Chapter 1

Overview and Summary

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Chapter 1

Overview and Summary

In May 1988, OTA released its assessment ***Infertility: Medical and Social Choices,*** delineating options for congressional action with regard to prevention, treatment, and research on infertility. The report considered the medical, ethical, economic, and legal aspects of conventional drug and surgical therapies, in vitro fertilization, gamete intrafallopian transfer, surrogate motherhood, and artificial insemination. As part of the assessment, OTA commissioned a national survey of physician and sperm bank practice of artificial insemination, the first such survey in a decade. Two physician populations – a cross-sectional sample of primary care and reproductive care specialties and a national probability sample of members of medical fertility societies – were surveyed by mail between June and August 1987. A total of 1,558 questionnaires were completed and returned by the sampled physicians (a response rate of 61 percent), which included 37 physicians in the cross-sectional sample and 385 fertility society physicians regularly doing artificial insemination, i.e., seeing four or more insemination patients per year. An amended survey form was also sent to 30 U.S. commercial sperm banks identified by the American Association of Tissue Banks (MTB) and the American Fertility Society (AFS), and 15 of those forms were returned.

The survey estimates that 172,000 women underwent artificial insemination in 1986-87, at an average cost of $953, resulting in 35,000 births from artificial insemination by husband (AIH), and 30,000 births from artificial insemination by donor (AID). The survey confirms certain findings first reported in 1979 concerning variability in physicians' donor screening practices and their misuse of genetic histories (see box l-A). Sperm banks were found to have more consistent donor screening practices. The survey also documents reluctance to offer artificial insemination to single women, variability in screening for infectious diseases, and widespread refusal to release even nonidentifying information about donors to their offspring, findings similarly documented in surveys of artificial insemination practice in Canada (see box l-B), England (see box l-C), and New Zealand (see box l-D).

METHODS

Cross-Sectional Sample

To generate sample estimates that could be projected to the total population of U.S. physicians who conduct artificial insemination, a national cross-sectional sample was drawn from the universe of currently practicing physicians likely to become involved in infertility therapy – those in general practice and family practice or in reproductive care specialties (gynecology, obstetrics/gynecology, and urology). A proportionate sampling of the population led to relatively small sample sizes for some specialties most likely to treat fertility problems. Hence, it was decided to sample the four specialties disproportionately, to yield 1,600 cases for the cross–sectional sample of physicians.

Fertility Society Sample

Given the anticipated low physician involvement in artificial insemination and fertility treatment, a second sampling frame was constructed from the membership lists of two national professional societies, the American Fertility Society and the American Society of Andrology. The

Box l-A.-Physician practice of Artificial Insemination in 1977

Interest in physician practice of artificial insemination by donor increased dramatically with the 1979 publication of a survey by a group of researchers and clinicians at the University of Wisconsin. That survey was based largely on a group of American Fertility Society physicians likely to be doing artificial insemination. Four hundred seventy-one questionnaires were completed, a 66-percent response rate, and 379 physicians were identified who had offered artificial insemination in the preceding year.

Most physicians reported that about 95 percent of the requests they received were due to male infertility. A third, however, had received requests due to Rh incompatibility or fear of passing on a genetic disorder. Almost 10 percent had received requests from single women. Less frequently reported reasons included impotence, paraplegia, and exposure to mutagens.

Physicians reported that they generally selected donors themselves, rather than purchasing specimens from a sperm bank or having women provide their own donors. Sixty-two percent reported using medical students or residents as donors, 11 percent used other university or hospital personnel, and 18 percent used both. Over 75 percent matched for height and hair, skin, and eye color. Over half would also match for blood type, religious or ethnic background, and educational level. Only 5 percent reported that they did not make any effort to match donors to recipients' husbands or specifications.

Donor screening for genetic diseases consisted largely of oral family histories, as fewer than 30 percent performed any biochemical tests on donors. Rejection patterns also did not always match transmission patterns of the particular disorders. For example, nearly 75 percent reported they would reject a donor with a family history of hemophilia; this disorder is x-linked, and cannot be transmitted unless the donor himself suffers from the disease. Physicians were about as likely to reject a donor with a family history of cystic fibrosis or Huntington's chorea as one with a family history of Tay-Sachs disease, although tests were available at the time to identify Tay-Sachs carriers but not those carrying cystic fibrosis or Huntington's.

