

IVF IN AUSTRALIA: TOWARDS A FEMINIST TECHNOLOGY ASSESSMENT

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Synopsis – Following a summary background to the research, development and diffusion of in vitro fertilisation [IVF] and related technologies in Australia from 1971 to 1990, two arguments are developed. The first is that what evaluations have so far been done of the safety, efficacy, and effectiveness of the techniques used in this country have revealed worrying results. The second suggests that the existing methodologies of technology assessment and ethical control of human experimentation are themselves too limited to meet the recent goal, adopted by the 1988 Australian Health Ministers' Conference, of reducing inequities in health. The discussion offers suggestions for a more comprehensive methodology for the technical, ethical, and social evaluation of these (and other) medical and health technologies, derived from recent feminist research.

INTRODUCTION AND BACKGROUND

June 23, 1990 was the 10th anniversary of the most prominently heralded birth in Australia: that of Candice Reed, the first Australian child to have been conceived in glass, or in vitro, outside a woman's uterus. Her impending birth was announced at a media conference on February 6, 1980 by four latter-day wise men: Carl Wood, John Leeton, and Alex Lopata (Professor, Associate Professor, and Senior Lecturer, respectively, in the Department of Obstetrics and Gynaecology at Monash University), and Ian Johnston, chair of the Reproductive Biology Unit at the Royal Women's Hospital where Candice was eventually safely delivered.

The research which resulted in Australia's first IVF birth began in 1971 with Lopata's appointment, and for most of the 1970s was undertaken through the part-time efforts of three or four scientists and clinicians, and a technician. The research which resulted in Australia's first IVF birth began in 1971 with Lopata's appointment, and for most of the 1970s was undertaken through the part-time efforts of three or four scientists and clinicians, and a technician.

By 1982, Monash's IVF team comprised about 20 people, and by 1985, almost 60 members (Kannegiesser, 1988). By the end of 1987, Monash's Obstetrics and Gynaecology teaching, research, and administrative functions were split between two sites. The first was at Monash Medical Centre, the university's major teaching hospital. The second, dealing exclusively with IVF and related technologies, was located at the private Epworth Hospital and incorporated the newly established Infertility Medical Centre Pty. Ltd. (a private company established by Monash University to ensure that all profits arising out of its IVF service are distributed to the University as a whole). The company was by then employing twice the number of staff as the academic department, and occupying a physical area several times larger than the original department (Monash University Council, 1987).

The growth of Australia's national IVF industry, requiring similar organisational and resource changes, has been equally rapid. By September 1989, 4,799 live births had been recorded in the registry jointly established in 1985 by the National Perinatal Statistics Unit and the Fertility Society of Australia, as a result of a 35% increase (over 1987) in IVF and/or GIFT (gamete intrafallopian transfer) treatments being offered at 22 units across Australia and 3 in New Zealand (NPSU/FSA, 1990). In August 1989, the Commonwealth (Federal) Department of Community Services and Health recorded 25 locations at which IVF and/or GIFT procedures were being performed in Australia.

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Monash's IVF research has been accompanied from the start by extensive media coverage (Miller, 1973; De Kretzer et al., 1973). After Candice's birth, the early 1980s saw continued extensive and mostly adulatory reporting in the mass media, particularly as the researchers were credited with a series of world firsts: the first test-tube twins, test-tube triplets, and frozen embryo baby, all from the Monash program (The Herald in the Classroom, 1985); and twins born from frozen ova, at the Flinders Medical Centre (Anonymous, 1986). Feminist commentator Rebecca Albury has noted how the more popular forms of this coverage unquestioningly reinforced two values implied in the births of these "technologically created" children: that of patriotism (the world-firsts), and the uncritical celebration of parenthood without any reference to its social or personal price (Albury, 1987).

