ETENE
The Finnish National Advisory Board on Social Welfare and Health Care Ethics

Bioteknologirådet
The Norwegian Biotechnology Advisory Board

THE DANISH COUNCIL ON ETHICS

SMER

Call for international limits on the number of children per sperm or egg donor

Main recommendation:

The four Nordic National Ethics Councils recommend establishing an international limit on the number of children that can be conceived from a single egg or sperm donor. The cross-border use of gametes needs to be addressed through agreement at the European level. The Councils urge the Nordic countries to collaborate on a policy initiative to put this discussion on the agenda in the European Union and the Council of Europe.

In addition, the Councils want to highlight the following considerations:

- When setting an international limit per donor, medical, psychosocial and ethical factors should be considered, in addition to input from donors, recipients and donor-conceived individuals.
- Transparency must be ensured: Both donors and recipients of donated gametes should be fully informed about national and international limits on the number of children prior to any donation.
- Until regulation has been established, the councils encourage cryobanks to set their own voluntary international limits on the number of children per egg or sperm donor. The European Society of Human Reproduction and Embryology (ESHRE) could assist by creating guidelines for commercial operators.
- Cryobanks should allow donors to set a maximum limit on the use of their gametes, if they prefer it to be lower than the cryobank's possible default limit.
- Concerns that international limits might reduce the availability of donated gametes can be mitigated by strengthening efforts to recruit donors nationally.
- Counselling should be available to donor-conceived individuals and their families. The organisation and funding of counselling may vary based on each country's system.

Summary

The increasing cross-border use of gametes in assisted reproduction in Europe raises several ethical and regulatory concerns, including issues such as the commodification of procreation, the status and rights of donors and donor-conceived individuals and fertility tourism. One particularly pressing issue is the absence of international limits on the number of children a donor can be the progenitor of across borders. The Swedish National Council on Medical Ethics, the Danish Council on Ethics, the Finnish National Advisory Board on Social Welfare and Health Care Ethics and the Norwegian Biotechnology Advisory Board, address this in a joint statement.

Over the past few decades, there has been a significant rise in the number of children born with the help of sperm and egg donation in Europe. This increase is largely attributed to legislative changes in many countries, which have expanded access to assisted reproduction to include same-sex female couples and single women, alongside opposite-sex couples. Another contributing factor is an overall decline in fertility and the trend of starting families later in life.

Several European countries have faced challenges in recruiting enough donors domestically to meet the growing demand for gametes, prompting reliance on commercial cryobanks that export gametes internationally. Denmark has some of the world's largest cryobanks; they offer global services and recruit donors internationally. Private cryobanks have also emerged in other European countries. For example, the European Society of Human Reproduction and Embryology (ESHRE) have found that around 50% of all European egg donation treatments are performed in Spain. It is estimated that most of the recipients of donor eggs are patients traveling from other countries [1].

International commercial cryobanks provide a significant proportion of gametes used in assisted reproduction in many European countries. While the exact number of involuntarily childless individuals assisted by private cryobanks across Europe remains unknown, one of the leading Danish cryobanks estimates that it has helped create over 85,000 children.

While many European countries have national regulations limiting the number of offspring per donor, no international regulations currently exist to regulate the number of children a donor can be the progenitor of across borders. Some commercial cryobanks have self-imposed voluntary limits, such as a maximum of 75 families per donor, while others have no limits[2, 3]. As a result, donor-conceived individuals may end up with more than 100 genetic half-siblings across the world.

Historically, national limits on the number of children per donor have been primarily driven by concerns about the transmission of hereditary diseases and the risk of consanguinity (inbreeding). However, technological development and recent social trends have led many donor-conceived individuals to use direct-to-consumer genetic testing and social media to connect with their donor and genetic half-siblings, often uncovering a large and previously unknown number of siblings worldwide. This raises new concerns about the potential psychosocial impact on donor-conceived individuals and donors. There is a distinction between having half-siblings across six families versus 75, or having 12 versus 100 offspring seeking contact over the course of a donor's lifetime.

