking, and I'll see you in three months," without being told how to address their excessive use of alcohol. Suppose you see a patient with a blood sugar of 400, and as their physician you tell them to lower their blood sugar and you'll see them in three months. Generally physicians will prescribe appropriate anti-hyperglycemic medications and refer the patient to a specialist and a nutritionist for added support.

Very few physicians understand addiction and even less know how to treat it. A few years back, during grand rounds for a family medicine department, an attending physician made this statement: "I know what the symptoms of alcoholism are, what the abnormal lab values are, and can diagnose alcohol dependence. But I never do, because I don't know what to do about it." Imagine if I said, "I know the abnormal EKG finding for an acute myocardial infarction (MI) and the patient's symptoms, but I never diagnose acute MI, because I don't know what to do about it." To do nothing is the worst thing you can do.

For the alcoholic, the key to recovery is abstinence. I will generally contract a patient into an abstinence-based plan that includes AA, outpatient therapy, inpatient treatment, or other appropriate services. If the patient drinks again, I recommend a more intensive level of care—generally inpatient treatment. It is important that the family be informed of this agreement and be willing to follow through with the noncompliance contingency plan that was developed at the initial contract session. The patient's inability to abstain is seen not as failure but merely as data that their disease is too far progressed to treat at an outpatient level of care. The exception is a patient who cannot safely stop drinking. Delirium tremens has a 30% mortality rate. For many patients, detox is not a do-it-at-home project. I have seen countless patients who have been given a benzodiazepine to self-detox and present now addicted to both

the benzodiazepine and alcohol. As we know, a combination of alcohol and benzodiazepine has the potential to be a lethal combination. The American Society of Addiction Medicine (ASAM) has delineated levels of care from detox to outpatient. Each patient is assessed on a multidimensional model and placed in the appropriate level of care. Patients can move up or down these levels of care depending on progress or lack thereof. Treatment is seen as a process rather than an event. ASAM's four levels of care for alcohol and other drug (AOD) abuse treatment are described in *Patient Placement Criteria for the Treatment of Psychoactive Substance Use Disorders*.[1] They are presented in Table 1, with brief descriptions of settings and services.

Recently I admitted a patient who had been prescribed acamprosate. He was taking this medication as prescribed: one 333mg tablet each morning with the plan to titrate the medication up to recommended dose. Acamprosate is prescribed at 666mg three times each day. There is no titration up or down. This was not the glaring error, however. The error was that the patient had been prescribed the medication as the sole intervention into his alcoholism. There are three medications that have been shown to be efficacious in the treatment of alcoholism. Naltrexone, acamprosate, and disulfiram. None, however, have ever been shown to have any efficacy unless part of a comprehensive treatment program.

Everyday in your practice you will encounter alcoholism and drug addiction. Don't be fooled by the presentation of the consequences of the illness; if you only treat the consequence you will miss the cause. Alcoholism and drug addiction are diagnosable and treatable illnesses that warrant our attention and intervention. Perhaps the only wrong intervention is to do nothing. **NCMJ**

Table 1.
American Society of Addiction Medicine Adult Placement Criteria for the Treatment of Psychoactive Substance Abuse

Level I Outpatient treatment	An organized nonresidential treatment service or an office practice with designated addiction professionals and clinicians providing professionally directed AOD treatment. This treatment occurs in regularly scheduled sessions usually totaling fewer than nine contact hours per week. Examples include weekly or twice-weekly individual therapy, weekly group therapy, or a combination of the two in association with participation in self-help groups.
Level II Intensive outpatient treatment (including partial hospitalization)	A planned and organized service in which addiction professionals and clinicians provide several AOD treatment service components to clients. Treatment consists of regularly scheduled sessions within a structured program, with a minimum of nine treatment hours per week. Examples include day or evening programs in which patients attend a full spectrum of treatment programming but live at home or in special residences.
Level III Medically monitored intensive inpatient treatment	An organized service conducted by addiction professionals and clinicians who provide a planned regimen of around-the-clock professionally directed evaluation, care, and treatment in an inpatient setting. This level of care includes 24-hour observation, monitoring, and treatment. A multidisciplinary staff functions under medical supervision. An example is a program with 24-hour nursing care under the direction of physicians.
Level IV Medically managed intensive inpatient treatment	An organized service in which addiction professionals and clinicians provide a planned regimen of 24-hour medically directed evaluation, care, and treatment in an acute care inpatient setting. Patients generally have severe withdrawal or medical, emotional, or behavioral problems that require primary medical and nursing services.

REFERENCE

1 Hoffman NG, Mee-Lee D, Halikas JA. *Patient Placement Criteria for the Treatment of Psychoactive Substance Use Disorders.* Chevy Chase, MD: American Society of Addiction Medicine; 1991.

Adequacy of the Substance Abuse Workforce

Anna Misenheimer

Substance abuse counseling has evolved significantly since its earliest documented beginnings with the founding of Alcoholics Anonymous in the mid-1930s. Unlike most careers in the health care field, substance abuse counseling is a profession in which a significant number of professionals have themselves been recipients of substance abuse services. This unique characteristic of the field has created specific challenges as well as opportunities.

