

UNDERSTANDING THE PUBLIC HEALTH POLICIES BEHIND *FERGUSON*

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INTRODUCTION

This article is a critical archeology of *Ferguson v. City of Charleston*,¹ a case still in the courts. The case questions a policy implemented by the Medical University of South Carolina (MUSC) from 1989 to 1993, which called for a hospital to deliver the results of urine tests showing cocaine use in pregnant women to the police. Part I of this article recounts how the policy was conceived and introduces some of the main characters and events, including the incarceration of some of the women, including Crystal Ferguson, and their initiation of a class action lawsuit against the hospital and the City of Charleston. Part II outlines the events of the *Ferguson* trial, the women's appeal after their loss at trial and their eventual audience before the United States Supreme Court. Part III takes a step back to consider different approaches the public may take when the health of some individuals endangers the health of others. Towards this end, this part explores debates over HIV testing, an area of public health and law that, during the mid to late 1980s, occupied the public imagination with the same intensity as the crack epidemic and "crack babies." This material is presented because it offers some compelling comparisons with prosecutions of pregnant women who use drugs. The discussion of AIDS and law also shows how the risks of coercive approaches to public health, and specifically the risk that mandatory testing or incarceration may lead people to avoid beneficial health services, should have been widely understood by 1989, the year the drug tests and reporting to the police began at the MUSC. Instead, it was not until 1990 that public health authorities outlined policy discouraging "testing-and-arresting." In attempting to explain why sounder policy was not developed and disseminated earlier, part IV explores how the public health establishment failed to counter misinformation about crack babies, and came to incorrect conclusions on the dangers of crack during pregnancy. This part also recites tools trial attorneys might find useful in litigating cases arising from weaknesses in the field of public health, as in *Ferguson*. Part V continues this evidentiary analysis, exploring how the public health system has failed to apply its own empirical

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1. See *Ferguson v. City of Charleston*, 532 U.S. 67 (2001) (reversing and remanding to the 4th Cir.).

techniques to the question of whether punitive approaches deter health-seeking behavior on the part of pregnant women. Again, material suggestive of how to handle this issue in future litigation is presented. Part VI then critiques the three Supreme Court opinions in *Ferguson*—the majority opinion, Justice Kennedy's concurrence, and Justice Scalia's dissent—for errors in evaluating scientific evidence. The basic focus of this article is to explore the difficult nexus of public health science and the legal system.²

This article concludes that the legal troubles confronting Crystal Ferguson and other women arrested in a hospital in Charleston, South Carolina, are partially attributable to a serious failing of the public health system. Furthermore, the form the litigation took shows that the legal system is not well equipped to address such failings appropriately.

I.

DRUG TESTING AT THE MEDICAL UNIVERSITY OF SOUTH CAROLINA

One morning in October 1988, Nurse Shirley Brown, a manager for high-risk obstetrical clients at MUSC, helped treat a woman who had just had a stillbirth.³ The woman had suffered from *abruptio placentae*—the placenta detached from the uterine wall before labor. Brown later testified that the staff had seen an increasing number of such cases at MUSC, a public hospital in Charleston serving a largely indigent black population. *Abruptio placentae* is usually caused by high blood pressure or traumatic accidents, but these factors were not the problem that morning. Brown and her colleagues had reviewed the literature on cocaine use during pregnancy and noted that many articles linked cocaine use during pregnancy with the occurrence of *abruptio placentae*. Brown ran a urine drug screen on this patient and the test came out positive for cocaine metabolites.

MUSC began running tests on other pregnant patients. Three of the first four women tested positive for cocaine. By the fall of 1989, there were 119 more positive test results, 104 from women whose first visit to the hospital was

2. Other articles have dealt extensively with other aspects of *Ferguson*, including its disparate impact discrimination and Fourth Amendment issues. See, e.g., Recent Case: *Civil Right—Title VI—Fourth Circuit Holds That Articulated Reasons Rebut Challenges Against Discriminatory Practices*—*Ferguson v. City of Charleston*, 186 F.3d 469 (4th Cir. 1999), 113 HARV. L. REV. 1246 (2000) [hereinafter Recent Case] (criticizing the Fourth Circuit for not addressing the substantiality of defendants' excuse for disparate impact); Leading Case, *Fourth Amendment—Search and Seizure—"Special Needs" Exception*, 115 HARV. L. REV. 326, 335 (2001) (arguing that the Supreme Court decision in *Ferguson* will not do very much to protect the privacy of maternity patients seeking prenatal care); Sandi J. Toll, *For My Doctor's Eyes Only: Ferguson v City of Charleston*, 33 LOY. U. CHI. L.J. 267 (2001) (arguing that the Supreme Court's decision in *Ferguson* encourages women to seek prenatal care, but that the decision leaves open several questions regarding the future of fetal abuse prosecutions and the scope of the special needs doctrine).

3. See Barry Siegel, *In the Name of the Children*, L.A. TIMES, Aug. 7, 1994 (Magazine), at 14. The recitation of facts above is drawn from this article.

at the time of delivery. Of the fifteen who visited the hospital prior to delivery and tested positive, only one returned for additional prenatal care. Brown advised the women to seek drug treatment at the Charleston County Substance Abuse Commission and even made appointments for them but was frustrated when not one woman kept her appointment.⁴

At the time, the media were giving wide and alarmist coverage to the problem of "crack babies."⁵ Brown saw a news broadcast reporting that police in Greenville, South Carolina were arresting pregnant users of cocaine on the theory that such use harmed the fetus and was therefore child abuse. She contacted the General Counsel for MUSC, who in turn contacted the state's Ninth Circuit Solicitor, Charles Condon. Condon gathered personnel from the Charleston County Police Department and health care workers, including Brown, to form a task force, which developed the Interagency Policy of Management of Substance Abuse During Pregnancy ("the Policy"). Condon took the position that a viable (twenty-four-week) fetus was a "person" under South Carolina law and therefore that the women could be convicted of distributing a controlled substance to a person under the age of eighteen.⁶

By November 1989, MUSC had developed a list of criteria to determine when a pregnant woman should be tested. The occurrence of any of the following would give rise to testing: 1) separation of the placenta from the uterine wall, 2) intrauterine fetal death, 3) no prenatal care, 4) late prenatal care (beginning after twenty-four weeks), 5) incomplete prenatal care, 6) preterm

4. The question of why the women did not keep their appointments remains an open one. This fact raises the question: Is the burden of addiction so strong that people will not seek treatment on their own until they have touched bottom, and decide on their own to seek services? Advocates often speak of a complete absence of drug treatment programs which will even accept pregnant women. See, e.g., Wendy Chavkin, *Drug Addiction and Pregnancy: Policy Crossroads*, 80 AM. J. PUB. HEALTH 483, 485 (1990). Such does not appear to have been the problem in South Carolina. Crystal Ferguson, interviewed by a reporter, explained that the federal program in Charleston was a two-week residential one, and she could not figure out what to do with her kids. Siegel, *supra* note 3, at 36. Advocates suggest that appropriate treatment programs for women generally should be outpatient programs with transportation and daycare provided, or residential programs where women can live with their children. See, e.g., Kimani Paul-Emile, *The Charleston Policy: Substance or Abuse?*, 4 MICH. J. RACE & L. 325, 370 n.221 (1999).

5. LaShanda D. Taylor, in *Creating a Causal Connection: From Prenatal Drug Use to Imminent Harm*, 25 NYU REV. L. & SOC. CHANGE 383, 384 n.5 (1999), cites several print publications which ran stories contributing to the common belief that prenatal drug use created medical and psychological problems for children and burdened society: Lynne Duke, *For Pregnant Addict, Crack Comes First*, WASH. POST, Dec. 18, 1989, at A1; Catherine Foster, *Fetal Endangerment Cases Increase*, CHRISTIAN SCI. MONITOR, Oct. 10, 1989, at 8; Charles Krauthammer, *Put Cocaine Babies in Protective Custody*, ST. LOUIS POST-DISPATCH, Aug. 6, 1989, at 3B; A.M. Rosenthal, Editorial, *The Poisoned Babies*, N.Y. TIMES, Jan. 16, 1996, at A17; Cathy Trost, *Babies of Crack Users Crowd Hospitals, Break Everybody's Heart*, WALL ST. J., July 18, 1989, at 1.

6. S.C. Code Ann. § 44-53-440 (Law. Co-op. 1993). In a separate case, *Whitner v. State*, 492 S.E.2d 777 (S.C. 1997), cert. denied, 523 U.S. 1145 (1998), the Supreme Court of South Carolina affirmed in 1997 that a viable fetus is a "person" under South Carolina law, and therefore that the South Carolina criminal child endangerment statute could apply to a pregnant woman.

labor without an obvious cause, 7) a history of cocaine use, 8) unexplained birth defects, or 9) intrauterine growth retardation without an obvious cause.⁷ Prenatal patients admitted to MUSC were generally asked to sign⁸ a consent form which included the following language:

I further consent to testing for drugs if deemed advisable by or necessary in the professional judgment of the physician or surgeon, or a physician or surgeon acting under their instructions. Attending physicians, members of the House Staff, and the Medical University Clinics have my permission to reveal information to appropriate agencies and individuals where it becomes necessary to protect the welfare of myself/the patient and/or the community.⁹

If a woman tested positive during this first phase of the Policy, the results were sent to the police or the Solicitor and the woman was arrested, either before or after her child's birth, for distributing cocaine to a minor.¹⁰

In 1990, the Policy was revised to give women who tested positive a choice of arrest or drug treatment as an alternative to arrest. Positive test results were not given to the police unless the woman tested positive a second time or failed to comply with treatment requirements.¹¹ A woman who was arrested could avoid prosecution by completing a drug treatment program, whereupon the charges would be dismissed.¹²

In October 1990, Nurse Brown, Solicitor Condon and Dr. Edgar O. Horger, a doctor in the Obstetrics and Gynecology departments at MUSC, published an article defending the Policy called *Cocaine in Pregnancy: Confronting the Problem*, in *The Journal of the South Carolina Medical Association*.¹³ In late 1990, Dr. Roger B. Newman, Associate Professor of Obstetrics and Gynecology and Director of Maternal-Fetal Medicine at MUSC, wrote a letter to the State Council on Maternal, Infant and Child Health defending the test-and-arrest policy. He wrote: "I would like to strongly point out that there is no evidence that this approach has driven any patients away from prenatal care as is popularly asserted. This is a major criticism addressed to such approaches which are frequently misinterpreted as being 'punitive'; however, this assertion is unproven."¹⁴

7. See *Ferguson v. City of Charleston*, 186 F.3d 496, 474 (4th Cir. 1999).

8. See *Ferguson v. City of Charleston*, 308 F.3d 380, 389 (4th Cir. 2002).

9. Medical University of South Carolina, Consent for Treatment MUSC Medical Center Ambulatory Care form (on file with NYU Review of Law & Social Change).

10. *Ferguson*, 186 F.3d at 474.

11. *Id.*

12. *Id.*

13. Edgar O. Horger, Shirley B. Brown & Charles Molony Condon, *Cocaine in Pregnancy: Confronting the Problem*, 86 J. S.C. MED. ASS'N. 527 (1990).

14. Letter from Roger B. Newman, Associate Professor of Obstetrics and Gynecology, Director of Maternal-Fetal Medicine, Medical University of South Carolina, to the State Council on Maternal, Infant and Child Health 1 (Dec. 13, 1990) (on file with NYU Review of Law &

Ten of the thirty women subject to the Policy between July 1989 and December 1993 brought suit in late 1993, asserting the following claims: 1) infringement of their constitutional right to privacy, 2) violation of their Fourth Amendment right to be free of unreasonable searches and seizures, 3) Title VI disparate impact discrimination on the basis of race, and 4) commission of the state law tort of abuse of process.¹⁵ They were represented by a team of lawyers including Lynn Paltrow from the Center for Reproductive Law and Policy. Paltrow also filed complaints with the Office of Civil Rights (OCR) of the Department of Health and Human Services and the National Institutes of Health (NIH).¹⁶ OCR opened an investigation on possible violations of the Title VI antidiscrimination provisions for entities that receive federal funds.¹⁷ In September 1994, MUSC signed an agreement with OCR to discontinue most elements of the Policy.¹⁸ NIH undertook an investigation on research on human subjects without the required consent or institutional review, eventually finding MUSC in violation.¹⁹

The testing policy at MUSC evolved from controversy to litigation, and eventually became embraced by partisan politics. In 1995, Condon argued in *Clinton's Cocaine Babies: Why Won't the Clinton Administration Let Us Save Our Children?*, an article published in *Policy Review*:

Tragically, the cocaine-baby program, which was clearly saving lives, was effectively shut down by the Clinton administration. Under the [P]resident's direction, a swarm of federal officials came to Charleston making unfounded allegations of discrimination and accusing the hospital of violating the "privacy rights" of the addicted mothers. . . .

Now, once again, the babies cry out in agony. And once again, hospital staff with no legal recourse must watch pregnant women knowingly cause neurological damage to their unborn children. MUSC nurse Shirley Brown expressed the frustration eloquently: "You just have to sit around with your hands tied and watch them destroy a baby." If this is what President Clinton had in mind when he calls for a return to individual and community responsibility, then [his] administration faces a profound moral crisis.²⁰

Social Change).

15. See *Ferguson*, 186 F.3d at 475.

16. Lynn M. Paltrow, *Punishing Women for Their Behavior During Pregnancy: An Approach That Undermines the Health of Women and Children*, in NAT'L INST. ON DRUG ABUSE, U.S. DEP'T OF HEALTH & HUMAN SVCS., *DRUG ADDICTION RESEARCH AND THE HEALTH OF WOMEN* 467, 473 (Cora Lee Wetherington & Adele B. Roman eds., 1998), available at http://www.nida.nih.gov/PDF/DARHW/467-502_Paltrow.pdf.

17. *Id.*

18. *Id.*

19. *Id.*

20. Charles Molony Condon, *Clinton's Cocaine Babies: Why Won't the Administration Let Us Save Our Children?*, 72 POL'Y REV. 12, 12 (1995).

The issue had become deeply politicized. In the meantime, the civil suit went forward.

In a 1997 interview, Condon explained to a journalist on his way to the courthouse where the case was being heard before a district judge:

[T]here's not enough political will to move after pregnant women who use alcohol or cigarettes. There is, though, a political basis for this interagency program. Leaders can take a position against crack. Our legal system reflects our cultural mores. That's our system. That's the real world.²¹

Upon reaching the courthouse, Condon turned away from the journalist, and speaking to the television cameras, added:

The left-wing ACLU doesn't represent the American people. The left-wing ACLU doesn't represent the people of South Carolina. MUSC deserves an award. If the plaintiff prevails, in effect we'd be legalizing the use of crack cocaine during pregnancy. . . . Who is speaking for the babies in this courtroom? Who is speaking for the babies?²²

Condon then turned back to the journalist, as they walked into the courthouse: "Tell Lynn [Paltrow] thanks for suing me. Running in South Carolina for attorney general, the best thing you can have happen is to be sued by the ACLU."²³ Condon is Attorney General of South Carolina today.

II.

THE *FERGUSON V. CITY OF CHARLESTON* LITIGATION

As stated earlier, Crystal Ferguson and nine other of the thirty women arrested at MUSC brought suit in late 1993, asserting the following claims: 1) infringement of their constitutional right to privacy, 2) violation of their Fourth Amendment right to be free of unreasonable searches and seizures, 3) Title VI disparate impact discrimination on the basis of race, and 4) commission of the state law tort of abuse of process. This part outlines some of the events and testimony of the *Ferguson* litigation, the women's appeal after a jury determined that they had consented to the search of their urine samples, and their eventual audience before the United States Supreme Court.