Research, though limited, along with feedback from donor-conceived individuals and advocacy groups, indicates that having numerous unknown half-siblings can lead to psychological and social challenges. The prospect of numerous offspring potentially seeking contact can also pose challenges for donors and their families. In addition, there is a concern about whether all parties are fully informed about the potential number of offspring a donor might be the progenitor of globally.

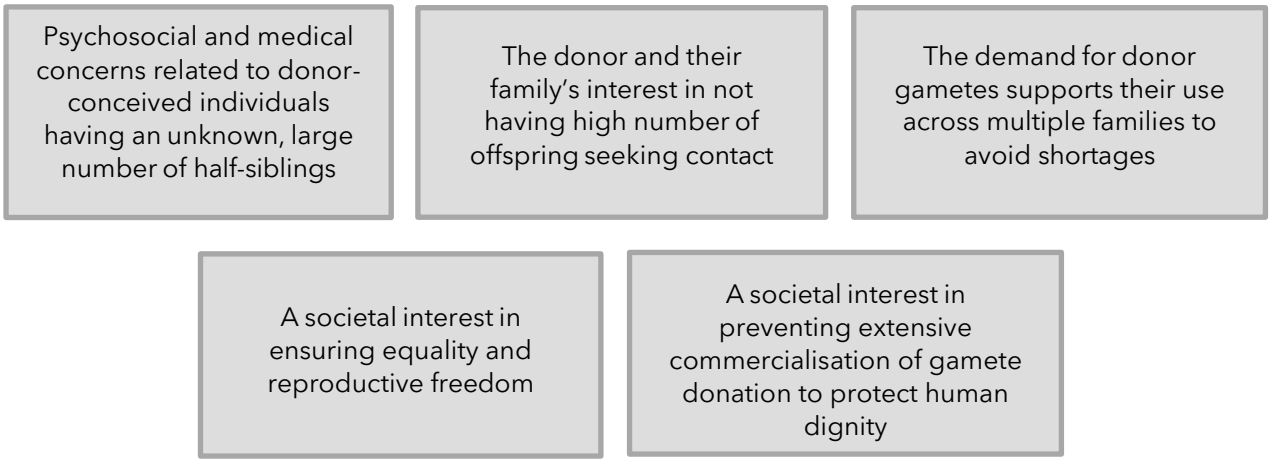
The four National Ethics Councils recognise that international regulation limiting the number of children per donor could reduce the availability of gametes and increase the cost of assisted reproduction, making regulation a complex issue with conflicting stakeholder interests. However, uncertainty about the long-term impact of current practices – especially considering psychosocial and ethical concerns – highlights the need for international policies and greater transparency. With Europe's evolving family structures and declining fertility, the demand for egg and sperm donation is likely to increase, leading to greater reliance on international gamete exchange due to a shortage of donors domestically.

In the light of these considerations, the four National Ethics Councils conclude that establishing cross-border limits on the number of donor offspring would benefit donor-conceived individuals, donors, and their families.

Figure 1: Examples of cross-border use of gametes in assisted reproduction in Europe

Some examples of cross-border use of gametes in assisted reproduction in Europe. International commercial cryobanks provide a substantial share of gametes in many European countries. Dashed lines represent cross-border use of eggs. Solid lines represent cross-border use of sperm. In addition, recipients of gametes also travel outside their home country for treatment.

Figure 2: Ethical concerns and conflicting interests



1 Cross-border supply and demand of gametes in Europe

In Europe sperm donation is permitted in 41 countries and egg donation in 38 for opposite-sex couples [4]. 33 countries also offer fertility treatments with donor sperm to single women, and 19 countries make such services available to female couples [4].

Despite the increasing demand for sperm and egg donations, many European countries have struggled to recruit enough national donors. To meet the growing demand, commercial cryobanks have played a significant role by exporting gametes from the same donor to multiple countries. Cryopreservation, introduced in the 1960s, stabilises cells at cryogenic temperatures and can be used on various cell types, including male and female gametes. Advances in cryopreservation technology now allow gametes to be successfully stored and used after several years or even decades.

