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Universal coverage of IVF: benefits, unintended barriers and lessons from the French model in an international perspective

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ABSTRACT

France's universal public funding of assisted reproductive technology represents a major achievement for reproductive equity. By removing financial barriers, it has broadened access to fertility care while ensuring high standards of safety, traceability and clinical outcomes. Public oversight has further strengthened quality assurance through mandatory ISO 15189 accreditation of IVF laboratories and implementation of EU Tissues and Cells regulations. However, expanding entitlement without a proportional reinforcement of resources, staffing, laboratory capacity, reimbursement levels and donor availability has generated structural tensions. Complex regulatory demands impose substantial administrative and financial burdens on centres, diverting time and investment from patient care. Inadequate funding of IVF units, persistent shortages of gamete donors and rising overhead costs have created waiting lists and inequitable delays. France also prohibits certain internationally accepted procedures, such as preimplantation genetic testing for aneuploidies, restricting clinical autonomy and patient choice. These unintended effects risk undermining the very principles of universality, equity and quality that underpin France's policy. Comparison with Belgium, the UK, Spain and Quebec, systems that pair broad coverage with more flexible regulation or reimbursement, helps identify ways to rebalance access, oversight and innovation. We propose pragmatic policy adjustments, including realistic reimbursement of laboratory costs, streamlined accreditation, targeted donor-recruitment incentives and evidence-based reconsideration of prohibited techniques.

INTRODUCTION

In most countries, access to infertility care remains highly sensitive to out-of-pocket costs. France stands out internationally for its long-standing policy of comprehensive public reimbursement of infertility investigations and treatments, including IVF, intracytoplasmic sperm injection, gamete donation and fertility preservation, through the national health insurance system. This model, reinforced and expanded by the 2021 bioethics reform to include single women and female couples, reflects a strong national commitment to reproductive equity, aiming to ensure that the ability to form a family does not depend on personal income. By removing financial barriers, this approach also intends to reduce cross-border reproductive care (CBRC), historically frequent among French patients.

However, universal public coverage does not automatically translate into universal access or consistent quality. Entitlement must be supported by adequate capacity, realistic reimbursement and operational flexibility. In France, the convergence of rising demand, strict regulatory requirements (ISO 15189 accreditation of IVF laboratories and implementation of EU Tissues and Cells regulations) and persitently pitdate funding structures has produced constraints that paradoxically weaken access. Private IVF laboratories report staffing shortages, administrative burdens and underfunded overheads. Despite substantial investment the public sector monopoly on gamete donation remains a major source of delays. These bottlenecks illustrate how policy ambition alone cannot guarantee timely, equitable care.

International experience suggests that governance, regulatory agility and clinical

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autonomy influence the utilization of assisted reproductive technology (ART) as much as financing does. Spain, for example, achieves some of the highest ART activity in Europe despite only partial reimbursement, largely due to flexible regulation and strong private sector capacity. This contrast highlights that the effectiveness of public coverage depends on the broader organizational ecosystem.

This paper examines the benefits and unintended consequences of France's ART funding model, drawing comparisons with Belgium, the UK, Spain and Quebec, Canada. It concludes with propositions of policy recommendations to reconcile universality with feasibility and sustainability.

BENEFITS OF COMPREHENSIVE PUBLIC COVERAGE

Improved and more equitable access

The primary advantage of comprehensive IVF funding is improved access across socioeconomic strata. By eliminating financial barriers, public coverage allows more individuals, particularly those with a lower income or precarious employment, to pursue infertility care without catastrophic spending. Evidence actually consistently shows that publicly funded ART leads to higher utilization and reduced socioeconomic gradients in access compared with systems reliant on private payment (*Ben Messaoud et al., 2020*).

Potential system-level efficiency and safety gains

Universal funding also enables policymakers to attach quality and safety requirements to reimbursement. Such regulatory leverage can reduce multiple-birth rates by promoting elective single-embryo transfer (eSET), encourage transparent data reporting and support more efficient clinical pathways. International evidence indicates that when ART funding is linked to clear clinical criteria, both maternal/fetal outcomes and cost per live birth improve (*Velez et al., 2014*). France has adopted several of these regulatory levers, although implementation varies across centres.

Reduction of CBRC

A well-funded, legally inclusive domestic ART system can reduce CBRC by removing two major drivers: cost and legal ineligibility. In France, prior waves of CBRC largely reflected restrictions for single women and female couples, limited access to elective fertility preservation and the absence of certain techniques such as preimplantation genetic resting for aneuploidies (PGT-A) (*Rozée Gomez and de La Rochebrochard, 2013*). Expanding legal eligibility and maintaining full funding theoretically reduces incentives to seek care abroad, thereby improving continuity of care, ensuring follow-up within the national health system and promoting donor traceability and safety (*Salama et al., 2018*). However, this benefit is conditional: if entitlement increases faster than domestic capacity, patients may still travel to achieve shorter waits or more flexible treatment options.