SOURCE: M. Curie-Cohen, L. Luttrell, and S. Shapiro, "Current Practice of Artificial Insemination by Donor in the United States," *New England Journal of Medicine* 300:585-590, 1979.

Box l-B.- Physician Practice of Artificial Insemination by Donor in Ontario

In late 1983 and early 1984, a survey of physician practice of artificial insemination by donor was carried out in Ontario, Canada, pursuant to a request by the Ontario Law Reform Commission. By examining physician descriptions on the registry of the Canadian Fertility and Andrology Society, 16 physicians or practices were identified that offered artificial insemination by donor. All 16 cooperated with the survey, yielding a sample of 31 physicians. Their responses indicated that in 1983 approximately 500 women in the province of Ontario underwent artificial insemination by donor.

Recipient rejection was mostly strongly influenced by a woman's sexual orientation (7), impending divorce (6), or single state (5). Twelve of the 31 physicians reported that they never (5) or only occasionally treated (7) single women. Eight physicians responded that they never (4) or only occasionally (4) treated an unmarried couple. Nonetheless, all but one physician reported that fewer than 5 percent of the women requesting artificial insemination were single.

For donor screening, physicians most commonly did semen analysis (12 physicians), syphilis testing (12), and hepatitis testing (9). Fewer than half did a complete blood count (7), semen culture (7), genetic history (6), or blood chemistry (5). Two indicated that special genetic screening was done.

Thirteen physicians maintained records allowing them to link donors to recipients, and a similar number followed recipients' post-conception and post partum. The physicians reported very few cases of transmitted infectious disease or congenital anomalies.

SOURCE: J. Jarrell and R. Milner, "Artificial Insemination by Donor in Ontario," Annals *RCPSC* 19(2):115-118 (1986).

memberships of the two organizations are currently estimated at ll,000 and 1,000, respectively.

The total size of the sample of fertility specialists was 1,213. This included 1,000 from the AFS sample and 213 from the Andrology Society.

Box l-C.-British Attitudes Toward Artificial Insemination by Donor

In early 1985, a multicenter study of attitudes toward artificial insemination by donor among recipients, their partners, physicians, counselors, nurses, and donors was carried out by sampling each individual attending or working in 1 of 10 clinics around England. Seventy-one percent of those solicited returned completed questionnaires. The questionnaire focused on attitudes toward recipient screening, donor rights and duties, recordkeeping, and governmental involvement.

Support for maintaining the anonymity of the donor was universal, although 43 percent favored supplying recipients with information concerning physical appearance and 25 percent with information concerning social background. Fewer felt that the resulting child ought to get this information (6 to 9 percent). Four to seven percent felt that donors should get nonidentifying physical or social information about the intended recipient. Two percent felt that donors ought to be able to choose to whom their semen would be given, and another 9 percent felt this ought to be up to the individual choice of the clinic or physician. (South Africa is the only nation that has provision for such donor choice; see U.S. Congress, Office of Technology Assessment, *Infertility: Medical and Social Choices (1988).)*

Opinion was mixed concerning screening applicants for AID for their fitness for parenthood (as is done for adoptions), with 57 percent saying that screening should not be done, and 28 percent saying that it should. Homosexual women would be denied access to AID by a majority surveyed. Unmarried couples received a more mixed response (single women were not distinguished from unmarried couples).

In response to the question "Should AID be provided for the following groups of people?" answers were as follows:

	Yes	No	Leave to Individual Choice	Don't Know	Not Answered
unmarried couples	43	30	18	7	2
homosexual women	19	54	12	14	1
women with medical conditions making pregnancy hazardous	19	19	51	10	1
disabled people	45	8	37	9	1
those with a history of psychiatric problems	6	45	23	24	2

Control of "artificial reproduction" by a national body was supported more broadly by clinic staff (39 percent) and donors (31 percent) than by recipients (15 percent). Little support was expressed by any of these groups for a central registry of all children conceived by AID (3 percent of recipients, 16 to 19 percent of staff and donors), or a registry of donors (12 to 30 percent). Patients and staff did favor limiting the number of children born to a donor (37 to 58 percent), as well as limiting payment to expenses only (44 to 55 percent). Twenty-two percent of donors favored these two suggestions.

