



THE WORLD
EGG BANK

INDUSTRY REPORT 2021

After the Pandemic:

The Future of Egg and Sperm Banks

Trends, Challenges, and What Intended Parents and
Their Healthcare Providers Should Know

EXECUTIVE SUMMARY

As vaccination rates continue to rise in Australia, Canada, New Zealand and the United States, economies are starting to “re-open.” In light of the changing situation, this Industry Report looks at early indicators regarding the impact the COVID-19 pandemic has had on egg and sperm banks and the parents and healthcare providers they serve. Specifically, it explores 3 key issues:

- 1. What Does the Near-Term Hold for Intended Parents Seeking Donor Eggs/Sperm?**
Will obtaining donor eggs and sperm be more difficult in the near-term due to the COVID-19 pandemic? Has there been reduced donation of eggs and sperm over past 12-16 months? Will there be pent up demand due to reduction in “non-essential” healthcare procedures?
- 2. Coronavirus Casts Its Shadow.** How will health and economic trends during COVID-19 affect egg and sperm banks?
- 3. Intended Parents and Clinics: Uncertainty in the Coming Months.** How can intended parents and their healthcare providers navigate any uncertainty and potential disruption in the coming months?

What Does the Near-Term Hold for Intended Parents Seeking Donor Eggs/Sperm?

Projections vs. Pandemic

Prior to the coronavirus pandemic, industry experts had projected single-digit CAGR (Compound Annual Growth) for the period 2019 – 2026¹, with most sources predicting:

- 3-4% CAGR in the USA
- 5-6% CAGR worldwide

While all the data is not yet available for the time period March 2020-June 2021, a number of factors make it reasonable to conclude that overall donations of eggs and sperm were below the predicted baseline:

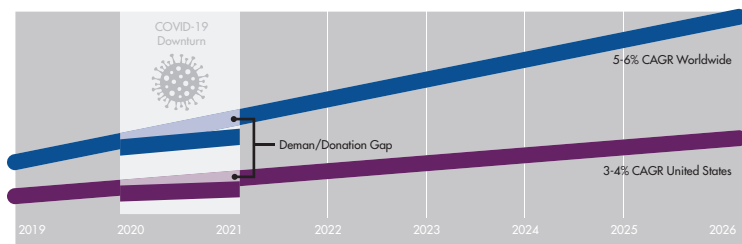
- Lockdowns prevented/minimized in-person visits by donors in all the previously mentioned countries
- Reduction in “non-essential” medical procedures may have also slowed egg retrieval and sperm collection

¹ <https://www.verifiedmarketresearch.com/product/Sperm-Bank-Market/>,
<https://www.databridgemarketresearch.com/reports/global-sperm-bank-market>,
<https://www.globenewswire.com/news-release/2021/06/15/2247181/28124/en/Global-Fertility-Services-Market-2020-to-2027-by-Procedure-Service-and-End-user.html>

Similarly, comprehensive data about IVF procedures using donor eggs/sperm is not yet available for March 2020-June 2021. However, the following factors also make it likely that overall treatments with donor eggs and sperm was below trend:

- Curtailment of “non-essential” medical procedures likely reduced IVF procedures
- Lockdowns prevented/minimized in-person visits by intended parents to clinics
- Initial shutdowns of cross-border transit, followed by dramatic reductions in international travel, likely impacted intended parent travel and associated donor egg/sperm procedures

IMPORTANT: Due to differences in regulatory, geographic, and operational factors, it’s likely that inventory levels at some individual egg/sperm banks may be at original, pre-pandemic projections or potentially even higher levels.



Even if the pandemic reduced CAGR by only 1-2%, the “demand/donation gap” could be noticeable in the near term. NOTE: anecdotal reports indicate that increases in egg/sperm donation coming from less well-documented Eastern Europe, lower-income economies, and third-world sources may be used as a risky alternative to mitigate against a short-term supply disruption.

Coronavirus Casts Its Shadow

COVID-19 Impacts on Fertility

To date, there have not been any conclusive studies regarding the coronavirus and donor eggs and sperm.

However, COVID-19 may impact male fertility. An article in The World Journal of MEN’s HEALTH summarized a pilot study describing histopathological features of penile tissue of patients who recovered from symptomatic COVID-19 infection and subsequently developed severe erectile dysfunction (ED)². The findings demonstrated the presence of the COVID-19 virus in the penis long after the initial infection in humans. The results also suggested that widespread endothelial cell dysfunction from COVID-19 infection could contribute to ED. In addition, there are several studies on COVID patients looking at its effect on the testicles and it appears COVID may also result in testicular damage.

