

**Supported by a March of Dimes Community Grant**

## **North Carolina Local Health Departments & Perinatal Substance Use**

**An Assessment of North Carolina Local Health Departments'  
Current Capacity to Address Perinatal Substance Abuse**

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### **EXECUTIVE SUMMARY**

North Carolina local health department maternal health programs struggle to meet the complex needs of women using drugs and alcohol during pregnancy. Women who use drugs and alcohol during pregnancy and seek prenatal care at local health departments have multiple, complex medical and psychosocial needs that challenge maternal health program staff resources. Staff must devote significant time and energy to working with patients using drugs and alcohol during pregnancy, and are often frustrated by patient behaviors. Significant patient needs are compounded by lack of staff training. A significant portion of maternal health program staff report having no training on perinatal substance use. Staff without training are significantly less likely to demonstrate perinatal substance use knowledge and are less efficacious with patients.

Maternal health program substance abuse screening and intervention policies and practices vary widely across North Carolina health departments. Many policies are unclear or lack detail about procedures and protocol. The majority of programs screen all prenatal care patients for substance abuse at intake but not throughout the pregnancy; most programs do not use validated screening tools. Additionally, program confidentiality standards are unclear and the majority of policies do not require compliance with federal drug and alcohol confidentiality laws.

Few local health departments have substance abuse resources located onsite, and maternal health programs therefore rely on education and community referrals to address substance abuse with patients. However, many communities lack appropriate or accessible substance abuse treatment for women who are pregnant. In particular, staff struggle to find treatment providers that will accept Medicaid for Pregnant Women.

The research team recommends that the North Carolina Department of Health and Human Services take the following actions to improving local health department's response to perinatal substance use:

1. The North Carolina Division of Public Health and Division of Mental Health Developmental Disabilities, and Substance Abuse Services should collaborate to standardize substance abuse screening and intervention protocols in local health department maternal health programs.

2. The North Carolina Division of Public Health should provide support for and training in the standardized substance abuse screening and intervention protocol to enhance local health department staff efficacy.
3. The North Carolina Division of Health and Human Services should work to identify and address barriers to substance abuse treatment for women who use alcohol and drugs during pregnancy, including women insured by Medicaid for Pregnant Women.

Substance abuse during pregnancy is often overlooked as an important determinant of birth outcomes. Women who use alcohol and drugs during pregnancy must have access to compassionate, evidence-based, and non-punitive substance abuse treatment in order to prevent the potential deleterious effect of alcohol and drug use on maternal and infant health. North Carolina's health care professionals, community members and policy makers must join together in a collaborative effort to promote substance abuse screening and interventions in local health departments and to improve access to a gender-specific substance abuse treatment continuum of care statewide.

## INTRODUCTION

Approximately 20% of women in North Carolina receive prenatal care at local health departments (LHDs). (2006 NC PRAMS) In accordance with the American Academy of Pediatrics and American College of Obstetricians and Gynecologists' Guidelines for Perinatal Care, the NC Division of Public Health (NC DPH) requires local health departments to have written policies and protocols in place that appropriately address the identification, and, as indicated, follow-up and referral of pregnant women who have a past or current substance use issue. (ACOG/AAP) Policies must include confidentiality and release of information/medical records. This requirement was enacted in response to high substance use prevalence rates found in public and private prenatal care sites in a state-wide study conducted in 1992. (Chasnoff)

Since the inclusion of this requirement in the Maternal Health Agreement Addendum, the NC DPH Women's Health Branch has provided guidance on the development of policies and protocols through Regional Social Work and Nurse Consultants, Perinatal Outreach Coordinators, and a Perinatal Substance Use Specialist located at the NC Family Health Resource Line. A manual, "Responding to Prenatal Substance Use: A Guide for Local Health Departments" was first developed in 1993; the most recent version was updated in 2000 and is available online. Intermittent training has been offered to local health departments by the Women's Health Branch and the Perinatal Substance Use Specialist. LHD compliance with the requirement is monitored through NC DPH biannual audits.

Despite these resources, no comprehensive assessment has yet examined the content and implementation of LHD policies and protocols to determine their efficacy or alignment with best practice guidelines. Similarly, while training and support is offered through the NC DPH, no strategic plan has been developed to support LHD maternal health programs in effective practice with women using alcohol and drugs during pregnancy. A strategic plan to support maternal health departments is increasingly needed, as anecdotal evidence suggests that local health departments have assumed more active roles in the identification and management of substance use disorders since North Carolina's publicly funded mental health system went through significant reform in 2001.

In January of 2009, the Perinatal Substance Use Project at the North Carolina Family Health Resource Line received a community grant from the March of Dimes to conduct an assessment of North Carolina local health departments' current capacity to address perinatal

substance use in their maternal health programs. The assessment was designed to provide greater understanding of substance abuse policies and practices in local health departments, in addition to barriers and challenges to evidence-based practice, in order to support local health department efforts to work effectively with women who use alcohol and drugs during pregnancy.

Over the course of 2009, the Perinatal Substance Use Project conducted a four part mixed-methods assessment to address this lack of understanding of health department practice and need for a strategic action plan. The assessment included a review of LHD maternal health program policies, a survey of maternal health program staff, regional focus groups and key informant interviews. All procedures for this study were reviewed and approved by the University of North Carolina Institutional Review Board. The following objectives were identified to meet this need:

- **Objective 1:** Determine what policies and protocols in North Carolina local health departments address perinatal substance use screening, intervention, and education.
- **Objective 2:** Determine what knowledge, attitude, and skill barriers exist for screening, interventions, education, and referrals in LHDs.
- **Objective 3:** Determine what technical assistance and policy support is needed from state and regional entities to provide evidence-based perinatal substance use screening, interventions, and education in LHDs.

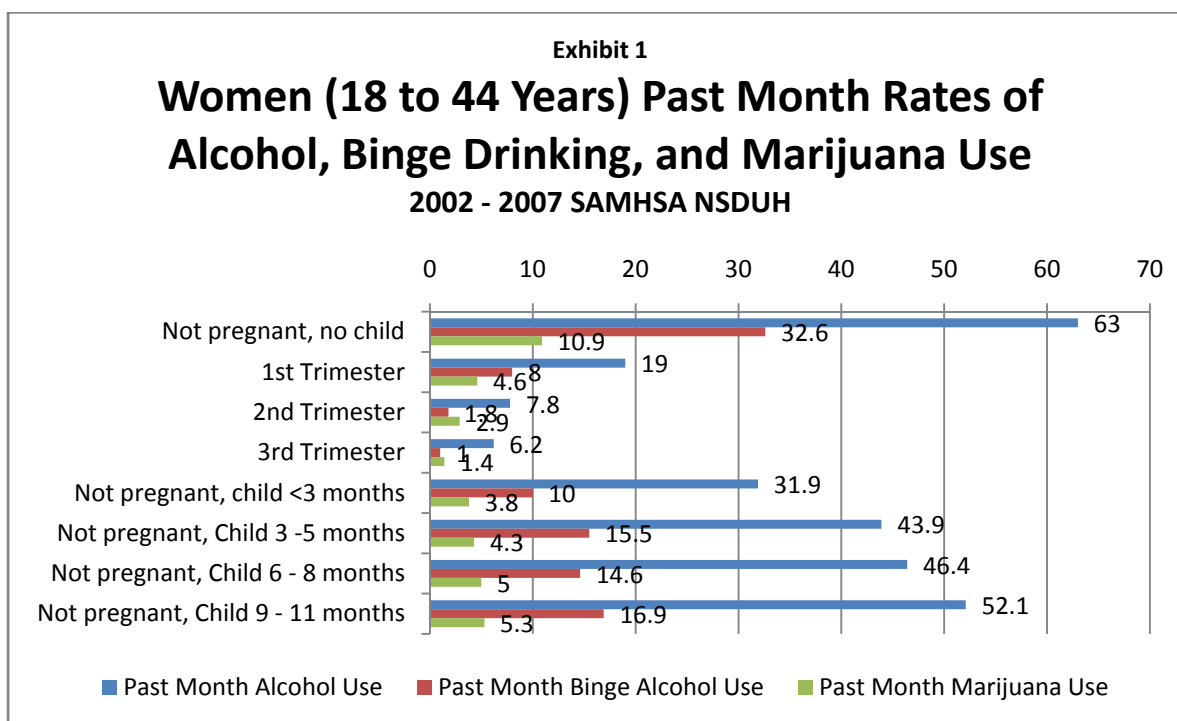
The following report summarizes the findings of this assessment and presents recommendations to the North Carolina Department of Health and Human Services to take steps to support local health departments in this critical area.

**SUBSTANCE ABUSE & PREGNANCY: WHAT CAN BE DONE IN PRENATAL CARE?**

**Alcohol & Drug Use During Pregnancy**

*Prevalence*

Women who are pregnant in the United States report lower rates of alcohol, illegal drug or unprescribed medication use than non-pregnant women or non-pregnant women who have children. (1). Combined data from the 2002 to 2007 National Survey on Drug Use and Health demonstrate that alcohol use decreases significantly during the first trimester of pregnancy (19.0%), and further declines as pregnancy progresses. Following birth, alcohol use increases but does not reach pre-pregnancy consumption rates. Women’s use of tobacco and marijuana follows similar patterns. [Exhibit 1]



Analogous trends in women’s substance use behaviors are evident in North Carolina, although surveillance data available is significantly more limited. Data on alcohol use during pregnancy is available from the North Carolina Pregnancy Risk Assessment Monitoring System Survey; the most recent prevalence estimates of illicit drug use during pregnancy in North Carolina were collected in 1992. (2).

Alcohol use and binge drinking (5 or more alcoholic drinks in one sitting) decreases significantly among North Carolina women during pregnancy, although 12.4 % of women

reported they continued to use alcohol while pregnant, either in reduced amounts or at the same level. (3). 5.8% of women reported using alcohol during the 3<sup>rd</sup> trimester of their pregnancy.

[Table 1]

**Table 1: North Carolina Women & Reported Episodes of Binge Drinking, NC PRAMS 2007**

	Three Months Prior to Pregnancy	3rd Trimester
None	73.2%	99%
1 episode	10.2%	0.10%
2 or more episodes	16.6%	0.90%

The most recent prevalence estimates of illicit drug use during pregnancy in North Carolina were collected in 1992 from a statewide random sample in private and public prenatal care sites across the state. Of the 2742 women in the sample, 7.4% had positive urine toxicology for an illegal or unprescribed drug. (2). No difference was found in positive urine toxicology rates by race, but women receiving prenatal care in rural counties were three times more likely (17%) to have a positive urine screen than women in urban counties (5.9%). Given that these prevalence estimates are nearly two decades old, they may no longer be valid. Updated surveillance data is necessary to accurately gauge the prevalence of illicit drug use during pregnancy in North Carolina.

#### *Impact*

Substance abuse significantly increases women's risk of poor physical and mental health. Women who abuse alcohol or drugs are at increased risk for a variety of adverse health outcomes, including breast cancer, cardiovascular disease, infertility, mental illness (including depression and Post Traumatic Stress Disorder), unintentional injuries, suicide, and intimate partner violence. (4-11) Women who abuse alcohol and drugs face significant social stigma in their communities. Fear of social ostracism, legal reprisal or child protective services involvement often deter women from seeking substance abuse treatment when needed. (12-13)

Among women of reproductive age, substance abuse is of particular concern as prenatal alcohol and drug exposure is strongly associated with infant mortality and morbidity. (14) Alcohol and drug use during pregnancy elevates risk of low birth weight and preterm birth. (15-

16) Substance abuse related birth defects include growth retardation, neonatal withdrawal syndrome, fetal alcohol spectrum disorders, sudden infant death syndrome, and possible long term central nervous system disorders, and subsequent care for children exposed to alcohol and drugs in-utero has significant financial costs due to hospitalization and early intervention services (17-19). It is therefore no surprise that reduction in substance use or abstinence from use has a positive impact on maternal and infant health, including decreased obstetrical complications and reduced prematurity and low birthweight. (20-22)

### **Substance Abuse Screening and Interventions During Pregnancy**

Healthcare providers are uniquely positioned to serve as gateways to services for women who are using alcohol and drugs during pregnancy. Substance abuse screening and brief interventions in the prenatal care setting are an effective means of reducing maternal substance use and improving infant health outcomes. Identification of substance use provides opportunity for prenatal care providers to educate women about the negative effects of substance use and may lead to successful treatment referrals. Screening is considered a cost-effective prevention strategy, considering that early interventions that result in increased maternal abstinence can prevent negative sequelae. (23) Several studies have documented an association between positive birth outcomes and substance abuse screening. Goler and colleagues found that women who screened positive for alcohol use during pregnancy and were referred to a substance abuse program had significantly better pregnancy outcomes than those who were identified through toxicology screening and received no follow-up care. (20) Bailey and Sokol also support the efficacy of brief interventions in healthcare settings as cost-effective prevention. (23)

Several professional groups have endorsed prenatal care providers' delivery of substance abuse screening and interventions as essential for improving birth outcomes and maternal health. Their recommendations are explored in the table below. [Table 2] Further information on professional organization endorsements may be found in Appendix A.

**Table 2: Professional Organization's Endorsement of Substance Use Screening in Prenatal Care**

<b>Professional Organization</b>	<b>Recommendation</b>	<b>Recommended Frequency of Screening</b>	<b>Specific Tool Endorsement</b>
<b>American College of Obstetrics and Gynecology (2008)</b>	Universal screening for all pregnant women	Intake appointment	TWEAK, T-ACE, NIAAA questionnaire
<b>American Academy of Pediatrics (1998)</b>	Universal screening for all pregnant women	Not specified	Verbal, maternal urine, newborn urine & meconium
<b>Substance Abuse &amp; Mental Health Services Administration (2008)</b>	Universal screening for all pregnant women	Not specified	TWEAK
<b>U.S. Preventive Services Task Force (2004)</b>	Universal screening for all pregnant women	Not specified	TWEAK, T-ACE
<b>United States Department of Health and Human Services (2008)</b>	Universal screening for all pregnant women	Intake appointment	Not specified

*Validated Verbal Substance Abuse Screening Tools*

Substance abuse screening and brief intervention tools and protocols for use in prenatal care settings must be designed and validated for use with women who are pregnant. While many screening tools have demonstrated validity screening for heavy, problematic drinking in the general population, such tools are not as effective at identifying alcohol use in women who are pregnant when any alcohol consumption is considered problematic. Screening tools for pregnant women must identify early problematic behaviors and warning signs in addition to established drinking patterns in order to identify risk behaviors potentially harmful to fetal development. (24) Several substance abuse screening tools have been identified for use in prenatal care and substance abuse treatment settings; the majority of these tools are designed to identify alcohol use and not illicit or unprescribed drug use. The table below summarizes major similarities and differences in these tools. [Table 3]. Further information and examples may be found in Appendix B.

**Table 3: Substance Use Screening Tools for Use During Pregnancy**

Screening Tool	Number of Questions	Self Administered?	Sensitivity	Specificity	Validated for Pregnancy?	Notes
<b>CAGE</b>	4	Yes	.84	.95	No	Used mainly for heavy and dependence stage drinking
<b>AUDIT</b>	10	Yes	.80	.95	No	Targets early-stage risk drinking, validated on mixed gender population
<b>TWEAK</b>	5	Yes	.91	.77	Yes	Designed specifically for pregnant women
<b>T-ACE</b>	4	Yes	.69	.89	Yes	Designed specifically for pregnant women
<b>4 P's</b>	4	Yes	.87	.76	Yes	Originally developed for women in general
<b>MAST</b>	25	Yes	.88	.66	No	Targets heavy and dependence stage drinking

Toxicology screening using body samples such as urine or hair is a common method of substance abuse diagnosis in many primary care settings because it widely considered to produce the most reliable information. Women who abuse alcohol and drugs may not disclose their use because of fear or social stigma. (25-26) While toxicology tests are potentially more sensitive than verbal or written screening tools, they are unable to detect infrequent use, historical use, or use outside the recent past. Substances such as alcohol and cocaine leave the body within eight to twenty-four hours (27) Several researchers have proposed using a combination of both urine screening with informed consent and questionnaire for optimal detection rates. (28-29)The ACOG and AAP Guidelines for Perinatal Care recommend using urine toxicology only when verbal screening is not possible. (14)

To date, no conclusive evidence supports the use of a single screening tool for detecting substance abuse screening in women who are pregnant. Several studies have compared the effectiveness of several screening tools. In a meta-analysis by Bradley et al. the TWEAK, T-ACE and AUDIT had higher sensitivity than the CAGE in samples of women. (30) The TWEAK and the AUDIT performed better on samples of African American women than on white women, especially when screening for heavy alcohol use/dependence. Consistent with these findings, a study conducted by Russell et al. demonstrated that the TWEAK and T-ACE performed better than the MAST and the CAGE in a sample of African American women. (31)

### *Brief Interventions*

Women with identified substance use during pregnancy should subsequently receive a brief intervention in the prenatal care setting. Interventions using motivational interviewing, a technique developed to illicit patient-identified plans for behavior change, have been used successfully with women who are pregnant. Floyd and colleagues found that women who completed a brief motivational intervention were half as likely to consume alcohol for the remainder of their pregnancy when compared to a no-treatment control group. (32) The 5 A's motivational intervention is commonly used with women who smoke during pregnancy. (33) A meta-analysis conducted by Melvin et al. revealed that use of the 5 A's significantly increases smoking cessation rates in pregnant women. (33) This approach has been recommended by the United States Preventative Service Task Force for use with patients abusing alcohol and drugs. (34)

Behavioral incentives, also known as contingency management, are another brief intervention used to help enhance abstinence and compliance in individuals with substance use disorders. Patients are given an incentive (e.g., gift cards, free cab ride, child care service for a few hours, etc.) if they are able to provide a certain number of consecutive drug-free urine screens. (35) Behavioral incentives are effective at increasing compliance with treatment and negative urine screens with women who are pregnant. (35) However, their long-term efficacy once the incentives are removed has yet to be determined.

