Independent Analysis of Systematic Gender Discrimination in the El Salvador Judicial Process against 17 Women Accused of the Aggravated Homicide of their Newborns

(English)

17 November 2014

Jocelyn Viterna, Sociologist
Harvard University

Jose Santos Guardado Bautista, Lawyer
El Salvador

*Please direct all correspondence to Jocelyn Viterna, Department of Sociology, 504 William James Hall, 33 Kirkland Street, Cambridge, MA 02138; or by e-mail to jviterna@wjh.harvard.edu.

TABLE OF CONTENTS

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EXECUTIVE SUMMARY:

Every defendant in the Salvadoran criminal system is guaranteed three fundamental rights by the state. First, the Constitution of El Salvador guarantees that "Every person accused of a crime will be presumed innocent until proven guilty, in accordance with the law, and in a public trial, during which all the necessary guarantees for their defense are ensured." Second, the Salvadoran Penal Code guarantees, "In case of doubt, the judge must find in favor of the defendant." And third, the Organic Law of the Attorney General of the Republic states that the Attorney General must pursue the truth, not the prosecution of the defendant. It should be impartial and act with total objectivity, ensuring only that the law is applied correctly. Specifically, in cases of "crimes and offenses (the Attorney General) should investigate not only the facts and circumstances that attribute liability to the defendant, or exacerbate liability, but also those (facts and circumstances) that absolve, extinguish, or attenuate said liability."

In the case of 17 Salvadoran women jailed for the "aggravated homicide" of their newborn babies, these three rights have been systematically violated. In these cases, women testified that their babies died either due to an obstetrical emergency or another complication surrounding the birth. And in each of these cases, at every stage of the judicial process, the state aggressively pursued the mother's prosecution instead of pursuing the truth, beginning at the moment of the arrest and culminating in the moment of sentencing. This report documents the systematic discrimination against these seventeen women at each moment in the judicial process. To illustrate:

- The police who investigated the alleged crimes only gathered evidence that would incriminate the women, and consistently failed to gather evidence that would corroborate the women's story. Moreover, the police regularly let civilians—including women's neighbors or employers—do the work of gathering evidence, thus contaminating both the scene of the crime and the credibility of the interviews.

- The doctors who treated the women post-partum routinely failed to investigate likely birth complications. In many cases, the most basic medical information, like women's estimated blood loss or women's blood pressure, was simply not reported. Even in cases where these data exist, the medical staff regularly failed to *interpret*

the data for the courts (nor did the Attorney General ask for an interpretation). For example, doctors failed to note when a woman's excessive bleeding at the time of birth would have resulted in her acting dazed, confused, and incoherent—a physiological consequence of not getting sufficient oxygen to the brain. Such incoherent actions have been used to incriminate many of the Salvadoran 17, without any analysis of the potential medical causes underlying them. The medical staff's assumption of women's guilt was sometimes literally inscribed in women's medical charts, where they have written notes like "patient apparently killed her newborn." Such assumptions, shared through the chart with all medical personnel on the case, would clearly shape not only the care that a patient receives, but also the medical data that doctors collect: if a patient is assumed guilty, then data that corroborates her experience of an obstetrical emergency is simply not collected.

- The forensic specialists in Legal Medicine regularly made statements to the courts that contradicted information found in basic forensic textbooks. For example, medical forensics regularly used a "lung flotation test" to "prove" live birth, without acknowledging that leading forensic experts have rejected this test for more than a century due to the possibility that it generates false positives. Medical forensic specialists conducting autopsies up to 30 hours after the infant death often reported that the tiny bodies showed "no putrefaction," when forensic textbooks note that putrefaction starts within four hours of death. Medical forensic specialists regularly reported that infants were born 'full term,' but the information to support this conclusion was frequently missing or contradictory. In some cases, even the most basic information—like fetal weight—was simply missing from the autopsy. In several cases, the autopsies reported abnormalities in the tiny bodies, but failed to discuss whether these abnormalities could result in complications leading to stillbirth.

- The Fiscalía (Attorney General) in El Salvador is charged with investigating the truth, not with seeking a guilty verdict. Nevertheless, the Fiscalía routinely failed to ask for testimonies or medical reports that would evaluate the veracity of the women's claims. To the contrary, the Fiscalía only seemed to collect evidence that would incriminate. In some cases, the Fiscalía did not present evidence that favored the defendants' innocence, even when they had it in their possession. If one were to only read the Fiscalía's theory of what happened in their "Statement of Events," as presented at the beginning of each case history, one would undoubtedly conclude that the defendant was guilty. However, upon reading the complete facts of the case, it soon becomes evident that the Fiscalía's statements of events frequently make claims that have little foundation in the facts of the case.

- The judges hearing the women's cases frequently admitted only the evidence that supported a guilty verdict, and systematically excluded evidence that supported the women's testimony. For example, judges admitted testimonies from neighbors who condemned the women (even when the data in their testimonies was highly suspect), but refused to admit testimony from neighbors who supported the

women's telling of the events. In some cases, the autopsies concluded that the cause of infant death was undetermined and may have been due to natural causes; meanwhile, the *fiscalia* was unable to show any motive for why the mother would want to kill her child. Despite this paucity of evidence *or* motive, the judges still condemned the women for murder. The gender bias that underlies the systematic discrimination in these cases is perhaps best illustrated in the judges' final statements: women, who appear to have been guilty of nothing more than suffering an obstetrical emergency, are accused of aggravated homicide simply because, as mothers, they should have done more to prevent the infant's death.

"Such is the case that (the defendant) has two other children, and therefore knows what it means to give birth, and knows the care that she should take with a newborn..."

"(The accused) injured the legal life of a newborn baby which, by the fact of being born alive, had the right to exist and to be protected from its birth, especially by its mother"

"... The conduct and attitude shown by the defendant is characterized by an omission which manifested at the moment of the birth; this same lack of timely assistance, and not wanting to cooperate by going to a health care center, were the causes leading to the death of the child ..."

The lack of careful judicial evaluation of these cases is further evidenced by the speed with which these cases have been decided. Whereas many homicide cases in El Salvador languish in the courts for years,[1] these women's cases were all concluded within 4-18 months of sentencing. More than half of the cases were decided in seven months or less, and in only three cases did the courts require more than a year to sentence women to decades in prison.

In stark contrast to the courts' findings, our analysis concludes that the legal and medical facts in the majority of these cases correspond with medical emergency—not with homicide. More importantly, in *none* of these cases does the evidence provided in trial seem to prove women's guilt beyond a reasonable doubt.

Our analysis also concludes that the biggest challenge before the Salvadoran Supreme Court at this juncture is the lack of objective data to determine what really happened in the moments surrounding the birth of these infants. The police, forensic specialists, and the Fiscalía routinely failed to collect the data that one would need to make an informed decision about the cases. More egregiously yet, we provide documentation that the limited evidence that *was* collected has been *systematically and consistently biased in favor*

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[1] See, for example, these news articles from *El Diario de Hoy*:
http://www.elsalvador.com/mwedh/nota/nota_completa.asp?idCat=47859&idArt=7948887
http://www.elsalvador.com/mwedh/nota/nota_completa.asp?idCat=75014&idArt=8005309

of incrimination. Given the state's demonstrated unwillingness to investigate evidence or argumentation that would have supported women's acquittal, and given our medical experts' statements that it is not only possible, but also probable, that many of these women suffered obstetrical emergencies, we conclude that the Salvadoran state has committed an injustice against these 17 women. We hope the Salvadoran Supreme Court reads carefully this report and makes amends for the failings of the lower courts by granting pardons to the women, letting them return to their homes, their lives, and their children.

The conclusions in this note were reached after analyzing the court documents from these 17 cases. The documents were obtained from the women's legal representation, and with the women's signed consent. Each of the 17 cases was approximately 500 pages long. The documents were first reviewed, analyzed, and summarized by a team comprised of the two authors (one a sociologist, the other a lawyer), two additional Salvadoran lawyers, and a Salvadoran medical specialist. The summarized case histories, plus the medical and forensic data from the cases were then shared with medical experts in forensics (Dr. Gregory Davis), and obstetrics and gynecology (Drs Christine Curry and Jodi Abbott) in the United States. These experts provided written expert opinions to the courts, and agreed that their written opinions could be documented here. Our analyses are based on the evidence from the case files, the testimony of our medical experts, and a few independent interviews collected with family members of the 17.

We develop our argument through the following steps. First, we review three cases in close detail to demonstrate what we mean by a "consistent bias towards incrimination." We then discuss how the biases detailed in these three cases are part of a larger pattern that extends throughout the 17. Finally, we conclude that current judicial practice in El Salvador puts at risk any woman who suffers an obstetrical emergency while outside of a medical facility. Importantly, poor women, women from rural areas, women living in situations of violence and abuse, and women with disabilities are among the most vulnerable to prosecution, given constraints on their ability to access help in an emergency situation.

I. IN-DEPTH ANALYSIS OF THREE CASES

CASE #1: MARIA TERESA

In November 2011, 28-year-old Maria Teresa lived with her six year old son and his elderly grandparents in una champita de lamina in Mejicanos. Although the father of her son had abandoned them many years early, Maria Teresa continued to live with her ex-*compañero's* parents. Her salaries from working in the *maquila* and cleaning houses provided the household's only regular income, and her mother-in-law helped her with childcare and household tasks in return. The family was poor, but Maria Teresa always managed to make sure there was food on the table, medicine for her son's asthma, and enough extra money to pay the $13 tuition every month for her son to attend the neighborhood's Catholic mission school. In addition to providing a high quality education, attendance at this school ensured her son was in a safe environment, even given the criminal violence that characterized the

broader neighborhood. When her mother-in-law, Ana, was sick and bedridden, Maria Teresa nursed her for almost a year. "I loved her like my own daughter," Ana professed.

The day of the incident, Maria Teresa had felt fine. She had worked a full day at the factory; she had eaten dinner, talked and laughed with neighbors after work; and she had helped her young son with his homework before going to bed. She had even commented to her mother-in-law that evening that her period was especially heavy that month. Maria Teresa had in fact been having regular bleeding (as if menstruating) for months; she had no idea that she was pregnant.

Nevertheless, Maria Teresa awoke in the middle of the night with a great thirst. When she got up to get a drink of water, she became very dizzy and she fainted. Upon regaining consciousness, she felt a powerful urge to go to the bathroom. She sat in the latrine, felt several powerful cramps, and then felt as if a little ball fell out of her body. She tried to return to the house, but passed out again and fell to the ground. The sound of the fall must have awoken her mother-in-law, Ana, who found her drifting in and out of consciousness in a pool of blood. With the help of a neighbor, Ana called an ambulance from the Salvadoran Red Cross. Neither Maria Teresa, Ana, the neighbors, or the paramedics who arrived ever reported hearing any sounds of a baby from within the latrine. The ambulance took Maria Teresa to the hospital, where doctors told a shocked Maria Teresa that she had given birth to a baby. Maria Teresa's blood pressure was only 60/40 when she arrived at the hospital, and she was still losing consciousness. The medical records conclude that Maria Teresa was experiencing "hypovelmic shock" from extreme blood loss. However, in the doctors' reports to the courts, this shock was never mentioned. The doctor's only answered the Fiscalía's questions about whether she had given birth.

The fetal autopsy reported that Maria Teresa's baby was full term, but it never reported the baby's weight, because, as someone wrote on the form, *"there wasn't any scale."* Maria Teresa says her last intimate relation with a man was in May of 2011, which would have put the baby at more like 6 months gestation. Given that no one saw any signs of pregnancy in Maria Teresa—not her coworkers, her neighbors, her church congregation, or even the family she lived with—a six month fetus is perhaps much more credible than a "full term" fetus. Regardless, when a forensic specialist makes conclusions about gestational age without even finding a scale to weigh the baby, then those conclusions generate suspicion.

The autopsy clearly stated that there was no evidence of trauma to the baby, either external or internal. The autopsy further concluded that there was no fecal matter in either the infant's lungs or in its stomach. Nevertheless, the autopsy concluded that the baby was born alive "because the lungs floated." This conclusion references a highly controversial forensic test by which lungs that float in liquid are presumed to have had air breathed into them. Not only has this test been regularly rejected by the medical community (discussed in more detail below), it also directly contradicts the autopsy's other findings. Specifically, the same autopsy concluded that the baby died from "perinatal asphyxiation," which the forensic doctors stated could have happened before, during, or after birth. Thus, the

autopsy concludes simultaneously that the baby was definitely born alive and took a breath, and also that the baby might have died inside its mother's womb.

Medical experts from the United States who have reviewed Maria Teresa's case conclude that there is no reason to doubt Maria Teresa's testimony.

First, doctors Christine Curry and Jodi Abbott note that, while unusual, obstetricians in the US regularly encounter women who do not realize they are pregnant until they are already in labor and delivering (See Appendix for Expert Letters). Women who are most at risk for not realizing they are pregnant until late in their pregnancy are women who, like Maria Teresa, experience continued intermittent vaginal bleeding during their pregnancy, women who are overweight, and women who live in poverty. According to a German study, one out of every 475 pregnancies in Berlin during a one-year period was unrecognized by the mother until late in the pregnancy, and was diagnosed only when the woman interfaced with the health-care system. Two thirds of these women had been pregnant previously and yet remained unable to detect their pregnancy symptoms correctly.[2] The phenomena of women not realizing they are pregnant until they are in labor is indeed common enough that a U.S. television station ran four seasons of a reality TV show called "I Didn't Know I was Pregnant."[3] Simply searching the internet for "woman didn't realize she was pregnant" brings up any number of newspaper articles documenting similar stories. For example:

> Trish Staine had just finished running 10 miles while training for a half-marathon when she started going into labor. The mother of three said she hadn't gained any weight or felt any fetal movement in the months before and had no idea she was pregnant. (Teicher 2013, Slate.com)[4]

> (Amanda) Burger, of Cedar Falls, Iowa, was already a mother of an 11-year-old when, unbeknownst to her, she became pregnant...She had no indication that pregnancy had happened except for a general "weird" feeling that prompted her to take several pregnancy tests... all three came up negative....She had no nausea, slept on her stomach, and never felt the baby kicking....She still experienced bleeding every month....She was 36 weeks pregnant when she awoke around 4 a.m. one morning with severe cramping...she and her husband went to the hospital (where she found out she was pregnant and delivered a healthy baby). (Landau 2012, CNN.com)[5]

Burger's sense of a general "weird" feeling corresponds well with Maria Teresa's report. Maria Teresa had gone to the doctor early in the pregnancy for pains in her lower abdomen, and was only diagnosed with a bladder infection. She had gone again later in the pregnancy for back pain, but reports that the doctors only told her that the pains were

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[2] Jens Wessel and Ulrich Buscher. 2002. "Denial of Pregnancy: Population Based Study." *British Medical Journal*, Volume 324.
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC65667/

[3] See http://www.discoveryfitandhealth.com/tv-shows/i-didnt-know-i-was-pregnant or

[4] http://www.slate.com/articles/health_and_science/explainer/2013/06/unexpected_birth_how_can_a_woman_not_know_she_s_pregnant_until_she_has_the.html

[5] http://www.cnn.com/2012/07/05/health/living-well/pregnant-no-symptoms/

caused by her large breasts. Even Maria Teresa's doctors failed to correctly diagnose her pregnancy.

