with this is to greatly reduce the number of committees, have them sit more often, and to pay members and chairs of committees.

The diagnosis is correct, the treatment dubious. No evidence is given to suggest that these changes will be effective in improving efficiency, reducing costs, increasing consistency, or retaining the loyalty of members and the respect of researchers. Professionalising committee membership will probably alter the kind of people serving, seeing many experienced members resigning because they cannot take on longer hours and greater workloads. Nor is it clear that a professional membership will lead to higher quality review. Indeed, it may well lead to a loss of members willing to serve out of a spirit of public or professional service.

Underlying this report's conclusions were two significant lacks: a lack of willingness to grasp the difficult question of the proper function of research ethics review, and a lack of willingness to engage with the fact that ethical review is a matter of deliberation rather than the application of formal rules. For instance, the report doesn't resolve the vexed question of what makes a project require review: the audit/research distinction is not addressed, the question of when a "student project" becomes a "research project" is skated over, and the distinction between scientific and ethical review is made to bear too much weight. Although independent peer review of the science is crucial and requires different skills from ethical review, many suggestions made in ethical review may alter the science of the study sufficiently for the science to require revisiting. The idea that this can be devolved to "scientific officers" sounds like an excellent job creation scheme for the Central Office for Research Ethics Committees, but has little else to recommend it in practice. Thorny regulatory questions concerning non-medical or non-NHS research and their oversight have been glossed over.[9 10] Most of the blame for these defects lies with the panel's remit rather than the way the panel discharged it.

There is much good sense in this report and many worthwhile recommendations. Yet an opportunity to thoroughly review the oversight of research in the UK in the light of new legislation and regulatory approaches has been missed due to the panel's narrow terms of reference and the short time frame for reporting. In the short term, at least, this report will probably continue the trend of disaffection with research ethics committees and of confused reform that requires fixing again within a short time. Cold comfort may be taken from the fact that this situation appears to be the norm across Europe.[11]

Richard E Ashcroft *reader in biomedical ethics*

(r.ashcroft@imperial.ac.uk)

Ainsley J Newson *postdoctoral research associate in clinical ethics*

Piers M W Benn *lecturer in medical ethics and law*

Medical Ethics Unit, Department of Primary Care and Social Medicine, Imperial College London, Reynolds Building, St Dunstan's Road, London W6 8RP, UK

Competing interests: REA, AJN, and PMWB are members of the research ethics committees of, respectively, the Royal Marsden Hospital NHS Foundation Trust and the Gene Therapy Advisory Committee, Charing Cross Hospital, and Hammersmith Hospital. All are writing in a personal capacity.

1 Department of Health. *Local research ethics committees*. London: DoH, 1991 (HSG(91)5).
2 Department of Health. *Ethics committee review of multi-centre research: establishment of multi-centre research ethics committees*. London: DoH, 1997 (HSG(97)23).
3 Department of Health. *Research governance framework for health and social care*. London: DoH, 2001.
4 *The Medicines for Human Use (Clinical Trials) Regulations 2004*. SI 1031. London: HMSO, 2004.
5 Hearnshaw H. Comparison of requirements of research ethics committees in 11 European countries for a non-invasive interventional study. *BMJ* 2004;328:140-1.
6 Olde Rikkert MGM, Lauque S, Frölich L, Vellas B, Dekkers W. The practice of obtaining approval from medical research ethics committees: a comparison within 12 European countries for a descriptive study on acetylcholinesterase inhibitors in Alzheimer's dementia. *Eur J Neurol* 2005;12:212-7.
7 Department of Health. *Report of the ad hoc advisory group on the operation of NHS research ethics committees*. London: DoH, 2005. http://www.dh.gov.uk/assetRoot/04/11/24/17/04112417.pdf (accessed 23 June 2005).
8 Edwards SJL, Ashcroft RE, Kirchin S. Research ethics committees: differences and moral judgement. *Bioethics* 2004;18:408-27.
9 Tinker A, Coomber V. *University research ethics committees: their role, remit and conduct*. London: King's College London, 2004.
10 Economic and Social Research Council. *ESRC announces new research ethics framework*. http://www.esrcsocietytoday.ac.uk/ESRCInfoCentre/about/CI/CP/Social_Sciences/issue60/research_ethics.aspx (accessed 29 June 2005).
11 Baeyens AJ. Impact of the European Clinical Trials Directive on academic clinical research. *Med Law* 2004;23:103-10.