Other brief interventions include health education provided by the health care professional. Jones-Webb and colleagues found that women were less likely to use alcohol during pregnancy if they received education information. (36) O'Connor and Whaley found that a 10-15 minute intervention conducted by a nutritionist resulted in women being five times more

likely to report abstinence during pregnancy. (37) These results underline the usefulness of simple interventions provided by a professional for those women who have low-level alcohol consumption during pregnancy but this approach is likely not be as helpful for women with dependence issues.

### **Barriers to substance abuse screening and interventions in prenatal care**

Despite professional guidelines and supporting evidence, the implementation of standardized mental health and substance abuse screening in United States prenatal care settings remains far from universal. Svikis and Reid-Quinones estimate that approximately one-third of pregnant women in the United States are routinely screened for substance use. (24) A national survey of obstetricians-gynecologists found that while nearly all respondents reported asking about alcohol use, less than one-quarter reported using a standardized screening questionnaire. (38) Similar barriers persist in North Carolina prenatal care settings. NC PRAMS data indicate that approximately less than three-quarters of North Carolina women reported that a doctor, nurse or other health care worker talked with them about how using alcohol (75.3%) or illegal drugs (67.7%) could affect their infants during a prenatal care visit. (3)

Cabana and colleagues' identified four types of barriers to clinical practice guideline adherence. (39)

1. Physician-related barriers: lack of awareness, familiarity, and/or agreement with practice guidelines, lack of self-efficacy, lack of outcome expectancy, and inertia;
2. Guideline-related barriers: guidelines that are not easy to use or convenient;
3. Patient-related Barriers: patient preferences or privacy concerns; and
4. Environmental-related barriers: time and resources.

Although these barriers were identified specific to physician practice, a review of the literature related to substance abuse screening in prenatal care conducted by physicians and other health care professionals suggests that barriers in this area may be similarly categorized.

#### *Provider-related barriers to substance-abuse screening*

As Cabana and colleagues note, evolving research may make it difficult for health care providers to be aware of all guidelines, particularly those recently issued or altered. (39) This is not the case for substance use screening during pregnancy, which was first recommended by the American College of Obstetricians and Gynecologists in 1977 and supported by a federal recommendation to abstain from alcohol during pregnancy issued in 1984. (40). Diekman and

colleagues' national survey of obstetrician-gynecologists found that 97% of physicians reported screening for alcohol use, suggesting nearly universal awareness. (38) In focus groups conducted with obstetricians, nurse practitioners and certified nurse midwives in California, all participants indicated awareness of the ACOG screening recommendations. (12) Similarly, obstetric providers in Washington State identified substance use screening as good practice and "part of being a good doctor." (41)

While health care providers may be aware of the guidelines to screen during pregnancy, such awareness does not indicate familiarity with the guidelines or the ability to apply the guidelines correctly. (39) Universal awareness of the need to screen during pregnancy is only one component of effective practice. Lack of familiarity with standardized screening tools, appropriate counseling and education behaviors, and community referrals is perhaps an even more significant barrier to effective practice. Nationally, only 23% of obstetricians-gynecologists report using a standardized screening tool and the majority of these providers (64%) reported using the CAGE mnemonic, a tool not validated for use during pregnancy. (38, 42) Smaller studies have found similar rates of standardized screening tool usage and reliance on the CAGE mnemonic. (41) The overwhelming majority of physicians report screening for substance abuse only at the first prenatal care visit and not throughout the pregnancy (12, 38, 41) While prenatal care providers typically discuss the adverse effects of alcohol consumption during pregnancy with their patients, they do not regularly refer patients to substance abuse resources. (12, 38) Logan and colleagues found that many rural providers (47.8%) report that the lack of adequate screening tools or methods impacts their ability to screen for alcohol abuse; this finding suggests a lack of familiarity with the publicly available standardized screening tools and interventions supported by ACOG and SAMHSA. (43)

Prenatal care providers also report beliefs about the risks of substance use during pregnancy that conflict with ACOG guidelines, specifically around safe alcohol consumption. Studies of prenatal care providers find that providers often disagree about the need to abstain from alcohol during pregnancy and the associated risks. (12, 38, 41) When asked to identify the number of drinks per week a pregnant woman could consume without elevating their risk for infant mortality or morbidity, only 25% of physicians were able to correctly identify that pregnant women should abstain from all alcohol use in order to prevent alcohol-related birth defects. (38) Prenatal care providers report that their individual interpretation of research data

suggested that light or episodic alcohol consumption was acceptable, and reported a double standard in the abstinence education they felt obliged to give patients versus messages about occasional consumption that they communicated to family or friends. (12) These disagreements may reflect lack of familiarity with the ACOG guidelines to abstain from any alcohol use during pregnancy or lack of agreement with the abstinence message. Marijuana use during pregnancy was a similar area of conflict for participants, who were unclear about pregnancy-related risks and perceived benefits associated with its use, including relief of nausea. (12) Individual providers' beliefs about the risks of substance use during pregnancy can impact the interpretation of clinical guidelines and subsequent adherence.

Providers' perceptions of their own self-efficacy are another significant determinant in the use of screening and intervention practices. (44) Self-efficacy is the belief that an individual can perform a behavior; this belief influences whether the behavior will be performed and sustained. (44) The majority of prenatal care providers report they do not feel prepared to or capable of adequately assessing and addressing patients' alcohol use. (38, 43) Substance use screening and interventions defy the traditional medical trajectory of positive screen followed by an intervention to "cure" the presenting illness or problem: interventions with women who abuse alcohol or drugs are typically a process of ongoing discussion and incremental behavior change rather than a quick and effective finite intervention. (41) This difference can cause prenatal care providers anxiety when asked to address substance abuse issues with women who are pregnant. (45) Health care professionals are more likely to adhere to clinical guidelines when they expect that the guidelines will produce an immediate successful result. (39) Prenatal care providers in focus groups reported expecting lower rates of success when screening for drug use because patients using drugs were reportedly more difficult to influence. (41)

Provider self efficacy is significantly linked to training and education. Health care professionals who receive training on substance abuse screening in their medical or nursing school education or who receive continuing education training on substance abuse screening are more likely to report feeling prepared or capable of assessing alcohol and drug use in an effective and non-judgmental manner. (38; 45-48) Most prenatal care providers do not receive such training; 65% of obstetrician-gynecologists report that their need for additional training is a barrier that affects their ability to appropriately screen and assess patients. (38) The majority of

nurses in the United States reported acquiring their substance abuse knowledge only through work experience. (47)

Medical and nursing school training now includes more information on the risks of substance abuse during pregnancy and appropriate screening and intervention tools. (38) As the health care workforce ages and new providers enter the field, the percentage of providers who receive substance abuse training in their medical or nursing school will increase and, consequently, providers' use of screening and intervention methods. (38) Diekman and colleagues found that year of medical school graduation was significantly related to a providers' use of standardized screening tools. Obstetrician-gynecologists who graduated before 1990 were significantly less likely to use an alcohol screening questionnaire than physicians who graduated after 1989. (38)

When asked to identify resources needed to improve substance abuse screening and intervention, the majority of providers point to a need for more training. (38; 47). Providers report needing more information on alcohol thresholds for adverse reproductive outcomes and appropriate referrals. (38) Obstetricians requested materials that include specific, concise and time-saving guidelines and tools and current referral information and feel that all office staff should be trained in screening practices. (41) Patient education materials that support physician efforts were also identified as a need. (41) Insurance reimbursement is not supported by doctors as incentive to screen and assess. (38, 41)

#### *Guideline-related barriers to substance abuse screening in prenatal care*

No known published study has specifically assessed the ACOG/AAP guidelines' ease of use or accessibility. However, physicians' lack of familiarity with the guidelines' recommendation to use a standardized tool and follow-up through the pregnancy suggests that the guidelines fail to provide adequate intervention frameworks. (12, 38, 41) The ACOG/AAP guidelines do not stipulate how to identify women for whom ongoing verbal screening or toxicology screening may be appropriate. (14) This lack of clarity may contribute to providers' confusion about how to use toxicology screening appropriately. (12)

#### *Patient-related barriers to substance abuse screening in prenatal care*

Women who are pregnant may be resistant to screening and interventions in prenatal care settings, may feel threatened or scared by screening, or find it offensive or embarrassing. (39) Fear of legal reprisal or child protective services involvement may deter patients from being

honest with providers. (12) Anticipated or actual patient reactions to screening and interventions are a deterrent to providers' guideline adherence. Sixty-five percent of obstetrician-gynecologists nationally cited patient sensitivity to screening as a barrier affecting alcohol use assessment in clinical practice. (38) Prenatal care providers may be concerned that patients will become defensive and terminate care if they ask intrusive questions. (43) When patients are accompanied to appointments by partners, children, or family members, physicians may feel uncomfortable or unable to fully assess alcohol and drug use out of a desire to protect the patient's confidentiality. (12) Prenatal care providers also report struggling with the need to educate patients about the risks of alcohol use during pregnancy while simultaneously wanting to provide reassurance to patients who drank before they were aware of their pregnancy. (12)

#### *Environmental barriers to substance abuse screening in prenatal care*

Adherence to clinical guidelines is impacted or impeded by environmental factors that may or may not be controllable by the individual health care provider. (39) While substance abuse screening and interventions should ideally be promoted by prenatal care providers, policies or procedures may in fact be barriers to effective practice. Inadequate time is a significant environmental barrier in prenatal care settings. (38, 43) Nearly three-quarters of obstetrician-gynecologists report that time limitations impact their ability to assess and manage patients' alcohol use during pregnancy. (38) In some prenatal care sites, substance abuse during pregnancy is considered a high-risk condition and consequently referred to high-risk prenatal care providers. This policy may motivate patients to deny substance use behaviors. (45)

Successful intervention outcomes are impeded by providers' limited knowledge of substance abuse treatment resources, services available through the social services system or how to work within the system. (49) Approximately half of surveyed prenatal care providers report that local resources are very limited and that they do not have up-to-date current information on appropriate resources for patients (38, 43). Prenatal care providers are also often unclear about their obligations to report substance abuse during pregnancy and whether child protective services involvement is necessary. (12)

#### **Summary**

Alcohol and drug use decreases during pregnancy in North Carolina but remains a significant public health problem because of associated risks to women and infants' health. Prenatal care providers are uniquely positioned to address women's substance use during

pregnancy through substance use screening and brief interventions. Research supports an association between screening and interventions as a cost-effective means of increasing positive birth outcomes. Despite support from professional groups and research, implementation of substance use screening and interventions in practice settings remains limited. Barriers to implementation include provider-related barriers (low perceived self-efficacy, beliefs about substance abuse during pregnancy, limited education), patient-related barriers (fear of legal reprisal or child protective services, embarrassment), and environmental barriers (time, system barriers.)

### POLICY REVIEW

*“Each situation is looked at individually. There is no protocol in place.”*

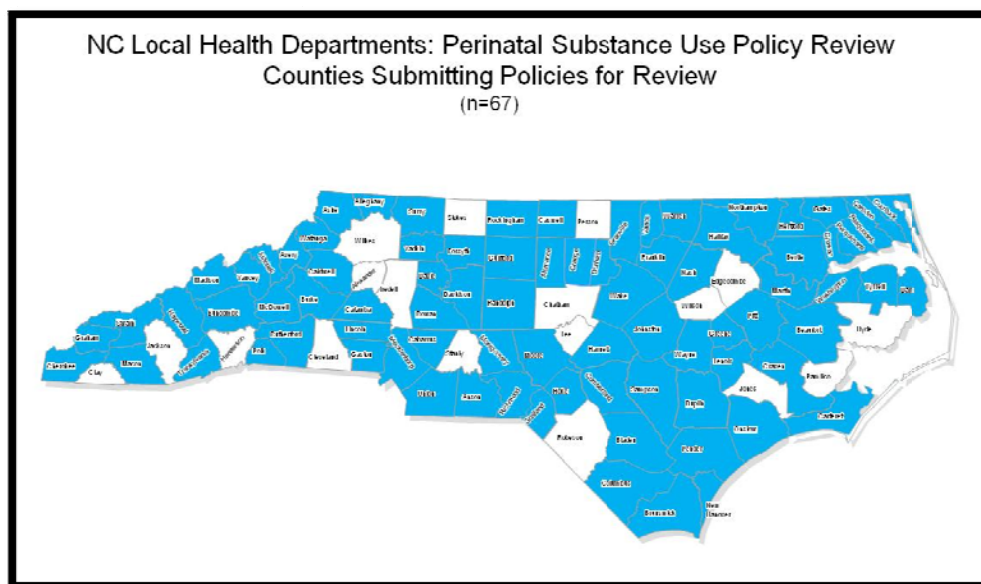
Local Health Department Staff Person

### Methods

North Carolina local health department maternal health program substance abuse policies were collected in March of 2009. All maternal health programs received an email in March 2009 requesting a copy of their current perinatal substance abuse policies by mail, fax or email. Local health departments that did not submit policies received follow-up email and phone calls. Each policy was assigned an identification number to preserve confidentiality. Policy information was entered into an Access database reviewed by the Assessment Advisory Group and basic frequency and descriptive statistics were employed for data analysis. A list of fields of analysis is included in Appendix C.

A total of 67 North Carolina local health department policies were received. 15 local health departments declined to submit a policy, and three local health departments reported they did not have a policy. [Exhibit 2]

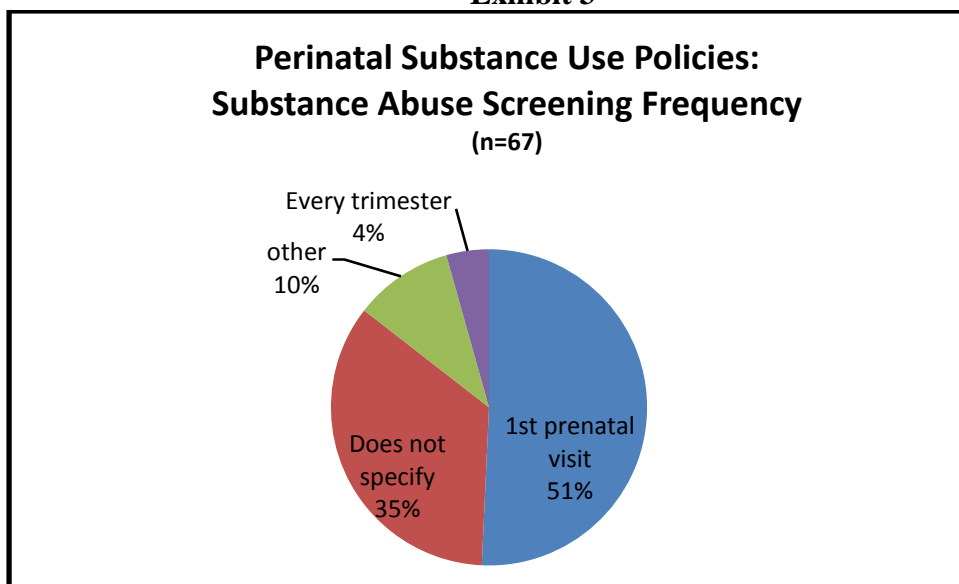
### Exhibit 2



**Results**

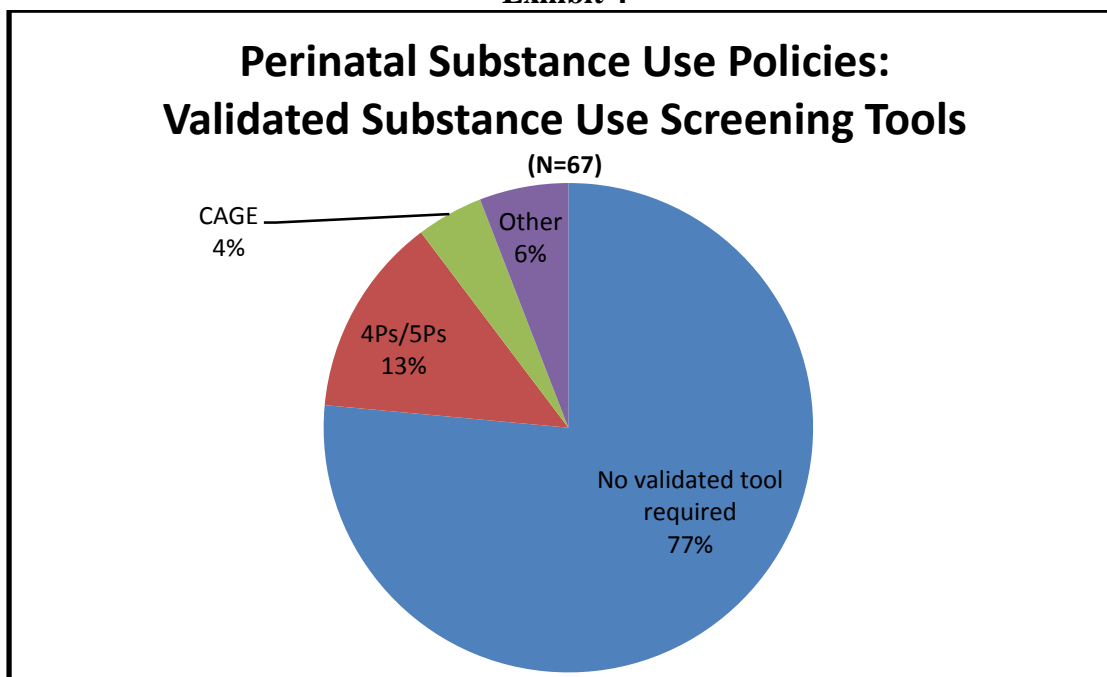
The majority of local health department policies (72%) mandate universal substance use screening in maternal health programs. A small minority of policies (4%) state that only patients enrolled in Maternal Care Coordination services receive substance use screening. In most local health departments, substance use screening occurs at the initial prenatal care appointment (49%); very few health departments (5%) screen at regular intervals throughout the pregnancy. [Exhibit 3] Slightly more than half of all policies (66%) designate Maternity Care Coordinators and nurses as responsible for administering substance use screening.