SOURCE: A. Walker, S. Gregson, and E. McLaughlin, "Attitudes Towards Donor Insemination - A Post-Warnock Survey," *Human Reproduction* 2: 745-750, 1987.

Sampling Method

For all samples, selection of sample within stratum was by-simple random sample. Data are presented here as weighted sample estimates. Weighting is by specialty and professional society.

Field Procedures

The field procedures used in this study were designed to produce an unbiased sample of physicians from the two sampling frames. These procedures included:

Box I-D.-Artificial Insemination by Donor in New **Zealand**

In 1983, a survey was done of 153 New Zealand obstetricians and gynecologists concerning their practice of artificial insemination by donor. Sixty-eight percent replied, of whom 20 physicians had performed artificial insemination in the 12 months prior to the survey, with a total of 68 conceptions in the 159 women inseminated. Fifty-four percent of those not offering artificial insemination had received requests for the service. Of those not offering artificial insemination, 5 percent cited moral objections, and 29 percent cited other personal reasons for preferring not to engage in the practice.

Eighty percent of those offering the service believed it is important to assess the psychological suitability of the recipient and her partner before proceeding with artificial insemination. Sixty-five percent believed an assessment of the recipient's social circumstances is important as well. All practitioners reported discussing the options of childlessness and adoption with the recipient and her partner, as well as the psychological, social, and legal implications of AID.

Sperm donors tended to be recruited from hospital staff and medical students. Sixty-five percent of the physicians doing AID paid their donors, and 30 percent set no limit on the number of conceptions per donor. The remaining 70 percent set a variety of limits, from five to one conception per donor. Nearly half (45 percent) felt that children conceived by AID should be told of their origins, although 95 percent felt that there should be no Health Department requirements on this point.

SOURCE: K.R. Daniels, "The Practice of Artificial Insemination of Donor Sperm in New Zealand," *New Zealand Medical Journal* 98: 235-239. 1985.

- an advance letter sent to all sample respondents indicating that the questionnaire would follow,
- a first mailing of the questionnaire with cover letter,
- a followup letter to individuals whose replies were not received within 4 weeks of the first mailing,
- a second questionnaire mailing approximately 1 week after the followup letter, and
- a telephone followup of nonrespondents among a predesignated 20-percent subset of the sample to find out why the person had not responded.

The *Questionnaire*

The survey used two questionnaires, one for physicians and one for sperm banks. Physicians seeing fewer than four insemination patients per year were asked to answer a few questions concerning the demographics of their practice, as well as to respond to a series of attitudinal questions concerning artificial insemination practice as a whole. Physicians with four or more insemination patients per year (i.e., those "regularly doing artificial insemination"; see box l–E) were asked to respond to a series of detailed questions concerning their protocols and screening practices. To avoid doubling the size of the necessary sample or of the survey instrument, separate questionnaires were not used for AIH and AID practice. Questions concerning the relative proportion of a physician's practice devoted to AIH and AID allow the data concerning screening and protocol to be broken out according to whether a physician does only AIH, some AID, or predominantly AID.

Participation Rates

A total of 1,558 questionnaires were completed and returned by sampled physicians. The overall response rate was 61 percent. Due to late return of some questionnaires, analysis of the survey data is based upon only 1,473 of the returned questionnaires, including 36 from physicians in the cross-section, 346 AFS members, and 21 andrologists regularly doing artificial insemination.

As the field period ended, all outstanding cases from the predesignated 20-percent subset were contacted in an attempt to learn why they were not responding. Roughly 35 percent of the contacted nonrespondents reported that they had already completed the survey and just recently mailed it, that they intended to reply, or that they were in the process of replying. Almost 25 percent of the nonresponse sample were on vacation, not at home, or otherwise unreachable

