REPORT OF THE
SPECIAL ADVISORY COMMISSION ON
MANDATED HEALTH INSURANCE BENEFITS ON

The Social and Financial Impact and the Medical Efficacy of House Bill 271: Mandated Health Insurance Coverage of Infertility Treatment

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

HOUSE DOCUMENT NO. 31

COMMONWEALTH OF VIRGINIA
RICHMOND
1991

SENATE OF VIRGINIA

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January 7, 1991

To: The Honorable L. Douglas Wilder
Governor of Virginia
and
The General Assembly of Virginia

The report contained herein is pursuant to Section 9-299 of the Code of Virginia as created by House Bill 1106 and Senate Bill 478 of the 1990 Session of the General Assembly of Virginia.

This report documents a study conducted by the Special Advisor Commission on Mandated Health Insurance Benefits to assess the social and financial impact and medical efficacy of 1990 House Bill 271 which proposes mandating health insurance coverage of infertility treatment.

Respectfully submitted,

Clarence Holland

Clarence A. Holland, Chairman
Special Advisory Commission on
Mandated Health Insurance Benefits

CAH:am

Special Advisory Commission on Mandated Health Insurance Benefits

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C. M. G. Buttery, M.D., Commissioner of Health

Steven T. Foster, Commissioner of Insurance

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I. Executive Summary

The Special Advisory Commission on Mandated Health Insurance Benefits (Advisory Commission) began its assessment of House Bill 271 by adopting a schedule which included a public hearing. The Advisory Commission then notified the chief patron of the proposed legislation, Delegate Jerrauld C. Jones, and other interested parties of the public hearing scheduled for November 5, 1990 in Richmond. A press release was issued through the State Corporation Commission's Division of Information Resources on October 17, 1990 to announce the date, time and location of the public hearing (Appendix A).

The Advisory Commission accepted public comments from interested parties prior to, during, and after the public hearing. In addition to staff research, 19 submissions were received regarding House Bill 271 (Appendix B.) At the public hearing, 7 speakers voiced support for the proposed legislation and 4 speakers representing 6 organizations opposed House Bill 271. Deliberations were conducted during an open work session on December 10, 1990 where recommendations were developed and the study was concluded.

House Bill 271 would mandate that all individual or group accident and sickness policies or health services plan subscription contracts delivered or issued for delivery in Virginia include coverage for medically necessary services for infertility diagnosis and treatment including in vitro fertilization (IVF). In its current form House Bill 271 would provide considerably broader coverage than that made available by similar legislation in other states.

According to the National Center for Health Statistics (NCHS), in 1982 2.4 million couples with wives between the ages of 15 and 44 were infertile by medical standards. Estimates on the number of couples suffering from infertility in Virginia range from 48,955 to 128,114.

Infertility services are provided by primary care physicians, specialized infertility centers (IVF) and other facilities such as family planning agencies and health departments. The American Fertility Society (AFS) lists six treatment facilities in Virginia which offer IVF or other advanced services.

Estimates on the potential financial impact of this legislation range from $0.65 to $2.92 per month per family contract. These estimates represent increases of less than 1% of health insurance premiums. The Advisory Commission also recognizes that IVF, GIFT and other advanced treatments are medically efficacious in treating certain cases of infertility.

In conclusion, the Advisory Commission supports the intent of House Bill 271 but recommends that the scope of the coverage be limited pursuant to amendments offered herein.

1990 SESSION

LD0651494

HOUSE BILL NO. 271

Offered January 17, 1990

A BILL to amend and reenact § 38.2-4214 of the Code of Virginia and to amend the Code of Virginia by adding a section numbered 38.2-3410.1, relating to accident and sickness insurance and coverage for infertility treatment.

Patrons–Jones, J.C., Grayson, Jones, R.B., Councill, Croshaw, Keating, Robinson, Melvin, O'Brien, Copeland, Brickley, Christian, Ealey, Byrne, Almand and Moss; Senator: Miller, Y.B.

Referred to the Committee on Corporations, Insurance and Banking

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Be it enacted by the General Assembly of Virginia:

1. That § 38.2-4214 of the Code of Virginia is amended and reenacted and that the Code of Virginia is amended by adding a section numbered 38.2-3410.1 as follows:

§ 38.2-3410.1. Coverage for infertility treatment.–No individual or group accident and sickness insurance policy or health services plan shall be delivered or issued for delivery in this Commonwealth unless it contains coverage for medically necessary expenses of diagnosis and treatment of infertility, including, but not limited to, in vitro fertilization, uterine embryo lavage, embryo transfer, artificial insemination, gamete intrafallopian tube transfer, and low tubal ovum transfer.

For the purposes of this section, "infertility" means the inability to conceive after one year of unprotected sexual intercourse.

§ 38.2-4214. Application of certain provisions of law.–No provision of this title except this chapter and, insofar as they are not inconsistent with this chapter, §§ 38.2-200, 38.2-203, 38.2-210 through 38.2-213, 38.2-218 through 38.2-225, 38.2-230, 38.2-316, 38.2-400, 38.2-40 through 38.2-413, 38.2-500 through 38.2-515, 38.2-600 through 38.2-620, 38.2-700 throug 38.2-705, 38.2-900 through 38.2-904, 38.2-1017, 38.2-1018, 38.2-1038, 38.2-1040 through 38.2-1044, 38.2-1300 through 38.2-1310, 38.2-1312, 38.2-1314, 38.2-1317 through 38.2-1328, 38.2-1334, 38.2-1340, 38.2-1400 through 38.2-1444, 38.2-1800 through 38.2-1836, 38.2-3400, 38.2-3401, 38.2-3404, 38.2-3405, 38.2-3409, *38.2-3410.1,* 38.2-3411 through 38.2-3419, 38.2-3501, 38.2-3502, 38.2-3516 through 38.2-3520 as they apply to Medicare supplement policies, §§ 38.2-3500, 38.2-3541 and 38.2-3600 through 38.2-3607 shall apply to the operation of a plan.

Official Use By Clerks	
Passed By The House of Delegates	**Passed By The Senate**
without amendment ☐	without amendment ☐
with amendment ☐	with amendment ☐
substitute ☐	substitute ☐
substitute w/amdt ☐	substitute w/amdt ☐
Date: _____	Date: _____
Clerk of the House of Delegates	Clerk of the Senate

III. Introduction

House Bill 271 was carried over by the 1990 General Assembly for further consideration during the 1991 session. The proposed legislation was also referred to the Special Advisory Commission on Mandated Health Insurance Benefits (Advisory Commission) for review prior to the commencement of the 1991 General Assembly pursuant to Section 9-299 of the Code of Virginia.