**Exhibit 3**



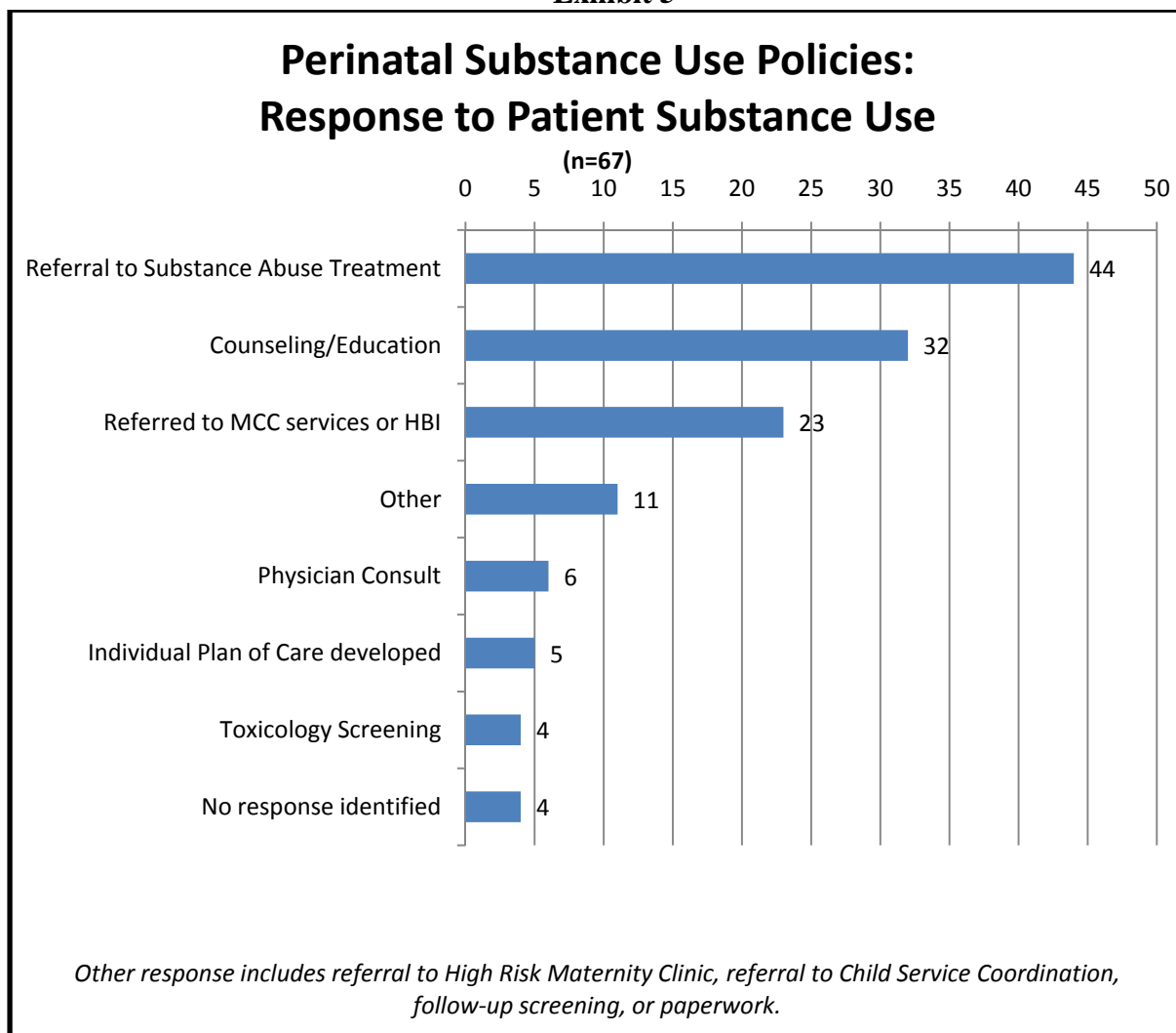
The majority of policies (77%) do not stipulate the use of an empirically validated substance use screening tool. Of local health departments that require the use of a validated screening tool, the 4Ps or 5Ps and CAGE tools were the most common. [Exhibit 4] Some health departments require the use of screening forms created either by the North Carolina Division of Public Health, including the Maternal Health Form and Family Strengths and Needs Assessment, or by the health department itself.

Exhibit 4



Following identification of substance use, over half of all local health department policies (66%) require maternal health program staff to provide the patient with a referral to substance abuse treatment. A smaller percentage of health departments require program staff to provide counseling or education to patients (48%), or refer the patient to either Maternity Care Coordination or a Health Behavior Intervention (HBI) provider (34%). Less than 10% of policies mandate follow-up screening, specialized service delivery, or physician consultation. [Exhibit 5]

Exhibit 5



The majority of policies (94%) do not address confidentiality for substance use screening. Health departments have historically been advised to treat substance abuse information obtained during screening as subject to substance abuse confidentiality law under 42 Code for Federal Regulations. Only four health department policies required compliance with 42CFR as part of practice.

**Summary**

While all North Carolina local health departments are required to have a policy in place to support the identification of women using alcohol and/or drugs during pregnancy, these policies vary widely. The majority of maternal health substance abuse policies are unclear or lack detail about procedures and protocol in the health department. Most maternal health

program policies mandate screening all prenatal care patients at intake but not throughout the pregnancy; the majority of policies do not specify a specific validated substance abuse screening tools or intervention protocols, or require compliance with federal alcohol and drug confidentiality laws.

In reviewing policies, several policies with unusual or concerning attributes were identified. One policy identified lesbians as a group requiring additional screening; no known research links substance abuse during pregnancy with sexual orientation. Several policies noted that women who were identified as using alcohol or drugs should be told that “such behavior was not condoned.” Research documents significant barriers to accessing substance abuse treatment for women, including social stigma; language that may be perceived as punitive can contribute to such barriers.

Wide variation in local health department policies presented challenges in conducting this analysis. Many local health department policies reviewed in this analysis were unclear or lacked detail about procedures and protocol. One-third of local health departments did not identify when screening took place or who provided screening. It is possible that policies may not accurately reflect current practice in many local health department settings.

## SURVEY

### **Goal and Methods**

In June 2009, a survey of local health department maternal health staff was conducted using Qualtrics survey software. The goal of this survey was to better understand the following three areas:

- Current protocols in LHDs addressing perinatal substance use
- Perceived knowledge, attitude, and skill barriers to addressing perinatal substance use
- Local training and technical assistance needs related to perinatal substance use.

The survey tool was drafted by the Perinatal Substance Use Specialist and reviewed and approved by the Advisory Committee members and the Principal Investigator. A copy of the survey tool is located in Appendix C. Qualtrics survey software, available free through the University of North Carolina Odum Institute for Research in Social Science, was used to make the survey available online to respondents. An email invitation to complete the survey was sent to local health department staff in maternal health programs through North Carolina Division of Public Health Women's Health Branch email listservs; email recipients were encouraged to forward the invitation to any local health department staff who worked in the maternal health program. Survey respondents were eligible for a raffle to win a \$50.00 Walmart gift card if they provided their email address. Two names per perinatal region were drawn to receive these incentives using a random number generator.

Data analysis was conducted using both Qualtrics software and STATASE 10. Because data were collected at the individual level, analysis of health department level practices and protocols is presented at the aggregate level in order to avoid skewing the data analysis towards health departments with greater participation. Information about screening and brief interventions provided by health departments is presented as a health department level cross tab excluding all respondents failing to identify the health department with which they are affiliated and aggregating health department responses such that if any respondent from a given health department endorsed a given item, that health department is included in the tally for that item. A limitation of this analysis is the possibility that two individuals at a health department may have provided conflicting responses about health department practices (such as screening); the analysis could not control for this possibility given the option of anonymity for participants.

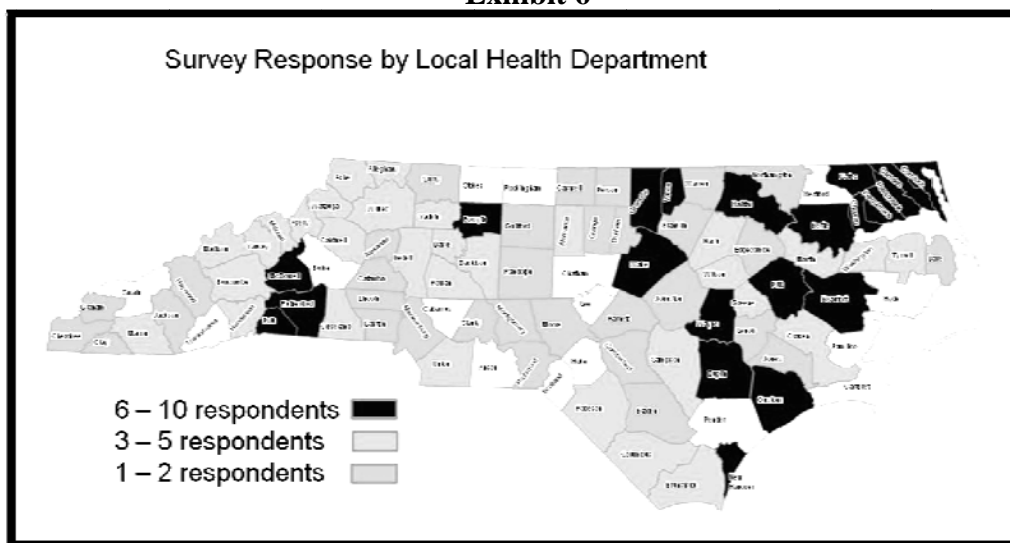
*Sample*

Subjects were invited to participated via two email listservs maintained by the North Carolina Division of Public Health Women’s Health Branch. One listserv is for local health department staff who work in the Baby Love program and includes individuals from all 85 local health departments; the second listserv is for nursing directors and supervisors and also includes individuals from all 85 local health departments.

A total of 256 individuals began the online survey. Nine respondents did not work in the maternal health program at a local health department and so did not meet eligibility criteria to complete the survey. 247 individuals completed the survey.

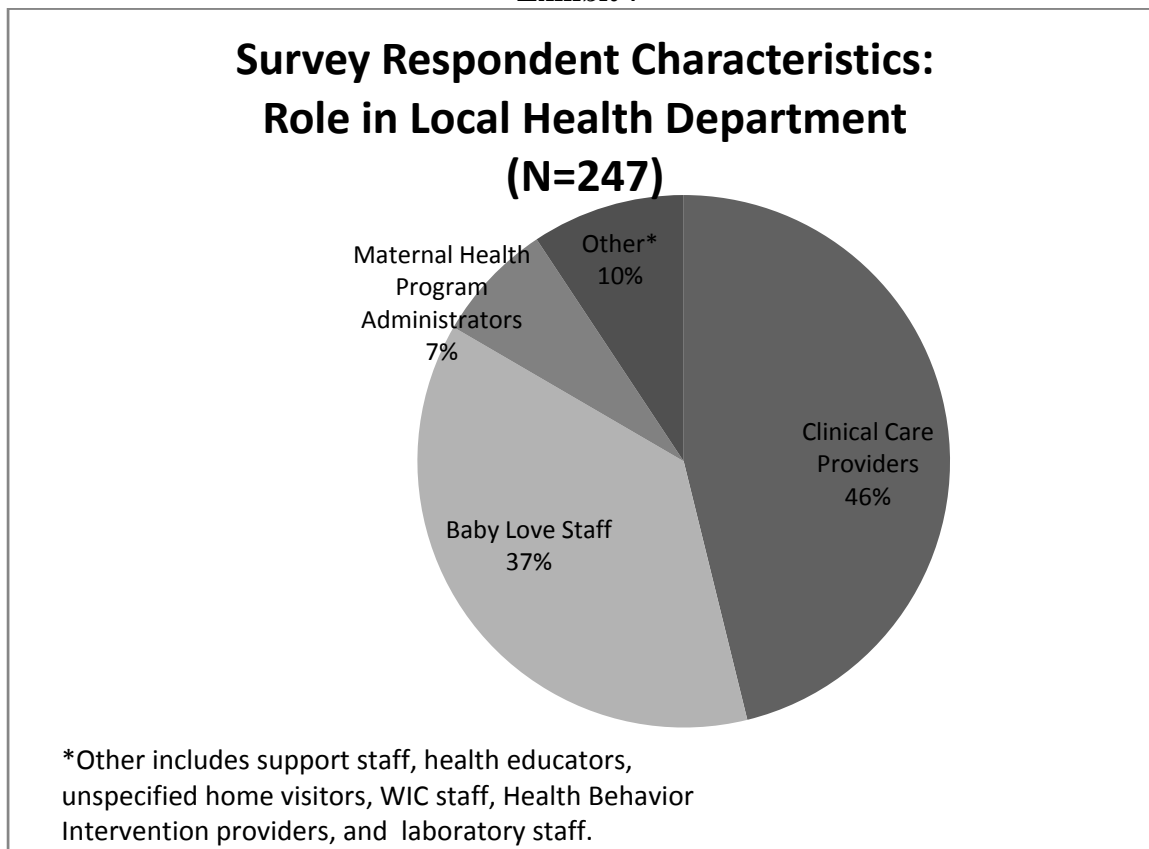
Survey respondents were given the option to identify the local health department where they worked. 91% (224) of the sample identified their employer. 21 individuals (9% of the sample) opted out of identifying their employing health department. [Exhibit 6] A total of 69 health departments were identified (81.2% of all 85 North Carolina local health departments.)

**Exhibit 6**



The majority of survey respondents were clinical care providers or worked in the Baby Love Program. [Exhibit 7]

**Exhibit 7**



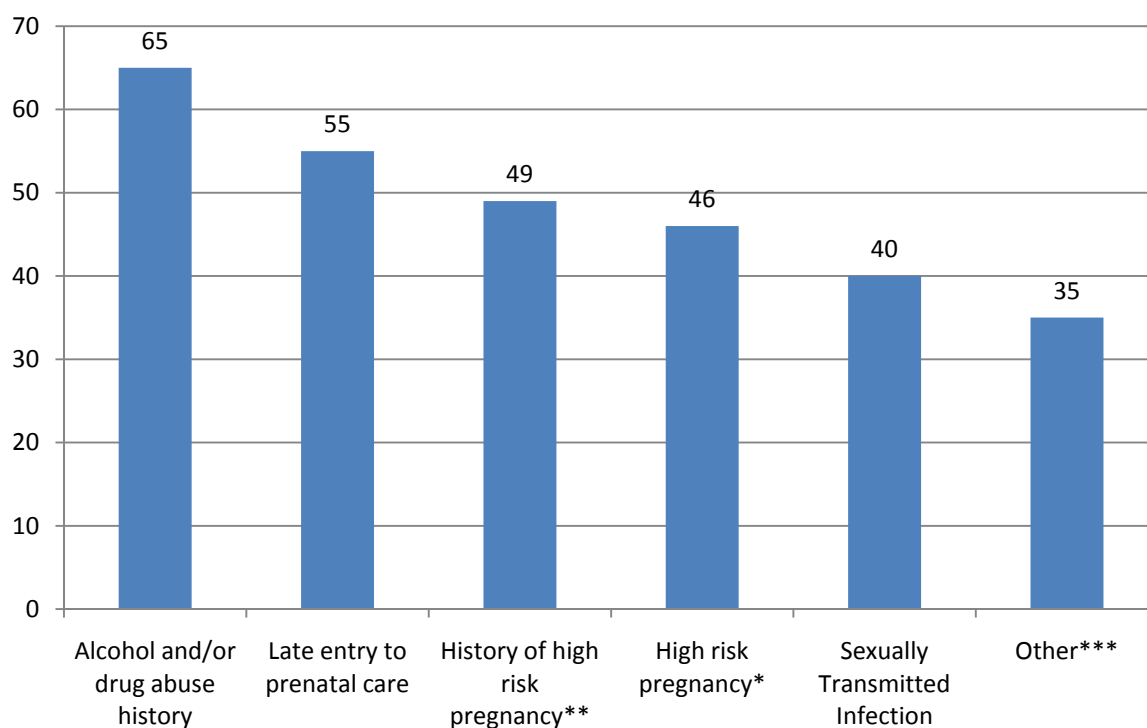
### Screening in Maternal Health Programs

Survey respondents reported that prenatal patients in local health departments are universally screened at the initial prenatal appointment. Over half of all respondents reported that additional screening takes place if patients are identified as at risk for substance abuse or at regular intervals in the pregnancy. [Appendix D]. Enumeration of high risk categories receiving additional screening is presented in Exhibit 8.

