

**Carceral Care: Examining the Quality of Health
Care for Pregnant Women in Jails in North Carolina**

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Abstract

Most women who are incarcerated are of childbearing age and some individuals experience pregnancy while incarcerated. However, research on pregnancy in correctional facilities is limited to within prisons, even though healthcare provision in jails is more variable and inconsistent. This study aims to address the gap in the literature about the quality of health care for pregnant women in jails, rather than prisons, in North Carolina. This purpose of this study is to understand the provision of pregnancy-related health care in jail facilities, and to what extent jails meet the recommended standards of care established by public health agencies. To collect data, surveys were administered among administrators and health care providers from 45 jail facilities across North Carolina and 6 semi-structured interviews were conducted. The results indicate a high level of variability in the provision of pregnancy care across detention facilities in North Carolina. Moreover, jails could improve quality of care in the following categories: pregnancy testing, counseling and contraception, postpartum care, HIV screenings, and substance use treatment. Findings suggest that NC jails do not follow the standards of care set by public health agencies in all areas of pregnancy care except prenatal care. Therefore, policymakers should seek to standardize jail health policies according to the benchmark standards of care offered by the American Public Health Association, American College of Obstetricians and Gynecologists, and National Commission on Correctional Health Care, to improve reproductive health care for pregnant, justice-involved individuals.

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INTRODUCTION

Recent data on prison populations in the United States suggest that the rate of women's imprisonment is growing nationally even as the rate of incarceration for men is steadily decreasing (Sawyer, 2018). According to The National Research Council, the prison incarceration rate for men was 24 times higher than that for women in 1972. By 2010, men's incarceration rate was only 11 times higher because women's rate of incarceration has increased twice as fast as men's rate of incarceration. (Travis et al., 2014, p. 64). Importantly, the population of women in federal prisons has not grown considerably; however, women's incarceration rates in local jails and state prisons have increased significantly since the 1970s (see *Appendix A: Women's Incarceration Rates*) (Sawyer, 2018). State-level trends indicate that women's incarceration is driving the current prison and jail growth in certain states, including North Carolina (Sawyer, 2018). The number of women in North Carolina's prisons has increased more than fivefold since 1978 and the number of women in North Carolina's jails has increased more than 18-fold since 1970 (Henrichson et al., 2019). Given these increasing incarceration rates marked by gender disparities, there is a critical need to examine correctional health care in North Carolina.

Studies show that the health care outcomes for people involved in the criminal justice system are worse than the general population. Women who are detained or incarcerated face unique challenges related to their reproductive and maternal health needs, including pregnancy. Pregnant women make up 5-10% of women who are incarcerated, with the highest rates of pregnant women detained in jail facilities (Clarke and Simon, 2013). Correctional facilities were structurally designed for men, including the provision of health care services. Therefore, it is crucial to examine how these facilities meet the needs of pregnant women, an especially

vulnerable population. Moreover, most research on women that are incarcerated and pregnant is conducted in prisons rather than jails, even though health care provided by jails is much less consistent and reliable. This study aims to address this gap in the literature and examine the quality of health care for pregnant women in North Carolina jails by measuring the pregnancy-related accommodations that are provided by jail facilities.

BACKGROUND

Standards for Adequate Pregnancy Care in Correctional Settings

Health care services in correctional settings vary widely based on the setting (federal prison, state prison and jail facility), and geography. Until the 1970s, most prisons and jails did not have a system of care in place, and most health care services were for emergent cases rather than primary care (Thigpen et al., 2001). Three organizations, the American Public Health Association (APHA), the American College of Obstetricians and Gynecologists (ACOG), and the National Commission on Correctional Health Care (NCCHC) offer national standards of care for incarcerated women. However, there are no established policies that require adherence to these standards, and therefore, many correctional settings fail to provide adequate prenatal care (Ferszt & Clarke, 2012).

The American College of Obstetricians and Gynecologists (ACOG) establishes a set of recommendations for correctional facilities in a report titled *Health Care for Pregnant and Postpartum Incarcerated Women and Adolescent Females* (Committee on Health Care for Underserved Women, 2021). The National Commission on Correctional Health Care (NCCHC) published a continually revised set of standards for the provision of women's health care in all correctional settings, including prisons, jails, and juvenile facilities (National Commission on

Correctional Health Care Board of Directors, 2019). The American Public Health Association (APHA) published the *Standards for Health Services in Correctional Institutions* in 2003 which also outlines standards of care for incarcerated pregnant women (APHA Task Force on Correctional Health Care Standards, 2003). Since there is significant overlap between the three sets of recommendations, they have been consolidated into the following list:

- Test women of childbearing age for pregnancy upon arrival to a correctional facility.
- Provide pregnancy counseling, including abortion services and adoptive care options when appropriate.
- Provide regular perinatal care from early pregnancy through the postpartum period.
- Provide dietary supplements for pregnant women and special housing accommodations when necessary.
- Identify and accommodate for high-risk pregnancies, including access to specialized obstetric care services.
- Test for and prevent perinatal HIV transmission.
- Screen for substance use and provide the appropriate therapy.
- Screen for stress and depression and provide treatment as needed.
- Restrict the shackling of women during labor and delivery.
- Provide arrangements for mother-infant contact after delivery.

This list establishes standards for prenatal care, labor and delivery, postpartum care, screenings and vaccinations, and substance use.

Collectively, ACOG, NCCHC and APHA have established a robust set of standards for correctional facilities to properly care for pregnant women. However, since there is no mandatory accreditation for any of the guidelines, there is a great amount of variability in actual health care services for pregnant women (*State Standards for Pregnancy-Related Health Care and Abortion for Women in Prison*, n.d.). Moreover, jails provide even more limited care when they are smaller-scale facilities. Given this variability, there is a need to conduct research on how

well jails are meeting the recommended standards of care for pregnant incarcerated women, a vulnerable population.

Legislation: Dignity for Women Who are Incarcerated

State standards and regulations for pregnancy care in correctional facilities were updated in September of 2021. On September 10, 2021, House Bill 608: Dignity for Women Who are Incarcerated Act was enacted by the North Carolina General Assembly, expanding on the minimum standards of correctional health care defined by state law. Section 3(a) of the bill amends Article 10 of Chapter 153A of the General Statutes by defining standards of women's health care in local confinement facilities, including county and regional jails (Baker et al., 2021). The amendment prohibits the use of restraints "on a pregnant female incarcerated person during the second and third trimester of pregnancy, during labor and delivery, and during the postpartum recovery period" (Baker et al., 2021, p. 6). The bill also outlines nutrition standards, requiring that pregnant incarcerated persons are provided dietary supplements as advised by a physician; bed assignments, requiring that a pregnant person's bed may not be elevated more than three feet from the floor; a bonding period requirement that women be allowed to remain with their newborn in the hospital following delivery (Baker et al., 2021, p. 6-7). The bill is set to become effective on December 1, 2021, and demonstrates the growing relevance and advocacy around the conditions of care for pregnant incarcerated people in North Carolina. The changes established by HB 608 correspond with some of the recommendations described above by public health organizations concerning maternal and perinatal care in correctional facilities. Until HB 608 was passed, there was a very limited scope of standards of care for pregnant women in correctional facilities, along with a limited understanding of what level of care exists.

RESEARCH QUESTIONS

- What is the quality of health care practices provided for pregnant women in jails in North Carolina?
- To what extent do these jails meet the recommended standard care practices and policies necessary to improve maternal and perinatal health outcomes? What are the possible barriers adhering to benchmark standards of care?

THEORETICAL FRAMEWORK

Existing literature demonstrates an unmet need for adequate reproductive health care for women who are involved in the criminal justice system. Some research illustrates that prisons have contributed to improved perinatal outcomes for women that may have inconsistent access to health care outside of the correctional facility. However, health care provision in jails is more variable due to the unstable environment and inconsistent policy. Given that most research focuses on prisons, there is a gap in the literature about the quality of health care for pregnant women in jails. Additionally, women in North Carolina constitute a rising number of people detained in jail facilities. This study will assess the provision of health care for pregnant women in NC jails and how well jails meet the established standards of care.

Reproductive Health Disparities for Incarcerated Women

Women who are involved in the criminal justice system have worse reproductive health outcomes than the general population (Knittel, 2019). Some of the documented reproductive health problems for women who have been or are incarcerated include sexual assault and trauma, unintended pregnancies, poorer birth outcomes, and increased risk of sexually transmitted diseases (STDs) (Knittel, 2019). Pregnancies among women involved in the criminal justice system are more likely to be high-risk and unplanned. The determinants for this disparity in birth outcomes for incarcerated women are the lack of access to prenatal care, substance use, alcohol

use, psychiatric illness, poor nutrition, and higher STD rates (Clarke et al., 2006). Research overwhelmingly points to disproportionate health disparities for women who have been involved in the criminal justice system due to lack of access to adequate care.