House Bill 271

House Bill 271 proposes the addition of a new section in the insurance code requiring that coverage for medically necessary services for infertility diagnosis and treatment be included under any individual or group accident and sickness policy or health services plan subscription contract delivered or issued for delivery in Virginia. H.B. 271 specifically includes in vitro fertilization (IVF), uterine embryo lavage, embryo transfer, artificial insemination (AI), gamete intrafallopian tube transfer (GIFT), and low tubal ovum transfer as covered services. "Infertility" is defined in the proposed legislation to mean the inability to conceive after one year of unprotected sexual intercourse.

The proposed language does not exempt policies for short-term travel, accident only, limited or specified disease policies or short-term nonrenewable policies of not more than six months in duration. In addition, the limited mandated benefit accident and sickness insurance policies authorized by Sections 38.2-3425 through 38.2-3430 would not be exempt from this mandate. Furthermore, this bill does not apply to contracts issued by health maintenance organizations in its current form.

Legislation in Other States

Twelve states have enacted legislation addressing health insurance coverage of infertility diagnosis and treatment to some extent (Appendix C).

Florida, Montana, New Mexico and West Virginia have adopted legislation that adds "infertility services" to the list of preventive health care services which must be provided, when medically necessary, by all health maintenance organizations (HMOs) operating within the respective states. The effect of such legislation is minimal in these states because it only provides for basic services and only addresses the population covered by HMOs.

Of the remaining eight states, three require only that insurers offer coverage for infertility treatment or IVF procedures to their group policyholders. In these cases, the decision regarding coverage is left to the employer or other group policyholder and an offer of coverage under individual policies is not mandated.

Of the five states that mandate the inclusion of coverage, three require that only IVF procedures be covered. These three states also require that other less expensive treatments (if covered by the policy) be utilized before IVF is attempted. In contrast, the remaining two states require more complete coverage of available infertility treatments including AI and GIFT.

All five states limit the mandate to policies that include other pregnancy-related benefits. Three of the five use more restrictive definitions of infertility than that included in H.B. 271. Four of the five specifically restrict coverage to the insured and a dependent spouse covered under the same policy. Three of the five also require that benefit levels for infertility treatment be equal to those for other pregnancy-related benefits. In addition, they require that IVF treatment be performed in licensed IVF facilities only.

H.B. 271 does not specifically address many of the issues included in the legislation of other states.

IV. Infertility Treatment

Primary Source of Information

In 1988, the federal Office of Technology Assessment (OTA) conducted a study of infertility at the request of the Senate Committee on Veteran's Affairs and of the Subcommittee on Human Resources and Intergovernmental Relations of the House Committee on Government Operations of the United States Congress. In order to adequately address the concerns of the U.S. Congress, the OTA examined a broad spectrum of issues regarding infertility. Specifically, the study addressed "the scientific, legal, economic, and ethical issues surrounding medically assisted conception, surgically assisted conception (including IVF and Gift), artificial insemination, basic research supporting reproductive technologies, and surrogate motherhood" (OTA, p. 35).

Definition of Infertility

The OTA report defines infertility as the inability of a couple to conceive after 12 months of intercourse without contraception. It should be noted, however, that this definition was adopted by the OTA because it is the standard medical definition and because it is an assumption which is built into the majority of data available on infertility. The OTA report carefully cites an ongoing study by the Centers for Disease Control on the epidemiology of infertility which states that "only 16 to 21 percent of couples meeting the standard medical definition of infertility actually remain infertile throughout their lives" (OTA, p. 35).

Demographics

The primary source of demographic data for the OTA report was the 1982 National Survey of Family Growth conducted by the National Center for Health Statistics (NCHS). The 1982 survey included data collected from 7,969 women between the ages of 15 and 44, of which 3,551 were married. For comparative purposes, data collected from surveys conducted in 1965 and 1976 by NCHS were also presented in the OTA report (OTA, p.49).

The 1982 NCHS data indicates that, of the 28.2 million married couples with wives aged 15 to 44, 14.8 million are fecund (fertile), 11 million are classified as surgically infertile (voluntarily infertile), and 2.4 million are infertile.

Of the 2.4 million couples that were infertile in 1982, 1 million suffered from primary infertility (childlessness) and 1.4 million from secondarly infertility (having at least one biological child) (OTA, p. 50).

Between the 1965 and 1982 surveys the total number of infertile couples declined from 3 million to 2.4 million. Primary infertility increased, however, from 0.5 million to 1 million couples during the same period. Secondary infertility declined from 2.5 million to 1.4 million couples during this period (OTA, p.50). The OTA report suggests that the increase in primary infertility may have been the result of more couples trying to have a first child as the "babyboomer" generation matured (OTA, p.50). In addition, more women of childbearing age have delayed childbirth longer and have allowed less time to conceive once a child was desired (OTA, p. 55).

Infertility Services

The OTA report lists the following three categories of providers of infertility services:

- primary care physicians;
- specialized infertility centers (IVF); and
- other centers offering infertility treatment.

The primary care physicians include obstetricians, gynecologists and urologists. Most physicians in these specialties provide basic diagnostic and treatment services including counseling. The second category includes at least 174 American Fertility Society member facilities nationally that offer IVF and/or GIFT treatment. The final category includes Planned Parenthood facilities, health departments, and family planning agencies in hospitals. These facilities offer basic counseling and physical examinations (OTA, p.53).

The following data regarding the number of women in the United States who have ever used infertility services presented in the OTA report:

Table 1 Use of Services for Infertility, 1982

Infertility status	Women who ever sought services
All infertile women	31.4 %
Women with primary infertility	51.2
Women with secondary infertility ...	22.4

Source: OTA, p.54.

This data indicates that only 31.4% of infertile women have ever sought infertility services. The OTA estimates that in 1982, 1 million ever-married women in the United States acknowledged that they or their husbands had used infertility services within the past 12 months (OTA, p.54).

Data presented in the OTA report shows that the number of office visits to private physicians for infertility services has increased from 600,000 in 1966 to nearly 2.0 million in 1983 and fallen to 1.6 million in 1984 (OTA, p.55). The report identifi several factors which may explain this increase in utilization:

The number of couples with primary infertility has grown as babyboomers have aged; childbearing has been delayed; the use of oral contraceptives has increased (delaying pregnancy); and there has been a growing tendency for couples to classify themselves as infertile. In addition, the number of infants available for adoption has decreased while public awareness of infertility treatments has increased. Finally, the number of physicians offering infertility treatment has risen as new reproductive techniques have been developed.

The OTA report concludes that no correlation exists between the rise in infertility treatment utilization and the frequency of infertility in the general public.

Success Rates for IVF and GIFT

The most reliable data available indicates that, among the 135 American Fertility Society facilities reporting to the U.S. In Vitro Fertilization Registry, the live delivery rate is 12% for IVF and 21% for GIFT. The data reflects the outcomes of treatment initiated in 1988. The following table provides a more detailed picture of the 1988 data:

Table 2 Treatment Outcome by Total Number of Retrieval Cycles

Treatment	No. of Retrievals	No. of Clinical Pregnancies*	No. of live Deliveries*
IVF	13,647	2,243 (16)	1,657 (12)
GIFT	3,080	846 (27)	654 (21)

* Rates are expressed in parenthesis as a percent of retrievals.