One obstacle often associated with the field of substance abuse counseling is the rapid turnover rates of counselors. Although turnover is experienced in all professions, there is a consequential "bleeding out" of collective wisdom and expertise as counselors leave the substance abuse workforce. As counselors strive to excel in their chosen career and are committed to helping individuals in active addiction and recovery, they themselves face the stigma that is often associated with substance abuse. Substance abuse counselors have been forced to play a leading role as advocates for recognition as providers of clinical services.

The field has grown stronger as a united voice as it has collaborated to face these challenges. Codes of conduct have been developed to encourage better ethical practices and to address boundary issues that sometimes arise for substance abuse professionals. Credentialing boards and certifications have been established to promote education and competency standards in order to safeguard the public from unqualified counselors and to solidify substance abuse counseling as a valid profession. The North Carolina Substance Abuse Professional Practice Board (NCSAPPB) has been established as the state's credentialing board with the International Certification and Reciprocity Consortium, Inc. (IC&RC) as its parent organization.

Incorporated in 1981 and currently headquartered in Harrisburg, PA, IC&RC is a nonprofit voluntary membership organization comprised of certifying agencies charged with credentialing or licensing alcohol and other drug abuse counselors, clinical supervisors, prevention specialists, co-occurring professionals, and criminal justice professionals.[1] The IC&RC and its members are committed to protecting the public through the establishment of quality, competency-based certification programs for professionals engaged in the prevention and treatment of addictions and related problems. IC&RC also promotes the establishment and recognition of minimum standards to provide reciprocity for certified professionals. The North Carolina Substance Abuse Professional Practice Board is one of the five largest IC&RC member boards.

"Unlike most careers in the health care field, substance abuse counseling is a profession in which a significant number of professionals have themselves been recipients of substance abuse services."

The North Carolina Substance Abuse Professional Practice Board, originally chartered in August of 1984, has evolved over the past two and a half decades. The Board was granted statutory authority in 1994 and its legislative authorization changed from a Title Act to a Practice Act in September of 2005.[2] There have been many catalysts for change over the past 14 years. However, it was the Board's reaction to workforce development demands that resulted in the introduction of legislation in the 2008 legislative session.

The Board requested legislation that would streamline the application process for both Certified Substance Abuse

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Counselors (CSAC)[a] and Licensed Clinical Addictions Specialists (LCAS)[b] as well as update terminology in its statute.[c] On July 28, 2008, the General Assembly of North Carolina enacted Senate Bill 2117, Amend Substance Abuse Professionals Act. The implications of this recent legislation include an ever-growing roster for the credentialing examinations and broader recognition of qualified substance abuse professionals.

Prior to the passage of NC Senate Bill 2117, substance abuse counselor applicants were required to take and pass two examinations—one written and one oral—before being eligible for credentialing as a CSAC or LCAS. Senate Bill 2117 eliminated the oral examination from credentialing standards. As a result, a counselor is required to take and pass a newly-compiled written exam which includes items that test knowledge on competencies that had been covered on the earlier oral exam. Although a counselor must still meet credentialing standards that existed prior to the 2008 legislation, the application process has been significantly streamlined as a result. Counselors who once might have been content with simply obtaining registrant status[d] with the Board (registration is required in order to provide substance abuse counseling services in North Carolina) have been seeking CSAC or LCAS credentialing. In December 2007, the Board administered the written exam to 97 counselors while 241 counselors were registered for the December 2008 exam. Eighty CSACs and 84 LCASs have been credentialed since the Board's statute was amended at the end of July 2008.

In addition to the elimination of the oral examination, CSAC and LCAS applicants are now being recognized for meeting minimum credentialing standards with the use of updated definitions and terminology. A CSAC intern is a registrant who successfully completes 300 hours of Board-approved supervised practical training while the same would qualify a LCAS applicant as a Provisional Licensed Clinical Addictions Specialist.[e] One positive consequence of updating these definitions is that a tiered credentialing process has been established for counselors as they pursue a particular credential. As a result, employers have begun to recognize and award counselors as they progress in the application process. Many employers have started to establish deadlines by which employees should obtain the intern and provisional status to ensure job security, some even increasing a counselor's compensation as one completes credentialing standards and achieves a specific status with the Board.

The tiered structure of registrant to intern/provisional to credential also motivates counselors to actively pursue his or her credential as additional services can be provided upon meeting credentialing standards for each separate tier. A prime example of this would be that LCAS-provisional counselors are now eligible to bill Medicaid for certain clinical services.[3] This ability to seek reimbursement enhances their validity as qualified professionals and increases their marketability in the health and human services workforce.

Despite the Board's legislative efforts, perhaps the most pressing workforce development issue facing the profession and counselors pursuing credentialing is the limited number of Certified Clinical Supervisors (CCS)[f] that are available to provide clinical supervision to CSAC and LCAS applicants. This is especially true as the volume of CSAC and LCAS applicants continues to increase. The problem is further exacerbated in rural counties where access to these CCS supervisors is difficult or, in some cases, impossible.

