IVF is quietly reshaping birth rates in rich countries

One in 38 American babies born in 2022 was conceived through IVF, and by 2024 that share had climbed past one in 36 — but the US still trails the developed world by a wide margin. In Japan, nearly **1 in 8 babies born in 2023 came from assisted reproductive technology (ART)**; (Substack) in Denmark, the share approaches 1 in 12; in Belgium, Czech Republic, Australia and Israel, it sits above 1 in 20. The gap reflects policy, not biology. Countries where the state pays for IVF — typically 3 to 6 cycles at full or near-full cost — deliver two to five times the utilization of countries where patients pay out of pocket. As fertility rates collapse across the developed world, IVF is moving from a private medical service into a core pillar of demographic policy, and the US is an outlier for how much it leaves to the patient's checkbook.

The story below synthesizes CDC ART Surveillance data, SART national summaries, ESHRE's European IVF Monitoring (EIM) reports in *Human Reproduction*, ICMART world reports, ANZARD (Australia/NZ), HFEA (UK), JSOG (Japan), CARTR Plus (Canada), and the Fertility Europe 2024 policy atlas. Where registry definitions diverge — notably on whether intrauterine insemination (IUI) counts as "ART" — we flag it explicitly.

The US trajectory: a tripling in two decades, with acceleration after 2020

The share of US babies born via ART has **roughly tripled since 2000**, with growth accelerating sharply after 2020 even as total US births declined. In 2000, the CDC recorded about **35,000 ART infants out of 4.06 million births (0.86%)**. (PubMed) By 2010 the share had reached roughly 1.5%, by 2018 about 2.2%, and in 2022 it hit the widely cited **2.6% — 98,289 infants from 435,426 ART cycles at 457 clinics**. (CDC) SART's 2024 release reported **100,158 IVF babies, the first time US ART births crossed 100,000 in a single year**, (American Society for Repr…) equivalent to roughly **2.76% or 1 in 36 babies** when set against provisional NCHS total births of about 3.62 million.

Year	ART cycles	IVF/ART infants born	Total US births	% of US births via ART
2000	99,629	35,025	4,058,814	~0.86%
2005	134,260	52,041	4,138,349	~1.26%
2010	154,427	61,564	3,999,386	~1.54%
2015	231,936	71,152	3,978,497	~1.79%
2018	306,197	81,478	3,791,712	~2.15%
2020	326,468	79,942	3,613,647	~2.21%
2022	435,426	98,289	3,667,758	**2.6%**
2023	432,641 (SART)	95,860	3,596,017	~2.67%
2024	449,772 (SART)	**100,158**	3,622,673 (prov.)	**~2.76%**

Underneath the headline, the clinical picture has transformed. **Frozen embryo transfers now account for about 87% of cycles** (USAFacts) (up from roughly 20% in 2010), single-embryo transfer has risen from 15% in 2009 (CDC) to about 79% in 2024, (American Society for Repr…) and the ART multiple-birth rate has collapsed from 53% in 2000 to roughly 2.6% today. **Egg-banking cycles alone rose from 475 in 2009 to more than 184,000 in 2022** — a 388-fold increase that explains much of the apparent explosion in "cycles" without a proportionate rise in births. State variation is extreme: **Washington DC (7.3%), Massachusetts (6.2%), and New Jersey (5.6%)** (USAFacts) already exceed the national average of high-income European countries, while Alabama, Arkansas, and Alaska sit below 1%. (USAFacts) The concentration maps cleanly onto states with insurance mandates.

How the world ranks: Japan, Denmark and Belgium lap the US

The ranking below uses each country's most recent complete national registry data. ESHRE/ICMART define ART as IVF + ICSI + frozen embryo transfer + egg donation + PGT; IUI is excluded. Popular "Denmark 10%" claims typically bundle IUI in; the pure ART figure is lower.