Source: IVF-ET Registry, pp.15-17.

When data regarding all IVF-ET treatments for which the facilities were asked to provide information are totalled, 3,508 clinical pregnancies were achieved in 1988. Of those, 2,627 resulted in live deliveries. These deliveries resulted in the birth of 3,427 babies including 580 sets of twins, 100 triplets, 11 quadruplets and 3 quintuplets (IVF-ET Registry, p.14).

Cost of Treatment

The cost of infertility treatment is difficult to define because many services fall under the category of "infertility treatment" and actual treatment may vary considerably from case to case depending on the characteristics of each. An OTA survey of treatment costs for 1986 indicates that IVF and GIFT procedures have the highest median costs associated with them. OTA reports a range of $775-6,200 with a median cost of $4,688 for IVF and a range of $2,500-6,000 with a median cost of $3,500 for GIFT.

To better describe the costs associated with the various levels of infertility treatment, the OTA developed a set of hypothetical scenarios. These scenarios were designed to demonstrate a likely series of treatments and the odds of success facing a typical couple seeking infertility services. The following table is a summary of the OTA findings. Note the number of couples unable to continue to Stage IV, the costs associated with each level and the rate of success at each stage.

Table 3 Summary of Infertility Diagnosis and Treatment Scenarios

Scenario	Time (months)	Cost	Pregnancy rate	Number of pregn.
100 couples begin				
Stage I:				
Diagnosis and treatment of oligomenorrhea.....	6-9	$3,668	30%	30
70 couples continue				
Stage II:				
Complete infertility evaluation.....	12	$2,055	30%	21
49 couples continue				
Stage III:				
Tubal surgery.....	18	$7,118	30%	15
34 couples remain				
11 suited to continue				
Stage IV:				
In vitro fertilization..	6	$9,376	25%	3
Total..... at least 4.5 years		**$22,217**	**69%**	**69**

Source: OTA, 1988, p.143.

The cumulative 69% pregnancy rate translates into a 50% live delivery rate. OTA further qualifies its findings by stating that Stages III and IV are becoming combined as IVF is becoming more widely used. Therefore, it is likely that IVF will become a common substitute for tubal surgery in many situations (OTA, p.144).

V. Infertility Services In Virginia

The American Fertility Society (AFS) publishes a list of treatment centers offering IVF and/or GIFT services. A complete list of those member institutions operating in Virginia is attached as Appendix D. The AFS lists six treatment facilities in Virginia. They include four which are members of the Society for Assisted Reproductive Technology (SART). SART is an affiliate of the AFS and has developed minimum standards for membership which include staffing requirements, the number of procedures performed annually and the number of live births achieved.

The infertility treatment facilities in Virginia are geographically dispersed. Two centers service the Northern Virginia area, two operate in the Richmond area, one is present

in Charlottesville and another in Norfolk. The AFS has reported that it has approximately 209 active members in Virginia, twenty-four of which are classified by the AFS as Allied Health Professionals.

More conventional infertility treatment is often performed by obstetricians, gynecologists, urologists, and other physicians through private practices and family planning clinics on a more widespread basis. There does not appear to be a shortage of infertility services in Virginia although there is a higher concentration of available services in urban areas.

Cost of Insurance Coverage of Infertility Services

States with existing infertility coverage legislation were contacted in an effort to obtain any cost data which may have been collected. No state reported the existence of any such collection of data or any formal report on the subject. The Massachusetts Division of Insurance was able, however, to comment on a letter from their office to Ms. Donna Ulman of Resolve, Inc. The letter is dated February 8, 1989 and estimates that the Massachusetts infertility mandate increased the premium of a Blue Cross and Blue Shield of Massachusetts family contract by $0.59 per month. More recent filings, however, indicate that the monthly cost is $1.79 per family contract according to the third quarter 1990 group health insurance rate filings of Blue Cross and Blue Shield of Massachusetts. No cost information was available for HMOs or commercial insurers.

VI. Evaluation of House Bill 271 Based on Review Criteria

Social Impact

a. The extent to which the treatment or service is generally utilized by a significant portion of the population.

The OTA reports that nationally 2.4 million married couples with wives of childbearing age are infertile, based on the medical definition of infertility (OTA, p.51). Of those 2.4 million, 1 million suffer from primary infertility (OTA, p.50). In 1982, 1 million ever-married women indicated that they or their husbands had sought infertility services in the past 12 months (OTA, p.54). Additional data presented in the OTA report indicates that in 1984 1.6 million office visits to private physicians for infertility services were recorded (OTA, p.55).

The Family Building Act Committee (FBAC) concluded from its summary of providers that 153,112 Virginians, comprising 76,556 or 9.4% of couples of childbearing age, annually consult a doctor for conception problems. Of those 76,556 couples, 48,955 (6%) are diagnosed as infertile and seek medical treatment for their infertility.

Opponents suggest that when national statistics developed by the OTA are applied to Virginia population statistics it is estimated there are 128,114 infertile women in Virginia. Of those 128,114, about 19,217 are estimated to be potential candidates for IVF treatment based once again on OTA statistics. This represents about 0.33% of the total Virginia population. Opponents suggest that the 19,217 number may be inflated because it is not limited to married couples.

Estimates from both proponents and opponents indicate that infertility treatment is generally utilized by a small percentage of the population of Virginia.

b. The extent to which insurance coverage for the treatment or service is already generally available.

The OTA states that 70% of non-IVF infertility expenditures are covered by private insurance. Patients pay about 22% out-of-pocket and the remaining funding comes from other sources (OTA, pp.148-9). Although complete coverage for IVF and related procedures is not widely available some companies do offer such coverage and most cover some components of such treatment (OTA, p. 149). A survey of its member companies by the Health Insurance Association of America indicated that 25% of its members provided reimbursement for in vitro fertilization in 1987. Proponents agree with the OTA findings but caution that coverage is generally limited to low-tech, inexpensive services which are generally more diagnostic than treatment oriented. They further argue that coverage is inconsistent among insurers and that specific services that are normally covered are not covered when associated with IVF or GIFT.

Opponents cited the OTA findings also and referred to a list of commercial insurers who according to a 1988 newspaper article offered coverage of IVF and other extensive fertility services for an additional premium. Blue Cross and Blue Shield of the National Capitla Area (BCBSNCA) and Blue Cross and Blue Cross of Virginia (BCBSVA) do not include this type of coverage for Virginia residents in typical contracts, but BCBSNCA indicated that such coverage is available to group policyholders by request.