## Exhibit 8

### Current Practice: Substance Abuse Screening Risk Factors Targeted for Additional Screening

(Count of health departments at which 1+ respondents endorsed the given risk factor as targeted for substance abuse screening)



\*Includes current high risk condition, poor weight gain in current pregnancy and preterm labor.

\*\*Includes history of high risk condition, history of low-birth weigh births and history of preterm labor.

\*\*\*Includes failing to keep appointments, suspected impairment during an appointment, tobacco use and requesting narcotic prescriptions.

One respondent answered, “Each situation is looked at individually. There is no protocol in place.”

At all of the North Carolina local health departments where staff responded to the survey, staff conduct verbal screening to identify patients’ for past and current alcohol and drug use [Exhibit 9]. Most local health departments do not use a validated screening tool to identify patient alcohol or drug abuse. [Exhibit 10] The most commonly identified screening tools identified were forms or questionnaires developed by either the North

Carolina Division of Public Health Women’s Health Branch (both clinical and MCC paperwork) or the local health department itself, sometimes in collaboration with a local substance abuse treatment provider.

**Exhibit 9**

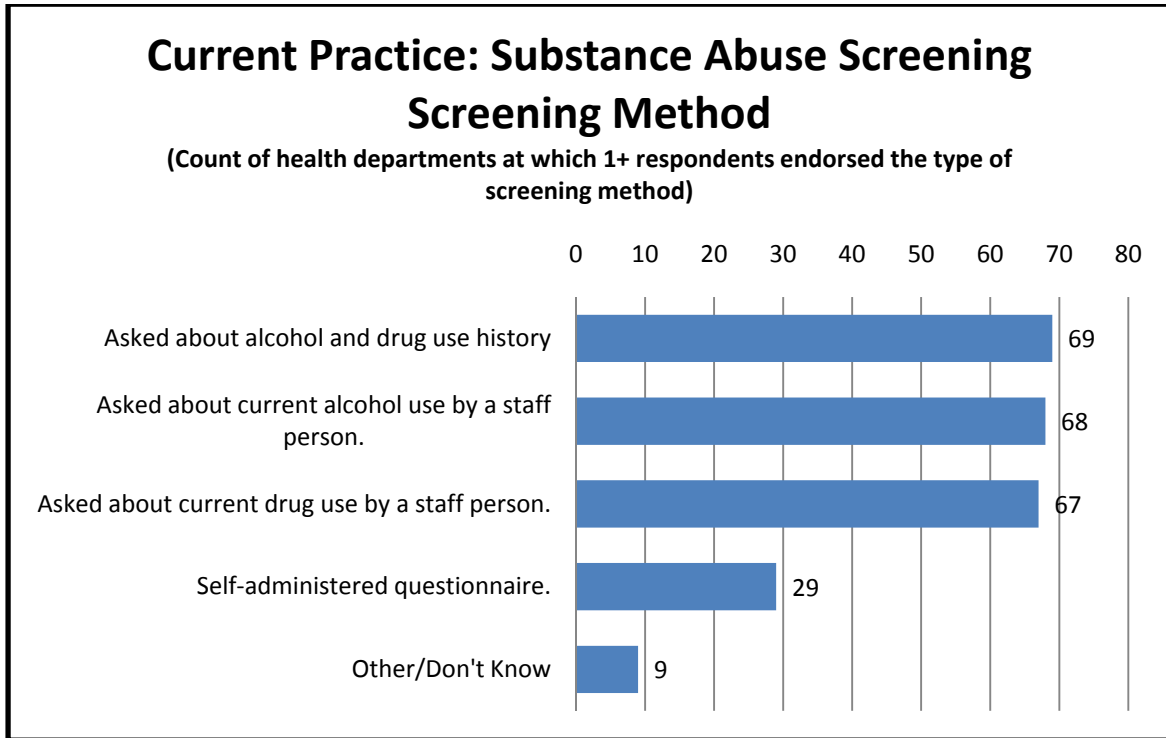
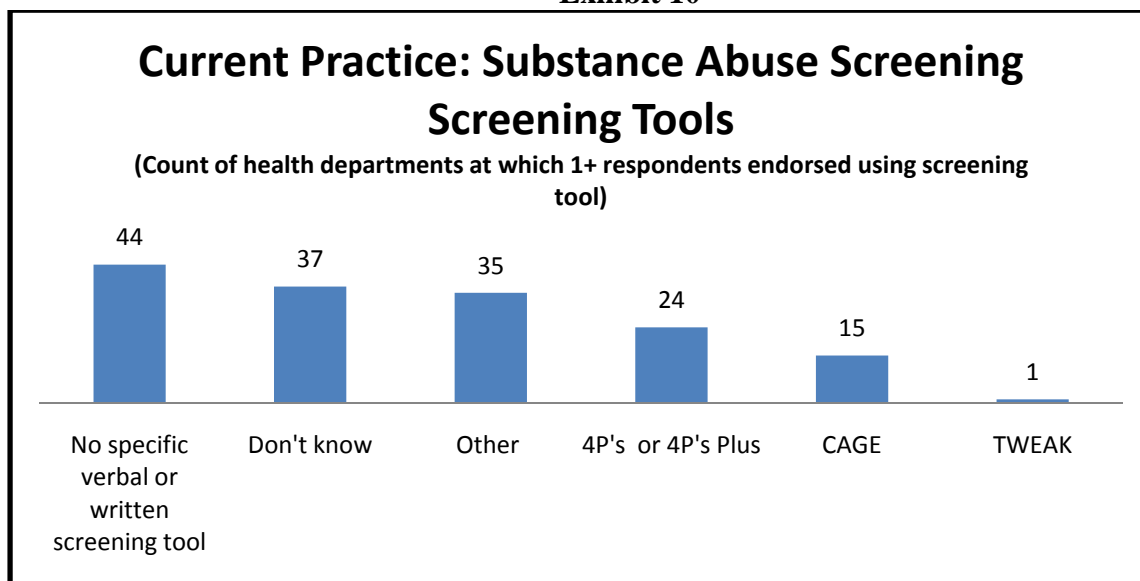


Exhibit 10



At all of the North Carolina local health departments where staff responded to the survey, substance abuse screening is primarily conducted by maternal health program nurses and Maternity Care Coordinators. Over half of all health departments reported that substance abuse screening was also conducted by clinical care providers, specifically Nurse Practitioners and Physicians. Additionally, at least one survey respondent at 38 health departments reported that nutritionists in the WIC program also provide substance abuse screening.

### **Interventions & Referrals in Maternal Health Programs**

At all of the North Carolina local health departments where staff responded to the survey, all prenatal care patients receive education about the benefits of abstaining from alcohol and/or drug use during pregnancy and provided with educational materials about the impact of alcohol and drugs. At almost all local health departments, information about the patient's alcohol and/or drug use is documented in her medical record.

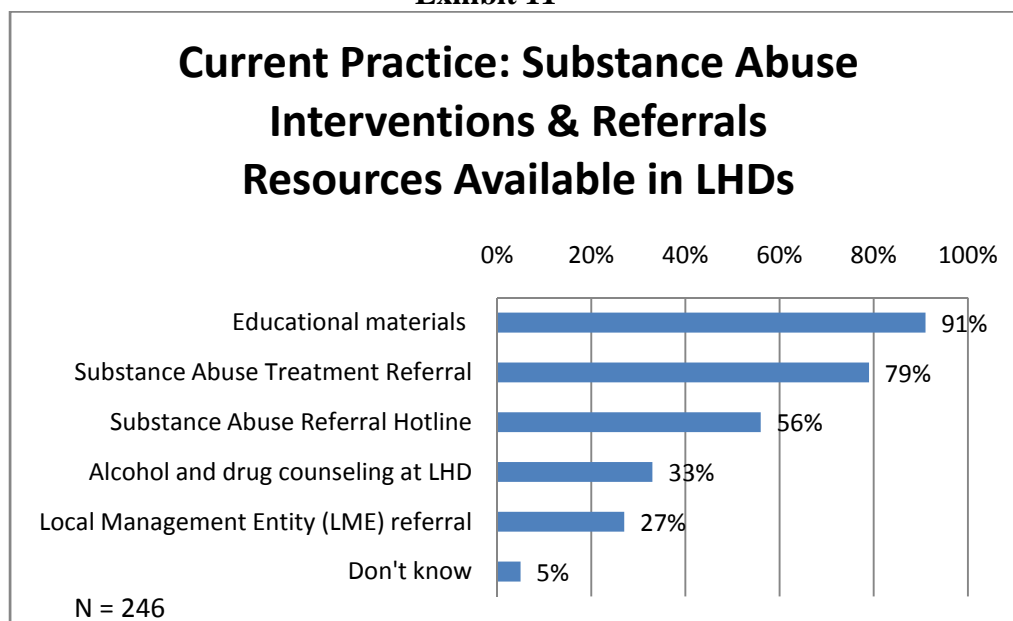
Women who have a positive screen for alcohol or drug use or abuse are always or almost always directed to stop using alcohol and/or drugs. More than three-quarters (79%) of survey respondents indicated that referrals to substance abuse treatment are available in their communities, but automatic referrals to substance abuse treatment are not provided universally to patients with positive screens. This suggests that the depth

and quality of referrals varies between health departments and that referrals to treatment may depend on a variety of factors including the individual staff person's assessment of the severity of the substance abuse, available or known treatment resources in the community, and the patient's willingness to comply with a referral.

Other brief intervention and referral practices that occur at some but not all health departments include advising alcohol or drug use reduction, using subsequent urine or blood testing to identify alcohol or drug use, and referring patients with positive screens for alcohol and drug abuse to the health department social worker, high risk maternity clinic, and/or Child Protective Services. There is significant variation both between health departments and across individuals from the same health department for these practices. For example, one maternal health program nurse may refer a patient using cocaine to Child Protective Services while another staff person at the same health department may not.

Almost all health departments (91%) report access to educational materials about alcohol and drug abuse during pregnancy. [Exhibit 11] 33% of local health departments report that individual alcohol and drug counseling is available at the local health department.

**Exhibit 11**

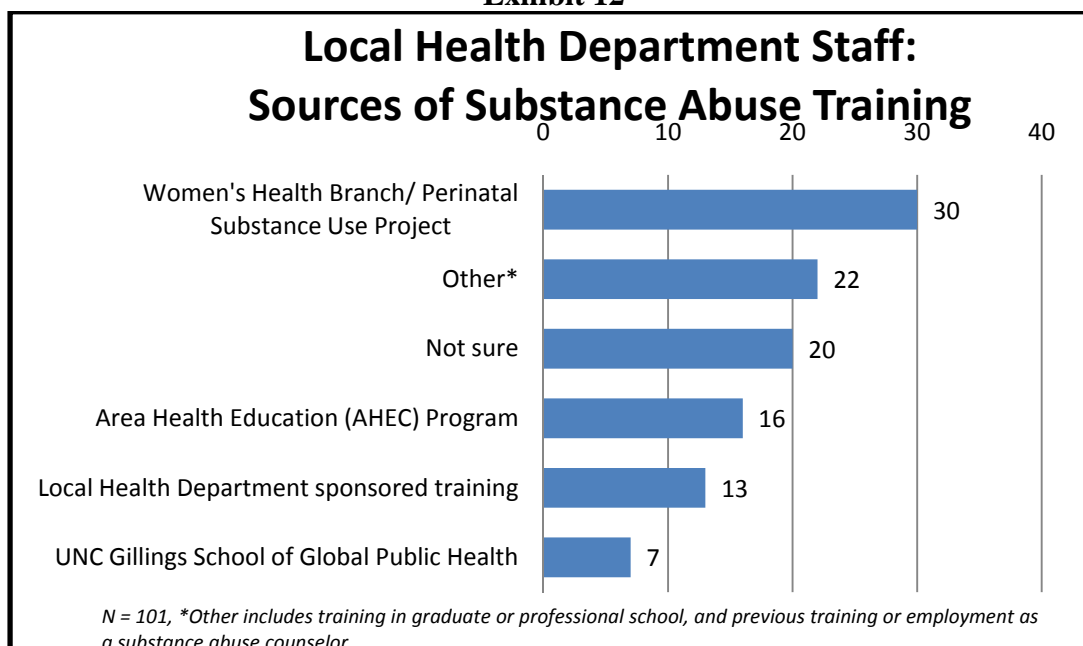


## Maternal Health Program Staff: Training, Knowledge, and Self-Efficacy

### Training

Slightly more than half of all respondents (60%) reported having received some training about alcohol and drug use in pregnant women at some point in the past; 12% of respondents were not sure if they had ever received any training. The majority of respondents who identified the substance abuse training they received had received training through the NC DHHS Women’s Health Branch or through an AHEC. [Exhibit 12] Several individuals reported that a section on substance abuse had been included in their Enhanced Nursing Role training at UNC Gillings School of Global Public Health.

Exhibit 12



Fewer than half of all respondents (49%) were familiar with the manual available through the NC Division of Public Health Women’s Health Branch, “Responding to Prenatal Substance Use: A guide for Local Health Departments.” Of respondents familiar with the manual, approximately 60% reported that they used the manual as a reference for their policy. 24% of respondents reported that they did not use the manual at all.

### Knowledge

Maternal health program staff’s knowledge about substance abuse during pregnancy and addiction is important as it may be predictive of staff behaviors or

screening practice. (47) When asked how common substance use during pregnancy was, the majority of respondents estimated that under 20% of women use alcohol during pregnancy and under 10% of women use drugs during pregnancy; these estimates closely mirror national and state surveillance data and suggest that staff accurately perceive the prevalence of perinatal substance use.

Additionally, a ten-item questionnaire was adapted from the Attitudes About Drug Abuse in Pregnancy 34-item questionnaire initially developed by Coles, Good, and Strickland and used in subsequent studies of nurses in hospital obstetric wards. (47) This questionnaire was adapted to include only the knowledge items. Subjects responded by answering true, false, or not sure. Correct answers are scored with one point and a score between 0 and 10 was possible, with higher scores indicating greater knowledge. Subject scores ranged between 2 and 10. [Table 4] The average score was 6.45, suggesting that survey respondents responded to slightly more than half of the items correctly. Subjects who reported having received some training in perinatal substance use were more knowledgeable than those who had not received training ( $p < 0.05$ ).<sup>1</sup>

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<sup>1</sup> Subjects who reported having received some training in perinatal substance use had significantly higher knowledge scores ( $M = 6.52$ ,  $SD = 1.04$ ) than participants who had not had any training ( $M = 6.16$ ,  $SD = 1.26$ ),  $t(232) = -2.36$ ,  $p = .01$ .

**Table 4: Respondent Knowledge Scores from the adapted AADAP Instrument (n=44)**

	<b>% of correct responses</b>
<b>1. In general, illegal drugs have more serious consequences for prenatally exposed babies than legal drugs or alcohol.</b>	<b>66.80%</b>
<b>2. Substance abusers do not usually stick to a single drug rather than using a variety of drugs.</b>	<b>76.95%</b>
<b>3. Sudden Infant Death Syndrome (SIDS) occurs more frequently in alcohol, tobacco, and other drug-exposed infants.</b>	<b>83.13%</b>
<b>4. Drug abusers often have family members or significant others who also abuse alcohol or drugs.</b>	<b>92.62%</b>
<b>5. Making a pregnant woman feel guilty about her substance use is not an effective way of stopping alcohol and drug use.</b>	<b>94.26%</b>
<b>6. Most infants with prenatal cocaine exposure have no long-term deficits.</b>	<b>10.66%</b>
<b>7. The best thing for a drug exposed baby is not to place it in foster care.</b>	<b>78.69%</b>
<b>8. Women who abuse alcohol or drugs are more likely to experience domestic violence or sexual abuse than women who do not abuse alcohol or drugs.</b>	<b>91.80%</b>
<b>9. Prenatal substance use causes changes in the brain that make a child more likely to become an addict or alcoholic later.</b>	<b>54.73%</b>
<b>10. Cocaine is not more damaging to the newborn than other drugs.</b>	<b>83.72%</b>

### Self Efficacy

Self-efficacy is an individual's belief that her or she is capable of performing in a certain manner to attain certain goals. (44) An individual's perceptions of his or her self-efficacy has been identified as a determinant of behavior; individuals are more likely to enact behaviors if they are confident that their behaviors will effectively achieve a desired outcome. (44) For example, a Maternity Care Coordinator would have high self efficacy if she believed herself capable of effectively screening a prenatal patient for alcohol and drug abuse, and might be therefore more likely to screen a prenatal patient.