The Board has worked to help remedy this shortage by providing a listing of names and contact information on its website of those CCS counselors who are willing to provide clinical supervision to applicants.[4] Additionally, the Board recognizes CCS applicants that have met certain CCS credentialing standards as Clinical Supervisor Interns (CSI).[g] CSIs are eligible to provide clinical supervision to CSAC and LCAS applicants while completing credentialing standards to obtain the Certified Clinical Supervisor credential. As the main difference between a CSI and a CCS is that a CCS has accumulated the required two years of experience as a substance abuse clinical supervisor and taken and passed the written exam, the CSI status allows a CCS applicant the opportunity to accumulate the clinical supervision-specific work experience required before being allowed to sit for the CCS written exam.

The profession has matured greatly as counselors have united to create a single, effective voice. With the establishment of standards enforced by credentialing bodies such as the North Carolina Substance Abuse Professional Practice Board, substance abuse professionals are finally receiving deserved recognition as qualified professionals who render clinical services. Although the most pressing issue at this time is the inadequate number of credentialed counselors distributed throughout North Carolina, this situation improves every day as more and more credentialed counselors—of all levels—enter the workforce. **NCMJ**

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a A person certified by the Board to practice under the supervision of a practice supervisor as a substance abuse counselor in accordance with the provisions of this Article.

b A person licensed by the Board to practice as a clinical addictions specialist in accordance with the provisions of this Chapter.

c NC General Statute § 90-113-30.

d A person who completes all requirements to be registered with the Board and is supervised by a certified clinical supervisor or clinical supervisor intern.

e A registrant who successfully completes 300 hours of Board-approved supervised practical training in pursuit of licensure as a clinical addictions specialist.

f A person certified by the Board to practice as a clinical supervisor in accordance with the provisions of this Article (G.S.90-113.31A).

g A person designated by the Board to practice as a clinical supervisor under the supervision of a certified clinical supervisor for a period not to exceed three years without a showing of good cause in accordance with the provisions of this Article.

REFERENCES

1 IC&RC: Public protection through credentialing. IC&RC website. http://www.icrcaoda.org/about.asp. Accessed January 6, 2009.

2 The Professional Practice Board. North Carolina Substance Abuse Professional Practice Board website. http://www.ncsappb.org/boardsteve/index.htm. Accessed January 6, 2009.

3 North Carolina Department of Insurance. Advisory notice: session law 2008-130 (senate Bill 2117) NC General Statute § 58-50-30. North Carolina Substance Abuse Professional Practice Board website. http://www.ncsappb.org/boardbuzzsteve/lcasadvisory.pdf. Accessed January 6, 2009.

4 Supervisors. North Carolina Substance Abuse Professional Practice Board website. http://www.ncsappb.org/supervisorsteve/index.htm. Accessed January 6, 2009.

Oxford Houses and My Road to Recovery

Kathleen Gibson

At the age of 29 I had to face the stark reality that I was an addict. I was raised in Durham, North Carolina, where my father was a professor of sociology at Duke University, and my mother worked in the Duke Office of Cultural Affairs. After I graduated from the University of North Carolina at Greensboro in 1986, my addiction to alcohol and drugs began to spiral out of control, and I was facing serious legal problems. Since I still had health insurance I was able to go to an inpatient treatment hospital, then to a superior outpatient treatment program, but I found myself with no safe place to live. Out of desperation I decided to try an Oxford House; I had heard that these were places where recovery without relapse was the norm. A new Oxford House for women had just opened in Raleigh and I decided to apply. I went to the interview and was accepted. This one act may have saved my life. I was able to live with other individuals in recovery, consult with them on all decisions affecting my life, participate in 12-step meetings, and stay as long as I needed, which in my case was about two years. Today, almost 16 years later, I am still sober.

The first Oxford House was founded in Silver Spring, Maryland, in 1975 when a group of recovering alcoholics and drug addicts took over the county-run halfway house that was closing. The idea was simple—to provide a safe and supportive environment for individuals recovering from alcoholism and drug addiction for as long as it took to maintain sobriety. The house was run democratically with elected house officers and regular house meetings. Each house member agreed to pay an equal share of house expenses, and members agreed to immediately expel any member who relapsed. Today there are more than 1,300 Oxford Houses, including 127 Oxford Houses in North Carolina. The houses today follow the same system of operation that was established in the first house.

The concept underlying self-run, self-supported recovery houses is the same as the one underlying Alcoholics Anonymous and Narcotics Anonymous—addicted individuals can help themselves by helping each other abstain from alcohol and drug use one day at a time for the time that is sufficient for sobriety to become comfortable enough to avoid relapse. The typical Oxford House has 8–15 residents. When a vacancy occurs, house members interview prospective candidates and vote on whether to admit them. Once admitted, a resident may stay as long as he or she believes necessary if they maintain sobriety and pay their equal share of household expenses—about $100 a week. Some house members stay a few months while others stay for years. The length of time needed for stable sobriety varies with each individual.