The international trade in gametes operates in several ways: primarily, sperm and eggs are shipped from cryobanks to fertility clinics worldwide, but in some cases, they are sent directly to consumers, or recipients of the gametes travel outside their home country for treatment [1]. For example, the European Society of Human Reproduction and Embryology (ESHRE) have found that around 50% of all European egg donation treatments are performed in Spain. It is estimated that most of the recipients of donor eggs are patients from other countries [1]. Denmark is home to some of the world's largest, international cryobanks. Private gamete banks have also been established in other European countries, though their export operations are typically not as extensive.

Today, fertility clinics in several countries heavily depend on imported gametes from international providers. According to Norwegian health authorities, approximately 83% of donor-conceived individuals in Norway are conceived using imported sperm, primarily from Denmark. In Finland, 21% of all donors in the donation register were foreign in 2023. Swedish fertility clinics offer imported sperm mainly from Denmark, as well as eggs from other countries, such as Portugal. Additionally, more than half of new sperm donors registered in the UK in 2020 were imports, with 27% donating in the USA and 21% in Denmark [5]. According to Euronews, sperm donors from Danish cryobanks are the progenitor of 6 out of 10 donor- conceived children in Belgium, and over 60% of treatments in some Dutch fertility clinics is done with sperm from Danish cryobanks [6].

The ethical and psychosocial concerns related to the number of children per donor are relevant for both egg and sperm donors. However, while sperm donation involves no physical risk for men, egg donation is a more invasive procedure with higher medical risks for women, naturally limiting the number of offspring per egg donor.

1.1 The altruistic principle and the commercial sale of gametes

According to the Convention on Human Rights and Biomedicine (the Oviedo Convention), the human body and its parts shall not, as such, give rise to financial gain. National legislation in the Nordic countries, along with the European Tissue Directive, requires gamete donation to be based on altruistic principles. While large commercial cryobanks operate as businesses, this does not necessarily conflict with these principles, as they do not only sell gametes, but a product that includes services such as handling, freezing and storage as well as screening of potential donors.

The Danish cryobanks recruit donors from multiple countries and offer their services internationally through online platforms and sale. Sperm straws are sold through online catalogues that provide basic donor details such as ethnicity, eye colour, hair colour, height, weight, and occupation. Donors can also submit an 'extended profile' with more detailed personal information, for which they receive higher compensation, while recipients pay a higher premium for access to these extended profiles.

1.2 Donor anonymity

Over the past decades, international and European human rights law have increasingly recognised the right of donor-conceived individuals to know their origins [7].

Whether the donor is anonymous or open-identity varies across Europe. Anonymity is the rule in 16 countries, although disclosure of the donor identity is possible in some of them, in case of severe health conditions in the child [4]. In twelve countries the donor-conceived can have access to donors' identity when over a defined age, ranging from 15 to 18 years old [4]. In twelve other countries there is a mixed system where both anonymous and non-anonymous donation is allowed [4]. In Finland, Norway and Sweden all gamete donations are required to be open-identity donations. In Denmark, donors can choose to be either anonymous or open.

Neither open-identity nor anonymous donors have legal rights or obligations toward the child, though open-identity donors are aware they may be contacted by their genetic offspring. However, due to increased genetic testing, anonymity can no longer be guaranteed to any donor.

2 Current regulations on the number of children per donor in Europe

2.1 National regulations

Most European countries impose some form of limit on the number of children per donor within the country. These regulations vary, with some countries setting a limit on the number of children originating from the same donor, ranging from one in Cyprus to ten in France, Greece, Italy, and Poland [4]. Other countries limit the number of families or single women who can have children from the same donor, ranging from one family in Montenegro and Serbia to ten families in the UK and 12 families in the Netherlands [4]. The Nordic countries have similar limits; Denmark allows a maximum of 12 pregnancies, whereas the maximum number of families that can have children from the same donor is six in Norway and Sweden and five in Finland.