Finally, initial data³ indicates that COVID vaccines have no impact on fertility for either males or females.

“As one of the first 100 women to successfully give birth via donor eggs, I understand the frustration that intended parents and their healthcare providers have experienced during the pandemic. Even one day’s delay can be anguish when you’re trying to conceive a child.”

— Diana Thomas,

² <https://wjmh.org/DOIx.php?id=10.5534/wjmh.210055>

³ <https://www.clinicaltrials.gov/ct2/show/NCT04665258>

COVID-19 Impact on Egg/Sperm Banks

The economic damage produced by COVID-19 is well documented. Global GDP dropped by at least \$12 trillion⁴ in 2020 and the continuing economic effects will be felt for years. Unemployment hit record levels never seen before. And more than half of the hundreds of thousands of businesses that closed during the pandemic are predicted to never reopen.⁵ It is not surprising, therefore, that some egg and sperm banks experienced or are experiencing financial difficulties. In fact, it is likely that business weakness – combined with record-breaking acquisition activity by private equity/venture capital in the second half of 2020⁶ – have resulted in a wave of consolidation among egg and sperm banks.

Unfortunately, this is not necessarily a positive development for patients. Stated simply, consolidation is typically pursued primarily for financial objectives that are wholly irrelevant to the fertility goals of intended parents and the healthcare providers who serve them (IVF clinics, physicians, nurses, embryologists, etc.).

Acquisitions and Mergers: Investors have seized the opportunity to acquire distressed firms at discounted prices in order to achieve market control/pricing power. While this may ultimately result in higher returns for investors, intended parents and IVF clinics should be aware of the difficulties of merging multiple operations with disparate quality control, staff expertise, donor standards, screening procedures, technical capabilities, reporting metrics, cultural norms, etc. Creating out of this upheaval a smoothly functioning egg/sperm banking organization capable of executing to a high standard of quality is daunting at best. Many observers suggest that the difficulties they will almost certainly experience will lead to higher variability and potential quality and viability issues.

Virtualization: Another corporate strategy that has been pursued is low-cost expansion by aggregating disparate third-party egg and sperm sources. While this stratagem provides the illusion of a single egg/sperm bank organization, these virtual aggregators are often nothing more than web storefronts for disparate affiliates spread across multiple geographies. These most certainly have divergent quality control, staff expertise, donor standards, screening procedures, technical capabilities, reporting metrics, cultural norms, etc. The tremendous challenge of maintaining transparent, end-to-end, chain of control of donor eggs and sperm in a virtual, non-integrated organization is seen as potentially causing higher variability leading to possible quality and viability issues.

Axcel, a Europe-based private equity firm, announced its acquisition of majority stake in European Sperm. Their strategy is to expand existing business and spread their market across the globe.⁷

⁴ <https://crsreports.congress.gov/product/pdf/R/R46606>

⁵ <https://www.cnn.com/2020/09/16/business/yelp-coronavirus-closures/index.html>

⁶ <https://corp.gov.law.harvard.edu/2021/02/06/private-equity-year-in-review-and-2021-outlook/>

⁷ <https://www.mccourier.com/global-sperm-bank-market-2021-trends-demand-and-scope-with-outlook-business-strategies-and-forecast-2026/>

Brokers, Not Banks. In order to meet demand, some egg and sperm banks have increasingly transitioned to becoming virtual brokers of egg and sperm. Instead of adhering to the traditional controls associated with banking, they instead are acting as conduits for an influx of eggs and sperm retrieved or collected in Eastern Europe, lower-income economies, or third-world countries. Often, brokers will amalgamate these donors on websites which may only identify the donors' origins as "Austria," "Cypress," or "Ukraine." Sometimes, the country of retrieval/collection is not identified at all. This raises a number of questions about quality and chain of control: Do government regulations exist regarding donor screening, testing, retrieval/collection, reporting and recordkeeping in the country of retrieval/collection? Are the sites where retrieval/collection is conducted being regularly monitored or audited by outside agencies? Do these Eastern European/lower-income/third world countries conform to the same high standards as stable first world economies? What agencies or regulatory bodies are verifying the validity of the retrieval/collection businesses' history, data, documentation? Are donors from countries with reputations for sex trafficking being coerced into donating eggs/sperm at substandard/zero fees? Are reports of hyperstimulating egg donors to induce higher egg production for bigger profits being investigated and resolved? Is recordkeeping enforced so that the children born of these eggs and sperm will be able to locate the donors in 18+ years?