However, the media did also allow a little space for criticisms relating to the broader public health issue of medical research priorities. These criticisms came initially from the church (The Herald in the Classroom, 1985, pp. 9, 11), and from public health professionals (Hicks, 1984), and later, from other parts of the medical profession such as venereology and clinical pharmacology (McIntosh, 1985). The mass media chose to ignore points raised in the early 1980s by several feminists noting the medical profession's responsibility for iatrogenic infertility now being given a "technological fix" that conveniently reinforced the notion that a woman was not a whole person unless she was a mother; and the need for mechanisms for public debate on controversial technologies (including consideration of their physical, emotional, and social implications for women) *before* their widespread diffusion (Albury, 1984; Bartels, 1983; Rowland, 1985).

By 1985, the diffusion of the technology in Australia had been greatly assisted by public rebates for the various parts of the IVF/ET procedure common to other established gynaecological treatments. The Medicare Benefits Review Committee noted in its first report that it had received and considered many submissions seeking the introduction of a specific item for IVF in the Medical Benefits Schedule (which would have extended the rebates further). The Committee decided instead that "IVF should still be regarded

as being in a development phase in the same way as is heart transplantation" and "that Medicare benefits are inappropriate for IVF at the present time." It recommended instead that IVF be funded through Health Program Grants to a limited number of centres in each State (Medicare Benefits Review Committee, 1985).

Strong resistance to this proposal came from the providers' and consumers' lobby groups: the IVF Directors Group and the Infertility Federation of Australasia (the latter, a coalition of IVF consumer groups in Australia and New Zealand). It also came from some state administrators, who were content to let the federal government continue to pick up most of the costs of IVF via the Medicare rebates. This opposition meant that the Review Committee's recommendation has remained unimplemented.

In 1987, the first significant doubts concerning the safety of the IVF procedure were published. The Director of the National Perinatal Statistics Unit noted that some kinds of congenital malformations occurred more frequently than expected in the Australian IVF pregnancies (Lancaster, 1987).

Later that year a substantial challenge to the Australian IVF industry was raised on the grounds of its lack of cost-effectiveness. This came from someone outside the public health or medical fields, a feminist lecturer in science and technology studies (Bartels, 1987a, 1987b). A further challenge to IVF on the grounds of lack of safety was made in 1988 by two other feminist critics. They argued specifically that the now-routine ovarian stimulation of IVF clients through use of clomiphene citrate in conjunction with other "hormonal cocktails" should still be regarded as experimental because there were increasing case reports in the scientific literature of dangerous side-effects from such treatments (Klein & Rowland, 1988; Rowland & Klein, 1989).

These criticisms were directly or indirectly endorsed in both a leading article in the *Medical Journal of Australia* (Stanley, 1988) and the document on IVF funding released later in 1988 by the Commonwealth Department of Community Services and Health (Batman, 1988). Despite this, the strength of the pro-IVF lobby groups resulted in their victory in the public policy domain when the federal Minister for Community Services and Health announced an extension of Medicare

benefits to couples using IVF and GIFT procedures in the August 1990 budget (Howe, 1990).

Protests about this decision by both FINRRAGE (Australia) and the Reproductive Technology Working Group of the Australian Capital Territory Women's Health Network received the following replies from the Minister's Departmental officers: 80% of responses to the Department's discussion paper (Batman, 1988) had supported increased funding, and that, because of the numbers of children born, the government now accepts that IVF, etc., are no longer purely experimental. More importantly, from the point of view of women's health, the allocation of specific Medicare items for assisted reproductive technologies was seen as more beneficial than the previous open-ended situation because it limited rebates for superovulated cycles to a maximum of six claims in a woman/client's lifetime, prohibited the payment of benefits for surrogacy arrangements, and would permit the collection of a substantial data base for long-term evaluative studies.

To date, however, there have been no attempts at a national evaluation or technology assessment of IVF in Australia. This is despite the fact that two organisations exist with scope to undertake such evaluations: the National Health Technology Advisory Panel, and the National Health and Medical Research Council (NHMRC) (the organisation with the functions of advising federal, state, and territory governments on matters relating to health improvement, disease prevention, ethical issues in health, and the recommendation of priorities for public funding of health and medical research). I presented a first draft of this paper to the NHMRC's Health Care Committee in December 1989 with a view to encouraging their decision to fund a full technology assessment of IVF in Australia. That Committee's meeting of March 1990 agreed in principle that such a review should be undertaken, but decided to wait for a response from the Fertility Society before determining a plan of action. As of February 1991, no such review had been announced.