2.2 Regulation at the European level

According to the European Tissue Directive, gametes can be exported and imported under specific conditions. However, there are currently no regulations directly limiting the number of offspring from a single donor across borders.

The European Committee on Organ Transplantation (CD-P-TO) within the Council of Europe has highlighted the need for establishing international gamete donor registries to track donations. Such registries could serve as a tool to enforce limits on the number of children from a single donor.

The current EU regulation will be replaced by the new EU Regulation 2024/1938 on Substances of Human Origin (SoHO), which will apply from 7th of August 2027. Under the new regulation, entities distributing reproductive SoHO must adhere to national limits on the number of offspring from a single donor and monitor compliance through donor registries in accordance with national legislation. However, the new regulation does not impose restrictions on the total number of children per donor across borders within Europe.

2.3 Voluntary limits set by cryobanks

Some private cryobanks state that they operate with a voluntary maximum limit ranging from 25 to 75 families per donor, while others have not established a specific limit [2, 3]. As a result, donor-conceived individuals may end up with more than 100 half-siblings across Europe. At the same time, some cryobanks offer the service of donor exclusivity, where recipient parents are guaranteed that the sperm is being used only by them or by a few families, if the recipients pay a higher premium.

3 Social developments in the era of genetic transparency

Commercial genetic testing companies (so-called direct-to-consumer genetic testing) have revolutionised personal ancestry research. Genome-wide testing is now affordable and widely accessible. These tests are typically marketed for their potential to provide information regarding an individual's family history, ancestral origins, unique ethnic background, and the possibility of connecting with distant biological relatives around the world. As of September 2024, nearly 50 million people have submitted genetic material to the five largest companies offering these tests [8].

For many, understanding the potential implications of genetic testing can be difficult. The difficulty arises not only from the complexity of the subject but also from the fact that these companies typically rely on terms of service rather than informed consent [9]. These terms typically include lengthy, complex documents describing how the DNA sample and genetic data will be used, and the rights of the consumer. Genetic information can reveal unexpected information about health, family relationships and unknown biological relatives. For donor-conceived individuals, however, the primary purpose of genetic testing may be to identify these previously unknown genetic relatives, a particularly important feature for individuals conceived via anonymous donation.

Genetic testing has led to surprising discoveries for many individuals. In cases that have garnered significant public attention, donor-conceived individuals – who may or may not have been aware of being donor-conceived–have found dozens or even hundreds of previously unknown half-siblings through genetic databases of these companies [10]. These revelations have raised questions about whether donor-conceived individuals are being "mass-produced" and fuelled public debate about the rights of donor-conceived individuals, and about the need to limit the number of offspring per donor.

The growing popularity of genetic testing also brings concerns about privacy. The right to donor anonymity (when permitted by law) conflicts with the transparency of genetic information made available through genetic testing. As a result, there is no such thing as guaranteed anonymity for the donors anymore.

Some fertility clinics provide ID numbers for open-identity donors to donor-conceived individuals. These ID numbers can be used to find and connect with donor siblings through social media. Many social media groups now exist to facilitate connections between donor- conceived individuals, their donor siblings, and donors. Similarly, some recipient parents seek contact with the donor or other families with children conceived by the same donor.

4 What are the implications of extensively using a single egg or sperm donor?

4.1 Hereditary risks: Key considerations in current national regulation

Current national regulations limiting the number of offspring per donor are based on two main concerns: reducing the risk of half-siblings unknowingly starting families and minimising the spread of hereditary diseases.

Several methods have been proposed in the literature to establish guidelines for limiting the number of offspring per donor to prevent consanguinity (inbreeding) [11-13]. Swedish researchers, for example, have estimated that limiting the number of offspring per donor to 10 in a population of 10 million keeps the risk for consanguinity low (about once in every 100 years) [14].

The national limits on the number of offspring per donor in the Nordic countries align with these guidelines. Given these restrictive national limits, cross-border use of a single donor distributes gametes over a larger geographical area which does not significantly increase the risk of consanguinity. However, exceptions may occur in minority groups [15].