Second, our medical experts state that there are several medical explanations that correspond well to Maria Teresa's medical data, reported symptoms, and testimony. They note that Maria Teresa's reports of bleeding during the second and third trimesters of her pregnancy is a clear sign of a pregnancy complication. For example, a placental abruption, where the placenta separates from the inside of the uterus, would account for Maria Teresa's symptoms of intermittent bleeding, back pain, and rapid birth. According to the Mayo Clinic, a placental abruption might also account for why Maria Teresa' stomach seemed not to grow, as a slow placental abruption might slow the baby's growth or generate low levels of amniotic fluid.[6] Importantly, a placental abruption would deprive the in-utero baby of needed oxygen and nutrients, and thus account for a baby suffocating inside its mother's womb—and through no fault of the mother herself.

Another condition that could explain Maria Teresa's experience is cervical incompetence. Women with this condition have a cervix that opens large enough for the baby to fall out with few if any contractions. According to medical experts Curry and Abbott, "Not uncommonly, women with this condition deliver into toilets due to their feeling of extreme pressure without pain, and the rapid expulsion of the baby with few contractions." Again, if a woman did not know she was pregnant, and was not under medical care, she could not know she suffered from this condition.

Third, our doctors note that Maria Teresa's reported medical condition was critical at the time of birth. The medical records note that she lost consciousness, had a blood pressure of 60/40, and was in a state of "hypovolemic shock" upon arrival at the hospital. Hypovolemic shock occurs when the body loses more than 1/5 of its blood supply, and is unable to get sufficient oxygen to its organs, including the brain. The lack of blood to the brain would result in Maria Teresa appearing, anxious, confused, or lethargic at the moment of the incident. Indeed, our medical experts conclude that it is surprising that Maria Teresa survived her complicated delivery.

Despite the above evidence, Maria Teresa's judge found her guilty of aggravated homicide and sentenced her to 40 years in jail. It only took 8 months from the moment of her arrest to the moment of her sentencing. The judge admitted that there was no evidence that Maria Teresa had done anything to hurt her baby. The judge also admitted that there was no evidence of any motive for why she would want to kill her baby. Nevertheless, the judge decided that Maria Teresa was guilty for the following three reasons:

1. The judge argued that it was not credible that Maria Teresa, a 28 year old mother with a high school education, did not know she was pregnant, especially given that

[6] http://www.mayoclinic.org/diseases-conditions/placental-abruption/basics/symptoms/con-20024292

the baby was "full term."

As stated above, there is little reason to believe that the baby was full term, given that the medical forensic office did not even have a scale with which to conduct the autopsy. And there is simply no reason to doubt Maria Teresa's statement that she did not know she was pregnant, given that many women in high resource environments have also failed to realize they were pregnant until they were in labor; given that none of her friends, family or neighbors had noticed any signs of pregnancy; and given that when Maria Teresa went to the doctor on several occasions, even the doctors failed to realize she was pregnant.

2. The judge claims that the baby was unequivocally born alive and then died because the lungs floated, and because the umbilical cord was tattered and then "separated by a mechanical action."

The judge could not have known that medical forensics was in error here in two aspects. First, as we discuss in greater detail below, the lung flotation test is known to be faulty. And second, US forensic experts have demonstrated that it is impossible to tell whether an umbilical cord has been cut or torn, as cutting sometimes leaves the edges tattered, and tearing sometimes leaves the edges clean. A forensic conclusion that the cord was separated by "a mechanical action" tells us nothing about what happened the night of the infant's birth (See Appendix).

However, the judge is indeed guilty for not asking the forensic specialists to clarify the contradictions in the report. How can they claim the baby was full term if they didn't even have a scale with which to weigh it? How can they claim that the fetus was born alive AND that the fetus may have suffocated in utero at the same time?

3. The judge prioritized the testimony of a witness who claims that Maria Teresa knew she was pregnant, over the testimony of several neighbors who claim that the pregnancy was a complete surprise.

The judge specifically disregarded as unreliable testimony from neighbors and friends who stated that they never saw any signs that Maria Teresa was pregnant, and that Maria Teresa never mentioned any such pregnancy to them. The judge ruled these testimonies unreliable because they were friends of the defendant. The judge prioritized instead the testimony of the head of human resources in the maquila where Maria Teresa worked. She claimed that Maria Teresa reported a pregnancy to her in January of 2011, and took personal days because of it. Had Maria Teresa truly reported a pregnancy to her employer in January of 2011, she would have been 11 months pregnant when the birth occurred in November. Given that babies only take nine months to develop, this testimony is nothing short of preposterous. Nevertheless, this is the only witness testimony that the judge deems "credible" in the final sentencing.

In the end, despite the absence of any reliable evidence that the baby was born alive; despite the complete lack of evidence of any wrongdoing, despite admitting that "we have not been able to determine the motive that propelled the defendant," and despite the fact

that the cause of death was listed as perinatal asphyxia—which is a medical condition, and not a criminal act—the judge gave his own interpretation of the facts as follows:

"The above (facts) allow one to conclude that the defendant knew perfectly well that she was pregnant, given her experience of being a mother, her age, and her cultural assets, she could not have ignored the lack of her menstrual period, (she knew) she was in this state of pregnancy, and as a result, she had an obligation to take care of and protect the little one that she carried in her stomach, and given this situation, the fact that she approached the mentioned latrine, she did so with the intention to violently expel it (the fetus) so that, in its (the latrine's) interior, (the fetus) wouldn't have the opportunity to breath, thus causing it to die, to then say that she had an abortion; without foreseeing that this (plan) would become complicated and that she would be obliged to check into a hospital, rescued by members of the Red Cross; from there the cause of the (fetal) death, that according to the autopsy, was concluded to be perinatal asphyxiation."

In one place in his sentencing, the judge stated that Maria Teresa "*decided to carry out her criminal plan within the area of her household, looking for a moment during which there weren't any other persons around to carry out this homicide*," as if a woman has complete control over when, where and how her body will give birth.

It is perhaps worth reiterating that Maria Teresa had experienced intermittent vaginal bleeding throughout the pregnancy that she interpreted as her menstrual period, and that even the doctors she had visited did not realize she was pregnant. It is perhaps worth reiterating that there were no signs of trauma on the baby, either externally or internally. It is perhaps worth reiterating that, despite the judge's conclusion that the baby died from suffocating within the latrine, the fetal lungs were clean with no sign of fecal matter or other materials inside them. Rather, the autopsy *concluded that the baby died of a medical condition--perinatal asphyxiation--that could have occurred before, during, or after the birth.* Clearly, there is no evidence in these documents proving homicide.

Maria Teresa has served three years of her forty-year sentence. Her son, Oscar, now nine, has suffered extensively since losing his mother. When Maria Teresa went to jail, he not only lost the love of his mother, but also the only income in his household that kept him well fed, well-clothed, and in a Catholic mission school. It is difficult to imagine what will happen to Oscar, living with his impoverished grandmother in their chumpita de lamina, without his mother to help him move forward.

CASE #2: CARMEN

Originally from a rural zone, eighteen-year-old Carmen was working as a domestic employee in an urban area of El Salvador in October 2007. She had never had a boyfriend, and she had never before been pregnant. She earned only $80 per month.

Nine months earlier, Carmen had been raped by a man whom she says also sexually abused her sister. Carmen had not realized that the rape left her pregnant, perhaps in part because her stomach never grew (as confirmed by her employer), and perhaps in part because the trauma of the rape made it psychologically difficult, if not impossible, to acknowledge the pregnancy.

Carmen began to experience back and pelvic pains at about 5:00 a.m. on a Sunday morning. It remains unclear how long it took for her to realize that these were labor pains, but at about 6:00 p.m. that same evening, Carmen delivered a small baby with assistance from her girlfriend, Kayla.[7] The baby did not move or cry. Carmen panicked when she realized that the baby was dead. She hid its small body in a plastic bag under the corner of her bed, and then she lay in that very same bed, bleeding, for the rest of the night.

The next morning, Carmen's employer, Karla[8], found Carmen still lying in bed, trembling violently, with blood on her legs. Carmen told Karla that her period had come especially hard that month. Karla asked Carmen if she was still capable of taking care of her baby while she went to work, and Carmen responded in the affirmative. After Karla left, Carmen got up, bathed and changed herself, cared for Karla's young child, and even left the house to buy tortillas, all while continuing to suffer from a heavy vaginal hemorrhage.

Later in the day, Karla returned to the house to find Carmen still bleeding heavily, and she decided to take Carmen to the hospital. The court documents disagree about when Carmen arrived at the hospital: Karla reports that she took Carmen to the hospital at about 1:00 in the afternoon; hospital documents register Carmen's arrival at 4:45 p.m.; and the doctor who examined her reported that Carmen entered the hospital at about 8:20 in the evening. Despite this disagreement, we can say with relative certainty that Carmen had been hemorrhaging for somewhere around 24 hours by the time she finally received medical help. Karla reports having to fill out Carmen's paper work, and having to sit with Carmen in the waiting room, because Carmen was so ill that she could no longer speak coherently, and she was continually losing consciousness

The doctor who finally treated Carmen reported that she was suffering from "a heavy vaginal hemorrhage." Although he never documented the estimated blood loss, the fact that Carmen was incoherent and losing consciousness in the waiting area suggests that she was experiencing hypovolemic shock. Carmen's blood work also shows that she was suffering from extreme anemia.

Carmen told the doctor that her heavy bleeding was due to a sexual act, but upon examination, the doctor realized that Carmen had actually given birth. The doctor (or the nurse, depending upon which court document you read) then reported this information to Karla, Carmen's employer, in direct violation of professional ethics surrounding medical privacy. Upon hearing that Carmen had given birth, Karla called her ex-compañero and

[7] Names of witnesses have been changed throughout this report to protect the anonymity of the individuals.

asked him to go search her home for the fetus. Meanwhile, the doctor reported Carmen to the police for a suspected abortion. Over the course of the investigation, the abortion charge was upgraded to aggravated homicide.

Later that evening, after Carmen apparently told her employer specifically where to look, someone finally found the small cadaver under Carmen's bed. Again, the court documents provide wildly contradictory reports about how the body was discovered. Some documents say that it was Karla herself who found the body; others say that it was Karla's ex-compañero; still others say that the police accompanied the ex-compañero to the house where they found the body together. It is impossible to weigh the validity of these various versions, as neither the Fiscalía nor the Judge ever saw fit to ask the ex-compañero to testify, nor did they ask for testimony from the two police officers who eventually transported the body to Legal Medicine (Indeed, one judge said that the two officers' testimonies would be 'irrelevant'). The only certainty we can take away from these varied reports is that (1) at least two or three civilians spent significant time in Carmen's room looking for the baby, thus contaminating any evidence at the scene, and (2) that it took several searches to find the fetus, because there was no lightbulb in Carmen's room, which everyone agreed made it very hard to see.

Despite the extensive contamination of the scene, the autopsy found "no external or internal evidence of trauma" on the fetus. The forensic doctor listed the cause of fetal death as "Undetermined," and concluded, "with the available studies completed, it is not possible to determine the cause of death."

The autopsy also reported several inconsistencies that the forensic doctor never purported to explain. First, the baby's measurements were incongruent, measuring 52 cm tall, 2500 grams in weight, and with a plantar foot length of only 5 cm. Generally speaking, these measures correspond with the height of a 9-month-old baby, the weight of a 7- or 8-month-old baby, and the foot length of a 5-month-old baby. The forensic report takes no notice whatsoever of the unusual measurements, leaving us unsure whether they reflect a medical abnormality in the fetus, or measurement error on behalf of the forensic specialist.

Second, the fetal autopsy lists in the Histopathology Report that the infant's heart suffered from "vascular congestion." Yet the report offered no explanation as to what might have caused such vascular congestion, or whether it, like the asymmetrical fetal measurements, might be indicative of a health problem that could result in stillbirth.

Third, the autopsy put the time of death at 18-24 hours earlier, although the timeline in other court documents regularly put the time of death at more like 40 hours earlier. Regardless of which time is correct, the autopsy states that the body suffered from "no putrefaction," a statement that seems unlikely given the many hours that had passed between the death and the autopsy.

Finally, despite the fact that the autopsy clearly states that the cause of death was *undetermined*; and despite the fact that the autopsy clearly states that there were *no signs of trauma to the baby's body*, either externally or internally; the autopsy nevertheless

classified the "type of death" as "violent." Legal Medicine never provides any reasoning for this classification at any point in the trial.

It is perhaps logical to conclude that Carmen's ordeal should have ended upon the completion of the fetal autopsy. The cause of the baby's death was "undetermined," and the autopsy even reported medical abnormalities in the fetus that could potentially be related to a stillbirth. How could a court reasonably proceed with a homicide trial when there was quite literally zero evidence that any homicide had occurred?

Yet Carmen's trial did continue. And throughout the trial, the Fiscalía routinely stated in court documents that the newborn had been "violently assassinated in an intentional manner by the young woman, Carmen"—an assertion that, despite its frequent repetition, was never once supported by evidence.