TECHNOLOGY ASSESSMENT

Bryan Jennett recently summarised the four stages of an adequate assessment of a clinical technology as: establishing a technique's *feasibility* (i.e.,

technically acceptable and safe results); its *efficacy* (the technology's performance under ideal conditions on selected patients); its *effectiveness* (its ability to produce substantial benefit when used routinely in a less selected population); and finally, its *economic appraisal* (concerned with both cost effectiveness and cost benefit) (Jennett, 1988). For the purposes of my first argument, these stages are accepted uncritically to pick out the kinds of evaluations conventionally undertaken, and to examine their results.

The first three of these stages, which form the determination of the scientific validity of clinical research, have generally been considered very much the exclusive domain for decision by peer groups of medical/scientific researchers. It is perhaps for that reason that there was no initial direct response to Renate Klein and Robyn Rowland's claims. However, following their presentation of some of these details at the 1988 conference of ANZAAS (Australian and New Zealand Association for the Advancement of Science), several of the Monash IVF researchers have felt obligated to respond to questioning on this issue from both the mass media and medical journals (Voumard, 1988; Kola, 1988).

More recent publications indicate a change in practice in IVF therapy in Australia: the report of data on 1988 IVF pregnancies released in March 1990 indicated a decline in the use of clomiphene from 93 % of all cases in 1987 to 87% in 1988 (NPSU/FSA, 1990). In August 1989, an article in the journal of the Family Planning Association of New South Wales, co-authored by Monash IVF researcher, Alan Trounson, proclaimed "the benefits of natural cycle IVF." It claimed that the time and costs of "superovulated IVF" were too expensive (\$2170 compared with \$490 for natural cycle IVF), and that changes in practice were required (Trounson & Hammarberg, 1989). It is possible that these reconsiderations and changes in practice and opinion may have been another outcome of Rowland's and Klein's criticisms.

Despite these outcomes, and as noted in the previous section, a full technology assessment even along Jennett's lines is yet to be undertaken in Australia. The situation appears to be the same internationally. A 1989 article in *The Lancet* claimed that "IVF/ET and related assisted reproduction technologies have not been scrutinised in this way," and that "there is a lack of

randomised trials to ascertain the efficacy of IVF/ET compared with more established treatments for specific classes of infertility, which seriously hampers evaluation” (Wagner & St. Clair, 1989). The authors conclude that:

Until full appraisal of the short-term and long-term risks and estimation of efficacy, *IVF/ET must be considered experimental, and public and private insurance funds for health services should not be used for IVF/ET* [emphasis added]. The American Fertility Society has expressed an alternative viewpoint, stating that only when a procedure is done for the first time by a practitioner or a particular facility should it be considered experimental, a position which assumes that a standard treatment is one in widespread use. The public health position, on the other hand, requires that efficacy and risks be known before the procedure becomes standard. We should heed the lessons of the Dalkon Shield, diethylstilboestrol, and thalidomide. (p. 1029)

If the claim by Marsden Wagner and Patricia St. Clair is justified, it raises a question mark against the decision, as early as 1982, by Australia’s National Health and Medical Research Council’s working party on medical research ethics (later formally established as the Medical Research Ethics Committee) to describe IVF and ET as “an established procedure” in its Supplementary Note 4 on IVF/ET. This sat oddly with the judgment in Appendix 3 to the full report which comprised the discussion paper produced by working party members Robert Jansen (a gynaecologist and a leading IVF researcher and practitioner since at least 1985) and theologian Davis McCaughey. Here they concluded that “it is premature to regard IVF and ET as an established therapeutic procedure.” A justification for the Council’s majority decision was not offered in the report (National Health and Medical Research Council, 1985).