Beginning in 1989, the small network of 13 Oxford Houses in the Washington, DC began expansion throughout the country as a result of the Anti-Drug Abuse Act of 1988.[a] Since expansion began, the National Institute on Drug Addiction (NIDA) and the National Institute on Alcohol Abuse and Alcoholism (NIAAA) have funded extensive research that shows the success Oxford House has in providing people addicted to drugs and alcohol the opportunity to stay sober without relapse. Not only have the studies shown that living in Oxford Houses improves primary treatment outcomes for recovering alcoholics and drug addicts but that they work equally well for individuals with dual diagnoses.[b] For the last 15 years, I have worked for Oxford House, Inc.—the national nonprofit umbrella organization for all Oxford Houses—to help expand the North Carolina network of Oxford Houses from the 22 Oxford Houses in the state in 1992, when I moved in, to the 127 that exist today. Someday I hope we will have enough Oxford Houses in the state to give every recovering addict the same opportunity I had to become comfortable enough in recovery to avoid relapse. I will continue to work with the 941 current residents in North Carolina Oxford Houses to look for more safe houses where recovery without relapse is the norm. **NCMJ**

a 42 USC § 300x-25.

b One important study is: Majer JM, Jason LA, Ferrari JR, North CS. Comorbidity among Oxford House residents: a preliminary outcome study. *Addict Behav.* 2002;27(5):837–845. Many of the DePaul Studies funded by the NIDA and NIAAA are available at http://www.oxfordhouse.org/Publications/Evaluation/DePaul and more specific information regarding this study may be found online at http://condor.depaul.edu/~ljason/oxford/index.html.

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REBUILD AFTER METH

The headlines about methamphetamine—meth—have been grim. This highly addictive drug leaves a path of destruction that hurts families and entire communities. Users suffer severe health consequences; children are often neglected; and communities face dangerous crime and overburdened law enforcement.

Are we making strides in the fight against meth? Absolutely. From first responders to substance abuse professionals, those who work on the frontlines to combat meth recognize the progress.

- ***Meth use among youth and young adults has declined significantly since 2002.***[1]
- ***More meth users are seeking help. Meth treatment admissions have more than tripled in the past decade.***[2]
- ***And law enforcement officials are finding fewer and fewer domestic meth labs—meth lab seizures in the U.S. have decreased dramatically since 2004.***[3]

There is still work to be done, however — from eradicating meth production and distribution to helping those battling addiction. Consider Teresa. She is a mother, Girl Scout volunteer, and website developer. Her life took a sharp turn when she started using meth to lose weight. Her story went from bad to worse as she abandoned her family, including her 4-year-old daughter, for nearly a year in the search for her next high. She eventually entered a treatment program and made a commitment to conquer her addiction. Today, she is drug-free and a leader in anti-meth efforts in her community. There are thousands of people like Teresa out there, showing individuals and communities what they need to know.

- ***Treatment is available, and it works.***
- ***Drug addiction treatment is cost-effective—for every $1 invested in drug treatment programs, there is a $12 savings in crime and health care costs.***[4]

Each year, nearly 150,000 people are admitted to treatment for methamphetamine.[5] And outcomes for meth users entering treatment are comparable to those for users of other similar drugs.[6] Find out about substance abuse treatment, and support meth treatment in your community.

Learn more at methresources.gov or call 1-800-662-HELP.

[1]SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health (NSDUH), 2002-2006, Table 8.40B.
[2]SAMHSA, Office of Applied Studies, Treatment Episode Data Set (TEDS) 2007, Table 1b.
[3]DOJ, National Drug Intelligence Center, National Methamphetamine Threat Assessment 2008, December 2007.
[4]National Institute on Drug Abuse, "Principles of Drug Addiction Treatment: A Research-Based Guide," 2000.
[5]SAMHSA, Office of Applied Studies, Treatment Episode Data Set (TEDS) 2007, Table 1a.
[6]National Institute on Drug Abuse, "Principles of Drug Addiction Treatment: A Research-Based Guide," 2000.

Office of National Drug Control Policy

The Mountain Council on Alcohol and Drug Dependence

PHILANTHROPY PROFILE

Tom Britton, MA, LPC, LCAS, CCS, ACS

The Mountain Council on Alcohol and Drug Dependence is committed to promoting recovery for individuals, families, and communities to reduce the harmful impact caused by alcohol and drug dependency.

In the spring of 2006, a small handful of providers in western North Carolina came together with a vision to return access to quality substance abuse services to the residents of this part of the state. The process of mental health reform in North Carolina from 2001-2006 had left deep wounds in the provider community which was reduced by more than half, a severe reduction in prevention services, a loss of most crisis services, and reductions in all vital resources to reduce and treat addiction. During the same time period, western North Carolina experienced significant increases in hospitalizations, a 16% increase in the county jail population, a 27% increase in the prison system population, and a 42% increase in chronic homelessness of substance abusers. The founding members had the strong conviction that solutions could be identified and implemented if a coalition could be built that established a network of relationships including law enforcement, providers, consumers, business, medical, and vital community stakeholders. From the volunteer efforts of the few and their own out-of-pocket contributions, the Mountain Council on Alcohol and Drug Dependence (MCADD) was established. To this day, MCADD is fully self-supporting through volunteerism and small community contributions.