A. *The Trial*

1. *Issues Addressed and Key Testimony*

The district court, Judge C. Weston Houck presiding, granted judgment as a matter of law to MUSC on the plaintiffs' claims of abuse of process and

21. Siegel, *supra* note 3, at 38.

22. *Id.*

23. *Id.*

violation of their right to privacy to the extent that the women sought damages.²⁴

On the Fourth Amendment claim, MUSC presented two defenses: 1) that, as a matter of fact, the women had consented to the searches, and 2) that, as a matter of law, the searches were reasonable, even absent consent, under the “special needs” doctrine.²⁵

Judge Houck ruled that the urine screens fell within the ambit of the Fourth Amendment, thus rejecting the special needs defense, because the searches in question “were not done by the medical university for independent purposes. [Instead], the police came in and there was an agreement reached that the positive screens would be shared with the police.”²⁶ The question of whether the women had consented to the searches was submitted to the jury, which found that the women had so consented.²⁷

At a post-trial hearing, the court denied injunctive relief on the women’s claims of the denial of their constitutional right to privacy.²⁸ Judge Houck also rendered findings of fact and ruled against the women on the disparate impact discrimination claim.²⁹

Before this article can offer an understanding of the case, it is first critical to understand particular parts of the trial testimony. One of the main expert witnesses at trial was Dr. Ira Chasnoff, who also had an important, if ironic, role in the testing policy at MUSC. In 1986, Chasnoff founded the National Association of Perinatal Addiction Research and Education (NAPARE).³⁰ This organization was frequently cited in media reports about “crack babies,” usually for the statistic that over ten percent of American babies (or 375,000 annually) were negatively affected by their mothers’ substance abuse.³¹ No less than six of the fourteen articles quoted in the article by Horger, Brown and Condon,³² including four studies cited for the proposition that cocaine causes harm to fetuses, were written by Chasnoff and his colleagues.³³

24. *Ferguson v. City of Charleston*, No. 93-CV-2624 (D.S.C. Sept. 30, 1997).

25. *Id.*

26. *Ferguson*, No. 93-CV-2624, *quoted in Ferguson v. City of Charleston*, 532 U.S. 67, 73–74 (2001).

27. *Ferguson*, No. 93-CV-2624.

28. *Id.*

29. *Id.*

30. NAPARE’s name changed in 1995, substituting “Family” for “Perinatal.” The new acronym is NAFARE.

31. See NAPARE, PERINATAL RESEARCH AND ADDICTION UPDATE: A FIRST NATIONAL HOSPITAL INCIDENCE SURVEY (1988). As LaShanda D. Taylor points out in her article, *Creating a Causal Connection: From Perinatal Drug Use to Imminent Harm*, *supra* note 5, at 383 n.2, there are several problems with this statistic: 1) the figure is often cited as referring to just cocaine exposure when in fact it covers heroin, methadone, cocaine, amphetamines, PCP, and marijuana, but not alcohol, and 2) although it is a national study, it was conducted mostly at hospitals located in large cities, at which only five percent of live births were delivered.

32. See Horger, Brown & Condon, *supra* note 13. This point will be discussed in much greater detail in part V.

33. See *id.* at 531 (citing at given footnote numbers the following Chasnoff publications): n.2:

Chasnoff's work was so central to the crack baby story that Condon called him to get his opinion on the Policy.³⁴ Condon explained the MUSC policy, and Chasnoff responded immediately that it did not sound like a policy that he would support.³⁵ Chasnoff testified at the *Ferguson* trial that in 1988 or 1989, he started to realize that the studies were failing to isolate any one drug, and that cocaine was only a small part of the picture.³⁶ Many pregnant women who used cocaine were also using tobacco and/or alcohol, and these substances had much more important effects on fetal outcome.³⁷ While a single hit of crack could cause *abruptio placentae*, so could amphetamines, and thus a focus exclusively on cocaine was unwarranted.³⁸ Chasnoff testified that he told Condon, "our

Ira J. Chasnoff, *Drug Use and Women: Establishing a Standard of Care*, 526 ANN. N.Y. ACAD. SCI. 208 (1989) (for the proposition that "10% or more of all infants have been exposed to cocaine in utero"); n.3: Ira J. Chasnoff, *The incidence of cocaine use*, SPECIAL CURRENTS: COCAINE BABIES (Ross Labs., Columbus, O.H.), 1989, at 1 (for the proposition that drug use is equally distributed by race); n.5: Ira J. Chasnoff et al., *Cocaine use in pregnancy*, 31 NEW ENG. J. MED. 666 (1985) (for the proposition that "spontaneous abortion rates are increased 2.5 to 3-fold and reach 38-46% in some series" because of cocaine use); n.11: Ira J. Chasnoff et al., *Temporal patterns of cocaine use in pregnancy: Perinatal Outcome*, 261 JAMA 1741 (1989) (for the proposition that "the incidence of *abruptio placentae* is less than 1% in the general obstetric population, this rate may reach 15% in cocaine abusers"); n.12: Ira J. Chasnoff et al., *Maternal cocaine use and genitourinary tract malformations*, 31 TERATOLOGY 201 (1988) (for the proposition that cocaine causes "increased rates of anomalies in the genitourinary tract"); n.13: Ira J. Chasnoff et al., *Perinatal cerebral infarction and maternal cocaine use*, 108 J. PEDIATRICS 456, 458 (1986) (for the proposition that "abnormal electroencephalograms and perinatal cerebral infarction have been seen" in infants whose mothers used cocaine during pregnancy).

34. Transcript at 11, *Ferguson v. City of Charleston*, No. 93-CV-2624 (D.S.C. Sept. 30, 1997) (testimony of Ira Chasnoff) (on file with NYU Review of Law & Social Change).

35. *Id.*

36. *Id.* at 12-13.

37. *Id.* at 13-15.

38. *Id.* It is important to note here that Chasnoff's conclusions on *abruptio placentae* have been questioned. See Dr. E. Fromberg, *Cocaine and Pregnancy* (unpublished background paper for meeting of World Health Organization Global Advisory Committee on Cocaine), Aug. 1992, at <http://www.drugtext.org>. Dr. Fromberg recites some of the history of studies on *abruptio placentae*:

The first [study] mentioning a case in which there was a possible association between *abruptio placentae* and cocaine use was ACKER [D. Acker et al., *Abruptio placentae associated with cocaine use*, 146 AM. J. OBSTETRICS & GYNECOLOGY 220 (1983)]. CHASNOFF [Ira J. Chasnoff et al., *Cocaine Use in Pregnancy*, 313 NEW ENG. J. MED. 666 (1985)] reported from his highly non-random study population 4 cases of *abruptio* after just one injection with cocaine. He considers this to be the result of cocaine's direct effect on the utero-placental blood vessels. When he later [Ira J. Chasnoff et al., *Temporal patterns of cocaine use in pregnancy: perinatal outcome*, 261 JAMA 1741 (1989)] fails to observe a difference in frequency of *abruptio* between women that only used cocaine in the first trimester of pregnancy and those that used during the whole pregnancy, he changes his opinion and deems cocaine to damage the blood vessels at their laying out in early pregnancy.

However, in seven studies involving large numbers of patients, four [studies] [M. Chouteau et al., *The effect of cocaine abuse on birth weight and gestational age*, 72 AM. J. OBSTETRICS & GYNECOLOGY 351 (1988); M. Neerhoff et al., *Cocaine use during pregnancy: peripartum prevalence and perinatal outcome*, 61 AM. J. OBSTETRICS & GYNECOLOGY 633 (1989); B. Little et al., *Cocaine use in pregnant women in a large*

work and the work we were doing on the effects of cocaine and other drugs on pregnancy outcome and on newborns did not support the policy that they were developing and in no way should have led to that kind of policy.”³⁹

It must have been a researcher’s worst nightmare for Chasnoff to have his results used against him, and worse yet, to have them used against the kind of patients he was studying in an effort to help. Part of the problem, he recognized, was that his early studies used a methodology that detected an association between cocaine use and poor fetal and perinatal outcomes.⁴⁰ But those studies couldn’t control for confounding factors, such as alcohol or tobacco use, that might be the real causative agents for the observed bad outcomes.⁴¹ The research was difficult to interpret for gauging the magnitude of risk.⁴² The use of retrospective studies rather than more methodologically powerful prospective studies was also problematic.⁴³ In his testimony, Chasnoff used the following example: a retrospective study in 1989 showed that substance abuse was associated with sixty-four percent of all reported cases of child abuse.⁴⁴ This sounds bad: one might think that substance abuse causes child abuse. But in fact, the statistic says nothing about the chances that if you abuse drugs, you will abuse your children.⁴⁵

Chasnoff had more serious criticisms about the conclusions that were being drawn from his work. First, the alarm over crack babies was based on a misperception of the magnitude of the problem. Seventy-five percent of babies exposed to cocaine in utero demonstrated no immediate effects.⁴⁶

public hospital, 5 AM. J. PERINATOLOGY 206 (1988); B. Little et al., *Cocaine abuse during pregnancy: maternal and fetal implications*, 73 OBSTETRICS & GYNECOLOGY 157 (1989)] found no relationship, while two others [B.J. Dattel, *Substance Abuse in Pregnancy*, 14 SEMINARS IN PERINATOLOGY 179 (1990); D. Mastrogiannis et al., *Perinatal outcome after recent cocaine usage*, 76 OBSTETRICS & GYNECOLOGY 8 (1990)] found a significant increase in incidence and one an increase with low significance [M. Dombrowski et al., *Cocaine abuse is associated with abruptio placentae and decreased birth weight, but not short labor*, 77 OBSTETRICS & GYNECOLOGY 139 (1990)].

Where in other studies a relationship was found, is [sic] the study group non-random [Ira J. Chasnoff et al., *Temporal patterns of cocaine use in pregnancy: perinatal outcome*, 261 JAMA 1741 (1989); N. Bingol et al., *Teratogenicity of cocaine in humans*, 110 J. PEDIATRICS 93 (1987)].

39. Transcript at 31, *Ferguson* (No. 93-CV-2624).

40. *See id.* at 41–42.

41. *See id.* at 12–13.

42. *See id.* at 55.

43. *See id.* at 41. A prospective study examines the effects of a risk factor by looking forward to see what happens to two groups of subjects. To perform a prospective study of the link between prenatal cocaine exposure and learning disabilities, you would select one group of subjects with no exposure to cocaine and another group with exposure. Then you would follow all subjects over time and tabulate the numbers of subjects who experienced learning disabilities.

44. *See id.* at 54–55.

45. *See id.*

46. *See id.* at 15.

In an even more disturbing vein, Chasnoff's more recent research demonstrated that policies regarding crack and pregnant women were implemented in racist ways. He had conducted a study in Pinellas County, Florida, that had shown that even though white women and black women had equal rates of drug use, ten times as many black women had their babies reported and taken away as white women.⁴⁷ Chasnoff later worked on a federally funded study that included South Carolina, which revealed that many women were afraid to participate in drug treatment programs because they perceived the risk that the state would take their children away. As Chasnoff related at trial:

[T]he basic question we asked [women in treatment in South Carolina] was: If you have a friend who you know is using drugs and is pregnant, would you tell her to come into this treatment program. And the women who were in the treatment program all said, no, we wouldn't, which is an unusual response when you're working with women who were in treatment. And so the next question obviously was, why not. And they made it very clear, they said if you come into this treatment program your baby gets taken away from you.

So I went and—we went back to the state and to the program people who were running the programs and they said that's absolutely not true. That's their perception and that's the word on the street, but its not true. So there is conflict what [sic] the women were saying was happening and what reality was and what the state and the program were saying would happen.

So we simply went back and pulled the record. . . . When we analyzed what happened to them, eventually what we found was that the women who had received—who were using drugs, but no prenatal care and no treatment, 50 percent of their babies were in fact taken away from them by the department of social services of the state.

On the other hand, women who were using drugs, who got prenatal care and who entered this program, 100 percent of their babies were taken away from them. So in fact what the women were saying was true.⁴⁸

For Chasnoff, the implication was clear:

[T]he single biggest impediment to women entering the program into treatment programs [sic] was the fact this threat of having babies taken away from them, which again confirms every other study that I know of that has looked at this issue when you set up punitive policies, whether

47. See *id.* at 19; see also Ira J. Chasnoff et al., *The Prevalence of Illicit-Drug or Alcohol Use During Pregnancy and Discrepancies in Mandatory Reporting in Pinellas County, Florida*, 322 NEW ENG. J. MED. 1202, 1204 (1990).

48. Transcript at 22–23, *Ferguson* (No. 93-CV-2624).

it's taking babies away from mothers or threatening women with arrest and jail, the only thing you accomplish is you drive women out of prenatal care and drive them out of drug treatment, which then impedes your progress in reaching your ultimate goal, which was the goal of the Charleston policy to improve the outcome of mothers and children.

So, this was the very basis of one of my first objections to this policy when it was first presented to me, my fear that it would in fact drive women out of the treatment programs and out of prenatal care.⁴⁹

This testimony deserves close attention, for it reveals the difficulty lawyers face when trying to construct an airtight argument that punitive policies actually do drive a significant proportion of women away from important health services. First, Chasnoff presents two sources of empirical data showing that black women in one Florida county and women participating in a treatment program in South Carolina are more likely to have their children taken away from them than white women who use drugs, or women who simply avoid detection or treatment. The data here are strong enough to suggest that a rational woman of color, aware of this disparate treatment, might have reason to avoid the health care system. This is not strong enough, however, to conclude that punitive policies actually do drive women away from services. Chasnoff's reference to "every other study that I know of," confirming the assertion that punitive policies "drive women out of prenatal care," leaps into an empirical void, for there are no such studies yet. So it is especially revealing that Chasnoff fears that the MUSC policy would drive women away. "Fear" is a step back from certainty that punitive programs are counter-productive. Nonetheless, it does suggest that the real problem with punitive policies is the discomfort felt by health care professionals. The role of the counselor or doctor may be most threatened by punitive policies. Insofar as health care providers might have doubts about the removal of children being in the interest of the clients they are ethically bound to serve, health care professionals themselves might drive women away from the services they might otherwise provide.

2. *Not Addressed at Trial: Ethics*

A lawyer developing strategy for trial might consider the argument that establishing a legally imposed complicity between health care providers and the police violates the ethical code that animates the medical profession. Although this issue was not addressed in the *Ferguson* trial, it is useful to understand the ethical basis of the public health distaste for coercive approaches, while acknowledging that courts may not value such ethics as much as empirical data. Many of the amicus briefs to the Supreme Court in *Ferguson* argued that testing-and-arresting policies undermined the physician-patient relationship of trust.⁵⁰

49. *Id.* at 23–24.

50. *See, e.g.*, Brief of Amicus Curiae The Rutherford Institute, *Ferguson v. City of*

Dr. Wendy Chavkin has pointed out the paralyzing role-confusion that doctors face when confronted with mandatory treatment policies for drug use during pregnancy.⁵¹ Mary Faith Marshall, Director of the Program in Bioethics at MUSC, published a searing ethical analysis of the *Ferguson* case.⁵² Writing on ethics and maternal-fetal conflict, Dr. Lisa Harris pointed out the lack of empirical data on the effect of criminalizing prenatal drug abuse on pregnancy outcomes, but noted that the Horger study, discussed in greater detail below, was “enormously ethically compromising.”⁵³

Many professional societies have rejected coercive approaches to public health problems. Organizations that have adopted policy positions against coercive approaches to pregnancy and drug use include the American Medical Association,⁵⁴ the Institute of Medicine of the National Academy of Sciences,⁵⁵ the American Nurses Association,⁵⁶ the American Academy of Pediatrics,⁵⁷ the American College of Obstetricians and Gynecologists,⁵⁸ the American Public Health Association,⁵⁹ the American Society of Addiction Medicine,⁶⁰ and the

Charleston, 532 U.S. 67 (2001) (No. 99-936); Brief of Amicus Curiae American Medical Association, *Ferguson* (No. 99-936).