Box l-E.–Glossary

- Cross-sectional **sample:** A national probability sample of physicians surveyed for this report whose primary specialty is general practice, family practice, gynecology, obstetrics, obstetrics/gynecology, or urology, drawn from the American Medical Association sampling frame.
- **Fertility society sample:** In this report, a national probability sample of members of two professional societies that specialize in fertility treatment and research, the American Fertility Society and the American Society of Andrology.
- **Artificial insemination (AI): The** introduction of semen in a woman's vagina or uterus, other than by sexual intercourse. Unless otherwise specified, AI includes artificial insemination with semen from the recipient's husband or partner **(artificial insemination by husband** or **AIH)** or from a donor **(artificial insemination by donor** or **AID).** AID is sometimes referred to by professional societies as therapeutic insemination by donor and by feminist groups as alternative insemination by donor.
- **Human immunodeficiency virus (HIV): The virus** responsible for the autoimmune disease commonly known as AIDS. HIV-infected refers to those infected with the virus, whether or not they yet exhibit symptoms of AIDS or of AIDS-related complex. **Seropositive for HIV-antibodies** refers to those who have been shown by any available test to have developed antibodies to HIV. Seropositivity indicates that the person has been exposed to HIV, and may be capable of transmitting it to others.
- **Practitioners:** Physicians who perform artificial insemination.
- **Regularly doing artificial insemination:** In this report, physicians who have accepted four or more patients for artificial insemination in the past year.
- **Recipient:** A woman seeking or undergoing artificial insemination, regardless of the source of the semen. Also referred to as "patient" when describing interaction with her physician.
- **Recipient's partner: The** husband or nonmarital male partner of a recipient.
- **Donor:** A man whose semen is used for inseminating someone other than his wife or partner. An **anonymous donor** is someone not known to the recipient. A **recipient-selected donor is** a man selected by the recipient (other than her partner) to donate semen for artificial insemination.
- **Sperm bank:** A facility that collects and stores semen for artificial insemination by husband, as well as screening donors and storing semen for artificial insemination by donor. Also commonly known as a "cryobank." In this report, unless otherwise noted, all facilities are commercial sperm banks, i.e., operating for a profit.
- **Infertility treatment: The** range of medical and surgical treatments for infertility, including drugs, surgery, in vitro fertilization, gamete intrafallopian transfer, and artificial insemination.
- **Membership in a fertility society:** In this report, self-defined by the survey respondents who said that they belong to a professional society that is a fertility society.
- **Proportion AIH:** In t his report, proportion of artificial inseminations in the past year using husband/partner semen. If all inseminations in the past year used husband's or partner's semen, then the practice is referred to as **exclusively AIH.**
- **Exclusively AIH:** In this report, physicians who in the previous year performed artificial inseminations using only husband/partner semen. Also referred to as **AIH-only** practice. These physicians may have done artificial insemination by donor in previous years, and so may have answered questions about their lifetime experience in the practice of AID.
- **Predominantly AID:** In this report, practices in which fewer than 25 percent of inseminations in the past year used husband's or partner's semen.
- **Single:** Unmarried and without a male or female partner. Maybe compared with **unmarried,** which refers to heterosexual or homosexual couples not legally married.

at the time. Roughly 15 percent of the nonresponse sample refused to participate for a variety of reasons, most of which involved the length and/or complexity of the survey instrument or the respondents' actual time available to complete the survey. A few physicians cited issues of privacy, lack of incentive or benefit in completing the survey, or a policy of refusal to participate in surveys.

Overall, the followup contact did not reveal any underlying problem of sample bias among nonrespondents. Nonresponse bias testing was not done for the 50 percent of the sperm banks failing to respond to the survey.

SCOPE OF THE SURVEY

The survey was designed primarily to serve as a source of information on the extent of artificial insemination in the United States, the patterns of donor and recipient screening for genetic and infectious diseases, and the economic or other nonmedical obstacles to obtaining the service. It was also designed to elicit information about physician attitudes toward the practice, their use of existing professional society guidelines for practice, and their attitudes toward national standards of practice, whether voluntary or mandatory. While data were gathered concerning the detailed protocols of practice, and the success rates for various methods of artificial insemination including sex selection techniques, this retrospective survey of physician experiences is not intended as a substitute for controlled, prospective clinical studies on those topics. Information on protocols and success rates gathered from the survey is here used primarily to extrapolate to the number of children conceived each year by artificial insemination, and the total annual expenditures on the procedure.