In order to assess survey respondents' self efficacy, the Obstetrics and Substance Use Training Program for Women (OBIWOM) Self-efficacy Scale developed by Schumacher and colleagues was used to assess respondents' perceived self efficacy. (46) The OBIWOM Scale was adapted from twenty-six questions to be a 17-item scale after removing smoking cessation questions. Respondents rated themselves with a score from

**Exhibit 13: Sample Questions from the OBIWOM Self Efficacy Scale****How confident are you that you can:***Assessment Items:*

Identify a patient who drinks alcohol during pregnancy?

Use the CAGE and T-ACE screening instruments?

*Management Items:*

Set alcohol reduction goals with your patients?

Use brief office-based interventions for alcohol abuse?

0 (no self efficacy) to 10 (high self efficacy) for questions in three areas of practice with substance abusing women: assessment of substance abuse, management of substance abuse, and referral of women with substance use disorders. [Exhibit 13] The highest possible score for both the sub scales and overall scale was 10 points.

The average self efficacy score for survey respondents was 6.08. [Table 5]. On average, survey respondents reported feeling greater self efficacy on the referral subscale, suggesting that local health department staff are more confident about their ability to appropriately refer patients than they are about their ability to assess and manage substance use disorders.

**Table 5: Survey Respondents Self Efficacy Rating**

	<b>Average</b>
<b>Self Efficacy Scale</b>	<b>6.08</b>
<b>Assessment <i>Subscale</i></b>	<b>5.95</b>
<b>Management <i>Subscale</i></b>	<b>5.66</b>
<b>Referral <i>Subscale</i></b>	<b>7.08</b>

There was significant variation between health departments and individuals within health departments on self efficacy scores. No significant difference between clinical care and Baby Love staff was found. Subjects who reported having received

some training in perinatal substance use reported feeling more self efficacy than those who had not received training. ( $p < 0.05$ ).<sup>2</sup>

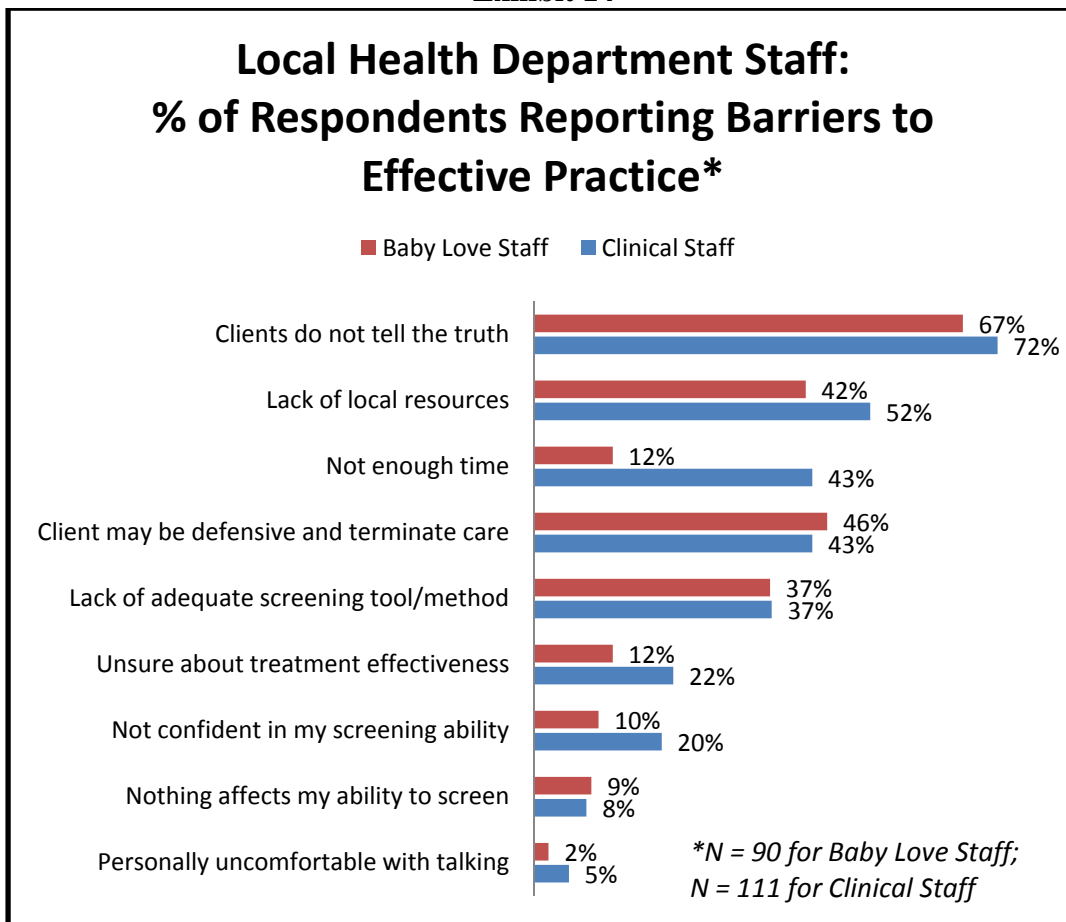
### **Other Barriers to Effective Practice with Substance Abusing Women**

In addition to knowledge and self efficacy, health care providers face other external and patient centered barriers in responding to the needs of prenatal patients who use alcohol and drugs. A tool was developed from Logan and colleagues' survey of prenatal health care providers to identify other external barriers to effective practice with substance abusing women. (43) Both clinical care providers and Baby Love staff reported that patient reluctance to disclose substance abuse behaviors was the top barrier to effective practice. [Exhibit 14] Other barriers to effective practice include lack of local resources, client defensiveness, and limited tools and methods for effective practice. Clinical staff were more likely to report time or lack of confidence as barriers than were Baby Love staff.

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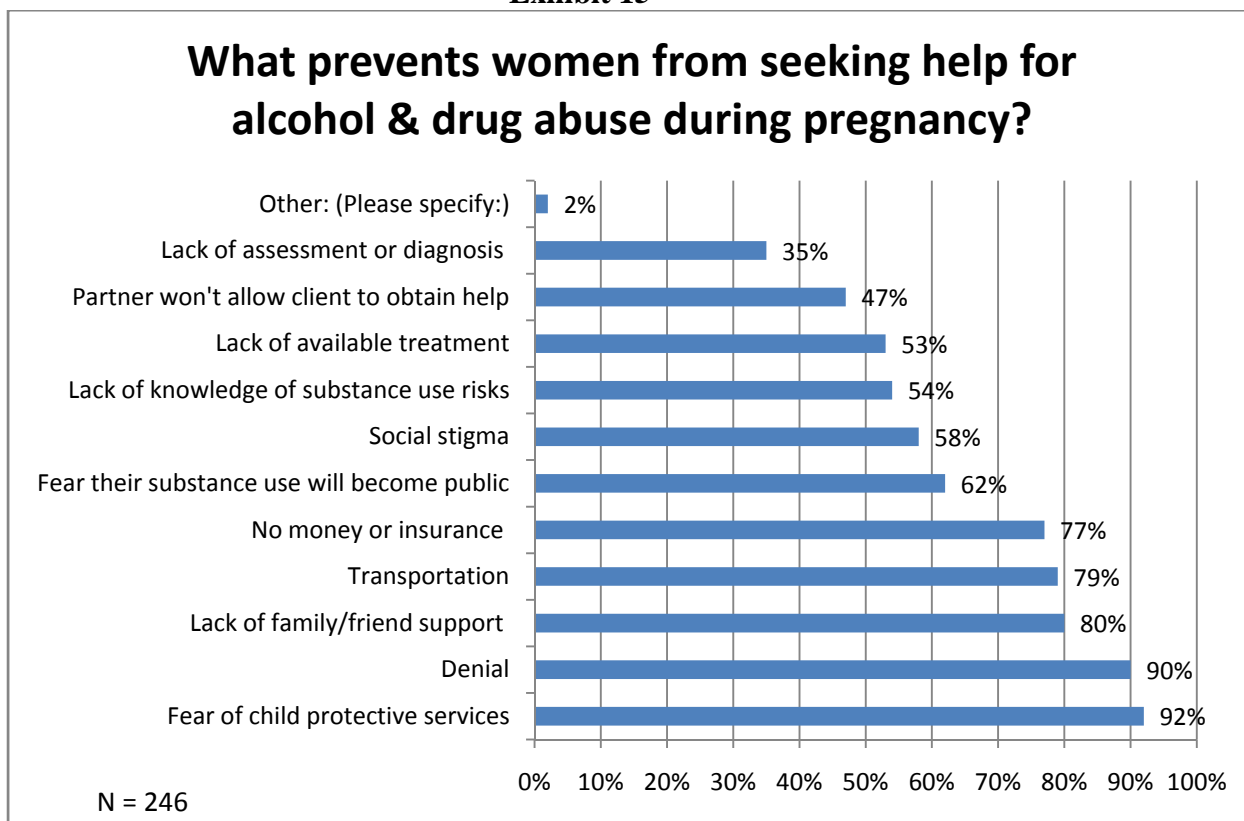
<sup>2</sup> Subjects who reported having received some training in perinatal substance use had higher self-efficacy scores ( $M = 12.09$ ,  $SD = 7.6$ ) than participants who had not had any training ( $M = 7.09$ ,  $SD = 29.6$ ),  $t(244) = -1.96$ ,  $p = .05$ .

Exhibit 14



Staff were asked to identify patient barriers for seeking help for alcohol and drug abuse. [Exhibit 15] Fear of Social Services/Child Protective Services (92%) and denial (90%) were the most commonly cited barriers to accessing help. Over 75% of all respondents also identified lack of family or friend support, transportation, and financial need as barriers for patients.

Exhibit 15



### Limitations

Analysis of local health department level practices excludes staff who responded to the survey without identifying the local health department where they were employed. Similarly, analysis does not control for the fact that individuals at the same health department may represent different practices (e.g., two individuals may indicate different confidentiality practices at the same health department.)

### Summary

Survey respondents report practices and procedures in LHE maternal health programs that largely mirror the results of the policy review. Local health department maternal health programs rely on nurses and Baby Love staff (Maternity Care Coordinators and Maternal Outreach Workers) to screen all prenatal care patients verbally at the initial prenatal care appointment; a significant percentage of LHDs conduct further screening based on substance use risk indicators or predetermined intervals. The majority of staff do not use validated substance abuse screening tools and

use forms created by the NC DPH Women's Health Branch or the county health departments to gather substance use information. Initial urine or blood toxicology testing is not conducted in the health departments, but is occasionally used after positive verbal screening results or as selective drug testing in hospitals and physicians' offices, where it may constitute discriminatory practice.

Maternal health programs rely on education and referrals to address substance abuse with their pregnant patients. Only a small minority of LHDS have onsite substance abuse counseling for patients. Referrals to substance abuse treatment are reportedly available in many counties but are not universally provided to women who have positive screens for substance use, suggesting that the depth and quality of referrals varies between health departments and that referrals to treatment may depend on a variety of factors including the individual staff person's assessment of the severity of the substance abuse, available or known treatment resources in the community, and the patient's willingness to comply with a referral.

A significant portion of maternal health program staff lack training on perinatal substance use. Staff who reported previous training were significantly more likely to demonstrate greater knowledge of perinatal substance use and to feel more efficacious when working with women who use alcohol and drugs during pregnancy. Staff report interest in receiving further training, and many of the barriers they report to effective practice with substance using women might be addressed through training, including appropriate screening tools.

### **FOCUS GROUPS & KEY INFORMANT INTERVIEWS**

In August 2009, four focus groups with local health department maternal health program staff and five key informant interviewers were conducted by the research team. The goal of both the focus groups and the interviews was to elaborate on the quantitative findings from the policy review and surveys.

#### **Focus Groups**

The research team drew upon a substantive literature review and questions raised by the policy review and surveys in creating the focus group tool. The focus group tool was reviewed and approved by the Advisory Committee members and the Principal Investigator. [Appendix C] Participants were recruited by email and phone. Local health department staff were invited to indicate their interest in participating or hosting a focus group in the Qualtrics survey; the research team then contacted nursing or Baby Love supervisors who volunteered to host focus groups. Four focus group sites were selected based on availability and rural/urban classification as determined by North Carolina Rural Economic Development Center's Rural Data Bank classification. (50)

Focus groups were conducted in two urban counties and two rural counties. 42 maternal health program staff participated in four groups; average group size was 11. Participants were offered drinks and snacks and given a small incentive (monetary value \$10.00) for participation.

Focus groups were digitally recorded with the groups' consent and later transcribed by the research team. The transcripts were coded using Microsoft Excel according to the themes and patterns that emerged during transcription. After an initial coding, the transcripts were examined by the research team, who adapted the codebook and recoded the transcripts.

Findings are organized into three themes based on the assessment objectives: screening and identification of substance abuse, staff frustration with outcomes and clients, and solutions.

#### **Screening & Identification of Substance Abuse**

LHD staff feel that they are able to accurately identify substance abuse in maternal health patients. Verbal screening or interview is used in all health departments.

However, staff suspect that the information they obtain through verbal screening may not always accurately reflect patient's behaviors and therefore also rely on observation and patient history to identify substance use.

[In response to question, how do you identify substance abuse.] *Purely by observation or sometimes you can smell the alcohol.*

*At the doctors' offices, they do screening. It tells me, this person has been doing crack, or reefer, or whatever. The question is on the FSNA [Family Strength Needs Assessment].*

*Sometimes we get honesty. I've had them tell me. They tell you this much [alcohol use], and it's this much – how would we ever know?*

Staff report that using blood or urine toxicology as a means of identifying substance abuse is appealing, because it provides what they perceive as definitive proof of drug or alcohol use, particularly in situations where patients deny substance use. However, toxicology reports are simultaneously problematic, because staff do not have an effective means of addressing positive drug tests with patients and fear it may deter them from seeking care. While drug testing may offer maternal health program staff certainty about patient's suspected drug use behaviors, staff ultimately cannot address this information differently than they do the results from verbal screening.

*We need something to do with it. If we're going to screen [using urine toxicology], we need to do something with it. In the past, when we have a positive screen, we're like, "Why did we do that?"*

*And when you do test, if you get a positive, what do you do with it? DSS, we've contacted them, and they don't want to know about it.*

*We need to keep them in care, and if we're chasing them away by what we're doing, then we're not doing a whole lot of good.*

Staff report that selective or targeted urine or blood testing is the norm in many hospitals.

*For a while, everyone who came into labor and deliver got drug screening. It didn't matter who you were. Everybody got screened. But then they decided it wasn't cost effective. Why screen everybody? Except that we did come up with a few people we didn't know about, which was a good thing.*

*-They don't routinely draw [blood].*

*-They do if they suspect, but they don't do it on everybody.*

Substance abuse screening and identification is not an issue of concern for most maternal health program staff. Instead, they are concerned with how to address their frustrations with client needs, behaviors and limited resources in order to achieve better birth outcomes.

*I do think that our nurses and social workers are very gifted and getting even better at identifying and screening. I really think we've made great improvements in that area.*

### **Frustrations with Outcomes and Patients**

Maternal health program staff's experiences working with patients using alcohol and drugs are marked by frustration. Staff are frustrated with the outcomes they are able to achieve with substance abusing patients; the problem of substance abuse during pregnancy feels too large and complex for health department staff to fully address in their inherently time-limited work, and staff do not have sufficient or appropriate resources to do so. Maternal health staff must devote extra time and energy to working with substance abusing patients because of their high level of need and the limited resources to address this need. As a result, maternal health staff are frustrated with their patients, as substance abusing women often seem disinterested in changing their behavior and are perceived as manipulative or duplicitous and unappreciative of the additional efforts staff make to help them.

### **Frustration with Outcomes**

Maternal health patients using drugs and alcohol have multiple, complex needs that cannot be resolved during the time women are patients. Staff feel overwhelmed by their patients' histories of trauma and chronic poverty. Patients often have no support systems outside the formal resources available through the health department or local

Department of Social Services. Cyclical substance abuse, mental health issues and histories of trauma impair clients' ability to become stable or self-sufficient.

*One of those situations when you go to their house, by the time you leave, you're just sucked dry. You wonder how anybody could get the resilience to face their day to day situations. Substance abuse is not isolated. You're talking about poverty, racism, lack of education. She didn't have any role models growing up, two children, a father denying he's the father. It's a gamut of different factors impacting our people.*

Many patients have histories of sexual abuse and domestic violence and/or are impacted by violence during their current pregnancy.

*What I notice is the majority of patients that have a history of abuse end up using some type of substance or alcohol. It's like you can't have that in your past and not follow a pattern of other things. Even if it's not happening then, it seems like almost always if they have a history of abuse, then they use. Then it's like a cycle of things that lead to something else.*

Patients are trapped in chronic, intergenerational poverty in both rural and urban communities, where substance use is a behavioral norm. Many women do not have family members or friends to support their efforts to abstain from alcohol and drug use, or even provide emotional or logistical support. As a result, staff feel compelled to serve as patients' sole social support, an emotionally draining and practically impossible task.