It is not impossible that this early judgment by the NHMRC relaxed any pressure the Australian researchers may have been under to evaluate rigorously the scientific validity of their techniques. If this was indeed the case, and the consequent rapid diffusion of the technologies has

been premature, these may have been factors contributing to the lack of effectiveness (as defined by Jennett above) of IVF technology noted in Australia and elsewhere (Bartels, 1987a; Stanley, 1988; Batman, 1988; Office of Technology Assessment, 1988). This lack of effectiveness was acknowledged in a 1989 article co-authored by Trounson, where the following statement is made: “The complexity of the [IVF] procedure and relatively low success rate per cycle limits its application to couples who are particularly determined to have a child.” This seems to make an unusual judgment on an appropriate clinical indication, with the value of a complex surgical procedure being decided by the “determination” of a client.

The lack of adequate evaluation of an innovative procedure within the field of Obstetrics and Gynaecology would not, it seems, surprise at least one commentator who reviewed the practice of the various medical specialties over the period 1931 to 1971 on the basis of their use of randomised controlled trials. John McKinlay (McKinlay, 1981) cites Archie Cochrane who, in awarding “the wooden spoon” to that field, caustically concluded that “G and O stands for gynecologists and obstetricians but it could also stand for GO ahead without evaluation!”

However, the effort to assess medical technologies along the lines summarised by Jennett dates only from the late 1970s and its methodologies are as yet unsettled (Institute of Medicine, 1985; Gelijns, 1987). To cite Jennett again:

This field is full of controversy and strident exchanges of view. No one doubts the primacy of the randomized controlled trial (RCT) for testing drugs — the question is whether it is always the most appropriate tool for assessing technologies (p. 441). Indeed, a striking feature of the literature of the last two years has been the amount of effort expended in exploring new alternatives to the RCT. (p. 442)

Amongst the many alternatives Jennett lists (pp. 442–443), he notes what he describes as the “perhaps most radical” British variation of the consensus development conference initiated by the National Institutes of Health in 1977 (Perry, 1988). The British group judgments are made by panels

“where only half . . . are doctors, and only a minority of whom are experts in the subject under discussion . . . Furthermore, there has been a deliberate attempt . . . to consider the economic, ethical, and social impact of technologies, as well as to review the scientific evidence.” Had such a system been in place in Australia in 1980 or earlier, it is possible that the development and diffusion of IVF would have been different. As it is, evaluations have started to be done after the fact, and after considerable media promotion and private commercial investments. Some of the economic, ethical and other social impacts of these new reproductive technologies in Australia are now reviewed.

ECONOMIC APPRAISAL

Two of the earliest attempts to assess the cost-effectiveness of IVF technology in Australia have been mentioned above (Bartels, 1987b; Batman, 1988). Ditta Bartels broke down the IVF treatment cycle into its separate steps, and using information on Medicare rebates available for aspects of each of those steps, she arrived at what she estimated as a very conservative figure of \$32 million of Commonwealth government expenditure over the first five years of the technology’s operation, that is, 1980 through 1984. She emphasised that this had to be regarded as a considerable underestimate because her calculations disregarded a variety of hidden costs, including set-up costs and overheads of laboratories, and accounting devices that minimise out-of-pocket expenses of IVF clients (such as payment for clinical services by way of tax-deductible donations).

By linking this initial estimate with the number of pregnancies resulting in live births achieved over the same period, Bartels averaged the direct government expenditure for each such pregnancy at \$64,500. Again she showed that this had to be considered an underestimate because it ignored the additional costs associated with the much higher rates of multiple and premature births arising out of the IVF program.

Gail Batman’s discussion paper on IVF quoted an estimated total cost for IVF and related services of \$30 million in 1987, with Commonwealth outlays being approximately \$17 million, \$7 million from health insurance funds, and \$6 million from clients. The 1988 report from the

National Perinatal Statistics Unit registered 908 live births (through IVF or GIFT) to the 1987 cohort (NPSU/FSA, 1988). This averages out at a total cost of \$33,000 per birth, with the relative Commonwealth expenditure of the order of \$18,500. This would appear to indicate a considerable improvement in the cost-effectiveness of the technology by 1987; and a 1988 Victorian Government report noted that the cost of IVF programs was then in the same range as other treatment programs for infertility (Ministerial Committee on Prevention and Management of Infertility, 1988). However, the costs still remain high, and are systematically underestimated. For perspective, the 1987 Commonwealth outlay of \$17 million on IVF alone can be compared with its promised \$17 million *over four years* for the whole of the National Women’s Health Program.

