1. Defining the Causes of Infertility

Much research has been conducted and is ongoing into the causes of male, female and unexplained infertility. In April 1998, the New York State Task Force on Life and the Law, a state-created organization charged with recommending policy on a host of issues raised by medical advances, issued a report on ART. In its report, the Task Force summarized the current research into the causes of infertility. The following excerpts nicely describe where problems occur in both the female and male reproductive process.

The New York State Task Force on Life and the Law
Assisted Reproductive Technologies: Analysis and
Recommendations for Public Policy
8-10 (Apr. 1998)

The Female Reproductive Process — Where Problems Occur

For conception to occur, a woman must have at least one ovary capable of ovulation. Ovulation may not occur if ovaries are missing or damaged, if they never formed properly, if they have stopped responding adequately to hormones as menopause nears, or if hormonal signals are not sufficient, properly timed, or precisely coordinated. In addition, the ability of eggs to be fertilized and develop normally decreases with a woman's age.

At any point from the vagina to the ovaries, barriers may make it difficult or impossible for sperm, eggs, or embryos to pass. At the cervix, the opening from the vagina into the uterus, glands produce mucus that helps healthy sperm pass

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3 Other than in contemporary cinema. Who can forget the image of a pregnant Arnold Schwarzenegger, finding himself in the family way after experimenting with a fertility potion in the 1994 hit comedy Junior, complaining to a sympathetic Emma Thompson about his nausea and sensitive nipples.
through. Hormonal or immunological problems may result in too little mucus or mucus with a texture or components that inhibit the passage of sperm. In addition, infection and scarring can block the fallopian tubes and keep the sperm from meeting the egg, or endometriosis may prevent an egg from leaving the ovary or entering the fallopian tube. Blockages that keep the embryo from reaching the uterus can result in an ectopic pregnancy — one that lodges in the fallopian tube or another location outside the uterus.

Many fertilized eggs fail to implant in the uterus. Damage to the uterine lining may limit available sites. Hormones produced by the corpus luteum may be insufficient or improperly timed, leaving the lining unprepared to receive the fertilized egg and sustain the developing embryo. Chemical communications between the embryo and the woman's immune system, needed to allow the embryo to be recognized as a unique type of foreign tissue to be accepted and protected, may be faulty, resulting in a failure to implant or early miscarriage.

The Male Reproductive Process — Where Problems Occur
In a system in which 200 to 500 million sperm are ejaculated for one healthy sperm to fertilize an egg, anything that diminishes the production, delivery, movement, or capacitation of sperm can reduce the chance of pregnancy. In many infertile men, there is no detectable reason for a problem. The problems that are known break down into three broad areas. First, conditions that damage the testes or cells within the seminiferous tubules can lead to the production of insufficient numbers of sperm (oligospermia) or no sperm at all (azoospermia). Second, inadequate or mistimed production of male hormones can result in problems in sperm production or sexual functioning. Third, missing or obstructed conduits at any point along the male genital tract can prevent sperm from being delivered.

2. Defining the Incidence of Infertility
As we shall see, modern medical procedures make it possible for those affected by infertility, infecundity and sterility to have genetic offspring. Through a

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4 Endometriosis is a condition in which tissue resembling the lining of the uterus occurs aberrantly in the pelvic and abdominal cavity, sometimes binding the reproductive organs and causing infertility. Endometriosis is thought to occur when the tissues that make up the lining of the uterus that are normally shed during a menstrual period, somehow flow back up through the ends of the fallopian tubes and implant in the abdominal and pelvic cavity. See Sloane-Dorland Annotated Medical-Legal Dictionary 217-218 (1992 Supp.). — Ed.

5 Corpus luteum is the golden-colored body formed in the ovary immediately after ovulation when the ovum (egg) has been discharged from the ovary. The corpus luteum grows for 7 or 8 days, during which time it secretes hormones that are essential for a fertilized egg to develop and attach to the uterus. See Catherine Parker Anthony & Gary A. Thibodeau, Textbook of Anatomy & Physiology 740-754 (11th ed. 1983). — Ed.

6 Seminiferous tubules are coiled tubes located within the male testes which are responsible for the production of sperm. Id. at 717-720. — Ed.
variety of drug therapies and surgical techniques, as well as the assistance of third parties, many who just a generation ago were diagnosed as unable to produce offspring, can today look to ART to assist in their quest for parenthood. Before journeying into the ways in which technology has aided in reproduction, let us investigate the prevalence of infertility in our country.