Women who are incarcerated or detained in jails commonly have poorer health statuses prior to incarceration, including physical and mental health problems (Rose & LeBel, 2020). For pregnant women, these health problems are compounded by limited access to prenatal care and chronically worse nutrition (Rose & LeBel, 2020). During incarceration, access to prenatal care is inconsistent across facilities and geography. Women who give birth during incarceration do not always receive support for breastfeeding, postpartum bonding, and custody arrangements (Knittel, 2019). The health care services provided in jails are even more unstable than in prisons because of the shorter nature of detainment, thereby exacerbating poor reproductive health outcomes for women serving jail time compared to prison sentences (Rose & LeBel, 2020). Finally, the shackling of pregnant women in prisons and jails is a widely reported and contested issue. Because of inconsistent policies and policy enforcement in correctional facilities, some pregnant women are restrained in ways that can complicate pregnancy by limiting movement, increase risk of venous thromboembolism, and interfere with mother-child bonding (Knittel, 2019). Overall, research shows extensive inconsistency in access to care for pregnant women between prisons and jails, as well as across jails. Provision of reproductive health care in correctional facilities is highly variable and often inadequate in jails specifically.

Pregnancy Outcomes in Prisons and Jails

Research on reproductive health, including pregnancy, in jails is limited because most scholarship focuses on prisons or conflates prison and jail experiences. However, these experiences are drastically different, and therefore, the reproductive health experiences vary as

well. Prisons are used to hold people convicted of more serious crimes, who are serving longer sentences, and they are typically operated by state and federal authorities (Rose & LeBel, 2020). On the other hand, jails detain people who are either serving shorter sentences for misdemeanors or lower-level crimes, waiting for trial, or waiting to be transferred. These facilities are typically operated by local city or county governments (Rose & LeBel, 2020). Due to the brief nature of jail sentences, the health care services offered to inmates are limited and only cover basic physical and mental health needs.

Yet, most incarcerated women are of reproductive, or childbearing, age. Research on the effects of incarceration on pregnancy is varied and unclear, given the limited availability of data, especially in jails. However, some studies have explored the effect of incarceration on perinatal outcomes, like birth weight, in prisons. In her integrative review, Baker concludes that women who enter prison during their first trimester are more likely to deliver infants with higher birth weights (Baker, 2019). The research that Baker cites was conducted among pregnant women in Texas state prisons and did not include information about perinatal outcomes in jails. The study, conducted by Howard et al. (2008), described that the women who entered prison during their first trimester attended between 3 to 15 prison prenatal care visits. There was a progressive increase in average birthweight according to the increasing number of prenatal care visits (Howard et al., 2008). Correctional facilities can improve perinatal outcomes if they offer consistent, accessible health care practices, like prenatal care visits.

Another study demonstrating the effect of the prison environment on perinatal outcomes was conducted by Martin et al. (1997). The study specifically assessed the impact of incarceration during pregnancy on infant birthweight for inmates at the North Carolina Correctional Institution for Women. Martin et al. found that the birthweights of infants born to

women incarcerated during their pregnancy was not significantly different than infants born to women who were never incarcerated (Martin et al., 1997). However, among women who have been incarcerated, the prison environment can foster better health by offering shelter and food, and therefore, fostering higher birthweights for infants among incarcerated women. For women that lack access to health care services prior to incarceration, prisons may be the only point of access to necessary medical care.

Jails, however, are a much different environment from prisons. Jail population turnover is estimated to be 800% compared to 50% for prisons (Bell, 2004). Studies show that women detained in jails have higher rates of poverty than the general population and they are more likely to report experiences of some form of abuse (Bell, 2004). While jails typically offer some prenatal care, it is not comprehensive, even though jails could reach a greater share of the marginalized population. Moreover, it is important to note that most women who are detained while pregnant are released while they are still pregnant (Sufrin et al., 2020). According to Bronson & Sufrin (2019), the average length of stay for all people detained in jails is approximately 23 days. However, length of stay can vary significantly; some pregnant women in jail will be transferred to prison to finish their sentence, some will be released from jail after a few days, some will stay for many months, and some will be detained more than once during their pregnancy (Bronson & Sufrin, 2019). Both Sufrin and Knittel identify a need for community organizations that offer continued care to women involved in the justice system during the post release period (Knittel, 2019).

Generally, women who are detained in jails are more likely to have infants with lower birthweights than women who are not incarcerated during pregnancy (Bell, 2004). The study by Bell found that prenatal care is associated with lower chances of preterm birth and maternity case

management post-release is associated with higher infant birthweight (Bell, 2004). Studies overwhelmingly demonstrate that prenatal and maternal care services are essential to perinatal outcomes for incarcerated women. Since jail settings vary drastically in their allocation of reproductive health care, the provision of prenatal care in jails is largely unknown and the known effect of jails on perinatal outcomes is limited and varied (Sufrin et al., 2020). Given the lack of specific and comprehensive standards of care at either the state or federal level, each individual jail facility can offer disparate services which leads to disparate outcomes across contexts.

Minimum Rights to Health Care for Inmates in North Carolina Jails

The number of people incarcerated in county jails in North Carolina has quadrupled from the 1970s to the 1990s (Moore, 2005). Most of the people detained in these facilities are pretrial detainees, or “people who have been charged with crimes but not yet tried and convicted” (Moore, 2005). According to federal and state law, the state of North Carolina has certain minimum legal obligations to “protect the health and welfare of prisoners and provide for their humane treatment” (North Carolina General Assembly, n.d., p. 2). Section 153A-221 of the Article 10 from the NC General Statutes attributes the responsibility to develop minimum standards for the operations of confinement facilities to the Secretary of the Department of Health and Human Services (North Carolina General Assembly, n.d., p. 4). The statutes state that the standards must provide for:

“Medical care for prisoners, including mental health, behavioral health, intellectual and other developmental disability, and substance abuse services” (North Carolina General Assembly, n.d., p. 4).

Section 153A-225 establishes that all government units that operate a jail facility must have a jail medical plan (North Carolina General Assembly, n.d., p. 8). The local health departments of each

county are responsible for annually reviewing and approving the local jail health plans. The North Carolina Jail Health Standards describes certain minimum requirements for health plans:

“Health screening of inmates on admission; Routine medical care for inmates; Management of inmates with chronic illnesses or known communicable diseases or conditions; Administration, dispensing, and control of prescription and nonprescription medications; Management of emergency medical problems, including emergencies related to dental care, chemical dependency, and pregnancy” (Moore, 2005, p. 18).

Local governments must provide “adequate” access to health care, according to these standards and reviewed by the county’s local health director (Moore, 2005). However, state regulations do not specify what proper reproductive care should look like, only specifying that jails must manage “emergency medical problems, including... pregnancy.” Therefore, current policy requires that jail facilities provide some level of medical care, but the specified standards are minimal and subject to variability.

In North Carolina, healthcare costs in jails are financed by the county. Moore cites that “North Carolina jail administrators and health care providers often perceive—probably correctly—that many (if not most) jail inmates lack private medical insurance” (Moore, 2005, p. 20). Moreover, inmates are no longer eligible for most public insurance options upon incarceration. The local government, therefore, finances both routine and emergency medical procedures when there is no third-party payer. Therefore, inconsistency in jail health care could be due to local policies, as well county budgets, which bear the burden of financing inmate health care (Moore, 2005). The structure of jails creates a highly variable system of healthcare provision, especially reproductive health care. Although correctional facilities are required to provide some form of

health care to incarcerated individuals, accurate and reliable data on these services are limited and require further investigation, which this paper seeks to provide.

HYPOTHESIS AND OBSERVABLE IMPLICATIONS

This initial hypothesis for this paper was that North Carolina jail facilities will fail to meet the recommended standards of care for pregnant women as outlined by the ACOG, NCCHC and APHA. The standards of care guidelines established by these public health agencies are recommended rather than mandated, which leads to highly variable practices between facilities. The recommended services include pregnancy testing, HIV screening, drug rehabilitation programs, access to special diets and prenatal vitamins, and access to newborns after birth for bonding and breastfeeding. My results measure how common these practices are among jails in NC, either depicting high quality care that meets a large percentage of these services or poor-quality care measured by a low percentage of care practices. I predicted that the results would indicate that most jails would fail to provide most of these accommodations, which are needed to improve perinatal outcomes. Secondly, I predicted that local levels of funding could affect the provision of some reproductive health care services, based on the system of financing for correctional healthcare in North Carolina.