Rank	Country	% of births via ART	Year	Primary source
1	**Japan**	**~11.7%**	2023	JSOG Registry (85,048 ART babies / ~727,000 births)
2	**Denmark**	**~8.5%** (ART-only); ~10% incl. IUI	2020–22	ESHRE EIM; Taub Center
3	**Iceland**	~6.3–8.5%	2020	ESHRE EIM 24th Report (Smeenk 2025)
4	**Czech Republic**	~6.0–6.5%	2020	ESHRE EIM
5	**Belgium**	~5.8%	2019	ESHRE EIM 23rd Report
6	**Australia**	5.4% (women giving birth)	2021	ANZARD 2022
7	**Israel**	~5.0%	2019	Israel MoH via Taub Center
8	**Slovenia**	~5.0–5.5%	2019	ESHRE EIM
9	**Estonia**	~5.0%	2019	ESHRE EIM
10	**Greece**	~5.0%	2020	ESHRE EIM
11	**New Zealand**	~4.4%	2022	ANZARD 2022
12	**Finland**	~4.0%	2020	ESHRE EIM / Nordic Statistics
13	**Sweden**	~3.5–4.0%	2020	ESHRE EIM
14	**France**	~3.6%	2019	Agence de la biomédecine
15	**Norway**	~3.5%	2020	ESHRE EIM
16	**Italy**	~3.5%	2019	Registro Nazionale PMA
17	**Netherlands**	~3.5%	2019	Dutch NVOG
18	**Spain**	~4–5% registered (up to 10% claimed, inflated by cross-border)	2019	Registro SEF
19	**UK**	**3.1%**	2023	HFEA (20,700 births)
20	**Germany**	~3.0%	2020	D·I·R Register

Rank	Country	% of births via ART	Year	Primary source
—	**USA**	**2.6%**	2022	CDC ART Surveillance
21	**Canada**	2.2%	2022	CARTR Plus (7,609 babies)

South Korea likely exceeds 5% but has no official published percentage; government ART support data suggest utilization in the range of 8–10% after 2024 expansions, though this remains an estimate. **Japan's number is by far the most striking**: ART accounted for roughly 2.7% of Japanese births in 2010 and **11.7% in 2023**, reflecting both a surge in cycles after the April 2022 national insurance reform (Wiley Online Library) (Substack) and a collapsing birth denominator (Japan's total births fell 40% in 15 years to roughly 727,000). (Substack) A similar mechanical amplification is at work in Denmark, Italy, and South Korea, where low fertility inflates ART's share even without cycle growth.

Three distortions bear watching. **Cross-border care** heavily inflates Spain, Czech Republic, Greece, and Denmark — ESHRE 2020 counted roughly 42,000 cross-border cycles (Oxford Academic) — so national registry figures capture cycles performed rather than babies born domestically. **Loss-to-follow-up** likely understates Italy, Spain, and France. And **Israel's 5% looks low relative to its status as the world's highest-per-capita IVF user** (over 5,700 cycles per million inhabitants) (PubMed Central) because roughly a third of Israeli cycles occur in women over 40, (PubMed Central) dragging down babies-per-cycle.

Funding structures: who pays, and for how many cycles

Public coverage is the single strongest predictor of utilization. Countries meeting ESHRE's 3,000-cycles-per-million demand threshold (PubMed Central) — Israel, Japan, Denmark, Czech Republic, Australia, Spain — all have either near-universal public funding or structured rebate programs. The US, at roughly 922 cycles per million, (PubMed Central) sits at about one-third of estimated demand.

Country	Public coverage	Funded cycles	Age limit (woman)	Key eligibility rules	OOP p
Israel	~100%	**Unlimited up to 2 live children**, cap 8 per course since 2014	18–45 (51 w/ donor eggs)	No marital/orientation/income restriction	~$10(
Denmark	~100% public	**6 cycles for 1st child + 3 for 2nd** (doubled 2024)	Referral <40; treatment to 41	Single women/lesbians since 2006	Free p
Belgium	~90%	6 IVF/ICSI + 6 IUI PubMed Central	<43 (transfer to 47) EurekAlert!	Same-sex couples included; tied to eSET rules	~€17(
France	100%	4 IVF + 6 IUI per child; PubMed Central resets on each child	<43	Single women/lesbians since 2021 bioethics law	€0
Sweden	~100% public	3 IVF or 6 IVF+IUI	<40	Single women since 2016	Free p
Norway	~100%	~3 cycles	~39 practical	Single women since 2020	Mode
Finland	~100%	3 IVF or 6 combined PubMed Central	No legal limit EurekAlert!	Among most flexible Nordic systems	Low c
Iceland	Public	4 cycles	**No age limit** (unique in ESHRE survey)	Single women permitted	Low c
Netherlands	Basic insurance	3 fresh IVF	<43	BMI limits common	~€38
UK	NHS (postcode lottery)	NICE: 3 if <40, 1 if 40–42; reality 0–3 by ICB	35–42 varies	Scotland 54% NHS-funded, England only 24%; **73% of UK cycles are self-funded**	£5,00
Spain	SNS (regional)	3 IVF + 4–6 IUI	<40 public	No prior children in public system	€0 pu 7,000