Which career first?

The most secure age for childbearing remains 20-35

Pregnancies in women older than 35 are increasing markedly in Western countries.[1] Some commentators believe that this demographic shift poses a small or manageable problem as there are compensatory successful fertility treatments. However, it is harder for older women to become and stay pregnant, and outcomes for the mother and child are poorer.[2-5]

Age related fertility problems increase after 35 and dramatically after 40. Women have had more opportunity to acquire pelvic infections or develop endometriosis or premature menopause. Body mass index, which rises with age, independently affects fertility and treatment adversely. We do not understand reproductive senescence,[w1] but there are no immediate prospects of treatments to reverse it. Paradoxically, the availability of in vitro fertilisation (IVF) may lull women into infertility while they wait for a suitable partner and concentrate on their careers and achieving security and a comfortable living standard. But this expensive, invasive treatment has high failure rates (more than 70% of women undergoing a cycle of IVF do not achieve a live birth—more than 90% when older than 40).[6] It brings extra risks of multiple pregnancy as two—and in women older than 40, three—embryos can be transferred. Delaying also affects partners[w2]: semen counts deteriorate gradually every year, and children of older men have an increased risk of schizophrenia and

Additional references w1-w10 are on bmj.com

BMJ 2005;331:588–9

new mutation autosomal dominant disorders (such as achondroplasia and Marfan syndrome).

Once a woman is pregnant, age affects outcome adversely, with increased miscarriages,[7] ectopic pregnancies, and twinning. Fetal and chromosomal abnormalities increase, which can result in difficult decisions and invasive testing (with associated miscarriages and terminations). Pregnancy diseases increase: pre-eclampsia, haemorrhage, preterm ruptured membranes, and placenta praevia, among others. Becoming pregnant later in life overlaps with the onset of chronic and life threatening diseases. Older mothers are more likely to be obese, take medication, have a medical disorder (arthritis, depression, cancer, or myocardial infarction), experience severe morbidity,[w3] or die.[8] Age, chronic hypertension, and pregestational diabetes are independent risk factors for intrauterine growth restriction. Inductions, dysfunctional uterine contractions, and abnormalities of the fetal heart rate are more common. Elective and emergency caesarean sections increase,[9] carrying complications of bleeding, infection, thrombosis, later infertility, repeat caesarean, and placenta accreta.[10] Prematurity, stillbirths, and neonatal deaths rise, as do admissions to neonatal intensive care. Animal models show differential effects of maternal age on brain development.[w4] Programming hypotheses propose that small differences in the fitness of populations of mothers could cascade into larger disease effects in the next generation.[w5]

Health effects and social implications for the mother are complex, hard to research, and may be confounded by parity, contraception, education, and social class. Parenting (and grandparenting) when older provides mixed blessings: anxiety in pregnancy[w6] and postnatal depression rise with age[w7]; later first pregnancy is associated with a higher risk of breast cancer but a lower risk of cervical cancer[w8]; the highest estimated risk due to all cause mortality is seen among women who give birth in their 40s.[w9] Modest improvements in school attainment and maturer parenting[w10] might, however, offset the inevitable effects of diminished fitness, illness, and bereavement.

For individual women, a short delay poses little absolute risk. Most pregnancies in women older than 35 have good outcomes, but small shifts in population distribution curves affect large numbers of women. Obstetricians and gynaecologists have seen dramatic changes in two decades alongside this demographic transformation and are witnesses to the resultant tragedies. The pain of infertility; miscarriage; smaller families than desired; or damage to pregnancy, mothers, and children is very private, particularly when women blame themselves for choices made without being fully aware of the consequences. It is ironic that as society becomes more risk averse and pregnant women more anxious than in the past, a major preventable cause of this ill health and unhappiness is unacknowledged. Public health agencies target teenagers but ignore the epidemic of pregnancy in middle age.