Our careful review of the court documents revealed numerous lapses in due process during Carmen's trial. To illustrate: at one point, a Judge noted that no psychiatric evaluation of the defendant was included in the court documents, despite the fact that the Fiscalía had stated in writing that this evaluation had been submitted. The judge mandated that the Fiscalía submit the missing report, but the Fiscalía never complied. The judge also told the Fiscalía that it must get testimony from Carmen's friend, Kayla, who reportedly was present when Carmen gave birth. But rather than finding Carmen's friend, *Kayla*, the Fiscalía instead re-interviewed Carmen's employer, *Karla*. Karla spent much of this second interview vociferously negating that she had been present when Carmen gave birth. It thus appears that the Fiscalía was so careless in reading the judge's instructions that they confused the request for Kayla's testimony with a request for Karla's testimony, simply because the two women's first names were similar.

Such oversights, equivocations, and omissions were a consistent reality throughout Carmen's trial. The Fiscalía never provided the court with a psychiatric evaluation, even though Carmen had suffered the trauma of a rape, which may have influenced her ability to recognize her pregnancy. The Fiscalía made no attempt to get testimony from Carmen's friend, Kayla, who had been present at the birth and who could attest to whether the baby was born dead. The Fiscalía made no attempt to get testimony from Carmen's sister, who presumably witnessed her rape. The Fiscalía made no attempt to get testimony from Karla's ex-compañero, who by Karla's account had repeatedly entered Carmen's room looking for the fetus. Nor was there any testimony from the two police officers who may or may not have been present when the fetus was discovered, because the judge argued such testimony would be irrelevant. In the end, the only witnesses to give testimony in the entire trial were Karla, Carmen's employer of 7 months, and the obstetrician who treated Carmen in the hospital (and who incidentally stated in his testimony that he couldn't remember the name of the defendant).

The court documents reflect a similar sloppiness. As mentioned above, written statements routinely provided contradictory evidence on key aspects of the trial, such as when Carmen arrived at the hospital, who told Carmen's employer about the baby, and even who discovered the body of the dead fetus. Indeed, the court documents could not even agree

on whether the plastic bag in which the baby was found came from the "Despensa de Don Juan" or the "Super Selectos." At one point, a court resolution actually confused Carmen's case with that of another, stating that "there is sufficient evidence to estimate that the defendants ANTONIO ROLANDO and SAMUEL RAFAEL are the probable authors of the crime," suggesting that the judge was literally cutting and pasting his decision about Carmen from what he had written for an earlier homicide case, rather than providing a thoughtful analysis of the situation at hand. And it bears repeating that the Fiscalía continued to write in its briefs that Carmen had violently killed her newborn, despite a complete absence of evidence that any crime had been committed against the baby.

Carmen's trial lasted only four months from the day of her arrest to the day of her sentencing. The judge admitted in the sentencing that there was no direct evidence of Carmen's guilt, yet he nevertheless argued that there were sufficient "indications" that, when taken together, allowed him to prove Carmen's guilt beyond a shadow of a doubt. He found Carmen guilty of aggravated homicide, and sentenced her to 30 years in prison.

In the end, the sentencing judge provided only one rationale for Carmen's guilty verdict: he argued that Carmen must have been guilty of homicide because she hid the pregnancy and lied about the birth to both her employer and her doctor. In an earlier statement, a different judge had also attributed guilt to Carmen because she did not seek medical help during the child's birth. Taken together, these judges justified their guilty verdicts solely on their contention that Carmen did not act appropriately at the moment of the birth. Given that Carmen was an 18-year-old rape victim, who had not even allowed herself to realize that she was pregnant, who had no money, who had no family nearby, who did not even have a light in her room, who suddenly found herself giving birth in her employer's house, who was further traumatized when she delivered a dead fetus, and who lost so much blood that she could not even speak or maintain consciousness when she was questioned by the doctor the following day, we argue that the judges' expectations of appropriate behavior reflect a remarkable insensitivity to the reality of Carmen's situation.

More importantly, we reiterate that whether or not Carmen behaved appropriately in the judges' eyes is irrelevant to establishing whether a crime had been committed. Even if we believe that Carmen hid her pregnancy, the fact is that hiding a pregnancy is not a crime in El Salvador. Even if we believe that Carmen lied to her doctor, the fact is that lying is not a crime in El Salvador. And even if we wish that Carmen had sought medical help at the moment of her delivery, despite her precarious health and lack of economic means, the fact is that giving birth in one's home is not a crime in El Salvador. Yet somehow the judge argued that this series of perfectly legal actions somehow adds up to the most heinous of crimes—aggravated homicide—and warrants a 30-year prison sentence.

We quote the judge at some length to illustrate clearly the rationale he provides for his verdict.

"The Court considers that, given the defendant's concealment of the fact that she was pregnant; given the defendant's concealment of the fact that she had given birth from both her employer as well as in the hospital where she was given emergency treatment; given the

different versions provided by the defendant in relation to her hemorrhage or bleeding; and (given) the shape and place in which the newborn was found; (the Court) determines that the defendant did act with the knowledge and the intention to commit the investigated act, all of which is clear from the evidence already presented (declarations from the employer and the gynecologist who attended her in the hospital; the Act of Recognition of the Cadaver; the autopsy and the DNA exam), which taken together constitute "indicios," or probabilities of the defendant's delinquent participation. And taking into account that a "probability" refers to facts or acts in the past that, once known and proven, can serve to infer the truth or falsehood of other events; consequently the "probability" becomes a proven fact that serves as a type of evidence, not to prove, but to presume, the existence of another fact, it is useful to help the mind in its work of syllogistic reasoning. In other words there are facts that cannot be directly demonstrated through known tests, but only through the force of reason that comes from uniting isolated data and loose ends in the mind to come to a conclusion....

"The Court has critically examined the connection between the "indicios" in a global form; this connection leads univocally to a firm conclusion about lawful participation, arriving to a firm judgment, legitimated by the method of critical examination which was followed, that the defendant Carmen is responsible and therefore guilty of the crime of AGGRAVATED HOMICIDE against her newborn...which given the above is classified as an INTENTIONAL crime."

Remarkably, at the moment in the statement where the judge is expected to discuss the "action" for which Carmen is condemned, he simply writes that Carmen committed an unspecified "action," making clear that the judge himself has no idea what Carmen supposedly did to warrant a homicide verdict:

"ACTION: In accordance with the evidence obtained in the present case it is determined that the defendant, CARMEN, performed an action that affected a legally protected life, given that the defendant actively produced the death of a NEWBORN, who was her son, thereby causing irreparable harm...

The judge also acknowledges in several places that the court was never able to determine a motive for the crime:

"INTENT: The defendant's cognitive awareness of the illegality of her actions, and of her decision to execute those actions, is obvious, so the direct intent is apparent. In terms of the motives that propelled the event: we were unable to reliably determine in trial the motive that led the defendant to cause the death of a newborn.

In sum, Carmen was sentenced to 30 years in prison for allegedly committing an unspecified, unknown, and unmotivated action that somehow resulted in the violent death of her newborn child, all without leaving any marks on its tiny body. During the course of the trial, any evidence that would have supported Carmen's version of the events—the unexplained abnormalities in the fetal body, the likely effects of severe hemorrhaging on her mental state, the testimony of her friend who witnessed the birth, a psychological evaluation of how she was affected by the trauma of the rape, and so on—were simply never presented. The only possible explanation we can generate for this complete

disrespect of due process is that the parties involved—the doctor, the forensic specialist, the Fiscalía, and the judges—were quite simply determined to find Carmen guilty regardless of the evidence. Carmen, now 25, has already served 7 years of her 30-year sentence.

CASE #3: MIRNA

Mirna was 34 years old in May 2002. She lived in a relatively rural area on the outskirts of San Salvador. Her family was very poor, very religious, and very loving, as reported by both neighbors and the social worker's analysis. Mirna had always been a hard worker, leaving school in fourth grade to take a job as a machine embroiderer in a factory. Most recently, she had been running a small store in her community.

Mirna married Miguel at age 19. Miguel worked in a shoe factory. Both Mirna and her husband independently reported a happy, stable relationship of 15 years, and the social worker's analysis concurred. Yet Mirna and Miguel did not have any children during the first 11 years of their relationship. Finally, at the age of 30, Mirna gave birth to a boy. The child was delivered prematurely by cesarean because he had a birth defect called hydrocephaly, and he died 4 months after his birth.

When Mirna became pregnant again at age 34, she only told her husband and her mother. One can imagine, after such difficulty with conception and birth defects in the past, that they were very anxious about things going wrong again, and thus were hesitant to share the news of the pregnancy with the wider community. The whole family testifies that they were waiting with great anticipation the birth of this child, but they all report significant pregnancy complications as well. Throughout the entire pregnancy, Mirna had backaches and significant vaginal bleeding. Mirna and her husband said they did not go to pre-natal care because they decided to leave things in the hands of God, and because they believed they did not have enough money to pay for the exams that the doctor would likely order.

In May 2002, Mirna began to feel stomach pains. She thought she needed to defecate, so she went to use the latrine at a neighbor's home. To her horror, she accidentally birthed her daughter into the latrine. The baby was premature—Mirna thought she was 7 months along; the doctors reported that the baby was 36 weeks, or 8 months, in gestation, although they provided no rationale for how gestational age was determined. Three neighbors quickly retrieved the baby from the latrine, and the little girl survived.

These are the facts about which everyone agrees. However, significant disagreement begins when it comes to what happened after the baby was born.

According to Mirna's mother, after Mirna felt the baby fall into the latrine, she returned to the house deeply traumatized, pale, bleeding, sweating, and feverish. She told her mother about the baby, and Mirna's mother immediately told her younger daughter, Meybel, to run to a neighbor's house for help. The neighbor, Andrea, called the health promoter, Lucinda. Amanda and Luncinda then stopped another neighbor, Juan Jose on the street. Together, with the help of Juan Jose's lasso, the three were able to pull the baby out of the latrine. The

baby was covered in feces, but they all reported hearing its cries from inside the latrine. Lucinda says the baby was not breathing well at the moment it was pulled out of the latrine and that she gave it first aid to help it survive. Nevertheless, by the time any authority arrived, the baby was crying strongly, suggesting that it was breathing well.

Andrea's story and Juan Jose's story correspond well to the narrative of Mirna's mother. Andrea says she became aware of the baby in the latrine when Mirna's little sister, Meybel, came to her house and told her what had happened. Andrea then says she looked for help, finding Lucinda and Juan Jose. Juan Jose concurs that he was approached by Andrea and Lucinda and told about the baby crying in the latrine.

Where the story differs significantly, however, is the testimony of Luncinda. In her initial testimony, Lucinda is the hero of the story at every turn. Lucinda told the police that she personally heard the baby's cries in the latrine, and that she personally went to look for help. Despite the reported crying of the baby just a few minutes earlier, Lucinda reports that the baby had stopped breathing by the time they extracted it from the latrine, and that she gave it first aid (presumably mouth to mouth resuscitation) to save its life. Lucinda then reports going to personally "interrogate" Mirna. She says that Mirna initially denied that the baby was her own, so Lucinda reminded her that the police's crime lab would soon arrive, and they would be able to prove that the baby was hers through blood tests, so she had better confess. At that point, Lucinda claims that Mirna confessed that the baby was hers, but that she wanted Lucinda to help her keep the secret. According to Lucinda, Mirna said that her husband was sterile, so she didn't want him to find out about the pregnancy because he would be angry with her, so she was going to keep the baby and raise her as an adopted child.

Lucinda's self-reported interrogation continued. The police record Luncinda's testimony like his:

"She (Lucinda) observed the breasts of the Señora (Mirna), and she observed black nipples, which were hard and leaking a white liquid, symptoms of a lactating woman. (Lucinda) touched (Mirna's) abdomen and it hurt, and (Lucinda) expressed that (Mirna) was hemorrhaging and had a high temperature and her face was pale."

Lucinda's testimony is rife with contradictions. First, all other testimonies conclude that it was Mirna's little sister Meybel who went to get help first, and that Lucinda was called in after Meybel asked the neighbor, Andrea, for help. Yet Luncinda states that she personally heard the cries of the baby and started the search for help. Lucinda also claims that Mirna confessed that her husband was sterile, when there are abundant medical and social records demonstrating that Mirna and her husband had given birth to another child just four years earlier—albeit a child with a birth defect that died soon after its birth. And oddly, Lucinda provides a detailed description of what Mirna's breasts looked like, as if Mirna was standing in front of her naked. All other testimonies mention Mirna watching the rescue, but none mention that she was topless.

Despite the clear embellishments in Lucinda's testimony, the police used this testimony as the sole basis of her arrest. They write that Mirna *"had told (Lucinda) that she threw the child into the latrine to avoid problems with her spouse, as he was sterile, a version that was confirmed by the mother of the detained woman, and constituting the reasons for which we proceeded with her detention."* However, the police never interviewed Mirna or her mother, and her mother never mentioned anything of the sort in her later testimony. The only reported motivation for the "crime" was that Lucinda said Mirna confessed to her—a confession the police themselves never heard. Despite the fact that this motive was based on pure hearsay, the police did not feel compelled to further investigate the facts of the case. Specifically, they did not go to the husband's place of work to ask him whether he knew his wife was pregnant, or whether he believed himself sterile. Had the police interviewed the husband immediately, it would have put an immediate end to the suppositions about motive—suppositions that already relied exclusively on one woman's suspicious testimony to the police.

There is also disagreement about what Mirna was doing while the rescue occurred. The three rescuers all report that Mirna only watched from a distance, which they thought was strange. Mirna had always been "very collaborative"so they couldn't understand why she didn't come forward to help. They also all note that Mirna looked very pale. In contrast, Mirna's mother reports that both she and Mirna did help—they brought warm water to clean the baby and they brought a blanket in which to wrap the baby. Mirna's mother also reports that Mirna tried to go to the hospital with the baby, but that someone held her back, and wouldn't let her go.

By the time the baby arrived at the hospital, the narrative had been set. The baby's file referred to her as being a victim of "infant abuse," because she had been "thrown" into a latrine. One medical document even notes that the infant was a victim of "family abandonment" despite the fact that Mirna and Miguel both put their names on the baby's birth certificate.

At the hospital, the baby was diagnosed with sepsis from swallowing too much feces. The baby was also confirmed to be premature (36 weeks), and to have suffered from a condition called "intrauterine growth restriction," which generally means that the infant is smaller than expected for its gestational age. According to numerous medical sources, intrauterine growth restriction can be caused by a number of medical factors, including chromosomal defects in the baby itself, various medical conditions (like infections, anemia, or heart disease) in the mother, or some sort of placental insufficiency. Importantly, the medical factors that cause intrauterine growth restriction are also commonly factors associated with premature or precipitous (fast) births.