*We see all this potential. I meet with so many different clients that are just full of potential and it goes nowhere. She was to the point to where we were afraid to let her go because she drove herself here, so we called the police so they could come and pick her up to make sure she got home safe. She didn't have nobody else.*

*We are their support systems. They come to us for simple questions... You can put everything in writing, but they don't comprehend. They need a professional support system.*

Staff are challenged by patients who abuse prescription medications and perceive this as a recent trend. They report patients seek prescription medications from the health department, and staff must respond by enacting policies and procedures to limit such prescriptions. This is a particular area of concern for rural maternal health staff.

*Our doctors are really getting to where...they will not give them [prescription medications] because they've kind of got burnt.*

*When they're wanting something like pain medicine or whatever, they'll call several days in a row to see if they'll get a different nurse.*

*We had one recently who stole a prescription from the health department.*

Maternal health staff treat increasing numbers of women prescribed methadone during pregnancy. Staff lack information about methadone treatment during pregnancy and feel frustrated by lack of communication or collaboration with opiate treatment providers.

*Meth clinics have lost what they were originally made for. They were originated to get you off but not anymore.*

*I know there's pros and cons, but several of us had a girl who honestly was addicted to methadone. She will tell you, "I will not go to counseling, but I will use the methadone." To me, it was just one drug replacing another.*

Many patients are impacted by both substance abuse and mental health issues. Staff perceive some patients' substance use as a form of self-medication.

*The other piece is the co-morbidity with mental health. You have mental health issues impacting their ability to even seek or accept help...The substance is really whacking (sic) out the MH issues. They're not on the proper medications so they're self medicating with God knows what. Those are the ones that are really tricky.*

*I see a lot of self medication. I see a lot of clients that themselves had in their history abuse or a lot of devastating things that are going on. They're dealing with self medication and a lot of them are just barely functioning.*

Patients' complex needs would be difficult to adequately resolve during their pregnancies in the best of circumstances, but maternal health programs are faced with limited resources both in their health departments and in the larger community. Within health departments, clinical staff do not have time or enough training to attend to substance abuse or other psychosocial issues with patients, and rely heavily on Maternity Care Coordinators to address these needs.

*In a nutshell, basically, we don't have a time. In the clinic area, we're seeing all kinds of patients, one after another. A nurse can't spend more than 15 minutes tops. The problem is generally we have full schedules. You just don't have a lot of time to do in-depth.*

*A lot of times, they will tell the ladies that home visit. They will give them a lot more information than they give us. We depend on the ladies that home visit.*

While Maternity Care Coordinators recognize that this is their role, some staff believe a team effort might be more effective or better utilize resources.

*-With the docs – the healthcare professionals – if they had a little more training. Us being over at the clinic, anytime a patient has a substance abuse, they're running down [HBI provider], or lemme find a social worker, cause they just know that little piece, just enough to get her out of their office.*

*-Pass her off to somebody!*

*-She comes to me, she doesn't want to talk to me. They want her to talk to me. Fix it. I'm all right, I've got this handled.*

*-I know they have to learn all this medical stuff, but the other stuff is important too. You have to deal with mental and substance issues.*

While Maternity Care Coordinators are able to spend more time with patients than are clinical staff, their services are inherently time limited. All health

departments described attempting to address this time restriction by using Child Service Coordinators.

*Our programs are time limited. MCC is only going to be 2 months post partum. However when we identify that they have these issues, we send them to CSC, and we can hopefully get them to participate, which gives them much longer term help.*

Maternal health program staff stated that their health departments did not have adequate mental health services on site because of limited funds. In the two health departments employed a licensed clinical social worker (LCSW) to provide Health Behavior Interventions (HBI), this was less of a concern.

*We really need in public health to have mental health in the building somewhere, because this [substance abuse] is an issue, but there are other issues too.*

*-I think it would be better in house, too, because they like to get several different things out of the way at one appointment. Instead of going to ten different buildings, they can do all that here...Having somebody within the health department who could do referrals here.*

Outside the health department, maternal health staff in both rural and urban communities repeatedly emphasized that their counties did not have adequate mental health and substance abuse treatment services.

*If you're going to screen, you need some place where you can refer them regardless of their income, in town, where you can send them. Otherwise you've wasted time, you've wasted money...*

*... We don't know where to refer them. There's such a small amount of referrals we can make for substance abuse. They'll [treatment providers] talk to them and say, okay, don't do it anymore. And they need more than that. They need a lot more than that.*

*[Patients say] "Okay, I want help." But you've got to go to Raleigh. "So why'd you tell me I needed to quit when I need to go to Raleigh?"*

*When you need help, you pretty much aren't going to get it. Go to the emergency room. Private offices that are supposed to fill in the gap, you can't get in. I have worked endless hours trying to help patients who really need help, and you can't find it. We have a broken MH system. It's broken everywhere, but it is very, very, very broken in the rural counties.*

In all communities, finding a mental health or substance abuse treatment provider for patients is complicated by insurance limitations. Staff have great difficulty finding providers who will treat women insured by Medicaid for Pregnant Women (MPW), despite MPW coverage for behavioral health.

*And the other issue is the MPW. For some reason, when we try to refer, MPW tries to say that it's not pregnancy related, and that's been a real issue... That's a real issue is trying to get somebody to see them, because they end up with no payment source even though they have the MPW.*

*-They can't use it [the local mental health center] with pink Medicaid. No one will take them.*

*-I'm the only one who'll take it. [said by HBI provider]*

*[We need] MPW to pay for it. It's terrible, but you got the Medicaid, and it won't pay for it. You can't say it's not [pregnancy] related! I mean, if they're substance abusers, it's gonna affect the pregnancy.*

Even when staff can find substance abuse treatment services in their community that will accept MPW, these services do not respond immediately and often require women to wait. Staff describe situations where patients who want treatment are deterred by long waiting periods for appointments.

*When the client is at that moment where that clients is ready to do something... we get an appointment and the appointment is 2 weeks later, or a month easily. And this client is just hanging by a thread, and they've got to wait a month to get counseling. Guess what happens? You lose that opportunity. We don't need that time delay. We lose that opportunity when we have a delay.*

*There isn't like a walk-in clinic where someone can go today. We need somewhere where we can send them today.*

*If you have an issue with a patient and you can address that issue right here, right now, we've got someone who can help, we've got someone we can put you in touch with, you have a much better chance of doing something about it. But once that patient walks out the door, they change their minds. Once they get out the door, everything falls apart.*

Maternal health program staff find themselves facing overwhelming, intertwined needs in their substance abusing patients without sufficient resources in their health departments or communities.

### **Frustration with Patients**

In addition to struggling with multiple issues that require non-existent resources, women who abuse drugs and alcohol are frustrating patients because of the chronic nature of their addictions. Addiction is distinguished by lack of control over substance use despite legal, economic, or social consequences; women addicted to alcohol or drugs engage in manipulative behaviors to avoid detection, often ignore healthcare professionals' advice, and frequently relapse after achieving abstinence. As a result, maternal health staff wrestle with serving substance abusing patients who provoke staff or seem ungrateful and require significant time and resources. Many women continue to use drugs and alcohol despite staff's best efforts, which leads many to feel hopeless or powerless.

*My experience is lack of follow through. Can't keep her engaged, on any one thing, during a visit. She's just all over the place. She's just frustrating all the time. I think I've seen her four or five times this month and have not been able to resolve not one issue in those four or five times that we've spent together. We have MOW services that are in place, and she's working alongside me, and I don't know how many times [other staff person] seen her. You have 2 people working with this one lady, and we can't get anything resolved.*

*There are still those people who will not be able to do it, and that's just something we will also have to struggle with..That addiction is so powerful. If people can walk*

*away from their children, what do we have to make people stay? That's the magic we need, something we can give them to hold onto through the rough parts.*

Maternal health staff report that they perceive the major problem not to be one of identification, but patient denial. Patients who are believed to be using drugs and alcohol, because of observation, community report, or history, often continue to deny using and are not receptive to information or education about the risks of substance use during pregnancy. This denial renders staff helpless to assist patients or prevent perinatal substance exposure.

*She was in and it was obvious that she was on drugs or alcohol. She was very belligerent and loud when she talked and the rest of the time she was just sleeping. She would fall asleep, you know, sleeping in the hall and when you would try to interview or talk to her she would fall asleep while you were talking to her. She didn't mention anything about drugs or alcohol. It was obvious. But when you talked to her and asked questions about that, she just absolutely denied it.*

*She had four of them [drinks], black out, fell over, hit her belly. They brought her to [hospital], and suggested anger management and addiction counseling. And she said she didn't have a problem with alcohol. She did not see that as a problem.*

*I had one who, every time she'd go to the doctor, she'd test positive for THC. And she'd tell me, I am not smoking pot. I don't know what they're talking about.*

*I think most of the time, that's the way it is: they don't want help.*

*She didn't want any referral, and she denied everything. She denied she was even using.*

Staff feel that patients' denial is shaped by their fear that health department staff will report their substance abuse to Child Protective Services or will judge them for using. This is an accurate belief, at least in part; women are frequently drug tested at labor and delivery and reported to Child Protective Services if their tests are positive and

can be reported for suspected child abuse and neglect during pregnancy if they are endangering other older children.

*They think we're judging them or we're gonna turn them in. Some actually think we're gonna turn them in.*

*..So many think the health department is DSS [Department of Social Services] that they're afraid to tell us anything because they think we're DSS...Sometimes we have to explain to them that, no, we're not. But we also have to let them know that if it has to be reported, then we have to report it.*

Patient marijuana use is a difficult issue for maternal health staff to address adequately. Many patients openly discuss their marijuana use with staff who are uncertain how to best to address it. Staff lack information about the impact of marijuana use during pregnancy and feel that marijuana use is not taken seriously in many communities.

*I do newborn home visits, and there was one [patient] that had [an] MCC, and it was already documented that she was smoking marijuana throughout her pregnancy...And she said, yeah, you know her friends had told her it was safer than smoking cigarettes and that it would give her a smaller baby, and she didn't want a big baby. And she was very upfront about it, like, "Yeah, I drink milk every day."*

*It has become so common place to just see marijuana just listed as a usual thing. And I think the attitude of, I would say, just being on my own observation, the attitude of marijuana, is that it's not considered to be a drug and they really take it extremely lightly.*

*I've got a client who, it doesn't really matter to her. She's got a cousin who did that [smoked marijuana] with the baby, and you know, the baby's okay.*

*They're probably not real receptive to what we say [about marijuana]. You know, they listen, but they turn around and say we don't know what we're talking about.*

Many patients resume substance use behaviors after delivery. Because clinic staff have limited post-partum time with patients, they feel powerless to prevent post-partum resumption of use or relapse.

*And then I notice a lot that they stop during pregnancy, but as soon as the baby's delivered, you've got no phone call, no contact, and you know that they're back doing what they were doing before. I have a lot of clients who, they'll do good during the pregnancy, but as soon as they deliver, they're right back from the drug use.*

Patients in active addiction often change their minds about wanting substance abuse treatment or cannot be found after maternal health staff devote time to finding and facilitating referrals. Staff efforts to mine appropriate resources for patients in a field of limited options is often met by disinterest, or worse, absent clients.

*They don't follow the 50% rule – I do 50%, you do 50%. They do the, I'll do what I get around to, and you do the rest.*

*And, obviously, they're frustrating people to work with. Or they say they're gonna follow through – they express all this interest, and you run around ragged, and then they don't do it.*

*So she got lost and her mind changed, so I lost her. I almost had her there, but I lost her during that timeframe, and she didn't seek any kind of treatment. You know, she had the baby, and of course, it was taken away from her. She did not parent that child. She's still out there.*

*A lot of times, when you start trying to refer someone, they'll back out before you, you know, get all the way through the process. I can call and make an appointment, but they don't necessarily show up.*

Supporting any behavior change is a frustrating endeavor for health professionals and maternal health staff feel particularly pressured to effectuate behavior change with substance abuse pregnant women because it impacts both the mother and the infant who is seen as an innocent victim. Many staff express a desire to “make” women change. Staff

identified strategies that they thought might force women to give up alcohol or drug use, including making them watch videos or look at pictures of infants exposed to drugs or alcohol and compelling them to participate in substance abuse treatment during pregnancy through the Department of Social Services (DSS) or the court system.

*Of course, it would be nice to get into their little heads, and make them quit their habit as much as you want them to. That's the only time that they will definitely go into treatment, if CPS is involved.*

*Almost everybody we've actually seen follow through is because they were required to by DSS.*

Many staff wish that their county Department of Social Services would be more supportive of their efforts to address substance abuse during pregnancy. Staff expressed regret that DSS would only intervene after delivery. A small but vocal group of local health department staff felt that one option to address women's denial was to work with their community's DSS to arrest women.

*That's the sad part about it in North Carolina, can't do anything the whole pregnancy. We have South Carolina people who will come over here and cross the line because they know that.*

*And sometimes, I don't mean this to be ugly, but if they get put in jail sometimes they'll get clean cause they can't get any help [to find drugs].*

Maternal health staff attempt to find a balance between treating patients with compassion and enabling their substance abuse behaviors. Staff feel torn, as women abusing alcohol and drugs elicit compassion because of life histories of incredible suffering, and yet are difficult to work with.

*I remember, first time I did a home visit, [the client's] house had a dirt floor. And I remember thinking, this is not real! And that is my problem. I want these people to have more. I want them to have a floor. Table and chairs. A plate to eat off of.*

*-There's a fine line of trying to be a support person when they view you as someone who's going to report them.  
-It's hard not to be an enabler in these situations.*

*Public health nurses and social workers are very – we are very caring and compassionate. That's probably one of those areas that we have to be very careful to monitor. We have to be so careful that we don't enable... We somehow need to have the ability to set some structure and boundaries, because that actually helps them. These are folks that don't have structure and boundaries.*

### **Solutions**

Maternal health staff question which agency or group of individuals should assume responsibility for tackling the many problems presented by women using alcohol and drugs during pregnancy. Staff alternately proposed that the state, the community, and individual health departments should be tasked with solving these problems. Participants reported that the overwhelming nature of this task meant that no one wanted this responsibility.

Staff felt that they needed more resources from the state in order to be able to address the full scope of patient need. Needed resources ranged from increased funding in recognition of the new roles health departments were forced to play in the wake of mental health transformation, to training for local health department staff and an updated manual from the NC DPH Women's Health Branch.

*The health departments do an awful lot of work with an awful little bit of money. And if we just had a little recognition, and a little more money, we could do a better job.*

*Are you looking to update the manual? It may be helpful, I've gone through and pulled things out from there. There are some things in there that are really good, and it's a good reference tool to be able to refer back to it.*

Staff felt that improved collaboration with mental health and substance abuse agencies in their communities suffered from a lack of state issued guidance. Staff

suggested that the state should mandate collaboration between mental health and substance abuse treatment agencies and tie this mandate to funding.

*We could do much better if we joined forces...I really believe that we need some type of state support of making that happen with trying to revive mental health, and connecting us with these women. Because these are such devastating issues...I do think we need something from a systems approach. It needs some kind of directive, to make these connections happen, and then once that happens, it's kind of a force thing, over time it'll become relationships with these agencies and staff. And over time it will be very beneficial and everyone will realize how wonderful it is when we do this.*

*We're not connected. We are fragmented. I really feel like until the state takes some responsibility to mandate some forced collaboration, we will see some improvements.*

Community support, both as social support for people in recovery and financial and structural resources, is lacking in all counties. Maternal health staff reported feeling as though they were only people in their communities who could see the full scope of the problem, and that others perceived the problem as insignificant or inconsequential.

*It needs to be a community approach.*

*-When we did the community health assessment, a lot of people mentioned that drugs and things were an issue, but there really wasn't anything that took ownership of it.*

*"Somebody's" doing that and it's not us. "Somebody" needs to do something about it –*

*- "Somebody" needs to do something about it. But the community's not necessarily stepping up to say, we, as a town, want to make this drug free.*

*-The community has a stake in this, and I wish more people would –*

*-What would it take for community to come together?*

*-Awareness. They don't know what's going on. The people that could help, they haven't been in those situations. They don't go to the homes that we do. Before I came here, when I was working as a nurse in a hospital, I would be like, well, why do [the patient] do that? But when you go their homes, you realize that this is a big problem. That they have no food, or help.*

Maternal health staff believe that they can and do effectively serve women using alcohol and drugs but they question whether it is their role to address mental health and substance abuse to the extent often asked of them. On the one hand, they feel that the clinical staff and Maternity Care Coordinator roles, as specified by NC DPH, are not to provide counseling for patients who need substance abuse treatment but to provide support and referrals to the appropriate treatment. Conversely, the lack of responsive, appropriate community based referrals causes many to wonder whether, in fact, they should be providing counseling to fill this gap for patients.

