Human Fertilisation and Embryology Authority (1991-) [1]


In 1991, the United Kingdom established the Human Fertilisation and Embryology Authority (HFEA) as a response to technologies that used human embryos. The HFEA is a regulatory power of the Health and Social Services Department in London, UK, that oversees the implementation of reproductive technologies and the use of embryos in research within the United Kingdom. It establishes protocols by which researchers may use human embryos, develops legislation on how human embryos are stored and used, monitors human embryological research and artificial fertilization [8] procedures, and prosecutes those who violate terms of embryo use. The HFEA collects, monitors, and distributes data related to human embryology [6] and embryological research. The HFEA also records international studies involving human embryos and fertilization [8], hosts ethical debates, and shares collected information with the public and scientific communities.

The UK government established the HFEA after doctors developed *in vitro* [7] fertilization [5] (IVF) techniques in the 1970s and 1980s, and after those techniques became widely used. Human IVF is a technology with which a human egg [8] cell, or ovum [9], is fertilized in a laboratory and outside of a human body. After fertilization [5] is achieved, the newly fertilized egg [10] is implanted in the mother, to gestate as a naturally fertilized embryo would.

In 1978, Robert Geoffrey Edwards and Patrick Steptoe [11] conducted the first successful IVF procedure in humans [12], work that led to the 2010 Nobel Prize in Physiology or Medicine [13]. Edwards researched human fertilization [8] at the University of Cambridge, Cambridge, United Kingdom, and first contacted Steptoe, a practicing gynecologist at Oldham Clinical Hospital in Lancashire, United Kingdom in 1968. Edwards and Steptoe developed the IVF technique in 1978, and Louis Brown was the first baby born using the technique.

The first human birth resulting from IVF sparked debates worldwide on the ethical and political aspects of scientific intervention in reproduction. In response to these debates, the UK's Department of Health and Social Services convened a committee in 1982 to discuss the social, political, biological, and ethical implications of these advancements in embryological technologies.

This committee, called the Committee of Inquiry into Human Fertilisation and Embryology, was comprised of sixteen scientists, professors, lawyers, ethicists, and governmental representatives. They were natives of Ireland, Scotland, England, and Wales. Mary Warnock, a philosopher from Oxford University, chaired the committee. The committee sought to discuss human fertilization [5] techniques such as IVF and the process of collecting human gametes and handling of embryos, and it aimed to establish guidelines and laws for human embryo research [14]. In addition, the committee endeavored to address the social and legal implications of such practices, consider their ethical repercussions, and design an organization [19] to monitor and authorize the use or study of human embryos.

The committee presented the initial report to the UK Parliament in July 1984 as the Report of the Committee of Inquiry into Human Fertilisation and Embryology, also called the Warnock Report, after the Committee's chairperson Mary Warnock. In response, UK's parliament passed the Human Fertilisation and Embryology Act 1990 (HFE Act), which describes legal and illegal acts involving the use of human embryos, and it outlined requirements for licensure of experiments involving human embryos, surrogacy, and abortion [16]. It provides legal definitions for the concepts of an embryo, a mother, a father, and other terms relevant to the HFE Act. It describes how these regulations are enforced, penalties for violating the act, and a protocol for the birth of malformed or disabled children due to the artificial fertilization [5] process. This act calls for the establishment of a regulatory body that acquires information on human fertilization [5] and embryology [6], monitors embryological research and fertilization [5] practices, and serves to inform the public on these topics.

Thus, the UK established its Human Fertilisation and Embryology Authority (HFEA) on 1 August 1991 as a product of the HFE Act. The HFEA became the first regulatory organization [15] in the world to oversee all embryological research within its nation, form protocols on the use of human embryos, lead in artificial fertilization [5] techniques, and hold the goal to be expert in the field of human embryology [6] and fertilization [8] science. The HFEA is comprised of eighteen members appointed by UK Health ministers under guidelines from the Commissioner for Public Appointments, who the king or queen of UK selects to make official appointments to governmental bodies. Members of the HFEA may come from a variety of fields, such as medicine, business, religion, philosophy, or law. As established by the HFE Act, no more than half of the HFEA's members may be doctors or scientists involved with IVF or any type of embryological research, to maintain independent viewpoints. Members holding chair or deputy chair positions must also not be doctors or scientists in a relevant field.

The HFEA authorizes and supervises IVF clinics and research centers that conduct human embryo research [14], catalogs stored human embryos and gametes, licenses individuals and organizations to handle human embryos, and monitors the procedures and studies that
use them. The HFE Act requires the HFEA to determine clinical guidelines for human embryo use that the HFEA may review and amend to incorporate new findings as research and technologies advance. These guidelines released in 2009 and written by the HFEA, called the Code of Practice, include a statement of principles that licensed centers must follow, a glossary of terms used in the Code of Practice, and a section titled Guidance Notes. Guidance Notes address various subject areas that licensed organizations encounter, delineating protocol for complex situations such as the requirements of information and consent of donors, license training, multiple births, and the proper method to store and use embryos.

The HFEA also maintains a database of egg [8] and sperm [17] donors, those who receive fertility treatments, all children born as a result of such reproductive treatment, and individual cases of fertility treatment. The HFEA also surveys public knowledge and opinion on matters of human embryology [6], research using human embryos and genetic material, and fertilization [9] techniques. For example, a survey titled, “Hybrids and Chimeras: A consultation on the ethical and social implications of creating human/animal embryos in research”, released in 2007 allowed the public to voice its opinion on research involving chimeras [18], or organisms composed of genetically distinct cells. Another function of the HFEA is to inform citizens about the data it acquires, make information available on new advances in the field, announce debates on the ethical implications of particular studies and potential therapies, and explain the risks and potential benefits of embryological research and fertility treatments. For example, the HFEA published the results of the consultation on hybrids and chimeras [18] in 2007, allowing the public to view scientific data about chimeras [18] as well as the opinion of the community on the matter. The HFEA continued its mission into the first decades of the twenty-first century.

**Sources**


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