Mirna was also taken to the hospital, where they completed a genital exam to prove that she had indeed recently given birth—a claim that, to our reading of the court documents, she had never denied in the first place (except if you believe Lucinda's testimony). However, despite the fact that many of the witness' testimonies concurred that Mirna was pale, feverish, sweating, and bleeding at the time of the incident, there is no report of Mirna's medical condition upon arriving to the hospital in any of the court documents. Even

the most basic medical information was missing, including Mirna's blood pressure, her estimated blood loss, or her likely anemia from the frequent bleeding during her pregnancy. Had Mirna suffered from hypovolemic shock from blood loss, we would medically expect her to act dazed and confused from a lack of oxygen reaching her brain. The fact that Mirna seemed to be in shock at the moment of the rescue was regularly utilized in the trial as evidence of her guilt, yet no one ever discussed the potential physiological factors underlying her dazed behavior.

Although the police did not interview Mirna prior to her arrest, the social worker and psychologist who talked to her in the following months reported that Mirna clearly stated that birthing her baby into the latrine was a tragic accident, and nothing she had done on purpose. Mirna reiterated that she was only 7 months pregnant, that she wanted the baby, and that she had the urge to defecate; she would have never gone to the latrine had she known that the baby was going to come so quickly.

Independent doctors who have reviewed Mirna's case documents confirm that there are several potential medical explanations for the tragedy, including placental abruption or cervical insufficiency. They write,

"Cervical incompetence is a condition in which women dilate their cervix with few, if any, painful contractions. It is more common with premature deliveries.... Not uncommonly women (with cervical insufficiency) deliver into toilets due to their feeling of extreme pressure without pain."

These doctors further note that accidental births into toilets can happen even without pregnancy complications. They write,

"Even in hospitals in the US, where pregnant women know they are pregnant and are awaiting their child's birth in a hospital room, babies are not uncommonly born into ceramic toilet bowls."

Nevertheless, El Salvador's Legal Medicine department vehemently argued against the possibility of an accidental birth in their court statements. First, rather than investigating whether the child's intrauterine growth restriction could have been indicative of a medical condition that also caused the premature birth, the Legal Medicine doctor instead labeled the baby's intrauterine growth restriction as "child abuse," which she argued could be caused by infections, illnesses, or because *"the mother tried to hide the pregnancy and there wasn't much oxygenation."*

Second, the Legal Medicine doctor stated that *"at this gestational age...a woman cannot expel the fetus without realizing what is happening, without having contractions, a severe pain, as the process of birth takes time to produce the baby, in other words the birth process cannot go by unperceived, there are back and pelvic pains that are obvious. It is not possible for a woman in this sitting position to expel the product without realizing what is happening."*

After an 18-month trial, the judges found Mirna guilty of the attempted aggravated homicide of her daughter, and they sentenced her to 12.5 years in prison. They based the guilty verdict on two arguments.

First, they cited the Legal Medicine's doctor's testimony that it was *impossible* for Mirna to not realize she was in labor when the baby fell into the latrine as evidence that she purposely threw the baby into the latrine:

"The report of (Legal Medicine) really caught our attention, in that it established that a fetus, being either female or male, cannot be born suddenly without the progenitor feeling labor pains, as prior to giving birth a woman begins the labor of birth, a circumstance that...allows these judges to confirm that the person who threw this newborn into the latrine was conscious of her actions, and it was not accidental."

Second, the judges argued that the "fact" that Mirna did not help with the baby's rescue provided evidence that she was trying to get rid of the child:

"We have determined that she was the mother of a newborn who in that moment was being rescued from a latrine, and the defendant didn't do anything to try to help her daughter, behavior that is not logical for a mother who wants to save her child, a circumstance that leads us judges to think that the defendant did not want her child, but rather wanted to get rid of it, which makes us think that the defendant is the author of the act committed against her newborn."

It is perhaps worth reiterating that Mirna had not only experienced the psychological shock of accidentally birthing her baby into the latrine, but she also was, by the reports of several witnesses, experiencing a number of physical symptoms including heavy vaginal bleeding, sweating, pale skin, and fever—all symptoms associated with hypovolemic blood loss. If Mirna were in hypovolemic shock, she would be medically expected to act dazed and confused given the lack of oxygen to her brain. However, no medical data about Mirna's health were ever reported to the courts.

To their credit, the judges formally excluded the suspicious testimony of Lucinda from their final deliberations. However, they failed to acknowledge that this now-unreliable testimony was the sole reason that Mirna was arrested in the first place. The judges also dismissed as unreliable the testimony of Mirna's mother and husband due to their personal relationship with the defendant, which means they eliminated the testimony that claimed Mirna tried to help with the rescue and even tried to accompany her baby to the hospital. And most egregiously, the judges never questioned the strained logic behind their own judicial leap, when they concluded that, because Mirna (according to some accounts) did not help with the infant's rescue, she therefore is guilty beyond a reasonable doubt of trying to violently and intentionally kill her child.

In the end, the judges' summarized their decision like this:

"This Tribunal has no doubt that the defendant's behavior was intentional, because who doesn't know that throwing a newborn baby into a latrine could cause its death."

Mirna has at this writing served nearly all of her 12 ½ year sentence for the attempted homicide of her daughter—a daughter who has been raised by her father and grandmother while her mother has languished in prison. Her only crime appears to be that she was not able to prevent her body from suffering an obstetrical emergency, and that she somehow did not act appropriately in the midst of the crisis.

II. THE DEPTH OF DISCRIMINATION ACROSS THE JUDICIAL PROCESS

The three cases presented above were chosen because they illustrate especially well the systematic gender discrimination experienced by all 17 women. By discrimination, we mean that judges regularly cite women's violations of social expectations of motherhood to justify their guilty verdicts (i.e., mothers should know they are pregnant; mothers should know they are in labor; mothers should know when it is necessary to seek medical care; mothers should act to save their infants even when suffering a medical crisis; mothers should not accidentally injure their babies, etc.). In all cases, such prejudices about how mothers should act appear to have biased the collection of evidence toward incrimination. And in many cases, such prejudices about how mothers should act are used to justify a guilty verdict even in the absence of evidence that a crime has been committed. In this section, we briefly summarize how the remaining cases support these broader claims.

SUMMARIZING THE CASES: It is perhaps useful to first give the reader a sense of the variation found among the 17 cases. Seven of the 17 cases were strikingly similar to the stories we highlighted above. Like Maria Teresa and Mirna, three additional women were arrested after their babies were birthed into a toilet or a latrine. In two of those three cases, the babies survived. And like Carmen, there is one other case where a woman who suffered a stillbirth was convicted of homicide despite the fact that the autopsy stated that the cause of death was "undetermined."

In another three cases, women stated that their babies were fatally injured during the birthing process. For example, one 19-year-old domestic worker was only six months pregnant when she strained to pick up a large container of wet laundry and felt the baby shoot out of her body, hitting its head on the floor—a story that seems indicative of cervical incompetence, and that is given credibility by descriptions of similar cases in forensic textbooks (See Knight's Forensic Pathology text, third edition, p. 444). Nevertheless, the autopsy from this case concluded that the infant's head injury was *not* caused by a fall, but rather was likely caused by a third party wielding a blunt object. There is no discussion of what that blunt object might have been, where the blunt object might be found, or why a fall was ruled out in the first place. As with other cases, there was no investigation of the potential medical causes that could account for a fast, premature birth, nor was there discussion of whether such a small fetus was viable in the first place.

The remaining seven cases are significantly more difficult to classify, primarily because the data in the court documents are often incomplete and contradictory. Typically, the women

report that their baby was born dead, but the autopsy attributes death to a specific criminal cause, most commonly to strangulation.

Despite these variations in the details of the cases, there were consistent violations in women's due process.

POLICE: The police regularly failed to collect potential exculpatory evidence at the moment of the arrest, as illustrated in the case of Mirna, above. In Maria Teresa's case, neighbors report that police were walking through the neighborhood after the incident telling stories about the woman who "threw away her baby," rather than interviewing neighbors to ascertain the facts of the case. In at least four cases, when hospital staff realized that a woman had given birth, they told someone else to go look for the baby, rather than calling in the authorities. Typically, it was a young girl's employer (patron) who then found the baby, without any witnesses to testify as to what they found, or without any indication of how they handled the body.

CONTAMINATION OF THE SCENE: In at least nine of the 17 cases, the scene of the alleged crime was clearly contaminated by multiple people prior to the arrival of the police. In one case, the infant's body was actually cleaned, dressed, and then prayed over all night long by the community, being handled by untold numbers of hands, before one neighbor decided she suspected malfeasance and called the police the following morning.

HOSPITALS: Of the 17 cases, only 9 included even the most basic information about the medical condition of the accused women. In no case did medical staff appear to investigate whether a medical emergency might have occurred. Doctors did not analyze women's past or present medical conditions, evaluate the placenta, or check for maternal infections, diseases, or chromosomal abnormalities. Even in cases where witnesses report that a woman had lost consciousness, doctors routinely failed to provide estimates of blood loss or any other explanation for the state of unconsciousness, despite the fact that this explanation would be critical to understanding a woman's capacity to act in the moment of an unexpected, precipitous, out-of-hospital birth. Of the nine women for whom there are limited data, all appear to be anemic, and some severely so. Several had dangerously low blood pressures, complications that could, with more evidence, be indicative of obstetrical emergencies.

LEGAL MEDICINE: According to forensic textbooks, proving infanticide requires that the forensic evidence reach certainty on two key points: first, that the infant was born alive, and second, that someone took a specific action that then resulted in the death of the infant.

In 8 of these 17 cases, forensic doctors "proved" live birth with the lung flotation test. Moreover, judges regularly cited the lung flotation test as a central factor in their decision to find women guilty. Yet the lung flotation test is considered highly unreliable by both forensic experts and forensic textbooks because it is known to generate false positives (See expert testimony, Appendix). A lung may 'float,' supposedly indicating live birth, even when the infant was known to have been stillborn. The Knight Forensic Pathology text further states that the lung flotation test becomes increasingly unreliable the later it is performed.

Dead bodies begin a process of putrefaction approximately 4 hours after death. As part of this putrefaction process, gases may begin to inflate the lungs, causing even never-respired lungs to float. Not one of the lung flotation tests used to incriminate these 8 women was performed within a four-hour window of the death, suggesting that these tests were especially likely to generate false positives. In several cases, the lung flotation exams were performed up to 20 or 30 hours after death.

More generally, fetal autopsies routinely contained information that was contradictory and incomplete, as demonstrated in our cases above. In several cases, mothers reported that they were in the second trimester of their pregnancy, but the autopsies claimed that the fetuses were "full term," sometimes not even providing key measurements like infant weight. In one case, an autopsy concluded that a baby was "full term" after listing its length as 51 cm long, and its weight as only 700 grams, two measures that are practically impossible to find in the same fetus. In another case, the forensic doctor describes the defendant's placenta as intact and normal, while medical records make clear that parts of that supposedly "intact" placenta were retained in the woman's uterus and removed through a D&C. We suggest that such frequent contradictions in data reporting call into question the care with which many autopsies were conducted.

FISCALIA: The job of the Fiscalía is to find the truth, not to pursue incrimination. Nevertheless, as illustrated in the cases above, the Fiscalía routinely seemed to collect testimonies and evidence that supported a conviction, and regularly failed to gather potentially exculpatory evidence. Moreover, the statements written by the Fiscalía frequently belied the facts of the case. Recall in Carmen's case that the Fiscalía failed to get testimony from several key witnesses, including the one person who witnessed the birth. Moeover, they pursued incrimination, arguing that Carmen had "violently" killed her baby, even when the autopsy specifically reported that the cause of death was undetermined, and there were no marks on the tiny body. These two patterns continued throughout the cases reviewed here. Maria, for example, was a young domestic worker who professed to be excited about her pregnancy, and heartbroken when she suffered a stillbirth. The autopsy ruled that the infant had died of asphyxiation. Neither the Fiscalía nor the public defender ever sought to interview Maria's families or friends, who could have verified excitement about her pregnancy. To the contrary, the only testimony presented in the entire trial was that of Maria's employers, for whom she had only worked for a few weeks. .

JUDGES: The gender discrimination that underlies these 17 cases is perhaps most strongly indicated by the judges' statements. For example, in the case below, a young woman with mental deficiencies, who had already suffered a stillbirth several years earlier, told the courts that her most recent pregnancy also ended in stillbirth. She delivered the baby while home alone, and after suffering from three days of high fever. The autopsy was unable to confirm live birth, and specifically stated that the cause of death was "undetermined." Yet the judge writes his statement as if he were reading the evidence from an entirely different case. Instead of giving his rational for finding the defendant guilty, he writes as if the guilt has already been clearly established:

".. (The defendant) injured the legal life of a newborn, which by the fact of being born alive, had the right to exist and to be protected from its birth, especially by its mother...

To reiterate, the judge makes this statement after reviewing trial documents that provide no evidence that the child was born alive, no determination of how it died, and no theory of how the defendant presumably killed it.

Instead, the judge seems to argue that the young woman was guilty only because she hid her pregnancy:

"No legal motive exists to justify a mother killing her child, much less a defenseless newborn, the evidence in this process demonstrates that the only motive that the defendant had was avoiding public criticism and the rejection by her parents...

...The defendant's psychiatric evaluation found that, although she suffers from a slight mental deficiency, there is no impairment in her ability to discern right from wrong, it is therefore considered that she understood perfectly the illegal nature of her action, and in such a way tried to hide her pregnancy to get rid of the fruits of her conception with impunity."

Again, it is never stated in the case above what action the woman supposedly took to injure her baby.

Judges also frequently found women guilty while admitting that there was no direct evidence of their guilt. Instead, as in the three cases elaborated above, the judges argued that the circumstantial evidence combined to prove homicide beyond a reasonable doubt:

"Even though there were no witnesses present in the moment to say how the events occurred, we can reliably infer from the circumstances in which the defendant and the remains of the newborn were found...

"This court has not been presented with direct evidence to determine irrefutably that the defendant is responsible... but there exist, for the majority opinion of this Court, sufficient probative indications to deduce said responsibility. "

Importantly, social expectations of motherhood is a central theme in many of the judges' rulings:

"...(the Court) could not reach any other conclusion than that, if the child was dead and his death had been produced violently, then the author of this action couldn't be any other person but the mother..."