51. Dr. Chavkin writes:

Is the therapist's primary responsibility to the patient, as is traditional in medicine, or is it to a third party (e.g. employer, law enforcement, or child protective system)? This question is central since a therapeutic alliance between provider and patient is considered essential for therapeutic success. . . . The ambiguous position of the clinician reflects the central tension of whether the goal of mandatory treatment is improved status of the individual patient, protection of society, or punishment.

Wendy Chavkin, *Mandatory Treatment for Drug Use During Pregnancy*, 266 JAMA 1556, 1558 (1991) (footnotes omitted).

52. See LAWRENCE J. NELSON & MARY FAITH MARSHALL, *ETHICAL AND LEGAL ANALYSES OF THREE COERCIVE POLICIES AIMED AT SUBSTANCE ABUSE BY PREGNANT WOMEN* 138 (1998).

53. Lisa H. Harris, *Rethinking Maternal-Fetal Conflict: Gender and Equality in Perinatal Ethics*, 96 OBSTETRICS & GYNECOLOGY 786, 790 (2000) (“There is very little empiric work on the effect of criminalizing prenatal drug abuse or other behaviors on pregnancy outcomes. One of the only attempts to date to do this was enormously ethically compromising.”).

54. See Helene M. Cole, Law and Medicine/Board of Trustees, *Legal Interventions During Pregnancy: Court-Ordered Medical Treatments and Legal Penalties for Potentially Harmful Behavior by Pregnant Women*, 264 JAMA 2663, 2667 (1990) (“Pregnant women will be likely to avoid seeking prenatal or other medical care for fear that their physician's knowledge of substance abuse or other potentially harmful behavior could result in a jail sentence rather than proper medical treatment.”).

55. See INST. OF MED. COMM. TO STUDY OUTREACH FOR PRENATAL CARE, *PRENATAL CARE: REACHING MOTHERS, REACHING INFANTS* 76–77, 79 (1988).

56. See Am. Nurses Ass'n, *Position Statement: Opposition to Criminal Prosecution of Women for Using Drugs While Pregnant* (1991), at <http://www.nursingworld.org/readroom/position/drug/drpreg.htm> (last visited Mar. 8, 2003).

57. See AM. ACAD. OF PEDIATRICS & AM. COLL. OF OBSTETRICIANS AND GYNECOLOGISTS, *GUIDELINES FOR PRENATAL CARE* (3d ed. 1992); Am. Acad. of Pediatrics Comm. on Substance Abuse, *Drug-Exposed Infants*, 86 PEDIATRICS 639, 641–42 (1990).

58. See AM. ACAD. OF PEDIATRICS & AM. COLL. OF OBSTETRICIANS AND GYNECOLOGISTS, *supra* note 57; Am. Coll. of Obstetricians and Gynecologists, *Cocaine Abuse: Implications for Pregnancy* (ACOG committee opinion no. 81, Mar. 1990).

59. See Am. Public Health Ass'n, *Policy Statement 9020: Illicit Drug Use by Pregnant*

National Association of Public Child Welfare Administrators.⁶¹ However, only the Institute of Medicine published its policy before the MUSC testing policy started, and only barely, in 1988. Critically, none of the recommendations of professional organizations cite studies showing that their conclusions are merited, suggesting, again, that they might be based more on ethics than on science.⁶²

Lawyers are trained to develop arguments that lean on the strongest types of legal authority, which include, for example, the legal conclusions of previous cases or specific legislation. But a lawyer exasperated with a panoply of contradictory scientific studies and unknown effects of drugs on fetuses in cases such as *Ferguson*, and with the challenges of explaining such complicated evidentiary issues to a judge and a jury, might be left at the crossroads of ethics and purely legal matters. The medical profession has developed an ethical code through its longstanding frontline proximity to patients and their communities that serves the profession and the communities at least workably, if not perfectly. Perhaps we have approached some scientific and technical questions that are simply too difficult, and lawyers and judges simply don't have the right kind of training to get the answers right, even most of the time. Perhaps there should be more deference to the medical profession, and issues surrounding the amount of force to be applied to individuals in the name of caretaking should automatically be the province of the medical profession.

Thinking outside the box this way is not likely to be persuasive, however. The Supreme Court has voiced skepticism about the amount of deference to be afforded to the policy statements of medical professional organizations. In *Bragdon v. Abbott*,⁶³ a 1998 case in which an HIV-positive patient brought a discrimination claim against a dentist who refused to treat her despite recent Centers for Disease Control (CDC) and American Dental Association (ADA) policy to the contrary, the Court wrote:

Women, reprinted in 81 AM. J. PUB. HEALTH 253, 253 (1991) (The American Public Health Association "recommends that no punitive measures be taken against pregnant women who are users of illicit drugs when no other illegal acts, including drug-related offenses, have been committed").

60. See AM. SOC'Y OF ADDICTION MEDICINE, PUBLIC POLICY STATEMENT ON CHEMICALLY DEPENDENT WOMEN AND PREGNANCY (1989).

61. See NAT'L ASS'N OF PUB. CHILD WELFARE ADM'RS, GUIDING PRINCIPLES FOR WORKING WITH SUBSTANCE-ABUSING FAMILIES AND DRUG-EXPOSED CHILDREN: THE CHILD WELFARE RESPONSE (approved in January 1991 by the Executive Committee of the National Council of State Human Services Administrators).

62. A report by the General Accounting Office is often cited in the law and public literature as supporting the proposition that coercive drug-testing policies drive women away from needed care, but close examination of that report reveals that its authors merely interviewed service providers, who may be merely voicing their ethical concerns. See U.S. GEN. ACCOUNTING OFFICE, DRUG-EXPOSED INFANTS: A GENERATION AT RISK (GAO/HRD-90-138, 1990) (reporting that service providers report that women drug-users are deterred from utilizing services when punitive approaches are employed).

63. 524 U.S. 624 (1998).

In assessing the reasonableness of petitioner's actions, the views of the public health authorities, such as the U.S. Public Health Service, CDC, and the National Institutes of Health, are of special weight and authority. The views of these organizations are not conclusive, however. A health care professional who disagrees with the prevailing medical consensus may refute it by citing a credible scientific basis for deviating from the accepted norm.⁶⁴

The Court criticized the First Circuit for giving weight to the ADA policy, noting that "[i]t is not clear the extent to which the Policy was based on the Association's assessment of dentists' ethical and professional duties in addition to its scientific assessment of the risk to which the ADA refers."⁶⁵ *Bragdon*, therefore, does not bode well for arguments based on medical ethics without specific reference to empirical data.

B. The Appeals

Losing at trial, the women appealed to the Fourth Circuit on all four issues: 1) the submission of the Fourth Amendment claim to the jury, 2) the judgment for MUSC on the Title VI disparate impact discrimination claim, 3) the judgment as a matter of law on the constitutional right to privacy, and 4) the judgment as a matter of law for MUSC on the abuse of process claim.⁶⁶

A Fourth Circuit panel affirmed, two-to-one, the district court's Fourth Amendment ruling on the basis that the searches were reasonable, even if there was no consent.⁶⁷ The court used a balancing test, weighing MUSC's interest in protecting the health of children, the effectiveness of the policy identifying and treating pregnant drug users, and the degree of intrusion experienced by the women.⁶⁸

The Fourth Circuit also concluded that the women had made a *prima facie* case of disparate impact racial discrimination, insofar as the facially neutral practice of testing for cocaine had a disproportionate adverse effect on black women.⁶⁹ A key fact was that women who tested positive for drugs other than cocaine were not reported to the police, and a disproportionate number of these women were white.⁷⁰ As the court noted, "only 68 percent of maternity patients

64. *Id.* at 650 (citations omitted).

65. *Id.* at 652.

66. *Ferguson v. City of Charleston*, 186 F.3d 469, 473-74 (4th Cir. 1999).

67. *Id.* at 476.

68. The court took this "special needs" balancing test from *Mich. Dep't of State Police v. Sitz*, 496 U.S. 444 (1990).

69. See *Ferguson v. City of Charleston*, 186 F.3d 469, 481 (4th Cir. 1999).

70. See L.G. Tribble et al., *Analysis of a Hospital Maternal Cocaine Testing Policy: Its Association with Prenatal Care Utilization Patterns* (1993) (unpublished document from a poster session, on file with NYU Review of Law & Social Change) (a poster session is not a live plenary or panel presentation but wall space provided by conference organizers for text and visual presentations; an author may stand near a presentation to answer an audience's questions) at tbl.1

who tested positive for any drug were African-American, while 90 percent of maternity patients who tested positive for cocaine were African-American.”⁷¹ The disparity, 5.44 standard deviations, was sufficient to show disparate impact discrimination. However, the Fourth Circuit concluded that MUSC had a substantial excuse for the disparate impact.⁷² MUSC had argued that it perceived a rising number of pregnant women using cocaine, and that these women resisted obtaining treatment. The court also rejected appellants’ two alternatives to lessen the discriminatory impact: to report all women using illegal drugs and alcohol, or to test all maternity patients. The court concluded that these alternatives would have been prohibitively expensive. At least one law review article argues that the Fourth Circuit erred in its analysis of the substantial excuse.⁷³ The dissent noted that the hospital had extensive information on abuse of drugs other than cocaine which was not reported, and that this demonstrated the availability of less racially discriminatory alternatives, thus the hospital violated federal civil rights requirements.⁷⁴ These issues, however, were not considered by the Supreme Court.

(showing that at MUSC, there were 125 black women who tested positive for drugs other than cocaine, and 103 white women). See also Transcript at 124–28, *Ferguson v. City of Charleston*, No. 93-CV-2624 (D.S.C. Sept. 30, 1997) (testimony of Martin Shapiro) (on file with NYU Review of Law & Social Change) (noting that the total number of maternity cases at MUSC during the testing period in question was 14,330, 67% of whom were black). Utilizing the Tribble figures as numerators, and the Shapiro figures for denominators, 1.302% of black women tested positive for a drug other than cocaine, while 2.178% of white women tested positive for a drug other than cocaine. Nationally, “most women who took drugs while they were pregnant were white.” Robert Mathias, *NIDA Survey Provides First National Data on Drug Use During Pregnancy*, in NIDA NOTES, Jan./Feb. 1995, at 6–7 (estimating that 113,000 white women, 75,000 black women and 28,000 Hispanic women used illicit drugs during pregnancy); see also Shelly Gehshan, *A Step Toward Recovery: Improving Access to Substance Abuse Treatment For Pregnant Women, Results From a Regional Study*, in SOUTHERN REGIONAL PROJECT ON INFANT MORTALITY 13 (1993) (“Newspaper reports in the 1980s sensationalized the use of crack cocaine and created a new picture of the ‘typical’ female addict: young, poor, black, urban, on welfare, the mother of many children, and addicted to crack. In interviewing nearly 200 women for this study, a very different picture of the ‘typical’ chemically dependent woman emerges. She is most likely white, divorced or never married, age 31, a high school graduate, on public assistance, the mother of two or three children, and addicted to alcohol and one other drug. It is clear from the women we interviewed that substance abuse among women is not a problem confined to those who are poor, black, or urban, but crosses racial, class, economic and geographic boundaries.”).

71. *Ferguson*, 186 F.3d at 481.

72. *Id.* at 478, 481.

73. See Recent Case, *supra* note 2, at 1246 (arguing that while the Fourth Circuit found that “legitimate, nondiscriminatory reasons” qualify as adequate justifications for perpetuating a practice with proven discriminatory effects, by failing to require that a defendant’s reasons be substantially compelling in nature, the court misapplied the controlling legal principles that distinguish disparate impact cases from cases in which a defendant harbors discriminatory animus).

74. *Ferguson*, 186 F.3d at 489 (Blake, J., dissenting).

C. *The Supreme Court*

The women appealed to the United States Supreme Court, which granted certiorari on the Fourth Amendment issue. Many public health organizations submitted amicus curiae briefs to the Supreme Court when it agreed to hear the Fourth Amendment issue. The amicus typically argued that only persons with a diminished expectation of privacy may be subjected to warrantless, suspicionless, nonconsensual searches under the special needs doctrine, and that pregnant women do not by virtue of their pregnancies have a diminished expectation of privacy.⁷⁵ They argued that the Fourth Circuit decision would open the door to extensive restrictions on the autonomy and privacy rights of pregnant women.⁷⁶ The amicus presented much scientific evidence on the effects of cocaine use on the fetus, but did not cite one study published before 1989,⁷⁷ when the arrests in Charleston started.

Nonetheless, ignoring the timing problem, Justice Breyer observed during oral argument that "all the material in the amicus briefs and all the studies . . . suggest that this type of program does not help third parties, namely the fetus," and "this kind of thing hurts the fetus because mothers don't come in."⁷⁸ If the current state of the data was to be an important factor in the Supreme Court's decision, however, both parties had to address the challenges presented by the Court's enigmatic holding in *Whalen v. Roe*.⁷⁹

In that 1977 decision, the Supreme Court considered a claim that the New York State Controlled Substances Act of 1972 on its face violated patients' rights to privacy.⁸⁰ The statute required that the names of people who had received prescriptions for medications that had both a lawful and an unlawful market be gathered in a centralized computer file.⁸¹ The plaintiffs argued that they had a right not to have their names disclosed, and a right to independence in making the decision to seek a doctor's care.⁸² They argued that some people would be so fearful of their names being disclosed in connection with a stigmatized drug that they would be constrained by the statute when making decisions on matters vital to their health care.⁸³ The Court found that evidence

75. See Brief of Amici Curiae American Civil Liberties Union et al., *Ferguson v. City of Charleston*, 532 U.S. 67 (2001) (No. 99-936), available at http://archive.aclu.org/court/ferguson_v_charleston.html#statement.

76. See *id.*

77. See, e.g., Brief of Amicus Curiae American Medical Association, *Ferguson* (No. 99-936) (including no studies on cocaine and pregnancy published before 1989, the year after MUSC began drug-testing).

78. Oral Argument for Petitioners at 45-46, *Ferguson* (No. 99-936), microformed on Complete Oral Arguments of the Supreme Court of the U.S. (Alderson Reporting Company, Inc.).

79. 429 U.S. 589 (1977).

80. *Id.*

81. See *id.* at 591.

82. See *id.* at 599-600.

83. See *id.* at 600.

of the risk of this result was scant.⁸⁴ The Court noted that although a few plaintiffs decided not to seek helpful medications in New York, and although the plaintiffs had established a few other “clearly articulated fears,” these were outweighed by the 100,000 prescriptions per month being filled for the controlled substances in question.⁸⁵

In their briefs before the Supreme Court, the parties in *Ferguson* debated the meaning of *Whalen*. Petitioners argued that *Whalen* supported the proposition that women seeking care at hospitals have a heightened expectation of privacy because their records pertain to “personal matters.”⁸⁶ Respondents countered that *Whalen* discussed limitations on a patient’s expectations of privacy of medical information, referring to statutory reporting requirements relating to child abuse, venereal diseases, injuries caused by deadly weapons, and certifications of fetal death.⁸⁷ Respondents also argued that *Whalen* supported the use of a punitive, “carrot-and-stick” approach in public health, since it found that, “while patients may avoid or postpone medical attention because of concerns about disclosure of information that might be ascertained during treatment, it did not render the policy unconstitutional.”⁸⁸

Whalen is not the most crystalline decision. The Fourth Circuit in *Ferguson* had concluded that the Supreme Court in *Whalen* had simply declined to decide whether medical records merit constitutional privacy protection, further noting that the circuits are split on this question.⁸⁹ The Fourth Circuit also concluded that even if the privacy of medical records is protected by the Constitution, that privacy interest is outweighed by the interest of the government in the “identification of law breakers and in deterring future misconduct.”⁹⁰

In a footnote in the *Ferguson* decision, the Supreme Court discussed the expectations of privacy that patients have with their physician. The majority used that footnote to characterize *Whalen v. Roe* by saying, “In fact, we have previously recognized that an intrusion on that expectation may have adverse consequences because it may deter patients from receiving needed medical care.”⁹¹ The dissent in *Ferguson*, by contrast, cast *Whalen* as standing for the proposition that the “privacy interest does not forbid government to require hospitals to provide, for law enforcement purposes, names of patients receiving prescriptions of frequently abused drugs.”⁹²

84. *See id.*

85. *Id.* at 602–03.