SUMMARY: PHYSICIAN PRACTICE OF ARTIFICIAL INSEMINATION

The survey estimates that nearly 11,000 physicians provide – at least occasionally – artificial insemination services to approximately 172,000 women. Live births are achieved in 37.7 percent of cases, resulting in an estimate of 65,000 babies born each year who had been conceived by artificial insemination. About half of those conceptions resulted from AIH, and half from AID. Success rates vary considerably from case to case, as do costs, depending on whether a woman is seeking AIH or AID, and whether she has any underlying infertility problem. AIH accounted for approximately 54 percent of the artificial insemination done last year in the United States.

To achieve pregnancy, on average, a woman spends $309 in initial consultations, examinations, and testing, and $92 for each of seven inseminations (done over the course of four to five cycles), for a total average cost of $953, yielding a national estimate of $164 million spent each year for this procedure. Physicians report that 51 percent of these women have insurance coverage for the procedure, and that on average the insurance covers 48 percent of the total cost. At a national level, this means that recipients pay three-quarters of the costs of artificial insemination out of their own pockets.

Overall, those currently seeking and obtaining artificial insemination, with a few exceptions, identify themselves as married couples with a male reproductive problem. Four out of five physicians (82 percent) routinely present other options to patients seeking artificial insemination. The alternative most often presented is adoption (54 percent). Eighty-five percent also routinely present possible risks of artificial insemination, generally infection or multiple births, as well as the normal risks of birth defects or complications associated with pregnancy. A relatively small proportion of practitioners (and only those doing at least some AID) present psychological complications for the recipient (3 percent), the husband

(1 percent), or the offspring (1 percent) as part of the risks normally discussed.

Recipient Screening

Physicians regularly providing artificial insemination generally require the following before accepting a woman for insemination: a personal medical history (98 percent), a fertility history (99 percent), a physical examination (96 percent), a family history (93 percent), and a personality assessment (52 percent). Young physicians (29 percent) and female physicians (39 percent) are less likely than older (60 percent) and male physicians (53 percent) to require personality assessment prior to acceptance.

Twenty-eight percent of the physicians regularly doing artificial insemination indicate that a family history of genetic disease would lead them to require genetic screening of a potential insemination recipient. A majority (74 percent) also require other diagnostic tests of patients prior to accepting them for insemination. The testing most often required by physicians doing artificial insemination is that for infertility (47 percent). The most commonly reported tests for infectious diseases were those for human immunodeficiency virus (HIV) (10 percent) and assorted sexually transmitted diseases (20 percent).

Four out of five patients who request artificial insemination are accepted. The most common reason that physicians have rejected requests is that the patient is considered unsuitable for nonmedical reasons: she is unmarried (52 percent), psychologically immature (22 percent), homosexual (15 percent), or welfare-dependent (15 percent). Other reasons include evidence of child abuse (13 percent), drug abuse (11 percent), or alcohol abuse (10 percent). Sperm banks rarely if ever have rejected men with these characteristics who applied to store semen for future AIH use.

When asked if they would be "likely to reject" an unmarried recipient with a partner, physicians were evenly divided. If the unmarried recipient does not have a partner, the proportion of physicians who had rejected or would be likely to reject the patient rises to 61 percent. If the recipient is homosexual, presumably in addition to being unmarried and without a male partner, this group increases to 63 percent.

Donor Screening

Forty-five percent of artificial inseminations conducted in the past year used donor semen: 22 percent of all artificial inseminations used donor semen from sperm banks and 21 percent from physician-selected donors, with 2 percent from other sources. Donor screening by physicians prior to acceptance is quite varied. For AID practices, half the physicians regularly doing artificial insemination require special prescreening for genetic defects or diseases from some donors.

Two-thirds of the physicians regularly doing artificial inseminations normally screen donor sperm for motility, morphology, and other signs of probable fertility, and an additional 10 percent obtain their semen samples from sperm banks, where such screening is routine. Fertility screening is done by 28 percent of those whose practice is exclusively AIH, and by 74 percent of those who use donors. A slim majority of physicians regularly doing artificial insemination (56 percent) reported requiring other diagnostic tests of donors. Seventy-eight percent of these practitioners reported testing for HIV.

Of the 24 characteristics examined by the survey, a history of serious genetic disorders was the condition for which the greatest proportion of practitioners (21 percent) had rejected a donor. Physicians also reported having rejecting donors due to drug abuse (14 percent), psychological immaturity (13 percent), alcohol abuse (11 percent), a criminal record (9 percent), less than average intelligence (8 percent), child abuse (6 percent), less than a high school education (6 percent), and less than average height (3 percent).