"...since the first person called to protect the life of a newborn is the mother, because she is the person in whom nature has deposited the procreation of life, and the care to conserve this life, ultimately assuring that this life flourishes; the complete opposite occurred in this case, given

that it was the mother herself who, despite being the first obliged to protect this life, was the one who destroyed it with her actions..."

CONCLUSIONS:

On April 1, 2014, the Salvadoran Citizens' Coalition for the Decriminalization of Abortion submitted 17 requests for pardon to the Salvadoran state on behalf of 17 women imprisoned for the alleged aggravated homicide, or attempted aggravated homicide, of their newborns. The Coalition argues that these women are guilty of nothing more than suffering an obstetrical emergency. Their opponents, many of whom are affiliated with the Pro-life movement, have countered that these 17 women are convicted murderers who warrant 30- and 40-year sentences.

Given this politicized environment, it is important to clarify from the onset that none of these seventeen women appear to have had an abortion. In all cases, women were in either the second or third trimester of their pregnancies, and appear to have given birth naturally, without any artificial provocation. While some were originally charged with abortion, the abortion charges were converted to Aggravated Homicide as their cases moved through the judicial process.

The ultimate purpose of this report is to provide an independent, data-driven evaluation of this question: Have Salvadoran women been sent to prison because they suffered obstetrical emergencies?

The evidence reviewed above clearly suggests "yes;" it is highly probable that Salvadoran women have been imprisoned for obstetrical emergencies. Maria Teresa has been sentenced to 40 years in prison because the judge believed she lied about not knowing she was pregnant, despite substantial documentation that she was telling the truth. Carmen was sentenced to 30 years in prison because the judge interpreted her attempts to hide the stillbirth from her employers as "proof" that she killed her baby. Mirna was sentenced to 12.5 years for attempted homicide because some (but not all) witnesses claimed that she did not help in her daughter's rescue efforts, despite being in the middle of a clear emotional and medical crisis. In none of these three cases was there physical or testimonial evidence to indicate that a homicide had been committed. In fact, in Carmen's case, the judge resorts to simply stating that Carmen took an "action" that resulted in the baby's death, because he is literally unable to name what that action might have been, given that there were no signs of trauma anywhere on the young body (and potential signs of medical disease inside the body). In none of these cases did the judges offer any motive for why the women would want to kill their babies. And in none of these three cases is there any physical or testimonial evidence that could contradict women's stories of obstetrical emergency. Although we only review 3 cases in depth, we believe the majority of the 17 cases represent situations where women suffered obstetrical emergencies.

Our analysis further suggests that the biggest challenge before the Salvadoran state at this juncture is the lack of sufficient data to determine what really happened in the moments

surrounding the birth of these infants. As demonstrated above, the court documents we reviewed are frequently filled with contradictions and equivocations. The lack of medical information about women's health and reproductive history is especially remarkable, but we also find regular gaps in the forensic and testimonial data (ie, no fetal weights recorded because *"there was no scale;"* no attempts made to interview key witnesses, etc.).

What is perhaps most concerning is that the limited evidence presented in these women's trials routinely seems to be biased toward incrimination. Judges prioritize incriminatory testimonies and reject testimonies that favor the women. Forensic analyses regularly dismiss women's stories of obstetrical emergencies yet provide little or no explanation as to why. Medical personnel regularly fail to collect even the most basic data on women's health and potential health complications. Importantly, judges frequently seem to determine women's guilt based at least in part on whether they failed to uphold ideals of motherhood (i.e., by hiding their pregnancy, or accidentally injuring their child), more so than whether they committed any crime.

A recent US study of stillbirths occurring in 59 medical facilities found that common causes of stillbirth include cervical insufficiency, placental abruption, preterm labor, abnormalities of the placenta, genetic or structural abnormalities of the fetus, umbilical abnormalities, infection, blood pressure disorders, and other maternal medical conditions.[9] We saw no evidence in the case files that any of these potential factors were considered in the analysis of the 17 cases. More importantly, even in this US study, where the full attention of a well-staffed research team in a resource-rich environment was dedicated exclusively to identifying the causes of stillbirths, the cause of infant death remained undetermined in 40% of the cases. The unfortunate reality is that many stillbirths remain unexplained, even when they occur in resource rich environments under the watchful eyes of medical personnel.

In El Salvador, the Ministry of Health reports that 19 out of every 1,000 clinical births end in perinatal death, defined as a fetal death that occurs after the fifth month of pregnancy or within the first seven days after birth.[10] This translates to more than 700 perinatal deaths each year. Our review of the 17 cases above raises concerns that any Salvadoran women who suffers a stillbirth or other obstetrical emergency outside of a medical facility may be at risk for arrest and imprisonment. Even in cases where the cause of infant death was "undetermined," or appeared directly related to an obstetrical emergency, judges have still found women guilty, often by suggesting that they had failed as mothers by allowing harm to come to their infants.

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[9] (http://www.ncbi.nlm.nih.gov/pubmed/22166605).

[10] http://www.salud.gob.sv/novedades/noticias/noticias-ciudadanosas/138-febrero-2011/816--11-02-2011-ministra-de-salud-oficializa-plan-de-reduccion-de-la-mortalidad-materna-perinatal-y-neonatal.html

Importantly, privileged women are more able to seek medical care, and therefore significantly less likely to be accused of murder for an obstetrical emergency, than are less privileged women. The women who are most at risk of imprisonment for failing to successfully bring a pregnancy to term include poor women who cannot afford to take time off from their work, or who cannot afford the medical exams or medications suggested by hospitals; rural women who do not have easy access to medical care; women whose actions are limited by the violence of an abusive household member or by gang violence in their communities; and women who suffer from physical or mental disabilities. Not surprisingly, these characteristics describe particularly well the 17 women whose cases are reviewed here. The large majority are poor, rural women with limited educational attainment. Three women reported suffering from high levels of abuse and regular death threats at the hands of men in their lives (2 from their compañeros, 1 from a local gang member). At least two of the 17 women suffer from a documented physical or a mental disability. Another four were domestic employees whose actions were monitored by their employers.

In sum, our review of the court documents in the case of the Salvadoran 17 has provided substantial evidence suggesting that Salvadoran women have been imprisoned for obstetrical emergencies. While acknowledging that the data needed to determine "what happened" is inadequate in many of these cases, we nevertheless draw attention to a clear pattern in the kinds of data systematically collected by the courts. Specifically, we find that courts routinely prioritize the collection of incriminatory data, at the expense of exploring possible exculpatory evidence. We further suggest that narratives of motherhood are frequently central to judge's sentencing rationale. Given these systematic and discriminatory practices, we conclude that the Salvadoran state owes a debt to the 17 women currently serving prison sentences for the aggravated homicide of their newborns. The state further owes a debt to the children of these women, many of whom have been left orphaned, without the love of their mother or the financial resources that her job might have brought to the household prior to her incarceration. Finally, we conclude that the Salvadoran state has an urgent responsibility to develop protocols for the police, medical personnel, forensic specialists, and the Fiscalía to help them understand what data are necessary to objectively and scientifically prove the live birth and intentional homicide of an infant beyond a reasonable doubt, thus protecting from prosecution the more than 700 Salvadoran women every year whose babies die during or shortly after birth due to obstetrical complications.

APPENDIX

- Redacted testimony from Dr. Gregory Davis, expert in forensic medicine and pathology

- Redacted testimony from Drs. Christine Curry and Jodi Abbott, experts in Obstetrics, Gynecology, and Fetal Medicine

UNIVERSITY OF KENTUCKY

Pathology & Laboratory Medicine
College of Medicine
800 Rose Street / MS117
Lexington, KY 40536-0298
Phone: 859-257-5175
gjdavis@uky.edu

September 2, 2014

Honorable Judges of the Supreme Court of El Salvador

Re: Determination of Live Birth versus Stillbirth and Consideration of Birth-Related Injuries

Your Honors:

I have had an opportunity to review the following materials:

Reports of the cases of:

- María Teresa [redacted]
- Carmen [redacted]
- Cinthia [redacted]
- Alba [redacted]

I am a physician licensed to practice medicine in the states of Kentucky, Indiana, and North Carolina. I have practiced forensic medicine and pathology for over 28 years and am Professor of Pathology and Laboratory Medicine and a Professor in the Graduate Center for Toxicology of the University of Kentucky College of Medicine and am an Assistant State Medical Examiner for the Commonwealth of Kentucky, formerly Associate Chief Medical Examiner of the Commonwealth from 1998 - 2005. I currently am the Department's Director of the Forensic Consultation Service and Co-Director of the Autopsy Service. I am certified by the American Board of Pathology in Anatomic Pathology, Clinical Pathology, and Forensic Pathology, and I have been qualified as an expert in forensic medicine, pathology, and toxicology in numerous State Courts in Kentucky, Tennessee, Ohio, Indiana, Virginia, West Virginia, North Carolina, Alabama, Florida, and other states as well as in United States Federal Court.

I have been a visiting professor at the Colleges of Medicine of the Ohio State University, University of Michigan, Indiana University, Washington University in St Louis, University of Debrecen (Debrecen, Hungary), Otago University (Christchurch, New Zealand), and the Victorian Institute of Forensic Medicine (Melbourne Australia). I am current President of the Kentucky Society of Pathologists, past President of the Section on Pathology of the Southern Medical Association, and past Chair of the Forensic Pathology Committee of the College of American Pathologists, the leading organization of board-certified pathologists

serving patients, pathologists, and the public by fostering and advocating excellence in the practice of pathology and laboratory medicine worldwide. I have appeared on US national television on CNN, NBC Dateline, CBS 48 Hours, and the NBC Today Show regarding forensic medicine and pathology, and I host a weekly radio show, "Dr Greg Davis on Medicine" on the University of Kentucky National Public Radio affiliate WUKY 91.3 FM.

The pathologist who performed the autopsy of the infant of María Teresa [redacted] offers the opinion that the cause of death was "perinatal asphyxia." Such a diagnosis may be accurate; however, such asphyxia can occur naturally during the birthing process through no fault of the mother. Such deaths can occur even with attended births within a hospital.

The fact that the lungs floated at autopsy does not prove or disprove live birth. Such a "hydrostatic test" or "float test" test is invalid in unattended births. Such a test has actually been held as non-reliable for over a century. Saukko and Knight note on pp 445-446 of their textbook, *Knight's Forensic Pathology*, 3rd ed (London, Arnold, 2004):

> There are too many recorded instances when control tests have shown that stillborn lungs may float and the lungs from undoubtedly live-born infants have sunk, to allow it to be used in testimony in a criminal trial. Even one such failure negates the whole history of the test and the authors are saddened to contemplate the number of innocent women who were sent to the gallows in previous centuries on the testimony of doctors who had an uncritical faith in this crude technique. As this is such an important issue and one that is still contested today, the words of the late Professor Polson may be recalled from his notable textbook [Polson C, Gee D, Knight B. 1985. *Essentials of Forensic Medicine, 3rd ed.* Pergamon Press, London]:
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> > The test was suspect even in 1900 and requires not detailed discussion, because it is now known to have no value. The lungs of the live-born, even those who have been known to live for days, may sink [Dilworth 1900; Randolph 1901] and those which float are not necessarily those of live-born infants.... It is therefore pointless to apply the hydrostatic test [float test], which will impair the material for other and more important investigations.

Keeling notes in *Paediatric Forensic Medicine and Pathology* (London, Hodder Arnold, 2009), p 185:

> The use of the property of lungs to float in water (or buffered formalin) as a determinant of live birth is fraught with difficulty. It is unwise to rely on it as the only determinant of live birth even when some or any of the published modifications, which allegedly improve reliability, are introduced. It may be falsely positive because of putrefaction, even to a minor degree. [...] The value of the flotation test is negated by mouth-to-mouth or other positive-pressure ventilation.

In the context of such an autopsy, even the presence of air in the lungs is not an indicator of live birth. The mixture of air and fluid that can give rise to air bubbles can occur with even slight decomposition, and some time passed between the delivery of the neonate and autopsy. Another possible cause for air to be in the respiratory system is cited by Saukko and Knight, p 448:

> Postmortem handling has also been incriminated for the entry of air into fetal lungs. Apparently respired alveoli have been found in lung sections for a dead infant taken from the uterus of a dead mother.

Janssen states in his *Forensic Histology*, (Berlin, Springer-Verlag, 1984), pp 201-203:

> Even in unborn children taken dead from the uterus of the dead mother, partial infiltration of air into the lungs could be detected (Meixner 1926). The cause of this partial aeration was explained by postmortem entry of air into the lungs as a result of manipulations to the corpse of the child during autopsy. [...] According to the present level of knowledge and possibilities for examination, ventilation of the lungs alone cannot be taken as certain indication of a live birth. Under various circumstances, lungs originally aerated can become devoid of air: conversely, the lungs of stillborn neonates can appear aerated. [...] The influence of autolysis and putrefaction can lead to the disappearance of air or regeneration of gas within the pulmonary tissue.

The physician in this case describes that the umbilical cord was found cut. Later clarification of this indicates that "the tear of the distal [aspect] of the umbilical cord is the product of a mechanical action of separation of the newborn from the mother, which was not tied due to lack of knowledge of this skill." Certainly, losing consciousness after precipitous, unexpected delivery can cause loss of consciousness and tearing of an umbilical cord. Sharp edges of a transected umbilical cord can occur during snapping due to precipitous delivery. Saukko and Knight note on p 443:

> Morris and Hunt (1966) conducted experiments on cords and determined that they could easily be broken by hand traction. A broken cord can show a clean transverse termination, but it is usually ragged. If cut by a sharp instrument such as knife or scissors the cut may be clean, but may also be ragged if the instrument is blunt.

In summary, there is no way to state that the baby of María Teresa [redacted] was born alive. He could just as easily have been born dead (miscarriage). As Adelson states in *The Pathology of Homicide: A Vade Mecum for the Pathologist, Prosecutor and Defense Counsel* (Springfield, IL, Thomas, 1974), p 628

> Complete gross autopsy and painstaking microscopic studies do not always give satisfactory answers as to cause or mechanism of death in many stillbirths and neonatal deaths which occurred with competent medical attention. Even more insurmountable can be the problems faced by the pathologist who examines a child whose antenatal, intranatal, and neonatal courses were not witnessed by any person willing or able to tell what transpired.