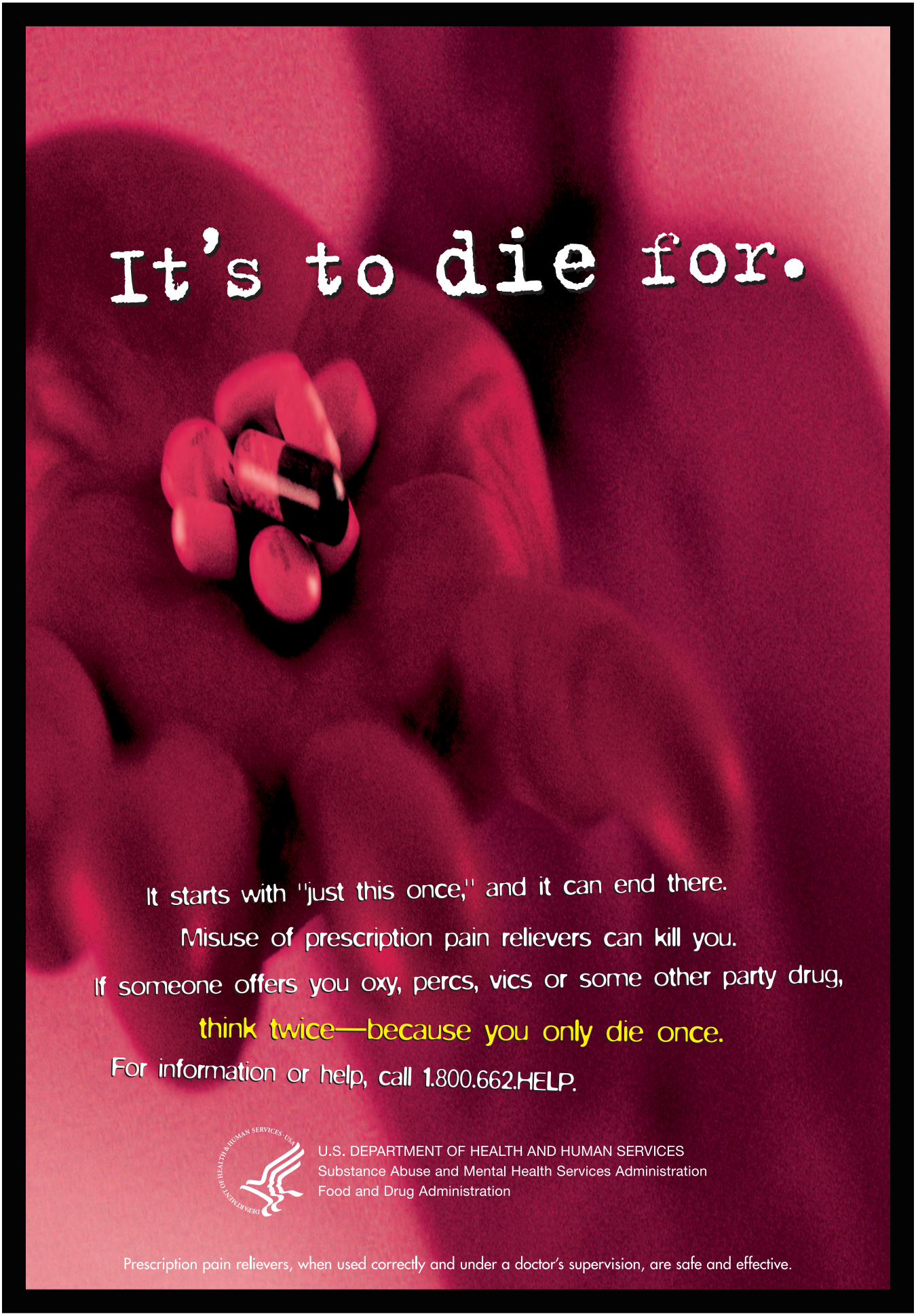
The early members of MCADD identified a strategy to address the issues and rebuild a continuum of care and coalition of providers that included provider network building, staff development, community education and outreach, and direct consultative support to the local law enforcement. The four primary members included Tom Britton, director of a local treatment center and director of the Council; state employee Jim Greer; state activist Bill Cook; and a person who was in recovery. Together they used their networks to bring together a strong inner core that established subcommittees to carry out MCADD's mission, including education, website design, event planning, strategic planning, and finance. Slowly the Council has grown to represent the community with over 100 members including law enforcement, social services, 12-step recovery groups, providers, consumers, and community members.

MCADD has provided nine low-cost training sessions to providers and countless no-charge trainings to law enforcement, community groups, and the state. The Council joined with the county jail to conduct research that demonstrated that between 60-70% of the locally incarcerated population were diagnosable as chemically dependent, most of whom committed addiction-related crimes. The research led to an increase of counseling services in the jail and several community projects to reduce recidivism rates for people struggling with addictions. Combined with community contributions, the Council has been awarded funds by the Substance Abuse and Mental Health Services Administration (SAMHSA) two years in a row to hold a "Recovery Rocks the Mountains" event. The event draws approximately 400 people and includes a march to the county court house. The event is an important step in raising awareness around the importance of substance abuse treatment in our community. With over 23 million addicted people in this country we cannot ignore the problem, and without partnerships and education the Council fears that our people will die and our incarcerated population will only increase.