Country	Public coverage	Funded cycles	Age limit (woman)	Key eligibility rules	OOP p
Czech Republic	Public insurance	3 (or 4 w/ eSET) PubMed Central	<40 public; legal max ~48 Civio	Heterosexual couples only	€1,50 Ovu
Slovenia	National insurance	**6 cycles** PubMed Central	<43	Heterosexual couples only	Minir
Germany	Statutory (GKV)	**50% of 3 cycles** ESHRE	25–39 women; ≤49 men Kinderwunschzentrum	Married heterosexuals federally; Kinderwunschzentrum some Länder top up Onuava	€1,50 50%
Italy	SSN (regional)	Up to 6 (varies)	~43	Heterosexuals; donor gametes legal since 2014	€3,00
Australia	Medicare rebate	**No cycle limit** (percentage rebate)	No federal cap	Medical infertility required; Maven Clinic NSW added $2,000 rebate Feb 2025	AUD after r
New Zealand	Public in eligible regions	2 treatment packages Repromed	<40 referral Repromed	BMI limits; no existing biological child Repromed	NZ $1 privat Varda
Japan	**National insurance since April 2022** (70%)	**6 if <40; 3 if 40–42; none after 43**	43 hard cap	Married/de facto; local govt top-ups	~¥150
South Korea	NHI + local subsidies	Expanded 2024 to **25 per childbirth** (Seoul); age 45+ cap lifted	45+ allowed post-2024	Unmarried eligible in Seoul	₩300
Canada	Province-by-province	Quebec: 1 IVF + unlimited IUI; Yourfertilitycoach Ontario: 1 IVF;	Varies	Residency	CAD

Country	Public coverage	Funded cycles	Age limit (woman)	Key eligibility rules	OOP
		NB/NL: $20k lifetime (2025); Yourfertilitycoach AB/BC: nothing Yourfertilitycoach			
USA	**No federal mandate; Medicaid generally excludes IVF**	25 states + DC have some mandate; FEHB covers ≥3 cycles of IVF drugs	Varies by plan	ERISA self-insured plans exempt from state mandates	**$15,0** Chec

The three most generous systems define the ceiling

Israel is in a category of its own. Under the 1995 National Health Insurance Law, women aged 18–45 receive unlimited IVF up to two live children with their current partner, regardless of marital status, sexual orientation, income, PubMed Central or prior children from other relationships. IVF consumes roughly **2% of Israel's entire national health budget**. ScienceDirect PubMed Central Attempts to ration have repeatedly collapsed under political pressure PubMed Central from a rare cross-ideological coalition of pronatalist religious conservatives, demographic-security hawks, feminists, and patient advocates. Israeli women undergo **roughly twice the per-capita cycles of Danish women and five times the European average**.

Denmark moved even further in 2024. Prime Minister Mette Frederiksen's New Year address announced a **doubling of public coverage from 3 to 6 cycles for a first child, plus 3 additional cycles for a second child** (effective December 2024, backed by 150 million DKK). The framing was explicitly demographic: with fertility below replacement, IVF is now treated as a pronatal policy instrument rather than a medical benefit. The share of Danish births from ART has been climbing toward the 10% range (including IUI).

Japan's 2022 reform is the natural experiment to watch. Before April 2022, IVF in Japan was subsidized but not insurance-covered. After the reform, ART patients increased about 4% overall Substack — but **patients aged 25–34 jumped 22.9%,** PubMed Central and ART's share of all Japanese births reached **roughly 10% in 2022 and 11.7% in 2023**. This is the clearest modern evidence that public coverage doesn't just enable access; it shifts reproductive behavior toward earlier and more aggressive use of ART.

The US: a patchwork that leaves most Americans exposed

Twenty-five states plus DC have some form of fertility mandate, but only about 13 require meaningful IVF coverage, PubMed Central and even those mandates apply solely to fully insured plans regulated by the state. The states with the strongest IVF mandates — Massachusetts, New Jersey, Illinois, New York (3 cycles), Connecticut (2 cycles), Rhode Island, Delaware (6 retrievals plus unlimited transfers), American Surrogacy Colorado, Maine, New Hampshire, Washington, Maryland, and California (SB 729, delayed to January 1, 2026) MultiState — collectively drive the utilization hotspots visible in CDC state data. **DC's 7.3% and Massachusetts' 6.2% of births via ART** USAFacts exceed Belgium and approach Denmark, demonstrating that demand exists when cost is removed.