The autopsy of the male infant of Carmen [redacted] showed a discharge of foam from the pulmonary parenchyma (lung tissue). For the same reasons cited above, this cannot be taken as an indicator of live birth. The phrase, "x-rays, pulmonary optics, gastrointestinal and histology are positive for extra-uterine life" is not helpful in actually determining if this was a live birth for the same

reasons cited in the first case above. Even the presence of fluid (not food) in the stomach, perhaps the focus of "gastrointestinal," is not proof of live birth. Such fluid may be autolytic fluid, amniotic fluid, or due to aerophagia during transit through the birth canal, as noted 40 years ago by Adelson in his text cited above, p 628:

> Gas can be present in the stomach of a nonputrefied neonate as a consequence of aerophagia incident to labored respiratory efforts as the infant was in transit through the birth canal.

The autopsy showed a congenital abnormality of one umbilical artery and two umbilical veins, an anomaly sometimes associated with stillbirth. Although the pathologist indicated that death was violent, there is no evidence of violence in the report.

In summary, for the reasons noted above, there is no way to state that the baby of Carmen [redacted] was born alive. He could just as easily have been born dead (miscarriage).

The findings at autopsy of the baby of Cinthia [redacted] are consistent with her report of the events surrounding the baby's birth. A panicked young person experiencing her first pregnancy and delivery could easily give birth in such fashion with rapid labor. Although unusual, this rapidity is not rare. In her panic, depending upon the type of scissors used, such sharp injury of the infant's neck could easily occur. Even in the controlled environment of a hospital delivery room under the best of conditions, reported injuries to infants during cutting of the umbilical cord are not rare.

The on-site doctor estimated that the baby's death was 12-14 hours prior to the baby's discovery; given such an estimate, it is more likely than not that putrefaction would have occurred and would have rendered any determination of live birth by such methods as the "float test" unreliable for reasons noted above.

The injuries noted on the baby of Alba [redacted] are complex and, while suspicious for intentional infliction, are just as consistent with injuries due to unattended birth and resuscitative (CPR) attempts by well-meaning but non-professional persons. As Knight notes in his text cited above, p 444:

> Head injuries are relatively common [...] The defence may be raised that the child fell to the ground, either from the mother's arms, but especially during a precipitate birth from the standing or crouching position. Though this defence sounds like a desperate excuse, the author can attest – no doubt in common with all doctors who have practical experience of childbirth – that some deliveries, especially in multiparous women, can occur with considerable speed and force.

The physical act of rapid delivery, perhaps associated with grasping of the infant during the process of expulsion from the vaginal canal, can cause multiple birth injuries such as those sustained by Ms [redacted] infant and are not diagnostic of infanticide. It is not unusual for a woman to lose consciousness while giving birth

alone, and some injuries to the infant could easily be caused during this process. The contribution of resuscitation attempts to artifactual injury is well-known.

In summary, there is no way to determine from the evidence reviewed that the injuries sustained by the baby of Alba[redacted] were deliberately inflicted.

The opinions noted above are offered to a reasonable degree of medical certainty.

I reserve the right to expand or modify these opinions upon receipt of further materials pertinent to these issues or upon considering questions posed by the Prosecution, Defense Counsel, or Your Honors.

Respectfully submitted,

Gregory J. Davis, MD, FCAP
Professor
Director, Forensic Consultation Service
Co-Director, Autopsy Service
Professor, Graduate Center for Toxicology
Assistant Medical Examiner, Commonwealth of Kentucky
Former Associate Chief Medical Examiner, Commonwealth of Kentucky

EXPERT REPORT OF
CHRISTINE CURRY, MD, PHD and JODI ABBOTT, MD
IN SUPPORT OF 17 WOMEN'S REQUESTS FOR PARDONS IN EL SALVADOR
October 5, 2014

To the Honorable Judges of the Salvadoran Supreme Court of Justice:

We, Dr. Christine Curry and Dr. Jodi Abbott, under penalty of perjury, do hereby swear and affirm the following:

We have recently reviewed summarized case materials and medical evidence for the 17 Salvadoran women for whom you are currently considering pardons.

In the majority of these cases, the accused women argue that their fetus was stillborn or died shortly after birth due to pregnancy complications.

We have reviewed these cases with the specific objective of evaluating whether the medical evidence provided is congruent with the women's account of the fetal death.

We find that, in the large majority of the cases, the women's testimonies are indeed medically defensible. There are several potential medical explanations that correspond well with most women's testimonies, reported health, and the facts of the case. Such plausible medical explanations call into question findings of aggravated homicide.

We present our medical analysis of the 17 cases in general, and of four cases in particular, below. Our analysis of these cases is based on objective skepticism, intellectual honesty, knowledge of the latest research in obstetrics and gynecology, 33+ years of combined medical experience, and a careful review of the evidence. Our contribution to this case is not as an advocate for the Accused, but rather as an advocate for the truth.

Neither we, nor any member of our famiy, know, are related to, have ever met with, and prior to this review, have ever heard of, any of the Accused or any other individual referenced in the court documents.

EXPERTISE

CHRISTINE CURRY, MD, PhD

I, Dr. Christine Curry, am a resident of the State of Florida, and a citizen of the United States.

I am currently employed as an Assistant Professor at the University of Miami and Jackson Memorial Hospital, both in Miami, Florida, USA, a position I began this year. Prior to this, I worked for one year as a Clinical Instructor at Boston University Medical Center, in Boston, Massachusetts, USA, preceded by four years of Obstetrics and Gynecology specialty training at Boston University Medical Center.

I received my BS with Honors in Biology from the University of Iowa in 2001. I completed my PhD training at Loyola University Chicago, where I graduated from the Microbiology and Immunology Department with Distinction. My MD was granted from Loyola University Chicago in 2009.

My expertise in obstetrics and gynecology is evidenced as follows. I have presented research relevant to obstetrics and gynecology at local, national and international conferences. I have been an invited speaker at dozens of institutions across the country on a variety of medical topics related to women's health, maternal health and reproduction. My publications are broad in scope, and have been published in well-respected journals such as Nature. I have held teaching responsibilities including as Course Director for a language course in Boston, USA. I served as the Associate Clerkship Director for the Obstetrics and Gynecology medical students during their clerkship at Boston University Medical Center, winning resident and faculty teaching awards each year. Additionally, I have both lived and practiced medicine in low resource settings in the United States, Haiti and Guatemala, giving me perspective and clinical experience related to women's health in impoverished settings.

JODI ABBOTT, MD

I, Dr. Jodi Abbott, am a resident of the State of Massachusetts and a citizen of the United States.

I am currently employed as the Director of the Maternal Fetal Medicine division at Boston University School of Medicine in Boston Massachusetts where I have been for 10 years. I have previously held appointments at Beth Israel Deaconesss Medical Center, Harvard Medical School, and Thomas Jefferson University School of Medicine.

I received my BA from Lehigh University in Biology in 1983. My medical degree was granted in 1986 from Drexel University School of Medicine. I completed residency training in Obstetrics and Gynecology from Tufts University Affiliated Hospitals in 1990. I then further specialized in Maternal and Fetal Medicine, which is the study of complicated pregnancy and births, at Thomas Jefferson University Hospital with completion in 1992.

My expertise in obstetrics and gynecology is evidenced in the following manner:

I have cared for 1200 women in the past 28 years who have experienced pregnancy loss, stillbirth, and preterm delivery before infant survival. I have consulted with families and their physicians across the United States and internationally. Practicing at

Boston Medical Center for the past ten years, I have seen hundreds of women who delivered preterm liveborn and stillborn fetuses in low resource settings, many of them at home in Africa, Eastern Europe, and Middle Eastern countries as well as Central and South America. These women come to me to help them have healthy pregnancies in a setting with many resources. Many are able to have healthy pregnancies after their losses, some are not. If you had a family member who lost a premature baby and wanted a child, you would bring her to me because I have the expertise to give her the best chance for a healthy child.

I have developed protocols for evaluation and prevention of pregnancy loss in three hospital systems, and have been invited to speak nationally and internationally on this topic. I have been an advisor to the March of Dimes (a US nonprofit advocacy group devoted to prevention of birth defects and preterm delivery) and the Lupus Foundation of New England as a perinatal expert in pregnancy loss due to the disease of Systemic Lupus Erythematosis. I have received awards for excellence in my expertise in each of the last four decades including listings in "Best Doctors in Boston" and "US News and World Report Best Doctors" from 2012 through 2014. I have been active in patient safety and quality improvement initiatives beginning in 1992,and teach and lecture nationally on the topic of patient safety. I am a representative to the American Association of Medical Colleges (AAMC) for "Best Practice for Better Care". I am part of a team that successfully decreased the Infant Mortality Rate in Boston, and decreased the health disparity between Black, Latina and White women.

ASSESSMENT OF CENTRAL THEMES IN THE 17 CASES

Theme 1: Several of the Accused claim that they did not know they were pregnant; the court concludes that the Accused must be lying.

As obstetrical specialists with over 33 years combined experience, we have both regularly encountered women who did not realize they were pregnant until they were in labor or had delivered. Women most at risk for not realizing they are pregnant until late in the pregnancy are women who experience continued intermittent vaginal bleeding during their pregnancy, who are overweight, or who are experiencing their first pregnancy. Women with a history of irregular menstrual bleeding often do not recognize that they are pregnant until the second or even third trimester.

Women who live in poverty are also especially likely to delay realization or miss a pregnancy altogether due to their inconsistent interface with the health care system and missed opportunities for diagnosis.

According to a German study, one of every 475 pregnancies in Berlin during a one-year period was unrecognized by the mother and was diagnosed only when the woman interfaced with the health care system. The women either did not experience pregnancy symptoms, did not relate their symptoms to possible pregnancy or were in denial and did not consciously acknowledge the pregnancy. Two-thirds of the women had been

pregnant previously and yet remained unable to detect their pregnancy symptoms correctly. Several of the pregnancies were diagnosed only when the women had a precipitous birth at home. The study demonstrated that even in a well resourced setting with a high background education and health literacy, undiagnosed pregnancy occurs frequently.

Importantly, when a woman does not realize she is pregnant, she is predisposed to have pregnancy complications due both the underlying cause of the bleeding (likely placental separation) and the lack of medical care in the prenatal period due to the undiagnosed pregnancy. If a woman does not realize she is pregnant because she is still experiencing regular vaginal bleeding, she and her pregnancy are particularly at risk, as bleeding in the second and third trimester is universally a sign of serious pregnancy complications.

Among the 17 women, five reported not knowing they were pregnant. Most of these women reported regular vaginal bleeding which they interpreted as menstrual bleeding during the pregnancy period, which meant they were ALREADY having an early pregnancy complication. Vaginal bleeding put them at risk of both not realizing they were pregnant, and of suffering pregnancy complications, specifically stillbirth and preterm delivery. Complicating factors in these cases included women's poverty, youth and lack of access to routine medical care. Non-identification of one's pregnancy should not be interpreted as an intent to mislead but should prompt diagnosis of a concurrent pregnancy complication requiring treatment of the mother in a medical context with full physical and mental evaluation.

Theme 2: At least four of the Accused claim that they had regular bleeding prior to giving birth. Others report additional complications, like bladder infections or a fall.

If the Accused reported vaginal bleeding during the months prior to delivery, it is plausible and likely that bleeding represented an abnormal placenta. This bleeding can be misinterpreted as menstrual bleeding and can obscure the diagnosis of pregnancy, while at the same time signaling a pregnancy at very high risk for preterm delivery and/or stillbirth. While light bleeding is very common in the first trimester, bleeding during the 2nd or 3rd trimester is universally a sign of pregnancy complications. Late-term bleeding can be caused by such serious pregnancy complications as abnormal placentation due to placental abruption (or separation), or abnormal placental location (placenta previa, low-lying placenta), or cervical incompetence. Additionally, when a woman has irregular menses at baseline, it is very difficult to determine she is pregnant if she is having intermittent bleeding from a complicated pregnancy.

The placenta is an organ that is attached to the inside of the uterus and transfers oxygen and nutrition between the fetus and mother. Cramps and vaginal bleeding experienced by the mother are a pregnancy complication that can be caused by abnormal placental attachment to the uterine wall or abnormal positioning, where the placenta is attached very low down in the uterus, either just next to or covering the cervix.

When the placenta is partially detached from the uterine wall (or abrupting) there may be painless bleeding or bleeding and cramping. Abnormal placenta attachment can also account for stillborn babies; as the placenta separates during birth before the fetus is expelled, there is diminished or obstructed blood flow and thus no oxygen flow to the fetus. Additionally, bleeding from the placenta constitutes fetal blood loss, and can contribute to stillbirth. Placental abruption can happen without any risk factors or, for example, after abdominal trauma or in the setting of dangerously high blood pressure, and complicates about 1% of all pregnancies. Some abruptions are chronic, meaning that the woman experiences some vaginal bleeding from time to time, but the placenta does not completely detach from the uterine wall. Approximately a quarter of all women who have placental abruptions will have the most severe kind of abruption, called Class 3, which is the total separation of the placenta from the uterus, which leads to fetal death and maternal hemorrhagic shock and possible death. When the placenta separates from the uterine wall, the baby is no longer able to get sufficient oxygen from its mother, and it can die while still in the womb from lack of oxygen or asphyxiation. This death may be minutes, hours or days before the delivery. This diagnosis is made by the clinical scenario and observations of the physician or attendant at the time of delivery, as well as by complete pathologic evaluation of the placenta by a trained pathologist.

In settings where the Accused had heavy bleeding proximate to the delivery, with sudden onset of hemorrhage at the time of delivery, it is possible that she was suffering from a placental abruption. This could have been life threatening to the mother and fetus, could have caused a stillbirth or contributed to an infant that was unable to survive without immediate medical attention.

When the placenta is covering the cervix this is called a placenta previa. These women often feel no pain, but have bleeding that can be very light to dangerously heavy. This condition is extremely dangerous because it is not possible for the fetus to be safely delivered by vaginal birth because the placenta is blocking the cervix. When detected during prenatal care, a cesarean delivery is the only safe option for delivery of the fetus. When not detected, the fetus and mother risk life threatening bleeding during delivery, often with fetal death. Abnormal placenta positioning could easily account for cases where the women were having painless bleeding at irregular intervals, which they may have perceived to be menstrual bleeding. This diagnosis is made while the woman is pregnant and requires an ultrasound to determine the location of the placenta. Cervical incompetence is another pregnancy complication that explains particularly well the experiences of several women in the cases we reviewed. The cervix is the name for the lower part of the uterus. In a normal pregnancy, the cervix does not open (or dilate) until the fetus is full term. The strong and painful labor pains or contractions of a normal birth cause the cervix to open. In a normal pregnancy, the strength of the cervix keeps the fetus inside the uterus.