86. Petitioners’ Brief at 35, *Ferguson v. City of Charleston*, 532 U.S. 67 (2001) (No. 99-936).

87. Respondents’ Brief at 33–34, *Ferguson* (No. 99-936) (citing *Whalen v. Roe*, 429 U.S. 589, 602 n.29 (1977)).

88. *Id.* at 31.

89. *Ferguson v. City of Charleston*, 186 F.3d 469, 482 (1999).

90. *Id.* at 482–83.

91. 532 U.S. at 78–79 n.14.

92. *Id.* at 102 (Scalia, J., dissenting).

In the end, the Supreme Court sidestepped the issues arising from *Whalen v. Roe*. The Court ruled in favor of the women on the Fourth Amendment claim, and remanded to the Fourth Circuit on the issue of consent.⁹³

III.

A COMPARISON WITH HIV-TESTING LAW

An entirely different debate over medical testing for HIV, which took place throughout the 1980s, may illuminate the *Ferguson* dispute. While this debate precipitated fractals of complication, I state it here in its most general terms. The debate centered around whether there should be HIV-prevention education for the entire population, or whether it would be more efficient simply to find out who was already infected, and then work specifically with those people.⁹⁴ Many argued that people's fear of discrimination after positive test results would undermine a public health system's ability to reduce the harm of the epidemic. Within this framework, the HIV debate included people working from a priori sets of assumptions, and other empiricists scrambling for data sets. Dr. Jonathan Mann's voice,⁹⁵ for better or worse, came in from a third angle: that of expert authority. He wrote: "Based on field experience, the [World Health] Organization declared that coercion and discrimination towards HIV-infected people and people with AIDS undermined and reduced the effectiveness of HIV prevention programs. For example, wherever rumors spread that HIV testing facilities were providing lists of HIV-infected people to governments, participation in HIV testing declined precipitously."⁹⁶ Neither here nor elsewhere⁹⁷ did Dr. Mann name what countries he was talking about or what data was available,⁹⁸ but the notion that names reporting would frustrate a health system's ability to build trust with people at risk and thus to give them effective counseling, became a matter of faith in certain circles and still often intersects with the law.

The contours of HIV testing have been hotly debated over the course of the AIDS epidemic in the United States. Should testing be voluntary or mandatory?

93. *Id.* at 86.

94. See, e.g., Nan Hunter, *Closing Address*, 1995 NAT'L COUNCIL FOR INT'L HEALTH HIV/AIDS WORKSHOP: INT'L PERSPECTIVES ON LEGAL ISSUES AND HUMAN RTS. 47.

95. Dr. Mann formerly headed the World Health Organization's Global Programme on AIDS (GPA), the predecessor to UNAIDS. He subsequently undertook pioneering work on health and human rights at the Francois-Xavier Bagnoud Center for Human Rights at Harvard University. He died in 1998.

96. Jonathan M. Mann, *Human Rights and AIDS: The Future of the Pandemic*, 30 J. MARSHALL L. REV. 195, 197 (1996).

97. See AIDS IN THE WORLD (Jonathan M. Mann et al. eds., 1992).

98. One might give Dr. Mann the benefit of the doubt, given that any such data would belong to the World Health Organization, a member agency of the United Nations. The U.N. has as its constituency not the people of the world, but the governments of the world. Although much of its work now tends towards nongovernmental organizations, the U.N. to this day must be careful about protecting the interests of governments, and as such, member agencies can be very cautious releasing information that would be critical of governments.

And who should be tested? What privacy rights should be afforded to gays, sex workers, and others who seem particularly vulnerable to infection? Ronald Bayer's seminal article in 1991 on HIV exceptionalism analyzed such questions and noted a belief that there was an unwillingness to "seek HIV testing and counseling voluntarily."⁹⁹ This hypothesis is rounded out by others in who explained that "[w]ithout assurances of confidentiality, the populations at risk simply refused to engage in the health care system until absolutely necessary."¹⁰⁰ Until AZT (which delays the development from HIV to AIDS) was invented, there was little incentive, either practical or psychological, to get tested.¹⁰¹ Given reluctance to voluntary testing, proposals for mandatory testing were not slow to surface. LGBT activists in places like San Francisco held off such proposals, arguing that it would only drive the epidemic further underground.

Still, as AIDS treatments began to improve, the public health logic of testing grew stronger. The debate moved in many directions. One argument called for a continuation of voluntary testing of particularly vulnerable populations, coupled with a firm promise of confidentiality.¹⁰² Another called for mandatory testing of pregnant women and newborns, as AZT proved effective in preventing pre-, peri- and neo-natal infections.¹⁰³ Yet a third argument called for names reporting of anyone who tested voluntarily and had a positive test result.¹⁰⁴

A. A Case History: New York

New York State provides a useful case history of the development of AIDS law. In 1988, New York passed the AIDS Confidentiality Law,¹⁰⁵ which essentially places the burden of avoiding infection upon the uninfected.¹⁰⁶ The hope was that voluntary testing and the confidentiality of results would encourage people to learn of their status and obtain treatment and counseling.¹⁰⁷ The legislative intent was to prevent the spread of infection while limiting the risk of

99. Ronald Bayer, *Public Health Policy and the AIDS Epidemic: An End to HIV Exceptionalism?*, 324 NEW ENG. J. MED. 1500, 1501 (1991).

100. Hermes Fernandez, *Is AIDS Different?*, 61 ALB. L. REV. 1053, 1073–74 (1998).

101. *See id.* at 1074.

102. *See, e.g.*, Lawrence O. Gostin et al., *The Case Against Compulsory Casefinding in Controlling AIDS—Testing, Screening and Reporting*, 12 AM. J.L. & MED. 7 (1986).

103. *See, e.g.*, Christina Kent, *AMA Reaffirms Mandatory HIV Testing in Pregnancy*, AM. MED. NEWS, Dec. 23, 1996, at 8 (the American Medical Association recommended mandatory HIV testing of pregnant women).

104. *See, e.g.*, Lawrence O. Gostin & James G. Hodge, *The "Names Debate": The Case for National HIV Reporting in the United States*, 61 ALB. L. REV. 679 (1988).

105. N.Y. PUB. HEALTH LAW §§ 2775–2779 (McKinney 1993).

106. Fernandez, *supra* note 100, at 1058.

107. *See id.* at 1074. Studies suggest that client-centered counseling and health education reduce risks for HIV transmission. *See* M. Kamb et al., *Does HIV/STD Counseling Work? Results from a Randomized Controlled Trial (Project Respect)*, Address Before the Fourth Conference on Retroviruses and Opportunistic Infections (Jan. 22–26, 1997) (on file with author).

discrimination.¹⁰⁸ Once tested, the law asked that people be encouraged to change their behavior, learn of available treatment and inform their partners of their status.¹⁰⁹

As an exception to that general policy, since 1996, New York has mandated the testing of newborns,¹¹⁰ which in an indirect way amounts to testing the mother, since a positive result for the child indicates that the mother is infected. If a baby tests positive for HIV antibodies, it is given a course of AZT, which may lower the risk that the child will develop AIDS.¹¹¹ The choice of testing newborns as opposed to pregnant women, however, was a significant one, given that it was well known that giving an infected woman AZT during her pregnancy dramatically lowers the risk that the child will become infected.¹¹² But at the time the policy of testing newborns was developed, there was a reason for not administering AZT to pregnant women. The most effective treatments for adults are provided in a combination of drugs, sometimes known as a "cocktail," triple-combination therapy, or HAART (Highly Active Antiretroviral Therapy);¹¹³ AZT is usually one of the pillars of the cocktail. The problem is that previous use of AZT alone decreases the likelihood that the combination therapy will work.¹¹⁴ Since there were questions about the toxicity of the other combination drugs for fetuses and newborns, women who elected to take just AZT by itself, for the benefit of the child, ran the risk of hurting their own chances of effective treatment.¹¹⁵ The law was therefore careful to mandate testing only for newborns.¹¹⁶

108. See Fernandez, *supra* note 100, at 1058 (citing to Act of Sept. 1, 1988, ch. 584, 1988 N.Y. Laws 1132, 1132 (enacted at N.Y. PUB. HEALTH LAW §§ 2775–2779 (McKinney 1993))) (noting legislative intent seeks to prevent the spread of the infection while limiting the risk of discrimination by placing strict confidentiality standards on HIV-related information).

109. N.Y. PUB. HEALTH LAW § 2781(5)(c)–(e) (McKinney 1993).

110. N.Y. PUB. HEALTH LAW § 2500(f) (McKinney Supp. 1998) (effective June 26, 1996) (providing for HIV testing of newborns); see § 2781(6)(d) (McKinney Supp. 1998) (amending Article 27-F of the Public Health Law so that the provisions under that article do not apply to tests conducted pursuant to § 2500(f) of the Public Health Law).

111. PUB. HEALTH SERV. TASK FORCE, CTR. FOR DISEASE CONTROL & PREVENTION, RECOMMENDATIONS FOR USE OF ANTIRETROVIRAL DRUGS IN PREGNANT HIV-1-INFECTED WOMEN FOR MATERNAL HEALTH AND INTERVENTIONS TO REDUCE PERINATAL HIV-1 TRANSMISSION IN THE UNITED STATES 9, 10 (Feb. 4, 2002), available at http://aidsinfo.nih.gov/guidelines/perinatal/archive/PER_020402.pdf.

112. See *id.* at 2.

113. See *id.* at 4.

114. See *id.* at 19–20.

115. See *id.*

116. It should be noted that the standard *medical* recommendation has changed over time, and is now to treat pregnant women who are HIV-positive with triple combination therapy, despite scarce data on the toxicity to fetuses of the drugs other than AZT that make up the cocktail. The rationale is as follows: "Treatment recommendations for pregnant women infected with HIV-1 have been based on the belief that therapies of known benefit to women should not be withheld during pregnancy unless there are known adverse effects on the mother, fetus or infant and unless these adverse effects outweigh the benefit to the woman." *Id.* at 4.

Critically, “no one has yet shown that pregnant women have avoided the health care system since that amendment for fear of [HIV] testing.”¹¹⁷ Given the fact that authorities like Dr. Mann have never revealed their data, we might view it as an open question whether liberal testing laws are really important to people. This has become a wedge in the debate over names reporting.

B. Anonymous Versus Named Testing

At least one study suggests that most people do not even know whether or not there is reporting of test results. As Gostin and Hodge note, “[a] multi-state survey of 2,387 persons at risk for HIV showed that only thirty-one percent of respondents in HIV reporting states were even aware of case reporting. Since most respondents were unaware of state legal requirements, it seems unlikely that they altered their behavior because of HIV reporting.”¹¹⁸ Yet the availability of anonymous testing services where clients would not have to provide their names increased the likelihood of HIV testing in this same population.¹¹⁹ Gostin and Hodge have collected numerous studies that suggest that anonymous testing sites encourage voluntary testing.¹²⁰

Many states have experimented with laws requiring HIV testing before marriage.¹²¹ Some, like Utah, prohibited and declared void any marriage to an AIDS-infected person,¹²² until Utah’s law was struck down by a federal court in 1993.¹²³ Most, like Illinois, did not condition a marriage license on a negative test result.¹²⁴ Illinois’ experience, however, shows why, from a practical point of view, pre-marital testing is an unreasonable approach. Illinois had mandatory testing from 1988 to 1989.¹²⁵ Researchers reported a twenty-two percent decline in marriage licenses in Illinois issued in 1988 from the previous year: “[a]t the same time, the number of Illinois residents applying for marriage licenses in counties of border states increased by about 490%.”¹²⁶ Testing the general

117. Fernandez, *supra* note 100, at 1076. It could be argued that pregnant women face other positive laws that force them to receive prenatal services, so conclusions drawn from the behavior of pregnant women with regard to HIV testing should be tempered.

118. Gostin & Hodge, *supra* note 104, at 721 (citing F.M. Hecht et al., *Named Reporting of HIV: Attitudes and Knowledge of Those at Risk*, 12 J. GEN. INTERNAL MED. 108 (1997)).

119. See *id.*

120. *Id.* at 721 n.232 (citing, *inter alia*, Laura J. Fehrs et al., *Trial of Anonymous Versus Confidential Human Immunodeficiency Virus Testing*, 2 THE LANCET 379, 379 (1988); Douglas Hirano et al., *Anonymous HIV-testing: The Impact of Availability on Demand in Arizona*, 84 AM. J. PUB. HEALTH 2008, 2009 (1994); Susan M. Kegeles et al., *Many People Who Seek Anonymous HIV-Antibody Testing Would Avoid It Under Other Circumstances*, 4 J. AIDS 585, 585 (1990)).

121. Michael Closten et al., *Mandatory Premarital HIV-testing: Political Exploitation of the AIDS Epidemic*, 69 TUL. L. REV. 71 (1994).

122. See *id.* at 75 (citing Utah Code Ann. § 30-1-2(1) (1989 & Supp. 1994) (repealed 1993)).

123. See *id.* at 100 (citing T.E.P. v. Leavitt, 840 F. Supp. 110 (D. Utah 1993)).

124. See *id.* at 96–97.

125. See *id.* at 96.

126. *Id.* at 97–98.

population is unreasonably costly when compared to benefits. According to one estimate, at least twenty million dollars were spent on premarital testing in 1988,¹²⁷ and only twenty-three people were found to be infected. This translates into a cost of almost \$900,000 for each HIV-positive identification.¹²⁸ In 1989, Illinois repealed its mandatory testing law, and the number of licenses issued returned to 1987 levels.¹²⁹

The debate over testing has also considered the options of anonymous versus named reporting. In anonymous testing, the clients are never required to give their names, and clients and test results are matched up with a number.¹³⁰ In named reporting, clients are required to give their names. Influential law and public health scholars such as Lawrence O. Gostin have changed their minds over time on the issue of named HIV reporting. In 1984, when the issue was first being considered in Colorado, Gostin testified against named HIV reporting, arguing, as did the community of people living with HIV, that potential for invasions of privacy, leading to discrimination in housing, employment, or insurance, was too great.¹³¹ The benefits of named reporting in 1984 were also too slim and distinguishable from those of other diseases with named reporting: "HIV infection was not transmissible through the air like tuberculosis; it was not treatable like hepatitis; and persons could not be rendered non-infectious as they could with syphilis or gonorrhea."¹³² Since 1997, however, Gostin has changed his position, advocating along with Hodge for named reporting. He argues that it will produce benefits, including: "1) improved monitoring of the epidemic; 2) enhanced ability to target prevention and other public health services; 3) linking HIV-positive persons with treatment opportunities and educational services, including partner notification support services; 4) fairer resource allocation; and 5) equitable determination of eligibility of infected individuals for government benefits."¹³³ Gostin and Hodge state, "We have changed our mind about named HIV reporting, not because we have changed, but because the epidemic has changed."¹³⁴ They add, "We propose that there are compelling justifications for a national system of HIV reporting on a named basis, provided legal and ethical concerns of infected individuals and others at risk are adequately addressed through privacy and anti-discrimination protections."¹³⁵ Analysts certainly understand why privacy concerns are so substantially present here:

127. *See id.* at 99.

128. *See id.* at 98-99.

129. *See id.* at 97.

130. *See* Fehrs et al., *supra* note 120, at 379.

131. Gostin & Hodge, *supra* note 104, at 685-86, 686 n.36 (1988).

132. *Id.* at 686.