Under the direction of a new president, Marie Nemerov, MCADD is in a state of evolution that places it on the crest of actualizing its full mission through the successful acquisition of 501c3 nonprofit status. Over the past six months the Council has recruited a working board of key community leaders including a judge, entrepreneur, state leader, recovering persons, and three providers. The Council can no longer operate solely on volunteerism and is engaged in a vigorous strategic planning process that is focused on the needs of the community today. MCADD's goal for 2009 is to maintain the work of our committees that provide support and advocacy to consumers, providers, and the community while initiating a capital campaign to raise the monies needed to hire staff that can expand the work of MCADD to all of the Western Highlands Network, setting an example for the rest of the state of what can be done with committed people and a lot of sweat equity.

For more information, please visit http://nc-mcadd.org, or contact the Council at 33 Coxe Avenue, PO Box 1564, Asheville, NC 28802; 828.398.2263.

Tom Britton, MA, LPC, LCAS, CCS, ACS, is the director of ARP/Phoenix, a comprehensive substance abuse services program serving western North Carolina. He can be reached at tbritton (at) arp-phoenix.com.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Running the Numbers

A Periodic Feature to Inform North Carolina Health Care Professionals about Current Topics in Health Statistics

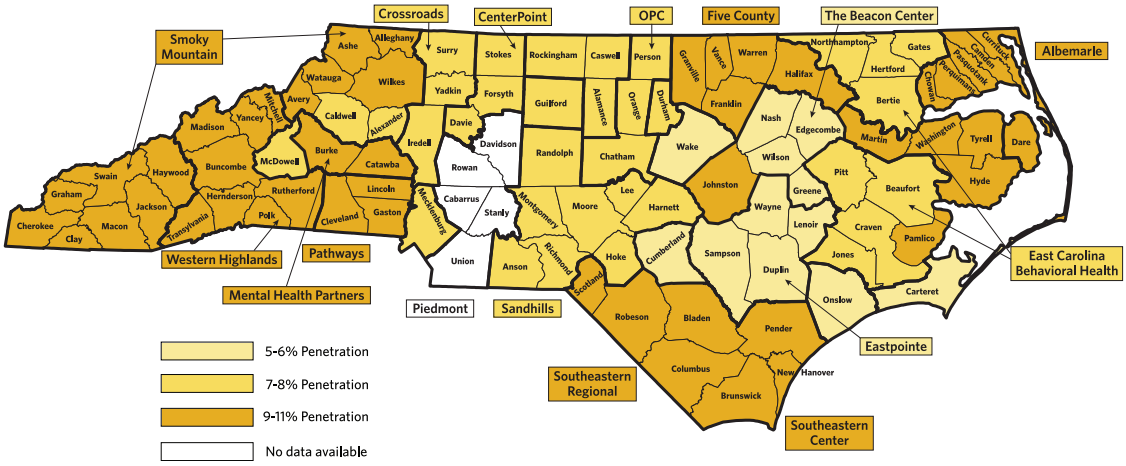
Penetration of Publicly-Funded Substance Abuse Services in North Carolina

In responses to the 2005-2006 National Survey on Drug Use and Health (NSDUH) 8.5% of North Carolinians 18 years of age and older report a dependence on or abuse of illicit drugs and/or alcohol in the past year. This percentage rises to 18.8% for 18-25 year old young adults.[1] This equates to 583,032 young adults with an alcohol or drug use problem. The same survey reports that the treatment gap (those individuals needing, but not receiving, treatment during the past year) was 33,000 for adolescents 12-17 years of age, 70,000 for young adults 18-25 years old, and 89,000 for adults 26 years of age and older. Prescription drug abuse is also a significant problem in North Carolina as well as nationally; the NSDUH study revealed that over 260,000 North Carolina adults used pain relievers nonmedically.[1] The Division of Mental Health, Developmental Disabilities, and Substance Abuse Services is the state agency responsible for the provision of publicly-funded services for consumers with substance abuse concerns. These services are coordinated at the local level through Local Management Entities (LMEs). LMEs are agencies of local government area authorities or county programs and are responsible for managing, coordinating, facilitating, and monitoring services and supports in the catchment area they serve. LME responsibilities include offering consumers 24-hour a day, 7-day a week, 365-days a year access to services and supports, developing and overseeing the provider network, and handling consumer complaints and grievances. There are currently 24 LMEs that serve all 100 North Carolina counties.