In her response to the Commonwealth’s discussion paper, Bartels noted that its estimate of \$3574 for a full IVF treatment was similar to her calculation of \$3738, but argued that her estimate of the government contribution of 71% was probably closer to the facts than its figure of 56% (Bartels, 1988). Her submission also provided significant additional economic analysis, including a comparison of IVF/GIFT rates in Australia, Britain, and the United States (519, 117, and 34 treatments per million population respectively, using data published in 1988). She offered as explanation for this great disparity the large government subsidy of IVF treatments in Australia, where the patient contribution per treatment was \$A715 compared with \$A3800 in Britain and \$A6800 in the United States.

Graphing the patient costs to number of treatments, Bartels estimated an elasticity of demand for IVF of 1.14. (*Elasticity* is a concept used by economists to gauge the sensitivity to price of the demand for a good; the price elasticity of demand is defined as the ratio of the percentage change in quantity of a commodity demanded to the percentage change in price. A result less than 1 suggests inelastic demand, that a good will be considered a necessity regardless of considerable changes in price). She concluded that “since the demand for IVF is very responsive to price with an elasticity exceeding 1, it is difficult to argue that in economic terms IVF treatments represent a basic need. Instead, the demand for these treatments behaves as if IVF is a discretionary expenditure.”

There are several features of her analysis which could be improved; for example, it would be more appropriate for her calculation of treatment rates to have used a denominator of women aged 15 to 44 years, or for her comparisons of rates of multiple birth, very low birth weight, perinatal mortality, and ectopic pregnancies to be made between IVF/GIFT clients and a comparably aged group of mothers rather than the rates for a whole state or the country.

Nevertheless, the logic of her analysis is sound, and many of her conclusions would appear to be borne out by the detailed demographic, clinical, and economic evaluation of the IVF industry in Western Australia prepared by Sandra Webb and released later in 1988 (Webb, 1988). This report stated that drug, ultrasound, IVF laboratory, and hospital costs (based on a 10% sample of all participating couples) were lower in 1986 than in 1985, but doctors' charges and assay costs steadily increased, as did government rebates. It also noted that the latter, which accounted for 46% of total costs in 1986, were likely to increase significantly following the Commonwealth Government's decision in 1987 to provide the drugs hMG and hCG (for ovarian stimulation) free to most women on the IVF program.

Webb's report also provided estimates of the excess cost of IVF/GIFT confinements over naturally conceived confinements for 1986, taking into account the costs associated with clinical pregnancy, spontaneous abortion, ectopic pregnancy, admission of mothers, and special care for babies. The estimated excess costs of the confinements were \$57,000 for IVF and \$29,500 for GIFT, with direct government contributions of \$30,000 and \$18,000, respectively; excess costs for each live birth were \$42,000 for IVF and \$21,600 for GIFT, with respective direct government contributions of \$22,000 and \$13,000.

Her report also documented one death of a woman through anaesthetic accident during laparoscopy for oocyte retrieval. A subsequent similar death, again in Western Australia, has also been reported (Anonymous, 1989). While both these deaths have been dismissed by IVF providers as unrelated to this technology specifically, they have been unable so to dismiss a third death, from cerebral hemorrhage resulting from superovulation, reported officially in 1990 (NPSU/FSA, 1990, p. 9). Such deaths have

occurred at a time when maternal deaths through pregnancy and childbirth are virtually unheard of in Australia.

Webb concluded her summary with the statement that "Discussion of the success rates and costs of these treatments is vital, *but many social, legal and ethical issues remain unresolved*, and must continue to be debated" [emphasis added]. In agreement with this assessment, the present evaluation is offered as a means of promoting more debate.

SOCIAL IMPACTS

A discussion of the legal impacts of IVF technology is beyond the scope of this paper, but they have been a major feature of the 10 inquiries into IVF undertaken by state and federal government agencies in Australia since 1982. The most comprehensive summaries of the legal issues can be found in the reports of the New South Wales Law Reform Commission (1987, 1988).