133. *Id.* at 687-88.

134. *Id.* at 686.

135. *Id.* at 710.

The American Civil Liberties Union (ACLU) cites reports that thieves stole a computer containing the names of sixty persons with AIDS in Sacramento, California and that a log of hundreds of people tested for HIV “vanished” from a public health clinic in New York. In Florida, a health official publicly revealed the names of an HIV registry without authorization. Courts have occasionally ordered HIV data to be disclosed for the purposes of litigation. . . . Illinois enacted, but never implemented, legislation requiring the state health department to identify HIV-positive health care workers by cross matching the state AIDS registry against health care licenser records. South Carolina health authorities legislatively are required to cross-check prospective and existing public school teachers against state HIV/AIDS databases.

Although concerning, these examples and others are the rare exception rather than the norm. . . . Failure to maintain the confidentiality of individuals in reporting registries in violation of these legal protections may subject responsible persons to criminal and civil sanctions.¹³⁶

Constitutional jurisprudence is also a source of privacy protections for people with HIV in the United States. As Gostin and Hodge explain, with specific reference to *Whalen v. Roe*:¹³⁷

[T]he Supreme Court has recognized a limited right to health informational privacy as a liberty interest within the Fifth and Fourteenth Amendments. Other courts have relied on state constitutional provisions in support of such rights. In either case, constitutional privacy rights are limited. Courts regularly allow infringements on informational privacy through the administration of a flexible test, balancing the invasion of privacy against the strength of the governmental interest.¹³⁸

By 1989, however, when Crystal Ferguson and the other women were being tested for cocaine in South Carolina, only two cases had been heard in federal district courts trying to apply *Whalen* principles to disclosure of HIV status.¹³⁹ The results in those two cases were mixed, such that precedent and analogies to privacy concerns in the HIV epidemic may not have been very useful to other

136. *Id.* at 732–33 (footnotes omitted).

137. 429 U.S. 589 (1977).

138. Gostin & Hodge, *supra* note 104, at 728–29 (footnotes omitted). The authors cite *Whalen*, 429 U.S. at 598–604, which “found no unlawful violation of individual privacy rights as a result of the reporting requirement where the state had adequate standards and procedures to protect the privacy of the information.” *Id.* at 728 n.277.

139. *See Doe v. Coughlin*, 697 F. Supp. 1234 (N.D.N.Y. 1988) (holding that a prison regulation separating inmates with HIV impinged on their constitutional right to privacy and was not reasonably related to legitimate penological interests given by the Commissioner for Health Services). *But see Plowman v. United States Dep’t of the Army*, 698 F. Supp. 627 (E.D. Va. 1988) (dismissing on summary judgment Fourth Amendment and privacy claims of a civilian employee subject to nonconsensual HIV testing and subsequent forced resignation).

kinds of coercive approaches in public health in the late 1980s and early 1990s. Indeed, a stronger movement towards criminalization of HIV transmission coincided with drug prosecutions of pregnant women.

C. Criminalization of Transmission

Many people support specific criminalization of intentional transmission of HIV;¹⁴⁰ criminalization of transmission of other STDs has long been tolerated.¹⁴¹ The movement to criminalize HIV transmission in the United States was accelerated by the concern over the case of Nushawn Williams, a young black man who apparently infected up to eleven women and girls in New York's Chautauqua County.¹⁴² His name was released to state officials and the media pursuant to the "clear and imminent danger" provision of the New York Public Health Law.¹⁴³ Williams eventually pled guilty to statutory rape and reckless endangerment and was sentenced to four to twelve years in prison.¹⁴⁴ It is notable that New York State has not changed its law to meet AIDS-related challenges such as the ones presented by the Williams case, relying on its more general public health framework and existing criminal law.

Actual convictions, nonetheless, must overcome a number of difficulties. First, the matter of whether someone was infected by the accused or a third person may be difficult to establish. Second, whether the accused infected the accuser is also problematic, because in fact the reverse may be true. Finally, intent is difficult to prove. Given that all of the above types of proof involve exceptions to the general principle of confidentiality, which has purposes of its own, criminalization seems like an unwise policy directive.

Nonetheless, the federal government has encouraged criminalization of transmission. As Jodi Mosiello recounts:

The Ryan White Comprehensive AIDS Resources Emergency (CARE) Act of 1990 was a catalyst which sparked legislative action to provide a means to prosecute for the intentional transmission of HIV. This Federal Act provides emergency AIDS relief grants if a State has statutes which allow a person to be prosecuted for intentionally transmitting HIV to another person. The States can fulfill this federal

140. See, e.g., Jodi Mosiello, *Why the Intentional Sexual Transmission of Human Immunodeficiency Virus (HIV) Should be Criminalized Through the Use of Specific HIV Criminal Statutes*, 15 N.Y.L. SCH. J. HUM. RTS. 595 (1999); Karen E. Lahey, *The New Line of Defense: Criminal HIV Transmission Laws*, 1 SYRACUSE J. LEGIS. & POL'Y 85 (1995).

141. The Supreme Court's ancient decision in *Jacobson v. Massachusetts*, 197 U.S. 11 (1905), allowed the states broad discretion to enact public health laws to protect public health and safety.

142. Agnes Palazetti, *Chautauqua Names HIV Carrier Accused of Infecting at Least 11*, BUFF. NEWS, Oct. 28, 1997, at A1.

143. N.Y. PUB. HEALTH LAW § 2785 (McKinney 1993).

144. Associated Press, *Man Guilty of Spreading HIV* (Apr. 5, 1999) (on file with NYU Review of Law & Social Change).

requirement by: amending their public health statutes to include HIV on their list of sexually transmitted diseases; using traditional criminal law statutes to punish HIV transmission; or enacting specific criminal statutes targeted at HIV transmission.¹⁴⁵

The importance of the criminalization requirements of the CARE Act,¹⁴⁶ which apportions funding to regions that are especially hard hit by AIDS, cannot be understated since the financial incentives are enormous. From 1990 to 1998, \$6.4 billion were appropriated under the CARE Act. The U.S. Health and Human Service's (HHS) Health Resources and Services Administration (HRSA) estimates that CARE Act programs serve 500,000 people with HIV in a given year.¹⁴⁷

Gostin and Lazzarini published a book entitled *Human Rights and Public Health in the HIV/AIDS Pandemic in 1997*, which included a seven-step checklist for policymakers called the Human Rights Impact Assessment (HRIA).¹⁴⁸ The seven steps they suggest are as follows: 1) find the facts, 2) determine if the public health purpose is compelling, 3) evaluate how effectively policy X would achieve the public health purpose: is the form of intervention appropriate and accurate? is the intervention likely to lead to effective action? has the person consented? will a particular policy be as effective as other policies (opportunity costs)?, 4) determine whether the public health policy is well targeted, 5) examine each policy for possible human rights burdens, 6) determine whether the policy is the least restrictive alternative that can achieve the public health objective, and 7) if a coercive measure is truly the most effective, least restrictive alternative, base it on the "significant risk" standard and guarantee fair procedures.¹⁴⁹ The implicit balancing test and terminology will not feel unfamiliar to American constitutional scholars, who will find analogues in due process and equal protection doctrine.¹⁵⁰

D. Comparing HIV Testing to Testing Pregnant Drug Users

How does HIV testing shed light on coercive approaches to pregnant drug users? Several points allow some comparison of the problems and approaches.

145. Mosiello, *supra* note 140, at 599 (footnotes omitted).

146. The Ryan White Comprehensive AIDS Resources Emergency (CARE) Act of 1990, Pub. L. No. 101-381, 104 Stat. 576 (1990) (codified in scattered sections of 42 U.S.C. (1990)) (amending the Public Health Service Act of 1970).

147. See U.S. HEALTH AND HUMAN SERVICES, HHS FACT SHEET: THE RYAN WHITE COMPREHENSIVE AIDS RESOURCES EMERGENCY (CARE) ACT (1998), available at <http://www.os.dhhs.gov/news/press/1998pres/981218d.html>.

148. LAWRENCE O. GOSTIN & ZITA LAZZARINI, HUMAN RIGHTS AND PUBLIC HEALTH IN THE AIDS PANDEMIC 58–67 (1997).

149. *Id.* at 58–67; see also The Siracusa Principles, U.N. Doc. E/CN.4/1984/4, 7 HUM. RTS Q. 3, 5 (1984).

150. See Alissa Spielberg, *Human Rights and Public Health in the HIV/AIDS Pandemic*, 22 FLETCHER FORUM WORLD AFF. 125, 128 (1998) (book review).

First, mandatory HIV testing became more palatable when treatment protocols developed to benefit children.¹⁵¹ For prenatal drug exposure, the question then becomes, are there any programs for pregnant users, and if so, what good do they do? Second, the important actors who switched to advocating HIV reporting were careful to insist that privacy and antidiscrimination protections should be in place. The *Ferguson* litigation itself suggests that the constitutional privacy and antidiscrimination rights may not be strong enough to countenance drug-testing of pregnant women. Third, voluntary HIV testing was based on the logic of other people being able to protect themselves. This is a major problem in the drug-testing context, since fetuses are the quintessential “innocent” victim. Fourth, the data on fear driving people away from services in the context of HIV testing is inconclusive. Mandatory HIV testing of newborns is ripe for research and, if shown to drive women away from obstetrics wards or prenatal care, may provide an important analogy for use by practitioners in cases defending women who are tested for drugs without their consent. Fifth, criminalization of transmission of HIV has been weak as a policy initiative because it is so difficult to prove the elements of the crime: whether or not the defendant in fact infected the plaintiff rather than vice versa, and the defendant’s intent. In the context of defending a prosecution for the distribution of illicit substances to a minor during pregnancy or childbirth, defenses negating intent are at first glance promising: since addiction itself can vex people’s intent not to take drugs, the intent to “distribute to a minor” is lacking. Furthermore, drug addiction itself is not a crime.¹⁵² These were not the notions, however, that helped Jennifer Johnson when she was convicted under a Florida statute of delivery of a controlled substance to a minor when crack passed through the umbilical cord for the baby’s first moments after birth.¹⁵³ The Supreme Court of Florida reversed her conviction, reasoning that the Florida legislature could not have intended “delivery” to include umbilical passage.¹⁵⁴ The Florida Supreme Court’s reasoning addressed the policy statements of organizations like the AMA, but did not consider the argument that Johnson’s addiction itself might defeat the intent element of the crime of delivery to a minor.¹⁵⁵

151. See generally Ctr. for Disease Control & Prevention, *Zidovudine for the Prevention of HIV Transmission from Mother to Infant*, 43 MORBIDITY & MORTALITY WKLY. REP. 285 (1994) (the AIDS Clinical Trials Group 076 showed that zidovudine reduced the incidence of maternal-child infection from 25.5% to 8.3%); Kent, *supra* note 103, at 8.

152. See *Robinson v. California*, 370 U.S. 660 (1962) (invalidating a California statute which made narcotics addiction a crime and holding that it inflicted a cruel and unusual punishment in violation of the Eighth and Fourteenth Amendments).

153. See *Johnson v. State*, 578 So. 2d 419 (Fla. Dist. Ct. App. 1991).

154. See *Johnson v. Florida*, 602 So. 2d 1288 (Fla. 1992).

155. See *id.*

IV.

HOW THE PUBLIC HEALTH PUBLISHING SYSTEM FAILED TO CONTROL THE HYPE ON “CRACK BABIES”

In the 1980s, the popular press publicized the allegedly harmful effects of cocaine on fetuses and the “crack baby” phenomenon became a political centerpiece in the war on drugs.¹⁵⁶ Popular media coverage, however, had its roots in public health literature, which reported alleged harmful effects in anecdotal reports from hospitals.¹⁵⁷ As outlined below, the perceived harms of cocaine on fetuses have since been corrected and, with certain limitations, the evidence now suggests that prenatal cocaine use does not lead to childhood devastation.¹⁵⁸ How did the public health science go so far afield? Why did it take so long to correct the misperceptions, and so long to issue policy statements based on a corrected understanding? Some might argue that the discipline of public health is not immune from the politics and prejudices of the broader society. Yet there are, in fact, at least three more basic factors in public health response and publishing systems that make recovery from incorrect initial conclusions problematic: 1) anecdotes and certain research methodologies fail to control for bias in reported results, 2) mechanisms for disseminating the findings of research tend to favor publication of research that shows some effect over research which shows no effect, and 3) once published, incorrect data tends to linger, being cited and recited by subsequent texts rather than being definitively discredited.

In March 2001, Deborah Frank and her colleagues published an impressive overview of seventy-four peer-reviewed English-language studies on the effects of prenatal exposure to cocaine in early childhood.¹⁵⁹ The overview suggested that, when controlled for confounding factors, the impact of cocaine was not

156. Lynn Paltrow, David Cohn and Corinne Carey wrote in their report:

A review of media reporting in 1986, when issues of crack cocaine reached a new high, revealed that “six of the nation’s largest and most prestigious news magazines and newspapers had run more than one thousand stories about crack cocaine. *Time* and *Newsweek* each ran five ‘crack crisis’ cover stories. . . . [T]hree major network television stations ran 74 stories about crack cocaine in six months. . . . Fifteen million Americans watched CBS’ prime-time documentary ‘48 Hours on Crack Street.’”

LYNN PALTROW ET AL., YEAR 2000 OVERVIEW: GOVERNMENT RESPONSES TO PREGNANT WOMEN WHO USE ALCOHOL OR OTHER DRUGS 65 n.1 (2000), available at <http://www.advocatesfor-pregnantwomen.org> (citing LAURA E. GÓMEZ, MISCONCEIVING MOTHERS: LEGISLATORS, PROSECUTORS, AND THE POLITICS OF PRENATAL DRUG EXPOSURE 14 (1997); Craig Reinerman & Harry G. Levine, *The Crack Attack: Politics and Media in America’s Latest Drug Scare*, in CRACK IN AMERICA: DEMON DRUGS AND SOCIAL JUSTICE 18, 20–24 (Craig Reinerman & Harry G. Levine eds., 1997)).

157. See, e.g., Deborah Frank & Barry Zuckerman, *Children Exposed to Cocaine Prenatally: Pieces of the Puzzle*, 15 NEUROTOXICOLOGY & TERATOLOGY 298, 299 (1993).

158. See Wendy Chavkin, *Cocaine and Pregnancy—Time to Look at the Evidence*, 285 JAMA 1626 (2001).

159. Deborah Frank et al., *Growth, Development and Behavior in Early Childhood Following Prenatal Cocaine Exposure: A Systematic Review*, 285 JAMA 1613 (2001).

extraordinary.¹⁶⁰ By excluding over half of the seventy-four studies from their analysis, Frank and her group concluded that cocaine is not as devastating as is popularly supposed.¹⁶¹

Why did they dismiss thirty-eight of the seventy-four studies? Only thirty-six of the studies met the following four criteria: they 1) did not include a substantial proportion of subjects exposed in utero to opiates, amphetamines, phencyclidine, or maternal HIV infection,¹⁶² 2) included a comparison group,¹⁶³ 3) used masked assessment,¹⁶⁴ and 4) recruited samples prospectively in the pre-natal period.¹⁶⁵ The first two criteria are logical, but the latter two are based on an empirical understanding of how bias is introduced into research.

Researchers in the most powerful study designs are blinded to whether or not the people they are observing have been exposed to the suspected causative agent, since they might otherwise unconsciously distort measurement.¹⁶⁶ The Frank group pointed out that "evaluators were more likely to code children's videotaped behavior as abnormal if the children were labeled as 'crack kids' than if they were not."¹⁶⁷

The matter of prospective recruitment is more complicated, but Dr. Chasnoff partially explains the issue in his testimony at trial in *Ferguson*. As Chasnoff testified, retrospective studies can overestimate the risk of negative developmental outcomes.¹⁶⁸ The Frank review put it this way:

160. *Id.*

161. *Id.* at 1613.