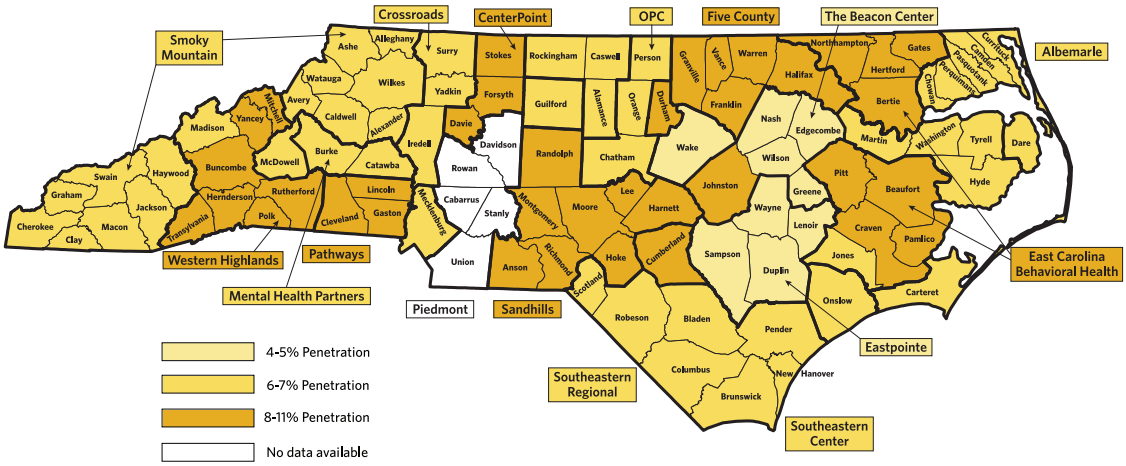
Measures of the delivery of services or treated prevalence are nationally accepted indicators of performance for the service delivery system. The penetration or reach of services is an estimation for each Local Management Entity and within each LME the penetration varies across counties. The prevalence of substance abuse or the need for services in the state is established annually for adolescents and adults separately utilizing the specific indicator, 'dependence on or abuse of illicit drugs and alcohol in the past year by age group,' from the National Survey on Drug Use and Health for North Carolina.[2] This proportion is applied uniformly to every LME in the state to develop a LME specific age/disability prevalence estimate. Penetration or treated prevalence estimates are calculated as a proportion of the number of claims submitted within a given timeframe to the number of people within each Local Management Entity catchment area who were estimated to need services. The number of substance abuse consumers served within each LME catchment area is obtained through claim submissions made by each LME to the Division's Integrated Payment and Reporting System (IPRS) and to the Medicaid Program.

Maps 1 and 2 show the range of treated prevalence estimates by LME. Statewide, 3,689 adolescents (7% of those estimated to be in need of services) received state- or federal-funded services through the community service system from July 1, 2007 to June 30, 2008. The proportion of targeted adolescents who were served varied among LMEs from a low of 4% (Beacon Center and Wake) to a high of 11% (Durham). The established SFY 2009 target for persons receiving adolescent substance abuse services is 9%; of the 23 LMEs with service claim data, four LMEs (CenterPoint, Durham, ECBH, and Five County) met or exceeded this target. Sandhills and Western Highlands came close to meeting the target at 8%. Similarly, 45,224 adults (8% of those estimated to be in need of services) received federal- or state-funded substance abuse services through the community service system during the same timeframe. The proportion of adults who were served varied among LMEs from a low of 5% in Wake to a high of 11% in Johnston and Southeastern Regional. The established SFY 2009 target for persons receiving adult substance abuse services is 10%. Of the 23 LMEs reporting service claims data, six LMEs (Albemarle, Five County, Johnston, Pathways, Southeastern Regional, and Smoky Mountain) met or exceeded the target.

Map 1.
Treated Prevalance: Adults Who Received Publicly-Funded Substance Abuse Services in North Carolina by Local Management Entity, July 1, 2007 to June 30, 2008



Map 2.
Treated Prevalance: Adolescents Who Received Publicly-Funded Substance Abuse Services in North Carolina by Local Management Entity, July 1, 2007 to June 30, 2008



The maps above show the range of treated prevalence among adults (Map 1) and adolescents (Map 2) receiving public substance abuse services in the state of North Carolina. Statewide, 45,224 adults (8% of those in need of services) and 3,689 adolescents 12 to 17 years of age (7% of those in need of services) received federal or state funded services through the state's community service system from July 1, 2007 to June 30, 2008.

North Carolina has designed its public system to serve those in highest need for ongoing care and limited access to privately-funded services. Increasing delivery of services to these persons is a nationally accepted measure of system performance. This is measured by comparing the prevalence of the population that is estimated to have the condition in a given year, to the treated prevalence which is the percent of the population in need who receive the services for that condition within that year. The numbers served reflect adults, 18 and over, and adolescents, ages 12-17, who received any substance abuse services in the community system, paid through Medicaid and/or IPRS. Persons not included are those served outside of the state Unit Cost Reimbursement (UCR) system or those paid by Medicare, Health Choice, TRICARE, county funds, other federal, state, or local funds, and private sources.

Unless otherwise indicated, the LME name is the county name/s. The maps reflect LME configuration as of July 2008.