Another concern is the potential spread of hereditary diseases. Donors must undergo health screenings and are asked about their personal and family medical history in all Nordic countries. The number of offspring per donor does not increase the overall risk of spreading a hereditary disease compared to the general population, as donors without these hereditary diseases tend to have a similar number of offspring as those carrying these diseases [15, 16]. However, the consequences of an unknown hereditary disease can be more significant when there is a large number of donor siblings. One example is a Danish donor who fathered 43 children in several Nordic countries and passed on the hereditary disease neurofibromatosis to at least five of them [17].

4.2 Psychosocial considerations

National regulations limiting the number of children per donor primarily focus on possible risks relating to hereditary diseases and consanguinity. In today's world of global connectivity through social media and direct-to-consumer DNA testing, cross-border use of donor gametes affects donor-conceived individuals, recipients, donors, and their families in previously unanticipated ways.

As the number of donor-conceived individuals grows and information becomes more accessible, in combination with evolving norms of transparency, many seek contact with their donors and half-siblings. Studies show that many donor-conceived individuals search for their genetic half-siblings [18-22], driven by curiosity about their origin and identity or a desire for extended family connections. However, it is important to note that discovering unknown genetic half-siblings or learning that one is donor-conceived can come as a surprise during genetic testing conducted for other reasons, such as exploring one's ancestral origins.

Research from the Netherlands, the United States, and other countries demonstrate that relationships between donor-conceived individuals and their donor siblings differ from traditional sibling or friendship bonds. As the number of donor siblings increases, forming meaningful relationships becomes more complex, with group dynamics continually shifting as new members join [22]. The research primarily focuses on those who actively choose to connect with their donor siblings. However, others choose not to.

Some donor-conceived individuals, along with the Norwegian Association for Donor-Conceived Individuals (DUIN) and the Danish association *Donorbørns Vilkår*, have expressed feeling like 'commodities' upon discovering numerous unknown half-siblings. Others worry about the uncertainty of how many siblings they have worldwide, as well as the challenges of maintaining relationships with siblings who may reach out to them at any time [23]. In the media, cases of prolific donors fathering hundreds of children have sparked media outrage and discomfort among some donor-conceived individuals.

In 2022, the non-profit organisation U.S. Donor Conceived Council (USDCC) conducted a survey revealing broad support for limits on the number of families per donor. Among the 483 respondents, 93% of donor-conceived individuals, 80% of recipient parents, and 54% of sperm donors supported limiting the number of families to 10 per donor. Donor-conceived individuals favoured a lower limit (average of 7.1 families) compared to recipient parents (12.1 families) and donors (17.5 families) [24].

Research reveals that donor views on contact with the individuals they helped to create vary. Some donors prefer minimal contact, while others are open to deeper connections. Many anonymous donors value their anonymity, distinguishing between sperm donation and fatherhood. This boundary is maintained by not knowing about their donor offspring or the recipient families, which also serves as a means to protect their own families from potential contact with the donor-conceived children [25]. Other studies, however, suggest that new norms of openness are creating pressure on donors to be available when donor-conceived individuals seek contact, though they must balance this without overstepping parental roles [26].

A 2015 Swedish study found that about half of both egg and sperm donors believed that the number of offspring per donor should be limited to between 1 and 10, while many donors reported having no firm opinion. When controlling for possible confounding factors such as age, educational level, marital status and biological children, egg donors were four times more likely than sperm donors to support a limit of five offspring [27]. Other studies have found that sperm donors are generally more accepting of higher numbers of offspring or no limits at all [15]. Furthermore, cultural norms around family size can influence views on limits on the number of children per donor [15].

Overall, these findings indicate that individuals are affected differently by, and have varying perspectives on, the acceptable number of children per donor. A cautious interpretation of the existing research suggests that a large number of donor siblings can give rise to psychological and social challenges, such as difficulties in managing expectations and maintaining meaningful relationships. These challenges can be further complicated by language and cultural differences, and physical distance, affecting both donors and recipient parents. For donors who wish to limit contact and protect their own families, having a larger number of offspring can present additional difficulties.