Although coverage for basic diagnosis and treatment is common, inconsistency among insurers is apparent. While some insurers offer coverage for more advanced treatment such as IVF, most do not and most group plans do not include this type of coverage whether insured or self-insured.

c. If coverage is not generally available, the extent to which the lack of coverage results in persons being unable to obtain necessary health care treatments.

Coverage is generally available for basic infertility diagnosis and treatment, but not for IVF and related technologies. Proponents argue that advanced technologies are "unfairly rationed" to those couples who can afford such expensive treatments. Opponents suggest that based on information in the FBAC Report attributed to Dr. Howard W. Jones, Jr. of the Howard and Georgeanna Jones Institute for Reproductive Medicine in Norfolk, 50-70% of infertile couples eligible for IVF choose not to undergo the procedure for reasons unrelated to cost.

It is apparent that the lack of insurance coverage creates a substantial financial burden for many people who are infertile and who are limited to advanced infertility treatment.

d. If the coverage is not generally available, the extent to which the lack of coverage results in unreasonable financial hardship on those persons needing treatment.

Although coverage for basic infertility services is generally available, coverage for IVF treatment is not. This level of treatment is very expensive and the lack of coverage can place a financial burden on most couples. Such treatment, however, is elective and couples are not medically required to undergo the procedures.

Proponents argue that the lack of coverage forces the choice between childlessness and severe financial hardship on all but the wealthiest couples. Testimony was provided by several individuals at the public hearing that illustrated this point.

Opponents concede that the cost of IVF, GIFT and other advanced treatments can put those services out of the reach of most people. They also argue, however, that for uninsured Virginians any condition requiring medical treatment results in financial hardship, both to them and to medical professionals and the health care system.

While the less expensive and more basic diagnostic services and treatments are more commonly covered, the expensive and advanced treatments generally are not. Most of those seeking advanced treatments, therefore, endure a considerable financial burden.

e. The level of public demand for the treatment or service.

Proponents estimate that 153,000 Virginians had problems conceiving in 1989. About 6% of Virginia couples (48,955) of childbearing age are actually diagnosed as infertile and pursue treatment.

Opponents do not appear to significantly disagree with these estimates. They contend that these figures indicate that only a small portion of the population actually seek these types of services.

f. The level of public demand and the level of demand from providers for individual or group insurance coverage of the treatment or service.

The level of public demand for insurance coverage of infertility treatments and services appear to be consistent with the level of demand for the services. Providers are assumed to desire such coverage although the level of that demand is unknown.

Proponents argue that H.B 271 is not a provider-driven mandate, but one that is consumer-generated. They also argue that demand is underestimated because many who need and want such coverage do not voice their desire because of the private nature of infertility.

Opponents acknowledge that physicians who perform IVF or specialize in infertility problems and believe that such have treatment should be covered have not made a concerted effort on the part of providers to "lobby" for the insurance coverage for IVF. They also report that insured groups have not asked for the inclusion of such benefits in their programs.

g. The level of interest of collective bargaining organizations in negotiating privately for inclusion of this coverage in group contracts.

Proponents argue that the private nature of the condition of infertility is such that employees or members of a group are reluctant to voice support for such coverage. Opponents report that they are unaware of any interest among collective bargaining organizations.

h. Any relevant findings of the state health planning agency or the appropriate health system agency relating to the social impact of the mandated benefit.

No such findings were brought to the attention of the Advisory Commission by any parties.

Financial Impact

a. The extent to which the proposed insurance coverage would increase or decrease the cost of treatment or service over the next five years.

Proponents argue that costs will rise because of inflation not because of insurance coverage. They suggest the use of usual customary and reasonable charges (UCR's) will help limit the amount the insurer will be expected to pay. Proponents also argue that economies of scale will result from mandated insurance coverage and that this will help limit cost increases.

Opponents argue that costs will rise and that the treatment of infertility will become a more profitable area of medicine.

No data was available from other states which have mandated similar coverage and consequently no firm correlation can be drawn between a rise in cost and the requirement of coverage.

b. The extent to which the mandated treatment or service might increase the appropriate or inappropriate use of the treatment.

Proponents assert that although utilization of appropriate infertility services will likely increase, the inappropriate use of treatment will not. They argue that the current lack of insurance coverage has caused an unnecessarily high level of inappropriate treatment (tubal surgery) which this bill would relieve. Proponents have also offered two amendments to address these issues. The first would limit coverage for IVF, GIFT and zygote intrafallopian transfer (ZIFT) to persons who have "been unable to attain a live birth through reasonable, less costly, medically appropriate infertility treatments for which coverage is available..." Secondly , a cap would be placed on the number of completed oocyte retrievals (IVF cycles) covered. Proponents also argue that an increase in utilization would reflect the actual level of demand for the service and that existing insurance company utilization figures reflect the number of claims filed and not the true level of services used.

Opponents offer that utilization increases in the first few years of a mandate are of concern to them. Also, the lack of professional guidelines regarding patient selection and treatment is of concern to opponents.

It is reasonable to assume that an increase in the utilization of infertility services would occur if the mandate is enacted because of the relatively high cost of IVF and other advanced treatments. The degree of increase, however, is uncertain. The amendments offered by proponents certainly will reduce the total cost to insurers and the limited number of

Virginians with infertility problems (76,000 estimated by the Family Building Act Committee) will also limit the maximum level of utilization.

c. The extent to which the mandated treatment or service might serve as an alternative for more expensive or less expensive treatment or service.

Proponents argue that IVF, GIFT and ZIFT will substitute for expenses related to tubal surgery, mental health care and adoption. Based on information from Sentara Norfolk General Hospital, they contend that the total cost of tubal surgery can reach $10,000 while IVF, GIFT and ZIFT cost approximately $6,000 per treatment cycle. Testimony was also presented as to the emotional strain of infertility and the use of mental health services.

Opponents argue that these offsets will not occur based on their experience with other mandates. They also voiced concern that IVF, GIFT and ZIFT may be attempted before less costly treatments are exhausted. Proponents offered an amendment to specifically address this issue.

While there is some indication that IVF, GIFT and ZIFT may replace tubal surgery to some degree it is difficult to assess the impact of this substitution. Cost savings may be realized especially if the tubal surgery is extensive or done more than once. Currently, tubal surgery is more often covered by insurance and therefore used sometimes even though IVF may be more effective (OTA, pp. 143-44).

d. The extent to which the insurance coverage may affect the number and types of providers of the mandated treatment or service over the next five years.

Proponents assert that existing facilities will expand to respond to increased demand but few new facilities will be established. They note the expense of such start-ups and the desire of patients to seek out the best and most experienced providers as significant barriers to entry into this field.

Opponents agree that the number of providers will increase, but offer little insight as to the extent of this increase. They also note that non-physician providers related to infertility treatment might become more active in rendering or assisting with the provision of services.

e. The extent to which insurance coverage might be expected to increase or decrease the administrative expense of insurance companies and the premium and administrative expenses of policyholders.