PITFALLS AND UNINTENDED CONSEQUENCES OF FRANCE'S ART MODEL

The first observable limitation of ART care in France lies in capacity constraints and waiting times. Expanding legal access, combined with the absence of out-of-pocket expenses, has inevitably increased demand. Several reports note that public hospitals, particularly those hosting sperm banks (as no private sperm banks are allowed), lack sufficient laboratory and logistical capacity and still display organizational shortcomings. This generates long delays for first consultations, fertility preservation and ART cycles, especially those involving donor gametes. When public capacity is saturated and private activity cannot fully compensate because of regulatory restrictions, treatment is postponed and prognosis may worsen, notably for older patients. Paradoxically, a system originally intended to promote equal access can end up producing the opposite effect and encourage CBRC for those who can afford it.

Beyond logistical issues, full reimbursement of up to four IVF cycles can unintentionally promote practices misaligned to optimal medical reasoning. For example, an IVF cycle only 'counts' after embryo transfer, which may incentivise oocyte or embryo accumulation strategies despite weak evidence of benefit. A comparable logic is seen in ovarian stimulation, where the cost-free prescription of gonadotrophins may encourage relatively high starting doses in order to maximize oocyte yield per attempt. Although this may appear quantitatively efficient, it can lead to unnecessarily intense stimulation, greater discomfort, increased risk of an ovarian hyper-response and the production of surplus embryos that may never be used. These practices raise economic questions regarding medication costs and long-term storage, and ethical concerns regarding embryo disposition. Together, such dynamics may encourage prolonged autologous ART beyond the point of meaningful benefit, further reducing available capacity while exposing patients to repeated interventions with limited clinical gain.

A second challenge concerns structural underfunding and distorted incentives. National reimbursement levels do not always cover the real cost of modern laboratory infrastructure and highly trained staff. This situation partly reflects the historical design of the Nomenclature des Actes de Biologie Médicale reimbursement schedule, established decades ago and insufficiently revised despite a major evolution in ART technologies, safety standards and economic conditions. This rigidity has been particularly impactful because the embryology laboratory, as a currently manual discipline, inherently does not benefit from economies of scale. The reimbursement of intracytoplasmic sperm injection, for instance, has remained almost unchanged, at around € 600–700, for the past 20 years. Meanwhile, actual costs have risen substantially due to increased personnel expenses, more expensive consumables and equipment, and mandatory controlled environments that did not exist when the Nomenclature was created. As a result, reimbursement has gradually diverged from true cost structures, creating persistent financial pressure for both public and private centres. This can discourage essential investment, slow technological renewal, contribute to staff turnover and even push certain activities toward outsourcing or CBRC. These structural imbalances threaten the sustainability and quality of the national system.

Geographical and social inequalities persist despite universal free access. Patients living in rural or socioeconomically deprived areas continue to face lower utilization rates and greater logistical obstacles, such as long travel times or difficulties taking time off work. Socioeconomic status compounds these inequalities: individuals in precarious jobs, with limited schedule flexibility, little access to remote work and strict employer constraints, struggle more to comply with the demanding timelines of IVF. These barriers increase stress and the risk of treatment interruption. Shortages of donor gametes and trained personnel are also more pronounced outside large

academic centres. Universal coverage therefore mitigates, but does not eliminate, non-financial obstacles.

More broadly, the French funding model raises structural questions. Full and undifferentiated reimbursement reflects a strong political commitment to solidarity, yet it may not constitute the most efficient allocation of limited public resources. Alternative approaches could be considered without undermining equity. One option might be carefully regulated franchises, either uniform or income-adjusted, maintaining full coverage as a principle while easing system pressure. Another avenue could involve partial co-payment for elective fertility-preservation procedures, which differ from medically indicated interventions and raise distinct ethical and financial issues. Such calibrated mechanisms could preserve universal access while supporting long-term financial sustainability.

Despite its generosity, France records one of the highest levels of CBRC in Europe. Every year, thousands of French patients seek treatment abroad, especially in Spain and Belgium, citing shorter waiting periods, wider therapeutic options or access to procedures not permitted domestically. This highlights the gap between formal entitlement and perceived accessibility. It also raises questions about whether full reimbursement may sometimes lead to drifting towards paternalistic medical practices that, in the name of protecting the collective interest, could undermine patient autonomy.

Finally, financial fragility increasingly threatens the viability of several centres, especially smaller ones, an alarming risk in a country aiming for a nationwide coverage of infertility services. Chronic underfunding and administrative burden have already led some units to reduce activity or close, attempting to limit clinical risk and professional burnout within an increasingly unsustainable 'low-cost' framework. The resulting contraction in capacity might result in a tangible threat to access and quality of care across the territory.