In 1997 the Centers for Disease Control and Prevention (CDC), an agency of the U.S. Department of Health and Human Services, issued a report on the status of women's health, including reproductive health. The report was based on a national survey conducted in 1995 by the National Center for Health Statistics. The results of this national survey are contained in the 1995 National Survey of Family Growth (NSFG) and reveal the following statistics.

- In 1995 about 7.1 percent of married couples, or 2.1 million married couples, were classified as infertile. In the survey, a married couple was defined as infertile if they had not used contraception and not become pregnant for 12 months or more. These figures show a decline from previous years, including 1988 with 2.3 million infertile couples and 2.4 million in 1982.

- Approximately 60.2 million women of reproductive age (15-44 years) lived in the United States in 1995. Of this group, 15 percent (9.3 million) had used some kind of infertility service in their lifetime, compared with 12 percent (6.8 million) in 1988. Infertility services included medical advice, tests, drugs, surgery, or other treatments to get pregnant and to prevent miscarriage.

- Among childless women ages 35 to 44, 21 percent had received infertility services at some time in their lives. Among all women of reproductive age, 2 percent (1.2 million) had an infertility-related medical appointment within the previous year and an additional 13 percent had received infertility treatment at some time in their lives.

- Infertility is higher among married couples where the wife is nonwhite. The incidence of infertility is highest, 13.6 percent, among married women categorized as “non-Hispanic other,” a grouping that includes Asian, Pacific Islander, Alaskan Native, and American Indian women. Infertility among non-Hispanic black women is 10.5 percent, higher than the 7.0 and 6.4 rate of infertility among Hispanic and non-Hispanic white women, respectively.

- Infertility rates rise with age. The incidence of infertility is 4.4 percent among women 15-24 years. 6.6 percent among women 25-34 years and 8.0 percent among women 35-44 years.

Table 1 contains the data on infertility collected by the 1995 National Survey of Family Growth. A draft of the full NSFG Report can be accessed at www.cdc.gov/nchs/data/series/sr_23.
NOTES AND QUESTIONS

1. *A Few Observations about the 1995 NSFG Report*. Note that the NSFG
appeared the common medical definition of infertility, placing the boundary
between normal and abnormal fertility at one year of regular intercourse
without contraceptives. This definition is not uniformly adopted by all health
professionals. The World Health Organization, for example, expands the time
frame to two years, suggesting that the criteria for determining infertility are
not definitive. While we may jest that a woman cannot be "a little bit pregnant;"
apparently distinguishing between being fertile and infertile is far more diffi-
cult. One further study from the U.S. Office of Technology Assessment (OTA)
supports the uncertainty in making a definitive infertility diagnosis. This OTA
study found that only 16-21 percent of couples who are deemed infertile by the
one year definition will remain infertile throughout their lives.

Is it important to establish a definitive definition of infertility? If so, should
such a definition focus on the lifelong inability to conceive and carry a pregnancy
or should it be limited, as it currently seems to be, to discrete and measurable
periods of time? What useful purpose does a uniform definition of infertility
serve? Imagine, for comparison, the difficulties many individuals would have
in gaining access to health care if doctors were able to create their own definitions
of illness.

Notice that the NSFG report looks only at infertility among married women.
For this reason alone, the report may underestimate the incidence of infertility
in the U.S. because it excludes unmarried persons, including unmarried het-
erosexual couples, single women, single men, and same-sex couples who are
unable to naturally conceive and bear children. Reproduction among these lat-
ter groups of single individuals and same-sex couples is, of course, physiologi-
cally impossible without the aid of a gamete donor (egg donor for single and
same-sex males, sperm donor for single and same-sex females), and in some
cases a gestational carrier (woman who agrees to carry a child in her uterus to
term), in the case of single and same-sex couple males. Should data on infertility
include the experience of individuals who have pursued pregnancy and child-
birth in a non-traditional manner? If so, would the commonly accepted definition
of infertility have to be modified since it is based on conception following
regular sexual intercourse (presumably referring to intercourse between a man
and a woman)? Perhaps a more inclusive definition of infertility would focus on
individuals who have attempted and failed for one year to conceive by any
means. While this modification may not drastically change the reported inci-
dence of infertility in this country, information about the marital status and sex-
ual orientation of those seeking infertility services may enlighten us as to
changes and trends in the family structure.