*We only have a set amount of time and these people are very needy people.*

*We're not counselors. We're counselors to a sense, but we're not counselors that can tell them how to stop to do this behavior... We can tell them what we think and what we've learned.*

*I think once it's identified, it's not our place to do treatment. It's our place to do referrals to people who that's their expertise. We wouldn't do them justice. I think that's the whole goal – we're the person who can advocate for them and get them in.*

*I do think that...since we are having to fill in the gaps of the mental health shortness, that perfecting our training, maybe a notch up. We can identify and make referrals, but maybe we could get just a little more notched up to provide maybe a little more than basic counseling. We're not going to be substance abuse counselors, but trying to be a little more directive in our counseling, to help so we can get all these things.*

### **Key Informant Interviews**

Five key informant interviews were conducted with state level administrators identified by the research team. The research team reviewed the results of the assessment with each informant and requested feedback and recommendations for the statewide strategic plan. Key informants noted the need for integrated team care for women using alcohol and drugs during pregnancy, and the importance of the Perinatal Substance Use

Project as a training and referral resource. Their recommendations have been incorporated into the general recommendation section.

### **Summary**

Accurately screening for and identifying substance abuse is only a small piece of maternal health staff's work with women using alcohol and drugs. Staff's ability to effectively identify substance abuse in patients is overshadowed by their frustration with the overwhelming complexity of patients' needs and paucity of resources (outcomes), in addition to the frustration of working with women who are resistant or disinterested in help. Staff believe that state assistance can facilitate better collaboration on the community level, and need clarification about their role in assisting women seek substance abuse treatment during pregnancy.

## **FINDINGS & RECOMMENDATIONS**

### **1. Maternal health program substance abuse screening and intervention policies and practices vary widely across North Carolina.**

Many maternal health substance abuse policies are unclear or lack detail about procedures and protocol in the health department. There is significant variation between health departments and across individuals from the same health department for screening, intervention and referral practices. The majority of maternal health programs screen all prenatal care patients at intake but not throughout the pregnancy, and do not use validated substance abuse screening tools. Maternal health program confidentiality standards for patients' substance abuse disclosure are unclear and the majority of policies do not require compliance with federal drug and alcohol confidentiality laws. Programs rely on education and referrals to address substance abuse with their pregnant patients but struggle to find appropriate referrals. Variability in practice is compounded by prenatal care patients' multiple, complex medical and psychosocial needs that challenge maternal health program staff resources.

#### **Recommendations:**

- ✓ **The North Carolina Division of Public Health and Division of Mental Health Developmental Disabilities, and Substance Abuse Services should collaborate to standardize substance abuse screening and intervention protocols in local health department maternal health programs.**
  - A standardized substance abuse screening, intervention, and referral patient-focused protocol should be developed by the Perinatal Substance Use Project, the North Carolina Division of Public Health Women's Health Branch, and the North Carolina Division of Mental Health Developmental Disabilities, and Substance Abuse Services. The protocol should be field tested in four local health department sites prior to statewide implementation. The standardized protocol should include the following:
    - A validated screening tool;

- Specified intervals for substance abuse screening in maternal health programs;
  - Clear guidelines for the use of urine toxicology;
  - A structured motivational interviewing framework for conducting brief interventions with women identified as using alcohol and drugs;
  - A referral and follow-up protocol for women in need of substance abuse treatment;
  - A standardized procedure for repeated screening with women identified as using alcohol and drugs
  - Guidelines for collaboration with local community partners for referrals to treatment; and
  - Clear confidentiality guidelines.
- The Women’s Health Branch should partner with the Nutrition Services Branch to explore the use of nutritionists and WIC staff in substance abuse screening and interventions.
  - The existing Agreement Addendum between local health department maternal health programs and the North Carolina Division of Public Health Women’s Health Branch should be modified to require local health department use of the standardized protocol.
  - The North Carolina Division of Health and Human Services and Attorney General’s office must provide LHDs guidance on their obligation to comply with federal confidentiality laws.
- ✓ **The North Carolina Division of Public Health should provide support for and training in the standardized substance abuse screening and intervention protocol via the Perinatal Substance Use Project to enhance the efficacy of local health department staff.**

- The Perinatal Substance Project should develop a comprehensive substance abuse screening and intervention training curriculum and manual for local health departments. The curriculum should be made available online through UNC Gillings School of Global Public Health's Office of Continuing Education. Funding to support curriculum development and evaluation should be identified by North Carolina Division of Public Health and Division of Mental Health, Developmental Disabilities and Substance Abuse Services.
  - Curriculum and materials should acknowledge the wide variation in local health department and county-level resources, in addition to the challenges maternal health program staff face in serving patients with multiple, complex medical and psychosocial needs.
- The Perinatal Substance Project should offer ongoing technical assistance to local health departments in the implementation of the new protocol.

**2. Maternal health program staff struggle to find appropriate substance abuse treatment for patients.**

Maternal health staff want access to responsive, timely, appropriate substance abuse treatment for patients in the health department setting. Many communities lack appropriate or accessible substance abuse treatment for women who are pregnant. Maternal health staff particularly struggle to find substance abuse treatment providers that will accept Medicaid for Pregnant Women.

**Recommendations**

- ✓ **The North Carolina Division of Health and Human Services should work to identify and address barriers to substance abuse treatment for women who use alcohol and drugs during pregnancy.**
  - The North Carolina Division of Medical Assistance and Division of Mental Health, Developmental Disabilities, and Substance Abuse Services should form a working group to assess substance abuse treatment providers'

utilization of Medicaid for Pregnant Women (MPW). The working group should identify barriers to access for MPW recipients and establish a strategic communication plan to clarify MPW benefits and billing to providers, including issuing a statement in a Medicaid bulletin.

- The North Carolina Division of Public Health and Division of Mental Health, Developmental Disabilities, and Substance Abuse Services should develop a new initiative to provide substance abuse treatment and prevention onsite in local health departments. This initiative should facilitate collaboration between local health departments, Local Management Entities, and community substance abuse treatment providers to locate a qualified licensed professional on site as a resource for local health department staff, similar to the role of the QPSA in Work First/Child Protective Services Substance Abuse Initiative. The qualified professional should be available to conduct assessments and interventions with patients screened by front line clinical and Baby Love staff; this individual would also serve as a point of contact between the health department and community substance abuse resources.
  - The initiative should explore using the Licensed Clinical Social Workers who currently provide Health and Behavior Interventions in some local health departments as a part of this effort.
  - Funding to support the administration and implementation of this initiative should be identified by the state legislature as part of North Carolina's commitment to reducing infant mortality and morbidity.
- The North Carolina Division of Mental Health, Developmental Disabilities and Substance Abuse Services should continue to provide leadership for the creation of a comprehensive gender-specific substance abuse system of care for women and their children throughout North Carolina, including outpatient, residential and transitional services, services across the lifespan (particularly

for adolescent females who are pregnant), and services for non-English speakers. This system should adhere to the National Association of State Alcohol/Drug Abuse Directors (NASADAD) and Women's Services Network's Guidance to States: Treatment Standards for Women With Substance Use Disorders.

- The NC Division of MHDDSAS should create a training institute to develop and coordinate gender-specific training and technical assistance for substance abuse treatment providers in order to enhance their capacity to meet this need.

**APPENDIX A:**  
**PROFESSIONAL GROUP POLICIES ON SUBSTANCE USE SCREENING**  
**DURING PRENATAL CARE**

American College of Obstetrics and Gynecology

The American College of Obstetrics and Gynecology (ACOG) supports universal screening for pregnant women and proposes an ethical rationale for conducting screening. They support their recommendation on the ethical principles of beneficence, nonmaleficence, justice, and respect for autonomy, which physicians are sworn to uphold. (40) ACOG states that physicians have the obligation to provide therapeutic treatment, which includes conducting screening and giving appropriate education and referrals. Physicians have the obligation to provide universal screening to prevent potential harm to the mother or infant by appropriately delivering necessary prenatal care. Additionally, as physicians have the obligation to practice justice, which ensures equal access and administration to care, physicians must screen and offer treatment equally to all patients they treat. Physicians must keep trust with patients by keeping all medical screenings confidential and respecting a patient's refusal to be screened, thus upholding patient autonomy. While ACOG acknowledges that fetus health must take precedent and action may need to be taken to ensure the infant's safety once born, it does not condone legal actions against the mother in order to coerce abstinence are inappropriate and ineffective.

The ACOG recommends use of the several tools with demonstrated efficacy for use with women who are pregnant, including the TWEAK, and T-ACE. They acknowledge that these questionnaires are more sensitive with pregnant women than other screeners such as the CAGE.

American Academy of Pediatrics

The American Academy of Pediatrics recommends that all pregnant women be screened for substance abuse. Screening for maternal substance abuse should involve multiple methods, including maternal history, maternal urine testing, and testing of newborn urine and newborn meconium specimens.

Substance Abuse and Mental Health Services Administration

The Substance Abuse and Mental Health Services Administration (SAMHSA) recommends screening all pregnant women for drug and alcohol use due to the potential adverse effects to the fetus. (52) SAMHSA recommends use of the TWEAK screening tool due to the research demonstrating its effectiveness in this population. SAMHSA also acknowledges that this population has special needs, including parenting education, child care needs, and housing concerns, and recommends that programs and referrals be constructed in order to meet these needs.

U.S. Preventive Services Task Force

The U.S. Preventive Services Task Force (USPSTF) recommends screening all pregnant women for substance use. (53) They recommend informing all pregnant women of the negative effects of drugs and alcohol that can occur during pregnancy. USPSTF also identifies the TWEAK and T-ACE tools as options for screening, but advises clinicians to use personal judgment on what will work best for them in their medical setting.

U.S. Department of Health and Human Services

The United States Department of Health and Human Services (USDHHS) recommends screening pregnant women during the prenatal intake and history appointment. (54) They state that this provides the opportunity to not only screen for

current use, but to also offer education about the potential effects of using substance during pregnancy for those who may contemplate use and not fully understand the consequences.

**APPENDIX B: VALIDATED SCREENING TOOLS****AUDIT**

The Alcohol Use Disorders Identification Test (AUDIT) was designed as a screening tool to diagnose alcohol dependence in men and women. (55) It consists of ten items that can be used in an interview or self-report format. A score of two or more is considered a positive screen.

In the general population, the sensitivity and specificity of the AUDIT has been high (80-100% and 95-100%, respectively). It has been recommended that the tool be modified for use with pregnant women by adding the words “Before you became pregnant...” at the beginning or end of each question. (53) However, no research demonstrates similar rates of sensitivity and

specificity in pregnant women with this modification. Despite this lack of evidence, it has been used as a screener in studies examining rates of alcohol use in pregnant women. (56) One study found the AUDIT has to be a more effective screener in African American women in comparison to white women. (30) The AUDIT’s strengths include its ability to distinguish between light and heavy drinkers and can identify occurrences of binge drinking; weaknesses include lack of validity with pregnant women, and that some of the questions have been noted to be unnecessarily complicated, making it potentially difficult for respondents to give an accurate answer. (53, 57

**AUDIT***(Selection of questions)*

1. How often do you have a drink containing alcohol?
  - a. Never
  - b. Monthly
  - c. 2-4 times a month
  - d. 2-3 times a week
  - e. 4 or more times a week
2. How many drinks containing alcohol do you have on a typical day when you are drinking?
  - a. 1-2
  - b. 3 or 4
  - c. 5 or 6
  - d. 7-9
  - e. 10 or more
  - f. Less than monthly
  - g. Monthly
  - h. Weekly
  - i. Daily or almost daily

**CAGE**

The CAGE screening tool consists of four yes or no questions; an affirmative answer on any of the four questions signifies a positive screen. (58) The CAGE identifies heavy alcohol use and may not identify individuals who do not drink heavily or consistently. In

the general population, the CAGE has demonstrated acceptable rates of sensitivity and specificity (84% and 95% respectively). (53) The CAGE has been tested in obstetric populations, with good concurrent validity when compared to congenital abnormalities in the newborns of mothers who screened positive. (42) However, since identification of heavy drinking is not the only goal of screening, the CAGE is not deemed a comprehensive screener. It does not assess frequency or chronicity of use, nor is it time sensitive to whether drinking habits were prior to or during pregnancy. (53) Additionally, studies have shown that the CAGE does not show adequate sensitivity with pregnant women (30, 59)

**CAGE**

1. Have you ever felt you should cut down on your drinking? Yes/No
2. Have people annoyed you by criticizing your drinking? Yes/No
3. Have you ever felt bad or guilty about your drinking? Yes/No
4. Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (eye-opener)? Yes/No

**MAST**

The Michigan Alcoholism Screening Test (MAST) is a 22 yes/no question alcohol interview which can be administered by any health personnel. (60) It takes approximately ten minutes to

administer and focuses on identification of heavy drinkers, making it less useful for pregnant populations and yields sensitivity and specificity rates of 88% and 66% respectively. These studies were conducted on white males and results cannot therefore results cannot be generalized to other populations. (42) A brief version of the MAST

**MAST**

1. Do you feel you are a normal drinker? ("normal" - drink as much or less than most other people)
2. Have you ever awakened the morning after some drinking the night before and found that you could not remember a part of the evening?

(SMAST) consists of ten questions. (61) Overall, the MAST has not performed as well as screeners specifically tailored to pregnant women. (31)

### T-ACE

Unlike many other substance use screening tools, the T-ACE screening tool was developed to use with pregnant women. (62) It is based on the CAGE and consists of four yes/no questions, each weighted two points. A positive screen occurs if the woman answers

affirmatively to any of the questions. Noted advantages of the T-ACE include its brevity, that the wording of the questions does not seem to elicit defensiveness by the patient, and it has been tested extensively in obstetric populations. (54) Additionally, it can identify pre-pregnancy risk drinking, prenatal use as well as lifetime use (63) McNamara and colleagues found the T-ACE to be more sensitive in screening for substance use than evaluating medical records. (64) In another study, the T-ACE outperformed informal staff assessment of alcohol use in pregnant patients. (65)

- | T-ACE |  |
|-------|--|
| 1.    | How many drinks does it take for you to feel high? ( <b>Tolerance</b> )  |
| 2.    | Have people <b>annoyed</b> you by criticizing your drinking?   |
| 3.    | Have you ever felt you out to <b>cut</b> down on your drinking?  |
| 4.    | Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover? ( <b>Eye opener</b> ) |

### TWEAK

Like the T-ACE, the TWEAK was specifically designed for use with pregnant women. (66) It is comprised of five yes/no questions taken from other alcohol screening tools (the MAST, CAGE, and T-ACE). The questionnaire is scaled on a total of seven points, with a score of 2 or higher signifying a positive screen. It has been tested extensively in pregnant populations, and displays adequate sensitivity and specificity (91% and 77% respectively). (67)

Despite these strengths, the TWEAK is weak at identifying women with potential drinking problems. Additionally, responses are limited to either yes or no and thus may yield less accurate answers (e.g., an individual may say ‘no’ even if their true answer would be ‘sometimes’) (42).

Dawson et al. recommended the possibility of reducing the baseline of a positive screen to one point instead of two, which would help in

identifying low/moderate risk women. (67) However, doing this may decrease specificity.

#### 4 P’s, 4 P’s Plus, and Modified 5P’s

The original 4 P’s questionnaire was an alcohol and drug screening tool designed to identify pregnant women with low levels of alcohol and/or drug use, and, in some variations, tobacco use. (54) The question order was created to intentionally lower potential patient defensiveness by asking about the patient’s parents and partner first. (68)

Since its initial development, the tool has been modified (5-Ps Plus) to include questions about smoking and use during the current pregnancy. (69)

The 4Ps tool has good sensitivity and specificity established at 87% and 76%, respectively. It has been successfully integrated

into behavioral health screening tools in a variety of primary care settings. (70)

#### TWEAK

1. **T (Tolerance):** How many drinks can you hold?
2. **W (Worry):** Have close friends or relatives worried or complained about your drinking in the past year?
3. **E (Eye Opener):** Do you sometimes take a drink in the morning when you get up?
4. **A (Amnesia):** Has a friend or family member ever told you about things you said or did while you were drinking that you could not remember?
5. **K (Cut down)** Do you sometimes feel the need to cut down on your drinking?

#### 5-Ps Plus

1. Did any of your *parents* have a problem with using alcohol or drugs?
2. Do any of your friends (*peers*) have problems with drug or alcohol use?
3. Does your *partner* have a problem with drug or alcohol use?
4. Before you knew you were *pregnant*, how often did you drink beer, wine, wine coolers or liquor or use any kind of drug?
5. In the *past* month, how often did you drink beer, wine, wine coolers or liquor or use any kind of drug?

Weaknesses include the equal weighting of affirmative responses to questions about licit and illicit substances, which may skew scores especially since patients are more likely to admit to legal substance use. Additionally, the wording of ‘having a problem’ with a substance may resonate negatively with the patient.

**APPENDIX C: DATA COLLECTION TOOLS****Policy Review***Policy Review*

- When was it last updated?
- Is the policy reviewed? If so, how often is the policy reviewed? How often is the policy revised?

*Policy Application*

- How is the policy implementation monitored?
- Who does the policy apply to?

*Screening Tool*

- What screening tools are used?
- If a verbal screening tool is used, which tool is used?
- Is the screen validated?
- Are other screenings performed at the same time or in addition to this screening? Where and how are results noted?

*Screening Process*

- Is the screen universal?
- How is the screen presented?
- How often are women screened?
- Does the policy mandate screening for certain patients or certain visits? If so, which ones?

*Screening Results*

- What happens if someone screens positive?
- What happens if someone screens negative?

*Staff Training*

- Does the policy include anything on frequency or content of staff training? Note specifics.