METHODOLOGY & DATA

Participants

A list of jails in North Carolina was compiled by reviewing the North Carolina Jail Administrators' Association Detention Facility Directory and Resource Guide 2021 and the 2019-2020 NC Sheriffs' Association Official Directory. Contact information for the jail

administrators and health professionals of each jail was compiled by cross-checking both directories for overlapping information. For the 100 counties in North Carolina, 95 detention facilities were identified. Generally, one jail corresponds to each county, but there are few exceptions.¹ The survey was distributed to the jail administrator of each jail through two rounds of emails from June 2021 through July 2021, sent approximately four weeks apart. The recruitment email described the project in short detail and requested the input of jail administrators through filling out the survey. After two rounds of email distribution, participants were recruited to participate in the survey over the phone. The phone numbers of each detention facility were found online from searching each facility's webpage. Individuals that worked in the medical department of the jail or the jail administrator were asked to participate in the survey. Survey administration was finalized in September 2021. The survey took about 5-10 minutes to complete and survey participants were not compensated. Interview participants were recruited through the survey. At the end of the survey, individuals could indicate if they would be willing to participate in a follow-up interview which lasted about 20-30 minutes and those participants were compensated for their participation.

Ninety-five jails were identified of the 100 counties in North Carolina, consisting mostly of county jails (96.8%) and few regional jails (3.16%). For counties that do not have established detention facilities, individuals are detained in a neighboring county's facility. All 95 facilities were contacted to take the survey. Forty-five facilities (n=45) across the state responded to the survey for a response rate of 47.4%. Of the responding facilities, 73.2% of jails were in a rural county, 12.2% were located in an urban county and 14.6% were located in a suburban county.

¹ Exceptions include: There was no detention facilities identified for Tyrell, Mitchell, or Hyde County; Perquimans, Pasquotank and Camden County are all served by the Albemarle District Jail; Bertie and Martin County are served by the same facility; Hertford and Gates are served by the same facility; and Guilford, Wake and Mecklenburg County each have two detention facilities.

Region categorization was based on the North Carolina Office of State Budget and Management (OSBM) data on geographic region type for each county (NC OSBM, 2020). Of the 45 survey responses, 41 jails indicated having capacity to house pregnant women in the facility, limiting the sample size to n=41. Among all survey participants, six individuals were interviewed, including three health care providers and three jail administrators. All interview participants were employees of a county jail.

The first point of contact for the survey distribution over email was jail administrators, although they were encouraged to forward the survey to a health professional if they would be more knowledgeable about the health policies and procedures of the jail. The point of contact for survey distribution over the phone was a health professional in the jail. The majority of survey respondents were jail administrators (53.3%) and health care providers (37.8%). Approximately 8.9% of respondents were in other departments (e.g., “Health Services Administrator” and “Records/Training”).

Measures

The survey measured what services and policies pertaining to the care of pregnant women were met for each participating jail. Survey questions were developed based on Kelsey et al. (2017) and modified for the purpose of this study (see *Appendix B: Survey Questions*). The services that were measured included pregnancy testing, pregnancy options and counseling, opioid addiction therapy, dietary supplements, prenatal vitamins, HIV testing, delivery arrangements, postpartum care, and postpartum contact. A comprehensive list of variables measured by the survey can be found in the survey form attached (see *Appendix B: Survey Questions*). Questions about the use of restraints were omitted for survey retention, given the passage of the HB 608, the “Dignity for Women Who Are Incarcerated” Act, which limits and

prohibits use of restraints during pregnancy and labor in North Carolina (Baker et al. 2021). Most questions were designed as *Yes* or *No* or *Not sure* questions (e.g., “Does the facility administer pregnancy tests if the inmate requests one?”) so that the results could be quantitatively synthesized.

The benchmark of comparison for the quantitative data was a consolidated list of guidelines established by the American College of Obstetricians and Gynecologists (ACOG), the American Public Health Association (APHA) and the National Commission on Correctional Health Care (NCCHC). Survey questions were developed based on the overlapping standards of care established by these organizations’ guidelines. Therefore, the data collected measures how many of the recommended care practices actually exist in each county jail in North Carolina. The survey can, therefore, be a measure of what level of care exists as a percent of the ideal level of care for pregnant women.

Semi-structured interviews were conducted with participants who agreed to be contacted on the survey form. The qualitative interview data provided supplemental details to the quantitative data, interrogating about the jail’s procedures in detail, as well as assessing the interviewee’s perception on pregnancy care services for incarcerated women in the jail and outside of it. Interviews loosely followed a list of 12-15 questions (see *Appendix C: Interview Script*) and lasted between 10-25 minutes. All interviews were conducted over the phone or video conference and audio recorded over Zoom with permission. After finalizing the sample of six participants, interviews were transcribed, thematically coded, and analyzed for contextual details and insight into the challenges some jails face in providing perinatal care.

QUANTITATIVE RESULTS

The survey results indicated high variability in the provision of services for pregnant women in NC county jails. The results are displayed in *Table 1: Perinatal services provided by detention facilities across North Carolina*. Most jails reported that they do house pregnant women in some capacity (91.1%). The remaining 8.9% of jails reported that detained pregnant women are instead sent to another jail or central prison, most commonly North Carolina Correctional Institution for Women (NCCIW). Among the jails that responded to the survey, 48.78% indicated that there were no pregnant women currently detained at their facility. Another 46.34% indicated that there were between 1-5 pregnant women currently held at the facility and only 2.44% indicated housing between 6-10. Survey respondents were also asked about how many pregnant women were housed in the facility prior to COVID-19, to account for variability that might have resulted due to the pandemic. Ninety percent of jails reported housing 1-5 pregnant women in the jail at a given time before the pandemic. Beyond the number of pregnant women housed, jails employees were asked about five general categories regarding perinatal care in the survey: Pregnancy testing, counseling, and general policies; Prenatal care services; Delivery and postpartum care; Vaccinations; Substance use and treatment.

Table 1: Perinatal services provided by detention facilities across North Carolina

	Medical Service/Policy	Yes <i>n</i> (%)	No <i>n</i> (%)	Not sure <i>n</i> (%)
General Policies	House pregnant women	41 (91.1)	4 (8.9)	0 (0.0)
	Training for correctional staff	27 (65.9)	8 (19.5)	6 (14.6)
	Offer contraception after giving birth	5 (13.5)	25 (67.6)	7 (18.9)
Pregnancy Testing & Counseling	Administer pregnancy tests upon intake	9 (21.9)	32 (78.1)	0 (0.0)
	Administer pregnancy	40 (100.0)	0 (0.0)	0 (0.0)

	tests upon request			
	Counseling on abortion	5 (12.2)	30 (73.2)	6 (14.6)
	Counseling on adoption	7 (17.1)	27 (65.8)	7 (17.1)
Prenatal Care	Routinely scheduled prenatal care	38 (92.7)	2 (4.9)	1 (2.4)
	Prenatal vitamins	37 (90.2)	0 (0.0)	4 (9.8)
	Food supplements	40 (97.6)	1 (2.4)	0 (0.0)
	Special diet for pregnant women	35 (87.5)	4 (10.0)	1 (2.5)
	Lowered bed assignment	41 (100.0)	0 (0.0)	0 (0.0)
Delivery and Postpartum Care	Emergency delivery kit	14 (35.0)	20 (50.0)	6 (15.0)
	Arrangements for delivery in hospital off-site	33 (80.5)	7 (17.1)	1 (2.4)
	Allow breastfeeding	9 (23.1)	16 (41.0)	14 (35.9)
	Allow visitation with newborns	20 (50.0)	9 (22.5)	11 (27.5)
	Physical contact after delivery	9 (30.0)	10 (33.3)	11 (36.7)
	Screen for postpartum depression	22 (59.5)	5 (13.5)	10 (27.0)
Screenings and Vaccinations	Routinely test for HIV in pregnant women	9 (22.0)	24 (58.5)	8 (19.5)
	Treat HIV in pregnant women	29 (72.5)	4 (10.0)	7 (17.5)
	Routinely assess vaccine status	20 (50.0)	12 (30.0)	8 (20.0)
	Influenza vaccine	28 (71.8)	7 (17.9)	4 (10.3)
	Tdap vaccine	26 (65.0)	8 (20.0)	6 (15.0)
Substance Use	Assess for substance use disorder	39 (95.1)	1 (2.4)	1 (2.4)
	Treat OUD with buprenorphine or methadone maintenance therapy (instead of a withdrawal protocol)	16 (30.8)	27 (51.9)	9 (17.3)