The methodological difficulties associated with forecasting the wider ethical and social impacts of health technologies have probably contributed to the fact that these impacts have to date been little emphasised in the official literature (Institute of Medicine, 1985). The review for the OECD (Gelijns, 1987) noted that:

The social, ethical and legal dimensions of technological change in health care are profound and will probably become much more so; they need to be dealt with systematically. So far public policy in most OECD countries has been seriously lacking in this respect, (p. 9)

The accuracy of these judgments for the Australian case has been implicitly acknowledged in the 1989 review of the National Health Technology Advisory Panel, established in 1982, especially in its third recommendation which states:

The Review Committee recommends that NHTAP and the Health Technology Unit of the AIH [Australian Institute of Health] continue to assess the technical and clinical aspects of particular technologies. In future economic assessments should also be included as part of the evaluation. Workforce impacts should be

given attention and, subject to resource availability, wider social aspects should also receive consideration . . . (Report of the Committee to Review the Role and Function of the National Health Technology Advisory Panel, 1989)

While many Australians have contributed to the now enormous literature on the ethics of IVF worldwide, there has not been, to date, an attempt to assess the research by the researchers' own standards. A summary of an ethical evaluation of IVF and related research and practice in Australia (which is developed in more detail in my PhD thesis), using the National Health and Medical Research Council's Statement on Human Experimentation as a standard, is now provided.

ETHICAL APPRAISAL

When Australia's IVF research began, the only publicly authorised ethical guidelines then in place for use by medical researchers were to be found in the National Health and Medical Research Council's brief *Statement on Human Experimentation*, endorsed in 1966 (NHMRC, 1966). This statement closely followed the 1947 Nuremburg judgment (Autton, 1984, pp. 205–206), and 1964 World Medical Assembly's *Declaration of Helsinki* (Scorer & Wing, 1979, pp. 193–194). One of its fundamental points was the insistence that humans should freely volunteer for, and give their informed consent to, any experiments in which they participate. (Informed consent is also one of the fundamentals of our culture, enshrined in law.)

The difficulties inherent in the notion of informed consent have been apparent at least since the early 1970s (Mechanic, 1973). These have to do with the inequalities of power/knowledge/control in the social context within which the decision on consent is made (Burgess, 1986; Rowland, 1986). They were acknowledged in the 1981 discussions by leading international IVF researchers on the ethics of IVF, as in, for example, Trounson's comments that:

I agree [. . .] that it is impossible for a patient to give "informed consent" about the use of spare embryos. They cannot know the purpose of the research, and our legal advisers tell us

that consent forms have limited value. The patients might consent to please the doctor, or because they fear that a refusal might prejudice their further treatment . . . (Edwards & Purdy, 1982, p. 365)

Informed consent to participation in experimentation carries over — particularly where the borderline between experimentation and treatment is hazy as is the case with IVF (NHMRC, 1986)—into informed consent to therapeutic procedures. Some dissatisfaction with the lack of information and counselling, or its poor quality, has been expressed by patients in the Victorian IVF programs (Ministerial Committee on Prevention and Management of Infertility, 1988, p. 35; Klein, 1989a, b). The October 1989 issue of the consumer magazine *Choice* documented similar criticisms of programs in other States (Australian Consumers' Association, 1989).

Bartels (1987a) and Stanley (1988) have also been critical of the inadequacies in the National Perinatal Statistics Unit's first reports from the point of view of prospective clients. This was remedied to some extent in their 1988 report, which disaggregated data in the first two tables while leaving the 20 centres unidentified.

However, the disaggregated data provided another dilemma for potential consumers. They showed that in 1987 the IVF live birth rate ranged from a high of 15 down to 2 per 100 oocyte retrieval (*not* total treatment) cycles across 18 centres, while the GIFT live birth rate varied from 30 down to 13 across 17 centres (NPSU/FSA, 1988).