*Community Resources*

- What services are available in the community/local health department for perinatal substance use? (if any are identified)
- What additional non-perinatal substance use services are referenced in the policy? (if any are identified)

*Child Welfare*

- Does the policy mention child protective services (CPS)? If mentions CPS, what does it say?

*Cultural Competency*

- Does the policy show evidence of cultural competency? If so, how does it demonstrate cultural competence?

*Confidentiality*

- Does the policy address confidentiality? If so, how does it address confidentiality?

### Survey

These questions will ask you about your work with pregnant women in the health department.

#### 1. Do you currently work in a Maternal Health Program in a local health department in North Carolina?

- No  →
  - Yes
- If you do not currently work in the Maternal Health Program in a local health department in North Carolina, you are done.
- EXIT SURVEY

Please answer all of the following questions as they relate to your work with women who are pregnant in the local health department.

#### 2. Which best describes your role at the local health department?

- I provide clinical care in the maternal health program
- I work in the Baby Love program.
- I am an HBI provider.
- Other (Please specify): \_\_\_\_\_

#### 3. Please estimate the percentage of female patients at your health department who use alcohol or drugs:

- Percentage of pregnant women enrolled in the Maternal Health program who drink during pregnancy: \_\_\_\_\_%
- Percentage of pregnant women enrolled in the Maternal Health program who use illegal drugs during pregnancy: \_\_\_\_\_%

#### 4. Does your Maternal Health Program have a written policy and procedure for screening pregnant women for alcohol and drug use?

- Yes
- No
- Don't know

#### 5. In your health department, who has the primary responsibility for screening pregnant patients for alcohol and drug use? *Check all that apply.*

- Physician

- Certified Nurse Midwife
- Nurse Practitioner
- Physician assistant
- Registered Nurse
- Licensed Practical Nurse
- Maternity Care Coordinator
- Social Worker
- Health Educator
- Nutritionist
- Other (Please specify): \_\_\_\_\_
- Don't know

**6. How often are the following groups screened for alcohol or drug use in the Maternal Health Program? Check all that apply.**

	At the initial prenatal visit	At each trimester	At each visit	When alcohol or drug use is suspected	Never	Don't know
All Pregnant Women						
Pregnant Women with a history of alcohol or drug use						
Pregnant women with risk factors						
Pregnant Women suspected of using alcohol or drugs						



None						
Don't Know						

If any response other than "Never" or "Don't Know" is suspected, skip to question 7. If "Never" or "Don't Know" is selected, skip to question 8.

**7. Please select the risk factor or risk factors that receive specific substance use screening. Check all that apply.**

- History of alcohol and drug abuse
- History of preterm labor
- History of high risk pregnancies
- History of low-birth weight birth(s)
- Late entry to prenatal care
- Preterm labor in current pregnancy
- High risk condition in current pregnancy
- Current STD
- Poor weight gain in current pregnancy
- Other (Please specify): \_\_\_\_\_
- Don't know

**8. In your health department, which of the following methods are used to screen pregnant patients for alcohol and drug use? Check all that apply**

- Pregnant patients are asked about alcohol and drug use history
- Pregnant patients are asked about current alcohol use by a staff person
- Pregnant patients are asked about their current drug use by a staff person
- Pregnant patients complete a self administered questionnaire
- Pregnant patients provide urine samples for testing
- Other (Please specify): \_\_\_\_\_
- Pregnant patients are not screened for alcohol and drug use
- Don't know

**9. Which of the following verbal or written alcohol and drug screening tools does your health department use? Check all that apply.**

- CAGE
- TWEAK
- TACE
- 4Ps
- 4Ps Plus

- Don't know
- We do not use a specific verbal or written screening tool
- Other (Please specify): \_\_\_\_\_

**10. In your health department, who has the primary responsibility for discussing alcohol and drug use with pregnant patients? Check all that apply.**

- Physician
- Certified Nurse Midwife
- Nurse Practitioner
- Physician assistant
- Registered Nurse
- Licensed Practical Nurse
- Maternity Care Coordinator
- Social Worker
- Health Educator
- Nutritionist
- Other (Please specify): \_\_\_\_\_
- Don't know

**11. If a pregnant patient has a positive screen for alcohol and/or drug use, how often do the following activities happen? Check all that apply.**

	Always	Sometimes	Rarely	Never
She is advised to stop drinking and/or using drugs				
She is advised to reduce her drinking and/or drug use				
She is told about the benefits of abstaining from alcohol and/or drug use and the risks of continuing to use				
She is provided with educational materials about alcohol and drug use during pregnancy				
Her alcohol and/or drug use is documented in her medical record				
She is given a urine or other laboratory test				
She is referred to a substance abuse treatment provider in the				

community				
She is referred to a social worker at the local health department				
She is referred to a high risk maternity clinic				
She is reported to Child Protective Services				

**12. If a pregnant patient has a negative screen for alcohol and/or drug use, how often do the following activities happen? Check all that apply**

	Always	Sometimes	Rarely	Never
She is told about the benefits of abstaining from alcohol and/or drug use and the risks of continuing to use				
She is provided with educational materials about alcohol and drug use during pregnancy				
Her alcohol and/or drug use is documented in her medical record				
She is given a urine or other laboratory test				

**13. Which of the following resources are available to pregnant patients who use alcohol and drugs at the local health department? Check all that apply.**

- Individual alcohol and drug counseling at the local health department
- A referral to alcohol and drug counseling in the community
- A referral to the Local Management Entity (LME)
- Hotline for alcohol and drug treatment referrals
- Educational materials (pamphlets, flyers)
- Other (Please specify: \_\_\_\_\_)
- None
- Don't know

**SCREEN 3**

*These questions will ask about how you feel when working with pregnant women who use alcohol and drugs.*

**14. Please select the response that best describes how you feel about each of the statements below.**

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
Heroin is so addicting that no one can recover once he/she becomes an addict					
Smoking leads to marijuana use, which in turn leads to hard drugs					
Daily use of one marijuana cigarette is not necessarily harmful					
A physician who has been addicted to narcotics should not be allowed to practice medicine again					
A drug dependent person who has relapsed several times probably cannot be helped					
Nonphysician counselors can provide effective treatment for drug abusers					
Once a person becomes drug free through treatment, he/she can never become a social user					
The abuse of illegal drugs could be reduced if physicians were more skilled in diagnosing such problems.					
Substance abuse during pregnancy is a common problem in our society					

Criminal prosecution for fetal abuse as the result of substance abuse during pregnancy should become the norm.											
--	--	--	--	--	--	--	--	--	--	--	--

**15. Rate your degree of confidence for each of the following situations by choosing a score from 0 (not at all confident) to 10 (completely confident).**

**How confident are you that you can:**

	0	1	2	3	4	5	6	7	8	9	10
Use the CAGE and T-ACE screening instruments?											
Use drug screening urinalysis tests?											
Use brief office-based interventions for alcohol abuse?											
Use brief office-based interventions for drug abuse?											
Provide patients with alcoholism treatment options and referrals?											
Refer a pregnant patient to a drug treatment center?											
Use strategies to avoid malpractice liability related to pregnant patients and substance use?											
Identify a patient who drinks alcohol during pregnancy?											
Detect drug abuse among patients?											
Help a pregnant patient stop drinking alcohol?											
Help your patients stop using illicit drugs during pregnancy?											
Direct a patient to an AA meeting?											
Tell your patient about outpatient drug abuse treatment programs in the area?											

Practice confidentiality according to the federal laws of confidentiality for drug abusers?											
Recognize a patient who is at risk for problem drinking?											
Set alcohol reduction goals with your patients?											
Motivate your patients to reduce their use of illicit substances during pregnancy?											

**16. Select the correct answer (True or False) for each question below. If you don't know, select "Don't Know".**

	TRUE	FALSE	Don't Know
a) In general, illegal drugs have more serious consequences for prenatally exposed babies than legal drugs.			
b) Substance abusers usually stick to a single drug rather than using a variety of drugs.			
c) Sudden Infant Death Syndrome (SIDS) occurs more frequently in alcohol, tobacco, and other drug-exposed infants.			
d) Drug abusers often have family members or significant others who also abuse drugs or alcohol.			
e) Making a pregnant woman feel guilty about her substance abuse is an effective way of stopping alcohol and drug use.			
f) Most infants with prenatal cocaine exposure have no long-term deficits.			
g) The best thing to do for a drug-exposed baby is to place it in foster care.			
h) Women who abuse alcohol or drugs are more likely to experience domestic violence or sexual abuse than women who do not abuse alcohol or drugs.			
i) Prenatal addiction causes changes in the brain that make a child more likely to become an addict or alcoholic later.			

j) Cocaine is more damaging to the newborn than other drugs.			
--	--	--	--

**17. The following things affect my ability to screen pregnant women for alcohol and drug use during pregnancy: *Check all that apply.***

- Lack of local resources
- Lack of adequate screening tool/method
- Not enough time
- Clients do not tell the truth
- Not confident in my ability to screen for alcohol or drug abuse
- Client may get defensive and terminate care
- Unsure about treatment effectiveness
- Personally uncomfortable with talking about alcohol abuse
- Other: (Please specify): \_\_\_\_\_
- Nothing affects my ability to screen pregnant women.

**18. The following things prevent women from seeking help for alcohol or drug use during pregnancy: *Check all that apply.***

- Lack of available treatment resources
- Denial
- Transportation
- No money or insurance for treatment
- Lack of knowledge of the dangers of alcohol/drug abuse during pregnancy
- Lack of support from family and/or friends
- Social stigma
- Fear that their alcohol or drug use will become public
- Lack of assessment or diagnosis of the problem
- Fear of social services
- Partner won't allow client to obtain help
- Other: (Please specify): \_\_\_\_\_
- Nothing prevents pregnant women from seeking help.

**SCREEN 4**

*These questions will ask you about what kind of training you might be interested in.*

**19. Have you ever received any training about alcohol and drug use in pregnant women?**

- Yes →
- No
- Not sure

If Yes, skip to **Question 20**. If "No" or "Don't Know", skip to Question 21.

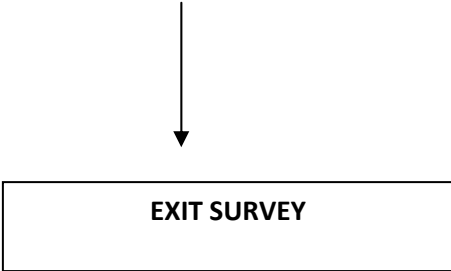
**20. Where did you receive training about alcohol and drug use in pregnant women?** \_\_\_\_\_

**21. If you were to receive training or more training on alcohol and drug use in pregnant women, what would you like to know more about? *Check all that apply.***

- How to ask pregnant patients about alcohol and drug abuse
- How to educate pregnant patients about the impact of alcohol and drug use during pregnancy
- How to provide brief interventions to get pregnant patients to stop using alcohol or drugs
- How to support patients in recovery during pregnancy
- How to refer pregnant patients to alcohol and drug treatment
- What educational materials to offer pregnant patients about alcohol and drug use
- What community level prevention activities can prevent alcohol and drug use during pregnancy?
- Other (Please specify): \_\_\_\_\_
- I am not interested in training on alcohol and drug use during pregnancy.

**21. Please select the local health department where you work. If you do not want to identify the LHD where you work, click “I do not want to identify the local health department where I work.” If you do not identify the health department where you work, you will not be entered in the raffle.**

- |  |                   |
|--|-------------------|
| • Alamance   | • Cleveland       |
| • Albemarle (Bertie-Camden-<br>Chowan-Currituck-Gates-<br>Pasquotank-Perquimans) | • Columbus        |
| • Alexander  | • Craven          |
| • Anson  | • Cumberland      |
| • Appalachian (Alleghany-Ashe-<br>Watauga)                                       | • Dare            |
| • Beaufort   | • Davidson        |
| • Bladen   | • Davie           |
| • Brunswick  | • Duplin          |
| • Buncombe   | • Durham          |
| • Burke  | • Edgecombe       |
| • Cabarrus   | • Forsyth         |
| • Caldwell   | • Franklin        |
| • Carteret   | • Gaston          |
| • Caswell  | • Graham          |
| • Catawba  | • Granville-Vance |
| • Chatham  | • Greene          |
| • Cherokee   | • Guilford        |
| • Clay   | • Halifax         |
|  | • Harnett         |
|  | • Haywood         |
|  | • Henderson       |

- Hertford
  - Hoke
  - Hyde
  - Iredell
  - Jackson
  - Johnston
  - Jones
  - Lee
  - Lenoir
  - Lincoln
  - Macon
  - Madison
  - Martin-Tyrell-Washington
  - Mecklenburg
  - Montgomery
  - Moore
  - Nash
  - New Hanover
  - Northampton
  - Onslow
  - Orange
  - Pamlico
  - Pender
  - Person
  - Pitt
  - Randolph
  - Richmond
  - Robeson
  - Rockingham
  - Rowan
  - Rutherford-Polk-McDowell
  - Sampson
  - Scotland
  - Stanly
  - Stokes
  - Surry
  - Swain
  - Toe River ( (Avery-Mitchell-Yancey)
  - Transylvania
  - Union
  - Wake
  - Warren
  - Wayne
  - Wilkes
  - Wilson
  - Yadkin
  - I do not want to identify the LHD where I work.
- 
- ```
graph TD; A["I do not want to identify the LHD where I work."] --> B[EXIT SURVEY];
```

**SCREEN 5**

**23. Would you be willing to participate in one hour focus group in July to discuss alcohol and drug use during pregnancy? Focus groups will be confidential, and participants will receive small incentives. If you are interested in participating in a focus group, a research team member will contact you by phone or email in the next month.**

- Yes
- No

If "YES" is selected, skip to Question 24. If "No" is selected, go to question 25.

**24. Please enter your name, email address, and phone number. A member of the research team will contact you by July 1, 2009, to schedule the focus group.**

- Name: \_\_\_\_\_
- Email Address: \_\_\_\_\_
- Phone Number: \_\_\_\_\_

**SCREEN 6**

**25. To thank you for your participation in the survey, we will enter you into a raffle to win Walmart gift card. Two \$50.00 Walmart gift cards will be given away in each Perinatal Region. To enter the raffle, enter your email address here. To exit the survey, click "No thanks."**

- Yes, I want to enter the raffle. My email address is: \_\_\_\_\_.
- No thanks, I do not want to enter the raffle.

### Focus Group Guidelines

The purpose of this research study is to learn about how North Carolina local health departments address substance use during pregnancy in their maternal health clinics. We are interested in your experiences and opinions about working with women who use alcohol or drugs here at the health department.

#### *Current protocols*

If you know a pregnant woman you are working with here at the health department is using alcohol or drugs, how do you address her substance use?

- Tease out *identify* vs. *address* substance use.
- What resources do you have here at the health department to use with women who are using alcohol and drugs?
- What community resources do you use in your work with pregnant women using alcohol and drugs?

#### *Knowledge, Attitude, Self Efficacy Skill barriers*

What prevents women from changing their alcohol and drug use behaviors during pregnancy?

What prevents you from adequately serving women who are using alcohol and drugs during pregnancy here at the health department?

- What are possible solutions to the problems that prevent you from adequately serving women using alcohol and drugs during pregnancy here at the health department?
- What would it take for these solutions to be put in place?

How confident do you feel about your ability to work effectively with women who are using alcohol and drugs during pregnancy?

- What makes you feel confident/less than confident?
- Where and how did you learn how to address substance abuse with pregnant patients?

#### *Training/Technical assistance needs*

What would help you be more effective at working with pregnant women using alcohol or drugs here at the health department?

### Key Informant Interview Guidelines

The purpose of this research study is to learn about how North Carolina local health departments address substance use during pregnancy in their maternal health clinics. We are interested in your opinions about how the state can best support local health departments work effectively with women who use alcohol or drugs during pregnancy.

#### *Current practice*

Who do you feel should be responsible for addressing substance use during pregnancy in the woman who come to the health department for prenatal care?

How does the state/your agency currently support health departments to work effectively with women who use alcohol or drugs during pregnancy?

What resources are available to health departments to work effectively with women who use alcohol or drugs during pregnancy?

#### *Knowledge, Attitude, Self Efficacy Skill barriers*

What prevents health departments from being effective when working with women who are using alcohol and drugs during pregnancy?

#### *Training/Technical assistance needs*

What can/should the state/your agency offer to local health departments to support their work with women who use alcohol and drugs during pregnancy?

**APPENDIX D: RESPONDENT REPORTS OF SCREENING FREQUENCY IN LOCAL HEALTH DEPARTMENTS**

|                                                      | <b>At the initial prenatal visit</b> | <b>At each trimester</b> | <b>At each visit</b> | <b>When alcohol or drug use is suspected</b> |
|------------------------------------------------------|--------------------------------------|--------------------------|----------------------|----------------------------------------------|
| All pregnant women                                   | 184                                  | 46                       | 30                   | 102                                          |
| Pregnant women with a history of alcohol or drug use | <del>                    </del>      | 57                       | 119                  | 101                                          |
| Pregnant women with risk factors                     | <del>                    </del>      | 56                       | 75                   | 105                                          |
| Pregnant women suspected of using alcohol or drugs   | <del>                    </del>      | 49                       | 120                  | 114                                          |

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