Pregnancy Testing, Counseling and General Policies

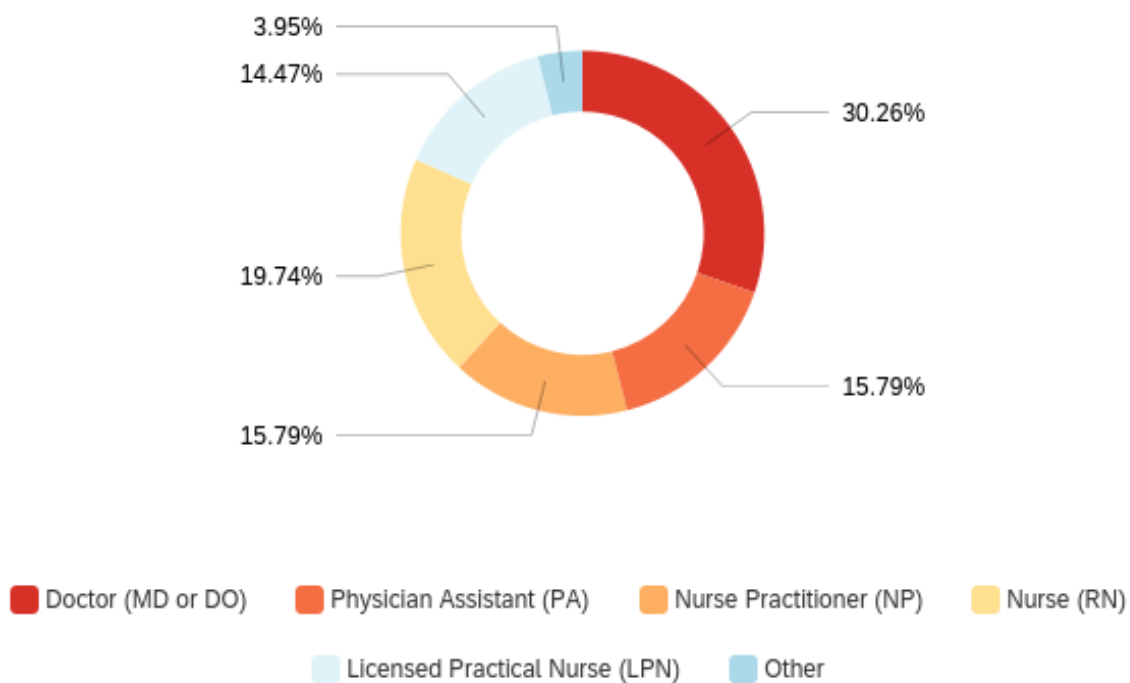
Across 41 respondents, only 21.95% reported that they test all women of childbearing age for pregnancy upon their arrival to the facility. Rather, it was common practice for jails to test women for pregnancy only if they requested a test (100%). In terms of pregnancy counseling, only 5 jails (12.2%) reported that they provide education on abortion services and only 7 jails (17.07%) reported that they provide education on adoption services.

Jail employees were asked about general policies and procedures, including training for correctional staff on pregnancy symptoms and when to refer pregnant women to medical personnel. About 65.85% of jails responded that they do provide relevant training. Finally, only 5 jails (13.51%) reported that they initiate any kind of contraception method to women either during their detainment or upon release.

Prenatal Care Services

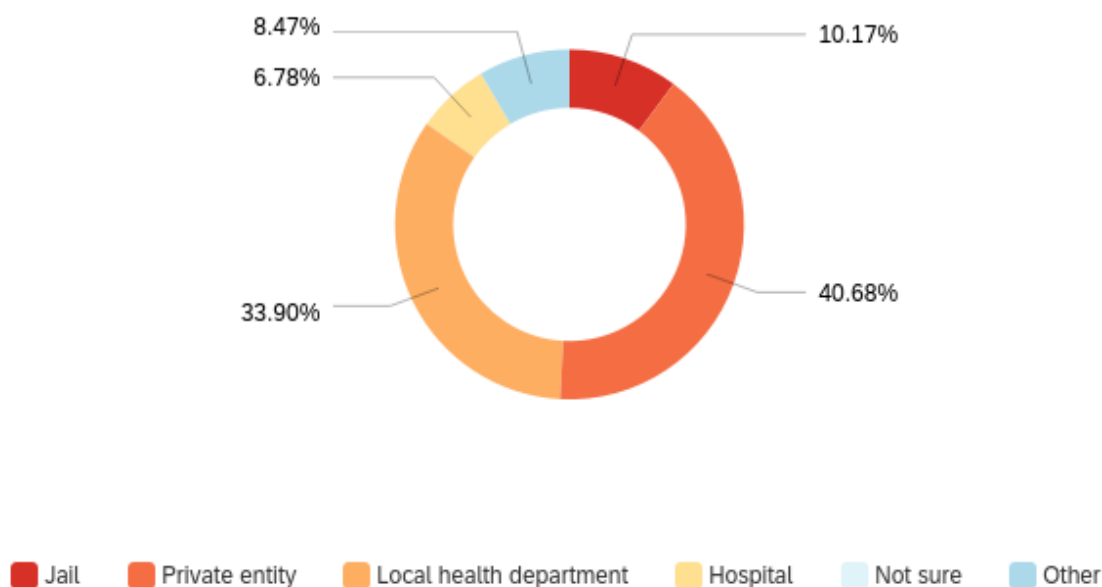
Almost all (92.68%) of jails reported that they provide routinely scheduled prenatal care with a medical provider for pregnant women throughout the duration of their pregnancy, and only 2 jails (4.88%) reported that they do not provide routine prenatal care. The primary type of provider for prenatal care services was reported to be an MD or DO (30.26%) (see *Figure 1: Prenatal Care Provider Type*). The second most common provider are registered nurses (RN) for 19.74% of jails. Other providers reported to provide routine prenatal care include physician assistants (PA), nurse practitioners (NP), licensed practical nurses (LPN), and OBGYNs through the local health department of the county.

Figure 1: Prenatal Care Provider Type



Medical providers of the jail are substantially (40.68%) employed by a private entity, such as a third party contracted by the jail to provide medical services (e.g., Wellpath, Southern Health Partners) (see *Figure 2: Medical Provider Source/Employer*). A large proportion are also employed by the local health department for the county in which the jail is located (33.90%). Other employers of jail health care, specifically prenatal care, are the jail itself, a hospital, a local OB specialist, or the pregnant woman's private doctor prior to incarceration.

Figure 2: Medical Provider Source/Employer



In addition to prenatal care providers, survey respondents were asked about the specific prenatal care services they provide, and most jails reported providing these accommodations. Ninety-two percent provide the prenatal vitamins, 97.56% provide food supplements such as a snack bag, 87.5% put pregnant women on a special diet monitored by a health care provider and all jails provide a lowered bed assignment.

Delivery and Postpartum Care

Survey participants were asked about the jail facility's delivery, postpartum care, and visitation policies. Most jails (80.49%) reported having arrangements for delivery at some off-site medical facility, however, only 14 jails (35%) reported also having arrangements for deliveries that might happen on-site in an emergency.

Regarding postpartum procedures, respondents were asked about how long women are permitted to stay at the delivery site with their infant before returning to the jail. A large proportion of responses were less than one week (16.22% indicated one day and 29.73%

indicated two-three days). Nineteen jails (51.35%) indicated an “Other” option, for reasons including: unsure about the amount of time, unsure because there is no policy established, the amount of time is left to the medical provider’s discretion, or pregnant women are sent to NCCIW when they are ready to deliver. After women return to the jail, only 9 jails (23.08%) report that they are allowed to breastfeed their infant either directly or through a pump-and-store method. Fourteen respondents (35.90%) were unsure about this question, indicating that there may not be an established policy for allowing or prohibiting breastfeeding in some jails.

Twenty (50%) jails reported that they extend visitation rights to new mothers with their newborns in some form, including barrier, video, or contact. In terms of physical contact during visitation, only nine jails (30%) allow physical contact between mothers and newborns, but 11 jails (36.67%) were unsure about whether it is allowed. Upon return to the jail, it is recommended that women should be screened for postpartum depression symptoms. Twenty-two jails (59.46%) indicate having some procedure to screen for postpartum depression, while five jails (13.51%) do not, and 10 are unsure (27.03%).

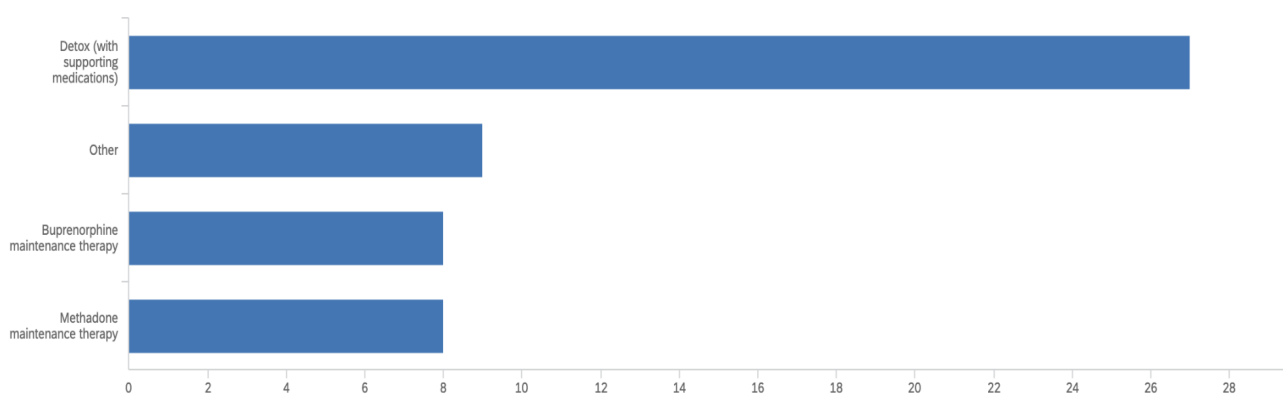
Screenings and Vaccinations

Out of all responding facilities, only 9 jails (21.95%) reported that they routinely screen and test inmates for HIV. When cases are identified, most jails report that they do provide treatment for HIV (72.50%). In terms of vaccinations, only 20 (50%) of jails routinely assess pregnant women’s vaccination status. Twenty-eight jails (71.79%) report that they do administer the influenza vaccine to pregnant patients if they are incarcerated during flu season, and twenty-six (65%) administer the Tdap (tetanus, diphtheria, pertussis) vaccination to pregnant women during the 27-36 weeks-of-gestation window.