Three structural gaps blunt US utilization. First, roughly **65% of employer-insured workers are on self-insured ERISA plans exempt from state mandates**; PubMed Central a mandate in Illinois or New York does not reach a Chicago or Manhattan employee whose employer self-funds. Second, **Medicaid essentially does not cover IVF in any state**, though New York covers limited infertility drugs — a gap Nevada's governor cited in vetoing a 2025 expansion. MultiState Third, out-of-pocket costs remain stark: a full cycle runs **$15,000–$30,000**, USAFacts +2 and cumulative treatment often exceeds $60,000.

Recent federal movement has been substantial in rhetoric and modest in substance. The **Federal Employee Health Benefits (FEHB) program** expanded coverage in 2024 (IVF drugs for 3 cycles in all plans) Checkbook and 2025 (every enrollee has at least two plan choices with IVF coverage, RESOLVE and two nationwide PPOs offer **$25,000/year IVF benefits**). Federal News Network **TRICARE extended IVF benefits to unmarried service members and same-sex couples in March 2024** (up to 6 retrievals and 3 cycles, Military.com though service-connected infertility is still required for full coverage). **President Trump's February 2025 executive order** directed his Domestic Policy Council to recommend IVF cost-reduction measures within 90 days GovInfo Health Affairs but imposed no coverage mandate; the more concrete follow-up was an **October 2025 deal with EMD Serono providing an 84% discount on Gonal-f, Ovidrel, and Cetrotide through TrumpRx.gov starting January 2026.** The Prelude Network HealthInsurance.org The Right to IVF Act and the Family Building FEHB Fairness Act (reintroduced February 2025) Health Affairs remain stalled in Congress, where 126 House Republicans have simultaneously signed the Life at Conception Act, which could threaten IVF via fetal personhood. The **2024 Alabama Supreme Court LePage ruling** MultiState treating frozen embryos as "children" Military.com forced temporary clinic closures before a state liability shield restored operations, MultiState and it has become the central cautionary tale in the national debate.

What the comparison actually shows

The correlation between funding and utilization is real but not linear. **Pearson coefficients of roughly 0.43 between GDP per capita and IVF utilization across European countries** Taylor & Francis Online (Shalev-Shai et al.) and the clean before/after data from Japan's 2022 reform both support the thesis that public funding is the dominant policy lever. But Klitzman et al. (*Human Reproduction* 2013) found that once social eligibility rules — single-women access,

same-sex couple access, age thresholds — are controlled for, funding level alone loses statistical significance. (PubMed) **Germany illustrates the point**: statutory insurance covers half of three cycles, (ESHRE) relatively generous on paper, but the restriction to married heterosexual couples aged 25–39 holds utilization to about 3%, half of Belgium's rate with similar per-capita wealth.

The **utilization-maximizing policy package** — visible in Israel, Denmark, Belgium, France and increasingly Japan — combines four to six fully funded cycles, eligibility through at least age 42, no marital or sexual-orientation restrictions, coverage of a second child, and subsidized medications. Countries that hit all five levers cluster at 5% or above of all births via ART. Countries that offer partial funding with restrictive social rules cluster at 3%. Countries that leave IVF largely to patients and employers — the US, Canada, most of the UK — cluster at 2–3% despite sophisticated clinical sectors. **The gap between the US and peer countries is not a demand gap or a clinical-capacity gap; it is a financing gap.**

Conclusion: a policy lever with demographic consequences

IVF is transitioning from a discretionary medical service into an instrument of demographic policy, and the countries that recognize this first are reshaping their birth statistics fastest. **Japan went from 2.7% of births via ART in 2010 to 11.7% in 2023** — the largest single-generation shift in developed-world reproductive behavior. Denmark's 2024 cycle-doubling, South Korea's 2024 eligibility expansion, and France's 2021 bioethics law all reflect governments treating IVF as a pronatal intervention at a time when total fertility rates have collapsed below replacement across nearly the entire OECD.

The **US 2.6% figure should be read in that comparative frame**. The country has the world's third-largest absolute IVF market and world-class clinical outcomes, but its utilization rate is roughly one-third of Japan's, one-third of Denmark's, and half of Belgium's. The gating factor is financial — specifically the ERISA exemption that leaves most employer-insured Americans outside state mandates, the absence of Medicaid IVF coverage, and the lack of a federal coverage floor. The 2024–2025 federal moves (FEHB expansion, TRICARE reform, drug-pricing deal, state mandates in California and DC) nudge the US toward the OECD norm but fall well short of the Israeli-Danish-Belgian model. If the US ever adopts a federal IVF coverage mandate, the precedents from Japan and Denmark suggest the share of American babies born via IVF could plausibly double within a decade — not because demand would grow from nothing, but because latent demand, currently priced out, would be unlocked.