5 Ethics

Restrictions on the number of offspring per donor can be justified by both medical and psychosocial reasons, but there are also ethical considerations about gamete donation as an altruistic act. One aim of limiting the number of donations could be to ensure that donors are motivated by altruism and to prevent excessive commercialisation and commodification of donated human material. In the key question of how to manage these donations ethically, several factors must, however, be considered, including:

- Physical and psychological health risks for the parties involved
- The impact of commercialisation and commodification on human dignity
- Opportunities for self-determination for all parties involved
- Equality and inequality in access to assisted reproduction.

5.1 Interested parties

Different stakeholders in donor insemination have varying feelings and interests concerning a transnational limit on the number of offsprings per donor. It is also important to note that opinions, feelings and expectations vary within the same group of stakeholders.

For some, the ethical dilemmas centre on the extent to which restrictions should be placed on gamete donation. Framed this way, the ethical question becomes whether it is morally justifiable to implement a policy that limits the number of donor-conceived individuals. On what grounds could donors, recipients, and cryobanks be asked to alter or restrict their practices? As freedom of choice is usually regarded to be a positive value, compelling ethical reasons are needed to justify the discontinuation of an existing practice. The primary rationale for limiting cross-border donations appears to be that individual liberty could harm others or prevent them from making similar choices.

Others argue that the interests of donor-conceived individuals should take priority as they are the only party unable to consent and are initially vulnerable children. This distinction highlights the difference between gamete donation for assisted reproduction (a treatment) and gamete donation for creating future people (a long-term decision). From this viewpoint, the ethical dilemmas primarily focus on the best interests of the child, who will ultimately bear the consequences of decisions made by others. From this point of view, selling gametes may be seen akin to selling a person, given that gametes can create a human life. This tension between the ease of obtaining gametes and their potential to create human life is central to debates on commodification.

This situation leads to a number of conflicting ethical considerations:

- The demand for donor gametes by involuntarily childless individuals supports the use of gametes across multiple families to prevent shortages.

- Donors and their potential families may object to having a large number of offspring who might seek contact.

- Psychosocial and medical concerns related to donor-conceived individuals having an unknown, excessive number of half-siblings, favour limiting the number of children a donor can be the progenitor of.

- It can be argued that there is a societal interest in preventing excessive commercialisation of gametes, ensuring gametes are not regarded as commodities. Some argue that commercialisation undermines human dignity, while others argue that commercialisation increases the supply of gametes, thereby increasing reproductive freedoms.

In the following, the different ethically interested parties will be presented and discussed.

5.1.1 Donor-conceived individuals

Many donor-conceived individuals seek out their donor siblings, driven by curiosity about their biological origins, a desire to understand their identity, or the hope of forming extended family connections. From their perspective, one would assume there is a significant difference between discovering half-siblings in six families versus 75. Not all donor-conceived individuals have an interest in biological ties or concerns about their half- siblings. However, for some donor-conceived individuals, the number of half-siblings could influence their sense of self and psychological well-being.

For many, donor siblings in other countries are just as significant as those in their own, raising the question of why international policies shouldn't govern the limits on donor sibling numbers. Greater transparency and global restrictions on donor siblings could make the situation more emotionally manageable. One could argue that uncertainty surrounding the psychological impact on donor-conceived children underscores the need for international regulations and increased transparency.

5.1.2 Egg and sperm donors

In Sweden, Finland, and Norway, anonymous egg and sperm donation is illegal, while in Denmark, donors can choose to remain anonymous or be identifiable. Open-identity donors have no legal rights or obligations toward the child, but can be contacted by their genetic offspring. As discussed earlier, advances in direct-to-consumer genetic testing mean that even anonymous donors can become identifiable.