Substance Use and Treatment

Most jails (95.12%) assess all inmates for substance use disorder upon their arrival to the facility. However, they differ in their treatment protocols for opioid use (see *Figure 3: Opioid Use Disorder (OUD) Treatment Protocol*). Survey respondents overwhelmingly report that the treatment protocol for opioid use disorder (OUD) in the jail is withdrawal or detox using supporting medications. Only eight jails (15.38%) treat OUD with medication-assisted treatment using buprenorphine and eight others treat with methadone maintenance therapy (MMT). Nine jails (17.31%) indicated another option, which most often referred to safekeeping, the process in which jails transferred inmates to the central prison (NCCIW) for medical observation and a higher level of care.

Figure 3: Opioid Use Disorder (OUD) Treatment Protocol



QUALITATIVE RESULTS

Six semi-structured interviews were conducted with jail administrators and health care staff to more detailed provide insight into the quality of pregnancy care in the jail, including an assessment of the jail's policies as well as employees' perceptions on the quality of care. Four themes emerged related to pregnancy care procedures in NC jails: (1) limited capacity for managing pregnancy care, (2) lack of defined policies, (3) barriers to improving care practices, and (4) limitations on continuity of care. Employees that were interviewed frequently reported on

prenatal care procedures, safekeeping, barriers to improving care, and post-release care.

Qualitative findings are summarized below.

Limited Capacity for Managing Pregnancy Care

All six interview participants reported instances of safekeeping—the process of transferring certain inmates from a jail facility to the state prison for the purpose of medical treatment—to varying degrees. Two participants reported that the jail will only transfer pregnant women for safekeeping when they are high-risk or experience complications in the pregnancy, but both jails are relatively larger in terms of inmate population than other facilities. All other participants report lower thresholds for safekeeping, transferring pregnant women to the prison after a certain number of weeks of gestation. One of the reasons participants mentioned for transferring pregnant women for safekeeping is limited capacity within the jail to properly provide care for pregnant inmates' needs. When asked about transferring pregnant inmates for safekeeping, one health care provider for a county jail said:

“They are. In fact, once they get to a certain point, we always send them there, just because you know, we're not really equipped to handle deliveries or anything at the county facility. So once they get to, you know, usually I like to try and get them transferred around 20 weeks, just to be kind of on the safe side. Especially if they're high risk. But typically, they will always, after a certain point, go to central [prison].”
(Interview 8-2-21)

Another employee who works as a jail administrator reported other cases that prompt safekeeping, including treating opioid use disorder:

“We only transfer the last, the ending of the last trimester, or if there's drug abuse, substance abuse, opioid abuse, something like that.” (Interview 8-20-21)

If a jail practices safekeeping in North Carolina, pregnant women are transferred to the North Carolina Correctional Institution for Women in Raleigh, the primary prison facility in the state that houses women. This facility is better equipped to provide perinatal care because of its larger

scale and capacity. Pregnant women who are detained in jails, therefore, often end up serving some or all of their sentence in the central prison because some jails do not have the proper resources to manage pregnancy care, especially more complicated cases and procedures like labor and delivery or treatment for substance use.

Lack of Defined Policy

When asked about a policy or procedure relevant to perinatal care, four interview participants reported not having a policy in place or not knowing the procedure to follow. This was most frequently reported regarding policies on pregnancy counseling services. Participants were asked about the jail's procedure on counseling pregnant women about their options, including abortion and adoption services. However, three participants reported that there was no policy in place and one individual noted that they do not know the policy. When a jail administrator was asked about what procedure would follow if a woman were to request these services, they responded with:

"I don't know because we haven't encountered that, and, as far as I know, we don't have a procedure in place. So that would be one that, if that happened, we kind of have to invent it I guess." (Interview 6-24-21)

Other participants similarly reported not having clearly defined policies on adoption and abortion services, as well as a lack of resources to implement counseling, particularly for abortion counseling. For one jail that does have an established procedure, the participant explained that the local health department coordinates and refers women to relevant services.

"We—if they request an abortion, we send them to our local health department, and they provide more information there and provide them an option for abortion if it's within the 10 month—or the 10-week period." (Interview 6-25-21)

This jail presents a case in which women are presented with abortion counseling services when it is requested by the inmate. Most jails are unprepared to respond to and offer pregnancy counseling services because they do not have specified procedures in place.

Barriers to Improving Care Practices

All interview participants' perceptions on quality of care were assessed, and participants were asked about what changes they would like to see in the level of care. This provided insight into an employee's perception on the dimensions of care that require improvement and potential barriers to improvement. Two participants noted that they would like to improve education on contraception and family planning for women in the detention center, to avoid unwanted pregnancies and spread of sexually transmitted diseases. A licensed practical nurse (LPN) from one county jail said:

"I think that the facility would really benefit with more, I guess more education for the lady. We just really provide the minimum and I think that if they had more education and were more aware of the services that were provided outside in the community, we could avoid a lot of unwanted pregnancies here." (Interview 6-25-21)

Besides family planning education, other dimensions of care that participants wanted to improve included postpartum care and access to equipment. Among all participants, either funding or staffing was highlighted as barriers to improving care. For example, the same LPN noted that the main barrier to providing education on family planning is limited staffing.

"Um, I think the main issue would be staffing. [There's] really never enough nurses to provide all this education and do everything that needs to be—or you know—we would like to have done for them." (Interview 6-25-21)

Health care staffing was specifically identified by three participants as a barrier. One health care provider reported that their facility has one male nurse and one female to cover their population of 300 inmates. Moreover, only one of the nurses is on duty for the total population during the night shift. Most jails are unlikely to have staff on-site for all 24-hours, especially small county

jails. However, staffing issues may not be restricted to only small-scale facilities. One participant, an employee of a large capacity jail, said that health care staffing was not necessarily a barrier to improving care, while another employee of a large jail said that staffing has always been a barrier, especially during the current labor shortage. Due to these restrictions, jails were much more likely to meet standards of care for prenatal care, including dietary supplements and prenatal vitamins, which are mandated by the state, according to some interview participants. Without adequate staffing, implementing services beyond minimum requirements, even if the services would improve care, would not be within the capacity of the jail.

Other than the limits of staffing, funding was identified as a barrier to some dimension of pregnancy care delivery in the jail. Three participants claimed that staffing was an obstacle in the past or would be an obstacle to implementing any changes, while one participant said budget was not an issue for the facility. The size of the jail did not seem to be a factor in determining whether the budget was a barrier to improving care. A jail administrator of a large county jail explained that funding was a barrier to improving the facility's postpartum care procedures:

"I guess if money wasn't a barrier, then, then we could increase the postpartum time the mother is with the child. I think that would be awesome." (Interview 7-27-21)

In this case, the interviewee wanted to allow inmates to spend more time with their newborns in the hospital after delivering the baby, but it would not be feasible because of hospital costs.

Funding was also noted as a barrier to acquiring equipment that would improve pregnancy care services in a medium-sized facility.

Limitations on Continuity of Care

Continuity of care describes the coordination between community and correctional health care providers to manage patient care for justice-involved people (Jennings et al. 2021).

Interview participants were asked about the facility's efforts to coordinate follow-up care for

pregnant women after they are released. Three participants reported that efforts to coordinate follow-up care for pregnant women that are released during pregnancy are limited or nonexistent. One of those participants, a jail administrator, reported that the jail does discharge planning for substance abuse and mental health, but not for pregnant women. Another participant explained that correctional nurses might work with patients to schedule one check-up, but beyond that, coordination of care is limited. An LPN at a detention facility in a rural county described post-release care coordination as more of an informal suggestion to the patient:

“We don’t have anything official in place. I just—the best that I can suggest to them once they’re released is to—and again, like I said, it’s nothing official, it’s always just a suggestion—but to follow up with either the OB that we’ve been sending them to or at the very least, you know, at the minimum, get into the health department to try and follow up with family planning.” (Interview 8-2-21)

The same provider said that they will also try to send patients out with a small supply of prenatal vitamins, but there are no official procedures to manage patient care. In fact, the provider reports that it would be difficult to connect anyone released from the jail with reproductive health care resources in the community at all, because those resources do not exist.