The data showcase the need for expansion of substance abuse services across the state to reach more consumers who may be in need. This pattern is not exclusive to North Carolina but is similar to many other states across the nation.[3] As the report from the NCIOM Task Force on Substance Abuse Services puts it, "The prevention, diagnosis, and treatment of substance abuse are difficult for several reasons. A large percentage of individuals with substance abuse problems do not seek treatment. In fact, national estimates suggest that nearly 90% of people that abuse or are dependent on alcohol or illicit drugs never seek treatment. The few who do seek treatment often encounter problems accessing it due to service availability or cost. The general medical setting has not heretofore played a large role in the substance abuse treatment system despite the fact that if identified early and treated appropriately, substance use disorders can be successfully managed without further progression."[4]

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Spotlight on the Safety Net

A Community Collaboration
Kimberly Alexander-Bratcher, MPH

Robeson County Bridges for Families Program

The Robeson County Bridges for Families Program brings together an innovative group of service agencies and public officials to meet an often unseen need. They are dedicated to supporting families whose children have been in, or are at risk for, placement outside of the home due to parental substance abuse issues. The program began in October of 2007 when the North Carolina Department of Health and Human Services was awarded one of 53 Regional Partnership Grants from the US Department of Health and Human Services Administration for Children and Families. The goal of the Robeson County Bridges for Families Program is to "improve the safety, permanency, and well-being of children who are in out-of-home placement or are at risk for out-of-home placement as a result of their parent's or caregiver's methamphetamine or other substance abuse, as well as to improve the overall well-being and functional capacities of their families." The primary clients served by the program are substance-involved families referred from the Robeson County Department of Social Services or Family Treatment Court and/or a range of parenting support, mental health, and substance abuse treatment services.

The relationship between child maltreatment and substance abuse is often complicated by a host of personal, economic, environmental, and social factors. In order for substance abuse treatment to be effective, a program must consider all of these issues. In addition to the necessary legal, substance abuse, and mental health services, the North Carolina Regional Partnership Grant program provides or arranges for gender-specific and family-focused wrap-around services that address related issues such as parenting skills, safety and domestic violence, poverty, transportation, social support, and child care.

Since its inception, the program has added a Family Treatment Court; expanded treatment, including enhanced residential care and transitional housing for families; and introduced four new evidence-based substance abuse services: the Matrix Model Intensive Outpatient Program, Seeking Safety Outpatient Groups, Trauma Focused–Cognitive Behavioral Therapy, and the Strengthening Families Program. To build capacity in the region, 22 training events were arranged in the first year of the program. Trainings were focused on substance abuse and the family, methamphetamine addiction, and evidence-based practices for treatment providers and the new Family Drug Court team. After the trainings, the Robeson County Department of Social Services dedicated staff resources to expand collaboration with community agencies in order to help substance-involved families improve safety and permanency outcomes for their children.

A preliminary review of 2005-2006 data from social services case workers in Robeson County suggests that parental substance abuse was a primary contributing factor in at least 29% of child welfare cases where child abuse or neglect claims were substantiated or in which it was found that the family was in need of service. Substance abuse was also found to be a factor in 56% of the cases where children were placed in foster care.

In the start-up year of the program, 15 families and 25 children were served. The program estimates that over the five years of the grant more than 200 substance-involved families engaged with the Robeson County Department of Social Services will benefit from the collaborative efforts of community partners working with the Robeson County Bridges for Families Program and from the expanded array of services provided. The program will seek to sustain itself by integrating efforts into existing systems and working with state leaders in the North Carolina Division of Social Services (DSS), the North Carolina Division of Mental Health, Developmental Disabilities, and Substance Abuse Services, and the North Carolina Administrative Office of the Courts.

North Carolina is participating in a national evaluation effort of these types of programs with the findings to be reported annually to Congress. Through use of data from process and outcome evaluations, the program will serve as a model for statewide strategic planning efforts to support best practices and systems of care that will enhance outcomes for North Carolina children and families affected by parental or caretaker substance abuse.

The value of the program is highlighted by the participants. In interviews with community partners involved with the program, one partner stated, "We speak more freely, share information and ideas more readily, and see each other as equal partners as opposed to peeking at each other from behind the safety of institutional fences." A partner from the guardian ad litem service said, "As a team member working with the drug court, it has provided me with a new way of thinking about substance abuse. I am now more patient in dealing with parents who are battling the disease of addiction. Drug court has given our families a new hope in regaining custody of their children. Our families now see that they have a support system that includes the court and DSS, two entities that they previously viewed as obstacles in reuniting with their children."

When discussing ways in which the program has influenced how agencies work with substance-involved families, a community partner stated, "The program represents a completely new way for us to deal with substance abuse. It is an uplifting program that focuses on proven strategies to assist people with their recovery [and] relates to participants in a way that does not lose sight of their worth as individual people." Judge J. Stanley Carmical, who is the chief district court judge for Judicial District 16B and serves as the presiding judge for the new therapeutic court, said, "I'm satisfied that even if you took the money today, we'd [still] be 10 times better off than we were before the grant started."

"I know that if I got a problem," one participant stated, "I know that there is somebody there to help me. I get to go to my meetings, go to the doctor, and get my medicine. Drug court is good too 'cause they let me know that there is somebody there to help me make my life different. I just love my life today, because I know that I am doing something different."

Sherri L. Green, PhD, LCSW, research associate at the Cecil G. Sheps Center for Health Services Research and research assistant professor for Maternal and Child Health at the University of North Carolina at Chapel Hill, is the principal investigator for the program, and contributed to this article.

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