Proponents argue that administrative expenses of $100,000 to $200,000 per mandate when spread over the base of insureds, is insignificant. They also have presented evidence that the average monthly increase per covered family for infertility coverage would be approximately $0.65 assuming utilization of services doubles.

BCBSNCA presented figures developed by its actuarial staff that the monthly premium increase would be $0.98 per family contract.

BCBSVA offered cost estimates ranging from $0.58 for an individual policy based on national statistics to $2.92 for community rated polices based on Virginia specific data supplied by the proponents.

Information obtained from the Massachusetts Division of Insurance indicates that the premium cost to a Blue Cross and Blue Shield of Massachusetts subscriber's family policy attributable to infertility coverage is $1.79 per month. Proponents and Massachusetts Division of Insurance officials caution that this cost reflects much higher insurance rates in Massachusetts. Proponents suggest that in Virginia these rates would be close to $1.00 per month per family based on the same experience.

Although monthly cost estimates varied among interested parties, none appeared to represent as much as a 1% increase in premiums.

f. The impact of coverage on the total cost of health care.

In Virginia, approximately 30.8 million dollars were spent on all infertility treatment in 1989 and of that, 6.8 million dollars was spent on IVF, GIFT, and ZIFT treatment according to proponents. Proponents argue that nationally, infertility treatment only represents 0.1% of total health care costs. In addition, they assert that cost offsets will occur when IVF, GIFT and ZIFT are substituted for tubal surgery and mental health and adoption costs.

Opponents argue that the total cost of health care will rise because reimbursement will be mandated and utilization will increase. Opponents do not agree that any cost offsets will impact the total cost of health care favorably.

The total cost of health care will likely rise. Approximately $1 billion was spent on infertility treatment in 1987 in the United States. IVF expenditures account for about 7% of that total (OTA, p.10). While substitution of services may have some effect, it is reasonable to assume that total health care costs will rise due to increased utilization.

Medical Efficacy

a. The contribution of the benefit to the quality of patient care and the health status of the population, including the results of any research demonstrating the medical efficacy of the treatment or service compared to alternatives or not providing the treatment or service.

Proponents and opponents agree that IVF and GIFT are legitimate, non-experimental procedures, but they disagree on their effectiveness. Proponents cite the cumulative success rate of the Jones Institute in Norfolk of 39% and a comparable rate at MCV. Opponents, however, cite national statistics that indicate a wide variation in success rates among clinics. They argue that the quality of care is not consistent and that adherence to the professional standards of the American Fertility Society is voluntary.

The IVF-ET Registry reports that in 1988 the live birth rate was 12% for IVF and 21% for GIFT per treatment nationally. The success rates cited by proponents reflect more than one treatment, but are likely higher than the national average on per treatment basis because of the high quality of care administered by these two facilities.

b. If the legislation seeks to mandate coverage of an additional class of practitioners:

1) The results of any professionally acceptable research demonstrating the medical results achieved by the additional class of practitioners relative to those already covered.

Does not apply.

2) The methods of the appropriate professional organization that assure clinical proficiency.

Does not apply.

Effects of Balancing the Social, Financial and Medical Efficacy Considerations

a. The extent to which the benefit addresses a medical or a broader social need and whether it is consistent with the role of health insurance.

Proponents assert that "In the final analysis, this bill is still about far more than insurance; it is first and foremost about motherhood and fatherhood, about desperately wanted babies and new Virginia families, and whether the government of the Commonwealth is going to stand up for those values." They further argue that the benefit meets a medical need to address infertility.

Opponents argue that if this benefit addresses a social need then mandating coverage will not adequately address the problem. They contend that less than one-third of the population is directly affected by mandates because most are covered by self-insured plans, work for out-of-state employers or are covered by federal programs. Opponents also argue that those who will be affected by the mandate are the least able to bear the additional costs.

b. The extent to which the need for coverage outweighs the costs of mandating the benefit for all policyholders.

Opponents assert that the cost per family contract per month will be $0.65 and will in no event exceed $1.00. They argue that by nature mandates apply to only small portions of the population because they protect those who collectively have little direct impact on insurance coverage decisions.

Opponents argue that the benefits included in H.B 271 will affect less than 10% of the 9.4% of Virginia couples who had problems conceiving last year. They contend that increases of $11-$35 per year will increase the number of uninsured Virginians.

The fact that only about 49,000 couples of child-bearing age receive infertility treatment in Virginia indicates that this mandate would affect a small portion of the population. Cost estimates vary but appear to amount to less than 1% of current health insurance premiums.

c. The extent to which the need for coverage may be solved by mandating the availability of the coverage as an option for policyholders.

The majority of those Virginians covered by health insurance are covered by group health insurance because of employment. Proponents argue that the offer of infertility treatment coverage to an employer would not guarantee the availability of coverage to those desiring treatment not covered in the existing policy.

In a 1986 survey conducted for the State Corporation Commission, 83% of families that were insured for health care obtained that coverage through employment (SCC, 1987, p IV-16).

In addition, opponents argue that administrative expenses would not be reduced by offering coverage and that insurers would be more susceptible to adverse selection with a mandated offering.

VII. Conclusion

The intent of House Bill 271 is to provide access to infertility services to married couples who are having difficulty conceiving a child. This bill will create a standard level of insurance coverage for infertility treatment and will reduce the inconsistencies that currently exist among the coverages offered by insurers.

Although only a small portion of the population will directly benefit from this extension of coverage, the level of need within this group is sufficient to warrant this mandate. The high cost of the more advanced treatments such as IVF, GIFT and ZIFT denies access to many couples suffering from infertility. For many infertile people such treatment is the last avenue available in their effort to conceive. If successful, IVF and other treatments can relieve the emotional strain of infertility. A mandate of coverage is necessary because the affected population is not large enough to force coverage changes through the marketplace.

Based on estimates by proponents, opponents and other available information the cost of this mandate should be less than 1 percent of the total health insurance premium. Although utilization of most infertility services is expected to rise substantially, current cost estimates reflect potential increases. Furthermore, an increase in utilization should demonstrate the level of need for this type of coverage.

The services covered by the proposed legislation are medically efficacious in the treatment of infertility. Although success rates vary, it has been demonstrated to the satisfaction of the Advisory Commission that advanced treatments such as IVF, GIFT and ZIFT are medically appropriate, legitimate forms of treatment for certain infertility problems. Specifically, IVF and GIFT are considered non-experimental by the American College of Obstetricians and Gynecologists and ZIFT is expected to be approved as a variation of IVF and GIFT.

In summary, the Advisory Commission has found that House Bill 271 addresses an identifiable need and that the costs associated with mandating coverage do not outweigh the benefits which would result from its passage. The Advisory Commission addressed the issue of cost by recommending amendments that would contain costs by limiting the scope of the mandate. The mandate could be further restricted by excluding it from the limited mandated benefit accident and sickness insurance policies authorized by §§38.2-3425 through 38.2-3430.

