Diseases and conditions

Reproductive problems

HUMAN INFERTILITY

What the Berlaymont Declaration says:

In some EU Member States, large proportions of young men have semen quality so poor that it will seriously affect their chances of siring children.

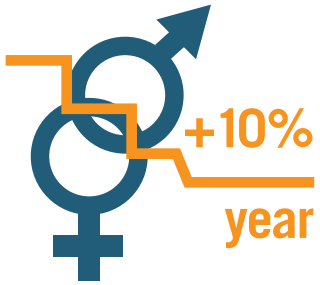
Incidence & Costs

By 1992, sperm quality across the European population was reported to have declined by 50% in the previous 50 years. (7) A recent study of 26,600 men in France showed sperm count had fallen by a third between 1989 and 2005. (8) Furthermore, a Spanish study found that even in young men, sperm concentration was falling by an average of two percent a year. (9)

An effect of low sperm count is to reduce the chances of conception in human reproduction, thereby increasing infertility rates across the affected population. Consequently, medical treatment such as Assisted Reproductive Technology (ART) may be sought. Clearly, though, not all ART results from male sperm deficiency. Women in Europe similarly face risks of infertility due to common female reproductive problems. For example endometriosis which increases the risks of infertility may be rising in incidence and appearing in younger women. (5)

An estimated one in six couples seeks help in conceiving a child. (10) The demand worldwide in 2010 was 48.5 million couples seeking treatment. (10) In the UK, one in 50 babies (2%) is born each year as a result of IVF. (11) In Belgium, Slovenia, Denmark, Netherlands and Sweden more than 3% of all babies born are conceived by ART. (10) Another study shows more than one in 25 children (4.2%) being born following ART treatment during 2002. (12)

The rate at which couples are seeking medical assistance due to infertility is increasing at more than 10% per year



The demand for treatment in Europe – as expressed in treatment cycles performed in European countries – has increased by 59% in the five years from 1997 to 2002 (from 204,000 to 324,000 cycles). (13) By 2009, the number of treatment cycles had increased to just over 537,000. (14) Recent reviews of trends in infertility predict that rates will continue to rise. (15, 16)

The 11,000 assisted pregnancies/births taking place in Denmark during 2010 cost more than €40 million. (17) A number of studies have developed a cost of ART per live birth resulting from this treatment, the costs comprising medical treatment costs only. For example in Denmark this is €11,310 (18) and in the Netherlands €51,822 in 2010. (19) Furthermore, ART typically costs up to 0.25% of public health service budgets. (14)

Table 2
Costs and trends in human infertility

Endocrine- related disease or condition	Incidence/ prevalence trends	Cost of illness
Human fertility problems – sperm quality	Sperm quality has declined by 50% over the past 50 years	No cost data available
Human infertility inability to produce a live birth	An estimated one in six couples seeks help in conceiving a child Demand for ART is growing by 1-2% a year in Europe	Total annual ART cycle cost in EU28: €2.4 billion - €3.1 billion

Congenital malformations of male sex organs

What the Berlaymont Declaration says:

Congenital malformations, such as hypospadias (birth defect of the penis) and cryptorchidism (non-descending testes), are increasing or levelling off at unfavourably high levels.

Ten years ago, cases of undescended testicles (or cryptorchidism) were said to affect 2-4% of new-born boys. More recent studies suggest rates are now much higher with estimates in the UK at 6% and in Denmark at 9%. (20) These disorders may require early surgery of affected infants. What is certain is that this condition increases the risks of infertility and testis cancer later in life. (21)

The phenomenon of increasing incidence of four conditions: cryptorchidism (undescended testes), hypospadias (congenital malformations in baby boys), testis cancer, and failure of spermatogenesis (infertility) has been labelled "testicular dysgenesis syndrome" (TDS). (22)

Calculated on the basis of medical treatment costs, orchiopexy to correct undescended testicles is estimated to cost €5,715 – 8,415 per case in the US in 2009. (22)

Table 3
Costs and trends in congenital malformations of male sex organs

Endocrine- related disease or condition	Incidence/ prevalence trends	Cost of illness
Cryptorchidism and Hypospadias	As many as one in 15 boys are born with cryptorchidism (22) Annual cases of cryptorchidism have doubled in 10 years	Cost: €0.9 – €1.3 billion per annum in EU28, assuming 6% rate of incidence*

*Since this condition either corrects itself or is often treated in the first year of life, incidence is assumed to equate to prevalence. This incidence rate is further adjusted to 3% to take account of the fact that by 3 months of age, the incidence is usually more than halved due to spontaneous descent of the originally cryptorchid testes (21).