“I don’t know of any community resources, honestly, and that is something that I would like to see change around here in this area. We honestly don’t have really good OB resources. It’s difficult, even for me, to get our patients somewhere sometimes.” (Interview 8-2-21)

Therefore, for some counties, family planning and reproductive care resources are limited to the point that patients are transported to other counties for pregnancy care even during incarceration. Finally, only one participant reported that the jail does coordinate follow-up care, particularly with the local health department of the county.

CONCLUSION

Discussion

This study measures the quality of care for pregnant women in jails in North Carolina, according to adherence to benchmark standards established by the American Public Health Association (APHA), the American College of Obstetricians and Gynecologists (ACOG), and the National Commission on Correctional Health Care (NCCHC). The data demonstrates a high level of variability in quality of care across different categories of care. Care practices that lacked adherence to the benchmark standards include pregnancy testing and counseling, postpartum contact, HIV screenings, and treatment of opioid use disorder.

Most jails do not screen individuals of childbearing age for pregnancy upon intake, but rather, rely on individuals to self-report pregnancy. According to ACOG, every individual of childbearing age should be assessed for pregnancy and offered pregnancy testing upon entry to a prison, jail or detention center in order to enable the appropriate prenatal care or abortion services (Committee on Health Care for Underserved Women, 2021). A low rate of pregnancy testing upon intake (21.9%) prevents jails from identifying existing cases of pregnancy in the jail and initiating prenatal care early in the pregnancy. Moreover, a low rate of pregnancy testing presents a barrier to collecting accurate data on the scope of pregnancy in jails in the state, which indicates the rate of pregnancy among incarcerated women is higher than estimated. This is consistent with reports that precise measurements of the incidence of pregnancy are difficult to obtain because of the absence of reporting requirements and lack of pregnancy testing upon admission (Clarke and Adashi, 2011).

ACOG recommends that correctional facilities should allow women to initiate or continue contraception for individuals that want to while in custody as a preventative health

measure. However, only 5 of the surveyed jails (13.51%) reported that they offer any kind of contraception method to women during their detainment or upon release. Moreover, interview data demonstrated that some jail employees would like to implement education on contraception and family planning for women in the detention facilities to prevent unwanted pregnancies and spread of STIs. Studies suggest that unintended pregnancies are more common among the justice-involved population than the general population since the women who are justice-involved are less likely to have consistent access to effective contraceptive methods (Wenzel et al., 2021). Therefore, jails could be a critical site of intervention to provide reproductive health and family planning education, including access to contraception, for women that might not otherwise have access to these services.

Along with family planning education, the NCCHC recommends that all correctional facilities counseling on pregnancy options and assistance in accordance with an inmate's requests, whether it be access to adoptive services, abortion services, or keeping the child (National Commission on Correctional Health Care Board of Directors, 2019). Only 5 of all surveyed facilities report offering counseling on abortion and 7 report offering counseling on adoption. Although some interview participants indicate that individuals that request adoptive or abortion services are referred to the local health department, the policy on pregnancy counseling varies across facilities. ACOG notes that incarcerated women retain the legal right to abortion, but the ability to actually obtain an abortion varies across geographic region and according to the individual jail or prison policy (Committee on Health Care for Underserved Women, 2021). In North Carolina, the data indicates an overwhelming lack of counseling on abortion and adoption services as pregnancy options.

Unlike other categories of care, most jails in North Carolina consistently offer the benchmark prenatal care services, including routinely scheduled prenatal care, prenatal vitamins, food supplements and dietary changes, and a lowered bed assignment. Interview data indicated that the certain prenatal care practices, such as food supplements and prenatal checkups, were mandated by the state, explaining high levels of adherence to these standards. This indicates the importance of state mandates on adherence to public health standards. Importantly, a study conducted between incarcerated and never-incarcerated women in North Carolina suggests that certain aspects of the prison environment can have health-promoting effects on infant birthweight (Martin et al., 1997). Justice-involved individuals are more likely to be exposed to dangerous conditions, have poor nutrition, lack access to housing and lack access to prenatal care (Clarke and Adashi, 2011). One systematic review suggests that the prison environment offers more reliable access to care than these pre-incarceration conditions, although it is not an optimal environment by any means (Clarke and Adashi, 2011). Clarke and Adashi indicate that North Carolina jails also offer reliable and consistent prenatal care services, which is critical to positive perinatal outcomes. However, interview data suggests that there might be a lack of continuity of care, the coordination of health care services between the correctional facility and the community after inmates are released. Given that the length of stay for individuals in jails is relatively short, many women are released before they give birth. Ultimately, a lack of access to prenatal care in the community, as well as reliable access to food, housing, and substance use treatment, leaves justice-involved individuals vulnerable to poor maternal and perinatal health outcomes.

The postpartum period, or the period after delivery, is a crucial phase in the individual's overall maternity care. The APHA and ACOG specify that correctional facilities should allow postpartum contact between the mother and newborn after delivery, as well as ongoing contact

afterwards, when applicable. However, only 50% of surveyed facilities allow visitation with newborns in some form—either video calls, physical contact, or visitation through a barrier—and only 30% of facilities report that they allow physical contact between the mother and newborn after delivery. The results are even more limited for allowing breastfeeding. Importantly, the rate of “not sure” responses was highest for these postpartum policies, indicating that the results are influenced by some level of uncertainty or hesitation to reveal information about visitation and postpartum contact procedures. Still, it is important to specify postpartum contact procedures according to the guidelines of accredited organizations like ACOG, which states that policies separating the mother from the newborn for nonmedical reasons during the postpartum period are “punitive, medically unnecessary, and can have detrimental effects on parent–infant bonding” (Committee on Health Care for Underserved Women, 2021). Although it varies significantly, it is estimated that incarcerated mothers are allowed only 24 hours with newborns in the hospital before they are returned to jail and the newborn is placed in either the care of relatives or foster care (Clarke and Simon, 2013). This separation, prolonged by restrictive visitation policies, has detrimental effects on the infant’s behavioral health, the mother’s psychological well-being and risk of recidivism (Clarke and Simon, 2013).

Jail facilities in North Carolina demonstrated a lot of variability in terms of screenings and vaccination policy. Most notably, the rate of HIV screening was low, as only 22% of facilities reported that they routinely test for HIV in pregnant women. When cases of HIV are identified, most jails report that they do provide treatment for HIV (72.50%), although it is more likely that cases go unidentified without routine screenings. Moreover, studies show that there is a high prevalence of STIs and HIV among incarcerated women compared to the general population (Javanbakht et al., 2014). Therefore, HIV treatment is crucial for the justice-involved

population, to reduce the general disease burden as well as prevent perinatal, or mother-to-child, transmission. Routine screenings for HIV are, therefore, necessary to identify the prevalence of HIV in the facility and initiate treatment when appropriate.

Across detention facilities in North Carolina, there is a lack of adherence to substance use treatment guidelines. NCCHC and ACOG advise that pregnant individuals with opioid use disorder (OUD) should not undergo the withdrawal, but instead, should receive medication assisted treatment (MAT) with methadone or buprenorphine (Committee on Health Care for Underserved Women, 2021). However, the results show that only 30.8% of North Carolina jails treat OUD with MAT, 51.9% do not provide MAT and 17.3% have a different protocol, including safekeeping. Therefore, *at least* 51.9% of jails engage in a withdrawal protocol to treat OUD. This data aligns with studies that indicate that prisons and jails will discontinue medications prescribed by physicians for OUD treatment, like buprenorphine and methadone, when they are incarcerated (Jennings et al., 2021). This goes against recommendations for treating OUD in pregnant women from public health organizations, including the CDC, which states that withdrawal is more likely to create complications in the pregnancy, harm the mother's and infant's health, and increase risk of relapse (CDC, 2021). Therefore, all jails should provide MAT, following public health and clinical guidelines to facilitate favorable health outcomes. Continuity of care is also an important consideration regarding OUD treatment, considering studies that suggest patients leave prisons and jails with no supply or limited supply of medications and face financial barriers to obtaining medications when they are released back into the community (Jennings et al., 2021). Coordination of community resources for treatment of OUD is necessary to mitigate risk of relapse. L

This study offers insight into the scope of pregnancy care in North Carolina jails, and limited perspective on the barriers to adhering to public health standards for that care. Limited interview data with jail employees suggests that funding and staffing are some of the main impediments to implementing services, like counseling and contraception, that have low rates of compliance. The literature on reproductive health care provision for justice-involved people confirms that funding could be a barrier to acquiring and providing adequate care. Given that inmates lose their eligibility for public insurance upon incarceration, the local government often bears the burden of financing jail health care services with local funds, which may lead to a lot of variability in the quality of care across facilities (Moore, 2005). One study explains that MAT for OUD poses a financial burden on jails because women often need to be transported to a methadone clinic for the treatment (Kelsey et al., 2017). The study suggests that the burden of transportation could be mitigated if correctional care doctors were licensed to prescribe medications like methadone and buprenorphine (Kelsey et al., 2017). Moreover, some studies have documented patients forgoing needed health care when they are released from prison or jail because of suspended insurance coverage due to incarceration. Therefore, funding is a barrier to the provision of care within detention facilities, as well as acquiring care back in the community.