162. *Id.* at 1614. In order to delineate clearly the independent effect of cocaine on pregnancy, the overview excluded thirteen of the seventy-four studies which primarily recruited children with in utero exposure to opiates, methamphetamines, or phencyclidine. These substances might confound the ability to draw conclusions about the effect of cocaine exposure: if the child experienced ill effects, who could say whether the effect was from cocaine, the other drugs, or some combination of these? Two other studies were rejected because they reported samples predominantly composed of children of HIV-positive mothers, as "exposure to HIV in utero is correlated with poor developmental outcome not only among infected infants, but also among those who seroconvert." *Id.*

163. *Id.* Seven of the seventy-four studies had no control group. These studies are anecdotal reports of children with reported prenatal exposures who had some problem. Anecdotal reports fail to compare bad outcomes in children who were exposed, to the same bad outcomes in children who were not exposed, and therefore fail to assess whether the exposure "caused" the bad outcome.

164. *Id.* Of the excluded studies, twenty failed to blind the researchers to the children's cocaine exposure status.

165. *Id.* Twenty-six of the seventy-four studies did not use prospective recruitment for some or all of their subjects.

166. See generally LAWRENCE M. FRIEDMAN ET AL., *FUNDAMENTALS OF CLINICAL TRIALS* (3d ed. 1998).

167. Frank et al., *supra* note 159, at 1613 (citing N. Woods et al., *Pygmalion in the Cradle: Observer Bias Against Cocaine-Exposed Infants*, 19 J. DEV. BEHAV. PEDIATRICS 283, 283-85 (1998); S. Thurman et al., *Prenatally Exposed to Cocaine: Does the Label Matter?*, 18 J. EARLY INTERVENTION 119, 119-30 (1994)).

168. Transcript at 41, *Ferguson v. City of Charleston*, No. 93-CV-2624 (D.S.C. Sept. 30, 1997) (testimony of Ira Chasnoff) (on file with NYU Review of Law & Social Change).

Studies were classified as prospectively recruited if the samples of cocaine-exposed and unexposed mother-infant dyads were identified and enrolled [in the study] either during pregnancy or immediately after birth. Prospective recruitment obviates recall bias, when caregivers of a child who has experienced an adverse outcome are likely to recall prenatal exposure in greater detail, and selection bias, when caregivers are more likely to enroll children with already suspected developmental impairments.¹⁶⁹

But known confounders and sources of bias within a study are not the only problem. The results of some studies are simply never disseminated, and those that show no effect are significantly less likely to be published than those that do show effect.¹⁷⁰ *The Lancet*, a prominent medical journal, published an article in 1989 that demonstrated how studies that concluded prenatal cocaine exposure harmed the fetus had a significantly higher chance of being published than research that found no harmful effects.¹⁷¹ Fifty-eight abstracts on fetal outcome after gestational exposure to cocaine were submitted to the Society of Pediatric Research in Canada from 1980 to 1989:

Of the 9 negative abstracts (showing no adverse effect) only 1 (11%) was accepted, whereas 28 of the 49 positive abstracts were accepted (57%). This difference was significant. Negative studies tended to verify cocaine use more often and to have more cocaine and control cases.¹⁷²

Lastly, studies which are methodologically flawed may nonetheless continue to percolate through the scientific literature. Such was the case with initial reports of excess Sudden Infant Death Syndrome (SIDS) mortality among children exposed prenatally to cocaine:

[E]xpectations of universal and permanent damage to children prenatally exposed to cocaine rest not on scientific findings but on media “hype” fueled by selected anecdotes. For example, the early reports of adverse effects of prenatal exposure to cocaine, including neurobehavioral dysfunction, a remarkably high rate of SIDS, and birth defects, were initial observations that constitute the legitimate first step in the scientific process. However, these unreplicated findings were uncritically accepted by scientists and the lay media alike, not as preliminary, and possibly unrepresentative case reports, but as “proven” facts. . . . For example, the initial report of a high rate of SIDS was never peer reviewed. The “fact” that prenatal cocaine exposure greatly

169. Frank et al., *supra* note 159, at 1614.

170. See, e.g., Michael L. Callahan et al., *Positive-Outcome Bias and Other Limitations in the Outcome of Research Abstracts Submitted to a Scientific Meeting*, 280 JAMA 254 (1998).

171. Gideon Koren et al., *Bias Against the Null Hypothesis: The Reproductive Hazards of Cocaine*, 1 THE LANCET 1440 (1989).

172. *Id.* at 1440.

increases the risk of SIDS continues to be disseminated in the lay and medical media in spite of subsequent peer-reviewed studies that did not confirm this finding. Even scholarly reviews and the introductions to scientific papers present a litany of adverse effects without any methodologic critique or qualifications.¹⁷³

V.

EMPIRICISM AND THE QUESTION OF DRIVING HEALTH UNDERGROUND

Harsh legal consequences, including arrest or the prospect of having one's children taken away by child protective services, may be a disincentive for drug-using women to seek prenatal or obstetric services. Some women might prefer to receive no health care at all rather than face such risks. MUSC published some data that helps shed light on this question. As discussed in part I, in October 1990, Dr. Horger from the MUSC Department of Obstetrics and Gynecology, Nurse Brown, and Solicitor Condon published an article, *Cocaine in Pregnancy: Confronting the Problem*, in the *Journal of the South Carolina Medical Association*.¹⁷⁴ They cited data suggesting increased cocaine use in South Carolina and stated that "[d]eleterious effects of cocaine on pregnancy and the infant are well documented."¹⁷⁵ Their article states—without undertaking the type of simple review of medical records that a hospital normally might—that "[a]n increasing incidence of perinatal outcome parameters suggesting maternal cocaine abuse was recognized at the Medical University Hospital in 1988."¹⁷⁶ The authors described the first phase of urine drug screens (UDS), noting, again without providing data, that "[t]he great majority of these early drug screens were ordered because of the very poor perinatal outcomes of *abruptio placentae* or intrauterine fetal death."¹⁷⁷ MUSC referred "every case" of the 119 women found to be positive in the first phase of testing to the Department of Social Services Child Protective Services.¹⁷⁸ In the second phase, when Condon became involved, the protocol for testing was expanded to include women with late prenatal care (registration after twenty-four weeks gestation), incomplete prenatal care (non-compliance, such as missed appointments), and congenital anomalies. This is when the arrests began. When, in this second phase, women tested positive at the birth of their child, "a referral [was] made to the Department of Social Services (DSS) for investigation regarding the home situation and best interests of child custody."¹⁷⁹ In short, both before and after the arresting policy was put in place, women seeking

173. Frank & Zuckerman, *supra* note 157, at 299 (citations omitted).

174. Horger et al., *supra* note 13.

175. *Id.* at 527.

176. *Id.* at 528.

177. *Id.*

178. *Id.*

179. *Id.* at 529.

services at MUSC were reported to Child Protective Services. Although there is no available data, the implication is that they risked having their children taken away from them.¹⁸⁰

The Horger team noted that “[c]ritics of our protocol point out that the threat of legal problems may drive obstetric patients away from health care.”¹⁸¹ In a bizarre and unsupported turn, the researchers compared delivery rates at the hospital *during the first four months* of each of three years, thus finding that delivery rates for this limited period remained relatively constant. They also noted that MUSC was the only facility within a fifty-mile radius offering obstetric care for indigent and Medicaid-sponsored patients. They concluded that, “[c]onsequently, it is very unlikely that these patients could have delivered in neighboring facilities.”¹⁸²

The Horger article is so full of methodological errors that it merits an article focused entirely on those errors. One might best use the Horger study in an epidemiology class as an example of multiple pitfalls. For the purposes of this article, it is perhaps enough to quote Professor John Jeurgens of the University of Mississippi who, in a letter to the editor of *Policy Review*, responded to Horger’s article thus:

Condon claims that MUSC’s program successfully reduced cocaine use by pregnant women without scaring them away from the hospital with the threat of legal action. But Condon’s analysis relies on faulty data. . . . Many experienced and competent individuals have reviewed the [Horger et al.] research article about the MUSC policy, and none believes it supports the claim that it was a “successful drug treatment program.” The federal government was correct to intervene in this matter and justified in halting this blatantly unethical and scientifically unsound research.¹⁸³

Nonetheless, the Horger article makes clear that MUSC personnel were aware of the risk that they would drive patients away from the hospital with this policy. In 1990 they clearly believed they were not discouraging women from seeking prenatal care.¹⁸⁴ However, MUSC personnel presented a poster session¹⁸⁵ at the 1993 National Perinatal Association meeting which concluded that they were indeed driving women away. The MUSC authors—Dr. Linda Tribble, Nurse Shirley Brown, Dr. David Annibale and Thomas Hulsey—later

180. Standards for placing children in foster care have long been controversial. *See, e.g.*, Taylor, *supra* note 5 (suggesting that New York courts have consistently failed to apply an appropriate standard when deciding whether to remove children from drug-using mothers).

181. Horger et al., *supra* note 13, at 530.

182. *Id.* The authors also cited complementary data to rule out the possibility that women were switching to home births.

183. John P. Jeurgens, Letter to the Editor, *Cracked Research*, 74 POL’Y REV. 95, 95–96 (1995).

184. Horger et al., *supra* note 13, at 530.

185. L.G. Tribble et al., *supra* note 70.

retracted their results.¹⁸⁶ This retraction, and the publication of data suggesting that the policy did drive women away from prenatal care, came only after the three-million-dollar civil suit had been brought. Such a chronology seems to call for further scrutiny.

The 1993 poster session—about five pages of text and tables accompanied by three newspaper articles on the testing program at MUSC—concluded that:

Within the limitations of our evaluation, these data may suggest that the implemented cocaine screening policy was associated with a decrease in the utilization of PNC [prenatal care], and a small reduction in the women who utilized our clinic as the initial source for prenatal care.¹⁸⁷

The authors were explicit about what they were looking for:

A controversy exists concerning the screening of pregnant women for cocaine as well as the appropriate social intervention in those women who test positive. . . . We sought to describe the demographic characteristics of women who abuse cocaine during pregnancy as compared to pregnant women who use any drug. We hypothesized that the policy of reporting positive maternal/neonatal cocaine drug screens for rehabilitation with potential legal action for noncompliers may have affected prenatal care utilization patterns and shunted prenatal patients away from MUSC clinics to other facilities.¹⁸⁸

For the poster session, data were collected for two time periods (which overlapped for the month of September 1989): the first period, T1, ran from October 1988 to October 1989, and the second period, T2, from September 1989 to April 1992. These periods corresponded, respectively, to the period in which targeted testing began, and the period when the expanded targeted testing was backed by the threat of arrest.¹⁸⁹ During each period, women who fit the respective testing criteria (six criteria in T1 were expanded to nine criteria in T2)¹⁹⁰ were tested and divided into categories for “positive for any drugs” (designated as “D+”), and a subset of these testing “positive specifically for cocaine” (designated as “C+”).¹⁹¹ Women who were not tested at all were

186. Letter from David J. Annibale, Shirley B. Brown, Thomas C. Hulsey and Linda G. Tribble, MUSC, to the National Perinatal Association (May 17, 1994) (on file with NYU Review of Law & Social Change).

187. L.G. Tribble et al., *supra* note 70. This sentence is difficult to analyze, because, contrary to standard scientific practice, the poster session does not outline any known or possible limitations on its assertions.

188. *Id.*

189. *See id.*

190. There were six criteria in T1 (no prenatal care, *abruptio placentae*, intrauterine fetal death, preterm labor, intrauterine growth retardation, and previously known drug or alcohol abuse), expanded to include late or incomplete prenatal care and congenital anomalies in T2. *See* Horger et al., *supra* note 13 at 528; *see also* Respondents' Brief at 5–6, 8, *Ferguson v. City of Charleston*, 532 U.S. 67 (2001) (No. 99-936).

191. Tribble et al., *supra* note 70.

presumed to be drug-free and were added to the numbers of women who tested negative.¹⁹²

There were obvious methodological defects in this design: 1) the women of September 1989 were counted in both the "before" (or "control") and "after" groups, 2) the criteria for testing were expanded in T2, making T1 an inexact "control" group¹⁹³, and 3) the presumption that the untested women were in fact "not positive" is not warranted by the testing criteria.¹⁹⁴ This combination of factors makes it impossible to draw reliable conclusions about the true magnitude of drug use in the MUSC client population during the time periods in question, or to compare prenatal care utilization rates to the population at large. For similar reasons, some of the conclusions of the poster session are not scientifically supported. Examples of such unsupported conclusions include the following: 1) "equivalent proportions of black and white populations were D+ (2.52% blacks, 2.54% whites),"¹⁹⁵ and 2) "MUSC represented the initial clinic for 61% of women who tested D+ in T1 but only 52% in T2. . . . [T]hese data suggest that the implemented cocaine screening policy was accompanied with . . . a small reduction in the women who utilized our clinic as the source for prenatal care."¹⁹⁶ However, the drawbacks described above do not introduce scientifically fatal bias when only comparing women with no prenatal care from the pre-arrest (T1) and arrest (T2) periods. The poster session noted that "all women in T1 and T2 who received no prenatal care were tested."¹⁹⁷

The poster session reported that "[t]here were similar proportions of women with no prenatal care in each time period [3.1% T1 and 3.8% T2]. Women with no prenatal care in T2 were 1.4 [95%CI: 1.2-1.7]¹⁹⁸ times greater odds for D+ and 1.7 [95%CI: 1.5-1.9] times greater odds for C+ than women with no prenatal care in T1."¹⁹⁹ If this last sentence is inscrutable, the conclusion to Table 3 was a bit more clear: "There was a significant increase in the absence of PNC [prenatal care] during the Legal Intervention time period for women who were cocaine positive [OR 1.7; 95% CI 1.5-1.9]²⁰⁰ as well as those who were positive

192. *See Id.*

193. A control group is supposed to match the intervention group in every way except for the presence of the intervention itself. Here, the "control" group consisted of women meeting at least one of six criteria, while the intervention group consisted of a larger set: women meeting at least one of nine criteria.

194. *See* Tribble et al., *supra* note 70.

195. *Id.*

196. *Id.*

197. *Id.*

198. "CI" is shorthand for the statistical concept of the "confidence interval," here defined as 95% certainty that an OR within the range given is a real effect, not the result of a quirk in measurement alone.

199. Tribble et al., *supra* note 70. "CI" is shorthand for the statistical concept of the "confidence interval," here defined as 95% certainty that an OR within the range given is a real effect, not the result of a quirk in measurement alone.

200. "OR" is shorthand for "odds ratio," which is the odds of an event in the intervention group divided by the odds of an event in the control group.

for any drug [OR 1.4; 95% CI:1.2-1.7].”²⁰¹ In other words, of those women using drugs who came to MUSC for services, the number receiving no prenatal care increased after the arrests began to numbers far higher than before the arrests. Ironically, this is quite possibly the strongest evidence ever gathered that coercive approaches drive people away from useful health services—and it has been retracted by its authors (probably in light of the litigation) and condemned by the National Institutes of Health as unethical research on human subjects. The retraction made the data useless for the purposes of the *Ferguson* litigation, since there is no one to vouch for the data, and makes it useless for any future litigation.²⁰²

The letter retracting the 1993 poster session itself deserves quotation in full:

RE: Analysis of a hospital cocaine testing policy: its association with prenatal utilization patterns. (Tribble et al.)

To whom it may concern:

We would like to attach this document to the above mentioned abstract as a delineation of our attempts to follow-up the information presented in the abstract.