Cervical incompetence is a condition in which the cervix opens (dilates) *without* painful contractions. Not uncommonly, women with this condition deliver into toilets due to their feeling of extreme pressure without pain, and the rapid expulsion of the baby with

few contractions. They often perceive the need to have a bowel movement and the act of bearing down can precipitate delivery of the fetus. This condition cannot be diagnosed unless a woman knows she is pregnant, and it is much more common in women who have bleeding in pregnancy.

If a woman has cervical incompetence, she cannot proceed to full term without a cerclage or "stitch" to close the cervix and keep the fetus inside. Many women with cervical incompetence have previously had normal and full term pregnancies, it's not clear why they develop cervical incompetence in one pregnancy but not another. Women with cervical incompetence have premature deliveries, putting the fetus at high risk of neonatal death without immediate neonatal resuscitation.

If the Accused suffered from cervical incompetence, it would verify her accounts of how quickly and easily the baby was expelled, and it would explain why the babies were born into latrines or toilets. It would also explain her continued bleeding during pregnancy.

Theme 3: The Accused frequently claim that they felt a strong urge to defecate prior to delivery, and that is why they delivered into a latrine. The Court argues that women should be able to tell the difference.

In the United States, one of the first things obstetricians are taught during training is that a woman's urge to defecate is the number one cue that a baby is arriving. The urge to defecate is physiologically triggered as the baby's head moves lower in the birth canal because it presses upon the rectum. This triggers a reflex urge to bear down and defecate. Even in hospitals in the US, where pregnant women know they are pregnant and are awaiting their child's birth in a hospital room, babies are not uncommonly born into ceramic toilet bowls. This scenario is so frequent that when a women reports the urge to have a bowel movement and is known to be pregnant, we often do a vaginal examination to assess the location of the baby before giving the patient permission to bear down for the bowel movement in an attempt to reduce the risk of delivering the infant in the toilet.

If a woman did not know she was pregnant, and if she did not have the benefit of medical care at the moment of labor, it is absolutely to be expected that the baby's arrival would be interpreted as a need to defecate.

Theme 4: Pre-term Birth

In nearly all of the 17 cases, we found discrepancies between the patient's reported gestational age and the gestational age concluded by the autopsy, or we found that the data reported in the autopsy to determine gestational age was inconsistent or incomplete. For example, in some cases, the length of the fetus and the weight do not correlate, or the weight is much less than would be expected for the gestational age derived by the pathologist evaluation. This may be manifest of a fetus affected by intrauterine growth restriction (which is a complication of an abnormal placenta) or by

a fetus delivered prematurely. The low birth weights are confirmatory of the Accused's description of bleeding during pregnancy, and should be considered independent evidence that corroborates her claims.

Pre-term pregnancies, by definition abnormal, are often caused by infection in the mother, and indicate a high risk for a number of emergency obstetrical complications, including:

-precipitous birth—a birth that happens quickly, and with little warning.
-extensive vaginal hemorrhaging
-infection of maternal and fetal tissues
-neonatal sepsis (an infected baby)
-retained placenta
-neonatal hypoxia (baby born with to low oxygen due to rapid and abnormal labor)

Many of these 17 women report precipitous births (deliveries that happen quickly and with little warning). The majority of these women were documented as "hemorrhaging" by the medical personnel who treated them. Many of these women had retained placentas that had to be removed by the medical personnel who treated them. These factors are consistent with abnormal pregnancy and preterm delivery.

When infants are born prematurely, there is extensive evidence that without immediate and trained medical attention there is high risk of neonatal death from respiratory failure, sepsis or acidosis.

If the Accused delivered an infant that was premature without someone present who had training in neonatal resuscitation and immediate access to a hospital, it is unlikely that the infant would have survived. Similarly, full-term fetuses with intrauterine growth restriction or other medical complications would be expected to require prompt medical attention. Newborn infants of any age who are already seriously compromised by blood loss, infection or low oxygen may already have suffered injury in labor and are more likely to die at or shortly following birth even with, and certainly without, trained expert newborn specialists.

Theme 5: Hemorrhage and infections related to childbirth can result in altered mental status. Women experiencing extensive blood loss are physically unable to get sufficient oxygen to their brains. This results in medically-induced behavior that may appear confused, dazed, anxious, or unusual.

Doctors treating the Accused regularly report that the women were hemorrhaging profusely when found by medical personnel, with several doctors reporting that women lost consciousness or required IV fluids. Many of the accused were treated for a retained placenta, which is associated with postpartum hemorrhage.

Hemorrhage has four stages, which depend on how much blood a person loses. This is also dependent on what the patient's blood level (hematocrit, hemoglobin) was before

birth. When someone is unaware of their pregnancy or is not accessing prenatal care, one would expect baseline malnutrition and thus baseline anemia. When the blood loss is stage 2 (loss of 15-30% of blood volume) there begin to be central nervous system changes, which manifest initially as a patient who is behaving erratically or appears anxious or confused. As the degree of blood loss progresses there is less blood going to the brain, and the patient will be progressively more confused, and may subsequently become lethargic, appearing to not respond appropriately, will not speak appropriately or at all, and can subsequently lose consciousness or die if the blood loss is not stopped. One expects that if the Accused has significant blood loss that they would be perceived as displaying odd or strange behavior, that they may be non-responsive or respond inappropriately or that they may lose consciousness.

With the information provided, it seems that many of the Accused had signs of postpartum hemorrhage and subsequent signs of hemorrhagic shock. However, the documentation of mother's health is often lacking description of her physical examination, mental status evaluation, vital signs, and blood level measurement (hemoglobin or hematocrit). When such data are provided, the women are universally anemic, sometimes with severe anemia and often have very abnormal vital signs

Preterm birth, retained placentas and other obstetrics complications can also be related to maternal or neonatal infections. Infections around the time of delivery are common. The documents provided did not routinely demonstrate evaluation of maternal temperature or evaluation of systemic infection with blood testing (white blood cell count). Similarly, without a complete maternal evaluation it is difficult to know if the fetus was also infected. If an infant is born in the setting of infection, it requires intensive care and antibiotic administration. Without prompt resuscitation it would not be expected to survive. Histological evaluation of the placenta by a trained pathologist can often help determine if there was an intrauterine infection near the time of delivery. However, the case summaries often include only a gross description of the placenta, or simply state that it is or is not intact.

Theme 6: Poverty

Even in a resource-rich nation like the United States, poverty is highly correlated with premature delivery, fetal birth defects, malnutrition, anemia, and poor fetal growth. Poor women, especially those who may be malnourished or anemic, have high-risk pregnancies by definition, and are especially likely to suffer from preterm labor, intrauterine growth restriction or fetal complications.

The social histories provided for many of the Accused demonstrates that they lived in poverty, were of a low socioeconomic status and had low levels of education. In addition, without access to routine primary health care, they did not interface with the health care system with enough frequency for their pregnancies to be detected. All of these factors are correlated with poor pregnancy outcomes for the mother and the fetus. Even in the United States, the reported social histories for many of the accused

would place them in the highest risk group of women whose babies would not survive the pregnancy.

Theme 7: Insufficient medical evaluation to determine potential alternative explanations for fetal demise.

In our medical practice, it is routine and expected that all possible scenarios be evaluated before coming to a conclusion about a cause of illness or cause of death. This process in medicine is the process of creating a differential diagnosis. To do this we begin by gathering all of the appropriate and relevant information and then hypothesize about what the possible disease process might be.

In the case summaries provided, there is a chronic lack of complete medical information about the maternal health status. Often there are not complete vital signs, or if they are provided, they are abnormal, often with dangerously low blood pressures. Height and weight are often absent, precluding our ability to make estimates of the maternal nutritional status or overall health. The blood loss is largely described simply as 'hemorrhage' without attempt to quantify the estimated blood loss. When vital signs are taken or measurement of anemia is evaluated, they almost always demonstrate medical concerns (like anemia), and yet we were surprised to find that these medical concerns were not discussed in the doctors' reports to the courts. Many of the women had dangerously low blood pressures, which can be associated with decreased brain perfusion (ability of the brain to get oxygen) and confusion. In addition, their blood levels (hematocrit or hemoglobin) levels are also very low, indicating either chronic malnutrition, acute hemorrhage or both. Our ability to carefully evaluate and diagnose the mother's illness or fetal complications is significantly limited by the lack of complete medical information provided.

Our ability to refine the differential diagnosis of the mother's illness and the fetal complications is also limited by lack of placental pathologic and histologic evaluation. These data are required to differentiate an infection from a placental abruption, which has grave implications on the ability to predict the fetal survival.

In the situation where one is not able to gather complete and appropriate data, one cannot safely and reliably narrow down the differential diagnosis to give a cause for an illness, complication or death. In the cases presented to us, there remain considerable unanswered medical questions about each woman's case leaving many alternatives possible for the etiology of the fetal demise, and leaving the distinct possibility of intrauterine fetal demise or death due to prematurity, lack of professional medical care or fetal illness as alternative causes for the death of the infants

SPECIFIC CASE EVALUATIONS

Understanding the import of these seven themes for the eventual judicial outcomes of the cases is best illustrated through a few actual illustrations:

MARIA TERESA [redacted]

Maria Teresa Rivera reports not knowing she was pregnant. She had gone to the doctor to complain of lower abdominal pains, but she reports that the doctor diagnosed her with a bladder infection, and the doctor did not realize she was pregnant either. Maria Teresa had been bleeding regularly throughout the pregnancy, and reports that her stomach never grew. On the day of the birth, Maria Teresa reports experiencing heavy vaginal bleeding, but did not feel anything resembling labor pains. She awoke in the middle of the night feeling dizzy and a strong urge to defecate. She made her way to the outside latrine. There, she experienced cramps and felt as if a ball fell out of her. She tried to call out for help, but lost consciousness. Her mother-in-law found her bleeding and unconscious on the ground, and called an ambulance. Maria Teresa reports that she did not understand what had happened until the doctors at the hospital told her she had given birth, and that a dead fetus had been found in the latrine. The autopsy concluded that the baby was "full term," but key measurements, like fetal weight, were missing. The autopsy concluded that the fetus had died of perinatal asphyxiation, which could have occurred before, during, or after birth.

The medical documentation accompanying Maria Teresa's case is consistent with an obstetrical emergency that may have resulted in stillbirth or neonatal death.

First, Maria Teresa states she was unaware of her pregnancy. Patients with bleeding during pregnancy are at risk for not being aware of their pregnancies, inaccurate gestational age estimation due to uncertainty of the last normal menstrual period, miscarriages, and premature deliveries.

Up to one third of pregnancies are complicated by bleeding in the first trimester. Bleeding in the second and third trimester, however, defines a complication such as placental abruption, abnormal placenta implantation or cervical incompetence.

Maria Teresa's description of irregular bleeding in pregnancy would have made the patient's detection of pregnancy difficult, and may have contributed to the physician not diagnosing pregnancy at the time of the diagnosis of a bladder infection. It is notable that this patient did have an interaction with a health care provider, and even then the pregnancy was undetected, though details of the physical examination and laboratory testing were not provided.

Maria Teresa [redacted] medical history includes several features that could have led to the precipitous (rapid) delivery. First, the case states she had irregular bleeding during the time she was pregnant, including heavy vaginal bleeding on the day of the incident. This could have been caused by a placental abruption, where the placenta separates from the inside of the uterus, which is often a complication of cervical incompetence or weakness.

Cervical incompetence is a condition in which women dilate their cervix with few, if any, painful contractions. It is more common with premature deliveries, and can be

associated with pelvic infections, such as bladder infections. Not uncommonly women deliver into toilets due to their feeling of extreme pressure without pain. Cervical incompetence cannot be diagnosed unless a woman is pregnant, and is more common in women who have bleeding in pregnancy. Placental abruption can be either a cause or a complication of a dilated cervix. When the cervix is dilated the vaginal bacteria can gain access to the placenta and uterus, causing placental infection. The infection can cause vaginal bleeding and can impair oxygen and nutrient exchange with the fetus, leading to intrauterine growth restriction or fetal death. This condition can result in stillbirth of the fetus. The bleeding can be heavy and life-threatening to the mother. The points in the story consistent with a placental abruption, (with or without chorioamnionitis/uterine infection and cervical incompetence) are her intermittent and often heavy bleeding during the time she was pregnant and hemorrhage with loss of consciousness at the delivery.

In the case of Maria Teresa, there is also another description of a risk factor for obstetric complications: the diagnosis of a bladder infection. A bladder infection is a known risk factor for premature birth and obstetric complications including placental infection. Alternatively, her symptoms of lower abdominal discomfort and cramping could have been misinterpreted by the physician as a bladder infection. If the diagnosis was made without laboratory testing, it is possible to confuse the symptoms because the bladder and uterus are in close proximity. In that case, the patient may have had early symptoms of pregnancy and labor that were missed by the physician.

Almost uniformly, the sensation that precedes childbirth is a sensation of needing to defecate. This is caused by the fetus pressing against the rectum and triggering a sensation of pressure. It is very common for a woman to have a strong urge to have a bowel movement prior to childbirth, and the feeling is often misinterpreted by the woman, leading her to push or bear down in order to defecate.

The case report provided for Maria Teresa [redacted] denotes a loss of consciousness at the time of delivery, most suggestive of hypovolumic shock from blood loss or hemorrhage. The blood loss may have been both chronic from the bleeding during pregnancy and acute from the bleeding at the time of delivery. No data on her baseline health status is provided to know her risk for preexisting anemia. However, the description of dizziness proceeding the event would be most consistent acute anemia, putting her at risk for hypovolemic shock with the abrupt blood loss at the time of delivery. The data provided in the medical case summary denotes a blood pressure of 60/40 and 60/50 millimeters of mercury, which is a dangerously low blood pressure, consistent with extensive hemorrhage. The medical record also describes her as 'bleeding abundantly.' When women have a birth complicated by a retained placenta, which seems to have been the case with Maria [redacted] as the placenta remained in the uterus on arrival to the hospital, they are also at extreme risk for heavy bleeding and hemorrhage. This condition can be associated with heavy blood loss, also consistent with her description of losing consciousness at the time of delivery.