The figures for 1988 showed an IVF range from 18 down to 3, with two small centres having nil success, and a GIFT range from 32 down to 5, with four centres showing nil success (NPSU/FSA, 1990). (It should be noted that the IVF and GIFT rates are not directly comparable because the clients for the two procedures differ (McShane, 1988)). Since the clinics are not identified, consumers are still unable to choose between them on their relative success (or more accurately, failure) rates. However, at least the two major programs in Victoria now provide information on rates for pregnancies and live births per cycle, one in printed form, and both during the routine mandatory counselling which is required under Victorian government legislation.

It should also be noted that a few centres, including the two units which performed the highest number of IVF treatment cycles in 1987, still do not supply the National Perinatal Statistics Unit with all the information required of them. In addition, the Pivet clinic in Western Australia which lost its accreditation from the Fertility Society of Australia's Reproductive Technology Accreditation Committee (the cornerstone of the industry's self-regulation) early in 1989 continued operating into 1990, when it became embroiled in a court battle between the two medical partners over its threatened financial collapse (Jansen, 1989; Whittaker, 1989; Ewing, 1990). These facts call into question the effectiveness of self-regulation to date.

In addition to informed consent, the 1966 National Health and Medical Research Council's Statement required that "new therapeutic or experimental procedures which are at the stage of early evaluation and which may have long-term effects should not be undertaken unless full provision has been made for long-term care and observation." In 1985, the Council's Medical Research Ethics Committee began their internationally unique series of site visits to audit the Institutional Ethics Committees overseeing the work of the various IVF programs across Australia. Their final report on these visits noted of the Monash program that "there is no long-term follow up of births" (NHMRC, 1987). The continued lack of follow-up nationally was noted in 1988 by Stanley and Batman; and, in 1989, two Melbourne IVF specialists were quoted as saying they knew of no research that had studied the long-term health effects on women of IVF (Kissane, 1989).

On these two counts, then, IVF research and practice in this country has failed to meet the Council's ethical guidelines.

THE STORY SO FAR . . .

The information reviewed above reveals several problems from a conventional public health/technology assessment point of view. No long-term follow-up has been done to date to back up claims that IVF and related procedures are safe enough, particularly for the mental, emotional, and physical health of the 90% of women and men who go through the programs and fail to achieve their objective of a live child at the end of a long and traumatic process.

Medicare funds have supported a huge expansion of a highly expensive and labour intensive industry without any prior third-party evaluation and conscious policy decision to do so. There has been no comparably funded research effort aimed at understanding the causes and prevention of infertility. IVF is now being promoted for use in wider markets, such as a palliative for male infertility in place of the simpler, cheaper, and more effective alternative of donor insemination, and for use by fertile couples (Yates & de Kretser, 1987; Dawson & Singer, 1990). Thus, there is sufficient evidence to justify my first argument that the partial and conventional assessments of IVF undertaken so far in Australia have revealed worrying results.

However, I want to argue further that there are problems with the evaluatory processes in place at the moment, such as Jennett's four stages of technology assessment and the National Health and Medical Research Council's ethical controls. This is due to the fact that they do not focus attention on the very first stage of technological development: that of scientific autonomy in the choice of a research topic and its methods (McKinlay, 1981; Caplan, 1983). It is at this point that the most critical decisions are made which will have a bearing on whether health promotion and primary disease prevention are enhanced downstream in the health care system, or whether more effort will go into secondary and tertiary prevention (Rutnam, 1988).

In April 1988 the Australian Health Ministers' Conference accepted in principle a very important report which sought to set a new and comprehensive direction for their health systems (AHMAC Targets and Implementation (Health for All) Committee, 1988). The report suggested that:

The reduction in inequalities in health status and the reduction in the incidence and severity of preventable illness should be central goals of the Australian health system, playing a major role in driving health programs and activities. They should act as an automatic reference for health workers when confronted with conflicting demands, (p. 112)

The achievement of these goals requires both the acceptance of wider social responsibility for their choices and nonchoices by individual health

researchers and workers, and some system of national overview of health outcomes and allocation of priorities for health/medical research and care. The existing ethical guidelines, particularly with their emphasis on a system of decentralised institutional ethics committees comprising volunteers (Rutnam, 1988), do not address these needs. However, suggestive and thought-provoking ways of meeting these goals can be drawn from recent examples of feminist social research.