Finally, it should be noted that the executive leadership of acquiring Private Equity (PE) or Venture Capital (VC) firms are highly unlikely to possess experience or expertise in egg/sperm bank operations. Further, their documented focus on investor returns and profit maximization – as evidenced by their cost-cutting with other acquired healthcare organizations such as hospitals⁸ – may conflict with the goals of intended parents and their healthcare providers seeking the highest quality egg and sperm bank services. Some examples of the "profit maximization" approach:

- Vitriifying every single mature egg harvested or sperm collected, regardless of potential quality issues revealed by inspection of their morphology.
- Providing ranges in the number of vitrified eggs provided in a cohort (e.g., "5-8") versus specifying a fixed number of eggs provided in a cohort (e.g., "6"). For example, a clinic and their intended parents expecting 8 eggs, but receiving only 5 are paying the same amount of money for 37.5% fewer eggs.
- In order to increase pricings/generate additional revenue, providing sperm in quantities above and beyond what is needed for a successful procedure.

"The one and only mission of any egg and sperm bank should be a successful, quality pregnancy. This most sacred and human aspiration should never take a backseat to cost-cutting, corporate maneuvers, or investor profits."

— Diana Thomas,
The World Egg Bank


⁸ <https://www.nakedcapitalism.com/2021/02/more-evidence-that-private-equity-kills-estimated-20000-increase-in-nursing-home-deaths-160000-life-years-lost-due-to-cuts-in-care.html>

Intended Parents and Clinics: Uncertainty in the Coming Months

Perception vs. Reality

While the impacts of the COVID-19 would indicate a possibly lower overall supply of eggs and sperm for intended parents as near-term demand increases, the economic forces of virtualization and consolidation may suggest a different (and likely false) scenario.

- **Proliferating web storefronts.** Increasing numbers of virtual aggregator websites may create the illusion of increased availability. However, many will be accessing the same third-party egg/sperm providers and competing for the identical resources.
- **Discount pricing.** Cost-cutting activities and (temporary) corporate maneuvers to gain market share may create the perception of reduced costs. However, the potential for increased variability in eggs and sperm and a resulting decline in quality and viability could add substantial hidden costs – increased number of procedures, more clinic visits/revisits, delays and lost time, long-term legal issues, etc.
- **Legal ambiguity.** Children born of eggs/sperm procured by brokers sourcing from Eastern Europe, lower-income countries, or the third world may be unable to trace vital historical information such as parental origins, testing/screening records, health patterns, genetic propensities, and more.



**Jury Awards
\$15 Million for Lost
Eggs and Embryos⁹**

Ben Franklin famously said: "The bitterness of poor quality remains long after the sweetness of low price is forgotten." With the instability currently impacting so many egg and sperm providers, intended parents and their healthcare providers should exercise even greater care and due diligence.

The Prudent Course of Action in the Near-Term

While the drumbeat among PE groups to march forward and consolidate, creating illusions of market domination and claims of superiority with well-funded marketing schemes, particularly amongst egg and sperm banks, intended parents and their healthcare providers should take greater precautions to protect themselves, their offspring, and the long-term future of their families.

The best course of action is to identify those egg/sperm banks that can guarantee transparent, integrated, end-to-end chain of control of the donor eggs and/or sperm.

What is the best way to determine if an egg/sperm bank can deliver on this? Fortunately, there are best practices intended parents and clinics can look for in an egg/sperm banks' operations which indicate transparent, integrated, end-to-end chain of control.