VIII. Recommendations

The Advisory Commission voted 6 to 5 in support of the intent of House Bill 271 and hereby recommends it to the General Assembly for passage contingent upon the addition of several amendments. The Advisory Commission believes that the existing language of House Bill 271 is too broad and should be narrowed substantially to reduce the cost impact of the mandate and to ensure that it meets the needs of insureds as intended.

The Advisory Commission recommends that the revised language offered by the Family Building Act Committee on December 10, 1990 (Appendix E) be substituted for the existing language and that the following five changes be made to that amended language.

§38.2-3410.1 (a). (ii) should be replaced with language which requires coverage for three completed ooccyte retrievals, or until a live birth is achieved, whichever occurs first.

A section should be added which addresses the reporting, compilation and dissemination of consumer information including, but not limited to, success rates (percent of live births) by age group for individual facilities.

A section should be added to restrict coverage for IVF, GIFT, or ZIFT to couples waiting an additional 12 months after satisfying the conditions of the definition of infertility included in the proposed legislation. A couple is defined as medically infertile if they are unable to conceive after one year of unprotected sexual intercourse.

The language should be changed to make §38.2-3410.1 apply to health maintenance organizations. §38.2-4319, the section in the HMO chapter that references other laws that are applicable to HMOs, should be amended to include §38.2-3410.1.

The mandate should be limited to family contracts and coverage of insureds and their spouses covered under the same policy.

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FOR IMMEDIATE RELEASE
October 17, 1990

Special Advisory Commission on Mandated Health Insurance Benefits to Hold Hearing on Mandating Coverage for Infertility Treatment

RICHMOND - The Special Advisory Commission on Mandated Health Insurance Benefits will host a public hearing, Monday, November 5, 1990, on proposed legislation that would require health insurance policies to include coverage for infertility treatment.

The hearing will begin at 11 a.m. in Senate Room B of the General Assembly Building in Richmond. Any interested persons are welcome.

The bill (H.B. 271) proposes that individual or group health policy or health services plan contracts must include coverage for medically necessary expenses of diagnosis and treatment of infertility.

The Bureau of Insurance of the State Corporation Commission is assisting the Special Advisory Commission on Mandated Health Insurance Benefits. The Special Advisory Commission includes four members of the General Assembly and 10 members appointed by the Governor. In addition, the Commissioner of Health and Commissioner of Insurance serve as ex-officio members. Sen. Clarence A. Holland of Virginia Beach is chairman and Del. Warren Stambaugh of Arlington County is vice chairman.

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Public Comments On House Bill 271

Comments Received Prior to the Public Hearing

Number	Submission	Pages
90-271-PC-1	"A Study Report on the Proposed Family Building Act", October, 1990, submitted by the Family Building Act Committee, hand delivered, received October 17, 1990 by staff.	47
90-271-PC-2	"Comments to the Special Advisory Commission on Mandated Health Benefits on In Vitro Fertilization Services", October 25, 1990, submitted by Blue Cross and Blue Shield of the National Capital Area, hand delivered, received on October 25, 1990 by staff.	186
90-271-PC-3	Letter to Ann Colley providing comments to the Advisory Commission from Mrs. James Norris dated October 27, 1990, received October 31, 1990 by staff.	1
90-271-PC-4	Letter to Ann Colley from Cain Greiwe dated November 2, 1990, received November 5, 1990 by staff.	2

Written Comments Received at the Public Hearing

Number	Submission	Pages
90-271-PH-1	"Family Building Act Committee Amendments to H.B 271", submitted by Delegate Jerrauld C. Jones (patron).	7
90-271-PH-2	"Remarks of Delegate Jerrauld C. Jones to the Special Advisory Commission on Mandated Benefits and Providers", November 5, 1990, submitted by Jerrauld C. Jones (patron).	6
90-271-PH-3	"Remarks of William L. Nusbaum to the Special Advisory Commission on Mandated Benefits and Providers", November 5, 1990, submitted by William L. Nusbaum.	5

90-271-PH-4	The Choice of In Vitro Fertilization or Microsurgery for Distal Tubal Occlusion, Dr. Dimitrios K. Hassiatos, et al., The Howard and Georgeanna Jones Institute of Reproductive Medicine, Eastern Virginia Medical School, Norfolk, Virginia submitted by Dr. Georgeanna Jones.	21
90-271-PH-5	"Remarks from Caren L. Diefenderfer, Roanoke, VA.", submitted by Caren L. Diefenderfer.	2
90-271-PH-6	"Statement of Mark M. Lowenthal Before the Mandate Insurance Commission", November 5, 1990, submitted by Mark M. Lowenthal.	3
90-271-PH-7	"Remarks of Linda S. Mintle, LCSW", November 5, 1990, submitted by Linda S. Mintle.	4
90-271-PH-8	"House Bill 271 - Health Insurance Coverage for Infertility Treatment Including In Vitro Fertilization, et al. - Statement of Blue Cross and Blue Shield of Virginia to the Special Advisory Commission on Mandated Health Insurance Benefits", November 5, 1990, submitted by Joan Gardner.	78
90-271-PH-9	"Statement by Gail M. Thompson, Legislative Affairs Representative Blue Cross and Blue Shield of the National Capital Area at a Hearing of the Special Advisory Commission on Mandated Health Insurance Benefits Infertility Services", November 5, 1990, submitted by Joan Gardner.	3
90-271-PH-10	Letter to Ann Colley from Gail M. Thompson, Blue Cross and Blue Shield of the National Capital Area dated November 5, 1990, delivered and submitted to Joan Gardner.	3
90-271-PH-11	Petition in support of House Bill 271, submitted by Delegate Jerrauld C. Jones (patron).	5

Comments Received After the Public Hearing

90-271-AH-1	"Supplemental Submission of the Family Building Act Committee to the Special Advisory Commission to the Special Advisory Commission in Mandated Benefits and Providers", submitted by the Family Building Act Committee, hand delivered, received November, 27, 1990 by staff.	49
90-271-AH-2	Letter to Senator C.A. Holland from Joan M. Gardner of BCBSVA dated December 6, 1990, received December 6, 1990 by staff.	6
90-271-AH-3	Letter to Ann Colley from Sally Joyce Duran President of the Virginia Association of Health Maintenance Organizations dated December 5, 1990 and a position paper entitled "Virginia House Bill No. 217 Mandatory Benefits for Infertility Treatments", December 5, 1990, received by staff on December 7, 1990.	4
90-271-AH-4	Proposed language for an amended House Bill 271 entitled "House Bill 271 (Now Incorporating All Amendments Proposed by the FBAC)" submitted by the Family Building Act Committee at December 10, 1990 meeting of the Advisory Commission.	2

Information Supplied by Staff to the Advisory Commission

Number	Submission	Pages
90-271-S-1	"Impact of House Bill 271: Mandated Health Insurance Coverage for Infertility Services - Staff Analysis", October 23, 1990.	24
90-271-S-2	Informational pamphlets supplied by MCV on Infertility Treatment:	
	Infertility: Causes and Treatments, the American College of Obstetricians and Gynecologists, 409 12th Street, S.W., Washington, D.C., 20024-2188.	4

Infertility Treatment Mandates in Other States

ALL INSURERS: "Must provide" or "must offer" coverage for infertility treatment as follows.