FEMINIST PERSPECTIVES ON TECHNOLOGY ASSESSMENT

While recognising that there are important theoretical and methodological differences between practices which call themselves *feminist*, certain common themes can be found (Sherwin, 1989). These include an acknowledgement that women are subordinate and oppressed in most cultures, that such oppression can and should be eliminated, and that part of that political process requires the valuing of women's experiences which, through centuries of sexual division of labour, are often significantly different from men's.

Much feminist research has documented how the great intellectual endeavours of the past (including philosophy, science, and medicine) have falsely universalised men's practices and ignored women's. They have shown that such blind spots have resulted, in practice, in the reinforcement of inequalities of power and social opportunities between the sexes (Harding, 1986; Pateman & Gross, 1986; Caine, Grosz & de Lepervanche, 1988).

One example, from the fields of psychological and ethical theory, is Carol Gilligan's empirical research on moral development and decision-making (Gilligan, 1982). She has argued that there are noticeable differences in men's moral choices which tend to be based on the language of autonomy, rights, and justice in contrast to women's tendencies to be more concerned with other values like social interdependence, responsibility, and nonviolence. She concluded that influential psychological and ethical theories which to date have valued the former criteria over the latter need to be better balanced, and that a more adequate notion of personal development and

maturity would ensure the inculcation of *all* these values in all humans, men and women. (I acknowledge that Gilligan's work has sustained substantial challenges from other feminists, but it has thereby aroused vigorous ongoing research and theoretical debate [Kerber et al., 1986; Sherwin, 1989].)

Another example is Nancy Hartsock's analysis of sex differences in theories of power, which tend towards its definition by men in terms of domination/subordination ("power over"), and of agency and empowerment ("power *to*") by women (Hartsock, 1985). She argues that these linguistic differences (as well as those pointed out by Gilligan) are a valid indication of significantly different epistemologies, that is, theories of *what* we humans accord the privilege of constituting valid knowledge, and *how* and *why* we do so.

Hartsock goes on to hypothesise that the material basis for these differences lies in the capacity in women (*not* biological, but socially developed) for intimate identification with others through childbirth and childcare. By contrast, men's practices (particularly those of the ruling elites) have systematically privileged the intellectual habits of abstraction, compartmentalisation, and a denial of a role for the emotions in producing knowledge. She finally suggests that a social policy of change in this division of labour through a generalisation to men too of women's traditional responsibilities towards, and caring for, the powerless — the young, the old, and the disabled — "could raise for the first time the possibility of a fully human community, a community structured by its variety of *direct relations* among people, rather than their separation and opposition" (pp. 261–262; emphasis added).

These examples clearly posit the *values* of social responsibility, care, and equity against the methodological individualism, and agnosticism towards social goals, inherent in dominant western liberal philosophy and science. Equally importantly, they may also offer a plausible strategy for the achievement of such a change in social values.

The criterion of equity is also a feature of Corlann Gee Bush's contribution to the more specific literature on evaluating technologies (Bush, 1983) which has been influential on Australian feminist assessments of reproductive

technology (Gregory, 1986; Dietrich, 1986). I have offered a critique of this criterion and an expansion to include that of responsibility (Rutnam, 1990). I suggest that it is the explicit feminist acknowledgment of existing power differentials in society (based not just on sex, but on race, class, age, disability, etc.), and the evaluation of technological and other social changes on the basis of whether they are likely to *entrench* or *erode* the political repercussions of those differentials, which offer a methodology that is more likely to assist the achievement of the Australian Health Ministers' Conference's goals than those analyses which ignore them (Wynne, 1975).

CONCLUSION

This paper has reviewed the development of IVF technology in Australia and has argued that there are several aspects of this development which require fuller investigation if it is to deserve the description of an established clinical procedure. The establishment of a national evaluation of the technology in 1991 is urgently required, and the information provided here should offer it some useful directions.

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