Forty-four percent of physicians providing artificial insemination on a regular basis require special screening to detect genetic disorders for which donors are at relatively high risk. However, the pattern of donor rejection is not always

consistent with the patterns of genetic transmission of the traits for which they are being rejected. In a number of cases, a majority of physicians would reject healthy donors with family histories of sex-linked disorders that are not transmissible unless the donor himself has the condition, such as hemophilia (49 percent) or Duchenne's muscular dystrophy (61 percent). The rate of rejection for having a family history of Huntington's chorea (63 percent) is similar to that for those with a family history of Duchenne's muscular dystrophy, even though those with Huntington's are difficult to distinguish (due to late onset of the disease and expense of seeking genetic markers) yet may be capable of passing on this serious disorder to their children even if the other parent is free of the trait.

Characteristic Matching

Overall, 72 percent of physicians regularly doing artificial insemination are willing to match to at least some recipient specifications, commonly race (97 percent), eye color (94 percent), complexion (90 percent), height (90 percent), ethnic or national origin (84 percent), body type (82 percent), and hair texture (81 percent). A majority also match specifications concerning the donor's educational attainment (66 percent), age (62 percent), intelligence quotient (57 percent), and religion (56 percent), although a fairly substantial proportion of physicians who are generally willing to match at least some recipient specifications say that they would not try to match on the basis of education (29 percent), age (31 percent), intelligence quotient (37 percent), or religion (39 percent). A majority of physicians refuse to match hobbies (56 percent) or income (72 percent). Nonetheless, 39 percent will match for hobbies and 22 percent for income. Physicians are more evenly split on whether they will (45 percent) or will not (50 percent) match for special abilities.

Fresh v. Frozen Semen Use

In 1987, at the time of this survey, approximately one-third of those regularly doing artificial insemination (whether AIH or AID) relied exclusively on fresh semen, and about a quarter relied entirely on frozen semen. Of those doing AID, 22 percent used fresh semen exclusively.

Since 1985, the American Association of Tissue Banks has discouraged the use of fresh semen among its member sperm banks. Since this survey was done, use of fresh donor semen was also discouraged by AFS, the Food and Drug Administration (FDA), and the Centers for Disease Control, because it is not possible to test donors for recent exposure to the HIV virus that might render their semen infectious. Such testing requires that the semen be frozen and quarantined, and the donor retested after 3 to 6 months. Physician practice may have significantly changed since the time of this survey as a result of the new guidelines.

Most frozen semen is obtained from commercial vendors. Three-quarters of physicians who use frozen semen report that either they or their supplier have a quarantine period on the use of the semen. The average period is 3.5 months, but quarantine periods range up to 8 months. Six months is the quarantine period recommended by the FDA, and 3 months is what AATB advises.

Recordkeeping, Professional Standards, and Attitudes Toward Artificial Insemination

About half of all physicians regularly doing artificial insemination (54 percent) keep records that would permit them to identify the specific donor for any specific pregnancy, although a majority will not give anyone access to them, under any circumstances, even if all identifying information about the donor is removed.

The majority of fertility society members who do artificial insemination on a regular basis (76 percent) report that they are aware of specific professional guidelines for the selection of recipients or donors for artificial insemination. Awareness of professional standards is important because it is virtually tantamount to adoption of at least some of those procedures.

Most physicians who practice artificial insemination favor establishing national standards (unspecified as voluntary or mandatory) for donor

screening by sperm banks (80 percent) or private practitioners (68 percent), for recipient screening (57 percent), and for recordkeeping (58 percent), but strongly oppose releasing identifying information about sperm donors to the children conceived with their sperm. As a group, physicians split evenly on whether there is anything wrong with sperm banks that specialize in donors with particular artistic, athletic, or intellectual gifts, and they tended to approve screening recipients on such nonmedical grounds as marital status and sexual orientation.

SUMMARY: SPERM BANK PRACTICE OF ARTIFICIAL INSEMINATION

For AID practice, 9 of the 15 facilities responding to the survey will sell samples only to doctors and 5 will sell samples to both doctors and recipients (1 bank did not respond). No banks reported selling samples only to recipients.