Finally, the NSFG report could be criticized for overestimating the incidence
of infertility among married couples. The survey was based on in-home, in-
person interviews with over ten thousand women. The surveyor asked questions
about contraception and pregnancy, but did not query interviewees about the regularity of their sexual relations. In fact, according to NSFG researchers, the survey measures infertility only for married couples because "the concept assumes continuous exposure to intercourse . . . which can be assumed only of currently married women." Really? The problem with this assumption of "continuous exposure to intercourse" for married couples, is that if the interviewee fails to report months in which intercourse did not occur, or occurred very infrequently, a couple may be classified as infertile when they are not. A cover story appearing in Newsweek Magazine cites estimates by psychologists that 15 to 20 percent of married couples have sex no more than 10 times a year, which is how experts define sexless marriage. See Kathleen Deveny, We're Not In The Mood, Newsweek 41, 42 (June 30, 2003). Of course, most of the couples interviewed for the article already had children, raising interesting questions about the relationship between fertility and romance.

7 For this proposition, the survey authors cite W.D. Mosher and W.F. Pratt, Fecundity and Infertility in the United States, 1965-88, Advance Data 192 (1990):1, 5. Do you agree that "continuous exposure to intercourse" can be assumed only of currently married women? Perhaps the authors would plumb a different source today, seeking the truth behind the glamorous portrayal of single life in HBO's wildly popular series, Sex and the City (1998-2004). Though Carrie, Miranda, Charlotte and especially Samantha seem to be the poster gals for "continuous exposure," in truth research consistently shows that married people engage in sexual activity more often than their non-married counterparts. In a report sponsored by the prestigious National Opinion Research Center at the University of Chicago, researchers reveal that sexual activity is 25-300% greater among married individuals compared to non-married individuals at various ages. See Tom W. Smith, American Sexual Behavior: Trends, Socio-Demographic Differences, and Risk Behavior 10 (April 2003).
Table 1. Number of currently married women 15-44 years of age and percent distribution by infertility status, according to selected characteristics: United States, 1995

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>thousands</th>
<th>Number in Total</th>
<th>Surgically sterile</th>
<th>Infertile</th>
<th>Fecund*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Percent Distribution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All women</td>
<td>29,673</td>
<td>100.0</td>
<td>41.0</td>
<td>7.1</td>
<td>52.0</td>
</tr>
<tr>
<td>Age at interview</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-24 years</td>
<td>2,805</td>
<td>100.0</td>
<td>6.2</td>
<td>4.4</td>
<td>89.4</td>
</tr>
<tr>
<td>25-34 years</td>
<td>12,242</td>
<td>100.0</td>
<td>27.3</td>
<td>6.6</td>
<td>66.1</td>
</tr>
<tr>
<td>35-44 years</td>
<td>14,625</td>
<td>100.0</td>
<td>59.1</td>
<td>8.0</td>
<td>32.9</td>
</tr>
<tr>
<td>Parity 0**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-44 years</td>
<td>5,685</td>
<td>100.0</td>
<td>13.1</td>
<td>17.1</td>
<td>69.8</td>
</tr>
<tr>
<td>15-24 years</td>
<td>1,157</td>
<td>100.0</td>
<td>2.5</td>
<td>6.0</td>
<td>91.6</td>
</tr>
<tr>
<td>25-34 years</td>
<td>2,610</td>
<td>100.0</td>
<td>6.5</td>
<td>13.5</td>
<td>80.0</td>
</tr>
<tr>
<td>35-44 years</td>
<td>1,718</td>
<td>100.0</td>
<td>31.1</td>
<td>30.3</td>
<td>38.6</td>
</tr>
<tr>
<td>Parity 1 or more</td>
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<td></td>
<td></td>
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<tr>
<td>15-44 years</td>
<td>23,988</td>
<td>100.0</td>
<td>47.6</td>
<td>4.7</td>
<td>47.7</td>
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<tr>
<td>15-24 years</td>
<td>1,649</td>
<td>100.0</td>
<td>8.8</td>
<td>3.3</td>
<td>87.8</td>
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<tr>
<td>25-34 years</td>
<td>9,432</td>
<td>100.0</td>
<td>33.5</td>
<td>4.5</td>
<td>62.0</td>
</tr>
<tr>
<td>35-44 years</td>
<td>12,907</td>
<td>100.0</td>
<td>62.9</td>
<td>5.0</td>
<td>32.2</td>
</tr>
<tr>
<td>Education at interview1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No high school diploma or GED2</td>
<td>2,807</td>
<td>100.0</td>
<td>51.8</td>
<td>8.5</td>
<td>39.7</td>
</tr>
<tr>
<td>High school diploma or GED</td>
<td>11,534</td>
<td>100.0</td>
<td>50.3</td>
<td>8.1</td>
<td>41.5</td>
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<tr>
<td>Some college, no bachelor's degree</td>
<td>7,163</td>
<td>100.0</td>
<td>41.1</td>
<td>6.6</td>
<td>52.3</td>
</tr>
<tr>
<td>Bachelor's degree or higher</td>
<td>7,162</td>
<td>100.0</td>
<td>27.1</td>
<td>5.6</td>
<td>67.2</td>
</tr>
<tr>
<td>Race and Hispanic origin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>3,178</td>
<td>100.0</td>
<td>36.4</td>
<td>7.0</td>
<td>56.7</td>
</tr>
<tr>
<td>Non-Hispanic white</td>
<td>23,077</td>
<td>100.0</td>
<td>41.8</td>
<td>6.4</td>
<td>51.8</td>
</tr>
<tr>
<td>Non-Hispanic black</td>
<td>2,069</td>
<td>100.0</td>
<td>46.6</td>
<td>10.5</td>
<td>42.9</td>
</tr>
<tr>
<td>Non-Hispanic other</td>
<td>1,349</td>
<td>100.0</td>
<td>28.9</td>
<td>13.6</td>
<td>57.5</td>
</tr>
</tbody>
</table>