		All Policies Pregnancy-Related Benefits	Infertility Diagnosis & Treatment Generally	IVF Only	Definition of Infertility in Years	Restricted to Covered Spouses	Benefit Level Equal to Other Pregnancy-Related Benefits	Licensed In Vitro Facility Only	Less Costly Treatments Exhausted (if covered)	Required for Group Policies Only
Must Provide:	Arkansas	X		X	2 *	X	X	X	X	
	Hawaii	X		X	5 *	X	X **	X	X	X
	Maryland	X		X ***	5 *	X		X	X	
	Massachusetts	X	X		1	X	X			
	Rhode Island	X	X		1					
Must Offer:	California		X ****		1					X
	Connecticut		X		1					X
	Texas	X		X	5 *	X	X	X	X	X

HMO'S ONLY: "Infertility Services" included in definition of basic health care services that must be provided.

Must Provide: Florida
Montana
New Mexico
West Virginia

* If the patient, or the patient's spouse, is diagnosed as suffering from endometriosis, exposure in utero to Diethylstilbestrol, damage to one or both fallopian tubes, or abnormal male factors contributing to infertility, then the couple is not required to wait the prescribed number of years before being covered for IVF treatment.

** Out-patient expenses for in vitro fertilization procedure, one time only.

*** Out-patient expenses only.

**** Does not include IVF.

APPENDIX C

American Fertility Society Member Facilities Located in Virginia

Dominion Fertility and Endocrinology Institute
46 Glebe Road, Suite 301
Arlington, VA 22204

Eastern Virginia Medical School:
Jones Institute for Reproductive Medicine (SART)
6th Floor-Hofheimer Hall
825 Fairfax Avenue
Norfolk, VA 23507

Genetics and IVF Institute (SART)
3020 Javier Road
Fairfax, VA 22031

Henrico Doctors Hospital (SART)
Richmond Center for Fertility
7605 Forest Avenue
Richmond, VA 23229

Medical College of Virginia (SART)
Department of Ob/Gyn
Box 34 MCV Station
Richmond, VA 23298

University of Virginia Health Science Center
Box 387: Division of Reproductive Endocrinology
Charlottesville, VA 22908

LD0651494

HOUSE BILL NO. 271
(NOW INCORPORATING ALL AMENDMENTS PROPOSED BY THE FBAC)
Offered January 17, 1990

A BILL to amend and reenact §38.2-4214 of the Code of Virginia and to amend the Code of Virginia by adding a section numbered 38.2-3410.1, relating to accident and sickness insurance and coverage for infertility treatment.

Patrons--Jones, J. C., Grayson, Jones, R. B., Councill, Croshaw, Keating, Robinson, Melvin, O'Brien, Copeland, Brickley, Christian, Ealey, Byrne, Almand and Moss; Senator: Miller, Y. B.

Referred to the Committee on Corporations, Insurance and Banking

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Be it enacted by the General Assembly of Virginia:

1. That § 38.2-4214 of the Code of Virginia is amended and reenacted and that the Code of Virginia is amended by adding a section numbered 38.2-3410.1 as follows:

§ 38.2-3410.1. Coverage for infertility treatment.--No individual or group accident and sickness insurance policy or health services plan shall be delivered or issued for delivery in this Commonwealth unless it contains coverage for medically necessary expenses of diagnosis and treatment of infertility, including, but not limited to, in vitro fertilization, ~~uterine embryo lavage~~ embryo transfer, artificial insemination, gamete intrafallopian tube transfer, zygote intrafallopian tube transfer, and low tubal ovum transfer; provided, however, that:

(a) such expenses shall only be covered for procedures for in vitro fertilization, gamete intrafallopian tube transfer or zygote intrafallopian tube transfer:

(i) if the covered individual has been unable to attain a successful pregnancy through reasonable, less costly, medically appropriate infertility treatments for which coverage is available under the policy or plan;

(ii) if the covered individual has not undergone four or more completed oocyte retrievals; provided, further, that if a live birth results from any of the four completed oocyte retrievals or thereafter, the benefits shall cover expenses for two subsequent oocyte retrievals; and

(iii) if such procedures are performed at medical facilities that conform to the American College of Obstetricians and Gynecologists guidelines for in vitro fertilization

clinics or to the American Fertility Society minimal standards for programs of in vitro fertilization.

(b) For the purposes of this section, "infertility" means the inability to conceive after one year of unprotected sexual intercourse.

(c) The coverage described in this section shall not be required to be contained in any individual or group accident and sickness insurance policy or health services plan if the subscriber to whom the policy or plan is issued is either of the following:

(i) a religious institution or organization that finds the coverage to violate its religious and moral teachings or beliefs; or

(ii) an institution or organization that is under the sponsorship of a religious institution or organization that finds the coverage to violate its religious and moral teachings or beliefs.

(d) This section shall not apply to short-term travel, accident only, limited or specific disease, or individual conversion policies or contracts, nor to policies or contracts designed for issuance to persons eligible for coverage under Title XVIII of the Social Security Act, known as Medicare, or any other similar coverage under state or federal government plans.

§ 38.2-4214. Application of certain provisions of law.--No provision of this title except this chapter and, insofar as they are not inconsistent with this chapter, §§ 38.2-200, 38.2-203, 38.2-210 through 38.2-213, 38.2-218 through 38.2-225, 38.2-230, 38.2-316, 38.2-400, 38.2-402 through 38.2-413, 38.2-500 through 38.2-515, 38.2-600 through 38.2-620; 38.2-700 through 38.2-705, 38.2-900 through 38.2-904, 38.2-1017, 38.2-1018, 38.2-1040 through 38.2-1044, 38.2-1300 through 38.2-1310, 38.2-1312, 38.2-1314, 38.2-1317 through 38.2-1328, 38.2-1334, 38.2-1340, 38.2-1400 through 38.2-1444, 38.2-1800 through 38.2-1836, 38.2-3400, 38.2-3401, 38.2-3404, 38.2-3405, 38.2-3409, 38.2-3410.1, 38.2-3411 through 38.2-3419, 38.2-3501, 38.2-3502, 38.2-3516 through 38.2-3520 as they apply to Medicare supplement policies, §§38.2-3500, 38.2-3541 and 38.2-3600 through 38.2-3607 shall apply to the operation of a plan.