Screening and Matching

Almost half of the sperm banks (7 of 15) reported that they would reject requests for specimens if the recipient, as reported by her physician or as seen by them, seemed unsuitable. Two others said physicians do such screening for them. The most likely reasons to reject a recipient were that she is seropositive to HIV-antibodies (6 of 9) or shows evidence of drug abuse, alcohol abuse, or child abuse (5 of 9). Psychological immaturity and diseases such as hepatitis or cytomegalovirus are also conditions that determine rejection for 4 of 9 facilities.

All 15 sperm banks in the survey reported that they would allow recipients or their physicians to provide specifications for particular donor traits. Nearly all the banks (14 of 15) match physical characteristics such as height, weight, eye color, hair texture, and body type. Similarly, 14 facilities match recipients and donors by race, ethnic group, or national origin. Twelve will match by religion and 11 by educational attainment, special abilities, hobbies, or interests. Seven sperm banks are willing to match by intelligence quotient. Income is the characteristic that sperm banks are least willing to match (3 of 15). Another option available to recipients is sperm separation for preconception sex selection. Slightly more than half the banks (8 of 15) offer this service.

Because sperm banks are most often located in or near universities and hospitals, a majority of sperm banks claim that their inventories contain an overrepresentation of donor characteristics such as “college or graduate degree holder” (12 of 15), “better than average IQ” (8 of 15), and “better than average occupational status/achievements” (7 of 15). There is, however, an “about normal” representation of religious groups or nationalities, as stated by 12 of 15 banks.

All the facilities reported that they require some form of screening before accepting donors, but the nature and extent of the tests vary. Thirteen sperm banks screen donors for genetic defects or diseases that tend to be of ethnic origin, such as Tay-Sachs disease (in Jewish donors), sickle cell anemia (in black donors), and thalassemia (in donors of Mediterranean origin).

All 15 sperm banks reported that they screen donors for human immunodeficiency virus, regardless of whether their semen is intended for use in AIH or AID. If a donor tests negative to the presence of HIV antibodies, 13 banks quarantine the sample pending further donor testing, which will occur, on average, every 1.9 months but which may range anywhere from every 1 to 6 months. In the event that a donor tests positive for HIV antibodies, every bank surveyed reported it would notify the donor of the test results. Sperm banks split on whether they would inform the donor’s spouse or partner.

In general, the survey found that sperm banks are reluctant to accept donors with a family history of genetic disorders, even those that are correctable, avoidable, or socially tolerated. In a number of cases, a majority of sperm banks would reject donors with family histories of disorders that are not widely recognized as predominately genetic.

In addition, like physicians although less often, a number of sperm banks would reject donors with family histories of hemophilia or Duchenne's muscular dystrophy but who were themselves healthy, despite the fact that they could not pass on these diseases. Sperm banks almost uniformly, however, screened out donors with family histories of cystic fibrosis or Huntington's chorea.

Recordkeeping, Professional Standards, and Attitudes Toward Artificial Insemination

At least 11 of the 15 sperm banks keep detailed records for each donor, which often includes information such as the number of women inseminated, number of pregnancies achieved, number of children born, the donor's physical examination, the donor's family genetic history, and any followup examinations of the donor. The majority of facilities will not allow offspring, recipients, recipients' partners, or the donors themselves access to these records.

The sperm banks surveyed have generally adopted professional guidelines and procedures as part of their protocols for artificial insemination, with most using those set forth by AATB or AFS. Members of AATB are bound by its standards.

Establishing national standards (unspecified as voluntary or mandatory) for donor insemination would be favored by most banks, with 14 supporting national standards for donor screening, 13 favoring standards for recordkeeping, and 11 favoring standards for recipient screening. Involvement by national medical societies and Federal public health agencies to assure the safety and quality of artificial insemination practice is more favored than involvement by peer review organizations.

Those responding for the sperm banks generally disapproved of facilities that specialize in donors with intellectual, artistic, or athletic gifts, despite the fact that their own donor pools and screening processes tend to overrepresent educational attainment, and the fact that physicians as a group split almost evenly on this question. They did, however, split evenly on screening recipients for social characteristics, such as marital status or sexual orientation, whereas physicians tended to approve of recipient screening on such nonmedical grounds.