*Fecund refers to being fertile or capable of conceiving and bearing children — Ed.
**Parity refers to the state of having given birth — Ed.
1Limited to women 22-44 years of age at time of interview.
2GED is general equivalency diploma.
NOTE: Percents may not add to 100 due to rounding.
2. The term "infertility" can be seen as a medical diagnosis that follows from a specific clinical observation — the failure to conceive after one year of unprotected intercourse. But is the medicalization of the ability to bear a child a good thing for the infertile? For the practice of medicine? For society? As you might imagine, there are several views on the medicalization of infertility. Those in favor of defining infertility as a medical condition are probably best represented by RESOLVE, a national support and advocacy organization for the infertile founded in 1974. RESOLVE has argued in a variety of forums, including state legislatures, that infertility is and therefore should be addressed as a medical condition. Briefly stated, RESOLVE's goals are twofold. First, defining infertility as a medical condition is fundamental to their goal of mandatory insurance coverage. If state legislators can be convinced that infertility is a medical problem with medical solutions then they may be more likely to compel insurers to cover non-experimental treatments for the condition. Insurance coverage for infertility treatment is discussed in Chapter 3.

Second, advocates in RESOLVE hope that by deeming infertility a medical condition, some of the blame (usually directed toward women) and stigma associated with infertility would be reduced. If we begin to view infertility as a strictly medical condition solvable only by serious professional attention, we may ultimately be willing to direct more resources toward its cure.

A counterbalancing view on the medicalization of infertility can be found in a thoughtful book by Elizabeth Britt entitled Conceiving Normalcy. Professor Britt argues that societal views of "involuntary childlessness," a term she prefers to the medicalized "infertility," have become too focused on the physiological aspects of the inability to have biological children. This focus, she urges, results in the categorization of women into groupings of fertile and infertile, which themselves create perceptions of normalcy and abnormalcy. She continues:

While the condition of being unable to have a biological child is often discussed as having social or cultural implications, it is nonetheless understood primarily as a medical condition with medical solutions. This medicalization of involuntary childlessness glosses over the complex cultural contexts within which the condition occurs and assumes its significance. In this sense, "infertility" may be understood as a metonym for the experience of involuntary childlessness. Kenneth Burke understands metonymy as a figure that reduces complexity by conveying "some incorporeal or intangible state in terms of the corporeal or tangible." The metonymic reduction of "involuntary childlessness" to "infertility" gives the condition a physical location in the body, where it can be investigated and treated. The reduction also temporalizes the experience so that social, economic, psychological, and cultural "factors" are understood as implications that result from or come after the physical condition, not as conditions that are complicit in its construction. (Italics in the original).
Elizabeth C. Britt, Conceiving Normalcy 6 (2001). Professor Britt discusses the broad implications of involuntary childlessness in today's society. What about the condition of voluntary childlessness? Should an individual or couple who chooses, for whatever reason, to remain childless be considered from a sociological or cultural perspective to be "abnormal"? How about from a legal perspective? Consider the following.