The investigation presented in the above abstract was aimed at determining whether a hospital drug testing policy had an association with prenatal care patterns at the Medical University of SC. The information presented was a preliminary report of work in progress. It was presented both to share our work as well as to elicit discussion which might aid our investigation. Findings presented in the abstract

201. Tribble et al., *supra* note 70, tbl.3.

202. There is some other evidence that the Supreme Court of South Carolina's decision in *Whitner v. State*, 492 S.E.2d 777 (S.C. 1997) (affirming that a viable fetus is a "person" under South Carolina law, and therefore that the South Carolina criminal child endangerment statute could apply to a pregnant woman), drove women away from services. In an amicus curiae brief filed with the U.S. Supreme Court, in support of a grant of certiorari in *Whitner*, lawyers from the Lindesmith Center in San Francisco and the Women's Law Project in Philadelphia noted that:

After the highly publicized prosecution of Cornelia Whitner, and the South Carolina Supreme Court's decision upholding her conviction and sentence on July 15, 1996, at least two drug treatment programs in the Columbia, South Carolina, area that give priority to pregnant women have already reported precipitous drops in admissions for pregnant women. The records of the Women's Community Residence, a halfway house for women substance abusers, show that admissions of pregnant women fell 80% (from 10% to 2% of the total number of women treated at the facility) between July 1, 1996 and June 30, 1997. At the Women's Intensive Outpatient program, an intensive day program which provides child care, admissions of pregnant women declined 54% (from 13% to 6% of the total number of women treated at the facility) during roughly the same period.

Brief of Amici Curiae National Association of Alcoholism and Drug Abuse Counselors, et al., *Whitner v. State*, 523 U.S. 1145 (1998) (No. 97-1562) (denying certiorari), *reprinted in* 9 HASTINGS WOMEN'S L.J. 139, 140-41 (1998).

must be interpreted with caution, as they are preliminary data, not conclusions.

Following presentation, we have continued to investigate this issue. However, attempts to further define causative associations between the drug testing policy and patterns of prenatal care have been difficult. Indeed, we have recently reached the conclusion that the question cannot be answered from the data we have available. This conclusion is based on several attempts at restructuring the question to avoid the need to address information which was not collected, redefining the sub-populations to reduce confounding variables (many of which cannot be addressed with available information), etc. Our conclusion is that there are significant obstacles which prevent us from reaching a satisfactory answer to our original question, and that the statistical and epidemiological procedures cannot overcome those obstacles. Alterations in prenatal care were observed. However, several explanations for observed effects exist including many that are clearly unrelated to the drug testing policy (i.e. Medicaid program changes designed to facilitate entry of low income women into private OB practices, etc.). Our attempts at eliminating alternative explanations were unsuccessful.

The problems encountered which force that conclusion are, to a large degree, related to the fact that the policy was instituted as a clinical tool, not a research protocol. As such, there were no mechanisms built into it that would allow policy evaluation. Indeed, as the policy developed, it actually changed, with testing being directed toward larger populations as clinical thoughts changed. Time periods when testing criteria were formal and constant were sometimes short, while in other time periods, testing criteria were less rigid. Legal responses also varied. Additionally, information regarding the rate of drug positivity among non-tested women are unavailable, a key requirement in making definitive conclusions.

For these reasons, we have re-directed our efforts. We now feel that the data concerning the original question is incomplete and cannot support any definitive conclusion. We also feel that to pursue publication of such data would not be scientifically valid. We are currently, therefore, planning to use this policy as an example of the need for evaluation methodology in clinical policy. We hope to use the issues raised by our efforts in interpreting the effects of this policy as an example in that regard.

In reviewing the attached abstract and presentation, we think it is important to recognize that the information was preliminary, presented

to further discussion and interpretation, rather than conclusive. We conclude that the data cannot be definitively interpreted.²⁰³

This rich text begs commentary. The distinction drawn in the letter between preliminary data and conclusions is odd because it suggests that the conclusions they draw require more data, whereas here they have already determined statistical significance in several key areas and acknowledged that they don't have even preliminarily adequate data in other areas. They are correct to note that they can't establish that the policy caused women to avoid prenatal care, though the association they show is fairly strong. It is also true that there is much useful information they did not collect. They admit that "alterations in prenatal care were observed." The example of a confounding factor they present (changes in Medicaid which would have drawn poor women into private practices) would indeed affect the number of women who initially seek prenatal care at MUSC, making the poster conclusions on that point specious. But this factor would have no confounding influence on the odds ratio of women seeking care at MUSC and their prenatal practice. In fact, if eased Medicaid access presented any bias, it would soften the negative impact of the MUSC policy, not exacerbate it.

The disclaimers on variations in populations, time periods, testing criteria, legal responses and untested women do defeat stronger conclusions; most problematic is the unknown level of drug use in the untested population. Nonetheless, the fact that the levels of prenatal care in the relatively large pool of untested women, as well as in women who tested negative, remained relatively constant before and after the arrests were initiated, strongly suggests that they observed a real effect from the policy. What remains unknown is exactly how strong that effect was. Furthermore, the results fall far short of the kind of balancing contemplated in *Whalen*,²⁰⁴ wherein one would have to find out the health outcomes of the people who had not had the benefit of prenatal care and compare these to health outcomes of those who did have prenatal care and the health outcomes of those who may have derived some additional benefit from the threat of arrest.²⁰⁵ These figures would have to be quantified in order to apply the *Whalen* test. Research designed to examine these particular results could not be done in light of current medical ethics,²⁰⁶ though, as discussed below, perhaps other analogies could be developed.

203. Letter from Annibale et al., *supra* note 186.

204. 429 U.S. 589, 598-603 (1977) (rejecting the argument that a drug reporting statute invades privacy interests and acknowledging that although the statute may have kept some people from receiving needed controlled substances, the fact that 100,000 prescriptions per month were still being filled meant the statute was not impinging on public access to the drugs). This balancing test, which the Court attributed to its decision in *Buckley v. Valeo*, 424 U.S. 1 (1976), would come down in favor of a policy even though it could be shown to cause harm to some people. Implicitly, if a policy might at the same time benefit some other people, and/or leave a large segment unaffected, this would outweigh the deleterious effects of a policy.

205. This would require showing that the threat of arrest helped people overcome addiction, and that overcoming addiction improved the health outcomes for the children.

206. As Dr. Frank suggests, it would be unethical to randomly assign someone to get no

Practitioners thus face daunting standards of proof, which only large research studies can address. Unfortunately, most such studies could never be undertaken in light of the ethical considerations. Existing research is not terribly helpful. For example, the Lindesmith Center published a fact sheet²⁰⁷ which included the question: “Does not prosecuting a pregnant drug user who seeks prenatal care adversely affect the health of the infant?” It answered: “No. ‘In fact, studies indicate that drug using women who access prenatal care have healthier children,’” citing an article by Racine et al.²⁰⁸ This same study is cited by the Center for Reproductive Law and Policy in their article, *Punishing Women for their Behavior During Pregnancy*.²⁰⁹ Practitioners, however, should exercise caution in drawing conclusions from the Racine study. The data were gathered retrospectively from medical records and the design was unable to control for confounding factors or selection bias.²¹⁰ Thus, the study suffers from the same methodological deficiencies as the studies that led to the crack baby hype described in part IV, above.

Other studies on the benefits of prenatal care may be more useful to practitioners. The Lindesmith Center cites some studies to support the proposi-

prenatal care, and virtually unthinkable that someone would consent to be randomly assigned to a group which would be threatened with arrest. See E-mail from Dr. Deborah Frank, Boston Medical Center, Growth and Development Programs, to author (Apr. 30, 2002) (on file with author). As a practical matter, even in a study which did not use assignment, those women who access prenatal care may differ from those who do not access care, and it may be those characteristics rather than the prenatal care itself that determine the outcome. *Id.*

207. THE LINDESMITH CTR.—DRUG POLICY FOUND., PREGNANT WOMEN AND THE DRUG WAR (on file with the author).

208. Andrew Racine et al., *The Association Between Prenatal Care and Birth Weight Among Women Exposed to Cocaine in New York City*, 270 JAMA 1581 (1993), cited in THE LINDESMITH CTR.—DRUG POLICY FOUND., *supra* note 207.

209. Ctr. for Reproductive Law & Policy, *Punishing Women for their Behavior During Pregnancy*, Sept. 11, 2000, available at http://www.crlp.org/pub_art_punwom.html.

210. Racine et al. limit their findings in part as follows:

The receipt of substance abuse treatment by women in the sample could potentially represent a source of confounding since it might be expected to vary with both the exposure we studied and the outcome of interest. Vital statistics data do not include this information, but the documented lack of availability of these services in New York City would suggest that this is of more theoretical than practical concern.

Another potential source of bias derives from self-selection, or the tendency of individuals who are in a greater position to benefit from an intervention to elect to use it. Women who obtain more prenatal care may be less frequent users of cocaine, experience less infection, and live in less stressful environments than their counterparts who obtain less care. If these hard-to-measure characteristics are more prevalent among exposed women electing prenatal care compared with exposed women who do not, our analysis is likely to attribute some of that influence to prenatal care.

In a retrospective analysis there is no definitive way to eliminate selection bias. To mitigate its effect on our estimates, however, we included controls for labor force participation, marital status, WIC participation, and health insurance status in the birth weight regressions. Their explanatory power differed by race and ethnicity, which made their usefulness difficult to evaluate.

Racine et al., *supra* note 208, at 1586 (emphasis added) (citing Chavkin, *supra* note 4).

tion that lack of prenatal care is associated with low birth weight and other fetal development problems.²¹¹ The Lindesmith Center also cites a study which they say shows that “[p]rovision of quality prenatal care to heavy cocaine users (with or without drug treatment) has been shown to significantly improve fetal health and development.”²¹²

VI.

A CRITIQUE OF THE SUPREME COURT’S CITATION OF SCIENCE IN *FERGUSON*

The United States Supreme Court Justices fared no better in analyzing the science of in utero exposure to cocaine than did the district or appeals court. The three opinions in *Ferguson*—the majority opinion, Kennedy’s concurrence, and Scalia’s dissent—all made serious errors in evaluating the scientific evidence.

A. The Majority Opinion

The majority in *Ferguson* explained, in a footnote, that:

It is especially difficult to argue that the program here was designed simply to save lives. *Amici* claim a near consensus in the medical community that programs of the sort at issue, by discouraging women who use drugs from seeking prenatal care, harm, rather than advance, the cause of prenatal health.²¹³

While it is true that there is near consensus in the medical community, as argued above, the consensus is not based on empirical evidence, but on health care providers’ ethical concerns.

In the only study cited by the majority,²¹⁴ the researchers noted that, even as of 1992, “[u]nfortunately, major policy decisions are being made in a virtual absence of pertinent data.”²¹⁵ The study examined the attitudes of 142 primarily single (81%), primarily black (85.2%) women who had given birth at a Detroit hospital. The women surveyed were thus of the type that would be most affected

211. PHILLIP O. COFFIN, THE LINDESMITH CTR., COCAINE & PREGNANCY (1999) (citing L. Klein & R.L. Goldenberg, *Prenatal Care and Its Effect on Preterm Birth and Low Birth Weight*, in NEW PERSPECTIVES ON PRENATAL CARE 501 (I.R. Merkatz & J.E. Thompson eds., 1990); S.N. MacGregor et al., *Cocaine Abuse During Pregnancy: Correlation Between Prenatal Care and Perinatal Outcome*, 74 OBSTETRICS & GYNECOLOGY 882 (1989)).

212. *Id.* (citing C. Chazotte et al., *Cocaine Use During Pregnancy and Low Birth Weight: The Impact of Prenatal Care and Drug Treatment*, 19 SEMINARS PERINATOLOGY 293 (1995)).

213. 532 U.S. 67, 84 n.23 (2001) (citations omitted).

214. Marilyn L. Poland et al., *Punishing Pregnant Drug Users: Enhancing the Flight from Care*, 31 DRUG & ALCOHOL DEPENDENCE 199 (1993), cited in *Ferguson*, 532 U.S. at 78 n.14. The Court compares this study to its discussion in *Whalen*, 429 U.S. 589 (1977), acknowledging that intrusion on patients’ expectation of confidentiality may deter them from seeking medical care. This study probably came to the attention of the Court because it was cited in the amicus brief submitted by the American Public Health Association, and drafted by the Lindesmith Center, a drug policy advocacy group.

215. Poland et al., *supra* note 214, at 199.

by a punitive policy, as Chasnoff had shown in Pinellas County, Florida.²¹⁶ But a major limitation of the results of this study is that only 14.8% of the respondents admitted to illicit drug use. Thus, the opinions of the other women drown out, in this sample, the opinions of women who admit to illicit drug use. The authors conclude that “[t]he key finding of this survey is that our sample of low-income mothers in Detroit *strongly believed* that punitive legislation would further alienate pregnant substance-using women from needed health care.”²¹⁷ And this is indeed the way the study is usually cited. But “[t]he questions [including how this law might affect drug-using pregnant women seeking prenatal care] were prefaced by a statement that described a law in another state where women who had a baby born addicted to drugs *went to jail*.”²¹⁸ Arguably, a punitive policy that mechanically mandates a jail term is different from a punitive policy that threatens jail unless drug treatment is undertaken. Notably, “[w]omen who used drugs felt that a law threatening incarceration would discourage women from seeking medical care, but one that helped women receive drug treatment may be viewed as an incentive.”²¹⁹ Furthermore, although the numbers are not given in the study, a bar graph indicates that in fact slightly *less than half* of the 142 women thought that the hypothetical law jailing women would make pregnant women less likely to get prenatal care; a slight *majority* of women surveyed thought that such a law would either make no difference in decisions about seeking prenatal care (approximately 40%), or would make women more likely to seek prenatal care (approximately 12%).²²⁰ It is hard to conclude, from this data, that women *strongly believed* that punitive laws would drive drug users underground.

B. Kennedy's Concurrence

Justice Kennedy concurred in the judgment that the special needs doctrine did not apply, but felt, among other concerns, that the Fourth Amendment decision should be limited in scope.²²¹ “The beginning point,” he wrote, “ought to be to acknowledge the legitimacy of the State’s interest in fetal life and of the grave risk to the life and health of the fetus, and later the child, caused by cocaine ingestion.”²²² Kennedy went on to cite three studies in support of this assertion, which are discussed *seriatim* below.

216. See Chasnoff et al., *supra* note 47.

217. Poland et al., *supra* note 214, at 202 (emphasis added).

218. *Id.* at 200 (emphasis added).

219. *Id.* at 202. Unfortunately, the study does not say what proportion of respondents responded this way.

220. *Id.* at 201 fig.1 (“Behavioral responses to a punitive state law”).

221. *Ferguson v. City of Charleston*, 532 U.S. 67, 89 (2001) (Kennedy, J., concurring).

222. *Id.*

Kennedy wrote that:

Infants whose mothers abuse cocaine during pregnancy are born with a wide variety of physical and neurological abnormalities. See Chiriboga, Brust, Bateman, & Hauser, *Dose-Response Effect of Fetal Cocaine Exposure on Newborn Neurologic Function*, 103 *Pediatrics* 79 (1999) (finding that, compared with unexposed infants, cocaine-exposed infants experienced higher rates of intrauterine growth retardation, smaller head circumference, global hypertonia, coarse tremor, and extensor leg posture).²²³

First, the Chiriboga study was published in 1999—ten years after the policy at MUSC was first being considered—so it is irrelevant in terms of judging the scientific merits of the policy in 1989. But assuming that Kennedy is merely pointing out how the matter should be handled in future cases, citation of this study in this way is still problematic. The possible implication in the first sentence, that all infants who are exposed to cocaine in utero are affected, is patently unsustainable; it is possible to view the parenthetical explanation of the study as correcting the statement, such that the rate of effects is merely higher among the exposed than the unexposed.²²⁴ But more importantly, one might ask why Kennedy would turn to a study that measures immediate neonatal effects of cocaine exposure, none of which denote permanent damage, when there is now a rich literature discussing the long-term health effects of prenatal cocaine exposures. While the study itself was useful in 1999 for demonstrating that there is a dose-response relationship (e.g., more cocaine exposure is associated with lower birth weights) and that dose could be estimated using new techniques analyzing meconium and maternal hair,²²⁵ it was not presented as the latest word on the effects of prenatal cocaine exposure, which look at effects beyond the point in time immediately after birth. Moreover, like many other studies, it did not control for the effects of alcohol, tobacco, or other drugs.²²⁶

The latest word, in fact, on the effects of prenatal cocaine exposure is found in Frank's review, discussed at length above in part IV.²²⁷ The most rigorous

223. *Id.*

224. The abstract for the Chiriboga study explains:
[W]e prospectively evaluated 253 infants shortly after birth.

.....
Compared with unexposed controls, cocaine-exposed infants exhibited higher rates of intrauterine growth retardation (24% vs 8%), small head circumference ([HC] <10th% percentile) (20% vs 5%) and neurologic abnormalities: global hypertonia (32% vs 11%), coarse tremor (40% vs 15%), and extensor leg posture (20% vs 4%). . . . Significant associations between cocaine exposure and neurologic signs were found in logistic regression equations that controlled for 20 or more variables.