INTERNATIONAL COMPARISONS: LESSONS FROM OTHER ART SYSTEMS

Belgium

Belgium's 2003 reform introduced reimbursement for up to six IVF cycles while enforcing strict embryo-transfer limits. This policy significantly reduced multiple pregnancies and improved safety. However, it also altered donor-egg programme dynamics: egg-sharing arrangements declined once IVF reimbursement was available, reshaping donation patterns and reducing the donor supply (*Pennings and Devroey, 2006*). The Belgian experience illustrates how generous coverage can unintentionally shift patient and clinic behaviour, underscoring the need for complementary regulatory oversight.

United Kingdom

In the UK, the National Institute for Health and Care Excellence recommends up to three publicly funded cycles for eligible women, but implementation is delegated to local Clinical Commissioning Groups. This 'postcode lottery' produces wide regional disparities, with many areas funding only one cycle or none at all. Recent reports document notable declines in National Health Service-funded cycles and increasing reliance on private care (*Goswami et al., 2013*). The UK illustrates that nominal entitlement is insufficient without ring-fenced funding: localized rationing undermines equity.

Spain

Spain combines limited public IVF provision with a large, technologically advanced private sector. Public funding varies across autonomous communities in terms of age limits, eligibility criteria and waiting times. Long waits in some regions push many patients toward private clinics, which account for the majority of national ART activity. Spain is also a leading destination for CBRC, offering short waits, broad donor availability and permissive regulation. While this mixed model supports high utilization and innovation, it also generates pronounced regional and socioeconomic disparities (*Alon and Pinilla, 2021*). For France, Spain demonstrates that legal liberalization alone is insufficient: capacity planning and adequate public funding are essential to avoid inequitable two-tier systems.

Quebec

Quebec's first publicly funded IVF programme (2010–2015) offers valuable insights. Universal coverage linked to explicit clinical rules, particularly eSET, led to a marked reduction in multiple pregnancies and a favourable cost per live birth despite increased per-cycle costs (*Velez et al., 2014*). The programme's success drove high demand, leading to its abrupt termination in 2015 due to budgetary pressures. The hiatus (2015–2021) was covered by a tax credit system until a highly restricted programme, limiting patients to a single lifetime IVF cycle, was reinstated. This outcome underscores the necessity of realistic cost modelling and sustainable planning. Quebec exemplifies how universal funding can be both effective and fragile: success depends not only on aligning reimbursement, regulation and capacity, but also on anticipating demand surges and ensuring long-term fiscal sustainability.

DISCUSSION AND POLICY RECOMMENDATIONS

France's IVF funding policy is ethically robust and internationally distinctive, yet its effectiveness is diminished by structural, organizational and financial constraints. Formal equality of coverage does not guarantee equitable access. Universal reimbursement achieves fairness only when paired with sufficient capacity, realistic tariffs, modernized regulation and data-driven governance.

We therefore propose the following policy recommendations:

1. Recalibrate reimbursement according to real costs and equity principles.
   - Update national tariffs to reflect actual laboratory, staffing and equipment expenses.
   - Consider franchises and/or an income-modulated co-payment model for some procedures to ease the financial strain on the system.
2. Invest strategically in capacity and workforce.
   - Fund a targeted expansion of public and private IVF units and donor banks.
   - Allow reasonable financial compensation for gamete donors.
   - Set transparent national benchmarks for waiting times and regional coverage.
3. Integrate equity monitoring into performance indicators.
   - Combine quality metrics (eSET rates, success rates) with indicators of equitable access across income and geography.
4. Promote hybrid public–private collaboration under unified standards.

  - Encourage contractual partnerships for gamete donation and ART provision, and promote collaborative research between public institutions and private centres
5. Enhance regulatory agility and patient autonomy.
  - Periodically review prohibited or restricted procedures (e.g. PGT-A and reception of oocytes from the partner) based on evolving evidence, or rely on practitioner autonomy in deciding which technique is indicated for their patients.
  - Simplify normative and regulatory requirements to reduce practitioner burden.

CONCLUSION

France's comprehensive public funding of infertility care remains a powerful instrument of reproductive equity, but its impact is constrained by outdated reimbursement structures, uneven capacity and limited regulatory flexibility. International comparisons show that universality can deliver both equity and safety when paired with strategic investment, transparent governance and adaptive regulation, provided that policymakers also anticipate the resulting increase in downstream demand and allocate sufficient resources accordingly. Achieving the promise of France's model now requires recalibrating tariffs, expanding capacity, improving data-driven oversight and addressing persistent non-financial barriers. Such reforms are essential to ensure a sustainable, equitable and high-quality ART system capable of meeting rising demand while preserving the fundamental principles of solidarity.

DATA AVAILABILITY

No data was used for the research described in the article.

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