Glossary

Artificial insemination (AI): The introduction of sperm into a woman's vagina or uterus by noncoital methods, for the purpose of conception.

Basal body temperature (BBT): A woman's resting temperature upon awakening in the morning before any activity; the temperature rises slightly when ovulation occurs and remains at the higher level until the next menstruation. Recording and charting BBT is one of the oldest and most popular methods for predicting ovulation.

Chlamydia: A sexually transmitted disease caused by the bacteria Chlamydia trachomatis. In women, chlamydial infection accounts for 25 to 50 percent of the pelvic inflammatory disease cases seen each year. Chlamydia is the most common STD in the United States today.

Clomiphene citrate (CC): A nonsteroidal estrogen-like compound that binds to estrogen receptors in the body. CC is a commonly prescribed fertility drug, primarily used in patients with oligomenorrhea to promote increased gonadotropin secretion and stimulation of the ovary.

Cryopreservation: The preservation of sperm, embryos, and oocytes by freezing them at extremely low temperatures.

Danazol: A synthetic derivative of testosterone used in the treatment of endometroisis.

Diagnostic tests: Tests performed to evaluate reproductive health. In women, this can involve indirect indicators (menstrual irregularity, hormone levels, cervical mucus) and direct ones (tissue biopsy, laparoscopy, ultrasound). In men, tests include semen analysis, endocrine evaluation, testicular biopsy, and evaluation of sexual dysfunction.

Ectopic pregnancy: A pregnancy that occurs outside the uterus, usually in a fallopian tube.

Embryo: Term used to describe the stages of growth from the second to the ninth week following conception. During this period cell differentiation proceeds rapidly and the brain, eyes, heart, upper and lower limbs, and other organs are formed.

Embryo lavage: A flushing of the uterus to recover a preimplantation embryo.

Embryo transfer: The transfer of an in vitro fertilized egg from its laboratory dish into the uterus of a woman.

Endometriosis: The presence of edometrial tissue (the normal uterine lining) in abnormal locations such as the fallopian tubes, ovaries, or the peritoneal cavity. Endometriosis can interfere with nearly every phase of the reproductive cycle and is a leading contributor to infertility in women. The causes and development of endometriosis are incompletely understood.

Fallopian tube: Either a pair of tubes that conduct the egg from the ovary to the uterus. Fertilization normally occurs within this structure. Blocked or scarred fallopian tubes are a leading source of infertility in women.

Fecund: Able to conceive. A characterization used by demographers to identify couples who have no known physical problem that prevents conception.

Fertility drugs: Compounds used to treat ovulatory dysfunction. These include clomiphene citrate, human gonadotropins, bromocriptine, glucocorticoids, and progesterone.

Fertilization: The penetration of an oocyte by a sperm and subsequent combining of maternal and paternal DNA.

Fetus: The embryo becomes a fetus after approximately 9 weeks in the uterus. This stage of development lasts from 9 weeks until birth and is marked by the growth and specialization of organ function.

Gamete: A reproductive cell. In a man, the gametes are sperm, in a woman, they are eggs, or ova.

Gamete intrafallopian transfer (GIFT): A technique of medically assisted conception in which mature oocytes are surgically removed from a woman's body and then reintroduced, together with sperm, through a catheter threaded into the fallopian tubes, where it is hoped fertilization will take place.

Gonorrhea: A sexually transmitted disease caused by the bacteria Nesseria gonorrheae. If the infection is not treated in women, it can spread to the uterus and the fallopian tubes, causing pelvic inflammatory disease. In men, it can cause epididymitis and can affect semen quality.

In vitro: Literally "in glass"; pertaining to a biological process or reaction taking place in an artificial environment, usually a laboratory.

In vitro fertilization (IVF): A technique of medically assisted conception (sometimes referred to as "test tube" fertilization) in which mature oocytes are removed from a woman's ovary and fertilized with sperm in a laboratory. (See embryo transfer).

In vivo: Literally "in the living"; pertaining to a biological process or reaction taking place in a living cell or organism.

In vivo fertilization: The fertilization of an egg by a sperm within a woman's body. The sperm may be introduced by artificial insemination or by coitus.

Infertility: Inability of a couple to conceive after 12 months of intercourse without contraception.

Laparoscopy: Direct visualization of the ovaries and the exterior of the fallopian tubes and uterus by means of a laparoscope (a long, narrow, illuminated instrument) introduced through a small surgical incision below the navel, to evaluate any abnormalities. Surgical procedures may also be performed using this method.

Menstrual cycle: The process of ovulation in which an oocyte matures each month in a follicle produced on the surface of the ovary. At ovulation, the follicle ruptures and the oocyte is released into the body cavity and enters the fallopian tube. If fertilization and implantation do not occur, the uterine lining is sloughed off, producing menstrual flow. The normal menstrual cycle is about 28 days.

National Survey of Family Growth: A survey conducted periodically (1976, 1982, and 1988) by the National Center for Health Statistics (part of the Department of Health and Human Services) to collect data on fertility, family planning, and related aspects of maternal and child health.

Noncoital reproduction: Reproduction other than by sexual intercourse.

Oligomenorrhea: Scanty or infrequent menstruation, a problem found in about 20 percent of infertile women.

Oligospermia: Scarcity of sperm in the semen.

Oocyte: The female egg or ovum, formed in an ovary.

Ovulation: The discharge of an oocyte from a woman's ovary, generally around the midpoint of the menstrual cycle.

Pelvic inflammatory disease (PID): Inflammatory disease of the pelvis, often caused by an untreated STD. Bacteria that cause gonorrhea, chlamydia, or other infections can ascend from the lower genital tract through the endometrium (causing endometriosis), the fallopian tubes (causing salpingitis), and possibly to the ovaries (causing oophritis).

Primary infertility: Infertility in those who have never had children.

Secondary infertility: Infertility in those who have previously been fertile.

Sexually transmitted diseases (STDs): Infectious diseases transmitted primarily by sexual contact, including syphilis, gonorrhea, chlamydia, herpes, and acquired immunodeficiency syndrome.

Sperm: The male reproductive cell, or gamete. Normal sperm have symmetrically oval heads, stout midsections, and long tapering tails.

Surgically sterile: Surgically rendered unable to conceive or to carry to term by techniques including vasectomy, tubal ligation, and hysterectomy.

Ultrasound: The use of high-frequency sound waves focused on the body to obtain a video image of internal tissues, organs, and structures. Ultrasound is particularly useful for in utero examinations of a developing fetus, for evaluation of the development of ovarian follicles, and for the guided retrieval of oocytes for IVF and GIFT.

Uterine (embryo) lavage: A flushing of the uterus to recover a preimplantation embyro.

Zygote: A fertilized oocyte formed by the fusion of egg and sperm, containing DNA from both.

Definitions extracted from Infertility: Medical and Social Choices, The Office of Technology Assessment, 1988, pp. 383-388.

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