Claudia A. Chiriboga et al., *Dose-Response Effect of Fetal Cocaine Exposure on Newborn Neurologic Function*, 103 *PEDIATRICS* 79, 79 (1999).

225. See, e.g., Frank et al., *supra* note 159, at 1615, 1625 n.107.

226. See Chiriboga et al., *supra* note 224, at 84 (1999).

227. Frank et al., *supra* note 159.

review of its kind, it concluded that:

Among children aged 6 years or younger, there is no convincing evidence that prenatal cocaine exposure is associated with developmental toxic effects that are different in severity, scope, or kind from the sequelae of multiple other risk factors. Many findings once thought to be specific effects of in utero cocaine exposure are correlated with other factors, including prenatal exposure to tobacco, marijuana, or alcohol²²⁸

Recently, one study reported that “[c]ontrolled for confounding variables, cocaine exposure had significant effects on cognitive development.”²²⁹ An editorial in the journal where this study was published noted that “[t]he study by Singer et al.[.] is the only 1 of 10 peer-reviewed, adequately controlled, large-scale, prospective longitudinal studies to show an unequivocal negative association between toddlers’ developmental test scores and prenatal exposure to cocaine.”²³⁰ The scientists who author the editorial, including Frank, argue that even established increased risk of harm does not justify a punitive approach to mothers or stereotyping babies.²³¹

Kennedy does turn to longer term effects, stating that:

Prenatal exposure to cocaine can also result in developmental problems which persist long after birth. See Arendt, Angelopoulos, Salvator & Singer, Motor Development of Cocaine-exposed Children at Age Two Years, 103 *Pediatrics* 86 (1999) (concluding that, at two years of age, children who were exposed to cocaine in utero exhibited significantly less fine and gross motor development than those not so exposed).²³²

This study was specifically excluded from the Frank review because it did not utilize prospective recruitment, and thus is vulnerable to the types of bias outlined above in part IV.

Finally, Kennedy cites an even longer-term study:

Chasnoff et al., Prenatal Exposure to Cocaine and Other Drugs: Outcome at Four to Six Years, 846 *Annals of the New York Academy of Sciences* 314, 319–320 (J. Harvey and B. Kosofsky eds. 1998)

228. *Id.* at 1613.

229. See Lynn T. Singer et al., *Cognitive and Motor Outcomes of Cocaine-Exposed Infants*, 287 *JAMA* 1952, 1952 (2002) (noting that cocaine use during pregnancy accounted for “a 6-point deficit in Bayley Mental and Motor Scales of Infant Development scores at 2 years, with cocaine-exposed children twice as likely to have significant delay (mental development index <80) (odds ratio, 1.98, 95% confidence interval, 1.21-3.24; P=.006). For motor outcomes, there were no significant cocaine effects.”).

230. See Barry Zuckerman, Deborah A. Frank & Linda Mayes, *Cocaine-Exposed Infants and Developmental Outcomes: “Crack Kids” Revisited*, 287 *JAMA* 1990, 1990 (2002) (citations omitted).

231. *Id.* at 1991.

232. *Ferguson v. City of Charleston*, 532 U.S. 67, 89 (2001).

(finding that four to six year olds who were exposed to cocaine in utero exhibit higher instances of depression, anxiety, social, thought, and attention problems, and delinquent and aggressive behaviors than their unexposed counterparts).²³³

Given the fact that the author himself, Chasnoff, testified on the mistake of attributing to cocaine alone the effects of cocaine used in concert with alcohol and tobacco at the *Ferguson* trial, the misuse of his data in this particular way is especially shocking. This study was not included in the Frank review because submissions to the Annals of the New York Academy of Sciences are not peer reviewed.²³⁴ Furthermore, the Frank review did include five other studies that used the same survey instrument (the Child Behavior Checklist (CBCL)) as was used in this study by Chasnoff et al., and three of those five studies found no cocaine effect.²³⁵ These three studies do indeed contradict Kennedy's conclusion that "[t]here can be no doubt that a mother's ingesting this drug can cause tragic injury to a fetus and a child."²³⁶

C. Scalia's Dissent

Scalia (writing for Rehnquist and Thomas) had a completely different theory of the case: he believed there was no search or seizure at all. According to Scalia, reading the Fourth Amendment as the majority did would invalidate mandatory reporting of gunshot wounds, evidence of spousal abuse, and child abuse.²³⁷ He argued that although it was "ungentlemanly," "using lawfully (but deceivingly) obtained material for purposes other than those represented, and giving that material or information derived from it to the police, is not unconstitutional."²³⁸ Scalia buttressed this conclusion by arguing that since there is no physician-patient privilege in South Carolina,²³⁹ hospitals could turn over any information they wanted.²⁴⁰

In short, the Fourth Amendment does not require weighing a personal privacy interest against a state interest at all. Scalia noted:

I cannot refrain from observing, however, that the outcome of a wise weighing of those interests is by no means clear. The initial goal of the

233. *Id.*

234. See E-mail from Dr. Deborah Frank, Boston Medical Center, Growth and Development Programs, to author (Jan. 28, 2002) (on file with author).

235. See Frank et al., *supra* note 159, at 1622 tbl.5.

236. *Ferguson*, 532 U.S. at 89.

237. See *id.* at 97 (Scalia, J., dissenting).

238. *Id.* at 94 (Scalia, J., dissenting).

239. Much the way that South Carolina is unusual for considering a viable fetus a "person," the absence of physician-patient privilege is also unusual. See BARRY R. FURROW ET AL., *HEALTH LAW: CASES, MATERIALS AND PROBLEMS* 381 (1997) (asserting that forty-three of fifty states recognize some form of the physician-patient privilege, while acknowledging that of the forty-three, a number impose restrictions on that privilege).

240. *Ferguson*, 532 U.S. at 94 (Scalia, J., dissenting).

doctors and nurses who conducted cocaine-testing in this case was to refer pregnant drug addicts to treatment centers, and to prepare for necessary treatment of their possibly affected children. When the doctors and nurses agreed to the program providing test results to the police, they did so because (in addition to the fact that child abuse was required by law to be reported) they wanted to use the sanction of arrest as a strong incentive for their addicted patients to undertake drug-addiction treatment. And the police themselves used it for that benign purpose, as is shown by the fact that only 30 of 253 women testing positive for cocaine were ever arrested, and only 2 of those prosecuted. It would not be unreasonable to conclude that today's judgment, authorizing the assessment of damages against the county solicitor and individual doctors and nurses who participated in the program, proves once again that no good deed goes unpunished.²⁴¹

Although Scalia invokes no science here, he does nonetheless misinterpret the data. Who are the 253 women who tested positive, and what happened to them? Did 223 of them, as Scalia implies, really stop using drugs? MUSC had argued in their brief to the Supreme Court that "[e]vidence established that the Policy had a ninety percent success rate: 223 of the 253 pregnant women who tested positive the first time completed substance abuse treatment and did not test positive a second time."²⁴² Counsel for the plaintiffs objected to this statement, responding in their brief that "the record does not reveal how many times the non-plaintiff patients tested positive for cocaine, or whether they completed the mandatory treatment program or simply left the jurisdiction."²⁴³ Thus, there was an open question of fact on what happened with the 253 women. Moreover, in evaluating the success of a program, we would need to know what percentage of women who were never tested, but were using drugs, completed treatment.²⁴⁴

More important still, Scalia, following the practitioners at MUSC, seemed to assume that completion of a substance abuse program is a proxy for an individual's successful recovery. While there is no evidence about the long-term ability of the 253 women to stay off drugs, the scientific literature is inconclusive on how mandatory drug treatment compares to voluntary treatment.²⁴⁵ In 1991, Dr. Wendy Chavkin published a review of the available data on

241. *Id.* at 103–04 (Scalia, J., dissenting) (internal references omitted).

242. Respondents' Brief at 29, *Ferguson v. City of Charleston*, 532 U.S. 67 (2001) (No. 99-936). The position was repeated by Respondent counsel Hood at oral argument: "This was a major crisis, an epidemic in the United States, and we tried to [sic] down in Charleston, and it worked, and 90% of the people that had this awful addiction and were doing what they were doing to their children were helped, and it worked." Oral Argument for Respondents, *Ferguson* (No. 99-936), *microformed on* Complete Oral Arguments of the Supreme Court of the U.S. (Alderson Reporting Company, Inc.).

243. Petitioners' Reply Brief at 11, *Ferguson* (No. 99-936).

244. See *Whalen v. Roe*, 429 U.S. 589, 602–03 (1977).

245. See Chavkin, *supra* note 51.

mandatory and voluntary drug treatment, and concluded that "[t]here is a lack of rigorous research data to substantiate the effectiveness of compulsory treatment in general."²⁴⁶ She noted that the U.S. Public Health Service had experimented in the 1930s with compulsory drug treatment for addicts convicted of federal crimes, but that "[e]valuation of the [U.S.] Public Health Service experience reported inconsistent results as to whether addicts legally compelled to treatment reduced drug use more than voluntary participants."²⁴⁷ Studies in more recent years have been mixed:

DeLeon reviewed the experience of therapeutic communities ([i.e.,] structured treatment environments with emphasis on group process and usually include former addicts on staff) and concluded that legal compulsion was a consistent predictor of retention in treatment, which in turn was the best predictor of a successful outcome. However, one multisite study that reported on female addicts who entered drug treatment under legal pressure indicated that they were less likely to remain in treatment than women who entered voluntarily.²⁴⁸

CONCLUSION

Under the analysis presented here, public health science still has not advanced far enough to offer the protections of empirical arguments to serve the interests of women who use drugs while pregnant. This article has shown that much has been done to debunk the myth of the crack baby as a permanently and inevitably disfigured or disabled person in society. More research, particularly with prospective recruitment, is required to determine what constitutes the actual effects of cocaine usage during pregnancy.

This article has also suggested that the impetus behind the many policy statements against coercive modalities in public health issued by professional organizations in the early 1990s is most likely based on medical ethics, rather than on empirical findings. While ethical arguments can and should be made to courts, historically they have not been accorded much weight. Often, advocates defeat this ethical argument with the fact that courts have historically approved reporting for gunshot wounds, spousal, and especially child abuse, despite health care providers' ethical qualms.²⁴⁹

246. *Id.* at 1560.

247. *Id.* at 1556 (citing C.G. Leukefeld & F.M. Tims, *Compulsory treatment: a review of findings*, in U.S. DEP'T OF HEALTH & HUMAN SERVS., *COMPULSORY TREATMENT OF DRUG ABUSE: RESEARCH AND CLINICAL PRACTICE* 236-49 (C.G. Leukefeld & F.M. Tims eds., 1988)).

248. *Id.* at 1557 (citing G. DeLeon, *Legal pressure in therapeutic communities*, in U.S. DEP'T OF HEALTH & HUMAN SERVS., *supra* note 247). The multisite study referred to in the quotation is R. Moise et al., *Women in drug abuse treatment program: factors that influence retention at very early and later stages in two treatment modalities: a summary*, 16 INT'L J. ADDICTION 1295, 1295-1300 (1981).

249. For cursory U.S. Supreme Court citation to gunshot wound, spouse and child protection statutes requiring physician disclosure to the police, see, e.g., *Ferguson v. City of Charleston*, 532

The unethical research by Tribble et al. at MUSC which shows that coercive policies drive women away from beneficial services cannot, for better or worse, be used by practitioners, since its underlying data is inscrutable and the study can be attacked on several mundane fronts. Most would find it absurd to suggest more research that even remotely resembles or seeks to replicate the conditions of the Policy at MUSC. However, the general proposition that coercive approaches to public health “drive people underground” is ripe for testing in areas that may provide important analogies—specifically, the long accepted practices of reporting for gunshot wounds and spousal abuse may provide important insights.²⁵⁰ Even more intriguing, as a strategic matter, would be a study of the effects of child abuse reporting, since the child abuse statute itself, and the *Whitner* construction of the viable fetus as a person in South Carolina,²⁵¹ were enabling preconditions of the Policy at MUSC. As noted above, evaluation of mandatory HIV testing of newborns may also provide important analogies for use by practitioners defending women threatened with prosecution.²⁵²

U.S. 67, 81 (2001) and *id.* at 97 (Scalia, J., dissenting). Dr. Chavkin discusses health care providers’ ethical qualms in *Mandatory Treatment for Drug Use During Pregnancy*, *supra* note 51 at 1558.

250. Compulsory quarantine of individuals with tuberculosis who fail to take medication might also provide a useful analogy. E-mail from Dr. Deborah Frank, Associate Professor of Pediatrics, Boston University to author (May 1, 2002) (on file with author). In the case of tuberculosis, quarantine is permissible only where less restrictive interventions, such as directly observed therapy, have failed. See George Annas, *Control of Tuberculosis: The Law and the Public’s Health*, 328 NEW ENG. J. MED. 1337 (2002); J. Barbera et al., *Large-scale Quarantine Following Biological Terrorism in the United States: Scientific Examination, Logistic and Legal Limits, and Possible Consequences*, 286 JAMA 2711 (2001).

251. *Whitner v. State*, 492 S.E.2d 777, 779 (S.C. 1997).

252. This article has not addressed the purely legal arguments in the *Ferguson* litigation, nor has it sufficiently described or analyzed the intense racism of the Policy at MUSC, as many others have provided excellent commentary on racism and other complicated issues at stake in *Ferguson*. See, e.g., CYNTHIA DANIELS, *AT WOMEN’S EXPENSE: STATE POWER AND THE POLITICS OF FETAL RIGHTS* (1993); GÓMEZ, *supra* note 156; DOROTHY ROBERTS, *KILLING THE BLACK BODY: RACE, REPRODUCTION, AND THE MEANING OF LIBERTY* (1997); Sara Kershner & Lynn Paltrow, *Pregnancy, Parenting and Drug Use: Which Women? Which Harm?*, HARM REDUCTION COALITION, Summer 2001, at 8; NELSON & MARSHALL, *supra* note 52 (discussing the legal and ethical problems of the MUSC policy); Lynn Paltrow, *Pregnant Drug Users, Fetal Persons, and the Threat to Roe v. Wade*, 62 ALB. L. REV. 999 (1999) (suggesting that the *Whitner* decision, by finding a fetus to be a person and the failure of the Supreme Court to hear an appeal, suggests a threat to abortion rights); PALTROW ET AL., *supra* note 156 (outlining the failures of legislative proposals to criminalize drug use during pregnancy, but noting disturbing developments in some states (e.g., Wisconsin)); Derk B.K. VanRaalte, *Punitive Policies: Constitutional Hazards of Non-Consensual Testing of Women for Prenatal Drug Use*, 5 HEALTH MATRIX 443 (1995) (criticizing the MUSC policy).