Public and legislative attention to the reproductive health of justice-involved people could be another determinant of quality of care according to benchmark standards. The standard practices established by the NCCHC, APHA and ACOG are recommended standards without mandatory accreditation. Moreover, the legal minimum rights to care for incarcerated individuals has limited standardization across facilities. Rather, jail health care standards in North Carolina vary by county and/or district. While some may recognize MAT as the favorable OUD treatment protocol, others continue to follow a withdrawal protocol, likely leading to varied health

outcomes for pregnant women suffering from OUD depending on the county. According to ACOG, there has been limited attention to the gender-specific needs of incarcerated women, because they make up a relatively small proportion of the population (Committee on Health Care for Underserved Women, 2021). This poses a barrier to implementing policy changes aimed at improving standard care practices. Increasing public attention to the issue can facilitate policy change, as evidenced by the Dignity for Women Who are Incarcerated Act, recent legislation prohibiting shackling of pregnant women in North Carolina prisons and jails. After various stakeholders across the state brought attention to the issue of shackling, including health care providers, legislative action was taken to achieve higher quality of care for pregnant individuals in correctional facilities in North Carolina.

Policy Implications

Based on the results of this study, I offer six policy recommendations that aim to improve the quality of care for justice-involved individuals detained in North Carolina jails.

- (1) Given the lack of consistency across facility policies and across categories of care among jails in the state, North Carolina should standardize policies according to the benchmark standards of care offered by the APHA, ACOG, and NCCHC. This would ensure that jails follow the same standard procedures, decreasing variability in pregnancy health outcomes for justice-involved people across the state, and improving perinatal health outcomes by promoting public health guidelines.
- (2) Allow justice-involved individuals to retain eligibility for public insurance coverage in order to reduce the financial burden of health care on jail and local government funds and improve continuity of care. This would mitigate the cost on detention facilities of implementing changes in the provision of reproductive health care. Moreover, it would

allow justice-involved individuals to have more reliable access to necessary health services when they are released from the detention facility.

- (3) All jails should routinely offer pregnancy tests for individuals of childbearing age upon intake. This would improve the accuracy of data collection on pregnancy, allowing for a better understanding of the scope of this issue in the state of North Carolina. Moreover, it would ensure that cases of pregnancy are identified so that prenatal care can be initiated in a timely manner, improving maternal and perinatal health outcomes.
- (4) All jails should offer to initiate or continue contraceptive methods for women who desire it. The jail could be a critical point of intervention for decreasing the rates of unwanted pregnancies and STIs among justice-involved individuals by increasing access to effective contraception.
- (5) All jails should follow clinical guidelines to treat opioid use disorder (OUD) in pregnant women with medication assisted treatment (MAT) rather than a withdrawal protocol. The MAT protocol improves the maternal and neonatal health outcomes by minimizing the risks of withdrawal on pregnancy complications and relapse.
- (6) Correctional facilities providers and administrators should work with health care providers in the community to implement systems that facilitate continuity of care for pregnant patients in jails. Improved coordination between these stakeholders is necessary to increase reliable access to pregnancy care for justice-involved people pre- and post-incarceration.

Limitations

The limitations of this study include survey retention, a limited sample of interview participants, and potential for bias. One question assessing physical contact between mothers and

newborns after delivery had a disproportionate number of responses that were left unanswered. This question had a sample of 30 responses out of the 41 participants. The final two questions, regarding screening for postpartum depression and contraception, also had relatively lower samples of responses, with 37 responses each. Response rates for other questions were not notably low, only missing between 1-2 data points if data was incomplete. However, another limitation of this study is the limited sample of interview data. Out of 45 survey respondents, six individuals agreed to participate in a follow-up interview. Therefore, the interview data represents a more limited sample, and the data may not be generalizable to the entire population. Another limitation is a risk of bias among survey and interview participants due to the somewhat sensitive nature of survey and interview questions. Participants were asked about policies and procedures at their place of employment, so there is a possibility that participants were hesitant to answer all questions truthfully, which could obscure findings.

Further Research

There are several dimensions of care for pregnant individuals in jails in North Carolina that require further investigation. Given that this study does not strongly investigate the barriers to adhering to standards of care, further research should try to understand the predictors of quality of care for detention facilities in North Carolina. Moreover, this study focuses on North Carolina's detention facilities, and very little data exists on reproductive health care provision in jails nationwide. A better understanding on the scope of pregnancy, pregnancy care, and the barriers to care, on a national scale, would allow policymakers to frame evidence-based policy solutions addressing this issue.

Moreover, a key issue that has been highlighted, but not heavily investigated by this study, is the continuity of care for pregnant patients released from jails back to the community.

Research suggests that justice-involved individuals have more inconsistent access to proper nutrition, housing, and health care services than the general population. Sometimes, the detention facility is the only point of care for justice-involved individuals, including pregnant individuals. Therefore, it is crucial to investigate what systems of care exist to facilitate the transition back into the community and ensure pregnant women have access to prenatal and perinatal care after they are released from jail.

Finally, this data for this study was collected before the Dignity for Women Who are Incarcerated Act was passed and implemented by jails, which expanded on the minimum reproductive rights for incarcerated women. Therefore, this data provides some insight into the level of care provided before the establishment of improved standards of care for pregnant incarcerated women. Now that policymakers have legally *mandated* some of the previously *recommended* standards of care, it is likely that a greater proportion of correctional facilities in North Carolina will provide higher quality care, achieving better health outcomes for incarcerated pregnant individuals. It would be interesting to collect data on pregnancy care in the state moving forward to be able to compare how much the quality of care is improved from the legal mandates and standardization of policy across facilities.

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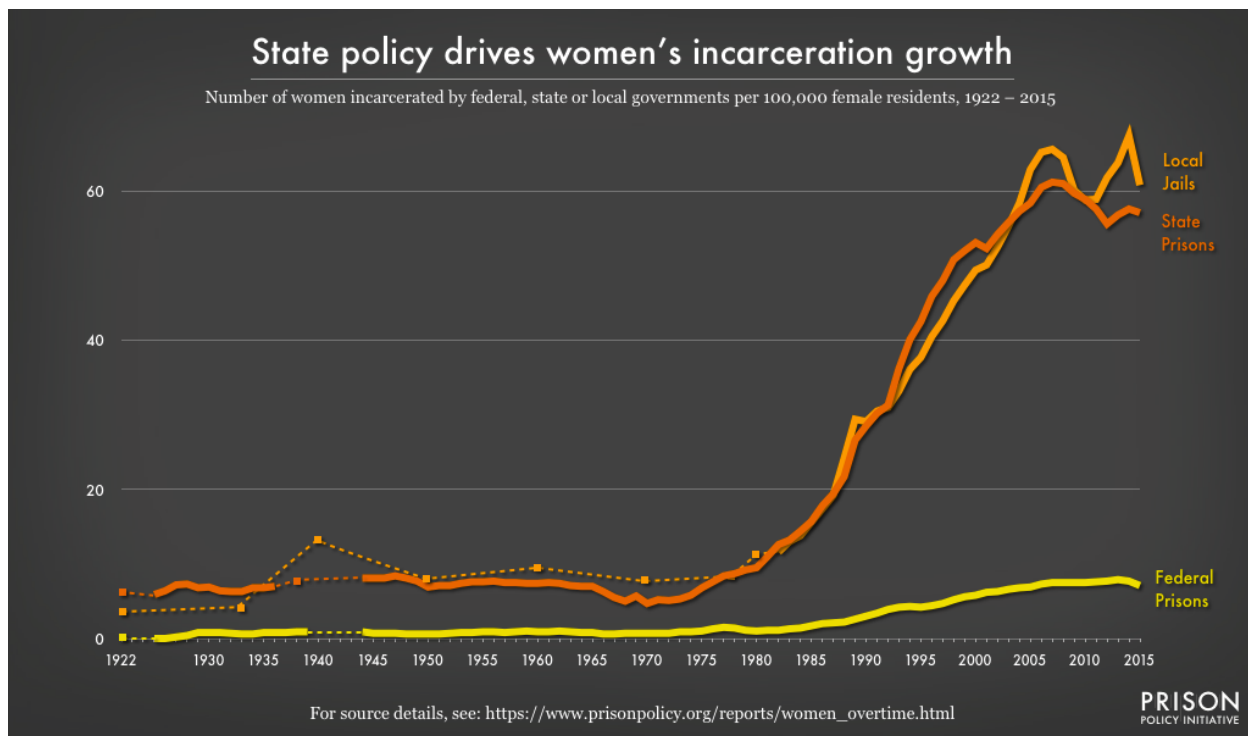
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Appendix

A. Women's Incarceration Rates



(Sawyer, 2018)

B. *Survey Questions*

Section 1: Jail Information

1. What is the name of your facility?
2. What is your position in the facility?
 - Yes
 - No
 - Other. Please specify: _____
3. What is your professional title at the facility?
4. Approximately how many inmates are currently held in the facility? *If unsure, feel free to estimate or skip the question*
5. Does your facility house pregnant women?
 - Yes
 - No

If the participant responds with “no” the survey moves to question 6 and then ends after this question. Otherwise, the survey moves to question 7.