There is also a question of whether the donors are fully informed and aware of how many children they might be the progenitor of across countries. The various cryobanks operate with a limit ranging from 25 to 75 families per donor, or no established limit at all. Within a family there is no limit on the number of children. Some donors, along with their families, might feel that it is challenging if a large number of donor-conceived individuals reach out to them.

5.1.3 Recipients of donated gametes

In situations of scarcity, transnational gamete donation can help more individuals facing involuntary childlessness by reducing wait times. It also facilitates the search for suitable donors, particularly for families from minority backgrounds. Additionally, new groups—such as single women and female same-sex couples—have gained reproductive freedom through sperm donation, with rising demand largely met by extensive transnational gamete exchanges.

On the other hand, some recipient parents may view it negatively if their child ends up with an unknown and potentially large number of genetic half-siblings worldwide.

5.1.4 Society

It can be argued that a societal interest exists in ensuring that gamete donation does not become overly commercialised and that gametes are not treated as commodities. The commercialisation of the activity can lead to commodification of the human body, which negatively impacts human dignity, and a seemingly irresponsibly high number of offspring may also lead to public doubts and criticism of the fertility sector.

On the other hand, the commercialisation and transnational donation of gametes have increased supply in a situation of shortage, thus promoting reproductive freedom. Strict quotas per donor may result in underutilisation of donated material that could lead to closure of fertility facilities, longer waiting lists and challenges in creating families.

Furthermore, if the cost of gamete donation increases it would favour the affluent, resulting in unequal access to assisted reproduction. Should a shortage of donated gametes occur, providers would have to prioritise between different groups of recipients, particularly within the public health sector. The criteria for such prioritisation will be challenging to set.

5.1.5 Operators and commercial activities

Gamete donation has traditionally been rooted in altruism, as required by Nordic legislation and the European Tissue Directive. However, this has not prevented the rise of a market for gamete storage and distribution. Donation now intertwines the concepts of gift and commodity, raising ethical challenges that are difficult to answer. This blending of interests highlights the need for careful consideration of both operational and commercial factors, as they impact the feasibility and implications of any regulations or recommendations.

The recruitment of donors incurs costs due to regulatory demands related to safety and control. These have to be balanced against revenues. While finding a suitable donor involves high one-off costs, once a donor has been recruited, there is an economic incentive to use their gametes repeatedly. When the number of pregnancies or families

per donor is limited, the cost per sperm straw or egg increases, which may reduce accessibility to donor gametes for potential recipients. Such limitations could also raise prices, and insufficient supply might be considered unethical or socially unjust. However, as discussed earlier, such limits could reduce psychosocial risks for donors, their families, and the donor-conceived individuals. With clear international limits, more donors may be willing to participate, as the prospect of numerous donor-conceived individuals seeking contact diminishes. However, overly restrictive quotas could fuel a black market, bypassing essential registration and screening processes.

Another central issue is to what extent donor recipients and donors receive sufficient information in the national fertility clinics regarding the number of offspring a single donor can have, when gametes are exported abroad. The prospective parents should be informed of any national or international limit on the number of families a donor's gametes may be used to create.

Finally, a practical challenge is ensuring proper supervision of the international distribution of sperm. The donor-conceived that are born, have to be registered in an international system if international limits are to be enforced. Currently, registration is done at various local levels or, in some cases, at the national level.

From a business perspective, it may seem ideal to have no restrictions on the number of offspring per donor, the idea being that more offspring would lead to lower unit costs, higher revenues, shorter waiting lists, increased client satisfaction, and more efficient use of gametes. However, business-driven professionals may also feel compelled by the genetic, psychosocial and ethical considerations described.

Commercially driven clinics and cryobanks rely on being credible, quality-focused and committed to ethical obligations. This means that considerations of both donors and recipients are also likely to be part of any business considerations. Recipients may prefer lower limits on the number of offspring per donor internationally, as this would reduce the likelihood of their child having many siblings or half-siblings being raised in other families. Donors may also welcome limitations on the number of possible donor-conceived individuals, as they may fear that too many individuals might seek contact.

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