In summary, based on the information provided in the case summary for Maria Teresa [redacted], she had several risk factors for obstetrics complications, including abnormal bleeding during pregnancy and a bladder infection. It is not uncommon for women with persistent, abnormal bleeding in pregnancy to interpret the bleeding as menstruation. Undiagnosed pregnancy should not be taken as an intent to lie, but as a medical complication of pregnancy. Both she and a physician were unable to correctly diagnose her pregnancy. Her symptoms of persistent and heavy bleeding in pregnancy could have contributed to anemia, with the subsequent blood loss from the delivery and the retained placenta resulting in loss of consciousness from hemorrhagic shock (loss of too much blood). Her records indicate she was suffering from anemia at the time of hospitalization with a hematocrit level of 29% which is grossly abnormal. In the setting of hemorrhagic shock, there are expected mental status changes, including confusion, lethargy and loss of consciousness. Her report and the report of the Red Cross describing her as unconscious are consistent with life-threatening blood loss. In this setting, it is surprising she survived her complicated delivery. Given the multitude of potential obstetrics complications provided in this patient's case, there remain a myriad of possible fetal complications that could have contributed to the fetal demise.

CARMEN [redacted]

Carmen [redacted] states she was unaware of her pregnancy. Additionally, her employers provide testimony that they were unaware of her pregnancy though she was working as a domestic employee in their home, and caring for their child, for the previous 7 months. Carmen earned $80 per month.
No medical information about Carmen's previous medical history, menstrual cycle or health status is provided. The case summary does describe that the Accused, a teenager, was pregnant as the result of rape. Both her young age and the trauma associated with sexual assault put this patient at risk for not recognizing the signs of pregnancy. Her report of the date of the rape and the pathologist's impression of the estimated gestational age correlate. There is no documentation of a psychosocial or psychiatric evaluation for a teenager presenting to the hospital after an out of hospital birth and history of rape. This information would be considered medically critical to evaluation of her mental health and decision making capacity. Traumatic experiences, including sexual assault and rape, can lead to depression, anxiety and post-traumatic stress disorders, all of which require psychiatric evaluation, management and treatment.

Carmen [redacted] reports that labor pains started in the early morning on a Sunday, and that she gave birth approximately 6:00 p.m. Sunday night. She reports that the baby was born dead, with no movement and no breathing. Carmen's employer reports seeing her lying in bed in the early hours of the following morning, trembling, with blood stained legs. The employer left her child in Carmen's care, then returned at midday to see that Carmen was up and working, but still bleeding profusely, at which point she took Carmen to the hospital.

The patient was described as having persistent and heavy vaginal bleeding after the delivery – so heavy that it was detected at least twice by her employer. Her blood level

measured by hematocrit was 26% on arrival to the hospital, consistent with severe anemia and most likely due to the hemorrhage she experienced at the time and after delivery.

The fetal autopsy concluded that the baby was full term, but the measurements were incongruous (i.e., the length suggested an older fetus than the weight, the weight suggested a significantly older fetus than the foot length, etc.). The autopsy also reports "vascular congestion." These factors require explanation, yet the forensic pathologist offers no explanation of these factors, so we cannot know if they reflect measurement error or fetal abnormalities. If we take the fetal height/length as the best approximation of gestational age, then this infant would be suspected to have intrauterine growth restriction based on the weight at the time of birth. Intrauterine growth restriction could be caused by any number of medical situations including maternal health conditions, fetal infection, problems with the placenta, or a birth defect. Yet the autopsy does not offer any explanation for these abnormalities. The autopsy concludes that cause of death is unknown.

In summary, undiagnosed pregnancy should not be taken as an intent to lie, but as a medical complication of pregnancy. In particular, this patient has a significant past medical history of rape, which must be taken seriously because sexual assault and trauma can have serious mental health repercussions. In addition, her degree of blood loss at the time and after the delivery appear to have been heavy and this may have contributed to symptoms of shock such as altered consciousness or appearing confused or anxious. Appearing dazed, confused or anxious is a result of the medical condition of not getting sufficient blood to the brain.

[redacted]

[redacted] reports not knowing that she was pregnant. Both she and her mother testified to the fact that she only got her period about once every three months, and that she had continued to bleed about every three months during the time when she was pregnant. She was working as a domestic laborer. On the morning of the events in question, [redacted] awoke with stomach pains at 4:30 a.m., but was able to return to sleep. When she arrived to work in the kitchen at 6:30 a.m., she felt a sudden urge to defecate. Upon arriving to the bathroom, she reports feeling stomach pains and feeling very, very dizzy. She sat on the toilet and felt as if something fell out. She grabbed the baby, wrapped it in her apron, and lost consciousness.

[redacted] has a history notable for oligomenorrhea, or infrequent menstruation. Oligomenorrhea can present with irregular or infrequent menses, but by definition means that menstrual cycles are less frequent than every six weeks. The presence of oligomenorrhea can signal underlying metabolic disorders, but there is insufficient data in the case summary to comment on the patient's medical status. Oligomenorrhea can complicate the accurate estimation of gestational age in pregnancy, and can complicate the diagnosis of pregnancy by a patient. The description

of irregular bleeding in pregnancy could have made the patient's detection of pregnancy difficult, especially with the history of oligomenorrhea.

The patient notes that bleeding continued throughout her pregnancy. Up to one third of pregnancies are complicated by bleeding in the first trimester. Bleeding during the second and third trimester is almost universally a sign of a complication such as placental abruption, abnormal placenta implantation or cervical incompetence. The autopsy suggests that the fetus may have been pre-term (36 weeks, 2450 grams in weight), which is further indication of pregnancy complications. And [redacted] description of the fetus coming out quickly with few labor pains is also consistent with medical conditions like placental abruption or cervical incompetence. In short, there are several medical indications that [redacted] had a high-risk pregnancy and suffered an obstetrical emergency that led to a pre-term birth. As noted above, infants born prematurely are at high risk for neonatal death, especially when they lack immediate medical interventions.

This patient experienced another obstetrical complication at the time of birth, which is a retained placenta. Description from the case summary describes that the placenta was retained and required removal by a physician. This condition is commonly associated with maternal hemorrhage, which can lead to hemorrhagic shock and loss of consciousness as described. If she was bleeding heavily, as is described in the case summary, then in class 3 and class 4 hemorrhage one would expect altered mental status or loss of consciousness. The patient's recorded description of feeling 'dizzy' could be attributed to blood loss from delivery and subsequent hemorrhagic shock. Given that she had abnormal bleeding during her pregnancy from an unknown etiology, it is also likely that she had a baseline anemia, putting her at higher risk of maternal complications in the setting of a hemorrhage. In addition, her inability to recall information from the time when she was hemorrhaging would not be a surprise because the decreased blood flow to the brain can cause confusion and loss of consciousness. One expects that if the Accused has significant blood loss that they would be perceived as displaying odd or strange behavior, that they may be non-responsive or respond inappropriately or that they may lose consciousness.

The medical record denotes that she is bleeding abundantly, and her blood level as measured by hematocrit of 30% demonstrates anemia. It is medically appropriate to assume significant blood loss with these symptoms. Also, the physician who arrived at the home to care for her started intravenous fluids to resuscitate the patient, again suggesting significant blood loss that would be associated with confusion.

Almost uniformly, the sensation that precedes childbirth is a sensation of needing to defecate and thus the patient's description of abdominal pain followed by the urge to have a bowel movement is expected and normal. This is caused by the fetus pressing against the rectum and triggering a sensation of pressure.

In summary, undiagnosed pregnancy should not be taken as an intent to lie, but as a medical complication of pregnancy. This is a recurring theme, and it should be noted

that the patient, her family and her employers with whom she lived reported not knowing she was pregnant, reinforcing the fact that the diagnosis is often not obvious. Her behavior and unusual answers to questions as reported by the testimonial of her employer could have been the result of hemorrhagic shock, though the documents provided are lacking in proper medical evaluation of the Accused. Given the facts as reported in the case summaries provided to us, we cannot conclude that the Accused was medically or mentally stable at the time of the birth.

MIRNA [redacted]

Mirna [redacted] reports struggling to conceive during her 15 years of marriage. She only had one prior pregnancy, and that child died shortly after birth due to a birth defect. When she became pregnant at age 34, she and her husband chose not to tell anyone. Mirna reports feeling the baby move, but that she also had bleeding throughout the entire pregnancy, in addition to headaches and backaches. Her husband confirms these pregnancy complications. When the fetus was an estimated 36 weeks in gestation, Mirna felt the need to defecate. She went to use the latrine, and reports accidentally delivering the fetus into the latrine. Her sister called for help from her neighbors, and the baby was rescued and survived.

The history of, Mirna [redacted] is notable for a first child with a severe birth defect, which resulted in a premature delivery via cesarean section and subsequent neonatal death. The birth in question was also a premature birth. Premature birth is the birth of an infant before 37 weeks gestational age. Premature birth is often preceded by premature labor. Premature labor can be precipitated by a number of factors, all of them abnormal events in pregnancy. In the case of Mirna [redacted], there are several features described that could have led to a premature delivery. First is her statement that she had bleeding throughout the entire pregnancy, Given this patient's history of a previous cesarean section, she was at risk for abnormal placenta location, where the placenta is attached very low down in the uterus, either just next to or covering the cervix. This diagnosis is made by ultrasound evaluation. Women with cesarean section scars on their uterus are at higher risk of this abnormality in pregnancy. Patients with this problem often have painless vaginal bleeding in pregnancy. Sometimes the bleeding can become very heavy and life-threatening to the mother or the fetus and the bleeding can trigger premature labor or birth.

It is also possible that this patient had a chronic placental abruption, where the placenta separates from the inside of the uterus. This both causes vaginal bleeding and can impair oxygen and nutrient exchange with the fetus, leading to intrauterine fetal demise or growth restriction. The bleeding can be heavy and life-threatening to the mother.

The cervix is the name for the lower part of the uterus, which in a normal pregnancy provides strength to keep the pregnancy inside. Cervical incompetence is a condition in which the cervix opens (dilates) without painful contractions. Not uncommonly women with this condition deliver into toilets due to their feeling of extreme pressure without

pain, and the rapid expulsion of the baby with few contractions. They often perceive the need to have a bowel movement and the act of bearing down can precipitate delivery of the fetus. This condition cannot be diagnosed unless a woman knows she is pregnant and has had a medical evaluation. It is much more common in women who have bleeding in pregnancy. If the Accused suffered from cervical incompetence, it would explain her continued bleeding during pregnancy, and it would account for how quickly and easily the baby was expelled.

Almost uniformly, the sensation that precedes childbirth is a sensation of needing to defecate. This is caused by the fetus pressing against the rectum and triggering a sensation of pressure. It would not be uncommon for a woman to have a strong urge to have a bowel movement prior to childbirth, and the feeling is often misinterpreted by the woman, leading her to push or bear down in order to defecate.

The psychosocial evaluation highlights the poverty experienced by Mirna [redacted] nd her husband. Poverty is often associated with malnutrition, which is exacerbated by pregnancy. No information about the patient's health status (height, weight, hematocrit, hemoglobin) is provided and it is unclear if the patient had financial means to access health care; therefore her risk of a complicated pregnancy must be presumed on her impoverished status.

After a long time of infertility, this pregnancy is described as being desired by the patient, her husband and the patient's mother. It is not uncommon in women who have either a history of a previous neonatal death or a long time of infertility to have intense anxiety and stress related to their current pregnancy. Even when they have financial means to access health care, they may be fearful of finding a problem or illness in their current pregnancy. Therefore, it is difficult to determine if fear and anxiety or if poverty or a combination prevented the Accused from accessing prenatal care.

The Accused appears to have been convicted largely on the account that she did not help her neighbors extract the infant from the latrine, but rather stood to the side during the rescue efforts. The courts have not been provided with any data regarding Mirna's medical condition at this time, but as noted above, were Mirna experiencing heavy blood loss related to the birth, in addition to anemia from the regular bleeding she reported during the pregnancy, then we would medically expect her to act dazed, confused, and in shock. This shock would be generated from the traumatic situation in which the patient found herself, and also because confusion is itself a medically expected outcome caused by heavy bleeding due to a lack of sufficient oxygen to the brain.

In summary, there are a number of unique factors to this patient's medical history that make her at high risk for obstetrical complications. Her status as having a previous cesarean delivery automatically puts her in a high-risk category; in the United States she would require specialized access to care if she were to attempt a vaginal delivery. She had a previous preterm delivery, giving birth to an infant that subsequently died of a malformation; this can cause anxiety and stress around the current pregnancy. She

had a previous preterm delivery, which may put her at risk for a repeat preterm birth. Lastly, the Accused's behavior at the time of the premature delivery – namely feeling the urge to defecate and then seeking to use a latrine – is normal and natural and expected behavior for a woman who is giving birth.

CONCLUSIONS:

The majority of these women had pregnancies that would be considered high-risk pregnancies. This means the woman was at high risk for complications such as malnutrition, anemia, preterm birth, infection and hemorrhage. This often leads to dangerous complications at the time of birth for the mother. Because of the high-risk pregnancies, the fetus would require more in depth surveillance during the pregnancy, and would be more likely to require prompt medical attention at birth to survive.

Many of the women had plausible and possible medical explanations for the events described preceding, during and after the birth of their infants. This medical context also raises the distinct possibility that the maternal medical complications could have explained the fetal deaths.

The experience of unattended childbirth, especially in the setting of an unrecognized pregnancy, is an extremely traumatic and high-risk situation. When compounded with obstetrical and possibly fetal medical complications, it would not be surprising to find many stillbirths or neonatal deaths.

The most striking difficulty before the courts is the consistent lack of objective data on the maternal medical condition before and after birth, and the striking impoverishment of the Accused women, which may account for their irregular interface with the health care system.

In our expert opinion, the medical scenarios outlined above warrant careful, case-by-case review. There are often numerous possible medical scenarios that point to a stillbirth or neonatal demise without homicide.

SIGNATURES:

The above statement is true and correct, to the best of our knowledge, and is submitted to the court for review and consideration. We would be willing to testify under oath by telephone regarding its accuracy.

Christine Curry MD PhD

Dr. Christine Curry, MD, PhD
October 5, 2014

Jodi J Abbot MD

Dr. Jodi Abbot, MD
October 5, 2014