6. If your facility cannot accept pregnant women, where are they directed to instead (e.g., another jail, central prison, medical facility)?
7. Approximately how many pregnant women are currently held at the facility?
 - 0
 - 1-5
 - 6-10
 - 11-15
 - 16-20
 - 21 or more
 - Not sure
8. Prior to the COVID-19 pandemic, approximately how many pregnant women did the jail have at a given time?
 - 0
 - 1-5
 - 6-10
 - 11-15
 - 16-20
 - 21 or more
 - Not sure

Section 2: Pregnancy Care Practices

9. Does the facility administer pregnancy tests for all women of childbearing age upon arrival to the facility?
 - Yes
 - No
 - Not sure

10. Does the facility administer pregnancy tests if the inmate requests one?
 Yes
 No
 Not sure
11. Does the facility provide education on abortion as a pregnancy option?
 Yes
 No
 Not sure
12. Does the facility provide education on adoption as a pregnancy option?
 Yes
 No
 Not sure
13. Does the facility provide routinely scheduled prenatal care with a medical provider for pregnant women throughout their pregnancy (either on-site or off-site)?
 Yes
 No
 Not sure
14. Which of the following best describes the medical provider who provides care to pregnant women at your facility? (*could be on-call, in-person or via telemedicine*)
 Doctor (MD or DO)
 Physician Assistant (PA)
 Nurse Practitioner (NP)
 Nurse (RN)
 Licensed Practical Nurse (LPN)
 Other: _____
15. Who do the medical providers work for? (*Check all that apply*)
 Jail
 Private entity. Specify: _____
 Local health department
 Hospital
 Not sure
 Other: _____
16. Do correctional staff receive training about pregnancy symptoms and when to refer pregnant women to medical personnel?
 Yes
 No
 Not sure
17. Are prenatal vitamins (e.g., folic acid) currently provided to pregnant women by the facility?
 Yes
 No
 Not sure
18. Are food supplements (e.g., a snack bag provided outside of scheduled meal times) currently provided to pregnant women by the facility?
 Yes
 No

- Not sure
19. Do pregnant women receive a special diet monitored and adjusted by a health care professional?
- Yes
 No
 Not sure
20. Does the facility provide pregnant women with a lowered bed assignment (e.g., bottom bunk)?
- Yes
 No
 Not sure
21. Does the facility have an emergency delivery kit available for deliveries that happen on-site?
- Yes
 No
 Not sure
22. Does the facility have arrangements for delivery in a hospital or other off-site medical facility?
- Yes
 No
 Not sure
23. Does the facility test for HIV in pregnant women?
- Yes
 No
 Not sure
24. Does the facility treat HIV in pregnant women?
- Yes
 No
 Not sure
25. Does the facility routinely assess pregnant patients' vaccination status?
- Yes
 No
 Not sure
26. Does the facility have arrangements to administer the influenza vaccine to pregnant women incarcerated during flu season?
- Yes
 No
 Not sure
27. Does the facility have arrangements to administer the Tdap (Tetanus, Diphtheria, Pertussis) vaccine to pregnant women during the 27–36-weeks-of-gestation window?
- Yes
 No
 Not sure
28. Does the facility assess inmates for substance use disorder upon admission?
- Yes
 No

- Not sure
29. How are pregnant inmates treated for opioid use disorder? *Check all that apply.*
- Detox (with supporting medications)
- Buprenorphine maintenance therapy
- Methadone maintenance therapy
- Other: _____

Section 3: Postpartum Care (After Delivery)

30. How long are inmates permitted to stay with the infant at the delivery site before returning to the facility?
- 1 day
- 2-3 days
- 4-5 days
- 1 week
- Longer than 1 week
- Other: _____
31. After inmates return to the facility, are they able to provide their own breast milk to the infant (either directly or pump and store breast milk)?
- Yes
- No
- Not sure
32. Are new mothers typically allowed visitation with their newborns (either barrier, video, or contact)?
- Yes
- No
- Not sure

If the participant answers no to question 32, then the survey will move to question 34. If answered yes, the survey will move to question 33.

33. After delivery, is physical contact allowed between mothers and newborns?
- Yes
- No
- Not sure
34. Does the facility routinely screen for postpartum depression after delivery?
- Yes
- No
- Not sure
35. Does the facility offer contraception to women after giving birth (either during incarceration or upon release)?
- Yes
- No
- Not sure

Section 4: Interview Follow-up

36. Would you be willing to participate in a 20-30-minute conversation with someone from the research team to discuss the perinatal care policies and procedures in the jail? All interview participants will receive a \$20 amazon gift card for their time.
- Yes (This will take the participant to question #31 where they can enter their contact information.)
- No (This answer will take them to the end of the survey.)
37. If you are willing to participate, please leave your contact information below and indicate your preferred method of contact, and we will contact you. Thank you!
- Name: _____
- Email: _____
- Phone Number: _____
- Preferred method of contact: _____

C. Interview Script

Thank you for talking with me today about your work with jail populations in North Carolina. My name is _____, and I am an undergraduate researcher at Duke University. My colleagues and I are interested in learning about how jails care for pregnant inmates. Our conversation shouldn't take more than 20-30 minutes. There are no right or wrong answers to any of my questions—you are the expert and I'm here to learn about what you think and what you've experienced. If any of my questions are confusing to you, please let me know and I'll ask it a different way. If you don't want to answer any of my questions for any reason, we'll skip it and move on. Do you have any questions for me before we get started?

Procedures

1. What programs does your facility have for pregnant women? (*e.g., some jails have nursery programs that allow mothers and infants to stay together after childbirth, with supervision and parenting classes*)
2. Is there any difference in the diet for pregnant women than for other inmates?
 - a. If yes - what is the diet like?
3. What is the procedure for a women that requests:
 - a. An abortion?
 - b. To offer a child for adoption?
 - c. To keep the child?
 - i. What are the visitation rights for the inmate?
4. What efforts may be in place to educate correctional health staff about care for pregnant women, including prenatal care and pregnancy symptoms?
 - a. What about correctional officers – do they receive training about pregnancy care?
5. What is the level of on-site health care staffing in the jail? Off-site?
 - a. How many health staff are trained in providing care to pregnant women (can provide prenatal care and triage symptoms as they arise)?
6. If a woman is released while pregnant, does the facility coordinate follow-up prenatal care in the community?
 - a. If yes – what are the community resources that the facility can connect women to in order to access care?
 - b. If no – do you think there is a need to coordinate access to prenatal care outside of the jail for women during the post-release period?
7. How are the care practices for pregnant inmates defined and/or updated?
 - a. Are they formally outlined in a written plan for the jail? Formally outlined by health care staff? Informally recognized by health care staff?

Perception

1. In an ideal setting, what services for pregnant women or women of childbearing age would you like to see added or changed in the facility?
2. What do you perceive as the biggest barriers to providing those additional services?
 - a. Is funding a major issue to implementation of pregnancy care services?

- b. Is staffing or training a major issue?
- 3. What do you think are the best practices that your jail does to take care of pregnant women that other jails can learn from?
- 4. Would it be helpful to get technical assistance on how to provide care to pregnant women in the facility?
 - a. Are there particular aspects of pregnancy care that would be helpful to learn more about?
 - b. Are there particular aspects of pregnancy care that need additional resources?
- 5. How do you think COVID-19 impacted healthcare operations related to women's health?
 - a. Did COVID-19 impact the provision of medical care for pregnant women – including resources and staffing for prenatal care?
 - b. Were any changes made in the confinement or the treatment of pregnant women in the facility during the pandemic?

Thank you for talking with me today. Before we end, is there anything else about your experience caring for pregnant women in jails that you think would be helpful for us to know?