Medicine, just as other careers, is chosen by many women although they are still under-represented at the top. The especially long education, training, and competitive career ladders cause many women to defer childbearing. Doctors need to be aware of the risks for themselves and for their patients, as they are ideally placed to inform women about reproductive choices. Women want to "have it all," but biology is unchanged[11]; deferring defies nature and risks heartbreak. If women want room for manoeuvre they are unwise to wait till their 30s. Their delays may reflect disincentives to earlier pregnancy or maybe an underlying resistance to childbearing as, despite the advantages brought about by feminism and equal opportunities legislation, women still bear full domestic burdens as well as work and financial responsibilities.[12]

The reasons for these difficulties lie not with women but with a distorted and uninformed view from society, employers, and health planners. No serious research is being undertaken into the additional costs to the NHS, the increased load on maternity services (whose constraints are already under the Healthcare Commission's scrutiny) and neonatal units,[13] the extra costs to employers of later maternity leave (where higher salaries act as a perverse incentive for women to delay), or considerations of means that enable women to have children earlier. Free choices cannot be made with partial knowledge, economic disadvantage for mothers, and unsupportive workplaces. Doctors and healthcare planners need to grasp this threat to public health and support women to achieve biologically optimal childbearing.

Susan Bewley *consultant obstetrician, maternal-fetal medicine*

Guy's and St Thomas' NHS Foundation Trust, St Thomas' Hospital, London SE1 7EH
(susan.bewley@gstt.nhs.uk)

Melanie Davies *consultant obstetrician and gynaecologist*

Elizabeth Garrett Anderson Hospital, University College Hospital, London WC1E 6DH

Peter Braude *head of department of women's health*

Guy's, King's and St Thomas' School of Medicine, King's College London, St Thomas' Hospital, London SE1 7EH

Competing interests: SB chairs the ethics committee of the Royal College of Obstetricians and Gynaecologists. MD is the president elect of the Medical Women's Federation. PB chairs the scientific advisory committee of the Royal College of Obstetricians and Gynaecologists.

1 Botting B, Dunnell K. Trends in fertility and contraception in the last quarter of the 20th century. *Natl Stat Popul Trends* 2003;100:32-9.
2 Hansen JP. Older maternal age and pregnancy outcome: a review of the literature. *Obstet Gynecol Surv* 1986;41:726-42.
3 Bianco A, Stone J, Lynch L, Lapinski R, Berkowitz G, Berkowitz RL. Pregnancy outcome at age 40 and older. *Obstet Gynecol* 1996;87:917-22.
4 Jacobsson B, Ladfors L, Milsom I. Advanced maternal age and adverse perinatal outcome. *Obstet Gynecol* 2004;104:727-33.
5 Dildy GA, Jackson GM, Fowers DK, Oshiro BT, Varner MW, Clark SI. Very advanced maternal age—pregnancy after age 45. *Am J Obstet Gynecol* 1996;175:668-74.
6 Human Fertilisation and Embryology Authority. *Guide to infertility and directory of clinics 2005/06.* www.hfea.gov.uk/ForPatients/YourGuideto Infertility (accessed 1 Sep 2005).
7 Nyabo Andersen A-M, Wohlfahrt J, Christens P, Olsen J, Melbye M. Maternal age and fetal loss: population based register linkage study. *BMJ* 2000;320:1708-12.
8 Confidential Enquiry into Maternal and Child Health. *Why mothers die 2000-2002—report on confidential enquiries into maternal deaths in the United Kingdom.* www.cemach.org.uk/publications/WMD2000_2002/content.htm (accessed 1 Sep 2005).
9 Royal College of Obstetricians and Gynaecologists. National sentinel caesarean section audit report. London: RCOG, 2001. www.rcog.org.uk/resources/public/pdf/nscs_audit.pdf (accessed 1 Sep 2005).
10 National Institute for Clinical Excellence. *CG13 caesarean section—NICE guideline.* London: NCIE, 2004. www.nice.org.uk/page.aspx?o = 113192 (accessed 1 Sep 2005).
11 ESHRE Capri Workshop Group. Fertility and ageing. *Hum Reprod Update* 2005;11:261-76.
12 Benn M. *Madonna and child. Towards a new politics of motherhood.* London: Vintage, 1999.
13 Healthcare Commission. *Kennedy calls for improvement in poor performing maternity services.* Press release 18 July 2005. www.healthcarecommission.org.uk/NewsAndEvents/PressReleases/PressReleaseDetail/fs/en?CONTENT_ID = 4018652&chk = 5vRXtK (accessed 1 Sep 2005).