⁹ <https://www.courthousenews.com/jury-finds-tank-maker-responsible-for-lost-eggs-and-embryos-awards-15-million/>

The first best practice is having a single set of enforceable standards applied across all phases, protocols, processes, and people that assures a non-variable outcome and the highest quality for donor eggs and sperm:

- **Single standard of care.** The criteria for staff expertise, quality control, technical capabilities, donor standards, screening procedures, reporting metrics, cultural norms, etc. should not vary in any aspect of the donor egg/sperm process. For example, the expertise necessary for an embryologist to vitrify eggs should be equally matched by a skilled embryologist experienced in warming and fertilizing the eggs. Further, all criteria should be solely focused on providing the highest quality eggs and sperm (vs. encouraging “efficiency” or delivering “discounts”). For example, only eggs that have matured in a donor’s follicle should be provided to intended parents (vs. collecting immature eggs and growing them in media to “maturity” to boost profits). Or the method used to package sperm should reflect the needs of the clinic and recipients, not necessarily a provider’s preferred method. [What is worse are incentives to vitrify every mature egg – ignoring the quality of the egg.]

Another best practice is having an organizational and logistical infrastructure capable of providing end-to-end control:

- **Integrated facility.** All work takes place at one location dedicated only to egg/sperm banking and each of its attendant activities – donor recruitment, donor screening, donor management, parental education, matching and support, retrieval, vitrification, transport, warming, clinical support, record-keeping, and reporting, etc. If even one of these take place at a different site, the potential for breaking the chain of control is introduced, leading to possible variability and loss of quality and viability. Further, without this integration, controlling quality in each of the stages is likely to be inconsistently or poorly enforced, if at all.

The difficult process of IVF can understandably lead intended parents to have tunnel vision and focus solely on the immediate idea of getting pregnant. Thus, an often overlooked but essential best practice for egg and sperm banks that intended parents and clinics should look for addresses the long-term impacts of giving birth via donor eggs and/or sperm:

- **Comprehensive, cradle-to-grave reporting and long-term recordkeeping.** A child born from donor eggs/sperm will have an entire lifetime in which questions may arise around the IVF process, his or her origins, health patterns, genetic tendencies, etc. Without transparent, comprehensive record-keeping – guaranteed by the combination of a single location, integrated organization, and unified standard of care – questions can arise later in life that may be frustratingly unanswerable. As noted earlier, sources from Eastern Europe, lower-income economies, and third-world countries may have possibly been used as sources for donor eggs and sperm during the pandemic. However, breaks in the chain of control may raise questions for the children born of these eggs and sperm which may have less transparent and verifiable documentation.

Best Practices for Egg/Sperm Banks Post-Pandemic

1	End-to-end, Single Standard of Care	Donor Recruitment
		Donor Screening
		Donor Management
		Parent Education
2	Integrated Facility	Parent Counseling
		Parent Support
		Harvest/Retrieval
3	Comprehensive, Cradle-to-Grave Reporting and Recordkeeping	Testing/Morphology
		Vitrification
		Storage
		Cryogenics
		Transport
		Clinical Support

Summary / Conclusion

Based on the available data concerning the impact of the COVID-19 pandemic on egg/sperm banks, a number of near-term trends are likely to be experienced by intended parents and clinics:

- Expect a surge in demand for eggs/sperm at the same time that supply may be limited at some (but not all) individual egg/sperm banks
- Increasing corporate consolidation may provide the appearance of greater availability and lower prices, but the reality is likely to be lower quality eggs/sperm that result in fewer pregnancies and hidden costs that inflate true costs
- Proliferation of low cost, likely unsustainable guarantees from brokers importing eggs/sperm from third world economies with opaque or untraceable practices
- The best course of action for navigating the unsettled situation is for intended parents and their healthcare providers is to identify egg/sperm banks who deliver **transparent, integrated, end-to-end chain of control**

In the near-term, the safest path forward for intended parents and IVF clinics is to choose egg and/or sperm banks that have the infrastructure, systems, people, and processes in place to deliver transparent, integrated, end-to-end chain of control.

- Single standard of care across all phases, protocols, processes, and people
- Integrated facility with logistical and organizational infrastructure to retain end-to-end chain of control
- Comprehensive, cradle-to-grave reporting and recordkeeping to address all possibilities over the course of the child's life

Intended parents and their healthcare providers who work with egg/sperm banks that meet these high standards will experience:

- Better pregnancy results
- Simpler, more-streamlined process
- Lower true costs

For intended parents who seek certainty during one of the most confusing and trying times in their lives, The World Egg Bank has a trusted 30+ year heritage of being the gold standard in donor eggs. We provide the best pregnancy results via a simple, compassionate process that avoids unnecessary costs. Unlike corporate entities whose main goal is the pursuit of profit, our one and only mission is to deliver the highest quality eggs and best experience...guaranteed with our transparent, integrated, end-to-end chain of control.

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